

EESL/Res/LSQ/EC-MoP/2021-22/04

3<sup>rd</sup> February, 2022

To,  
Shri Govind Kumar,  
Under Secretary,  
EC Division,  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha Provisionally admitted Unstarred Question Dy. No. 4682 due for answer on 10.2.2022 regarding "Incentive to Monitor and Minimize Emission"-reg.**

Sir,

This refers to EC Division MoP's email dated 2<sup>nd</sup> February, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) whether the Government is taking any measures to help MSMEs in the country transition towards environment sustainability given unfavourable economies of scale, if so, the details thereof;
- (b) whether the Government has assessed compliance of MSMEs with energy efficiency norms. if so, the details thereof;
- (c) whether there are currently any incentives provided to MSMEs to monitor and minimize emission, if so, the details thereof; and;
- (d) whether the Government currently conducted any assessment of the climate resilience of MSMLs given their significant contribution to the CDP, if so, the details thereof?

**Answer (a) to (d):** Information pertaining to EESL may be treated as 'NIL'.

However, Energy Efficiency Services Limited (EESL) along with United Nations Industrial Development Organization (UNIDO) is implementing a Global Environment Facilities (GEF) funded project named – "Promoting Market Transformation for Energy Efficiency" in 10 MSME Clusters in India. This project initiated in year 2018 and aim to demonstrate new energy efficient technologies in these selected SME Clusters. Under this project, 35 energy efficient technologies along with innovative business model are intended to be demonstrated in 70 MSME units as proof of concept. Upon successful demonstration, these technologies will be implemented in MSME units during the replication phase. Currently 19 technologies have been demonstrated in 10 MSME clusters.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/CEA/2021-22/02

28<sup>th</sup> January, 2022

To,  
Shri Ashok Kumar Rajput  
Chief Engineer (RT&I) Division  
Central Electricity Authority  
Ministry of Power  
Sewa Bhawan, R K Puram-I  
New Delhi-110066

**Subject: Lok Sabha Unstarred question diary No. 913 for 03.02.2022 regarding “Beneficiaries under DDUGJY”.**

Sir,

This is with reference to O/o Chief Engineer (DP&T), CEA’s email dated 24<sup>th</sup> January 2022 on the above subject. As desired, response on question (d) is as below:

**Questions**

- (a): the number of beneficiaries under Deen Dayal Upadhyaya Gram Jyoti Jojana (DDUGJY), State-wise including Chhattisgarh;  
(b): the number of villages electrified in the country so far;  
(c): the quantum of funds allocated for the said scheme during the last three years and the current year, State-wise; and

**Question (d): the details of the progress of Smart Grid Project, State-wise?**

**Answer (d):** Ministry of Power may please reply.

However, Energy Efficiency Services Limited (EESL), a JV of PSU under MoP, GoI is implementing Smart Meter Programme for replacement of Conventional meters with Smart electricity meters. Under the DDUGJY programme, EESL is working on smart meter installation project in Andaman Islands, the progress for the same is as below:

State/UT	Scope	Meters installed till date
Andaman (DDUGJY)	39,200	38,103

State-wise details of EESL’s smart metering program is provided as additional information please.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

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**Tel.:** +91 (011) 45801260, **Fax:** +91 (011) 45801265  
**Website:** www.eeslindia.org

**Additional Information:**

State/UT wise details of EESL's smart metering program is as follows:

<b>State / UT</b>	<b>Smart Meter Installation till 27<sup>th</sup> January 2022</b>
Uttar Pradesh	11,54,330
Bihar	4,57,270
Haryana	3,88,370
Rajasthan	1,24,074
Andaman	73,952
New Delhi	63,121
<b>Total</b>	<b>22,61,117</b>

EESL/Res/LSQ/EC-MoP/2021-22/01

2<sup>nd</sup> February, 2022

To,  
Shri Govind Kumar,  
Under Secretary, EC Division,  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha admitted starred question number 72 for answer on 07.02.2022 regarding "Climate Induced Migration".**

Sir,

This refers to EC Division, MoP's email dated 2<sup>nd</sup> February, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) whether there have been any instances of climate induced migration/displacement of citizens in the country during the last two years and if so, the details thereof, State-wise;
- (b) the number and details of citizens who have been displaced by environmental disasters during the last two years, State-wise;
- (c) whether any schemes exist to aid citizens affected by extreme weather or climate change and forced to migrate and if so, the State-wise details thereof; and
- (d) the details of the plans, if any, to develop a framework to rehabilitate climate induced migrants, State-wise?

**Answer (a) to (d):** Information pertaining to EESL may be treated as 'NIL'.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/MoP/2021-22/04

2<sup>nd</sup> February, 2022

To,  
Shri Govind Kumar,  
Under Secretary, EC Division,  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Provisionally admitted Lok Sabha Starred / Unstarred question Dy. Number 1937 for answer on 07.02.2022 regarding "Global Warming".**

Sir,

This refers to EC Division, MoP's email dated 1<sup>st</sup> February, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) the details of the action taken to face the newly arising challenges related with the global warming and to solve the problem therein;
- (b) whether the Government will further reform the industrial and technological fields in background of the fresh problems arising from the global warming; and
- (c) whether the Government will take necessary steps to boost the process of educating society regarding the global warming and to modify the social behavior in accordance to the needs of the same?

**Answer (a) to (c):** Information pertaining to EESL may be treated as '**NIL**'. Additional information related to EESL programs which have resulted in reduction of Green House Gases is enclosed at **Annexure - 1**.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

**Additional information:**

Energy Efficiency Services Limited (EESL), a JV of PSUs under MoP is implementing Energy Efficiency and Climate Change mitigation projects under National Mission for Enhanced Energy Efficiency (NMEEE). It has pioneered innovative business approaches to successfully roll-out large-scale programs that allow for incentive alignment across the value chain and rapidly drive transformative impact. The programmes of EESL has resulted in reduction of around 46 million tonnes of CO<sub>2</sub> emission per year. Details of major programme are as follows:

- i. UJALA Programme: over 39 million tCO<sub>2</sub> per year
- ii. Gram UJALA Programme: 0.91 million tCO<sub>2</sub> per year
- iii. Street Lighting National Programme: 5.66 million tCO<sub>2</sub> per year
- iv. Agriculture Demand Side management (AgDSM): 0.15 million tCO<sub>2</sub> per year
- v. Building Energy Efficiency Programme: 0.18 million tCO<sub>2</sub> per year

EESL/Res/LSQ/IC-MoP/2021-22/02

2<sup>nd</sup> February, 2022

To,  
IC Division,  
Ministry of Power,  
413, Shram Shakti Bhawan,  
Rafi Marg, New Delhi-110001

**Subject: Lok Sabha Question Diary No. 2165 for the answer on 07.02.2022 regarding Climate Technology Hubs- Request for Inputs reg.**

Sir,

This refers to IC Division, MoP's email dated 2<sup>nd</sup> February, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) whether there is any data available that could depict the investment trends in Indian Climate Technology firms after Paris Agreement;
- (b) if so, the details thereof;
- (c) the data of climate tech projects sponsored jointly or individually by both the Central and State Government; and
- (d) the steps taken by the Government of establish climate technology hubs across India, if any?

**Answer (a) to (d):** Information pertaining to EESL may be treated as 'NIL'.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/MNRE/2021-22/05

3<sup>rd</sup> February, 2022

To,  
Shri Sanjay G. Karndhar,  
Scientist-D,  
Grid Solar Power Division  
Ministry of New & Renewable Energy,  
Block-14, C.G.O. Complex,  
Lodi Road, New Delhi - 110003.

**Subject: Inputs for Lok Sabha Question (Adv. Dy. No. 4288) on “Green Energy”, to be replied on 10.02.2022 - reg.**

Sir,

This refers to MNRE's email dated 2<sup>nd</sup> February, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) whether it is a fact that the islands of country source diesel to produce electricity since a very long years and if so, the details thereof;
- (b) whether the government proposes to promote natural sources to produce electricity as green energy in the islands of the country therefor;
- (c) if so, the details thereof; and
- (d) the details of scope and proposal the details to generate power through PPP model therein?

**Answer (a) to (d):** Information pertaining to EESL may be treated as 'NIL'.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/CEA/2021-22/03

3<sup>rd</sup> February, 2022

To,  
Shri Ashok Kumar Rajput  
Chief Engineer (RT&I) Division  
Central Electricity Authority  
Ministry of Power  
Sewa Bhawan, R K Puram-I  
New Delhi-110066

**Subject: Lok sabha provisionally admitted Unstarred question No. 4392 regarding "Installation of prepaid electric meters" for answer on 10.02.2022.**

Sir,

This refers to CEA's email dated 1<sup>st</sup> February, 2022 on the above subject. The para wise reply is as follows:

**Question (a) whether the Government proposes to install prepaid electric meters for all domestic consumers;**

**Question (b) if so, the details thereof;**

**Answer (a) & (b):** Ministry of Power may please reply.

However, Energy Efficiency Services Limited (EESL), a JV of PSU under MoP, GoI is implementing Smart Metering Programme for replacement of Conventional meters with Smart electricity meters. As on date, EESL has installed over 22.73 lakh smart meters including 5.31 lakh prepaid smart meters across India under this programme.

The State/UT wise details of smart meters installed by EESL is as per below table:

S. No.	State/UT	Total No. of Smart Meters Installed by EESL	No. of prepaid Smart Meters installed by EESL
1.	Uttar Pradesh	11,54,330	64,885
2.	Haryana	3,89,410	534
3.	Bihar	4,67,966	4,66,460
4.	Rajasthan	1,24,074	-
5.	Andaman	74,021	-
6.	Delhi	63,289	-
<b>Total</b>		<b>22,73,090</b>	<b>5,31,879</b>

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**Question (c) whether DISCOMs are suffering technical and commercial losses due to the present system of metering;**

**Question (d) if so, the details thereof;**

**Question (e) whether the Government also proposes budgetary support for installation of smart meters; and**

**Question (f) if so, the details thereof?**

**Answer (c) to (f):** Information pertaining to EESL may be treated as 'NIL'.

Yours Sincerely,

A handwritten signature in black ink, appearing to be 'DS' with a flourish, enclosed in a circular scribble.

(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/ UMPP/EV/2021-22/06

3rd February, 2022

To,  
Shri Abhishek Yadav  
Assistant Section Officer  
UMPP/EV, Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha Parliament Question Dy. No. 4486 for answer on 10.02.2022 regarding Setting up of Electric Vehicles Charging Stations.**

Sir,

This refers to UMPP/EV division MoP's email dated 1<sup>st</sup> February 2022 on the above subject. The para wise reply is as follows.

**Question (a) the details of policy of the Government for setting up of electric charging stations in the country;**

**Answer (a):** Ministry of Power may please reply.

However, Ministry of Power, Government of India has laid down a national priority for rollout of EV Public Charging Infrastructure in its latest revised and consolidated Guidelines & Standards for Charging Infrastructure for Electric Vehicles released vide ref no. 12/2/2018-EV (Comp No. 244347) dated 14th January, 2022.

**Question (b) the number of active electric vehicles charging stations in the country, state-wise including jalore-Sirohi in Rajasthan;**

**Answer (b):** Ministry of power may please reply.

However, Energy Efficiency Services Limited (EESL) a JV of PSU under MoP, GoI through Convergence Energy Services Limited (CESL – 100% Owned subsidiary of EESL) is developing Electric Vehicle Charging Infrastructure. As on date EESL/CESL has installed 406 nos. of EV chargers across India of which 198 nos. are operational and rest are in the process of pre-commissioning.

Below are the State/UT wise details of chargers installed by EESL/CESL across India:

State/UT	City	EV Chargers Installed	EV Chargers Operational
Chhattisgarh	Raipur	4	4
Delhi	Delhi	151	80
Goa	Goa	3	3
Gujarat	Ahmedabad	12	8
Haryana	Panchkula	2	2
Karnataka	Bangalore	1	1
Kerala	Thiruvananthapuram and Other Cities	17	12
Maharashtra	Nagpur	73	22
Tamil Nadu	Chennai	52	25

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State/UT	City	EV Chargers Installed	EV Chargers Operational
Uttar Pradesh	Noida	69	25
Uttarakhand	Haridwar	1	1
West Bengal	Kolkata	21	15
<b>Total</b>		<b>406</b>	<b>198</b>

As on January 2022, no Public Charging Stations have been installed by EESL/CESL in Jalore-Sirohi in Rajasthan.

**Question (c) the number of additional charging stations proposed to be set up along with the location and capacity of the said charging stations in Rajasthan; and**

**Answer (c):** EESL/CESL has been sanctioned 7 EV Charging Stations comprising of 7 Bharat DC-001 (15kW) and 14 combo (122-150 kW) EV chargers under the FAME India Scheme phase II. The locations for the same has not been finalised yet.

**Question (d) the percentage of charging stations powered by fossil fuels and the number of charging stations connected to the grid?**

**Answer (d):** As on January 2022, all Public Charging Stations installed and operated by EESL/CESL are connected to the grid.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/RSQ/CEA/2021-22/03

4<sup>th</sup> February, 2022

To,  
Shri Ashok Kumar Rajput  
Chief Engineer (RT&I) Division  
Central Electricity Authority  
Ministry of Power  
Sewa Bhawan, R K Puram-I  
New Delhi-110066

**Subject: Lok Sabha Parliament Question Dy. No. 4499 for answer on 10.02.2022 regarding Setting up of Electric Vehicles Charging Stations.**

Sir,

This refers to CEA's email dated 4<sup>th</sup> February 2022 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) whether the Government proposes to promote electric vehicle to reduce fuel consumption and pollution;  
(b) if so, the details of action plan formulated so far;

**Answer (a) & (b):** Ministry of Power may please reply.

However, Energy Efficiency Services Limited (EESL) a JV of PSU under MoP, GoI through Convergence Energy Services Limited (CESL – 100% Owned subsidiary of EESL) is implementing e-Mobility Programme. Since the launch of the programme, total 1,643 numbers of Electric cars have been deployed on road to various clients mainly comprising government departments, both at the Central and State level, PSUs, shared mobility operator etc. pan India.

CESL has developed a digital multi-brand marketplace to enable the sale of electric two wheelers. The online marketplace called MyEV (<https://www.myev.org.in/>) can be accessed through web browsers as well as mobile apps (for android and iOS devices). Currently these vehicles are being offered on outright purchase basis to consumers through the MyEV portal. The vehicle offered on the portal offer a price lower than one available in the open market and come with insurance and after sales support assurance. CESL has signed MoUs with multiple state governments (Andhra Pradesh, Goa, Kerala) and is in discussion with seven more states to offer E2W to state government employees at attractive prices.

Additional information on “Government Initiatives” on EVs may be referred at **Annexure-1**.

- (c) whether there is any proposal to promote such plan as a pilot project by connecting by making a charging station at every 5 kms, Latur to Mumbai via Pune and Pandharpur to Pune via Phaltan by converting it into Green Highway;

- (d) if so, the details thereof and if not, the reasons therefor; and

**Answer (c) & (d):** Ministry of Power may please reply.

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**(e) the number of charging stations functional in the country, State-wise including Latur in Maharashtra?**

**Answer (e):** Ministry of Power may please reply.

However, as on date EESL/CESL has installed 406 nos. of EV chargers across India of which 198 nos. are operational and rest are in the process of pre-commissioning.

Below are the State/UT wise details of chargers installed across India by EESL/CESL:

State	City	EV Chargers Installed	EV Chargers Operational
Chhattisgarh	Raipur	4	4
Delhi	Delhi	151	80
Goa	Goa	3	3
Gujarat	Ahmedabad	12	8
Haryana	Panchkula	2	2
Karnataka	Bangalore	1	1
Kerala	Thiruvananthapuram and Other Cities	17	12
Maharashtra	Nagpur	73	22
Tamil Nadu	Chennai	52	25
Uttar Pradesh	Noida	69	25
Uttarakhand	Haridwar	1	1
West Bengal	Kolkata	21	15
<b>Total</b>		<b>406</b>	<b>198</b>

As on January 2022, no EV Public Charging Stations (PCS) have been installed by EESL/CESL in Latur, Maharashtra.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

## **Annexure-1**

### **Additional information on question (a) & (b)**

Various steps have been taken by the Government to promote electric vehicles in the country such as:

- FAME (Faster Adoption of Manufacture of (Hybrid and) Electric Vehicles) India scheme
  - a. 1st phase of the scheme, FAME-I, supported a total of 2,80,140 electric vehicles accounting for of 1,30,819 CO2 reduction per day.
  - b. Subsequently, DHI is implementing the 2nd phase of FAME i.e. FAME-II, with an outlay of INR. 10,000 crore for a period of 3 years. The scheme aims to support 7090 e-buses, 500,000 3-wheeler EVs, 55,000 4-wheeler EVs (passenger cars) and 100,000 2-wheelers EVs and develop EV charging infrastructure.
- The latest revised and consolidated Guidelines & Standards for Charging Infrastructure for Electric Vehicles released by Ministry of Power vide ref no. 12/2/2018-EV (Comp No. 244347) dated 14<sup>th</sup> January, 2022 has laid down a national priority for rollout of EV Public Charging Infrastructure.
- Demand Incentives under various State Govt. EV Policies.

EESL/Res/LSQ/MoP/2021-22/06

2<sup>nd</sup> February, 2022

To,  
Shri Govind Kumar,  
Under Secretary, EC Division,  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha Unstarred Question Dy. No. 4557 due for answer on 10.2.2022 regarding "Carbon Dioxide Emissions"-reg.**

Sir,

This refers to EC Division, MoP's email dated 2<sup>nd</sup> February, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) the details of particulate matter released in the atmosphere by MSMEs in India;
- (b) the details carbon dioxide emissions of MSMEs in India, State and sector-wise;
- (c) incentives that have been offered to MSMEs to switch to renewable sources of energy;
- (d) the details of Air Pollution Control Devices (APCDs) that are installed in MSMEs in India and
- (e) the details of the number of MSMEs in India that are powered by renewable energy, district-wise?

**Answer (a) to (e):** Information pertaining to EESL may be treated as 'NIL'.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/MoP/2021-22/01

3<sup>rd</sup> February, 2022

To,  
Shri Govind Kumar,  
Under Secretary, EC Division,  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha provisionally admitted Unstarred Question. Dy. No. 4600 regarding Availability of LED Bulbs and Tubelights for reply on 10.02.2022.**

Sir,

This refers to EC Division, MoP's letter No. 7/6/2022-EC dated 1<sup>st</sup> February, 2022 on the above subject. The para wise reply is as follows:

**Question (a) whether the Government has made available LED bulbs, tubelights etc. at reasonable for energy conservation in the country;**

**Answer (a):** Energy Efficiency Service Limited, a JV of PSUs of Ministry of Power, Government of India has implemented Unnat Jyoti by Affordable LEDs for All (UJALA) for distribution of LED Bulbs, LED Tube Lights and Energy Efficient Fans. At present the 9 wall LED Bulb, 20 Watt LED Tube light and BEE 5 star rated fans are sold under UJALA programme at Price of Rs 70, Rs 270 and Rs 2,399 respectively. In addition, CESL (100% Owned subsidiary of EESL) has also distributed over 69.19 lakh LED bulbs under Gram UJALA in the rural areas.

**Question (b) if so, the details of the distribution of said items during the last and current year, state-wise;**

**Answer (b):** Details of LED Bulbs, LED Tube Lights and Energy Efficient Fans distributed by EESL for current and Last Financial year under UJALA is attached at **Annexure-1**. Details of LED bulbs distributed under Gram UJALA (Launched on 19<sup>th</sup> March 2021) is enclosed at **Annexure -2**.

**Question (c) whether the said initiative has been successful and contributed in saving of power;**

**Answer (c):** Distribution of UJALA appliances by EESL has resulted in Energy Saving of 47.83 billion Units of electricity. UJALA has been successful in transforming the Domestic Bulbs market. Price of the LED Bulbs in retail market has dropped significantly level from earlier Rs 300-Rs 350 to Rs 70-90 per LED Bulbs.

Distribution under Gram UJALA has resulted in estimated annual energy savings of 1 billion units.

**Question (d) if so, whether electricity bills of consumers have been reduced; and**

**Question (e) if so, the details thereof during the said period?**

**Answer (d) & (e):** LED bulbs consume 50% less energy as compared to CFL Bulbs and 90% less energy as compared to incandescent bulbs. Similarly LED tube lights and energy efficient fans consume 50% less energy as compared to the conventional Tube lights and fans. Thus, on replacing a 100W ICL with a 9W LED bulb, a consumer saves Rs. 930 per year (assuming 7-hour usage per day for 365 days a year @ unit price of Rs. 4/kWh)

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पॉचवा, छठा और सातवाँ तल,  
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**Annexure - 1**

<b>1<sup>st</sup> April 2020 To 31<sup>st</sup> March 2021</b>			
<b>State/UT</b>	<b>LED Lamps 9W</b>	<b>LED Tube Light 20W</b>	<b>Fan 50W</b>
Andhra Pradesh	1,037	225	566
Madhya Pradesh	74,432	27,872	5,043
Rajasthan	92,305	2,429	160
Gujarat	2,23,660	3,489	7,997
Delhi	8,600	1,160	253
Uttar Pradesh	80,558	14,423	7,745
Maharashtra	11,638	267	485
West Bengal	120	-	-
Telangana	12,61,495	3,025	410
Assam	13,977	327	442
Arunachal Pradesh	548	-	241
Bihar	52,199	5,666	2,200
Chhattisgarh	1,47,122	1,192	1,516
Haryana	17,568	3,811	2,449
Himachal Pradesh	1,38,979	6,778	2,203
Jammu & Kashmir	394	-	-
Jharkhand	3,36,581	25,691	3,577
Karnataka	6,16,239	840	41
Kerala	29,103	2,000	-
Mizoram	15	-	-
Odisha	5,45,605	6,347	18,498
Punjab	15,73,333	-	-
Sikkim	1,000	-	-
Tamil Nadu	1,48,044	3,704	5,446
Tripura	15,605	130	64
Uttarakhand	60,262	1,376	2,039
Dadar Nagar Haveli	2,633	233	88
Daman & Diu	492	-	-
<b>Grand Total</b>	<b>54,53,544</b>	<b>1,10,985</b>	<b>61,463</b>

1 <sup>st</sup> April 2021 To 31 <sup>st</sup> Jan 2022			
State/UT	LED Lamps 9W	20 W LED Tube Light	Energy Efficient Fan 50W
Andhra Pradesh	7,025	7,011	5,243
Madhya Pradesh	39,757	11,890	45
Rajasthan	32,447	1,497	653
Gujarat	47,446	1,036	6,917
Delhi	59,970	528	106
Uttar Pradesh	31,159	1,077	46
Maharashtra	2,508	-	-
Telangana	2,450	390	5
Assam	7,905	1,011	329
Arunachal Pradesh	1,635	-	44
Bihar	36,688	49	318
Chhattisgarh	23,080	442	355
Haryana	17,196	3,428	2,316
Himachal Pradesh	35,642	575	540
Karnataka	1,57,501	3,276	-
Kerala	7,912	-	-
Mizoram	67	-	-
Odisha	6,450	-	56
Punjab	29,233	385	761
Tamil Nadu	2,104	200	-
Tripura	7,463	654	326
Uttarakhand	26,356	-	-
Chandigarh	37,820	392	711
Dadar Nagar Haveli	48,730	1,649	1,208
<b>Grand Total</b>	<b>6,68,544</b>	<b>35,490</b>	<b>19,260</b>

**Annexure -2**

<b>LED bulbs distributed under Gram UJALA from 19<sup>th</sup> March 2021 to 1<sup>st</sup> February 2022</b>	
<b>State</b>	<b>LED bulbs (nos.)</b>
Andhra Pradesh	337971
Uttar Pradesh	3230873
Telangana	329317
Bihar	2742072
Karnataka	279733
<b>Total</b>	<b>69,19,966</b>

EESL/Res/LSQ/ UMPP/EV/2021-22/02

4<sup>th</sup> February, 2022

To,  
Shri Abhishek Yadav,  
Assistant Section Officer,  
UMPP/EV, Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha Parliament Question Dy. No. 4716 for answer on 10.02.2022 regarding Electric Vehicle Charging Stations at Petrol Pumps.**

Sir,

This refers to UMPP/EV division MoP's email dated 1<sup>st</sup> February 2022 on the above subject. The para wise reply is as follows.

**Questions:**

**(a) the status of the setting up of electric vehicle charging stations in the country particularly in Rajasthan;**

**Answer (a):** Ministry of power may please reply.

However, Energy Efficiency Services Limited (EESL) a JV of PSU under MoP, GoI through Convergence Energy Services Limited (CESL – 100% Owned subsidiary of EESL) is developing Electric Vehicle Charging Infrastructure. As on date EESL/CESL has installed 406 nos. of EV chargers across India of which 198 nos. are operational and rest are in the process of pre-commissioning.

Below are the State/UT wise details of chargers installed by EESL/CESL across India:

State/UT	City	EV Chargers Installed	EV Chargers Operational
Chhattisgarh	Raipur	4	4
Delhi	Delhi	151	80
Goa	Goa	3	3
Gujarat	Ahmedabad	12	8
Haryana	Panchkula	2	2
Karnataka	Bangalore	1	1
Kerala	Thiruvananthapuram and Other Cities	17	12
Maharashtra	Nagpur	73	22
Tamil Nadu	Chennai	52	25
Uttar Pradesh	Noida	69	25
Uttarakhand	Haridwar	1	1
West Bengal	Kolkata	21	15
<b>Total</b>		<b>406</b>	<b>198</b>

As on January 2022, no EV Public Charging Stations have been installed by EESL/CESL in Rajasthan.

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पाँचवा, छठा और सातवाँ तल,  
कोर - 3, स्कोप कॉम्प्लेक्स, लोधी रोड, नई दिल्ली - 110003  
दूरभाष: +91 (011) 45801260, फ़ैक्स: +91 (011) 45801265  
वेबसाइट: www.eeslindia.org

**REGISTERED OFFICE:** NFL Building, 5<sup>th</sup>, 6<sup>th</sup> & 7<sup>th</sup> Floor,  
Core – III, SCOPE Complex, Lodhi Road, New Delhi – 110003  
**Tel.:** +91 (011) 45801260, **Fax:** +91 (011) 45801265  
**Website:** www.eeslindia.org

**(b) whether the Union Government proposes to set up such charging stations at all the petrol pumps across the country;**

**(c) if so, the details thereof including Rajasthan, state-wise; and**

**(d) the time by which the final decision is likely to be taken in this regard?**

**Answer (b) to (d):** Information pertaining to EESL may be treated as 'NIL'.

Yours Sincerely,

A handwritten signature in black ink, appearing to be 'D. K. Sahani', with a stylized flourish at the end.

(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/MoP/2021-22/02

3<sup>rd</sup> February, 2022

To,  
Shri Govind Kumar,  
Under Secretary, EC Division,  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha provisionally admitted Unstarred Question Dy. No. 4937 regarding Installation of LED Street Light for reply on 10.02.2022.**

Sir,

This refers to EC Division, MoP's letter No. 7/4/2022-EC dated 1<sup>st</sup> February, 2022 on the above subject. The para wise reply is as follows:

**Question (a) the details of the installation of Smart & energy efficient LED Street Light replaced with conventional street light in West Bengal since the launch of the scheme, district-wise;**

**Question (b) if not, the reasons therefor;**

**Answer (a) & (b):** District Wise installation of energy efficient LED street lights replaced with conventional street light in West Bengal by EESL under Street Light National Program (SLNP) since launch of the scheme is tabulated below:

Sl. No.	District	ULB Name	Total Number of Street Lights Installed
1	Bankura	Bankura	19023
2	North 24 parganas	Bidhan Nagar	3901
3	Darjeeling	Darjeeling	3637
4	Paschim Bardhman	Durgapur	24376
5	Darjeeling	Siliguri-Jalpaiguri	1769
6	North 24 parganas	Khardaha	5152
7	North 24 parganas	Madhyamgram	1500
8	South 24 Parganas	Budge Budge	4689
9	Murshidabad	Beldanga	2721
10	East Bardhman	Dainhat	2103
11	Murshidabad	Dhulian	2500
<b>Total</b>			<b>71,371</b>

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पाँचवा, छठा और सातवाँ तल,  
कोर - 3, स्कोप कॉम्प्लेक्स, लोधी रोड, नई दिल्ली - 110003  
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**REGISTERED OFFICE:** NFL Building, 5<sup>th</sup>, 6<sup>th</sup> & 7<sup>th</sup> Floor,  
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**Tel.:** +91 (011) 45801260, **Fax:** +91 (011) 45801265  
**Website:** www.eeslindia.org

**Question (c) whether any more new smart and energy efficient LED Street Light would be installed in West Bengal in future; and**

**Question (d) if so, the details thereof?**

**Answer (c) & (d):** EESL may take up additional installation of LED street lights based on demand and subsequent agreement/acceptance of state Government/ULBs.

Yours Sincerely,

A handwritten signature in black ink, appearing to be 'D.K.S.' or similar, enclosed in a circular flourish.

(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/EC/2021-22/07

28<sup>th</sup> January 2022

To,  
Shri Govind Kumar  
Under Secretary  
Ministry of Power  
'F' Wing, Nirman Bhawan  
New Delhi - 110011

**Subject: Provisionally admitted Lok Sabha Starred/Unstarred question Dy. No 2326 for answer on 07.02.2022.**

Sir,

This has reference to EC Division, MoP's email dated 28<sup>th</sup> January 2022 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) whether the Union Government has submitted any agenda and research papers in the recent UN Climate Change Conference COP26 held at Glasgow and if so, the details thereof and the major decision taken in COP26;
- (b) whether India being one of the largest emitter of carbon dioxide and green house gases was directed by UN COP26 to adhere certain major changes in their Transport Vehicle policy and Energy sector and if so, the details thereof and the effective measures taken by the government to curb the prevailing environmental issues and problems;
- (c) the total estimated expenditure and the funds to be allocated, in the next 5 years, to combat major environmental issues in the country;
- (d) whether the COP26 summit in Glasgow, Prime Minister Modi has pledged to reduce the total projected carbon emissions by one billion tonne between now and 2030 and if so, the basis of this pledge; and
- (e) whether the land use, Land-use change and Forestry (LULUCF) sector expected to contribute to this reduction and if so, the share of reduction in the total projected emissions is expected to come from the LULUCF sector?

**Answer (a) to (e):** Ministry of Power/ Ministry of Environment, Forest and Climate change may please reply. However, additional information pertaining to EESL is enclosed at **Annexure -1**.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

**Additional information:**

Energy Efficiency Services Limited (EESL), a JV of PSUs under MoP is implementing Energy Efficiency and Climate Change mitigation projects under National Mission for Enhanced Energy Efficiency (NMEEE). It has pioneered innovative business approaches to successfully roll-out large-scale programs that allow for incentive alignment across the value chain and rapidly drive transformative impact. The programmes of EESL has resulted in reduction of around 46 million tonnes of CO<sub>2</sub> emission per year. Details of major programme are as follows:

- i. UJALA Programme: over 39 million tCO<sub>2</sub> per year
- ii. Gram UJALA Programme: 0.91 million tCO<sub>2</sub> per year
- iii. Street Lighting National Programme: 5.66 million tCO<sub>2</sub> per year
- iv. Agriculture Demand Side management (AgDSM): 0.15 million tCO<sub>2</sub> per year
- v. Building Energy Efficiency Programme: 0.18 million tCO<sub>2</sub> per year

EESL/Res/LSQ/EC/2021-22/06

28<sup>th</sup> January 2022

To,  
Shri Govind Kumar  
Under Secretary  
Ministry of Power  
'F' Wing, Nirman Bhawan  
New Delhi - 110011

**Subject: Provisionally admitted Lok Sabha Starred/Unstarred question Dy. No 2008 for answer on 07.02.2022.**

Sir,

This has reference to EC Division, MoP's email dated 28<sup>th</sup> January 2022 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) the details of the steps taken to reduce carbon emissions and the target set for the next five years to reduce emissions;
- (b) whether the Government is considering to make changes for zero carbon emissions and has set any time frame to achieve the target for zero carbon emissions and if so, the details thereof; and
- (c) the details of the proposals and plans for zero carbon emissions in climate talks?

**Answer (a) to (c):** Ministry of Power/ Ministry of Environment, Forest and Climate change may please reply. However, additional information pertaining to EESL is enclosed at **Annexure -1**.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

**Additional information:**

Energy Efficiency Services Limited (EESL), a JV of PSUs under MoP is implementing Energy Efficiency and Climate Change mitigation projects under National Mission for Enhanced Energy Efficiency (NMEEE). It has pioneered innovative business approaches to successfully roll-out large-scale programs that allow for incentive alignment across the value chain and rapidly drive transformative impact. The programmes of EESL has resulted in reduction of around 46 million tonnes of CO<sub>2</sub> emission per year. Details of major programme are as follows:

- i. UJALA Programme: over 39 million tCO<sub>2</sub> per year
- ii. Gram UJALA Programme: 0.91 million tCO<sub>2</sub> per year
- iii. Street Lighting National Programme: 5.66 million tCO<sub>2</sub> per year
- iv. Agriculture Demand Side management (AgDSM): 0.15 million tCO<sub>2</sub> per year
- v. Building Energy Efficiency Programme: 0.18 million tCO<sub>2</sub> per year

EESL/Res/RSQ/ UMPP/EV/2021-22/01

28<sup>th</sup> January, 2022

To,  
Shri Rahul Kumar  
Assistant Section Officer, UMPP/EV, Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Rajya Sabha Parliament Question Dy. No. U1035 for answer on 08.02.2022 regarding Electric Vehicles Charging Infrastructure.**

Sir,

This refers to UMPP/EV division MoP's email dated 25<sup>th</sup> January 2022 on the above subject. The para wise reply is as follows.

**Question (a): the details regarding the number of electric vehicle charging stations/points currently operational and sanctioned;**

**Answer (a):** Ministry of Power may please reply.

However, Energy Efficiency Services Limited (EESL) a JV of PSU under MoP, GoI through Convergence Energy Services Limited (CESL – 100% Owned subsidiary of EESL) is developing Electric Vehicle Charging Infrastructure and has signed MoUs with multiple stakeholders across municipalities, DISCOMs for location assessment study and setting up of charging infrastructures in their jurisdiction location. As on date EESL/CESL has installed 406 nos. of EV chargers across India of which 198 nos. are operational and rest are in the process of pre-commissioning.

Below are the State/UT wise details of chargers installed across India by EESL/CESL:

State	City	EV Chargers Installed	EV Chargers Operational
Chhattisgarh	Raipur	4	4
Delhi	Delhi	151	80
Goa	Goa	3	3
Gujarat	Ahmedabad	12	8
Haryana	Panchkula	2	2
Karnataka	Bangalore	1	1
Kerala	Thiruvananthapuram and Other Cities	17	12
Maharashtra	Nagpur	73	22
Tamil Nadu	Chennai	52	25
Uttar Pradesh	Noida	69	25
Uttarakhand	Haridwar	1	1
West Bengal	Kolkata	21	15
<b>Total</b>		<b>406</b>	<b>198</b>

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पॉचवा, छठा और सातवाँ तल,  
कोर - 3, स्कोप कॉम्प्लेक्स, लोधी रोड, नई दिल्ली - 110003  
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**(b) whether Government has undertaken any measures to develop charging infrastructure for electric vehicles;**

**(c) if so, the details thereof; and**

**(d) whether Government has incentivized the private sector to participate in this sector, and if so, the details thereof?**

**Answer (b) to (d):** Information pertaining to EESL may be treated as '**NIL**'. However, additional information is hereby enclosed at **Annexure -1**.

Yours Sincerely,

A handwritten signature in black ink, appearing to be 'DS' with a flourish, enclosed in a light blue circular stamp.

(Deepak Kumar Sahani)  
Manager (Corporate Planning)

## **Annexure - 1**

### **Additional information for point (b) & (c):**

Ministry of Power, Government of India has laid down a national priority for rollout of EV Public Charging Infrastructure in its latest revised and consolidated Guidelines & Standards for Charging Infrastructure for Electric Vehicles released vide ref no. 12/2/2018-EV (Comp No. 244347) dated 14<sup>th</sup> January, 2022.

### **Additional information for point (d):**

In the latest revised and consolidated Guidelines & Standards for Charging Infrastructure for Electric Vehicles released by Ministry of Power dated 14<sup>th</sup> January, 2022, guidelines have been issued for provision of land at promotional rates for Public Charging Stations (PCS) to a private entity wherein, it is recommended that, land available with the Government/Public entities shall be provided for installation of PCS to a Government/Public entities on a revenue sharing basis for installation of PCS at a fixed rate of Rs.1 per kWh (used for charging) to be paid to the land owning agency from such PCS business payable on quarterly basis.

EESL/Res/RSQ/MoP/2021-22/04

28<sup>th</sup> January, 2022

To,  
Shri Govind Kumar,  
Under Secretary, EC Division,  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Provisionally admitted Rajya Sabha Starred/Unstarred Question Dy. No. S259 for answer on 03.02.2022 regarding "Tackling adverse effect of climate change".**

Sir,

This refers to EC Division, MoP's email dated 27<sup>th</sup> January, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) whether Government has taken cognizance of the implications of the IPCC report for India;
- (b) whether Government has prepared any roadmap to fulfil India's ambitious promises made at UN Climate Conference in Glasgow;
- (c) if so, the details thereof;
- (d) whether Government plans to bring about a law/ policy to tackle climate change;
- (e) if so, the details thereof; and
- (f) if not, then whether Government is planning at the national and state level to tackle the adverse effects of climate change?

**Answer (a) to (f):** Information pertaining to EESL may be treated as 'NIL'. Ministry of Environment, Forest and Climate Change (MoEF&CC)/MoP may please reply. However, additional information pertaining to EESL is enclosed at **Annexure -1**.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

**Additional information:**

Energy Efficiency Services Limited (EESL), a JV of PSUs under MoP is implementing Energy Efficiency and Climate Change mitigation projects under National Mission for Enhanced Energy Efficiency (NMEEE). It has pioneered innovative business approaches to successfully roll-out large-scale programs that allow for incentive alignment across the value chain and rapidly drive transformative impact. The programmes of EESL has resulted in reduction of around 46 million tonnes of CO<sub>2</sub> emission per year. Details of major programme are as follows:

- i. UJALA Programme: over 39 million tCO<sub>2</sub> per year
- ii. Gram UJALA Programme: 0.91 million tCO<sub>2</sub> per year
- iii. Street Lighting National Programme: 5.66 million tCO<sub>2</sub> per year
- iv. Agriculture Demand Side management (AgDSM): 0.15 million tCO<sub>2</sub> per year
- v. Building Energy Efficiency Programme: 0.18 million tCO<sub>2</sub> per year

EESL/Res/RSQ/MoP/2021-22/04

28<sup>th</sup> January, 2022

To,  
Shri Govind Kumar,  
Under Secretary, EC Division,  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Rajya Sabha Unstarred Question No. 205 for answer on 03.02.2022 regarding "Ecological impact of tourism in Ladakh".**

Sir,

This refers to EC Division, MoP's email dated 28<sup>th</sup> January, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

- whether any studies have been conducted recently to understand the impact of tourism on ecology of Ladakh;
- if so, the details thereof, and if not, the reasons therefor;
- whether it is a fact that emphasis on tourism and hospitality sector in the region has resulted in water scarcity for locals in Ladakh;
- if so, the details thereof, including measures adopted to tackle this issue;
- whether it is a fact that many Environment Impact Assessments (EIAs) conducted prior to infrastructure development in Ladakh have been botched attempts; and
- if so, the reasons thereof and measures adopted to address this issue?

**Answer (a) to (f):** Information pertaining to EESL may be treated as 'NIL'. Ministry of Power may please reply.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/CEA/2021-22/01

1<sup>st</sup> February, 2022

To,  
Shri Ashok Kumar Rajput  
Chief Engineer (RT&I) Division  
Central Electricity Authority  
Ministry of Power  
Sewa Bhawan, R K Puram-I,  
New Delhi-110066

**Subject: LS Unstarred Question No. 87 regarding IP Applications for Green Technology".**

Sir,

This has reference to your email dated 31<sup>st</sup> January, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) whether there is any increase in the number of IP applications for green technology in the last five years;
- (b) if so, the details thereof, sector-wise;
- (c) whether the Ministry has initiated any action to encourage innovation in new green technology development in the country;
- (d) if so, the details thereof and if not, the reasons therefor;
- (e) whether the Ministry has taken any steps or plans to implement any measure to encourage consumers to favour products and services which integrate green technologies; and
- (f) if so, the details thereof and the consumer's reaction thereto?

**Answer (a) to (f):** Information pertaining to EESL may be treated as 'NIL'.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

## RE: Lok Sabh Provisional Question (Umstarred Diary No 442)

Corporate Planning EESL <cp@eesl.co.in>

Tue 2/1/2022 5:04 PM

To: Govind Kumar <ecdivision-mop@nic.in>

Cc: Chief Executive Officer

<ceo@eesl.co.in>; GOVINDKUMAR

<govind.k@gov.in>; bee-

secretary@beeindia.gov.in <bee-

secretary@beeindia.gov.in>; Corporate

Planning EESL <cp@eesl.co.in>

Sir,

As discussed, please find below implementation status of EESL's National programs (UJALA & SLNP) in Andhra Pradesh:

---

### **Unnat Jyoti by Affordable LEDs for All (UJALA):**

*Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 launched UJALA programme to provide LED bulbs to domestic consumers for replacement of incandescent bulbs with LED bulbs at an affordable price.*

*As on date, over 2.20 crore LED bulbs, 1.49 lakh LED Tube Lights and 3.24 lakh Energy Efficient Fans have been distributed in the State of Andhra Pradesh. This has resulted in estimated energy savings of 2.86 billion kWh per year with avoided peak demand of 573 MW, estimated GHG emission reduction of 2.31 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 1,145 crore in electricity bills of consumers.*

### **Street Lighting National Programme (SLNP):**

*Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 launched SLNP programme to replace conventional street lights with smart and energy efficient LED street lights.*

*As on date, over 29.38 lakh LED street lights have been installed in the state of Andhra Pradesh. This has resulted in estimated energy savings of 1.97 billion kWh per year with avoided peak demand of 328 MW, estimated GHG emission reduction of 1.35 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 1,381 crore in electricity bills of ULBs.*

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Thanks & Regards | सधन्यवाद एवं भवदीय

**Corporate Planning Department | कॉर्पोरेट योजना विभाग**

**Energy Efficiency Services Limited | एनर्जी एफिशिएंसी सर्विसेज लिमिटेड**

A JV of PSUs under the Ministry of Power | विद्युत मंत्रालय के सार्वजनिक क्षेत्र के उपक्रम की संयुक्त उद्यम कंपनी

Corporate Office: 5<sup>th</sup> & 6<sup>th</sup> Floor, Core-3, Scope Complex, Lodhi Road, New Delhi-110003

कॉर्पोरेट कार्यालय : पांचवा एवं छठा तल , कोर -३ , स्कोप काम्प्लेक्स , लोधी रोड , नई दिल्ली – 110003

Telephone No: +91-11-42519560 | दूरभाष संख्या: +91-11-42519560, Email: [cp@eesl.co.in](mailto:cp@eesl.co.in)

EESL/Res/LSQ/CEA/2021-22/08

28<sup>th</sup> January, 2022

To,  
Shri Ashok Kumar Rajput  
Chief Engineer (RT&I) Division  
Central Electricity Authority  
Ministry of Power  
Sewa Bhawan, R K Puram-I  
New Delhi-110066

**Subject: लोकसभा अतारांकित प्रश्न डायरी संख्या-1064 दाखिल संख्या – ‘charging infrastructure for electric vehicle’ के संदर्भ में दिनांक 03-Feb-2022 के लिये।**

Sir,

This has reference to O/o Chief Engineer, CEA's email dated 25<sup>th</sup> January, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

- (a): the details about power generation and consumption across the country;  
(b): whether there is a deficit or surplus of electricity across the country and if so, the details thereof, state-wise;

**Answer (a) & (b):** Information pertaining to EESL may be treated as 'NIL'.

**Question (c): whether the Government has taken any steps to encourage/promote use of electric vehicles (EV) in the country, and;**

**Answer (c):** Ministry of Power may please reply.

However, Energy Efficiency Services Limited (EESL) a JV of PSU under MoP, GoI through Convergence Energy Services Limited (CESL – 100% Owned subsidiary of EESL) is implementing e-Mobility Programme. Since the launch of the programme, total 1,643 numbers of Electric cars have been deployed on road to various clients mainly comprising government departments, both at the Central and State level, PSUs, shared mobility operator etc. pan India.

CESL has developed a digital multi-brand marketplace to enable the sale of electric two wheelers. The online marketplace called MyEV (<https://www.myev.org.in/>) can be accessed through web browsers as well as mobile apps (for android and iOS devices). Currently these vehicles are being offered on outright purchase basis to consumers through the MyEV portal. The vehicle offered on the portal offer a price lower than one available in the open market and come with insurance and after sales support assurance. CESL has signed MoUs with multiple state governments (Andhra Pradesh, Goa, Kerala) and is in discussion with seven more states to offer E2W to state government employees at attractive prices.

Additional information on "Government Initiatives" on EVs may be referred at **Annexure-1**.

**Question (d): whether the Government proposes to take any steps to set up or development of charging infrastructure for electric vehicles in Delhi and NCR and if so, the details thereof;**

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**Tel.:** +91 (011) 45801260, **Fax:** +91 (011) 45801265  
**Website:** [www.eeslindia.org](http://www.eeslindia.org)

**Answer (d):** Ministry of Power may please reply.

However, EESL/CESL is also developing Electric Vehicle Charging Infrastructure and as on date, has installed 406 nos. of EV chargers across India of which 198 nos. are operational and rest are in the process of pre-commissioning.

Till date EESL/CESL has installed 220 nos. of EV chargers in Delhi-NCR of which 105 nos. are operational and rest are in the process of pre-commissioning. Below are the state wise chargers installed in Delhi-NCR by EESL/CESL.

State	City	EV Chargers Installed	EV Chargers Operational
Delhi	Delhi	151	80
Uttar Pradesh	Noida	69	25
<b>Total</b>		<b>220</b>	<b>105</b>

**Question (e): the details of charging stations already set-up/to be set up in Delhi and NCR for electric vehicles, location-wise; and**

**Answer (e):** Location wise details of charging stations already set-up installed/commissioned by EESL/CESL in Delhi-NCR for electric vehicles is enclosed at **Annexure -2**.

**Question (f): whether the Government also proposes to reduce import tariffs on electric vehicle components or focus primarily on indigenous solutions to the electric vehicle problems?**

**Answer (f):** Information pertaining to EESL may be treated as 'NIL'.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

**Additional information on question (C)**

Various steps have been taken by the Government to promote electric vehicles in the country such as:

- FAME (Faster Adoption of Manufacture of (Hybrid and) Electric Vehicles) India scheme
  - a. 1st phase of the scheme, FAME-I, supported a total of 2,80,140 electric vehicles accounting for of 1,30,819 CO<sub>2</sub> reduction per day.
  - b. Subsequently, DHI is implementing the 2nd phase of FAME i.e. FAME-II, with an outlay of INR. 10,000 crore for a period of 3 years. The scheme aims to support 7090 e-buses, 500,000 3-wheeler EVs, 55,000 4-wheeler EVs (passenger cars) and 100,000 2-wheelers EVs and develop EV charging infrastructure.
- The latest revised and consolidated Guidelines & Standards for Charging Infrastructure for Electric Vehicles released by Ministry of Power vide ref no. 12/2/2018-EV (Comp No. 244347) dated 14<sup>th</sup> January, 2022 has laid down a national priority for rollout of EV Public Charging Infrastructure.
- Demand Incentives under various State Govt. EV Policies.

**Annexure -2**

<b>S. No.</b>	<b>State/UT</b>	<b>City</b>	<b>Status</b>	<b>Location</b>
1.	Delhi	Delhi	Operational	SDMC Parking, R Block, GK-1, DELHI-110016
2.	Delhi	Delhi	Operational	SDMC Parking, R Block, GK-1, DELHI-110016
3.	Delhi	Delhi	Operational	SDMC Parking, SDA Market, Hauz Khas, New Delhi, Delhi 110016
4.	Delhi	Delhi	Operational	SDMC Parking, SDA Market, Hauz Khas, New Delhi, Delhi 110016
5.	Delhi	Delhi	Operational	EESL Feroze Gandhi Road, Lajpat Nagar, SDMC parking New Delhi
6.	Delhi	Delhi	Operational	EESL PVR Priya Vasant Vihar, SDMC parking New Delhi, Near Gold's Gym
7.	Delhi	Delhi	Operational	EESL Meharchand Double Storey Market, SDMC parking New Delhi
8.	Delhi	Delhi	Operational	EESL N-Block GK-1, SDMC parking New Delhi
9.	Delhi	Delhi	Operational	Lajpat Nagar Veer Sawarkar, Lajpat Nagar, SDMC parking New Delhi
10.	Delhi	Delhi	Operational	SDMC Parking, B6, Safderjung Enclave
11.	Delhi	Delhi	Operational	SDMC Parking, Aurbindo Market Place, Hauz Khas, New Delhi, Delhi 110016
12.	Delhi	Delhi	Operational	Susma swaraj Bhawan, MEA, New Delhi
13.	Delhi	Delhi	Operational	EESL PVR Priya Vasant Vihar, SDMC parking New Delhi, Near Plot 7
14.	Delhi	Delhi	Operational	EESL J-Block, Malviya Nagar, parking New Delhi
15.	Delhi	Delhi	Operational	EESL J-Block, Malviya Nagar, parking New Delhi
16.	Delhi	Delhi	Operational	Prithviraj Market, Rabindra Nagar, New Delhi- 110003
17.	Delhi	Delhi	Operational	Outside RWA Park, Jor Bagh Market, Jor Bagh Colony Road, New Delhi- 110003
18.	Delhi	Delhi	Operational	Opposite Dory Pharmacy, Khanna Market, Aliganj, Lodhi Colony, New Delhi- 110003
19.	Delhi	Delhi	Operational	Opposite Goel Opticals, Khanna Market, Aliganj, Lodhi Colony, New Delhi- 110003
20.	Delhi	Delhi	Operational	Dharma Marg, Block Y, Diplomatic Enclave, Malcha Market, New Delhi- 110021
21.	Delhi	Delhi	Operational	Outside Westend Vedi Tailors, Bock M, Middle Circle, Connaught Place, New Delhi- 110001
22.	Delhi	Delhi	Operational	Near NDMC Office, Fire Brigade Lane, Barakhamba, New Delhi- 110001
23.	Delhi	Delhi	Operational	Opposite HDFC Bank, M- Block, , Connaught Place, New Delhi- 110001

S. No.	State/UT	City	Status	Location
24.	Delhi	Delhi	Operational	Outside Oriental Bank, Radial Road No. 7, Block M, Connaught Place, New Delhi- 110001
25.	Delhi	Delhi	Operational	NDMC Parking, Near Ferns n Petals, Near BPCL Petrol Pump, C Block RR5, Connaught Place, New Delhi- 110001
26.	Delhi	Delhi	Operational	NDMC Parking, Near Croma, D Block RR5, Opposite BPCL Petrol Pump, Connaught Place, New Delhi- 110001
27.	Delhi	Delhi	Operational	Next to PVR Plaza, H Block RR4, Connaught Place, New Delhi- 110001
28.	Delhi	Delhi	Operational	Near Woodland Showroom, Block B, Inner Circle, Connaught Place, New Delhi 110001
29.	Delhi	Delhi	Operational	Opposite HP Petrol Pump, Block E, Middle Circle, Connaught Place, New Delhi- 110001
30.	Delhi	Delhi	Operational	Outside Standard Chartered Bank, Sardar Patel Bhawan, Sansad Marg, New Delhi- 110001
31.	Delhi	Delhi	Operational	Outside Iqbal Bros., G1, Block G, Connaught Place, New Delhi- 110001
32.	Delhi	Delhi	Operational	Outside Bharat Sanchar Bhawan, Ashoke Road, Janpath, New Delhi- 110001
33.	Delhi	Delhi	Operational	FICCI, FICCI Chowk, Mandi House, Todermal Road Area, Mandi House, New Delhi 110001
34.	Delhi	Delhi	Operational	Press Club of India, 1, Raisina Road, Windsor Place, New Delhi 110001
35.	Delhi	Delhi	Operational	Near Snow White, Block D, Inner Circle, Connaught Place, New Delhi 110001
36.	Delhi	Delhi	Operational	Outside Van Heusen Showroom, Block C, Inner Circle, Connaught Place, New Delhi 110001
37.	Delhi	Delhi	Operational	Outside Devinder Collections, Shankar Market, Connaught Place, New Delhi- 110001
38.	Delhi	Delhi	Operational	Akashvani Bhawan, Sansad Marg, New Delhi 110001
39.	Delhi	Delhi	Operational	Outside Chelmsford Club/ Opposite CSIR Building, Rafi Marg, Sansad Marg Area, New Delhi 110001
40.	Delhi	Delhi	Operational	Yashwant Place, Chanakyapuri, New Delhi- 110021
41.	Delhi	Delhi	Operational	Opposite IVORY Mart, F Block, Inner Circle, Connaught Place, New Delhi 110001
42.	Delhi	Delhi	Operational	Near Bikanervala, Yashwant Place, Chanakyapuri, New Delhi- 110021

S. No.	State/UT	City	Status	Location
43.	Delhi	Delhi	Operational	Dharma Marg, Block Y, Diplomatic Enclave, Malcha Market, New Delhi- 110021
44.	Delhi	Delhi	Operational	Laxmi Bai Market, Safderjung Flyover, New Delhi
45.	Delhi	Delhi	Operational	Near ICICI Bank/Metro Gate No. 7 & 8, Block A, Inner Circle, Connaught Place, New Delhi 110001
46.	Delhi	Delhi	Operational	Sarojini Nagar Market, Sarojini Nagar, New Delhi- 110023
47.	Delhi	Delhi	Operational	Gopal Das Building, Barakhamba Road, Connaught Lane, Barakhamba, New Delhi110001
48.	Delhi	Delhi	Operational	Outside Jain Bhawan, 12 Shaheed Bhagat Singh Marg, Gole Market, New Delhi- 110001
49.	Delhi	Delhi	Operational	Side of Hotel Claridges, Tees January Marg, Dr. APJ Abdul Kalam Road, New Delhi- 110003
50.	Delhi	Delhi	Operational	Indian Coffee House, Connaught Place, New Delhi
51.	Delhi	Delhi	Operational	Khan Market, Rabindra Nagar, New Delhi- 110003
52.	Delhi	Delhi	Operational	Charak Palika Hospital, C7 Lane, Moti Bagh 1, Blok F, New Moti Bagh, New Delhi 110021
53.	Delhi	Delhi	Operational	Hotel Claridges, Tees January Marg, Dr. APJ Abdul Kalam Road, New Delhi- 110003
54.	Delhi	Delhi	Operational	Janpath Guest House, Connaught Place, New Delhi
55.	Delhi	Delhi	Operational	Khan Market, Rabindra Nagar, New Delhi- 110003
56.	Delhi	Delhi	Operational	Outside UCO Bank, Block H, RR3, Connaught Place, New Delhi
57.	Delhi	Delhi	Operational	Charak Palika Hospital, C7 Lane, Moti Bagh 1, Blok F, New Moti Bagh, New Delhi 110021
58.	Delhi	Delhi	Operational	Opposite South Indian Bank, Block E, RR6, Middle Circle, Connaught Place, New Delhi- 110001
59.	Delhi	Delhi	Operational	Outside Chelmsford Club/ Opposite CSIR Building, Rafi Marg, Sansad Marg Area, New Delhi 110001
60.	Delhi	Delhi	Operational	Outside Chelmsford Club/ Opposite CSIR Building, Rafi Marg, Sansad Marg Area, New Delhi 110001
61.	Delhi	Delhi	Operational	PSOI Club, Chanakyapuri, New Delhi 110021

S. No.	State/UT	City	Status	Location
62.	Delhi	Delhi	Operational	Outside Chelmsford Club/ Opposite CSIR Building, Rafi Marg, Sansad Marg Area, New Delhi 110001
63.	Delhi	Delhi	Operational	Outside Chelmsford Club/ Opposite CSIR Building, Rafi Marg, Sansad Marg Area, New Delhi 110001
64.	Delhi	Delhi	Operational	PSOI Club, Chanakyapuri, New Delhi 110021
65.	Delhi	Delhi	Operational	Outside Chelmsford Club/ Opposite CSIR Building, Rafi Marg, Sansad Marg Area, New Delhi 110001
66.	Delhi	Delhi	Operational	Gate No. 1, Lodhi Garden, Lodhi Estate, Lodhi Road, New Delhi 110003
67.	Delhi	Delhi	Operational	Talkatora Stadium, President's Estate, New Delhi 110004
68.	Delhi	Delhi	Operational	Talkatora Stadium, President's Estate, New Delhi 110004
69.	Delhi	Delhi	Operational	DLF Building, Sansad Marg, Janpath, Connaught Place, New Delhi 110001.
70.	Delhi	Delhi	Operational	Talkatora Garden, President's Estate, New Delhi 110004
71.	Delhi	Delhi	Operational	Talkatora Garden, President's Estate, New Delhi 110004
72.	Delhi	Delhi	Operational	NMDC Parking, Dilli Haat, West Kidwai Nagar, New Delhi 110023
73.	Delhi	Delhi	Operational	Palika Maternity Hospital, Block 11, Lodhi Colony, Near Khanna Market, New Delhi 110003
74.	Delhi	Delhi	Operational	Gate No. 1, Lodhi Garden, Lodhi Estate, Lodhi Road, New Delhi 110003
75.	Delhi	Delhi	Operational	NMDC Parking, Dilli Haat, West Kidwai Nagar, New Delhi 110023
76.	Delhi	Delhi	Operational	NMDC Parking, Dilli Haat, West Kidwai Nagar, New Delhi 110023
77.	Delhi	Delhi	Operational	C/o SDMC, Dwarka Sec 6 Market, New Delhi
78.	Delhi	Delhi	Operational	C/o SDMC, Dwarka Sec 12, New Delhi
79.	Delhi	Delhi	Operational	C/o SDMC, The Janak CC, Janakpuri, New Delhi
80.	Delhi	Delhi	Operational	Vimhans Nayati Super Speciality Hospital, Institutional Area, Nehru Nagar, Lajpat Nagar, New Delhi, Delhi 110065
81.	Delhi	Delhi	Pre-Commissioning	Charger 4, c/o SDMC, GK-1 N Block market, New Delhi,, Delhi - 110048
82.	Delhi	Delhi	Pre-Commissioning	Charger 5, c/o SDMC, GK-1 N Block market, New Delhi,, Delhi - 110048

S. No.	State/UT	City	Status	Location
83.	Delhi	Delhi	Pre-Commissioning	EV Parking Slot 5, SDMC Parking, N Block Market, Greater Kailash - 1 , 110048
84.	Delhi	Delhi	Pre-Commissioning	EV Parking Slot 2, SDMC Parking, Hauz Khas Village, Hauz Khas - 1 , 110016
85.	Delhi	Delhi	Pre-Commissioning	H- Block Market, Sarita Vihar, New Delhi.
86.	Delhi	Delhi	Pre-Commissioning	GK-2 M Block SDMC Parking, New Delhi.
87.	Delhi	Delhi	Pre-Commissioning	SDMC Parking, New Friends Colony, New Delhi
88.	Delhi	Delhi	Pre-Commissioning	PVR Priya Vasant Vihar
89.	Delhi	Delhi	Pre-Commissioning	Meharchand Double Storey Market
90.	Delhi	Delhi	Pre-Commissioning	Meharchand Double Storey Market
91.	Delhi	Delhi	Pre-Commissioning	RK Puram Sector 12 Market
92.	Delhi	Delhi	Pre-Commissioning	RK Puram Sector 12 Market
93.	Delhi	Delhi	Pre-Commissioning	Nehru place plot 81-85, SDMC New Delhi
94.	Delhi	Delhi	Pre-Commissioning	Nehru place plot 81-85, SDMC New Delhi
95.	Delhi	Delhi	Pre-Commissioning	EESL H-Block, Sarita Vihar, SDMC parking New Delhi
96.	Delhi	Delhi	Pre-Commissioning	EESL, Plot 81-85, Nehru Place, SDMC Parking, New Delhi
97.	Delhi	Delhi	Pre-Commissioning	Charger 2, SDMC Parking, Hauz Khas Village, New Delhi
98.	Delhi	Delhi	Pre-Commissioning	EESL PVR Priya Vasant Vihar, SDMC parking New Delhi, Near Gold's Gym
99.	Delhi	Delhi	Pre-Commissioning	c/o SDMC Hauz Khas Village, New Delhi, Delhi - 110016
100.	Delhi	Delhi	Pre-Commissioning	c/o SDMC Hauz Khas Village, New Delhi, Delhi - 110016
101.	Delhi	Delhi	Pre-Commissioning	Gate No. 1, Lodhi Garden, Lodhi Estate, Lodhi Road, New Delhi 110003
102.	Delhi	Delhi	Pre-Commissioning	Gate No. 1, Lodhi Garden, Lodhi Estate, Lodhi Road, New Delhi 110003
103.	Delhi	Delhi	Pre-Commissioning	Hotel Claridges, Tees January Marg, Dr. APJ Abdul Kalam Road, New Delhi- 110003
104.	Delhi	Delhi	Pre-Commissioning	Back side of NDMC office Sub Station, Hotel Claridges, Tees January Marg, Dr. APJ Abdul Kalam Road, New Delhi- 110003
105.	Delhi	Delhi	Pre-Commissioning	Akashvani Bhawan, Sansad Marg, New Delhi 110001

S. No.	State/UT	City	Status	Location
106.	Delhi	Delhi	Pre-Commissioning	Akashvani Bhawan, Sansad Marg, New Delhi 110001
107.	Delhi	Delhi	Pre-Commissioning	FICCI, FICCI Chowk, Mandi House
108.	Delhi	Delhi	Pre-Commissioning	Near NDMC Office, Fire Brigade Lane, Barakhamba, New Delhi- 110001
109.	Delhi	Delhi	Pre-Commissioning	Near NDMC Office, Fire Brigade Lane, Barakhamba, New Delhi- 110001
110.	Delhi	Delhi	Pre-Commissioning	Talkatora Stadium, President's Estate, New Delhi110004
111.	Delhi	Delhi	Pre-Commissioning	Talkatora Garden, President's Estate, New Delhi110004
112.	Delhi	Delhi	Pre-Commissioning	Tara Mandal Nehru Planetarium, NDMC , New Delhi
113.	Delhi	Delhi	Pre-Commissioning	Nehru Park , NDMC, New Delhi
114.	Delhi	Delhi	Pre-Commissioning	Netaji Nagar, NDMC, New Delhi
115.	Delhi	Delhi	Pre-Commissioning	Kali Mandir lane, NDMC, New Delhi
116.	Delhi	Delhi	Pre-Commissioning	Mahatma Gandhi Samriti, NDMC, New Delhi
117.	Delhi	Delhi	Pre-Commissioning	Lodhi Garden Gate No. 4
118.	Delhi	Delhi	Pre-Commissioning	Outside NDMC Bharat Ghar, Chanakyapur, NDMC , New Delhi
119.	Delhi	Delhi	Pre-Commissioning	Talkatora Garden, President's Estate, New Delhi110004
120.	Delhi	Delhi	Pre-Commissioning	Talkatora Stadium, President's Estate, New Delhi110004
121.	Delhi	Delhi	Pre-Commissioning	Mahatma Gandhi Samriti, NDMC, New Delhi
122.	Delhi	Delhi	Pre-Commissioning	Mahatma Gandhi Samriti, NDMC, New Delhi
123.	Delhi	Delhi	Pre-Commissioning	Mahatma Gandhi Samriti, NDMC, New Delhi
124.	Delhi	Delhi	Pre-Commissioning	Netaji Nagar, NDMC, New Delhi
125.	Delhi	Delhi	Pre-Commissioning	Netaji Nagar, NDMC, New Delhi
126.	Delhi	Delhi	Pre-Commissioning	Netaji Nagar, NDMC, New Delhi
127.	Delhi	Delhi	Pre-Commissioning	Kali Mandir lane, NDMC, New Delhi
128.	Delhi	Delhi	Pre-Commissioning	Kali Mandir lane, NDMC, New Delhi

S. No.	State/UT	City	Status	Location
129.	Delhi	Delhi	Pre-Commissioning	Kali Mandir lane, NDMC, New Delhi
130.	Delhi	Delhi	Pre-Commissioning	Tara Mandal Nehru Planetarium, NDMC , New Delhi
131.	Delhi	Delhi	Pre-Commissioning	Tara Mandal Nehru Planetarium, NDMC , New Delhi
132.	Delhi	Delhi	Pre-Commissioning	Tara Mandal Nehru Planetarium, NDMC , New Delhi
133.	Delhi	Delhi	Pre-Commissioning	Nehru Park, NDMC , New Delhi
134.	Delhi	Delhi	Pre-Commissioning	Nehru Park, NDMC , New Delhi
135.	Delhi	Delhi	Pre-Commissioning	Nehru Park, NDMC , New Delhi
136.	Delhi	Delhi	Pre-Commissioning	Outside NDMC Bharat Ghar, Chanakyapur, NDMC , New Delhi
137.	Delhi	Delhi	Pre-Commissioning	Lodhi Garden Gate No. 4
138.	Delhi	Delhi	Pre-Commissioning	Lodhi Garden Gate No. 4
139.	Delhi	Delhi	Pre-Commissioning	Lodhi Garden Gate No. 4
140.	Delhi	Delhi	Pre-Commissioning	SDMC Parking, RK Puram Sec-8, New Delhi,
141.	Delhi	Delhi	Pre-Commissioning	SDMC Parking, PVR Anupam Saket, New Delhi
142.	Delhi	Delhi	Pre-Commissioning	Nehru Place DTC terminal, New Delhi
143.	Delhi	Delhi	Pre-Commissioning	Kalkaji DTC, Bus Depot, New Delhi
144.	Delhi	Delhi	Pre-Commissioning	Mehrauli DTC Bus Terminal, New Delhi
145.	Delhi	Delhi	Pre-Commissioning	Dwarka Sector-2 DTC Bus Depot, New Delhi
146.	Delhi	Delhi	Pre-Commissioning	Dwarka Sector-8 DTC Bus Depot, New Delhi
147.	Delhi	Delhi	Pre-Commissioning	IP DTC Bus Depot, New Delhi
148.	Delhi	Delhi	Pre-Commissioning	Rajghat-1 DTC Bus Depot, New Delhi
149.	Delhi	Delhi	Pre-Commissioning	Nehru Place DTC terminal, New Delhi
150.	Delhi	Delhi	Pre-Commissioning	Parking site near mangalam place, sector-3 rohini, ROHINI, North MCD, Delhi - 110085
151.	Delhi	Delhi	Pre-Commissioning	LSC, D-Block, prashant vihar, rohini zone, north DMC, ROHINI, North MCD, Delhi - 110085

S. No.	State/UT	City	Status	Location
152.	Uttar Pradesh	Noida	Operational	Noida Authority Parking at Central Market, Sector-50, Noida-201301
153.	Uttar Pradesh	Noida	Operational	Noida Authority Parking at Central Market, Sector-50, Noida-201301
154.	Uttar Pradesh	Noida	Operational	Noida Authority Parking near NMC Hospital plot area, sector-30, Noida-201301
155.	Uttar Pradesh	Noida	Operational	Noida Authority Parking near NMC Hospital plot area, sector-30, Noida-201301
156.	Uttar Pradesh	Noida	Operational	Noida Authority Parking at Ganga shopping Complex, sector-29, Noida-201301
157.	Uttar Pradesh	Noida	Operational	Noida Authority Parking at Ganga shopping Complex, sector-29, Noida-201301
158.	Uttar Pradesh	Noida	Operational	Noida Authority Parking at plot near alka cinema, sector-15, Noida-201301
159.	Uttar Pradesh	Noida	Operational	Noida Authority Parking at Central Market, Sector-50, Noida-201301
160.	Uttar Pradesh	Noida	Operational	Noida Authority Parking near NMC Hospital plot area, sector-30, Noida-201301
161.	Uttar Pradesh	Noida	Operational	Noida Authority Parking at Ganga shopping Complex, sector-29, Noida-201301
162.	Uttar Pradesh	Noida	Operational	Noida Authority Parking at plot near alka cinema, sector-15, Noida-201301
163.	Uttar Pradesh	Noida	Operational	Noida Authority Parking at H-Block market, near haldiram, sector-63, Noida-201301
164.	Uttar Pradesh	Noida	Operational	Noida Authority Parking near electronic city metro station sec-63, Noida-201301
165.	Uttar Pradesh	Noida	Operational	Noida Authority Parking near advant building, sector-142, Noida-201301
166.	Uttar Pradesh	Noida	Operational	Noida Authority Parking near road between sector- 124 & 125, sector-124, Noida-201301
167.	Uttar Pradesh	Noida	Operational	Noida Authority Parking near RTO Office, sector-33, Noida-201301
168.	Uttar Pradesh	Noida	Operational	Noida Authority Parking at shopprix mall, sector-61, Noida-201301
169.	Uttar Pradesh	Noida	Operational	Noida Authority Parking, near State Bank of India, sector-2, Noida-201301
170.	Uttar Pradesh	Noida	Operational	Noida authority parking, near B-14, sector 2 noida, Noida G B Nagar, Uttar Pradesh - 201301
171.	Uttar Pradesh	Noida	Operational	Noida Authority parking, near A-12, sector 16, noida, Noida G B Nagar, Uttar Pradesh - 201301

S. No.	State/UT	City	Status	Location
172.	Uttar Pradesh	Noida	Operational	Noida Authority Parking, Near FC-05, opposite laxmi video studio, sec 16A,, Noida G B Nagar, Uttar Pradesh - 201301
173.	Uttar Pradesh	Noida	Operational	Noida Authority Parking, Diagonally op. Sasta Sundar Hospital, sector- 58, Noida-201301
174.	Uttar Pradesh	Noida	Operational	Noida Authority Parking, Near Tata Advance Systems, sector- 59, Noida-201301
175.	Uttar Pradesh	Noida	Operational	Noida Authority Parking at market, Near Affinity Saloon sector-51, Noida-201301
176.	Uttar Pradesh	Noida	Operational	Noida Authority Parking, Side parking of HCL building, sector-8, noida-20301
177.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking at H-Block market, near haldiram, sector-63, Noida-201301
178.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking at H-Block market, near haldiram, sector-63, Noida-201301
179.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking near electronic city metro station sec-63, Noida-201301
180.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking near electronic city metro station sec-63, Noida-201301
181.	Uttar Pradesh	Noida	Pre-Commissioning	Between kirti mann plaza and NMC hospital Sector 30 Noida
182.	Uttar Pradesh	Noida	Pre-Commissioning	Between kirti mann plaza and NMC hospital Sector 30 Noida
183.	Uttar Pradesh	Noida	Pre-Commissioning	Near RTO OfficeSector 33A, Noida, Ghaziabad, Uttar Pradesh, 201301, India
184.	Uttar Pradesh	Noida	Pre-Commissioning	Near RTO OfficeSector 33A, Noida, Ghaziabad, Uttar Pradesh, 201301, India
185.	Uttar Pradesh	Noida	Pre-Commissioning	road between sector 124 & 125 and beside SPCI Sector Road, Noida, Uttar Pradesh, 201313
186.	Uttar Pradesh	Noida	Pre-Commissioning	road between sector 124 & 125 and beside SPCI Sector Road, Noida, Uttar Pradesh, 201313
187.	Uttar Pradesh	Noida	Pre-Commissioning	Sector 142, Near Advant Chowk Noida, Uttar Pradesh, 201305
188.	Uttar Pradesh	Noida	Pre-Commissioning	Sector 142, Near Advant Chowk Noida, Uttar Pradesh, 201305
189.	Uttar Pradesh	Noida	Pre-Commissioning	Sector 61 Opposite Shopprix Mall , Noida, Uttar Pradesh, 201305
190.	Uttar Pradesh	Noida	Pre-Commissioning	Sector 61 Opposite Shopprix Mall , Noida, Uttar Pradesh, 201305
191.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking at Central Market, Sector-50, Noida-201301
192.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking at Central Market, Sector-50, Noida-201301

S. No.	State/UT	City	Status	Location
193.	Uttar Pradesh	Noida	Pre-Commissioning	Charger 1, Sector 2: State Bank of India, Noida - UP
194.	Uttar Pradesh	Noida	Pre-Commissioning	Charger 2, Sector 2: State Bank of India, Noida - UP
195.	Uttar Pradesh	Noida	Pre-Commissioning	Charger 1, Sector 3: G-1 to G-50, Noida - UP
196.	Uttar Pradesh	Noida	Pre-Commissioning	Charger 2, Sector 3: G-1 to G-50, Noida - UP
197.	Uttar Pradesh	Noida	Pre-Commissioning	Charger 1, Sector 3: F-7 to F-8, Noida UP
198.	Uttar Pradesh	Noida	Pre-Commissioning	Charger 2, Sector 3: F-7 to F-8, Noida UP
199.	Uttar Pradesh	Noida	Pre-Commissioning	Charger 1, Sector 6: Reception Noida Authority, Noida, UP
200.	Uttar Pradesh	Noida	Pre-Commissioning	Charger 2, Sector 6: Reception Noida Authority, Noida, UP
201.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking, Spice Mall Plot Area, Sector-25A, Noida-201301
202.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking, Spice Mall Plot Area, Sector-25A, Noida-201301
203.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking, near metro station, sector-16, Noida-201301
204.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking, near metro station, sector-16, Noida-201301
205.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking, Sector 62: On Street, Noida-201301, Noida G B Nagar, Uttar Pradesh - 201301
206.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking, Sector 62: Off Street, Noida-201301, Noida G B Nagar, Uttar Pradesh - 201301
207.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking, Sector 24: Front of ESI Hospital, Noida, Noida G B Nagar, Uttar Pradesh - 201301
208.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking, Sector 41: C-98, Market Road Side Parkin, Noida G B Nagar, Uttar Pradesh - 201301
209.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking, Sector 41: Village Agahpur DSC Road, Noida G B Nagar, Uttar Pradesh - 201301
210.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking, A block, Sec-64, In front of marie gold exports ltd, Noida G B Nagar, Noida - 201301
211.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking, Sector-65, in front of Hexagon pvt. Ltd, Noida G B Nagar, Uttar Pradesh - 201301

S. No.	State/UT	City	Status	Location
212.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking, Sector 27: Cambridge School, Noida G B Nagar, Uttar Pradesh - 201301
213.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking,G-1 to G-50, sector-3, Noida-201301
214.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking, F-7 to F-8, sector-3, Noida-201301
215.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking, near metro station, sector-16, Noida-201301
216.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking, Reception Noida Authority, Sector-6, Noida-20301
217.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking, Spice Mall Plot Area, Sector-25A, Noida-201301
218.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking, In front of marie gold exports ltd, A block, sector-64, noida-201301.
219.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking, in front of Hexagon pvt. Ltd., sector- 65, Noida-201301
220.	Uttar Pradesh	Noida	Pre-Commissioning	Noida Authority Parking, Opp. C&R textiles, Sec-60 Noida

**Re: Time Bound: Lok Sabha provisionally admitted Unstarred Question Diary No 4898 regarding Gram UJALA programme for reply on 10.02.2022**

MD Sectt.-CESL <mdcesl@eesl.co.in>

Thu 2/3/2022 4:45 PM

To: ECDivision POWER <ecdivision-mop@nic.in>

Cc: Mahua Acharya  
<macharya@eesl.co.in>; MD Sectt.-CESL  
<mdcesl@eesl.co.in>; Chief Executive Officer  
<ceo@eesl.co.in>; Corporate Planning EESL  
<cp@eesl.co.in>

Sir/Madam,

Referring to trailing mail regarding Question no. 4898 (Gram Ujala), please find below the reply from CESL duly approved by the competent authority:-

---

**(a): whether Vijayawada has been identified for the launch of the first phase of Gram Ujala Programme;**

**(b) if so, the details of outcome of above intervention with a particular reference to Andhra Pradesh;**

**Answer (a) & (b):** During first phase of Gram Ujala Programme, Convergence Energy Services Limited (CESL) is operating across the rural areas of Kurnool, Kadapa and Chittoor districts. At present Vijayawada has not been identified in its first phase.

**(c) the steps taken/being taken to generate awareness about the programme amongst beneficiaries; and**

**Answer (c):** Gram Ujala is a part of Azadi ka Amrut Mahotsava initiative by Government of India. Hon'ble Minister of Power, New and Renewable Energy launched Gram UJALA programme in Bihar at Arrah District on 19th March,2021 and in Uttar Pradesh at Varanasi District on 24th March,2021.

As a part of mandate by Government of India, the activity of distributing 10 lakhs bulbs in a single day was concluded on 14<sup>th</sup> Dec,2021 across five states namely- Uttar Pradesh, Andhra Pradesh, Karnataka, Bihar and Telangana. Various modes of awareness was taken by CESL to create awareness about the said program such as – Setting up of kiosks, door to door distribution campaign, flyers, posters, banner and also use of local print media for disseminating information about the program. Local stakeholders such Distribution companies also helped in the said activity,

**(d) whether the Government proposes to launch the second phase of the Gram Ujala Programme; and**

**(e) if so, the details thereof along with the time by which it is likely to be launched?**

**Answer (d) & (e):** Ministry of Power may please reply.

CESL has approved up to 1 crore lights only. Scale-up may be discussed with the MoP.

---

With Regards,

Sectt. MD/CEO- Convergence Energy Services Ltd.(CESL)

Re: Time Bound: Lok Sabha provisionally admitted Unstarred Question. Dy. No. 7895 regarding Gram Ujala Scheme for answer on 17.03.2022

MD Sectt.-CESL <mdcesl@eesl.co.in>

Thu 3/10/2022 5:49 PM

To: ECDivision POWER <ecddivision-mop@nic.in>

Cc: Mahua Acharya <macharya@eesl.co.in>; MD Sectt.-CESL <mdcesl@eesl.co.in>; Chief Executive Officer <ceo@eesl.co.in>; Corporate Planning EESL <cp@eesl.co.in>

Sir/Madam,

This has reference to letter No. 7/10/2022-EC dated 9<sup>th</sup> March 2022, on the above subject, may please find below the reply from CESL duly approved by the competent authority:-

---

**(a) whether the Government has celebrated National Energy Conservation Day and if so, the details thereof along with the details of programmes organised on the said occasion;**

**Answer (a):** On the occasion of National Energy Conservation Day, 10 lacs distribution of LED bulbs was done by Convergence Energy Services Limited, a wholly owned subsidiary of Energy Efficiency Services Limited in the state of Uttar Pradesh, Bihar, Andhra Pradesh, Karnataka and Telangana.

**(b) whether the Government is implementing Gram Ujala Yojana and if so, the details thereof and the objectives of the said scheme;**

**Answer (b):** Gram Ujala scheme is being implemented by Convergence Energy Services Limited, a wholly owned subsidiary of Energy Efficiency Services Limited, under this scheme LED bulb of 7W and 12W are being distributed in exchange of 60W and 100W incandescent bulb replacement at Rs. 10 per LED bulb. The balance amount will be recovered by sale of carbon credit being generated by the LED bulbs.

**(c) the details of the challenges faced by the Government while implementing the scheme;**

**Answer (c):** No specific challenges were found while implementing Gram Ujala scheme.

**(d) the details of achievements made by the scheme since its inception;**

**Answer (d):** A total of 80.57 lakh LED bulbs have been distributed till 10th March 2022.

Wattage of LED Bulbs	7W	12W
Total Number	21,56,019	59,01,673
Grand Total	80,57,692	

**(e) the number of energy efficient LED bulbs distributed since the inception of the scheme; and**

**Answer (e):** The Number of Energy efficient LED bulbs distributed till date are 80,57,692.

**(f) whether the Government has launched an awareness campaign to save electricity and if so, the details and the results thereof?**

**Answer (f):** Ministry of Power may please reply.

Under the Gram Ujala program, during the distribution of LED bulbs, distribution agencies do the local level awareness about benefit of usage of LED bulbs and the details of the Gram Ujala scheme by use of banners, posters and leaflets.

---

With Regards,

Sectt. MD/CEO- Convergence Energy Services Ltd.(CESL)



energy. simplified

पंजीकृत कार्यालय: कन्वर्जेन्स एनर्जी सर्विसेस लिमिटेड, एन एफ बिल्डिंग,  
पाँचवा एंव छठा तल, कोर-3, स्कोप कॉम्प्लेक्स, लोधी रोड, नई दिल्ली-110003  
दूरभाष: +91 11 - 45801260

Registered Office: **Convergence Energy Services Limited**, NFL Building,  
5<sup>th</sup> & 6<sup>th</sup> Floor, Core - III, SCOPE Complex, Lodhi Road, New Delhi - 110003  
Phone: +91 11 - 45801260



**From:** Govind Kumar [mailto:ecdivision-mop@nic.in]

**Sent:** 09 March 2022 11:41

**To:** Abhay Bakre <dg-bee@nic.in>; Chief Executive Officer <ceo@eesl.co.in>

**Cc:** Secretary BEE <bee-secretary@beenet.in>; Corporate Planning EESL <cp@eesl.co.in>; Govind Kumar <govind.k@gov.in>

**Subject:** Lok Sabha provisionally admitted Unstarred Question. Dy. No. 7895 regarding Gram Ujala Scheme for answer on 17.03.2022

Sir,

Please find attachment for the above mentioned Parliament Question for seeking requisite inputs.

With regards,

EC Division, MoP



Re: Time Bound: Lok Sabha provisionally admitted Unstarred Question Dy. No. 18084 to be answered on 07.04.2022 regarding "Gram Ujala Scheme"- -Reg.

MD Sectt.-CESL <mdcesl@eesl.co.in>

Wed 3/30/2022 10:51 AM

To: ECDivision POWER <ecdivision-mop@nic.in>

Cc: Mahua Acharya <macharya@eesl.co.in>; MD Sectt.-CESL <mdcesl@eesl.co.in>; Chief Executive Officer <ceo@eesl.co.in>; Corporate Planning EESL <cp@eesl.co.in>

Sir/Madam,

This has reference to letter No. 7/17/2022-EC dated 29<sup>th</sup> March 2022, on the above subject, may please find below the reply from CESL duly approved by the competent authority:

---

**(a) Whether the Government has observed the National Energy Conservation Day and if so, the details thereof along with the programmes organized to mark the occasion.**

**Answer(a):** On the occasion of National Energy Conservation Day, 10 lacs distribution of LED bulbs was done by Convergence Energy Services Limited, a wholly owned subsidiary of Energy Efficiency Services Limited in the state of Uttar Pradesh, Bihar, Andhra Pradesh, Karnataka and Telangana.

**(b) Whether the Government is implementing Gram Ujala scheme and if so, the details thereof and the aims and objective behind the move.**

**Answer(b):** Gram Ujala scheme is being implemented by Convergence Energy Services Limited, a wholly owned subsidiary of Energy Efficiency Services Limited, under this scheme LED bulb of 7W and 12W are being distributed in exchange of 60W and 100W incandescent bulb replacement at Rs. 10 per LED bulb. The balance amount will be recovered by sale of carbon credit being generated by the LED bulbs.

**(c) The challenges faced by the Government while implementing the scheme.**

**Answer(c):** No specific challenges were found.

**(d). The achievement and made under the Scheme during the last three years and the current year.**

**Answer(d):** As on date 81.47 lakh LED bulbs have been distributed by CESL.

Wattage of LED Bulbs	7W	12W
Total Number	21,78,763	59,68,427
Grand Total	81,47,190	

**(e) The number of energy-efficient LED bulbs distributed under the scheme during the said period.**

**Answer(e)** The total number of Energy efficient LED bulbs distributed till date are 81,47,190.

**(f) Whether the Government has initiated awareness campaign to save electricity and if so, the details along with the outcome thereof?**

**Answer(f):** MoP may please reply.

Under the Gram Ujala program, during the distribution of LED bulbs, distribution agencies do the local level awareness about benefit of usage of LED bulbs and the details of the Gram Ujala scheme by use of banners, posters and leaflets.

---

With Regards,

Sectt. MD/CEO- Convergence Energy Services Ltd.(CESL)

Re: Time Bound: Lok Sabha advance question Dy. No.8997 to be answered on 24.03.2022 regarding "Gram Ujala Yojana"- Request for furnishing inputs for framing replies -Reg.

MD Sectt.-CESL <mdcesl@eesl.co.in>

Tue 3/15/2022 4:25 PM

To: ECDivision POWER <ecddivision-mop@nic.in>

Cc: Mahua Acharya <macharya@eesl.co.in>; MD Sectt.-CESL <mdcesl@eesl.co.in>; Chief Executive Officer <ceo@eesl.co.in>; Corporate Planning EESL <cp@eesl.co.in>

Sir/Madam,

This has reference to letter No. 7/17/2022-EC dated 14<sup>th</sup> March 2022, on the above subject, may please find below the reply from CESL duly approved by the competent authority:-

**(a) the details of Gram Ujala Yojana; and**

**Answer(a):** Gram Ujala program was launched by the Hon'ble Minister of Power, New and Renewable Energy in Bihar at Arrah District on 19th March 2021 and in Uttar Pradesh at Varanasi District on 24th March 2021.

This program is financed entirely through carbon credits and under this program, CESL is providing high-quality 7-Watt and 12-Watt LED bulbs with 3 years guarantee at a cost of INR 10 per bulb in exchange for working incandescent bulbs. The balance amount will be recovered by the sale of carbon credits being generated by the LED bulbs.

- *As on date*, CESL has distributed 80.81 Lakhs LED bulbs in rural areas of 5 states (Bihar, Uttar Pradesh, Andhra Pradesh, Karnataka, Telangana). This has resulted in estimated energy savings of 115.99 Crore kWh per year with avoided peak demand of 318 MW, GHG emission reduction of 10.67 lakhs t CO<sub>2</sub> per year, and estimated annual monetary savings of INR 402 crore in consumer electricity bills.
- CESL has achieved the target of distribution of **1 million LED bulbs in a single day** on the National Energy Conservation Day (NECA), 14<sup>th</sup> December 2021. The event was launched by the Hon'ble Union Minister of Power & NRE.

**(b) the name of the States in the country where this Yojana has been implemented so far?**

**Answer(b):** Following are the states where the Gram Ujala program has been implemented so far:

1. Bihar.
2. Uttar Pradesh.
3. Andhra Pradesh.
4. Karnataka.
5. Telangana.

With Regards,

Sectt. MD/CEO- Convergence Energy Services Ltd.(CESL)



**Inputs for Lok Sabha Parliament Question No. 8882 for answer on 24.03.2022**  
**regarding Electric Vehicles Deployed in Government Ministries - reg.**

- a) *whether a decision has been taken to change all the Government vehicles to electric and if so, whether the Ministry of Power has notified all Ministries regarding the same;*

**Response (a):** Ministry of Power may please respond.

To promote adoption of electric vehicles in Ministries, Hon'ble Minister of Power and New & Renewable Energy has sent letters to various Central Ministers and Chief Ministers in August 2021. Further, to bring synergy between various ministries in regard of electric vehicle's road map, a meeting has been held in Ministry of Power on 17.09.2021 under the Chairmanship of Hon'ble Minister of Power and New & Renewable Energy wherein it has been decided that "All Central Government Ministries and their field offices would completely migrate to EVs in next three years." A copy of letters is enclosed as **(Annexure I)**.

- b) *the total number of vehicles deployed in the Government Ministries and other offices State/ UT and department-wise;*

**Response (b):** Ministry of Power may please respond.

Energy Efficiency Services Limited (EESL) a JV of PSUs under Ministry of Power, Govt. of India through Convergence Energy Services Limited (CESL – 100% Owned subsidiary of EESL) has deployed 495 e4Ws at central government and 904 e4Ws at state government. The State/UT-wise and department-wise details are given in **(Annexure-II.)**

- c) *the status of the aggregation of demand by Energy Efficiency Services Limited (EESL) for three-wheelers and electric buses as per the modified Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles (FAME) Phase-II scheme;*

**Response (c):**

**Electric Buses**

- i. EESL was given the mandate via gazette notification (CG-DL-E-110622021-227493 dated 11<sup>th</sup> June 2021) to aggregate demand for electric bus deployments on OPEX basis across 9 major cities in India (having population over 4 million).
- ii. EESL through its wholly owned subsidiary CESL(Convergence Energy Services Limited), undertook intense consultations with STUs, State Governments, OEMs, NITI Aayog, Ministry of Heavy Industries (MHI) and several sector experts/institutions for over 6 months to develop a Grand Challenge.
- iii. The Grand Challenge standardizes the bus specification and contract terms to leverage economies of scale and enhance bankability. CESL aggregated demand of 5,450 buses across the cities nominated cities.

**Inputs for Lok Sabha Parliament Question No. 8882 for answer on 24.03.2022**  
**regarding Electric Vehicles Deployed in Government Ministries - reg.**

- iv. CESL floated a unified tender on 20<sup>th</sup> January 2022 (Ref NIT/Bid Document No: CESL/06/2021-22/GC/Electric Buses/212201006 dated 20.01.2022) towards fulfilment of the mandate provided by Ministry of Heavy Industries.
- Last date of submission of bids is 15<sup>th</sup> Mar 2022.

**Electric Three Wheelers**

- i. Demand aggregation conducted to identification and aggregation of demand for electric three wheelers (E3W) across multiple use cases from public and private sector.
- ii. CESL aggregated total demand for 1 Lakhs Electric 3W which comprises of 50% from public sector and 50% from private sector.
1. Collection of Municipal Solid Waste – 300kg
  2. Collection of Municipal Solid Waste – 500kg
  3. On-demand delivery of Goods – Closed container
  4. On-demand delivery of Goods – Flatbed
  5. Last mile delivery of petroleum products including LPG cylinders
  6. E-Autorickshaws
  7. Refrigerated cold storage for narrow lanes – 10 Degree Container
  8. Refrigerated cold storage for narrow lanes – Sub-Zero Temp
- iii. A tender was floated for 1 lakh E3W for empanelment of E3W OEMs for the aggregated demand on 6<sup>th</sup> Aug'21 for 8 different lots followed by pre-bid meeting on 27<sup>th</sup> Aug'21
- iv. 21 bidders participated in the tendering process and the technical bid was opened on 25<sup>th</sup> Sept'21, followed by financial bid opening on 12<sup>th</sup> Oct'21. A price matching process was undertaken resulting in L1 prices being successfully matched by 6 participating bidders
- v. Price reduction achieved is upto 22% in comparison to retail segment, while the discovered upfront purchase prices is 15% lower than equivalent ICE segment. A launch event has been planned to flag-off the sale of E3Ws
- vi. However, none have been deployed thus far. Because of no financing. CESL told to be asset-light.

***d) the number of vehicles aggregated by EESL that have not been deployed due to lack of funds;***

**Response (d):**

Energy Efficiency Services Limited (EESL) a JV of PSUs under Ministry of Power, Govt. of India through Convergence Energy Services Limited (CESL – 100% Owned

**Inputs for Lok Sabha Parliament Question No. 8882 for answer on 24.03.2022**  
**regarding Electric Vehicles Deployed in Government Ministries - reg.**

subsidiary of EESL) has received an aggregated demand of 930 numbers of e4Ws from various government departments at Central and State level.

And 25,000 electric two wheelers aggregated for government employees of Andhra Pradesh. Also, CESL has aggregated a demand of 82,000 electric three wheelers of various categories.

As per MoM held in Ministry of Power on 17.09.2021 under the Chairmanship of Hon'ble Minister of Power and New & Renewable Energy which has been circulated vide MoP letter no. 12/22/2020-EV dated 05.10.2021, it has been decided that "EESL shall only concern itself with the aggregation of demand and shall not get into financing the EVs in any capacity." (Please refer para 18.10 of referred MoM). **(Attached Annexure I).**

***e) whether the Government has considered affordable financing rates to kickstart the programme and if so, the details thereof;***

**Response (e):**

CESL is in the process of empanelment of NBFCs and other Financial Institutions to fund the program which are offering an indicative rate of interest between 23-32 % per annum. Additionally, Multilateral and Bilateral Banks(MDBs) have also shown interest to fund the program and may be approached. As per the initial discussions, the Loan rate from one of the MDB is indicatively around 1.84% per annum along with other related terms and conditions.

***f) the steps being taken by the Government to ensure compliance with the remodelled FAME Phase-II scheme and the decision to replace all the Government vehicles with Electric Vehicles (EVs);***

**Response (f):** Ministry of Power may please respond.

- CESL received a mandate from MHI through Gazette Notification (CG-DL-E-11062021-277493), on 11th June 2021, for aggregating E-Bus demand in 9 major cities (4 million+ population)
- A Sub-Committee was constituted comprising NITI Aayog, STUs, OEMs and Financers, first meeting held on 23rd Dec to discuss clauses of Grand Challenge
- 5 STUs submitted their demand for 5,450 e-buses, making the Grand Challenge oversubscribed by 1,978 number of buses.
- Tender to discover prices for four lots – 12M and 9M, AC and Non AC Buses
- The tender was launched by CEO NITI Aayog on 20th January 2022. The tender closes on 15th Mar 2022
- The first batch of buses will be rolled out in Aug 2022 and the complete deployment will happen by Mar 2024.
- CESL is the implementing agency and done aggregation of demand. But the barrier is lack of financing.

*As on date*, Convergence Energy Services Limited (CESL – 100% Owned subsidiary of EESL) has deployed 1644 no's on a lease basis to Govt agencies and also aggregated

**Inputs for Lok Sabha Parliament Question No. 8882 for answer on 24.03.2022**  
**regarding Electric Vehicles Deployed in Government Ministries - reg.**

1495 which comprises both verbal and written confirmations. **(Excel Sheet Attached)**, Out of 1495 no's, the 948 nos is a firm demand and bifurcation of 948 no's is as follows:

- 930 e4Ws demand from central & state govt.
- 16 e4Ws from Autonomous organisations
- 2 e4Ws from International organisations.

There is no financing option available to cater to this demand.

***g) the quantum of funds allocated for the same; and***

**Response (h):** Ministry of Power may please respond.

As per MoM held in Ministry of Power on 17.09.2021 under the Chairmanship of Hon'ble Minister of Power and New & Renewable Energy which has been circulated vide MoP letter no. 12/22/2020-EV dated 05.10.2021, it has been decided that "EESL shall only concern itself with the aggregation of demand and shall not get into financing the EVs in any capacity." (Please refer para 18.10 of referred MoM). **(Attached Annexure I).**

***h) the target of EVs set by the Government for the next three years***

**Response (h):**

"A meeting has been held in Ministry of Power on 17.09.2021 under the Chairmanship of Hon'ble Minister of Power and New & Renewable Energy wherein it has been decided that *"All Central Government Ministries and their field offices would completely migrate to EVs in next three years."*

आर. के. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार

Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Shri Reddy,

As you are aware our country is dependent upon imports to a large extent to meet its energy requirements. The bulk of our energy imports are in the form of petroleum / petroleum products – most of it for mobility. If we need to grow faster, we will need to reduce our dependence on imports for energy requirements. This makes the shift to electric vehicles an imperative.

2. The “Go Electric” Campaign was launched by the Government of India, on 19<sup>th</sup> February, 2021 to educate the general public on the benefits of e-mobility over conventional vehicles, inform the potential EV owners about the Government incentives for Electric Vehicle (EV) adoption, generate curiosity and transform the same into demand, discredit misinformation against EV and bring together multiple stakeholders on a single platform.

3. Bureau of Energy Efficiency (BEE) has been designated as the Central Nodal Agency (CNA) for the deployment of EV charging infrastructure and as well as for the “Go Electric” Campaign, working actively with the concerned agencies of the State Government (State Nodal Agency & State Designated Agency) for awareness creation and public EV charging infrastructure deployment.

4. As part of India’s vision of transition towards E-Mobility future, a large number of Central Government Ministries and agencies including Prime Minister’s Office, NITI Aayog, Cabinet Secretariat, Ministry of Power, etc have started to use EVs as official vehicles. Energy Efficiency Services Limited (EESL), a joint venture company of Public Sector Undertakings under Ministry of Power has provided these e-cars on dry/wet-lease basis and have also installed EV charging facilities at these offices. It may be mentioned that some States have already taken initiatives in this direction and have signed a Memorandum of Understanding (MoU) with EESL for converting a part of their existing fleet to EVs.

Cont...2/-

Shram Shakti Bhawan, New Delhi-110 001 Phone : +91-11-23717474, 23710411  
Fax : +91-11-23710065, E-mail : raj.ksingh@gov.in



अनुवर्ती/Continuation....


-2-

5. You may also appreciate that Phase II of the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles in India (FAME India) Scheme has also been launched by the Ministry of Heavy Industries, Government of India which provides incentives not only for Electric Vehicles but also for installation of Charging Infrastructure for Electric Vehicles, including for offices.

6. I request you to join this important initiative of transformative e-mobility and kindly advise your State Government Departments to switch to Electric Vehicles as soon as possible. Such an action would set the right example for the general public and encourage them to switch to E-Mobility.

*With regards,*

Yours sincerely,

  
(R.K. Singh) 28/8

**Shri Y.S.Jagan Mohan Reddy,**  
Chief Minister of Andhra Pradesh,  
Government of Andhra Pradesh,  
Building 1, First Floor,  
A.P. Secretariat, Velagapudi,  
Andhra Pradesh.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार

Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Shri Khandu,

As you are aware our country is dependent upon imports to a large extent to meet its energy requirements. The bulk of our energy imports are in the form of petroleum / petroleum products – most of it for mobility. If we need to grow faster, we will need to reduce our dependence on imports for energy requirements. This makes the shift to electric vehicles an imperative.

2. The “Go Electric” Campaign was launched by the Government of India, on 19<sup>th</sup> February, 2021 to educate the general public on the benefits of e-mobility over conventional vehicles, inform the potential EV owners about the Government incentives for Electric Vehicle (EV) adoption, generate curiosity and transform the same into demand, discredit misinformation against EV and bring together multiple stakeholders on a single platform.

3. Bureau of Energy Efficiency (BEE) has been designated as the Central Nodal Agency (CNA) for the deployment of EV charging infrastructure and as well as for the “Go Electric” Campaign, working actively with the concerned agencies of the State Government (State Nodal Agency & State Designated Agency) for awareness creation and public EV charging infrastructure deployment.

4. As part of India’s vision of transition towards E-Mobility future, a large number of Central Government Ministries and agencies including Prime Minister’s Office, NITI Aayog, Cabinet Secretariat, Ministry of Power, etc have started to use EVs as official vehicles. Energy Efficiency Services Limited (EESL), a joint venture company of Public Sector Undertakings under Ministry of Power has provided these e-cars on dry/wet-lease basis and have also installed EV charging facilities at these offices. It may be mentioned that some States have already taken initiatives in this direction and have signed a Memorandum of Understanding (MoU) with EESL for converting a part of their existing fleet to EVs.

Cont...2/-

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Fax : +91-11-23710065, E-mail : raj.ksingh@gov.in



-2-

5. You may also appreciate that Phase II of the Faster Adoption and Manufacturing of Hybrid & Electric Vehicles in India (FAME India) Scheme has also been launched by the Ministry of Heavy Industries, Government of India which provides incentives not only for EVs but also for installation of Charging Infrastructure for Electric Vehicles, including for offices.

6. I request you to join this important initiative of transformative e-mobility and kindly advise your State Government Departments to switch to EVs as soon as possible. Such an action would set the right example for the general public and encourage them to switch to E-Mobility.

With regards,

Yours sincerely,

(R.K.Singh)

Shri Pema Khandu,  
Chief Minister of Arunachal Pradesh,  
Government of Arunachal Pradesh,  
Civil Secretariat, Itanagar,  
Arunachal Pradesh—791111.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Himanta Jee,

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**With regards,**

Yours sincerely,

  
(R.K.Singh)

**Dr. Himanta Biswa Sarma,  
Chief Minister of Assam,  
Government of Assam,  
CM Block, Janata Bhawan, Dispur,  
Assam – 781 006.**

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Respected Nitish Kumar Jee,

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**With regards,**

Yours sincerely,

(R.K.Singh)

**Shri Nitish Kumar,  
Chief Minister of Bihar,  
Government of Bihar,  
4, Deshratana Marg, Patna,  
Bihar - 800 001.**

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार

Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Shri Baghel,

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With regards,

Yours sincerely,

(R.K.Singh)

Shri Bhupesh Baghel,  
Chief Minister of Chhattisgarh,  
Government of Chhattisgarh,  
DKS Bhawan, Mantralaya,  
Civil Lines, Raipur,  
Chhattisgarh- 492001.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार

Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Shri Kejriwal,

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With regards,

Yours sincerely,

(R.K.Singh)

Shri Arvind Kejriwal,  
Chief Minister of Delhi (NCT),  
3rd Level, Delhi Secretariat,  
IP Estate,  
New Delhi-110 002.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Dr. Sawant,

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**With regards,**

Yours sincerely,

  
(R.K.Singh)

**Dr. Pramod Sawant,  
Chief Minister of Goa,  
Chief Minister Office,  
House No.12/182,  
Khorlim Mapusa, Panaji,  
Goa - 403 507.**

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार

Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Shri Rupani,

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With regards,

Yours sincerely,

  
(R.K.Singh)

Shri Vijay Rupani,  
Chief Minister of Gujarat,  
Government of Gujarat,  
3rd Floor, SwarnimSankul-1,  
New Sachivalaya, Gandhinagar,  
Gujarat - 382 010.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
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Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

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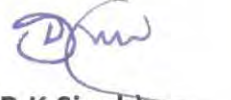
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**With regards,**

Yours sincerely,

  
(R.K.Singh)

**Shri Manohar Lal Khattar,  
Chief Minister of Haryana,  
4th Floor, Haryana Civil Secretariat,  
Sector-1, Chandigarh,  
Punjab-160 001.**

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
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D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Shri Thakur,

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With regards,

Yours sincerely,

(R.K.Singh)

**Shri Jai Ram Thakur,**  
Chief Minister of Himachal Pradesh,  
Government of Himachal Pradesh,  
Room No.E-100, Armsdale Building,  
HP Secretariat, Shimla,  
Himachal Pradesh-171 002.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
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**With regards,**

Yours sincerely,

(R.K.Singh)

**Shri Hemant Soren,  
Chief Minister of Jharkhand,  
Government of Jharkhand,  
1st Floor, Project Building,  
Kanke Road, Ranchi,  
Jharkhand-834001.**

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Shri Bommai,

As you are aware our country is dependent upon imports to a large extent to meet its energy requirements. The bulk of our energy imports are in the form of petroleum / petroleum products – most of it for mobility. If we need to grow faster, we will need to reduce our dependence on imports for energy requirements. This makes the shift to electric vehicles an imperative.

2. The “Go Electric” Campaign was launched by the Government of India, on 19<sup>th</sup> February, 2021 to educate the general public on the benefits of e-mobility over conventional vehicles, inform the potential EV owners about the Government incentives for Electric Vehicle (EV) adoption, generate curiosity and transform the same into demand, discredit misinformation against EV and bring together multiple stakeholders on a single platform.

3. Bureau of Energy Efficiency (BEE) has been designated as the Central Nodal Agency (CNA) for the deployment of EV charging infrastructure and as well as for the “Go Electric” Campaign, working actively with the concerned agencies of the State Government (State Nodal Agency & State Designated Agency) for awareness creation and public EV charging infrastructure deployment.

4. As part of India’s vision of transition towards E-Mobility future, a large number of Central Government Ministries and agencies including Prime Minister’s Office, NITI Aayog, Cabinet Secretariat, Ministry of Power, etc have started to use EVs as official vehicles. Energy Efficiency Services Limited (EESL), a joint venture company of Public Sector Undertakings under Ministry of Power has provided these e-cars on dry/wet-lease basis and have also installed EV charging facilities at these offices. It may be mentioned that some States have already taken initiatives in this direction and have signed a Memorandum of Understanding (MoU) with EESL for converting a part of their existing fleet to EVs.

Cont...2/-

Shram Shakti Bhawan, New Delhi-110 001 Phone : +91-11-23717474, 23710411  
Fax : +91-11-23710065, E-mail : raj.ksingh@gov.in



अनुवर्ती/Continuation....

-2-

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With regards,

Yours sincerely,

(R.K.Singh)

Shri Basavaraj Somappa Bommai,  
Chief Minister of Karnataka,  
Government of Karnataka,  
Vidyasudha, Ambedkar Vedi,  
Bangalore,  
Karnataka – 560 001.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Shri Vijayan,

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With regards,

Yours sincerely,

(R.K.Singh)

Shri Pinarayi Vijayan,  
Chief Minister of Kerala,  
Government of Kerala,  
Room No 141, 3rd Floor, North Block,  
Secretariat, Tiruvananthapuram,  
Kerala.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

*Respected Shivraj Jee,*

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With regards,

Yours sincerely,

  
(R.K.Singh)

Shri Shivraj Singh Chouhan,  
Chief Minister of Madhya Pradesh,  
Government of Madhya Pradesh,  
Mantralaya Vallabh Bhawan,  
Bhopal,  
Madhya Pradesh.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Shri Thackeray,

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With regards,

Yours sincerely,

(R.K.Singh)

Shri Uddhav Balasaheb Thackeray,  
Chief Minister of Maharashtra,  
Secretariat, Mumbai,  
Maharashtra.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Shri Singh Jee,

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With regards,

Yours sincerely,

(R.K.Singh)

Shri N. Biren Singh,  
Chief Minister of Manipur,  
Government of Manipur,  
4th Floor, Western Block,  
New Secretariat, Imphal,  
Manipur-795 001.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Conrad,

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Yours sincerely,

(R.K.Singh)

Shri Conrad Kongkal Sangma,  
Chief Minister of Meghalaya,  
Government of Meghalaya,  
Chief Minister's Secretariat,  
Main Secretariat Building, Shillong,  
Meghalaya – 793 001.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Shri Zoramthanga,

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With regards,

Yours sincerely,

(R.K.Singh)

Shri Pu Zoramthanga,  
Chief Minister of Mizoram,  
Government of Mizoram,  
Chief Minister Bangalow,  
Mc Donal Hill, Zarkawt, Aizawl,  
Mizoram – 796 001.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार

Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

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With regards,

Yours sincerely,

(R.K.Singh)

Shri Neiphiu Rio,  
Chief Minister of Nagaland,  
Government of Nagaland,  
New Secretariat Complex,  
Kohima,  
Nagaland – 797 001.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
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Government of India

D.O. No. 12/2/2018-EV-Part (6)

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With regards,

Yours sincerely,

(R.K.Singh)

Shri Naveen Patnaik,  
Chief Minister of Odisha,  
Government of Odisha,  
3rd Floor, State Secretariat,  
Sachivalaya Marg, Bhubaneswar,  
Odisha - 751 001.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
Minister of New & Renewable Energy  
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D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Shri Rangasamy,

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Cont...2/-

Shram Shakti Bhawan, New Delhi-110 001 Phone : +91-11-23717474, 23710411  
Fax : +91-11-23710065, E-mail : raj.ksingh@gov.in



अनुवर्ती/Continuation....

-2-

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With regards,

Yours sincerely,

  
(R.K.Singh)

Shri N Rangasamy,  
Chief Minister of Puducherry,  
Government of Puducherry,  
Secretariat,  
Puducherry.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Capt. Singh,

As you are aware our country is dependent upon imports to a large extent to meet its energy requirements. The bulk of our energy imports are in the form of petroleum / petroleum products – most of it for mobility. If we need to grow faster, we will need to reduce our dependence on imports for energy requirements. This makes the shift to electric vehicles an imperative.

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With regards,

Yours sincerely,

(R.K.Singh)

Capt. Amarinder Singh,  
Chief Minister of Punjab,  
Government of Punjab,  
Room No.1, 2nd Floor,  
Punjab Civil Secretariat,  
Sector – 1, Chandigarh,  
Punjab.

आर. के. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Shri Gehlot Jee,

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**With regards,**

Yours sincerely,

(R.K.Singh)

**Shri Ashok Gehlot,  
Chief Minister of Rajasthan,  
Government of Rajasthan,  
Secretariat, Jaipur,  
Rajasthan-302005.**

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Shri Tamang,

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**With regards,**

Yours sincerely,

**(R.K.Singh)**

**Shri Prem Singh Tamang,  
Chief Minister of Sikkim,  
Government of Sikkim,  
Chief Minister's Secretariat,  
Tashiling, Gangtok,  
Sikkim – 737 101.**

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार

Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Shri Stalin,

As you are aware our country is dependent upon imports to a large extent to meet its energy requirements. The bulk of our energy imports are in the form of petroleum / petroleum products – most of it for mobility. If we need to grow faster, we will need to reduce our dependence on imports for energy requirements. This makes the shift to electric vehicles an imperative.

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With regards,

Yours sincerely,

(R.K.Singh)

Thiru M.K. Stalin,  
Chief Minister of Tamil Nadu,  
Government of Tamil Nadu,  
Secretariat, Chennai,  
Tamil Nadu.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Shri Rao,

As you are aware our country is dependent upon imports to a large extent to meet its energy requirements. The bulk of our energy imports are in the form of petroleum / petroleum products – most of it for mobility. If we need to grow faster, we will need to reduce our dependence on imports for energy requirements. This makes the shift to electric vehicles an imperative.

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**With regards,**

Yours sincerely,

(R.K.Singh)

**Shri K. Chandrashekar Rao,  
Chief Minister of Telangana,  
Government of Telangana,  
Telangana Secretariat,  
Hyderabad,  
Telangana.**

आर. के. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार

Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Biplab Jee,

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Yours sincerely,

  
(R.K.Singh)

Shri Biplab Kumar Deb,  
Chief Minister of Tripura,  
Government of Tripura,  
Secretariat, Agartala,  
Tripura - 799 001.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
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D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Respected Yogi Adityanath Jee

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With regards,

Yours sincerely,

  
(R.K.Singh)

Shri Yogi Adityanath,  
Chief Minister of Uttar Pradesh,  
Government of Uttar Pradesh,  
Lucknow,  
Uttar Pradesh.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Shri Dhami,

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With regards,

Yours sincerely,

(R.K.Singh)

Shri Pushkar Singh Dhami,  
Chief Minister of Uttarakhand,  
Government of Uttarakhand,  
Secretariat, Dehradun,  
Uttarakhand – 248 001.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Respected Km. Mamata Banerjee Jee,

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*With regards,*

Yours sincerely,

(R.K. Singh)

**Kumari Mamata Banerjee,**  
Chief Minister of West Bengal,  
Government of West Bengal,  
Nabanna (14<sup>th</sup> Floor),  
325, Sarat Chatterjee Road,  
Shibpur, Howrah, Kolkata,  
West Bengal – 711 102.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Admiral Joshi,

As you are aware our country is dependent upon imports to a large extent to meet its energy requirements. The bulk of our energy imports are in the form of petroleum / petroleum products – most of it for mobility. If we need to grow faster, we will need to reduce our dependence on imports for energy requirements. This makes the shift to electric vehicles an imperative.

2. The “Go Electric” Campaign was launched by the Government of India, on 19<sup>th</sup> February, 2021 to educate the general public on the benefits of e-mobility over conventional vehicles, inform the potential EV owners about the Government incentives for Electric Vehicle (EV) adoption, generate curiosity and transform the same into demand, discredit misinformation against EV and bring together multiple stakeholders on a single platform.

3. Bureau of Energy Efficiency (BEE) has been designated as the Central Nodal Agency (CNA) for the deployment of EV charging infrastructure and as well as for the “Go Electric” Campaign, working actively with the concerned agencies of the State Government (State Nodal Agency & State Designated Agency) for awareness creation and public EV charging infrastructure deployment.

4. As part of India’s vision of transition towards E-Mobility future, a large number of Central Government Ministries and agencies including Prime Minister’s Office, NITI Aayog, Cabinet Secretariat, Ministry of Power, etc have started to use EVs as official vehicles. Energy Efficiency Services Limited (EESL), a joint venture company of Public Sector Undertakings under Ministry of Power has provided these e-cars on dry/wet-lease basis and have also installed EV charging facilities at these offices. It may be mentioned that some States have already taken initiatives in this direction and have signed a Memorandum of Understanding (MoU) with EESL for converting a part of their existing fleet to EVs.

Cont...2/-

Shram Shakti Bhawan, New Delhi-110 001 Phone : +91-11-23717474, 23710411  
Fax : +91-11-23710065, E-mail : raj.ksingh@gov.in



अनुवर्ती/Continuation....

-2-

5. You may also appreciate that Phase II of the Faster Adoption and Manufacturing of Hybrid & Electric Vehicles in India (FAME India) Scheme has also been launched by the Ministry of Heavy Industries, Government of India which provides incentives not only for EVs but also for installation of Charging Infrastructure for Electric Vehicles, including for offices.

6. I request you to join this important initiative of transformative e-mobility and kindly advise your State Government Departments to switch to EVs as soon as possible. Such an action would set the right example for the general public and encourage them to switch to E-Mobility.

With regards,

Yours sincerely,

(R.K.Singh)

Admiral DK Joshi,  
PVSM, AVSM, YSM, NM, VSM (Retd),  
Lieutenant Governor of Andaman and Nicobar Islands,  
Port Blair.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Shri Sinha Jee,

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With regards,

Yours sincerely,

(R.K.Singh)

Shri Manoj Sinha,  
Lt. Governor of Jammu & Kashmir,  
Raj Bhavan,  
Srinagar,  
Jammu & Kashmir – 190 001.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार

Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Shri Mathur,

As you are aware our country is dependent upon imports to a large extent to meet its energy requirements. The bulk of our energy imports are in the form of petroleum / petroleum products – most of it for mobility. If we need to grow faster, we will need to reduce our dependence on imports for energy requirements. This makes the shift to electric vehicles an imperative.

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अनुवर्ती/Continuation....

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With regards,

Yours sincerely,

(R.K.Singh)

Shri Radha Krishna Mathur,  
Lt Governor of Ladakh,  
Raj Bhawan, Leh,  
Ladakh.

आर. क. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार

Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part (6)

26 AUG 2021

Dear Shri Patel,

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With regards,

Yours sincerely,

(R.K.Singh)

Shri Praful Khoda Patel,  
Administrator of Lakshadweep,  
Lakshadweep Administration,  
Kavaratti,  
Lakshadweep-682 555.

आर. के. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part(6)

26 AUG 2021

Dear Ashwini Jee,

As you are aware, our country is dependent upon imports to a large extent to meet its energy requirements. The bulk of our energy imports are in the form of petroleum / petroleum products – most of it for mobility. If we need to grow faster we will need to reduce our dependence on imports for energy requirements. This makes the shift to electric vehicles an imperative.

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अनुवर्ती/Continuation....

:: 2 ::

5. I request you to join this important initiative on transformative e-mobility and kindly advise your Ministry / Departments to switch over to Electric Vehicles as soon as possible. Such an action would set the right example for the general public and encourage them to switch to E-Mobility.

*With regards,*

Yours sincerely,

  
( R. K. Singh )

Shri Ashwini Vaishnaw,  
Minister of Railways; Communications; and  
Electronics & Information Technology,  
Govt. of India,  
Rail Bhawan, Raisina Road,  
New Delhi-110001.

आर. के. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/2/2018-EV-Part(6)

26 AUG 2021

*Dear Shri Inderjit Jee,*

As you are aware, our country is dependent upon imports to a large extent to meet its energy requirements. The bulk of our energy imports are in the form of petroleum / petroleum products – most of it for mobility. If we need to grow faster we will need to reduce our dependence on imports for energy requirements. This makes the shift to electric vehicles an imperative.

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*With regards,*

Yours sincerely,

  
( R. K. Singh )

Shri Rao Inderjit Singh,  
Minister of State (IC) in the Ministry of Statistics & Programme  
Implementation; Ministry of Planning; and Minister of State  
in the Ministry of Corporate Affairs,  
Govt. of India,  
No.6, Lodhi Estate,  
New Delhi-110011.

आर. के. सिंह  
R. K. SINGH



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार  
Minister of Power and  
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D.O. No. 12/2/2018-EV-Part(6)

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Dear Dr. Singh,

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Yours sincerely,

  
( R. K. Singh )

Dr. Jitendra Singh,  
Minister of State (IC) in the Ministry of Science & Technology;  
Ministry of Earth Sciences; and Minister of State in the  
Prime Minister's Office; Ministry of Personnel, Public Grievances  
& Pensions; Deptt. of Atomic Energy; and Deptt. of Space,  
Govt. of India,  
Technology Bhawan, New Mehrauli Road,  
New Delhi-110016.



१२/२२/२०२०-ईवी

भारत सरकार  
विद्युत मंत्रालय

श्रम शक्ति भवन, रफी मार्ग, नई दिल्ली

नई दिल्ली, दिनांक 05<sup>th</sup> सितंबर २०२१

### बैठक सूचना

\*\*\*\*\*

विषय: माननीय विद्युत एवं नवीन एवं नवीकरणीय ऊर्जा मंत्री की अध्यक्षता में दिनांक 17.09.2021 को पूर्वाह्न 11.00 बजे विद्युत वाहनों के लिए चार्जिंग इन्फ्रास्ट्रक्चर के रोलआउट और सरकारी विभागों में इलेक्ट्रिक वाहनों के प्रचार पर बैठक का कार्यवृत्त - के संबंध में।

अधोहस्ताक्षरी को माननीय विद्युत एवं नवीन एवं नवीकरणीय ऊर्जा मंत्री की अध्यक्षता में दिनांक 17.09.2021 को पूर्वाह्न 11.00 बजे उपरोक्त विषय पर आयोजित बैठक के कार्यवृत्त को अग्रेषित करने का निर्देश दिया गया है।

2. बैठक का कार्यवृत्त अनुबंध I में संलग्न है।

संलग्नक : ऊपर उल्लेखित

सुमन मजूमदार  
अवर सचिव, भारत सरकार  
संपर्क : 23356938

प्रति,

- i. सचिव (एमओपी एंड एनजी)
- ii. सचिव (एमएचआई)
- iii. सचिव (एमओआरटीएच)
- iv. सचिव (राजस्व)
- v. सचिव (एमओएचयूए)
- vi. सीईओ, नीति आयोग
- vii. मुख्य सचिव, राष्ट्रीय राजधानी क्षेत्र दिल्ली सरकार

- viii. मुख्य सचिव, पश्चिम बंगाल सरकार
- ix. मुख्य सचिव, तेलंगाना सरकार
- x. मुख्य सचिव, महाराष्ट्र सरकार
- xi. मुख्य सचिव, कर्नाटक सरकार
- xii. मुख्य सचिव, गुजरात सरकार
- xiii. मुख्य सचिव, तमिलनाडु सरकार
- xiv. प्रमुख सचिव (ऊर्जा), राष्ट्रीय राजधानी क्षेत्र दिल्ली सरकार
- xv. प्रमुख सचिव (परिवहन), राष्ट्रीय राजधानी क्षेत्र दिल्ली सरकार
- xvi. प्रमुख सचिव (ऊर्जा), पश्चिम बंगाल सरकार
- xvii. प्रमुख सचिव (ऊर्जा), तेलंगाना सरकार
- xviii. प्रमुख सचिव (ऊर्जा), महाराष्ट्र सरकार
- xix. प्रमुख सचिव (ऊर्जा), कर्नाटक सरकार
- xx. प्रमुख सचिव (ऊर्जा), गुजरात सरकार
- xxi. प्रमुख सचिव (ऊर्जा), तमिलनाडु सरकार
- xxii. अध्यक्ष, सीईए
- xxiii. अध्यक्ष, एनएचएआई
- xxiv. अध्यक्ष, रेलवे बोर्ड
- xxv. महानिदेशक, बीईई
- xxvi. ईवीसी, ईईएसएल
- xxvii. सीएमडी, एनटीपीसी
- xxviii. सीएमडी, पीजीसीआईएल
- xxix. सीएमडी, आईओसीएल/एचपीसीएल/बीपीसीएल

जानकारी के लिए कॉपी,

- i. माननीय विद्युत और एनआरई मंत्री के निजी सचिव
- ii. माननीय विद्युत राज्य मंत्री के निजी सचिव
- iii. सचिव (विद्युत) के पीपीएस
- iv. अपर सचिव (वीकेडी) के पीपीएस
- v. पीपीएस से सीई (थर्मल)
- vi. निदेशक के निजी सचिव (ईवी)

**Minutes of meeting on rollout of Charging Infrastructure for Electric Vehicles and promotion of EVs in Government Departments held on 17.09.2021 at 11.00 AM under the chairmanship of Hon'ble Minister of Power and New & Renewable Energy**

The list of participants is given at **ANNEXURE A**.

2. Secretary (Power), welcomed the Hon'ble Minister for Power and NRE and all the participants and briefed the participants about the background and agenda of the meeting. It was informed that Government of India had selected 9 cities (Mumbai, Delhi, Bangalore, Hyderabad, Ahmedabad, Chennai, Kolkata, Surat, and Pune) with 4 million plus population along with the connecting Highways/Expressways to target for accelerated E Mobility adoption. It was informed that an action plan was being worked out for installation of Public Charging Stations (PCS) in these selected cities which would be replicated in other Tier I and Tier II cities in future. It was also proposed that Ministries/Departments of Government of India should migrate fully to EVs in 3 years. Secretary (Power) further apprised the actions taken by the Ministry of Power, Bureau of Energy Efficiency (BEE) and other Ministries/Organizations in this direction.

3. The Hon'ble Minister recalled his discussions on this issue with Hon'ble Minister of Petroleum and Natural Gas who had agreed that a demonstrable model would be necessary to accelerate the transition towards EVs and for this purpose it was also agreed that all Retail outlets (ROs or Petrol Pumps) should have at least one Public Charging Station (PCS) in the identified cities and corridors. It was informed that the Oil Marketing Companies under the Ministry of Petroleum and Natural Gas would ensure PCS installation at their Petrol Pumps as soon as possible.

4. With the permission of the chair, Director General, Bureau of Energy Efficiency (BEE) made a power point presentation on the agenda items.

4.1 He highlighted the number of Public Charging Stations (PCS) required to be installed in the 9 selected cities (Mumbai, Delhi, Bangalore, Hyderabad, Ahmedabad, Chennai, Kolkata, Surat, and Pune) as per the requirement under the "Charging Infrastructure for Electric Vehicle – Revised Guidelines and Standards" issued by the Ministry of Power on 01.10.2019 (to fill the 3x3 km grid with 1 No.s PCS), the number of PCS sanctioned under the FAME India Scheme – Phase II and Letter of Awards (LoAs) issued for the sanctioned PCS etc. A copy of presentation made is placed at **Annexure-II**.

4.2 Thereafter, DG BEE presented the points for discussion. First point raised during the meeting was regarding the Letter of Awards (LoA) to be issued to the selected entities under the FAME India Scheme Phase II. It was informed that while a total of 1084 PCS have been sanctioned by Ministry of Heavy Industries (MHI), LOA for only 670 PCS have been issued so far and LOA for 414 are still pending. It was informed that the main issue with pending LoAs was the non availability of land. DG, BEE submitted that for this purpose, EV accelerator Cells are being created under the State Nodal Agencies in the States concerned to address the issues related to PCS installation including the land availability.

4.3 Hon'ble Minister advised to write to the State Governments (covering 9 identified cities) with a request to facilitate availability of land at concessional rates for the installation of Public Charging Stations. It was further suggested to take up the matter with Hon'ble Minister for Road Transport and Highways with a request that any new highway shall have land set aside for the installation of PCS which shall be provided to PCS installation agency at concessional rates.

4.4. In this regard, Secretary (Power) informed that a Revenue Sharing Model (RSM) agreement was being prepared by the Bureau of Energy Efficiency (BEE) for this purpose which shall soon be shared with the State Governments. Under such model, the land owning agency shall sign a RSM agreement with the PCS installing agency and provide land for installing the PCS. Hon'ble Minister agreed to the proposal and directed to expedite the same.

5. Hon'ble Minister advised that Ministry of Petroleum and Natural Gas may mandate its Oil Marketing Companies (OMCs) to install at least one Kiosk/PCS at every Petrol Pump in the 9 selected cities along with the connecting corridors.

6. Hon'ble Minister further directed that any additional upstream infrastructure, if required, shall be funded through the Power System Development Fund (PSDF) and/or Reform Linked Distribution Scheme. It was directed that the cost of new upstream infrastructure for installation of PCS should not be levied on PCS owner/Charging Point Operator (CPO).

7. The representative of Ministry of Petroleum and Natural Gas (MoPNG) informed that around 4-5 Chargers are installed at a Petrol Pump. Hon'ble Minister suggested that 1-2 chargers may be installed for now to spread out the availability till the business becomes viable.

8. Hon'ble Minister advised the Ministry of Heavy Industries that during the last review meeting, it was decided that the funds under the FAME India Scheme shall be utilized in a well planned and focused manner and should not be spread thin. It was directed that the balance funds available under FAME II shall be first routed towards saturating the selected 9 cities along with the connecting corridors only. Hon'ble Minister further directed that the Oil Marketing Companies shall also be included for the assistance under FAME India Scheme.

9. As regards the tariff for supply of electricity to Public Charging Stations (PCS), Hon'ble Minister noted that there are some States which are not adhering to the guidelines issued by Ministry of Power which mandates that the tariff shall not be more than the average cost of supply plus 15 (fifteen) percent. Hon'ble Minister directed to amend the provision as below:

- i. Weighted average of the Power Purchase Cost plus 15 (fifteen) percent plus the wheeling charges may be kept as the ceiling tariff, for first 5 years.
- ii. It was further advised to include a provision to the effect that no fixed charges/demand charges shall be levied on supply of electricity to PCS for first five years so that national strategy of promoting EV mobility for energy security is successfully implemented.

9.1. Secretary (Power) further added that since the utilization rate at present is very low and additional energy required is very small, as a promotional endeavor the capping of tariffs at around INR 5-6/kWh shall be targeted by States for initial 5-6 years.

9.2. DG, BEE added that as decided during the meeting held on 02.09.2021 under the chairmanship of Secretary (Power), Bureau of Energy Efficiency and CEA are working on preparing an advisory on the issue in respect of following:

- i. LT connection for Public Charging Stations (PCS) upto 150 kW Power Load.
- ii. Removal of fixed charges/security deposit for initial few years.

DG, BEE informed that the advisory shall soon be finalized and submitted to MoP for issuance.

9.3. Hon'ble Minister requested the States and LG of Delhi to expedite action on the advisory.

10. It was informed that the Bureau of Energy Efficiency (BEE) as the Central Nodal Agency for installation of charging infrastructure for EVs in the country, has been assisting the States along with the State Nodal Agencies (SNAs) for installation of PCS. The action plan is being finalized by BEE for installation of PCS in the 9 cities and expected to be implemented by March 2022. Hon'ble Minister suggested that various celebrities may be engaged for promotion of EVs through the advertisement campaign.

11. Secretary (Power) informed that the Bureau of Energy Efficiency (BEE) has been directed to create a database of Public Charging Stations (PCS) in the country which shall be available to public through a Mobile App. DG, BEE informed that the database was under development and shall be launched by the end of October, 2021.

12. Hon'ble Minister enquired about the EV car manufacturers available in the country. It was brought out that TATA, Hyundai, Mahindra, Nissan and MG Motors are manufacturing EVs in India. CESL informed that they have started getting demands from many State Governments upwards of 100-200 EVs. However, it was informed that there is supply shortage since there aren't sufficient low cost EV variants. Hon'ble Minister advised that the major players like Maruti and Toyota may also be approached to launch EV models so as to match up supply with the demand of EVs. Hon'ble Minister also suggested to examine other incentives required to encourage manufacturing of EVs in India.

13. Hon'ble Minister further directed that since the high duties on EVs is a huge impediment in E-Mobility transition adding to the high cost of EVs, the issue may be taken up with Ministry of Finance to possibly reduce these import duties for initial 2-3 years with condition that the foreign manufacturers shall shift manufacturing to India after such period.

14. The representative of NTPC raised a similar issue of non availability of E-Bus models. It was informed by NTPC that some States are apprehensive to purchase the E-Buses under the Gross Cost Contract (GCC) model wherein, the purchase of e-Bus, Installation and operation of Chargers, Operation of Buses has to be taken over by the bidder. Representative of NTPC submitted that the model is complicated and is preventing the uptake of E-bus segment. Hon'ble Minister advised MHI to separate the subsidy for E-Buses from Chargers. It was decided that the subsidy for Purchase of E-Buses may be de-linked from Chargers.

15. Secretary (Power) informed that the FAME II Scheme has been amended to the effect that subsidy for E-2Ws was increased and EESL was given responsibility for aggregation of demand for E-3Ws. Hon'ble Minister directed that the EESL shall only concern itself with the aggregation of demand and shall not go into financing the EVs in any capacity.

16. As regards the manufacturing of EVs, MHI informed that a PLI Scheme has been approved by MHI for the manufacturing of all the segments of EVs and shall soon be issued. Hon'ble Minister appreciated the effort.

17. The representative of NITI Aayog suggested a separate model for charging infrastructure for 2W and 3W EVs. It was suggested that all the land available with Central/State Governments including their office premises, post offices, hospitals etc may be mandated to install Charging Points for 2W and 3W EVs.

17.1 It was further suggested by the representative of NITI Aayog that the Private places like Shopping Malls, Residential Complexes, Housing Societies, Resident Welfare Associations, colleges, Universities, Schools etc may be advised for providing land and charging points may be installed at their premises/parking areas by the implementing agencies which will be mutually beneficial for both agencies involved.

17.2. Hon'ble Minister appreciated the suggestion and directed that a model may be created such that the charger points for 2W and 3W EVs can be installed at all such places by the implementation agencies.

17.3. NITI Aayog representative supported the mandate to Central Ministries to migrate to EVs completely in 3 years.

18. Based on the deliberations, following action points were decided:

18.1 Oil Marketing Companies under the Ministry of Petroleum and Natural Gas shall ensure PCS installation at their ROs/Petrol Pumps as soon as possible in the identified 9 cities and connecting highways. Ministry of Petroleum and Natural Gas may mandate its Oil Marketing Companies (OMCs) to install at least one Kiosk/PCS at every Petrol Pump in the 9 selected cities along with the connecting corridors.

18.2. Land owning agencies in the identified 9 cities and connecting corridors may be requested to provide land for PCS at a concessional rate. Revenue Sharing Model (RSM) and Model agreement shall be prepared by Bureau of Energy Efficiency at the earliest and shall be shared with the State

Governments of the Selected 9 cities. The State Governments shall provide the land on this model to the implementation agencies at the earliest for installing the PCS. MoRTH will also be advised to reserve land for PCS in all their four laning and new highway projects.

18.3. Any additional upstream infrastructure, if required, shall be funded through the Power System Development Fund (PSDF) and/or Reform Linked Distribution Scheme. The cost of new upstream infrastructure for installation of PCS shall not be levied on PCS owner/Charging Point Operator (CPO).

18.4. Balance funds available under FAME II shall be routed towards saturating the selected 9 cities along with the connecting corridors only. The Oil Marketing Companies shall also be included for the assistance under FAME India Scheme.

18.5. An amendment may be issued regarding the tariff for supply of electricity to PCS with provisions as below:

- i. Capping the tariff at weighted average of the Power Purchase Cost plus 15 (fifteen) percent plus wheeling charges etc. In view of the environmental benefits, no cross subsidy would be levied.
- ii. No fixed charges/demand charges shall be levied on supply of electricity to PCS.

The advisory regarding the tariff to Forum of Regulators (FOR) and CERC shall include the aforementioned provisions.

18.6. Various celebrities may be engaged for promotion of EVs through the advertisement campaign.

18.7. Major players like Maruti and Toyota may also be approached to launch EV models so as to match up supply with the demand of EVs. Other incentives required to encourage manufacturing of EVs in India may also be explored.

18.8. Ministry of Power may write to Ministry of Finance to possibly reduce import duties on EVs for initial 2-3 years with condition to the foreign manufacturers that they shall shift manufacturing to India after such period.

18.9. Ministry of Heavy Industry may separate the subsidy for E-Buses from Chargers. It was recommended that the subsidy for Purchase of E-Buses may be de-linked from Chargers.

18.10. EESL shall only concern itself with the aggregation of demand and shall not get into financing the EVs in any capacity.

18.11. A model may be created such that the charger points for 2W and 3W EVs can be installed at lands available with Central/State Governments including their office premises, post offices, hospitals etc and Private Places like Shopping Malls, Residential Complexes, Housing Societies, Resident Welfare Associations, colleges, Universities, Schools etc by the implementation agencies.

18.12. All Central Government Ministries and their field offices would completely migrate to EVs in next three years.

Meeting ended with a vote of thanks to the chair.

\* \* \* \* \*



## **ANNEXURE**

### **List of Participants of Meeting held on 17.09.2021 at 11 AM to discuss the issues related to installation of Charging Infrastructure for Electric Vehicles under the chairmanship of Secretary (Power)**



<b>Ministry of Power</b>
1. Shri. R. K Singh, Honb'le Minister for Power and NRE ... In Chair 2. Shri. Alok Kumar, Secretary (Power) 3. Shri. Vivek Kumar Dewangan, Additional Secretary (Thermal), MoP 4. Shri. Sanjeev Kumar Kassi, Chief Engineer (Thermal), MoP 5. Shri. Rajeev Kumar, Director (EV), MoP 6. Shri. Suman Majumdar, Under Secretary (EV), MoP 7. Shri. Rahul Kumar, Assistant Section Officer (EV), MoP
<b>Bureau of Energy Efficiency</b>
7. Shri. Abhay Bakre, DG, BEE 8. Shri. Sameer Pandita, Director, BEE 9. Shri. Rajeev, BEE
<b>Central Electricity Authority</b>
10. Shri. A. Balan, Member (Planning), CEA 11. Shri. A. K. Rajput, CE (R&D), CEA 12. Smt. Sheetal Jain, DD, CEA
<b>Energy Efficiency Services Limited</b>
13. Smt. Mahua Acharya, MD, CESL 14. Shri. N. Mohan, DGM EESL
<b>NTPC Limited</b>
15. Shri. Gurdeep Singh, Chairman & Managing Director, NTPC 16. Shri. C. K. Mohdal, NTPC 17. Shri. Mohit Bhargava, NTPC 18. Shri. Anil Kausik, NTPC
<b>PGCIL</b>
19. Smt. Seema Gupta, PGCIL
<b>Indian Oil Corporation Limited (IOCL)</b>
20. Shri. Sandeep Makkar, IOCL 21. Shri. Rohit Kumar, IOCL 22. Shri. Krishna Kumar Gupta, IOCL
<b>NITI Aayog</b>
23. Shri. Sudhendu J. Sinha, Advisor
<b>Government of Tamil Nadu</b>
24. Shri. Thiru Dharmendra Pratap Yadav, Principal Secretary (Energy), GoTN 25. CMD TANGEDCO
<b>Government of Karnataka</b>
26. Shri G Kumar Naik, IAS, Additional Chief Secretary to Energy Department, Government of Karnataka. 27. MD, BESCOM
<b>Government of West Bengal</b>

28. Shri S. Suresh Kumar, IAS., Additional Chief Secretary, Power Department, Govt. of West Bengal
<b>Government of NCT of Delhi</b>
29. Principal Secretary (Transport), Govt of NCT of Delhi
30. Dr. S. B. Deepak Kumar, Special Commissioner, Transport Department, Govt. of NCT of Delhi
<b>Government of Telangana</b>
31. VC and MD TSREDCO
<b>Government of Gujarat</b>
32. Smt Mamta Verma ,IAS, Principal Secretary (Energy), GoG
<b>Government of Maharashtra</b>
33. Shri. Dinesh Waghmare (IAS), Principal Secretary (Energy), Govt of Maharashtra
<b>NHAI</b>
34. Shri. Asheesh K. Jain, GM, NHAI

9/17/2021






## Action Plan for Public Charging Stations in 9 Mega Cities

**Bureau of Energy Efficiency. (BEE)**  
**Ministry of Power, Government of India**

Bureau of Energy Efficiency, Ministry of Power, Government of India



## Points for Discussion

- Implementing Agencies (CPOs) to finalize land agreements for issuance of Letter of Awards in 9 Cities in order to saturate these cities by 31<sup>st</sup> December 2021
- BEE to setup EV Accelerator Cell under State Nodal Agencies in 9 Cities to handhold and fast-track the installation of Public EV Charging Stations
- Oil Marketing Companies, Municipalities and other land owning agencies may be directed by Ministry of Power to provide land for installation of Public EV Charging Stations
- Regulators to issue necessary guidelines for enhancing threshold limit for LT connections and removal of fixed / demand charges for first 3 years for EV Charging



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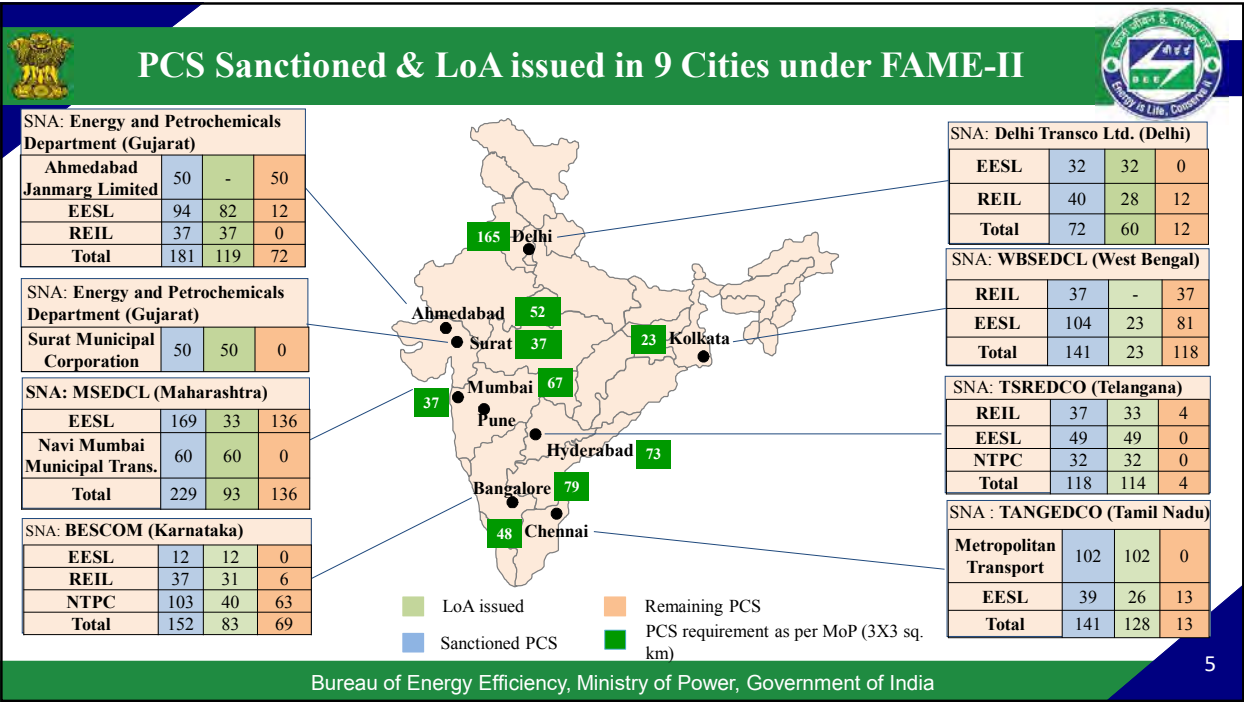
 <b>Actionable Points and Action taken (1/2)</b> 			
S. No	Name of Agency	Actionable Point	Action taken
1	NITI Aayog	Bringing the EV charging Business in lower GST slab in GST council and for allowing accelerated Depreciation on EV Charging Equipment.	
2	MoHUA	State Governments may incorporate the provisions for installation of Charging Points in their State Building Bylaws.	
3	EESL	Energy Efficiency Services Limited may prepare a note regarding the issues regarding installation of PCS to be discussed with the Forum of Regulators (FoR).	
4	MoP	Time of the Day Tariff (ToD) and Open Access for Public Charging Station.	
5	MoP	A Working Group for finalizing the Revenue Sharing Model/Business Model between CPOs and Land-owning Agencies to address the issues related to land allotment for PCS.	Revenue Sharing Model between CPOs and Land owning agencies has been prepared by BEE and the same will be shared with EESL and NTPC for their comments.
6	MoP	MoP should also put a ceiling on charging tariff to be taken by Public Charging Stations.	
7	CEA	<ul style="list-style-type: none"> <li>LT connection for PCS at 150 kW power load</li> <li>Removal of fix charges/security deposit for initial 3 years</li> <li>Provision for installation of PCS at the land availability with CPSUs and DISCOMs in all states.</li> <li>Release of connections for PCS in timelines as per Electricity (Rights of Consumers) Rule, 2020</li> </ul>	
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 <b>Actionable Points and Action taken (2/2)</b> 			
S. No	Name of Agency	Actionable Point	Action taken
8	BEE	BEE shall hire a Consultant and prepare the Action Plan soon for all the 9 cities.	In this regard, PMU deployed at BEE has assigned the working of the Action Plan. The Action plan shall be presented in the review meeting in the end of October, 2021.
9	BEE	Proposals from the State Governments for Go Electric Campaign and sanction funds based on the proposal and provision for creating an EV Cell in States under the Go Electric Campaign.	BEE has sought the proposals from State Nodal Agencies (SNAs) to set up EV accelerator cell under the "Go Electric" Campaign.
10	BEE	Revenue Sharing Model for 10 year period may be prepared by BEE with the help from EESL and NTPC and same may be included in the advisory to be issued by MoP.	Revenue Sharing Model has been prepared by BEE and the same will be shared with EESL and NTPC for their comments.
11	BEE	DATABASE of Public Charging Stations and mobile app	BEE has floated RfP for "Hiring an Agency to Design, Development and Maintenance of Web Portal and Mobile Application for Electric Vehicle Public Charging Stations", closing date for which is 23 <sup>rd</sup> September 2021.
12	BEE	Details from the CPOs on monthly basis where electricity connection is being delayed. A single window for submission of details of such cases where the connection is being delayed and to intervene timely for resolution of the issues in this regard with support of Distribution Wing of MoP.	BEE will expedite the process of coordinating with all CPOs in coordination with MoP.
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## Recommendations for faster deployment of PCS




1	Centralized Dashboard and mobile application for Mapping Public Charging Stations	<b>Stakeholders</b> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">Charge Point Operators</div> <div style="width: 50%;">SNAs / SDAs</div> <div style="width: 50%;">Land Owning Agencies</div> <div style="width: 50%;">State Power Distribution Companies</div> <div style="width: 50%;">OEMs (EV and EVSE)</div> <div style="width: 50%;">Residential Welfare Associations</div> </div>
2	Demand (Fixed Charges) waiver for initial years of Public Charging Stations operation	
3	Single Window Clearance with stipulated timeline for getting new Public Charging Stations' connection	
4	Increase existing threshold for LT connection	
5	Incentivize upstream infrastructure for Public Charging Stations	<div style="background-color: #2e8b57; color: white; padding: 5px; margin-bottom: 5px;">BEE conducted 9 consultation meeting with e-mobility stakeholders from 4<sup>th</sup> May to 29<sup>th</sup> June</div> <div style="background-color: #c0392b; color: white; padding: 5px;">Proposing setting up of EV Accelerator Cell in 9 Cities</div>
6	Uniformity of EV Charging Tariff across States	
7	Facilitation through state agencies for identification of land packages for setting up Public Charging Stations	
8	Allowing open access for PCS without minimum threshold	
9	Lower the Service Tax for initial years on Charging from existing 18% to 5%	

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## Approach for Action Plan through EV Accelerator Cell




	Stage I Market Assessment	Stage II Location feasibility	Stage III Electricity demand for EV Charging	Stage IV Policy interventions
<b>Work stream</b>	EV Charging demand	Land allocation and planning	Assessing electricity requirement	Addressing challenges
<b>Activities</b>	<ul style="list-style-type: none"> <li>Assess category wise EV projection till 2030 based on current and target penetration</li> <li>Calculate EVSE requirement based on international EV:EVSE benchmark</li> <li>Capture Demand Incentive and Capital Subsidy in State Policy for EVs</li> <li>Capture number of PCS assigned and deployed</li> </ul>	<ul style="list-style-type: none"> <li>Prioritize available land parcels / locations based on various factors like parking availability, traffic volumes, commercial establishments, etc.</li> <li>Revenue Sharing Model of State Agency to be captured</li> </ul>	<ul style="list-style-type: none"> <li>Assess EV charging load on grid infrastructure based on EVSE requirement</li> <li>Asses grid augmentation requirement to meet the load</li> <li>Identifying procedure for applying new connection for EV charging stations</li> </ul>	<ul style="list-style-type: none"> <li>Identify on ground challenges / barriers for installation of PCS</li> <li>Propose policy and regulatory interventions to address the challenges</li> </ul>
<b>Stakeholders</b>	<ul style="list-style-type: none"> <li>Transport Department</li> <li>Regional Transport Office</li> <li>SNAs</li> </ul>	<ul style="list-style-type: none"> <li>Municipal Corporations</li> <li>Metro Corporations</li> <li>Transport Department</li> <li>CPOs</li> <li>SNAs</li> </ul>	<ul style="list-style-type: none"> <li>DISCOMs</li> <li>SNAs</li> </ul>	<ul style="list-style-type: none"> <li>SNAs</li> <li>Land Owning Agencies</li> <li>DISCOMs</li> <li>SERCs</li> </ul>


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### Tariff Comparison – 9 Cities / 7 States





S No.	Cities	States	Domestic tariff (Rs. / unit)	Commercial tariff (Rs. / unit)	EV Charging Tariff (Rs. / unit)
1	Ahmedabad	Gujarat	2.65 - 5.20	LT: 4.35 - 4.65, HT: 4.00 - 4.30	LT: 4.10, HT: 4.00
2	Surat				
3	Bengaluru	Karnataka	5.25 – 8.15	LT:7.85 - 9.35, HT: 9.05 – 9.35	5.00
4	Chennai	Tamil Nadu	2.50 - 6.60	LT: 5.00 - 8.05, HT: 8.00	LT: 5.00 - 8.05, HT: 8.00
5	Delhi	Delhi	3.00 - 8.00	6.00 - 8.50	LT: 4.50, HT: 4.00
6	Hyderabad	Telangana	1.45 - 9.50	6.00 - 10.00	6.00
7	Kolkata	West Bengal	6.64	7.74 – 9.28	6.00 (approx.) *
8	Mumbai	Maharashtra	3.44 - 11.82	LT: 7.18 - 12.95, HT: 11.20	LT: 4.12, HT: 4.94
9	Pune				

\* As per State EV Policy, EV tariff could be around Rs. 6.00 / kWh

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THANKS !


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## Oil Marketing Companies – Current Status and Roadmap (9 Cities)




S. No	City Name	Number of ROs (IOCL, HPCL, BPCL)	EVCS Installed	EVCS Planned	No. of ROs feasible *
1	<b>Ahmedabad</b>	169	3	5	63
2	<b>Bangalore</b>	456	44	15	175
3	<b>Chennai</b>	279	8	11	100
4	<b>Delhi</b>	377	61	25	182
5	<b>Hyderabad</b>	482	65	13	158
6	<b>Kolkata</b>	148	2	25	48
7	<b>Mumbai</b>	227	10	19	83
8	<b>Pune</b>	169	5	12	65
9	<b>Surat</b>	74	3	5	50
<b>Total</b>		<b>2381</b>	<b>201</b>	<b>130</b>	<b>924</b>

\*  
 • Availability of Space  
 • PESO Compliance  
 • Depending on feasibility of additional electrical load

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## Highways / Expressways connected with 9 Cities (1/2)



S. No	City Name	Highway/Expressway as per DHI	Highway/Expressway as per MoP	Total Length (km)	Proposed Public Charging Station as per DHI
1	<b>Delhi</b>	Delhi Agra Yamuna Expressway	Delhi Agra Yamuna Expressway	200	20
		Eastern Peripheral Expressway	Eastern Peripheral Expressway	150	14
		Mumbai - Delhi Highway (NH 48)	Delhi – Jaipur Highway	1250	124
		Delhi – Kolkata Highway (NH 19)	Delhi – Agra NH2 Expressway	1600	160
		Delhi - Srinagar Highway (NH 44)	-	800	80
2	<b>Ahmedabad</b>	Ahmedabad - Vadodara Expressway	Ahmedabad - Vadodara Expressway	100	10
		Mumbai - Delhi Highway (NH 48)	-	1250	124
3	<b>Surat</b>	Surat - Mumbai Expressway	Surat - Mumbai Expressway	300	30
		Mumbai - Delhi Highway (NH 48)	-	1250	124
4	<b>Bengaluru</b>	Bengaluru Mysore Expressway	Bengaluru Mysore Expressway	150	16
		Bengaluru Chennai Expressway	Bengaluru Chennai Expressway	300	30
		Mumbai - Bengaluru Highway (NH 48)	-	1000	100
5	<b>Kolkata</b>	Delhi – Kolkata Highway (NH 19)	-	1600	160
		Kolkata - Bhubaneswar Highway (NH 16)	-	450	44


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Highways / Expressways connected with 9 Cities (2/2)					
S. No.	City Name	Highway/Expressway as per DHI	Highway/Expressway as per MoP	Total Length (km)	Proposed Public Charging Station as per DHI
6	Mumbai	Mumbai - Pune Expressway	Mumbai - Pune Expressway	100	10
		Surat - Mumbai Expressway	Surat - Mumbai Expressway	300	30
		Mumbai-Panaji Highway (NH 66)	-	600	60
		Mumbai - Nagpur Highway	-	700	70
		Mumbai - Bengaluru Highway (NH 48)	-	1000	100
		Mumbai - Delhi Highway (NH 48)	-	1250	124
7	Pune	Mumbai - Pune Expressway	Mumbai - Pune Expressway	100	10
		Mumbai - Nagpur Highway (NH 53 & NH 60)	-	700	100
8	Chennai	Bengaluru Chennai Expressway	Bengaluru Chennai Expressway	300	30
		Chennai-Bhubaneswar Highway (NH 16)	-	1200	120
		Chennai - Trivandrum Highway (NH 44, NH 32)	-	750	74
		Chennai-Bellary Highway (NH 716)	-	500	50
		Chennai - Nagpur Highway (NH 44)	-	1150	114
9	Hyderabad	Hyderabad ORR Expressway	Hyderabad ORR Expressway	175	16
Total				15,145	1,544

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Information on EV Charging Infrastructure - Ahmedabad		
<p>State Name: <b>Gujarat</b></p> <p>EV Policy Status: <b>Notified</b></p> <p>Notification Date: <b>23 June 2021</b></p> <p>State EV Tariff (Rs. / unit): <b>LT: 4.10 , HT: 4.00</b></p> 	Particulars	Description
	State Nodal Agency	Energy & Petrochemicals Department
	No. of public charging stations (PCS) required (MoP Guidelines (3 x 3 sq.km)	52
	No. of public charging stations allotted under FAME-II	181
	Additional no. of public charging stations required as per MoP Guidelines	-
	No. of public charging stations allotted to CPOs	<ul style="list-style-type: none"> <li>Ahmedabad Janmarg Limited – 50</li> <li>EESL - 94</li> <li>REIL - 37</li> </ul>
	No. of public charging stations installed under FAME – II	EESL - 3
	No. of public charging stations installed without FAME subsidy	6
	Connected Highways/Expressways as per MoP Guidelines	Ahmadabad – Vadodara Expressway
	State EV Tariff	LT – Rs.4.10/kWh, HT – Rs. 4.00/kWh
	No. of oil retail outlets	<ul style="list-style-type: none"> <li>Indian Oil Corporation Limited – 42</li> <li>Bharat Petroleum Corporation Limited - 52</li> <li>Hindustan Petroleum Corporation Limited - 93</li> </ul>


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## Information on EV Charging Infrastructure - Bengaluru




State Name: **Karnataka**

EV Policy Status: **Notified**

Notification Date: **25 September 2017**


State EV Tariff (Rs. / unit): **5.00**




Particulars	Description
State Nodal Agency	Bangalore Electricity Supply Company Limited (BESCOM)
No. of public charging stations (PCS) required (MoP Guidelines (3 x 3 sq.km)	79
No. of public charging stations allotted under FAME-II	152
Additional no. of public charging stations required as per MoP Guidelines	-
No. of public charging stations allotted to CPOs	<ul style="list-style-type: none"> <li>EESL – 12</li> <li>REIL – 37</li> <li>NTPC – 103</li> </ul>
No. of public charging stations installed under FAME – II	5
No. of public charging stations installed without FAME subsidy	31
Connected Highways/Expressways as per MoP Guidelines	<ul style="list-style-type: none"> <li>Bengaluru-Mysore Expressway</li> <li>Bengaluru-Chennai Expressway</li> </ul>
State EV Tariff	Rs. 5 / kWh (LT and HT)
No. of oil retail outlets	<ul style="list-style-type: none"> <li>Indian Oil Corporation Limited – 49</li> <li>Bharat Petroleum Corporation Limited – 90</li> <li>Hindustan Petroleum Corporation Limited – 83</li> </ul>

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## Information on EV Charging Infrastructure - Chennai




State Name: **Tamil Nadu**

EV Policy Status: **Notified**

Notification Date: **1 October 2019**

State EV Tariff (Rs. / unit): **LT: 5 - 8.05, HT: 8.00**




Particulars	Description
State Nodal Agency	Tamil Nadu Generation and Distribution Corporation Ltd. (TANGEDCO)
No. of public charging stations (PCS) required (MoP Guidelines (3 x 3 sq.km)	48
No. of public charging stations allotted under FAME-II	141
Additional no. of public charging stations required as per MoP Guidelines	-
No. of public charging stations allotted to CPOs	<ul style="list-style-type: none"> <li>Metropolitan Transport Limited-102</li> <li>EESL- 39</li> </ul>
No. of public charging stations installed under FAME – II	EESL - 16
No. of public charging stations installed without FAME subsidy	17
Connected Highways/Expressways as per MoP Guidelines	Bengaluru-Chennai Expressway
State EV Tariff	<ul style="list-style-type: none"> <li>LT – Rs. 8.05/kWh, HT – Rs. 8.00/kWh</li> </ul>
No. of oil retail outlets	<ul style="list-style-type: none"> <li>Indian Oil Corporation Limited – 45</li> <li>Bharat Petroleum Corporation Limited - 50</li> <li>Hindustan Petroleum Corporation Limited – 76</li> </ul>


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## Information on EV Charging Infrastructure - Delhi




State Name: **Delhi**

EV Policy Status: **Notified**

Notification Date: **07 August 2020**


State EV Tariff (Rs. / unit): **LT: 4.50 , HT: 4.00**

Particulars	Description
State Nodal Agency	Delhi Transco Limited
No. of public charging stations (PCS) required (MoP Guidelines (3 x 3 sq.km))	165
No. of public charging stations allotted under FAME-II	72
Additional no. of public charging stations required as per MoP Guidelines	93
No. of public charging stations allotted to CPOs	<ul style="list-style-type: none"> <li>EESL - 32</li> <li>REIL - 40</li> </ul>
No. of public charging stations installed under FAME - II	EESL- 7
No. of public charging stations installed without FAME subsidy	159
Connected Highways/Expressways as per MoP Guidelines	<ul style="list-style-type: none"> <li>Delhi-Agra Yamuna Expressway</li> <li>Delhi - Jaipur Highway</li> <li>Delhi - Agra NH2 Expressway</li> </ul>
State EV Tariff	<ul style="list-style-type: none"> <li>LT - Rs. 4.50/kWh, HT - Rs. 4.00/kWh</li> </ul>
No. of oil retail outlets	<ul style="list-style-type: none"> <li>Indian Oil Corporation Limited - 35</li> <li>Bharat Petroleum Corporation Limited - 109</li> <li>Hindustan Petroleum Corporation Limited - 97</li> <li>IGL - 119</li> </ul>




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## Information on EV Charging Infrastructure - Hyderabad




State Name: **Telangana**

EV Policy Status: **Notified**

Notification Date: **30 October 2020**

State EV Tariff (Rs. / unit): **6.00**


Particulars	Description
State Nodal Agency	Telangana State Renewable Energy Development Corporation Ltd. (TSREDCO)
No. of public charging stations (PCS) required (MoP Guidelines (3 x 3 sq.km))	73
No. of public charging stations allotted under FAME-II	118
Additional no. of public charging stations required as per MoP Guidelines	-
No. of public charging stations allotted to CPOs	<ul style="list-style-type: none"> <li>REIL - 37</li> <li>EESL - 49</li> <li>NTPC - 32</li> </ul>
No. of public charging stations installed under FAME - II	27
No. of public charging stations installed without FAME subsidy	23
Connected Highways/Expressways as per MoP Guidelines	Hyderabad ORR Expressway
State EV Tariff	Rs. 6.00 / kWh (LT and HT)
No. of oil retail outlets	<ul style="list-style-type: none"> <li>Indian Oil Corporation Limited - 47</li> <li>Bharat Petroleum Corporation Limited - 52</li> <li>Hindustan Petroleum Corporation Limited - 57</li> </ul>




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## Information on EV Charging Infrastructure - Kolkata




State Name: **West Bengal**

EV Policy Status: **Notified**

Notification Date: **3 July 2021**

State EV Tariff (Rs. / unit): **Not defined**


Particulars	Description
State Nodal Agency	West Bengal State Electricity Distribution Company Limited (WBSEDCL)
No. of public charging stations (PCS) required (MoP Guidelines (3 x 3 sq.km))	23
No. of public charging stations allotted under FAME-II	141
Additional no. of public charging stations required as per MoP Guidelines	-
No. of public charging stations allotted to CPOs	REIL - 37 EESL - 104
No. of public charging stations installed under FAME – II	-
No. of public charging stations installed without FAME subsidy	19
Connected Highways/Expressways as per MoP Guidelines	-
State EV Tariff	Not defined
No. of oil retail outlets	<ul style="list-style-type: none"> <li>Indian Oil Corporation Limited – 46</li> <li>Bharat Petroleum Corporation Limited - 26</li> <li>Hindustan Petroleum Corporation Limited - 54</li> </ul>




Kolkata

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## Information on EV Charging Infrastructure - Mumbai




State Name - **Maharashtra**

EV Policy Status: **Notified**

Publication Date: **23 July 2021**

State EV Tariff (Rs. / unit): **LT: 4.12, HT: 4.94**

Particulars	Description
State Nodal Agency	Maharashtra State Electricity Distribution Company Ltd. (MSEDCL)
No. of public charging stations (PCS) required (MoP Guidelines (3 x 3 sq.km))	67
No. of public charging stations allotted under FAME-II	229
Additional no. of public charging stations required as per MoP Guidelines	-
No. of public charging stations allotted to CPOs	<ul style="list-style-type: none"> <li>EESL – 169</li> <li>Navi Mumbai Municipal Transport - 60</li> </ul>
No. of public charging stations installed under FAME – II	-
No. of public charging stations installed without FAME subsidy	2
Connected Highways/Expressways as per MoP Guidelines	<ul style="list-style-type: none"> <li>Mumbai-Pune Expressway</li> <li>Surat-Mumbai Expressway</li> </ul>
State EV Tariff	Rs. 5.50 / kWh (LT and HT)
No. of oil retail outlets	<ul style="list-style-type: none"> <li>Indian Oil Corporation Limited – 23</li> <li>Bharat Petroleum Corporation Limited - 91</li> <li>Hindustan Petroleum Corporation Limited – 93</li> </ul>




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## Information on EV Charging Infrastructure - Pune



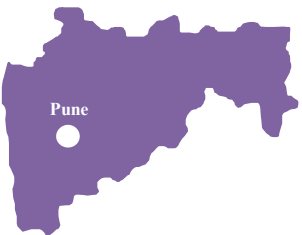
State Name - **Maharashtra**

EV Policy Status: **Notified**

Publication Date: **23 July 2021**

State EV Tariff (Rs. / unit): **LT: 4.12, HT: 4.94**


Particulars	Description
State Nodal Agency	Maharashtra State Electricity Distribution Company Ltd. (MSDCL)
No. of public charging stations (PCS) required (MoP Guidelines (3 x 3 sq.km))	37
No. of public charging stations allotted under FAME-II	-
Additional no. of public charging stations required as per MoP Guidelines	37
No. of public charging stations allotted to CPOs	-
No. of public charging stations installed under FAME – II	-
No. of public charging stations installed without FAME subsidy	1
Connected Highways/Expressways as per MoP Guidelines	<ul style="list-style-type: none"> <li>Mumbai-Pune Expressway</li> </ul>
State EV Tariff	Rs. 5.50 / kWh (LT and HT)
No. of oil retail outlets	<ul style="list-style-type: none"> <li>Indian Oil Corporation Limited – 19</li> <li>Bharat Petroleum Corporation Limited - 70</li> <li>Hindustan Petroleum Corporation Limited – 56</li> </ul>




Pune

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## Information regarding EV Charging Infrastructure for Surat



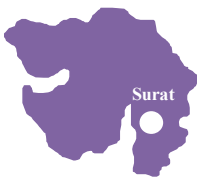
State Name: **Gujarat**

EV Policy Status: **Notified**

Notification Date: **23 June 2021**

State EV Tariff (Rs. / unit): **LT: 4.10 , HT: 4.00**

Particulars	Description
State Nodal Agency	Energy & Petrochemicals Department
No. of public charging stations (PCS) required (MoP Guidelines (3 x 3 sq.km))	37
No. of public charging stations allotted under FAME-II	50
Additional no. of public charging stations required as per MoP Guidelines	-
No. of public charging stations allotted to CPOs	Surat Municipal Corporation - 50
No. of public charging stations installed under FAME – II	-
No. of public charging stations installed without FAME subsidy	6 nos.
Connected Highways/Expressways as per MoP Guidelines	Surat-Mumbai Expressway
State EV Tariff	LT – Rs.4.10/kWh, HT – Rs. 4.00/kWh
No. of oil retail outlets	<ul style="list-style-type: none"> <li>Indian Oil Corporation Limited – 22</li> <li>Bharat Petroleum Corporation Limited - 25</li> <li>Hindustan Petroleum Corporation Limited – 15</li> </ul>



Surat

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Entity wise PCS Status under FAME II – 68 Cities (1/2)				
S. No.	Entities	EV Charging Stations		
		Sanctioned	LoA issued	Remaining no. of PCS
1	EESL	669	384	285
2	NTPC	292	204	88
3	REIL	1061	680	344
4	Ahmedabad Janmarg Limited	50	0	50
5	Atal Indore City Transport Services Ltd.	76	76	0
6	Bhubaneshwar Municipal Corp.	18	7	11
7	Dehradun Smart City	10	10	0
8	Gulbarga Electric Supply Co.	10	2	8
9	Guwahati Smart City	10	0	10
10	Jabalpur City Transport Service Ltd.	24	0	24

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Entity wise PCS Status under FAME II – 68 Cities (2/2)				
S. No.	Entities	EV Charging Stations		
		Sanctioned	LoA issued	Remaining no. of PCS
11	Jorhat Municipal Board	10	9	1
12	KSEB	211	79	132
13	Metropolitan Transport Limited	102	102	0
14	Navi Mumbai Municipal Transport	60	60	0
15	NREDCAP	110		110
16	PGCIL	11	11	0
17	Raipur Smart City	25	25	0
18	Surat Municipal Corporation	50	50	0
19	Tamil Nadu State Transport Corp.	60	60	0
20	Tirupati Smart City	18	13	5
Total		2,877	1,772	1,105

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**Details as on 16.03.2022**

Sl.no.	State	Department/Organisation	Type of Client	Model of EV	Demand for no.of Evs
1	Andhra Pradesh	M/s. Hindustan Shipyard Limited Shri. DV Subba Rao GM (Comm.) - Chairman Corporate & Registered Office, Visakhapatnam, Hindustan Shipyard Ltd., Gandhigram (PO), Visakhapatnam - 530005, Andhra Pradesh	Central PSUs	Any	4
2	Andhra Pradesh	M/s. Rajamahendravaram Municipal Corporation Shri. M. Abhishikth Kishore (IAS) - Commissioner MCR Office Rd, Seshayya, Metta, Rajahmundry, Andhra Pradesh - 533101	State Municipal	Any	2
3	Andhra Pradesh	M/s. Kakinada Municipal Corporation Shri. Swapnil Dinakar Pundkar (IAS) - Commissioner Cinema Hall Road, Kakinada, Andhra Pradesh - 533001	State Municipal	Any	5
4	Andhra Pradesh	M/s. Tirumala Tirupati Devasthanams Shri. Sessa Reddy PV - GM (Transport) TTD Administration Building, KT Road, Tirupati, Chittoor, Andhra Pradesh - 517501	Autonomus Entity	Hyundai Kona	1
5	Andhra Pradesh	M/s. New & Renewable Energy Development Corporation of Andhra Pradesh Ltd. Shri. K. Srinivas - GM (Electric Vehicles) # 12-464/5/1, River Oaks Apartment, CSR Kalyana Mandapam Road, Tadepalli, Guntur District - 522501	State Govt Entity	MG	1
6	Andhra Pradesh	M/s. Sri Padmavati Mahila Visvavidyalam Shri. Dr. A. Ramakrishna Rao, Director Padmavathi Nagar, Near West Railway Station, Tirupati, Chittoor District, Andhra Pradesh - 517502	Autonomus Entity	Nexon	2
7	Gujarat	Gujarat Mineral Development Corporation	State Govt Entity	Tigor	10
8	Gujarat	Surat Municipal Corporation	State Municipal	Nexon	5
9	Gujarat	Ahmedabad Urban Development Authority	State Govt Entity	Nexon	4
10	Gujarat	Statue of Unity	Autonomus Entity	Hyundai Kona	10
11	Gujarat	Ministry of Environment, Forest & Climate change	Central Ministry	Nexon	1
12	Gujarat	Sardar Sarovar Nigam Ltd	State Govt Entity	Nexon	21

13	Gujarat	Gujarat Power Corporation Ltd	State Discom	Nexon	2
14	Gujarat	Statue of Unity	Autonomus Entity	High end EV (Mer	2
15	Haryana	Gurugram Metropolitan Development Authority (GMDA), Gurugram	State Municipal	Nexon	1
16	Haryana	Gurugram Metropolitan Development Authority (GMDA), Gurugram	State Municipal	Hyundai Kona	1
17	Haryana	Powergrid Corporation of India Limited (PGCIL), Gurugram	Central PSUs	Nexon	30
18	Haryana	Panchkula Municipal Corporation, Panchkula	State Municipal	Nexon	7
19	Haryana	Panchkula Municipal Corporation, Panchkula	State Municipal	Hyundai Kona	1
20	Haryana	Gurugram Municipal Corporation, Gurugram	State Municipal	Nexon	5
21	Haryana	Gurugram Municipal Corporation, Gurugram	State Municipal	Hyundai Kona	1
22	Haryana	Translational Health Science & Technology Institute (THSTI), Faridabad	Autonomus Entity	Nexon	1
23	Haryana	Shri Vishwakarma Skill University (SVSU), Palwal	Autonomus Entity	MG	1
24	Haryana	Arun Jaitley National Institute of Financial Management, Faridabad	Autonomus Entity	Hyundai Kona	1
25	Haryana	NHPC Limited	Central PSUs	Nexon	20
26	Haryana	WAPCOS Limited	Central PSUs	Nexon	2
27	Haryana	International Solar Alliance (ISA), Gurugram	International Entity	Nexon	2
28	Jammu and Kashmir	Indian Institute of Carpet Technology (IICT), Srinagar	Autonomus Entity	nexon	1
29	Karnataka	Chamundeshwari Electricity Supply Company (C.E.S.C), Mysuru	State DISCOM	Nexon	2
30	Kerala	HOCL	Central PSUs	nexon	1
31	Kerala	Rubber Board	Central Govt Entity	nexon	2
32	Madhya Pradesh	Satna smart city	State Govt Entity	Tigor	5
33	Madhya Pradesh	Bhopal city link limited	State Govt Entity	Tigor	5
34	Madhya Pradesh	Bhopal Metro	State Govt Entity	Tigor	5
35	Madhya Pradesh	BHEL Bhopal	Central PSUs	Tigor	10
36	Madhya Pradesh	Gwalior Smart City	State Govt Entity	Tigor	5
37	Madhya Pradesh	Jabalpur smart city	State Govt Entity	Tigor	5
38	Madhya Pradesh	Ujjain smart city	State Govt Entity	Tigor	5
39	Puducherry	M/s Puducherry Electricity Dept.	State DISCOM	Nexon	4
40	Puducherry	M/s Puducherry Tourism Development Corporation	State Govt Entity	Nexon	5
41	Puducherry	M/s Puducherry Smart City Development Corporation	State Govt Entity	Nexon	3
42	Puducherry	M/s Puducherry Electricity Dept.	State DISCOM	Tigor	4
43	Tamil Nadu	M/s MEPZ, Special Economic Zone, Tambaram	State Govt Entity	Nexon	3
44	Tamil Nadu	M/s Integral Coach Factory	Central PSUs	Tigor	3
45	Tamil Nadu	M/s Chennai Port Trust	State Govt Entity	Tigor	3
46	Tamil Nadu	M/s MEPZ, Special Economic Zone, Tambaram	State Govt Entity	Tigor	2

47	Tamil Nadu	M/s IRCTC, Chennai	Central PSUs	Tigor	2
48	Tamil Nadu	M/s Tamilnadu Pollution Control Board	State Govt Entity	Nexon	50
49	Uttar Pradesh	PowerGrid RHQ Lucknow	Central PSUs	Nexon	20
50	Uttar Pradesh	Awas Vikas Parishad Lucknow	State Govt Entity	Nexon	16
51	Uttar Pradesh	Northern Coal Fields - Sonebhadra	Central PSUs	Nexon	30
52	Uttar Pradesh	SHKUNTALA University- Lucknow	Autonomus Entity	Nexon	4
53	Uttarakhand	Uttarakhand Jal Vidyut Nigam Ltd,Dehradun Rakesh Chauhan (Manager)- 9456590012	State Govt Entity	Tigor	5
54	Uttarakhand	Power Tranmission Corporation of Uttarakhand Limited. Ashok Kumar Juyal, Assitant Manager -7088117916	State Govt Entity	Tigor	5
55	Uttarakhand	Uttarakhand Sachivalaya, Shri Sandeep Yadav -9927699649	State Govt Entity	Tigor	20
56	Uttarakhand	Project Director, PIU-Vasant Vihar National Highways Authority of India, Mr. Rohit -9582995781	Central PSUs	Nexon	3
57	Uttarakhand	Project Director, PIU-Najibabad National Highways Authority of India, Sh. B.P Bathak Project Director-9792116475	Central PSUs	Nexon	2
58	Telangana	DRDO Secunderabad (Sri Srikanth Pullabhatla-Director Defence Research & Development Laboratory (A Govt. of India Enterprise) Ministry of Defence, Kanchanbagh, Hyderabad- 500058	Central Govt Entity	Nexon	1
59	Telangana	Bharat Dyanamics Limited (BDL-Kanchanbagh,Hyderabad-500058 Sri Sundeep Devaraj B; Deputy Manager (TSD)	Central PSUs	Nexon	1
60	Jharkhand	BCCL	Central PSUs	Nexon	15
61	Jharkhand	BIT Meshra	Autonomus Entity	Nexon	20
62	Jharkhand	CCL	Central PSUs	Nexon	45
63	Jharkhand	Mecon	Central PSUs	Nexon	5
64	West Bengal	Commissioner of Police, KOLKATA POLICE, 18, Lalbazar Street, Kolkata - 700 001 West Bengal,	State Govt Entity	Nexon	226
65	West Bengal	General Manager (EM), HOD, Eastern Coalfields Limited, Sanctoria, P.O.- Dishergarh, Dist- Paschim Burdwan, West Bengal, 713333	Central PSUs	Nexon	47
66	West Bengal	Damodar Valley Corporation D.V.C. Towers, V. I. P. Road, Kolkata-700054	Central PSUs	Hyundai Kona	5
67	West Bengal	NDITA, Kolkata, West Bengal	State Govt Entity	Nexon	1
68	Bihar	Bihar State Pollution Control Board, GoB (S. Chandrasekar, Member Secretary, Address:- Parivesh Bhawan, Plot No. NS-B/2, Patliputra Industrial Area, Patna, 800010)	State Govt Entity	Nexon	1

69	Andaman and Nicobar	M/s Transport Department	State Govt Entity	Tigor	6
70	Delhi	PMO	Central Ministry	Nexon	25
71	Delhi	Cabinet Secretariat	Central Ministry	Hyundai Kona	5
72	Delhi	DPE	Central Ministry	Nexon	6
73	Delhi	Ministry of Food Processing	Central Ministry	Nexon	5
74	Delhi	MolB	Central Ministry	Nexon	2
75	Delhi	Departments of Delhi Govt.	State Govt Entity	Nexon	100
76	Delhi	DGFT	Central Ministry	Hyundai Kona	6
77	Maharashtra	PGCIL	Central PSUs	Nexon	5
78	Delhi	Soochna Bhawan	Central PSUs	Nexon	2
79	Delhi	RCF	Central PSUs	Nexon	2
80	Delhi	Tripura Bhawan	State Govt Entity	Nexon	2
81	Delhi	DG AIR	Central Ministry	Nexon	4
82	Delhi	Building Commission	Central Ministry	Nexon	2
83	Delhi	NTPC	Central PSUs	Nexon	2
84	Andhra Pradesh	NREDCAP	State Govt Entity	Nexon	25
85	Andhra Pradesh	NREDCAP	State Govt Entity	MG	25
86	Rajasthan	State Motor Garage	State Govt Entity	Nexon	25
87	Rajasthan	JVVNL	State DISCOM	Nexon	5
88	Tripura	OTPC India	Central PSUs	Nexon	7
89	Delhi	SECI	Central PSUs	Nexon	3
90	Delhi	Other Central Ministeries/Depts.	Central Ministry	Nexon/Tigor	30
91	Goa	CO,Municipal Corporations	State Municipal	Nexon	10
92	Goa	Collector,South Goa Collectorate-Margao	State Municipal	Nexon	11
93	Goa	Member Secretary,Goa Pollution Control Board-Saligao	State Govt Entity	Nexon	4
94	Goa	Chief Engineer,Goa Electricity Department-Panjim	State Govt Entity	Nexon	3
95	Goa	Chairman,Goa Shipyard Limited, Vasco-da-Gama	State Govt Entity	Nexon	4
96	Delhi	Ministry of Corporate Affairs	Central Ministry	Nexon	2
97	Delhi	Lok Sabha	Central Ministry	Nexon	15
98	Delhi	Posoco	Central PSUs	Nexon	10
99	Maharashtra	PMC	State Municipal	Nexon	28
100	West Bengal	Kolkata Port Trust	State Govt Entity	Nexon	10
101	Delhi	Moraji Desai National Institute of Yoga	Central Govt Entity	Nexon	1
102	Jammu and Kashmir	BSNL	Central PSUs	Nexon	10

103	Delhi	Ministry of Ayush	Central Ministry	Nexon	4
104	Delhi	Finance Department	State Govt Entity	Nexon	2
105	Delhi	MoEFCC	Central Ministry	Nexon	1
106	Delhi	Department of Fishers	Central Ministry	Nexon	2
107	Maharashtra	ECGC Limited	Central PSUs	Nexon	2
108	Maharashtra	ECGC Limited	Central PSUs	Tigor	9
109	Maharashtra	Nabard	Central Govt Entity	Nexon	40
110	Delhi	NBCC	Central PSUs	Nexon	28
111	Delhi	Directorate of Homeopathy (AYUSH)	State Govt Entity	Tigor	2
112	Odisha	MCL	Central PSUs	Nexon	25
113	Andhra Pradesh	ONGC- Karaikal	Central PSUs	Nexon	5
114	Tamil Nadu	ONGC- Chennai	Central PSUs	Nexon	5
115	Andhra Pradesh	ONGC- Rajamundry	Central PSUs	Nexon	5
116	Andhra Pradesh	ONGC- Kakinada	Central PSUs	Nexon	5
117	Gujarat	ONGC- Ahmedabad	Central PSUs	Nexon	5
118	Gujarat	ONGC- Ankleshwar	Central PSUs	Nexon	5
119	Gujarat	ONGC- Mehsana	Central PSUs	Nexon	5
120	Gujarat	ONGC- Cambay	Central PSUs	Nexon	5
121	Gujarat	ONGC- Baroda	Central PSUs	Nexon	5
122	Gujarat	ONGC- Hazira	Central PSUs	Nexon	5
123	Rajasthan	ONGC- Jodhpur	Central PSUs	Nexon	5
124	Maharashtra	ONGC- Mumbai	Central PSUs	Nexon	5
125	Delhi	ONGC- Delhi	Central PSUs	Nexon	5
126	Uttarakhand	ONGC- Dehradun	Central PSUs	Nexon	5
127	West Bengal	ONGC- Kolkata	Central PSUs	Nexon	5
128	Assam	ONGC- Jorhat	Central PSUs	Nexon	5
129	Assam	ONGC- Sibsagar	Central PSUs	Nexon	5
130	Jharkhand	ONGC- Bokaro	Central PSUs	Nexon	5
131	Assam	ONGC- Silchar	Central PSUs	Nexon	5
132	Tripura	ONGC- Agartala	Central PSUs	Nexon	5
133	Gujarat	Ahmedabad Municipal Corporation	State Municipal	Nexon	1
134	Gujarat	Sardar Sarovar Hydro Electric Project	State Govt Entity	Hyundai Kona	2
135	Gujarat	Gujarat Power Corporation Limited	State Govt Entity	Hyundai Kona	1
136	Gujarat	Gujarat Power Corporation Limited	State Govt Entity	Nexon	2

137	Gujarat	Gujarat Power Corporation Limited	State Govt Entity	Tigor	2
138	Maharashtra	Naval HQ, Mumbai	Central Govt Entity	Nexon	10
139	Delhi	Delhi State Health Mission	State Govt Entity	Sedan	1
140	Delhi	Delhi State Health Mission	State Govt Entity	Nexon	3
141	Tamil Nadu	V.O.Chidambaranar Port Trust	Central Govt Entity	Tigor/Nexon	10
142	Chandigarh	Airport Authority of India	Central PSUs	Nexon	2
143	Chandigarh	Chandigarh Renewal Energy and Science & Technology Promotion Society	State Govt Entity	Nexon	1
144	Chandigarh	BIRD Airport Services	Private	EV Bus	2
145	Haryana	NHPC Limited	Central PSUs	Hyundai Kona	5
146	Haryana	Indian Institute of Corporate Affairs (IICA), Gurugram	Autonomus Entity	Hyundai Kona / I	1
147	Haryana	Haryana Technical Education Board, Panchkula	State Department	TATA Nexon EV	2
148	Haryana	Gurugram University, Gurugram	Autonomus Entity	Kona	1
149	Haryana	Municipal Council Ambala, Haryana	State Municipal	TATA Nexon EV	4
150	Haryana	National Institute of Solar Energy (NISE), Gurugram	Autonomus Entity	TATA Nexon EV	1
151	Delhi	Examining Body for Para-Medical Training for Bhartiya Chikitsa	State Govt Entity	Tigor	1
152	Maharashtra	Western Coalfields Limited- WCL	Central PSUs	Nexon	15
153	West Bengal	Coal India HO, Kolkata	Central PSUs	Nexon	50
154	Delhi	Department of Justice, Ministry of Law & Justice	Central Ministry	Nexon	5
155	Delhi	Department of Justice, Ministry of Law & Justice	Central Ministry	Tigor	4
156	Assam	<b>Assam Electricity Grid Corporation Limited</b>	<b>Central PSUs</b>	Nexon	5
157	Delhi	Ministry of Labour & Employment,	Central Ministry	Hyundai Kona	1
158	Kerala	ANERT	State Govt Entity	Hyundai Kona	6

EESL/Res/LSQ/IC-MoP/2021-22/03

30<sup>th</sup> March, 2022

To,  
IC Division,  
Ministry of Power,  
413, Shram Shakti Bhawan,  
Rafi Marg, New Delhi-110001

**Subject: Lok Sabha question Dy. No.14479 to be answered on 07.04.2022 regarding Decentralised Solar and Electric Mobility**

Sir,

This has reference to your email dated 29<sup>th</sup> & 30<sup>th</sup> March 2022 on the above subject. The para wise reply is as follows:

**Questions:**

**(a) whether it is a fact that multilateral and bilateral agencies like World Bank, ADB, KfW, AFD have provided concessional loans to CPSUs and their JVs/Subsidiaries for decentralised solar and electric mobility**

**Answer (a):** Yes, sir. EESL a JV of Power sector CPSUs has been provided loan by Multilateral agency ADB, and Bilateral Agency KfW for decentralised solar and electric mobility.

**(b) if so, the details thereof, agency-wise;**

**(c) the total amount of loans sanctioned and utilised till 30th March 2022;**

**Answer (b) & (c):** The details are as per below:

Agency	Total Amount Sanctioned	Total Scope of the loan	Disbursed /Utilized
ADB	USD 296 Million	Decentralised Solar , Electric Mobility and Smart Meters,	USD 66 M
KfW	Euro 200 Million	Decentralized Solar and Energy Efficient Lighting	Euro 5 M

**(d): the reasons for the shortfall in utilisation, if any, and corrective action taken by the Government in this regard.**

**Answer (d):** Though EESL projects have also been hit due to successive waves of COVID, no shortfall in utilisation is envisaged as of now.

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पाँचवा, छठा और सातवाँ तल,  
कोर - 3, स्कोप कॉम्प्लेक्स, लोधी रोड, नई दिल्ली - 110003  
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**REGISTERED OFFICE:** NFL Building, 5<sup>th</sup>, 6<sup>th</sup> & 7<sup>th</sup> Floor,  
Core – III, SCOPE Complex, Lodhi Road, New Delhi – 110003  
**Tel.:** +91 (011) 45801260, **Fax:** +91 (011) 45801265  
**Website:** www.eeslindia.org

**(e) Whether there is any new proposal for taking loans from these agencies for the said purpose; and**

**(f) if so, the details thereof and if not, the reasons therefor?**

**Answer (e) & (f):** As far as EESL is concerned, as of now, there is no new proposal for taking loans from these agencies for the said purpose.

Yours Sincerely,

A handwritten signature in black ink, appearing to be 'D.K. Sahani', written in a cursive style.

(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/MNRE/2021-22/04

17<sup>th</sup> March, 2022

To,  
Shri Shiv Dayal,  
Assistant Section Officer  
Ministry of New and Renewable Energy,  
Nirman Bhawan, Delhi-110003

**Subject: Inputs for LOK SABHA admitted question 3647 for 24.03.2022 on Closure of AJAY.**

Sir,

This has reference to your email dated 17<sup>th</sup> March, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

**(a) whether the Government has launched StreetLighting National Programme (SLNP) and discontinued Atal Jyoti Yojana (AJAY) since 1st April, 2020 which was successfully being implemented earlier;**

**(b) if so, the details thereof and the reasons for discontinuing the said Yojana;**

**Answer (a) & (b):** Ministry of New and Renewable Energy (MNRE) may please reply. EESL inputs are as follows:

Street Light National program (SLNP) was launched by Hon'ble Prime Minister Shri Narendra Modi, on 5<sup>th</sup> January 2015 as "Prakash Path" – National Program for adoption of LED based street lights in Municipal sector. SLNP programme is still running.

The AJAY Phase-II scheme has been discontinued since 1<sup>st</sup> April 2020.

**(c) the quantum of funds spent by the Government on the said Yojana in the country, State-wise;**

**Answer (c):** MNRE may please reply. However, EESL has utilized the following amounts, statewise, from MNRE & MPLAD fund, towards implementation of AJAY Phase-II project.

S. No.	State	Fund Utilized (INR)
1	AndhraPradesh	9,01,28,500
2	MadhyaPradesh	9,57,45,092
3	Rajasthan	2,97,95,544
4	Gujarat	4,91,61,000
5	UttarPradesh	59,63,23,571
6	WestBengal	15,02,74,332
7	Telangana	81,93,500
8	Assam	10,30,25,069
9	Bihar	36,29,52,660
10	Chhattisgarh	3,95,03,830
11	HimachalPradesh	84,41,500
12	Jammu&Kashmir	9,42,25,250
13	Jharkhand	5,73,54,500
14	Karnataka	4,94,09,000
15	Manipur	1,77,50,040
16	Odisha	6,34,63,284
17	Punjab	1,23,21,250
18	TamilNadu	2,70,49,424
19	Tripura	5,73,05,454
20	Uttarakhand	13,85,11,309
21	Lakshadweep	2,72,14,000
<b>Total</b>		<b>2,05,09,34,109</b>

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**(d) the reasons for not following the orders by Energy Efficiency Services Limited (EESL) given to it from MPLAD in phase-II under the said Yojana;**

**Answer (d):** There is no such case during the tenure of the scheme. However, after closure of the scheme, EESL has regretted the request received from honorable MPs as the scheme has been discontinued from 1<sup>st</sup> April 2020.

**(e) whether the Government proposes to extend the AJAY;**

**(f) if so, the details thereof and if not, the reasons therefor; and**

**Answer (e) & (f):** MNRE may please reply.

**(g) whether work related to street-lighting is already being carried out under the said yojana and if so, the details thereof?**

**Answer (g):** Street lighting is already being carried out under EESL's Street Light National Program (SLNP) which is not under the AJAY Yojana. Under the SLNP program, as on date EESL has installed over 1.24 Crore LED streetlights in Urban Local Bodies (ULBs) and Gram Panchayats across India.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/IPDS/2021-22/01

17<sup>th</sup> March, 2022

To,  
DS\_I Division  
Ministry of Power  
Shram Shakti Bhawan  
Rafi Marg, New Delhi  
Nirman Bhawan, Delhi-110001

**Subject: Lok Sabha Admitted Question No.3546 (Adv Dy No.11097) for reply on 24.03.2022 regarding "National Smart Grid Mission"**

Sir,

This has reference to IPDS Section MoP's email dated 17<sup>th</sup> March, 2022 on the above subject. Reply of point no. (c) & (d) is as follows:

**Questions:**

- (c) Whether the Government has undertaken any study to analyse the benefits of smart meter over conventional meters and  
(d) If so, the details thereof?

**Answer (c) & (d):** Information pertaining to EESL may be treated as 'NIL'.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/MSME-DC/2022-23/02

4<sup>th</sup> April, 2022

To,  
Shri Santosh Kumar  
Assistant Director,  
SME Manufacturing Division,  
O/o DC(MSME), M/o MSME,  
'A' Wing, 7th Floor,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha Admitted Un-Starred Question No. 5815 due for answer on 07.04.2022-reg.**

Sir,

This has reference to your email dated 1<sup>st</sup> April 2022 on the above subject. The para wise reply is as follows:

**Questions:**

**(a) whether it is a fact that twelve Micro, Small and Medium Enterprises (MSMEs) clusters have been identified where identified technologies would be demonstrated under the new collaboration between Energy Efficiency Services Limited (EESL) and the Government; and**

**(b) if so, the details of the clusters and the technologies identified so far and the status of their demonstration?**

**Answer (a) & (b):** EESL and Ministry of MSME under the GEF-5 project "Promoting market Transformation for Energy Efficiency in MSME" has identified 12 MSME clusters for implementation of energy efficient technologies at MSME units. Details of the clusters, identified technologies and their implementation status is as below.

S. No.	Name of Cluster	List of identified Technologies	Demonstration Status
1	<b>Surat (Textile), Gujarat</b>	Screw Air Compressor with VFD and PM Motor	Completed
		PLC Based automation system for Jet Dyeing Machine	Completed
		Condensate recovery System	Completed
		Boiler automation	Completed
		Micro turbine	Completed
2	<b>Ankleshwar (Chemical), Gujarat</b>	IBR Boiler	Completed
		Scroll Chiller	Completed
		Vertical Agitator	Completed
		ANFD	Completed
		Fitch Fuel Catalyst	Ongoing
3	<b>Howrah (Mixed), West Bengal</b>	Metallic Recuperator	Completed
		Divided Blast Cupola	Ongoing
		Swirl Burner	Completed
		Reheating furnace automation	Completed

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S. No.	Name of Cluster	List of identified Technologies	Demonstration Status
4	<b>Jorhat (Tea), Assam</b>	FRP Fan	<i>Ongoing</i>
		Modulating Burner	Completed
		Dryer Automation	Completed
		Withering Automation	Completed
5	<b>Batala, Jalandhar &amp; Ludhiana (Foundry &amp; Forging), Punjab</b>	Induction Billet Heater	Completed
		Servo Motor	<i>Ongoing</i>
		Special Purpose Machine	<i>Ongoing</i>
6	<b>Varanasi (Textile), Uttar Pradesh</b>	Combustion Control system	Completed
		Low Grade waste recovery system	<i>Ongoing</i>
		Automation of dyeing machine	<i>Ongoing</i>
7	<b>Muzaffarnagar (Paper), Uttar Pradesh</b>	Vacuum Pump	<i>Ongoing</i>
		Direct Coupled Agitator system	<i>Ongoing</i>
8	<b>Vellore (Rice), Tamil Nadu</b>	LSU Dryer	Completed
		IBR Boiler	<i>Ongoing</i>
9	<b>Medak (Pharma), Telangana</b>	Chiller condenser on-load automatic tube cleaning system	<i>Ongoing</i>
		Replacement of Steam Vacuum Pump with Electric Vacuum Pump	<i>Ongoing</i>
		Installation of Side Stream Filtration for Cooling Tower	<i>Ongoing</i>
		Installation of Mist Cooling Towers in place of Natural/Draft Cooling Tower	<i>Ongoing</i>
10	<b>Sundargarh (Iron &amp; Steel), Odisha</b>	Multi VFD	<i>Ongoing</i>
		Screw Compressor	<i>Ongoing</i>
11	<b>Aurangabad (Mixed) Maharashtra</b>	Cold Feed Extruder	<i>Ongoing</i>
		IGBT based welding machine	<i>Ongoing</i>
		Energy Efficient Tyre Retreading Line	<i>Ongoing</i>
		Multi Spindle Drilling Machine	<i>Ongoing</i>
12	<b>East and West Godavari (Ceramic), Andhra Pradesh</b>	Under Identification	<i>Ongoing</i>

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/MoP/2021-22/01

30<sup>th</sup> March, 2022

To,  
Shri Govind Kumar  
Under Secretary, EC Division,  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha provisionally admitted Unstarred Question Dy. No. 18118 to be answered on 07.04.2022 regarding "Street Lighting National Programme"- -Reg.**

Sir,

This has reference to letter No. 7/17/2022-EC dated 29<sup>th</sup> March 2022 on the above subject. The para wise reply is as follows:

**Questions:**

**(a) Whether the Government is implementing the Street Lighting National Programme (SLNP) to promote the use of LED lights in place of conventional street lights in the country and if so, the details thereof along with the number of street lights installed so far, State-wise;**

**Answer (a):** Yes. Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 launched National LED Programme under which Street Lighting National Program (SLNP) was formulated to replace conventional street lights with energy efficient LED street lights.

Till date, EESL has installed over 1.24 crore LED street lights in ULBs and Gram Panchayats (GPs) across India. State/UT wise details of LED streetlights installed by EESL is enclosed at **Annexure -1**.

**(b) Whether SLNP is currently being implemented only in a few selected States and if so, the details thereof and the reasons therefor;**

**Answer (b):** SLNP is being implemented in States/Urban Local Bodies (ULBs) who have signed the implementation agreement with EESL. As on date EESL is implementing Street Lighting National Programme in 23 States and 6 Union Territories. State/UT wise details are mentioned at **Annexure-1**. EESL has given proposals to all States/UTs and as and when the State/UT administration approves the same and agreements are signed with the respective ULBs, the replacement of street lights will be taken up.

**(c) The total number of local bodies which have entered into contract with Energy Efficiency Services Ltd. (EESL) for replacement of street lights with LED lights under SLNP so far, State-wise;**

**Answer (c):** Till 29<sup>th</sup> March 2022, total 1,615 number of Urban Local Bodies (ULBs) have entered into contract with EESL for replacement of conventional street lights with LED street lights under SLNP. Details of the same are enclosed at **Annexure II**.

**(d) Whether the Government has made any study on the implementation of the project and if so, the details thereof; and**

**Answer (d):** Yes. A case study for Vizag SLNP has been provided on the public domain for which the link is as follows:

Link: [https://eeslindia.org/wp-content/uploads/2020/10/SLNP\\_Vizag\\_Casestudy-CTC.pdf](https://eeslindia.org/wp-content/uploads/2020/10/SLNP_Vizag_Casestudy-CTC.pdf)

The same is attached for ready reference (**Annexure – III**).

**(e) The steps being taken by the Government for effective implementation of SLNP?**

**Answer (e):** Following are the Steps taken by Government for the effective implementation of SLNP:

- Instructions from Ministry of Power, GoI, Energy Secretary D.O No 13/1/2015-EC dated 14.01.2015, to all chief secretaries of states/UTs to adopt & implement national program for LED based energy efficient streetlights & domestic light through EESL
- For the implementation of EESL's SLNP Program in all the States & Union Territories, necessary directions have been issued by Ministry of Power, GoI to all State Government secretaries on 20<sup>th</sup> Dec 2021
- Ministry of Power has regularly taken review of the program and have given instructions to install/supply another 1.6 Crores of efficient and smart LED Street Lights across the nation by 2024.
- CEO, EESL sent a letter dated 18<sup>th</sup> Jan 2022 to Add. Chief Secretaries of 14 State's & 5 Union territories requesting for the implementation of SLNP scheme under their respective states.
- EESL State Head's & Cluster Heads consistently pursue with State govt. officials for implementation of SLNP in their respective States.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

**Annexure - I**

<b>S. No.</b>	<b>State/UT</b>	<b>No. of LED street lights installed by EESL (As on 26<sup>th</sup> March 2022)</b>
1	Andhra Pradesh	29,46,559
2	Andaman & Nicobar	14,995
3	Assam	28,695
4	Bihar	5,59,868
5	Chandigarh	46,496
6	Chhattisgarh	3,77,989
7	Delhi	3,70,434
8	Goa	2,07,110
9	Gujarat	8,91,562
10	Haryana	84,693
11	Himachal Pradesh	62,433
12	Jammu & Kashmir	1,51,680
13	Jharkhand	5,20,243
14	Karnataka	13,102
15	Kerala	4,02,609
16	Lakshadweep	1,000
17	Madhya Pradesh	2,12,956
18	Maharashtra	10,53,352
19	Odisha	3,39,981
20	Puducherry	1,520
21	Punjab	1,23,161
22	Rajasthan	10,70,757
23	Sikkim	868
24	Tamil Nadu	7,876
25	Telangana	14,00,384
26	Tripura	76,426
27	Uttar Pradesh	12,60,773
28	Uttarakhand	1,24,893
29	West Bengal	89,996
	<b>Total</b>	<b>1,24,42,411</b>

**Annexure - II**

<b>S. No.</b>	<b>State/UT</b>	<b>No. of ULBs Enrolled (As on 29<sup>th</sup> March 2022)</b>
1.	Chandigarh	1
2.	Andaman & Nicobar	1
3.	Andhra Pradesh	109
4.	Assam	3
5.	Bihar	143
6.	Chhattisgarh	168
7.	Goa	14
8.	Gujarat	148
9.	Haryana	1
10.	Himachal Pradesh	48
11.	Jammu & Kashmir	2
12.	Jharkhand	43
13.	Kerala	27
14.	Madhya Pradesh	6
15.	Maharashtra	355
16.	New Delhi	1
17.	Odisha	109
18.	Punjab	16
19.	Rajasthan	192
20.	Telangana	143
21.	Tripura	21
22.	Uttar Pradesh	56
23.	Uttarakhand	2
24.	West Bengal	6
<b>Total</b>		<b>1,615</b>

## Street Lighting project in Visakhapatnam —A case study

### EESL's Business Model

The street lighting project in Visakhapatnam was completed within a strict time schedule, with an investment of about USD 9.6 million by EESL. Incorporating an innovative financial model, the entire investment capital was borne by EESL and recovery of the same was done through energy savings and maintenance costs.

The burden of maintenance was taken from GVMC's shoulders as EESL holds the onus of maintaining the lights for a period of seven years.

### Social audit of our performance

EESL conducted a dip-stick survey of the people in nearby areas to assess the impact of new street lights. The outreach highlighted that good lighting levels had brought a feeling of security amongst people.

Officials of the local police spoke of the enhanced safety brought about by brighter lights and reduced dark spots. They confirmed that they are now able to efficiently control instances of rash driving.

Residents spoke of roads looking more beautiful compared to the conventional yellow lights.



Lighting up the city in cyclone aftermath

In October 2014, the State of Andhra Pradesh in southern India faced the Hud Hud Cyclone, which caused extensive infrastructural damage apart from loss of life. In a bid to revive the infrastructure of the city, the Greater Visakhapatnam Municipal Corporation (GVMC) and Energy Efficiency Services Limited (EESL) signed an agreement for providing LED street lights in the city.

EESL replaced the defunct traditional lightings with about 90,000 energy efficient street lights and reduced the power bills significantly. EESL completed installation of 90,000 street lights in three months’ time.

Savings from the project

- Conversion of 90,000 street lights led to a 50% reduction in energy consumption by the municipality
- Drastic reduction in connected load in street lights – from 7.9 MW to 3.9 MW
- Annual cost savings of USD 4.7 million for the municipality



The reduction in energy consumption

EESL’s LED street lighting brought about a drastic improvement in lighting infrastructure of the state. Prior to the installation, GVMC was consuming 50% more energy in their street lighting system. This energy saved was instrumental in allowing the ULB to invest in other avenues for better performance.

A snapshot of cost & energy savings are mentioned below:

Before LED Installation				After LED Installation			
No.	Month	Units in Hundred Thousand (MW)	Amount in Hundred Thousand (USD)	Month	Units in Hundred Thousand ( MW)	Amount in Hundred Thousand (USD)	% Cost Savings
1	Jan-14	23.8	2.9	Jan-15	12.7	1.4	52.18
2	Feb-14	23.89	2.8	Feb-15	12.72	1.3	49
3	Mar-14	17.08	2.6	Mar-15	11.85	1.4	48.19
Total		64.78	8.4	--	37.27	4.2	50%

EESL/Res/LSQ/CEA/2021-22/04

11<sup>th</sup> March, 2022

To,  
Ms. Sneha (AD)  
O/o Chief Engineer (DP&T)  
Central Electricity Authority  
Ministry of Power  
Sewa Bhawan, R K Puram-I  
New Delhi-110066

**Subject: Lok Sabha Parliament Question Admit No 2720 for answer on 17-03-2022 regarding Achievements of EESL.**

Sir,

This refers to CEA's email dated 11<sup>th</sup> March, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) whether achievements have been made by Energy Efficiency Services Limited (EESL) in increasing energy efficiency of the country's economy during the last three years and the current year;
- (b) if so, the details thereof; and
- (c) if not, the reasons therefor?

**Answer (a) to (c):**

Yes, EESL's energy efficiency measures and clean energy programs have resulted in electricity savings of over 58 billion kWh per annum, CO<sub>2</sub> emission reduction of over 46 million tonnes per annum and monetary savings of around INR 26,000 Cr per annum which includes about INR 20,000 crore per annum under UJALA only. Program-wise achievements of EESL in last 3 financial years and current year is hereby attached at **Annexure 1**.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

# Achievement of EESL in the last 3 Financial years and current Financial year

Date: March 11, 2022

## 1. Unnat Jyoti by Affordable LEDs for ALL (UJALA):

Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 launched UJALA programme to provide LED bulbs to domestic consumers for replacement of incandescent bulbs with LED bulbs at an affordable price.

- In the last 3 Financial years (FY19, FY20, FY21), EESL has distributed about 7.4 crore LED bulbs across India. In the current financial year EESL has distributed 7.54 lakh LED bulbs.
- In total, 36.79 crore LED bulbs have been distributed by EESL. This has resulted in estimated energy savings of over 48 billion kWh per year with avoided peak demand of about 9,769 MW, GHG emission reduction of over 39 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR about 19,300 crores in electricity bills of consumers.
- It may be noted that the procurement price of LED bulb reduced from INR 310/bulb in 2014 to INR 38/bulb in 2017.
- In addition, EESL has distributed 72.17 Lakh LED tube lights and 23.59 Lakh Energy Efficient fans under UJALA program till date.

## 2. Gram UJALA:

Gram Ujala program was launched by the Hon'ble Minister of Power, New and Renewable Energy in Bihar at Arrah District on 19<sup>th</sup> March, 2021. The program is being implemented by CESL (A wholly owned subsidiary of EESL) wherein ICL bulbs are replaced by efficient LED bulbs that consumes 88% less electricity. The bulbs are being offered at Rs 10/bulb and rest of the cost is proposed to be recovered from **Carbon Financing**. Over 80.54 lakh LED bulbs have been distributed under Gram Ujala. This has resulted in estimated energy savings of 1.15 billion kWh per year with avoided peak demand of about 317 MW, GHG emission reduction of 1.06 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 400 crore in electricity bills of consumers. CESL distributed **1 million LED Bulbs in a single day** on National Energy Conservation Day, 14<sup>th</sup> December 2021.

## 3. Street Lighting National Programme (SLNP):

Hon'ble Prime Minister, launched SLNP programme on 5<sup>th</sup> January, 2015 to replace conventional street lights with smart and energy efficient LED street lights.

- In the last 3 Financial years (FY19, FY20, FY21), EESL has installed over 62.2 lakh LED street lights in Urban Local Bodies (ULBs) and Gram Panchayats across India. In the current financial year EESL has installed 7.94 lakh LED street lights.
- In total, EESL has installed about 1.23 crore LED street lights across India. This has resulted in estimated energy savings of 8.33 billion kWh per year with avoided peak demand of about 1,387 MW, GHG emission reduction of 5.73 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 5,828 crore in electricity bills of municipalities.

## 4. Smart Meter Programme:

EESL with its JV IntelliSmart is currently doing Implementation of Smart Metering Program to significantly improve the billing and collection efficiencies of Distribution Companies (DISCOMs). Smart Meters will be the foundation for smart grid programme which will be crucial to meet challenges of the newly evolving energy mix and the target of providing

## Achievement of EESL in the last 3 Financial years and current Financial year

uninterrupted 24x7 power supply to every Indian. EESL launched the smart meter program in 2017.

During the last 3 Financial Years EESL has installed 16.5 lakh smart meters. In the current Financial year EESL has installed 7.49 lakh smart meters. In total EESL has installed over 24.02 lakh smart meters in the states/UT of Haryana, Delhi, Uttar Pradesh, Bihar, Rajasthan and Andaman.

### 5. Electric Vehicles

During the last three financial years, 1,389 numbers of Electric cars have been deployed on road to 185 clients comprising various government departments, both at Central and State level, PSUs, shared mobility operator etc. pan India. In the current financial year, 311 numbers of Electric cars which have been deployed on road by CESL (wholly owned subsidiary of EESL).

CESL is one of the first organizations in India to deploy Public Electric Vehicle Charging Stations (PCS) on an impactful scale. CESL has installed 256 PCS in the last three years comprising Bharat Standard DC001 (15kW), High Capacity Fast DC Combo Chargers 142kW (CCS2.0+ CHAdeMO + AC Type II), Standalone CCS2 (50kW) and Bharat Standard AC001 (10kW). In current financial year, EESL/CESL has installed 150 number of Public Electric Vehicle Charging Stations (PCS).

### 6. Decentralized Solar Power Plant Programme:

**Project wise progress:** Progress of EESL/CESL's decentralised solar project is indicated below:

FY	Capacity Commissioned (MWp)	Plants Commissioned (Nos.)	Remarks
2018-19	13.97	16	Solar plant size ranging from 0.3 MW to 10 MW at a single location
2019-20	50.12	57	
2020-21	66.68	50	
2021-22	53	17	
Total	183.77 MWp	140 nos.	

### 7. Buildings Energy Efficiency Programme (BEEP):

- In the last 3 Financial years (FY19, FY20, FY21), EESL has completed retrofitting work in 7,739 buildings by replacing old appliances with Energy efficient appliances like LED bulbs/lights, Tube lights, Fans & Air Conditioners. In the current financial year, EESL has completed retrofitting work in 1,122 buildings.
- In total, EESL has completed retrofitting work in 11,706 buildings. Energy Audits shows energy saving potential to the tune of up to 30% in these buildings.

## **Achievement of EESL in the last 3 Financial years and current Financial year**

### **8. Agricultural Demand Side Management (AgDSM):**

- In the last 3 Financial years (FY19, FY20, FY21), about 58,000 nos. pumps has been installed. In the current financial year, total 2,459 nos. of pumps have been installed by EESL.
- In total, 79,845 nos. pumps have been installed in the states of Andhra Pradesh and Uttar Pradesh. This has resulted in estimated energy savings of 206 million kWh per year with avoided peak demand of about 38 MW, GHG emission reduction of 0.15 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 103 crore in electricity bills of consumers.

EESL/Res/LSQ/MoP/2021-22/02

11<sup>th</sup> March, 2022

To,  
Shri Govind Kumar,  
Under Secretary, EC Division,  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha Unstarred Question No. 2273 to be answered on 15.03.2022 regarding street lighting of villages.**

Sir,

This refers to EC Division, email dated 9<sup>th</sup> March, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) whether the Government has provided funds for streetlighting of villages, if so, the details of fund allocated during each of the last five years particularly in the State of Assam;
- (b) the number of villages of the State of Assam where streetlighting of villages have been completed and the number of villages yet to be completed, share district-wise list;
- (c) whether there is any time-frame for providing street lights in all the villages of the State, if so, the details thereof;
- (d) the amount of fund provided by 15th Finance Commission and utilized by panchayat during the said period;
- (e) whether there is any monitoring committee in the State of Assam to monitor the progress; and
- (f) whether the Members of Parliament (MPs) involved in the Monitoring committee since the fund is provided by the Government, if not, the time by which MPs are likely to be involved?

**Answer (a) to (f):** EESL has not installed street lights in villages of Assam and therefore information pertaining to EESL may be treated as 'NIL'.

**Additional Information:**

EESL is implementing Street Light National Program (SLNP) under which 1.23 Crore street lights have been installed across the country.

As on date, EESL has installed 28,695 nos. of LED street lights in municipalities and institutions of Assam.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

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EESL/Res/LSQ/MoP/2021-22/04

4<sup>th</sup> March, 2022

To,  
Shri Sanjay Kumar Jha,  
Section Officer, EC Division,  
Ministry of Power,  
Nirman Bhawan,  
New Delhi-110011

**Subject: Lok Sabha provisionally admitted Unstarred Question. Dy. No. 5680 regarding India Cooling Action Plan to be answered on 14.02.2022.**

Sir,

This has reference to letter No. 6/1/2022-EC dated 3<sup>rd</sup> March, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

(a) whether Government has made achievements in implementation of different thematic areas of "India Cooling Action Plan".

(b) If so, the details thereof and if not, the reasons therefor;

(c) whether the Government believes that developed countries are lagging behind in their participation on the problem of climate change at the international level and if so, the details thereof;

(d) whether the Government of India has been alerting the developed countries to live up to the various international environmental protection agreements that are participatory and if so, the details thereof and if not, the reasons therefor; and

(e) The details of contribution made by the Government during the last three years to the problem of environmental protection and climate change at the global level?

Answer (a) to (e): Information pertaining to EESL may be treated as 'NIL'.

Yours Sincerely,

  
(Arvind Singh Bhandari)  
Assistant Manager (Tech.)

EESL/Res/LSQ/CEA/2021-22/02

16<sup>th</sup> March, 2022

To,  
O/o Chief Engineer (DM)  
Central Electricity Authority  
Ministry of Power  
Sewa Bhawan, R K Puram-I  
New Delhi-110066

**Subject: लोकसभा अतारांकित प्रश्न डायरी संख्या-7171 दाखिल संख्या- , Schemes in Tribal Areas के संदर्भ में दिनांक 21-Mar-2022 के लिये।**

Sir,

This refers to CEA's email dated 15<sup>th</sup> March 2022 on the above subject. The para wise reply is as follows:

**Questions**

- (a) whether at present any particular scheme is being implemented/ proposed to be implemented in tribal areas and if so, the details thereof;
- (b) whether any particular scheme has been sanctioned by the Government for the Khargaon Badwani region and if so, the details thereof;
- (c) the details of latest schemes sanctioned for the 'Aspirational' districts;
- (d) the present status of various schemes being run in these 'Aspirational' districts which are quiet popular schemes in tribal areas and are proving beneficial for the tribal community; and
- (e) the details thereof?

**Answer (a) to (e):** Information pertaining to EESL may be treated as **NIL**.

However, it may be noted that Energy Efficiency Services Limited (EESL), a JV of CPSUs under Ministry of Power is implementing Unnat Jyoti by Affordable LEDs for ALL (UJALA) and Street Lighting National Programme (SLNP) across India. Details of the programs are as follows:

**1. Unnat Jyoti by Affordable LEDs for ALL (UJALA):**

Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 launched UJALA programme to provide LED bulbs to domestic consumers for replacement of incandescent bulbs with LED bulbs at an affordable price. As on date, 36.79 crore LED bulbs have been distributed by EESL. This has resulted in estimated energy savings of over 48 billion kWh per year with avoided peak demand of about 9,769 MW, GHG emission reduction of over 39 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR about 19,300 crores in electricity bills of consumers.

In addition, EESL has distributed 72.17 Lakh LED tube lights and 23.59 Lakh Energy Efficient fans under UJALA program till date.

## **2. Street Lighting National Programme (SLNP):**

Hon'ble Prime Minister, launched SLNP programme on 5<sup>th</sup> January, 2015 to replace conventional street lights with smart and energy efficient LED street lights. As on date, EESL has installed about 1.24 crore LED street lights across India.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/MoP/2021-22/01

28<sup>th</sup> March, 2022

To,  
Shri Govind Kumar  
Under Secretary, EC Division,  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha advance question Dy. No.14556 to be answered on 31.03.2022 regarding "Installation of LED lights in Rural Areas"- Request for furnishing inputs for framing replies -Reg.**

Sir,

This has reference to letter No. 7/17/2022-EC dated 24<sup>th</sup> March 2022 on the above subject. The para wise reply is as follows:

**Questions:**

**(a) the details of rural areas covered by LED lights during the last three years and the current year, State-wise;**

**Answer (a):** Ministry of Power (MoP)/ Ministry of New and Renewable Energy (MNRE) may please reply.

However, as far as EESL is concerned, it has implemented following schemes in rural areas in last 3 years.

**A. Street Light program in gram panchayats:**

Hon'ble Prime Minister, launched SLNP programme on 5<sup>th</sup> January, 2015 to replace conventional street lights with smart and energy efficient LED street lights. EESL under Street Light National Programme (SLNP) has replaced conventional street lights with LED street lights along with Centralized Control and Monitoring System(CCMS) in Gram Panchayats of Andhra Pradesh, Jharkhand & Telangana. As on date, EESL has installed, over 27.91 lakh LED street lights in Gram Panchayats of Andhra Pradesh, Jharkhand & Telangana.

The state wise details of rural areas covered by LED Lights under EESL SLNP program during the last three years and the current year is as below:

Sr. No.	State	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	Total (Nos.)
1	Andhra Pradesh (GP)	4,03,782	13,96,218	5,65,641	-	-	23,65,641
2	Telangana (GP)	-	34,323	-	1,747	-	36,070
3	Jharkhand (GP)	-	-	3,90,262	-	-	3,90,262
<b>Total</b>		<b>4,03,782</b>	<b>14,30,541</b>	<b>9,55,903</b>	<b>1,747</b>	<b>-</b>	<b>27,91,973</b>

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**B. Atal Jyoti Yojana (AJAY) scheme:**

Atal Jyoti Yojana (AJAY) scheme was launched in September 2016. In Phase-1 of the project over 1.3 lakh Solar LED street lights have been installed by EESL. Considering the success of AJAY Phase-I, the coverage of the scheme was extended to phase II. AJAY Phase-II scheme has discontinued since 1<sup>st</sup> April 2020.

Details of solar LED street lights installed by EESL under AJAY Phase I & II is mentioned below:

**AJAY Phase I (September 2016 – March 2018)**

S. No.	State	Nos of Solar LED street Lights installed by EESL
1	Bihar	29,923
2	Uttar Pradesh	79,543
3	Jharkhand	10,535
4	Odisha	8,733
5	Assam	6,659
<b>Total</b>		<b>1,35,393</b>

**AJAY Phase II (December 2018 – March 2020)**

S. No.	State	Nos of Solar LED street Lights installed by EESL
1	Andhra Pradesh	5,500
2	Assam	6,287
3	Bihar	22,128
4	Chhattisgarh	2,410
5	Gujarat	3,000
6	Himachal Pradesh	500
7	Jammu & Kashmir	5,750
8	Jharkhand	3,500
9	Karnataka	3,000
10	Lakshadweep	2,000
11	Madhya Pradesh	5,840
12	Manipur	1,080
13	Odisha	3,868
14	Punjab	750
15	Rajasthan	1,812
16	Tamil Nadu	1,648
17	Telangana	500
18	Tripura	3,490
19	Uttarakhand	36,365
20	Uttar Pradesh	8,443
21	West Bengal	9,168
<b>Total</b>		<b>1,27,039</b>

- (b) the quantum of funds sanctioned and spent during the said period, State-wise;**  
**(c) the subsidy given to States and other private companies to encourage them during the said period and**

**Answer (b) & (c):** MoP/MNRE may please reply.

EESL run the SLNP program with it's own Equity and Loan drawn from Domestic/Bilateral/Multi-lateral funding. No funds are sanctioned to EESL for SLNP.

As regard AJAY scheme, EESL has utilized the following amounts, state-wise, from MNRE & MPLAD fund, towards implementation of AJAY Phase I & II project.

**AJAY Phase I**

<b>S. No.</b>	<b>State Name</b>	<b>Fund Utilized (INR)</b>
1	Bihar	57,14,99,377
2	Uttar Pradesh	1,51,91,91,757
3	Jharkhand	20,12,07,965
4	Odisha	16,67,91,567
5	Assam	12,71,80,241
<b>Total</b>		<b>2,58,58,70,907</b>

**AJAY Phase II**

<b>S. No.</b>	<b>State</b>	<b>Fund Utilized (INR)</b>
1	Andhra Pradesh	9,01,28,500
2	Assam	10,30,25,069
3	Bihar	36,26,11,536
4	Chhattisgarh	3,94,92,670
5	Gujarat	4,91,61,000
6	Himachal Pradesh	81,93,500
7	Jammu & Kashmir	9,42,25,250
8	Jharkhand	5,73,54,500
9	Karnataka	4,91,61,000
10	Lakshadweep	3,27,74,000
11	Madhya Pradesh	9,57,00,080
12	Manipur	1,76,97,960
13	Odisha	6,33,84,916
14	Punjab	1,22,90,250
15	Rajasthan	2,96,93,244
16	Tamil Nadu	2,70,05,776
17	Telangana	81,93,500

S. No.	State	Fund Utilized (INR)
18	Tripura	5,71,90,630
19	Uttarakhand	13,83,55,441
20	Uttar Pradesh	59,59,13,255
21	West Bengal	15,02,36,016
<b>Total</b>		<b>2,08,17,88,093</b>

**(d) the time by which cent percent LED lights would be covered in all over the country in a time bound manner?**

**Answer (d):** MoP may please reply.

Additional Information:

As per vision document submitted by EESL to MoP, country wide there is requirement of 7 crore LED streetlights till 2030. However, it is pertinent to mention that street light requirement of country keeps on adding at rate of 3% to 5%, in view of development of new areas across the nation.

This issues with the approval of CEO, EESL.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/PQ/CEA/2021-22/01

21<sup>st</sup> March, 2022

To,  
Shri A K Rajput,  
Chief Engineer (R&D)  
Central Electricity Authority  
Ministry of Power  
Sewa Bhawan, R K Puram-I  
New Delhi-110066

**Subject: Mentioning of matters of Urgent Public Importance--Specials Mention raised by Dr. Fauzia Khan, Hon'ble MP on 14.03.2022.**

Sir,

This refers to CEA's email dated 17<sup>th</sup> March 2022 on the above subject. In this regard, a note from EESL on Specials Mention "*Need of Infrastructure for Developing Electric Vehicle (EV) Industry*" raised by Dr. Fauzia Khan, Hon'ble MP is enclosed at **Annexure 1**.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

### **Annexure 1 - Note from EESL**

One of the identified barrier for EVs is insufficient charging infrastructure to increase the uptake of electric vehicles in numerous states. In this regard, Ministry of Power has issued the revised and consolidated Guidelines & Standards for Charging Infrastructure for Electric Vehicles vide ref no. 12/2/2018-EV (Comp No. 244347) on 14<sup>th</sup> January, 2022 and has laid down a national priority for rollout of EV Public Charging Infrastructure in the following manner.

- **Phase I (1-3 Years):** All Mega Cities with population of 4 million plus as per census 2011, all existing expressways connected to these Mega Cities & important Highways connected with each of these Mega Cities may be taken up for coverage. List of these Mega Cities and existing connected expressways is mentioned below.

List of 4 million plus cities:

1. Mumbai
2. Delhi
3. Bangalore
4. Hyderabad
5. Ahmedabad
6. Chennai
7. Kolkata
8. Surat
9. Pune

List of corridors:

1. Mumbai – Pune Expressway
2. Ahmedabad – Vadodara Expressway
3. Delhi-Agra Yamuna Expressway
4. Delhi – Jaipur
5. Bengaluru – Mysore
6. Bengaluru – Chennai
7. Surat – Mumbai Expressway
8. Agra-Lucknow Expressway
9. Eastern Peripheral Expressway
10. Delhi-Agra NH2 Expressway
11. Hyderabad ORR Expressway
12. 5 connected highways to each megacity

- **Phase II (3-5 years):** Big cities like State Capitals, UT headquarters may also be covered for distributed and demonstrative effect. Further, important Highways connected with each of these Mega Cities may be taken for coverage.

Some of the key challenges for roll out for charging infrastructure were also addressed in the latest revised guidelines are as follows:

#### **a. Provision of land at promotional rates for EV Public Charging Stations (PCS):**

- It is recommended that, land available with the Government/Public entities shall be provided for installation of PCS to a Government/Public entity on a revenue sharing basis for installation of PCS at a fixed rate of Rs. 1 per kWh (used for charging) to be paid to the land owning agency from such PCS business payable on quarterly basis. A model revenue sharing agreement is also issued. Such revenue sharing agreement may be initially entered by parties for a period of 10 years. The revenue sharing model may also be adopted by the public land-owning agency for providing the land to a private entity for installation of PCS on bidding with floor price of Rs. 1 per kWh.

**b. Tariff for supply of electricity to EV Public Charging Stations:**

- The tariff for supply of electricity to PCS shall be a single part tariff and shall not exceed the “Average Cost of Supply” till 31st March, 2025. The same tariff shall be applicable for Battery Charging Station (BCS).
- The tariff applicable for domestic consumption shall be applicable for domestic charging.
- The separate metering arrangement shall be made for PCS so that consumption may be recorded and billed as per applicable tariff for EV charging stations.
- “DISCOMs may leverage on funding from the Revamped Distribution Sector Scheme (RDSS) under Part-A – Distribution Infrastructure for the general up stream network augmentation necessitated due to the upcoming charging infrastructure in various areas. The cost of such works carried out by DISCOMs with the financial assistance from Government of India under the Revamped Scheme shall not be charged from the consumers for PCS for EV

**Additional Information on role of EESL:**

Energy Efficiency Services Limited (EESL) a joint venture of PSUs under Ministry of Power, Government of India through its wholly owned subsidiary organisation Convergence Energy Services Limited (CESL) is implementing e-Mobility Programme with the objective to reduce dependence on oil imports and to provide an impetus for domestic electric vehicle manufacturers, charging infrastructure companies, fleet operators, service providers, etc. to gain efficiencies of scale and drive down costs, create local manufacturing facilities, grow technical competencies for the long-term growth of the electric vehicle (EV) industry in India and to enable Indian EV manufacturers to emerge as major global players.

Since the launch of the programme, total 1,699 numbers of Electric cars have been deployed on road to various clients mainly comprising government departments, both at the Central and State level, PSUs, shared mobility operator etc. pan India. EESL (CESL) is also developing Electric Vehicle Charging Infrastructure and has signed MoUs with multiple stakeholders across municipalities, DISCOMs for locational assessment study and setting up of charging infrastructures in their jurisdiction location. As on date EESL (CESL) has installed 406 nos. of EV chargers across India of which 198 nos. are operational and rest are in the process of pre-commissioning.

Below are the state wise chargers installed PAN India by EESL/CESL

State	City	EV Chargers Installed	EV Chargers Operational
Chhattisgarh	Raipur	4	4
Delhi	Delhi	151	80
Goa	Goa	3	3
Gujarat	Ahmedabad	12	8
Haryana	Panchkula	2	2
Karnataka	Bangalore	1	1
Kerala	Thiruvananthapuram and Other Cities	17	12
Maharashtra	Nagpur	73	22
Tamil Nadu	Chennai	52	25
Uttar Pradesh	Noida	69	25
Uttarakhand	Haridwar	1	1
West Bengal	Kolkata	21	15
<b>Total</b>		<b>406</b>	<b>198</b>

EESL/Res/LSQ/MNRE/2021-22/05

17<sup>th</sup> March, 2022

To,  
Shri Shiv Dayal,  
Assistant Section Officer  
Ministry of New and Renewable Energy,  
Nirman Bhawan, Delhi-110003

**Subject: Inputs for LOK SABHA admitted question 3491 for 24.03.2022 on Integration of AJAY with UJALA Programme.**

Sir,

This has reference to your email dated 17<sup>th</sup> March, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

a) whether there has been any proposal to integrate the Atal Jyoti Yojana (AJAY) to illuminate dark regions through establishment of solar streetlights with the Unnat Jyoti by Affordable LEDs for All (UJALA) programme

b) if so, the details thereof;

**Answer (a) & (b):** Ministry of New and Renewable Energy (MNRE) may please reply. As far as EESL is concerned, there is no such proposal as of now.

c) The reasons for shutting down Phase-II of AJAY

**Answer (c):** MNRE may please reply

d) whether the Government has carried out any assessment to measure the impact on the 'luminosity' of underserved regions being serviced under AJAY using night lights satellite Visible Infrared Imaging Radiometer Suite (VIIRS) data by NASA

e) if so, the details thereof and if not, the reasons therefor?

**Answer (d) & (e):** MNRE may please reply.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/MoP/2021-22/01

16<sup>th</sup> March, 2022

To,  
Shri Govind Kumar,  
Under Secretary, EC Division,  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Parliament Question (Lok Sabha) Dy. No. 10764 for 24.03.2022 regarding "National Innovation Conclave on Low Carbon Technologies".**

Sir,

This refers to EC Division, MoP's email dated 14<sup>th</sup> March, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

- a) whether the Government has recently organized a National Innovation Conclave on Low Carbon Technologies and if so, the details thereof;
- b) the aims and objectives of organising such a conclave;

**Answer (a) & (b):** Information pertaining to EESL may be treated as 'NIL'.

- c) the steps taken by the Government in the direction of energy conservation during the last three years;

**Answer (c):** Steps taken by EESL in the direction of energy conservation during the last three years is enclosed at **Annexure -1**.

- d) whether the Government proposes to provide training and mentoring support to the start-ups, working in the development of clean technology solutions in the country;
- e) if so, the details thereof and the steps taken /being taken by the Government in this regard; and

**Answer (d) & (e):** Information pertaining to EESL may be treated as 'NIL'.

- f) the other steps taken/being taken by the Government to identify innovative energy efficiency and low carbon technology emitting solutions to fill the gap between the existing technology in industrial and commercial sector in the country?

**Answer (f):** Ministry of Power may please reply.

However, Energy Efficiency Services Limited (EESL) along with United Nations Industrial Development Organization (UNIDO) is implementing a Global Environment Facilities (GEF) funded named –

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Promoting Market Transformation for Energy Efficiency in 12 SME Clusters (Jorhat (Tea), Howrah (Mixed), Batala, Jalandhar & Ludhiana (Forging & Foundry), Muzaffarnagar (Paper), Varansi (Textile), Vellore (Rice Mills), Ankleshwer (Chemical), Surat (Textile), Medak (Pharma), Sundargarh (Iron & Steel), Aurangabad (Mixed) and East & West Godavari (Ceramic)) in India. This project was initiated in year 2018 and aim to demonstrate new energy efficient technologies in these SME Clusters. Under this project, 35 technologies are targeted for demonstration which will lead to the annual energy saving of 9,56,184 Giga Joule (GJ) and GHG emission reduction of 80,600 tons of CO<sub>2</sub>eq. Till now, 34 technologies have been identified and 19 technologies have been successfully implemented in 30 MSME units of 7 clusters. This project is being overseen by Ministry of MSME.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

Energy Efficiency Services Limited (EESL), a JV of PSUs under MoP is implementing Energy Efficiency and Climate Change mitigation projects under National Mission for Enhanced Energy Efficiency (NMEEE). It has pioneered innovative business approaches to successfully roll-out large-scale programs that allow for incentive alignment across the value chain and rapidly drive transformative impact. Achievement of EESL in the last 3 Financial years and current Financial year are as follows:

**1. Unnat Jyoti by Affordable LEDs for ALL (UJALA):**

Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 launched UJALA programme to provide LED bulbs to domestic consumers for replacement of incandescent bulbs with LED bulbs at an affordable price.

- In the last 3 Financial years (FY19, FY20, FY21), EESL has distributed about 7.4 crore LED bulbs across India. In the current financial year EESL has distributed 7.54 lakh LED bulbs.
- In total, 36.79 crore LED bulbs have been distributed by EESL. This has resulted in estimated energy savings of over 48 billion kWh per year with avoided peak demand of about 9,769 MW, GHG emission reduction of over 39 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR about 19,300 crores in electricity bills of consumers.
- It may be noted that the procurement price of LED bulb reduced from INR 310/bulb in 2014 to INR 38/bulb in 2017.
- In addition, EESL has distributed 72.17 Lakh LED tube lights and 23.59 Lakh Energy Efficient fans under UJALA program till date.

**2. Gram UJALA:**

Gram Ujala program was launched by the Hon'ble Minister of Power, New and Renewable Energy in Bihar at Arrah District on 19<sup>th</sup> March, 2021. The program is being implemented by CESL (A wholly owned subsidiary of EESL) wherein ICL bulbs are replaced by efficient LED bulbs that consumes 88% less electricity. The bulbs are being offered at Rs 10/bulb and rest of the cost is proposed to be recovered from **Carbon Financing**. Over 80.54 lakh LED bulbs have been distributed under Gram Ujala. This has resulted in estimated energy savings of 1.15 billion kWh per year with avoided peak demand of about 317 MW, GHG emission reduction of 1.06 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 400 crore in electricity bills of consumers. CESL distributed **1 million LED Bulbs in a single day** on National Energy Conservation Day, 14<sup>th</sup> December 2021.

**3. Street Lighting National Programme (SLNP):**

- Hon'ble Prime Minister, launched SLNP programme on 5th January, 2015 to replace conventional street lights with smart and energy efficient LED street lights.
- In the last 3 Financial years (FY19, FY20, FY21), EESL has installed over 62.2 lakh LED street lights in Urban Local Bodies (ULBs) and Gram Panchayats across India. In the current financial year EESL has installed 7.94 lakh LED street lights.

- In total, EESL has installed about 1.23 crore LED street lights across India. This has resulted in estimated energy savings of 8.33 billion kWh per year with avoided peak demand of about 1,387 MW, GHG emission reduction of 5.73 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 5,828 crore in electricity bills of municipalities.

#### **4. Buildings Energy Efficiency Programme (BEEP):**

- In the last 3 Financial years (FY19, FY20, FY21), EESL has completed retrofitting work in 7,739 buildings by replacing old appliances with Energy efficient appliances like LED bulbs/lights, Tube lights, Fans & Air Conditioners. In the current financial year, EESL has completed retrofitting work in 1,122 buildings.
- In total, EESL has completed retrofitting work in 11,706 buildings. Energy Audits shows energy saving potential to the tune of up to 30% in these buildings.

#### **5. Agricultural Demand Side Management (AgDSM):**

- In the last 3 Financial years (FY19, FY20, FY21), about 58,000 nos. pumps has been installed. In the current financial year, total 2,459 nos. of pumps have been installed by EESL.
- In total, 79,845 nos. pumps have been installed in the states of Andhra Pradesh and Uttar Pradesh. This has resulted in estimated energy savings of 206 million kWh per year with avoided peak demand of about 38 MW, GHG emission reduction of 0.15 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 103 crore in electricity bills of consumers.

EESL/Res/LSQ/CEA/EV/2022-23/03

4<sup>th</sup> April, 2022

To,  
O/o Chief Engineer,  
R&D Division, Central Electricity Authority,  
Ministry of Power,  
Sewa Bhawan, R K Puram-I,  
New Delhi-110066

**Subject: PQ Lok Sabha (admitted) 5806 for 07-April-2022.**

Sir,

This refers to CEA's email dated 1<sup>st</sup> April 2022 on the above subject. The para wise reply is as follows.

**Questions:**

- (a) Whether it is a fact that India's electricity market has undergone significant restructuring and reforms during the last three decades;**
- (b) If so, the details therefore and if not, the reasons therefore;**
- (c) Whether the Government is aware of the fact that Electric Vehicles (EVs) are expected to account for thirty per cent of vehicle sales in the country by 2030; and**
- (d) If so, the details of the measures proposed to be taken by the Government keeping in mind that apart from environmental gains, this transition is likely to save crude oil imports also?**

**Answer (a) to (d):** Information pertaining to EESL may be treated as 'NIL'. However, Additional information pertaining to EESL's electric mobility program is as below:

Energy Efficiency Services Ltd. (EESL) through its 100% owned subsidiary Convergence Energy Service Ltd. (CESL) is implementing e-mobility programme. Since, the launch of the programme, 1705 numbers of Electric cars have been deployed on road to various clients mainly comprising Government departments, both at Central and State Level, PSUs, shared mobility operators etc pan India. Also, as on date 406 Nos of EV chargers have been installed across India of which 198 are operational and rest are in the pre-commissioning stage.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पाँचवा, छठा और सातवाँ तल,  
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EESL/Res/PQ/CEA/2021-22/03

17<sup>th</sup> March, 2022

To,  
Shri Ashok Kumar Rajput  
Chief Engineer (R&D)  
Central Electricity Authority  
Ministry of Power  
Sewa Bhawan, R K Puram-I  
New Delhi-110066

**Subject: Rajya Sabha Parliament Question No. 3528, 3525 regarding Technology acquisition and development fund for answer on 21.03.2022.**

Sir,

This refers to CEA's email dated 17<sup>th</sup> March, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

- whether Government has constituted any technology acquisition and development fund to provide clean, green and cost-effective energy technology;
- if so, the details thereof;
- whether small industries will be able to buy equipment, machine and technology aimed at reducing energy consumption and conservation-of water through this fund; and
- the details of amounts to be paid to small industries for the said purpose

**Answer (a) to (d):** Information pertaining to EESL may be treated as 'NIL'.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/RSQ/EC/2021-22/03

8<sup>th</sup> March, 2022

To,  
Shri Govind Kumar,  
Under Secretary, EC Division,  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Rajya Sabha Provisionally Admitted Starred /Un-starred Question Diary No. U1935 due for answer on 14.03.2022.**

Sir,

This has reference to EC-Division, MoP's email dated 7<sup>th</sup> March, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

**(a) whether it is true that 12 Micro, Small and Medium Enterprises (MSMEs) clusters have been identified where identified technologies will be demonstrated under the new collaboration between Energy Efficiency Services Limited (EESL) and the Ministry;**

**(b) if so, the details of the clusters identified and the technologies identified so far and the status of their demonstration?**

**Answer (a) & (b):** EESL and Ministry of MSME under the GEF-5 project "Promoting market Transformation for Energy Efficiency in MSME" has identified 12 MSME clusters for implementation of energy efficient technologies at MSME units. Details of the clusters, identified technologies and their implementation status is as below.

S. No.	Name of Cluster	List of identified Technologies	Demonstration Status
1	<b>Surat (Textile), Gujarat</b>	Screw Air Compressor with VFD and PM Motor	Completed
		PLC Based automation system for Jet Dyeing Machine	Completed
		Condensate recovery System	Completed
		Boiler automation	Completed
		Micro turbine	Completed
2	<b>Ankleshwar (Chemical), Gujarat</b>	IBR Boiler	Completed
		Scroll Chiller	Completed
		Vertical Agitator	Completed
		ANFD	Completed
		Fitch Fuel Catalyst	Ongoing
3	<b>Howrah (Mixed), West Bengal</b>	Metallic Recuperator	Completed
		Divided Blast Cupola	Ongoing
		Swirl Burner	Completed
		Reheating furnace automation	Completed

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पाँचवा, छठा और सातवाँ तल,  
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4	<b>Jorhat (Tea), Assam</b>	FRP Fan	<i>Ongoing</i>
		Modulating Burner	Completed
		Dryer Automation	Completed
		Withering Automation	Completed
5	<b>Batala, Jalandhar &amp; Ludhiana (Foundry &amp; Forging), Punjab</b>	Induction Billet Heater	Completed
		Servo Motor	<i>Ongoing</i>
		Special Purpose Machine	<i>Ongoing</i>
6	<b>Varanasi (Textile), Uttar Pradesh</b>	Combustion Control system	Completed
		Low Grade waste recovery system	<i>Ongoing</i>
		Automation of dyeing machine	<i>Ongoing</i>
7	<b>Muzaffarnagar (Paper), Uttar Pradesh</b>	Vacuum Pump	<i>Ongoing</i>
		Direct Coupled Agitator system	<i>Ongoing</i>
8	<b>Vellore (Rice), Tamil Nadu</b>	LSU Dryer	Completed
		IBR Boiler	<i>Ongoing</i>
9	<b>Medak (Pharma), Telangana</b>	Chiller condenser on-load automatic tube cleaning system	<i>Ongoing</i>
		Replacement of Steam Vacuum Pump with Electric Vacuum Pump	<i>Ongoing</i>
		Installation of Side Stream Filtration for Cooling Tower	<i>Ongoing</i>
		Installation of Mist Cooling Towers in place of Natural/Draft Cooling Tower	<i>Ongoing</i>
10	<b>Sundargarh (Iron &amp; Steel), Odisha</b>	Multi VFD	<i>Ongoing</i>
		Screw Compressor	<i>Ongoing</i>
11	<b>Aurangabad (Mixed) Maharashtra</b>	Cold Feed Extruder	<i>Ongoing</i>
		IGBT based welding machine	<i>Ongoing</i>
		Energy Efficient Tyre Retreading Line	<i>Ongoing</i>
		Multi Spindle Drilling Machine	<i>Ongoing</i>
12	<b>East and West Godavari (Ceramic), Andhra Pradesh</b>	Under Identification	<i>Ongoing</i>

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/RSQ/EC/2021-22/02

8<sup>th</sup> March, 2022

To,  
Shri Govind Kumar,  
Under Secretary, EC Division,  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Request for inputs- Rajya Sabha Starred/ Un-starred Question Dy. No. U2353-reg.**

Sir,

This has reference to EC-Division, MoP's email dated 8<sup>th</sup> March, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) whether Government has taken cognizance of the implications of the Intergovernmental Panel on Climate Change (IPCC) report for India;
- (b) whether Government has prepared any roadmap to fulfil India's ambitious promises made at UN Climate Conference in Glasgow;
- (c) if so, the details thereof;
- (d) whether Government plans to bring about a revised comprehensive policy or a law to tackle climate change;
- (e) if so, the details thereof; and
- (f) if not, plan of Government at the National and State level to tackle the adverse effects of climate change?

**Answer (b) to (f):** Information pertaining to EESL may be treated as 'NIL'. However, additional information pertaining to EESL is enclosed at **Annexure -1**.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

**Additional information:**

Energy Efficiency Services Limited (EESL), a JV of PSUs under MoP is implementing Energy Efficiency and Climate Change mitigation projects under National Mission for Enhanced Energy Efficiency (NMEEE). It has pioneered innovative business approaches to successfully roll-out large-scale programs that allow for incentive alignment across the value chain and rapidly drive transformative impact. The programmes of EESL has resulted in reduction of around 46 million tonnes of CO<sub>2</sub> emission per year. Details of major programme are as follows:

- i. UJALA Programme: over 39 million tCO<sub>2</sub> per year
- ii. Gram UJALA Programme: 1.04 million tCO<sub>2</sub> per year
- iii. Street Lighting National Programme: 5.73 million tCO<sub>2</sub> per year
- iv. Agriculture Demand Side management (AgDSM): 0.15 million tCO<sub>2</sub> per year
- v. Building Energy Efficiency Programme: 0.18 million tCO<sub>2</sub> per year

EESL/Res/RSQ/MoP/2021-22/01

8<sup>th</sup> March, 2022

To,  
Shri Govind Kumar,  
Under Secretary, EC Division,  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Rajya Sabha provisionally admitted Starred/Unstarred Question. Dy. No. S2324 regarding Efficient use of power in various sector on 15.02.2022.**

Sir,

This has reference to letter No. 7/9/2022-EC dated 3<sup>rd</sup> March, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) the efforts made by the Government to promote efficient use and conservation of power and other forms of energy in domestic agriculture and commercial sectors of the country; and
- (b) the steps taken to ensure the implementation of these efforts?

**Answer (a) & (b):** Ministry of Power may please reply.

However, Energy Efficiency Services Limited (EESL), a JV of CPSUs under MoP, is implementing programs to promote efficient use and conservation of energy in domestic agriculture and commercial sectors of the country. Details of the same is enclosed at **Annexure -1**.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

**A. Domestic Sector:**

**(1) Unnat Jyoti by Affordable LEDs for All (UJALA)**

Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 launched UJALA programme to provide LED bulbs to domestic consumers for replacement of incandescent bulbs with LED bulbs at an affordable price. EESL's Unnat Jyoti by Affordable LEDs for All (UJALA) is the world's largest lighting replacement programme. As on date, over 36.79 crore LED bulbs, 72.17 lakh LED Tube lights and 23.59 lakh Energy efficient fans distributed by EESL across India. This has resulted in estimated energy savings of 48.32 billion kWh per year with avoided peak demand of 9,769 MW and GHG emission reduction of 39.1 million t CO<sub>2</sub> per year. UJALA brought a market transformation in energy efficiency sector. The procurement price reduced by almost 90% between 2014 and 2017; from Rs. 310 to Rs. 38.

**(2) Gram UJALA:**

Gram Ujala program was launched by the Hon'ble Minister of Power, New and Renewable Energy in Bihar at Arrah District on 19<sup>th</sup> March, 2021. The program is being implemented by Convergence Energy Service Limited (CESL- wholly owned subsidiary of EESL) wherein ICL bulbs are replaced by efficient LED bulbs that consumes 88% less electricity. The bulbs are being offered at Rs 10/bulb and rest of the cost is proposed to be recovered from Carbon Financing. As on date, CESL has distributed over 79.26 lakh LED bulbs under this program. The program has resulted in estimated energy saving of 1.13 billion kWh of electricity per year, peak demand reduction of 312 MW and 1.04 million tonnes of CO<sub>2</sub> emission reduction per year. It may be noted that Carbon financing shall be used for funding of this program.

**(3) Super-Efficient Air Conditioning Programme:**

With the goal of integrating energy efficiency into India's cooling sector, EESL has initiated a first of its kind, Super-Efficient Air Conditioning programme. EESL offers Super-Efficient Air Conditioners by EESL which are 20% more efficient than BEE 5 star ACs at prices that are comparable to the most energy efficient ACs in the market. As on date, EESL has deployed 2,936 Super-Efficient Air Conditioners.

**B. Agriculture Sector:**

**(1) Agricultural Demand Side Management (AgDSM):**

EESL is implementing Agricultural Demand Side Management (AgDSM) Programme to distribute BEE 5-star energy efficient agricultural pumps to ensure a minimum of 30% reduction in energy consumption. As on date about 79,845 nos. pumps have been installed in the states of Andhra Pradesh and Uttar Pradesh. This has resulted in estimated energy savings of 206 million kWh per year.

## **C. Commercial Sector:**

### **(1) Buildings Energy Efficiency Programme (BEEP):**

EESL is implementing the Buildings Energy Efficiency Programme to retrofit old appliances with new energy efficient appliances and thus, convert conventional buildings into energy efficient complexes. Under this Program 11,581 Buildings including Railway stations, Airports & Banks have been retrofitted with energy efficient equipment like LED Lights, 5 Star rated Fans and super-efficient Air-condition. Energy Audits shows energy saving potential to the tune of up to 30-50% in these buildings. The major interventions in these buildings are in area of lighting and air-conditioning systems.

EESL/Res/RSQ/UMPP/EV/2021-22/01

9<sup>th</sup> March, 2022

To,  
Shri Abhishek Yadav  
Assistant Section Officer,  
UMPP/EV, Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Rajya Sabha Parliament Question Dy. No. U2299 for answer on 16.03.2022 regarding Charging Stations for Electric Vehicles.**

Sir,

This has reference to UMPP/EV division MoP's email dated 7<sup>th</sup> March 2022 on the above subject. The para wise reply is as follows.

**Questions:**

- whether the Government has chalked out any policy for setting up of electric charging stations in the country, if so, the details thereof;
- whether the number of charging stations are sufficient to meet the demand of the charging vehicles in every city; and
- the steps being taken to set up the charging stations according to the demand, and the estimated time that will be taken to achieve sufficiency of charging stations?

**Answer (a) to (c):** Ministry of Power may please reply.

However, Ministry of Power, Government of India has laid down a national priority for rollout of EV Public Charging Infrastructure in its latest revised and consolidated Guidelines & Standards for Charging Infrastructure for Electric Vehicles released vide ref no. 12/2/2018-EV (Comp No. 244347) dated 14<sup>th</sup> January, 2022 (Enclosed at **Annexure- 1**).

Energy Efficiency Services Limited (EESL) a JV of PSU under MoP, GoI through Convergence Energy Services Limited (CESL – 100% Owned subsidiary of EESL) is developing Electric Vehicle Charging Infrastructure. As on date EESL/CESL has installed 406 nos. of EV chargers across India of which 198 nos. are operational and rest are in the pre-commissioning stage. Below are the State/UT wise details of chargers installed by EESL/CESL across India:

State/UT	City	EV Chargers Installed	EV Chargers Operational
Delhi	Delhi	151	80
Maharashtra	Nagpur	73	22
Karnataka	Bangalore	1	1
Goa	Goa	3	3
Gujarat	Ahmedabad	12	8
Haryana	Panchkula	2	2
Chhattisgarh	Raipur	4	4

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**Website:** www.eeslindia.org

State/UT	City	EV Chargers Installed	EV Chargers Operational
Kerala	Thiruvananthapuram and Other Cities	17	12
Tamil Nadu	Chennai	52	25
Uttar Pradesh	Noida	69	25
Uttarakhand	Haridwar	1	1
West Bengal	Kolkata	21	15
<b>Total</b>		<b>406</b>	<b>198</b>

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)



No.12/2/2018-EV (Comp No. 244347)  
Government of India  
Ministry of Power

Shram Shakti Bhawan, Rafi Marg,  
New Delhi, the 14<sup>th</sup> January, 2022

To,

1. The Secretaries of all the Ministries/ Departments of Government of India
2. The Chief Secretaries of the States/UTs

**Subject: Charging Infrastructure for Electric Vehicles (EV) – the revised consolidated Guidelines & Standards-reg**

Sir/ Madam,

The "Charging Infrastructure for Electric Vehicles - Guidelines and Standards" were issued by the Ministry of Power on 14.12.2018 which were subsequently revised on 01.10.2019 and an Amendment thereof was issued on 08.06.2020. After careful consideration of progress made and suggestions received from various stakeholders, it has been decided to amend the guidelines to accelerate the E-Mobility transition in the country. In supersession of all previous guidelines in this regard, the revised consolidated guidelines are as follows:

**Objectives**

- a) To enable faster adoption of electric vehicles in India by ensuring safe, reliable, accessible and affordable Charging Infrastructure and eco-system.
- b) To provide for affordable tariff chargeable from Charging Station Operators/Owners and Electric Vehicle (EV) owners.
- c) To generate employment/income opportunities for small entrepreneurs.
- d) To proactively support creation of EV Charging Infrastructure.
- e) To encourage preparedness of Electrical Distribution System to adopt EV Charging Infrastructure.
- f) To promote energy security and reduction of emission intensity of the country by promotion of entire EV ecosystem

**Definitions:**

- i. **Electric Vehicle Supply Equipment (EVSE)** shall mean an element in Electric Vehicle Charging Infrastructure (EVCI) that supplies electrical energy for recharging the battery of electric vehicles.
- ii. **Public Charging Station (PCS)** shall mean an EV charging station where any electric vehicle can get its battery recharged.

- iii. **Battery Charging Station (BCS)** shall mean a station where the discharged or partially discharged electric batteries for electric vehicles are electrically recharged.
- iv. **Captive Charging Station (CCS)** shall mean an electric vehicle charging station exclusively for the electric vehicles owned or under the control of the owner of the charging station e.g., Government Departments, Corporate houses, Bus Depots, charging stations owned by the fleet owners etc. and shall not be used for commercial purpose of charging other vehicles on paid for basis.
- v. **Battery Swapping Station (BSS)** shall mean a station where any electric vehicle can get its discharged battery or partially charged battery replaced by a charged battery.

**Guidelines:**

- 1. Owners may charge their Electric Vehicles at their residence/offices using their existing electricity connections.
- 2. Any individual/entity is free to set up public charging stations provided that, such stations meet the technical, safety as well as performance standards and protocols laid down below as well as norms/ standards/ specifications laid down by Ministry of Power, Bureau of Energy Efficiency (BEE) and Central Electricity Authority (CEA) from time to time.
- 2.1 Public Charging Station (PCS), may apply for electricity connection and the Distribution Company licensee shall release connection for EV Public charging station (PCS) in accordance with the timelines stated in section 4 sub. (11) of the Electricity (Rights of Consumers) Rules 2020. Accordingly, timelines for providing the connectivity for the PCS are as under:
  - i. Post submission of application complete in all respect, the connection for a Public Charging Station shall be provided within time period not exceeding seven days in metro cities, fifteen days in other municipal areas and thirty days in rural areas, within which the distribution licensees shall provide new connection or modify an existing connection. Appropriate Commission may specify a time limit for providing such connection to a Public Charging Station which may be less than the aforementioned specified time limit.
  - ii. Provided that where such supply requires extension of distribution mains, or commissioning of new sub-stations, the distribution licensee shall supply the electricity to such premises immediately after such extension or commissioning or within such period as may be specified by the Appropriate Commission.
- 2.2 Any Public Charging Station/ Chain of Charging Stations may obtain electricity from any generation company through open access. Open Access shall be provided for this purpose within 15 days of receipt of the application complete in all respect. They will be required to pay the applicable surcharge – equal to the current level of cross subsidy (not more than 20 percent, as per the Tariff Policy Guidelines), transmission charges and wheeling charges. No other surcharge or charges shall be levied except mentioned in this provision.
- 3. **Public Charging Infrastructure (PCI)- Requirements:**
- 3.1 Every Public Charging Station (PCS) will comply with the following: -



- i. An exclusive transformer with all related substation equipment including safety appliance, if required by Supply Code as approved by Appropriate Electricity Regulatory Commission.
  - ii. Appropriate civil works
  - iii. Appropriate cabling & electrical works ensuring safety
  - iv. Adequate space for Charging and entry/exit of vehicles.
  - v. Appropriate Fire protection equipment and facilities.
  - vi. Public Charging Station shall have, any one or more chargers or any combination of chargers from the table given in ANNEXURE II & ANNEXURE III in one or more electric kiosk/boards.
  - vii. Charging Station for(two/three wheelers) e- vehicles shall be free to install any charger other than those specified above subject to compliance of technical & safety standards as laid down by CEA.
  - viii. Tie up with at least one online Network Service Providers (NSPs) to enable advance remote/online booking of charging slots by EV owners. Such online information to EV owners should also include information regarding location, types and numbers of chargers installed/available, service charges for EV charging, etc.
  - ix. Share charging station data with the appropriate State Nodal Agency (SNA) and adhere to protocols as prescribed by Central Nodal Agency (CNA) i.e., Bureau of Energy Efficiency (BEE) for this purpose. The CNA and SNA shall have access to this database.
  - x. Public Charging Stations for EVs shall comply with the provisions of Central Electricity Authority (Technical Standards for Connectivity of the Distributed Generation Resources) Amendment Regulations, 2019 and Central Electricity Authority (Measures relating to Safety and Electric Supply) (Amendment) Regulations, 2019.
- 3.2 Electric Vehicle Supply Equipment (EVSE) should have been type tested by an agency/lab accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL) from time to time.
- 3.3 The above minimum infrastructure requirements do not apply to Private Charging Points meant for self-use of individual EV owners (non-commercial basis).
- 3.4 Captive charging infrastructure for 100% internal use for a company's own/leased fleet for its own use will not be required to install chargers as per para 3.1 and to have Network Service Provider (NSP) tie ups.
- 3.5 Public Charging Station may also be installed by Housing societies, Malls, Office Complexes, Restaurants, Hotels, etc. with a provision to allow charging of visitor's vehicles which are permitted to come in its premises.
- 4. Public Charging Infrastructure (PCI) for long range EVs and/or heavy duty EVs:**
- 4.1 Fast Charging Stations (FCS) i.e. Public charging stations for long range EVs and/or heavy duty EVs (like trucks, buses etc) will have the following :
- i. At least two chargers of minimum 100 kW (200- 750 V or higher) each of different specification (CCS /CHAdeMO Chargers for above capacity or BIS

- Standards for eBus Charging Station (Level-4: 250 to 500 kW) as provided under ANNEXURE III (6)) with single connector gun each.
- ii. Appropriate Liquid Cooled Cables for high speed charging facility as above [4.1(i)], for onboard charging of Fluid Cooled Batteries (currently available in some long range EVs), if required.
- 4.2 Such Fast Charging Stations (FCS) which are meant for 100% in house/captive utilisation, for example buses of a company, would be free to decide the charging specifications as per requirement for its in- house company EVs.
- 5. Location of Public Charging Stations:**
- 5.1 In case of Public Charging Stations, the following requirements are laid down with regard to density/distance between two charging points:
- i. At least one Charging Station shall be available in a grid of 3 Km X 3 Km. Further, one Charging Station shall be set up at every 25 Km on both sides of highways/roads.
  - ii. For long range EVs and/or heavy duty EVs like buses/trucks etc., there shall be at least one Fast Charging Station with Charging Infrastructure Specifications as per para 4.1 above at every 100 Kms, one on each side of the highways/road located preferably within/alongside the Public Charging Stations as per ANNEXURE II or BIS Standards for Power Level 1 to 5 as per ANNEXURE III. Within cities, such charging facilities for heavy duty EVs may be located within Transport Nagars, bus depots.
- 5.2 Additional PCS/FCS can be installed even if there exists a PCS/FCS in the required grid or distance.
- 5.3 The above density/distance requirements shall be used by the concerned state/UT Governments/their Agencies for the twin purposes of arrangement of land in any manner for public charging stations as well as for priority in installation of distribution network including transformers/feeders etc. This shall be done in all cases including where no central/state subsidy is provided.
- 5.4 The appropriate Governments (Central/State/UTs) may also give priority to existing retail outlets (ROs) of Oil Marketing Companies (OMCs) for installation of Public EV Charging Stations (in compliance with safety norms) to meet the requirements as laid above. Further, within such ROs, Company Owned and Company Operated (COCO) ROs may be given higher preference.
- 6. Database of Public EV Charging Stations:**
- 6.1. Bureau of Energy Efficiency (BEE) shall create and maintain a national online database of all the Public Charging Stations in consultation with State Nodal Agencies (SNAs). Bureau of Energy Efficiency shall create a Web-Portal/Software/Mobile Application for the database of Public Charging Stations throughout the country. A common format for information in this regard shall be prepared by Bureau of Energy Efficiency (BEE) and State Nodal Agencies (SNAs) shall be directed to keep the details as per such format and update the same on the Web-Portal/Software/Mobile Application developed by BEE on weekly basis.

- 7. Tariff for supply of electricity to EV Public Charging Stations:**
- 7.1 The tariff for supply of electricity to Public EV Charging Stations shall be a single part tariff and shall not exceed the “Average Cost of Supply” till 31<sup>st</sup> March, 2025. The same tariff shall be applicable for Battery Charging Station (BCS).
- 7.2 The tariff applicable for domestic consumption shall be applicable for domestic charging.
- 7.3 The separate metering arrangement shall be made for PCS so that consumption may be recorded and billed as per applicable tariff for EV charging stations.
- 7.4 DISCOMs may leverage on funding from the Revamped Distribution Sector Scheme (RDSS) under ‘Part A – Distribution Infrastructure’ for the general upstream network augmentation necessitated due to the upcoming charging infrastructure in various areas. The cost of such works carried out by the DISCOMs with the financial assistance from Government of India under the Revamped Scheme shall not be charged from the consumers for Public Charging Stations for EVs.
- 8. Service charges at PCS:**
- 8.1 Charging of EVs is a service as already clarified by Ministry of Power vide letter No. 23/08/2018-R&R dated 13.04.2018.
- 8.2 As electricity is being provided at concessional rates and also considering the fact that subsidy is being provided by the Central/State Governments in many cases for setting up Public Charging Stations, the State Government shall fix the ceiling of Service Charges to be charged by such PCS/FCS.
- 9. Provision of land at promotional rates for Public Charging Stations (PCS):**
- 9.1 In initial years the penetration of Electric Vehicles on road is increasing gradually. Consequently, the utilization rate for the Public Charging Stations is very low. High cost of rent for land and chargers coupled with no definite visibility of revenues makes the overall investment proposition for setting up a public Charging Station challenging in present scenario.
- 9.2 Accordingly, it is provided that the land available with the Government/Public entities shall be provided for installation of Public Charging Stations to a Government/Public entity on a revenue sharing basis for installation of Public Charging Station at a fixed rate of ₹1/kWh (used for charging) to be paid to the Land-Ownning Agency from such PCS business payable on quarterly basis. A model revenue sharing agreement is placed at **Annexure –IV**. Such revenue sharing agreement may be initially entered by parties for a period of 10 years. The Revenue Sharing Model may also be adopted by the public Land-owning agency for providing the land to a private entity for installation of Public Charging Stations on bidding basis with floor price of ₹1/kWh.
- 9.3 Furthermore, based on available charging technologies and their evolution, type of vehicles, the types of chargers, indicating number of charging points required for setting up adequate PCS within the local urban areas including the building premises of all building types and with the long term vision of implementing 'electric mobility' during the next 30 years, amendments have been made in the relevant sections (Chapter 10) of the Model Building Bye-laws, 2016 and the Urban and Regional Development Plans Formulation and Implementation Guidelines (URDPFI – 2014)



by the Ministry of Housing and Urban Affairs (MoHUA). A copy of these amendments is enclosed at ANNEXURE V. These may be implemented fully to provide adequate space for setting up charging stations.

**10. Priority for Rollout of EV Public Charging Infrastructure:**

After extensive consultations with State Governments and different Department/Agencies of Central Government, phasing as follows are laid down as national priority for rollout of EV Public Charging Infrastructure:

**10.1 Phase I (1-3 Years):**

All Mega Cities with population of 4 million plus as per census 2011, all existing expressways connected to these Mega Cities & important Highways connected with each of these Mega Cities may be taken up for coverage. A list of these Mega Cities and existing connected expressways is attached at ANNEXURE I.

**10.2 Phase II (3-5 Years):**

Big cities like State Capitals, UT headquarters may also be covered for distributed and demonstrative effect. Further, important Highways connected with each of these Mega Cities may be taken up for coverage.

10.3 The above priorities for phasing of rollout may be kept in mind by all concerned, including, different agencies of Central/State Governments while framing of further policies/guidelines for Public Charging Infrastructure of EVs, including for declaring further incentives/subsidies for such infrastructure and for such other purposes.

**11. Implementation Mechanism for Rollout:**

11.1 Bureau of Energy Efficiency (BEE) shall be the Central Nodal Agency for rollout of EV Public Charging Infrastructure. All relevant agencies including Central Electricity Authority (CEA) shall provide necessary support to Central Nodal Agency.

11.2 Every State Government shall nominate a Nodal Agency for that State for setting up charging infrastructure. The State DISCOM shall generally be the Nodal Agency for such purposes. However, State Government shall be free to select a Central/State Public Sector Undertaking (PSU) including Urban Local Bodies (ULBs), Urban/Area Development Authorities etc. as its Nodal Agency.

**12. Selection of Implementation Agency for Rollout:**

12.1 The Central Nodal Agency shall finalize the cities and expressways/highways to be finally taken up from the priority as given at para 10 above, in consultation with the respective State Governments.

12.2 An Implementation Agency may be selected by the respective State Nodal Agency and shall be entrusted with responsibility of installation, operation and maintenance of PCS/FCS for designated period as per parameters laid down in this policy and as entrusted by the concerned Nodal Agency. The Implementation Agency maybe an Aggregator as mutually decided between Central and State Nodal Agencies. However, they may also decide to choose different PCS providers for bundled packages or for individual locations as mutually decided. Further, whenever bundled packages are carved for bidding, such packages may include at least one



identified expressway/highway or part thereof to prepare a cohesive regional package; the selected identified cities may be divided into one or more parts as necessary for such purposes.

13. These Guidelines and Standards shall supersede the Revised “Charging Infrastructure for Electric Vehicles – Guidelines and Standards” issued by Ministry of Power on 1st October, 2019 and subsequent amendments dated 08.06.2020.

This issues with the approval of Hon’ble Minister of Power, New & Renewable Energy.



**(S. Majumdar)**

**Under Secretary to the Govt. of India**

**Tel: 23356938**

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**Copy to:**

1. Prime Minister’s Office/Cabinet Secretariat
2. CEO, NITI Aayog
3. The Secretaries of the CERC/State Commissions/JERCs
4. Chairperson, CEA
5. DG, BEE



**(S. Majumdar)**

**Under Secretary to the Govt. of India**

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## Annexure I

### I. List of 4 million plus cities (as per census 2011)

1	Mumbai
2	Delhi
3	Bangalore
4	Hyderabad
5	Ahmedabad
6	Chennai
7	Kolkata
8	Surat
9	Pune

### II. List of corridors

1	Mumbai-Pune Expressway
2	Ahmedabad-Vadodara Expressway
3	Delhi-Agra Yamuna Expressway
4	Delhi-Jaipur
5	Bengaluru-Mysore
6	Bengaluru-Chennai
7	Surat-Mumbai Expressway
8	Agra - Lucknow Expressway
9	Eastern Peripheral Expressway
10	Delhi-Agra NH2 Expressway
11	Hyderabad ORR expressway
12	5 connected highways to each megacity

\*\*\*\*\*

**ANNEXURE II****Electric Vehicle Chargers as provided under Para 3.1 (vi) of the Guidelines**

<b>Charger Type</b>	<b>S. No.</b>	<b>Charger Connectors*</b>	<b>Rated Output Voltage(V)</b>	<b>No. of No. of Connector guns (CG)</b>	<b>Charging vehicle type(W=wheeler)</b>
<b>Fast</b>	1	Combined Charging System(CCS) (min 50 kW)	200-750or higher	1 CG	4W
	2	CHArgedeMOve (CHAdemo) (min 50 kW)	200-500or higher	1 CG	4W
	3	Type-2 AC (min 22 kW)	380- 415	1 CG	4W, 3W, 2W
<b>Slow/ Moderate</b>	4	Bharat DC-001 (15 kW)	48	1 CG	4W, 3W, 2W
	5.	Bharat DC-001 (15 kW)	72 or higher	1 CG	4W
	6.	Bharat AC-001 (10 kW)	230	3 CG of 3.3 kW each	4W, 3W, 2W

**\*\*\*\*\***

**Indian Standards EV Charging notified by BIS of 01.11.2021****1. Light EV AC Charge Point**

Power Level 1	Charging Device	EV-EVSE Communication	Charge Point Plug/ Socket	Vehicle Inlet/ Connector
Up to 7 kW	IS-17017-22-1	Bluetooth Low Energy	IS-60309	As per EV manufacturer

**2. Light EV DC Charge Point**

Power Level 1	Charging Device	EV-EVSE Communication	Charge Point Plug/ Socket	Vehicle Inlet/ Connector
Up to 7 kW	IS-17017-25 [CAN]		Combined Socket under development	IS-17017-2-6

**3. Parkbay AC Charge Point**

Power Level-2	Device/ Protocol	EV-EVSE Communications	Infrastructure Socket	Vehicle Connector
Normal Power ~11kW/ 22 kW	IS-17017-1	IS-15118 [PLC] for Smart Charging	IS-17017-2-2	IS-17017-2-2

**4. Parkbay DC Charge Point**

Power Level-2	Device/ Protocol	EV-EVSE Communications	Infrastructure Socket	Vehicle Connector
Normal Power ~11kW/ 22 kW	IS-17017-23	IS-17017-24 [CAN] IS-15118 [PLC]	IS-17017-22-2	IS-17017-2-3

**5. DC Charging Protocol**

Power Level 3	Charging Device	EV-EVSE Communication	Connector
DC 50 kW to 250 kW	IS-17017-23	IS-17017-24 [CAN] IS-15118 [PLC]	IS-17017-2-3

**6. eBus Charging Station (Level-4: 250 to 500 kW)**

Power Level 4	Charging Device	EV-EVSE Communication	Connector
DC High Power (250 kW --> 500 kW)			
Dual Gun Charging Station	IS-17017-23-2	IS-15118 [PLC]	IS-17017-2-3
Automated Pantograph Charging Station	IS-17017-3-1		IS-17017-3-2

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**Annexure IV**

**Model Revenue Sharing Agreement between Land-Ownning Agency (LOA) and  
Charge Point Operator (CPO) for deployment of Public EV Charging Stations**

This agreement is entered into this ..... day of ..... <YYYY> at ....., India.

**BETWEEN**

**M/s. <Insert Name of Land Owning Agency>** which expression shall unless repugnant to the context or meaning thereof, include successors and assigns of the **FIRST PART**.

**AND**

**M/s. <Name of CPO>** a Company registered under the 1956 Act, having its registered Office at <CPO registered address> (hereinafter referred to as “<CPO>” which expression shall mean and include its successor(s), administrator(s) and assigns) of the **SECOND PART**.

<LAND OWNING AGENCY> and <CPO> are hereinafter individually referred to as the “**Party**” and collectively as the “**Parties**”.

**WHEREAS:**

- A. <Details of <LAND OWNING AGENCY> (Name & Address)>.
- B. <Details of CPO (Name & Address)>.
- C. <CPO> intends to establish, setup and operate Charging Point(s) (*defined herein below*) for charging of electric vehicles at identified sites operated by <<LAND OWNING AGENCY> Name> and <LAND OWNING AGENCY> intends to grant permission to <CPO NAME> to set up Public EV Charging Stations at selected sites in ..... (hereinafter referred as “**Public Charging Station Locations/ SOL**”) and manage the same at <LAND OWNING AGENCY> sites on mutually agreed terms and conditions outlined in this Agreement.
- D. In consideration of the above, this Agreement sets out the intent of the Parties in relation to the said proposal.

**NOW THEREFORE**, in consideration of the mutual covenants, terms, conditions and understandings set forth in this Agreement, the Parties hereby agree as follows:

## 1. Definitions

The following capitalized terms wherever used in this AGREEMENT shall have the meanings given hereunder:

“**Public EV Charging Stations(s)**” means a device or station that supplies power to charge the batteries of an electric vehicle;

“**CPO**” mean Charger Point Operator.

“**AC**” shall mean Alternating Current Charging;

“**DC**” shall mean Direct Current Charging;

“**GST**” shall mean Goods and Services Tax;

“**Installation Work**” means the construction and installation of the Public Charging stations and upstream supply, (if required) System and the operation and maintenance thereof, all performed by or for <CPO NAME> at the identified site.

“**KW**” shall mean rating of public EV Charger;

“**Operating Cost**” shall include direct electricity energy charge payment through payment gateway service provider appointed by <CPO NAME>, salary of supervisor or equivalent level person designated for managing the backend system, salary for semi-skilled/ skilled workers appointed by <CPO NAME> for maintenance of chargers, annual maintenance cost of chargers, telecommunication cost, IT System cost and customer support;

“**Projects/ Charging Locations**” shall have a meaning ascribed in above Recital C hereof;

“**SOL**” means sites owned and/or operated by <LAND OWNING AGENCY>.

“**Term**” shall mean 10 years with Annual Maintenance Cost (AMC) starting from the earlier of: (a) six months from the Effective Date, or (b) the date of installation of the last Charging Point at the identified SOL in terms of this Agreement.

Effective Date: DD/MM/YYYY

“**System**” includes the Charging Points, assemblies, converters, switches, wiring devices and wiring, and all other material/civil works comprising the Installation Work.

## 2. Proposal

- a. M/s CPO Name has proposed to establish and operate up to ..... no. of Public Electric vehicle Charging Point(s) at SOL owned and/or operated by Land owning agency. For Setting up of such Public EV charging stations by M/s CPO, Land owning agency would provide the required space of about ..... Sq. Ft within the premises of the identified locations subject to feasibility in order to develop the required infrastructure for charging of electric vehicles.

- b. The Parties are keen to develop partnership for the Projects/ Public EV Charging Locations at <Location Address> and may discuss further expansion at other locations, at the sole discretion of M/s <CPO Name>.
- c. The Parties shall jointly select the identified locations based on availability of space and feasibility of operation of the Public Charging Stations without affecting regular operation of the identified locations.
- d. M/s <CPO NAME> agrees to establish, setup and operate ..... nos. of charging points at each public charging station. The Charging Station shall have chargers in accordance with Guidelines notified by the Ministry of Power. The charging infrastructure so installed shall comply with the government/ministry of power guidelines and regulations for performance, safety & quality from time to time.
- e. M/s <CPO NAME> agrees to invest in setting up and operating the public charging stations including separate power connection, transformer and meter, if required, at its own cost, and shall upgrade and refurbish the Public Charging Stations, in line with the technology advancements and business needs, from time to time. The cost of electricity including surcharge, duty, contingency for power purchase adjustment charges, etc. and all operating and maintenance expenses related to Charging Points shall be borne by M/s <CPO NAME>.
- f. The Parties agree that the Public Charging Stations may be operated through a cloud-based solution technology developed and owned by M/s <CPO NAME> and manpower deployed at the identified locations by M/s <CPO name>
- g. The Parties agree that all applicable statutory approvals/ permissions from the respective authorities for the Public Charging Stations shall be procured and obtained by M/s <CPO NAME>. <LAND OWNING AGENCY> shall provide all assistance to M/s <CPO NAME> to enable M/s <CPO NAME> to obtain the consents, clearances and permits, and the governmental approvals in a timely manner in connection with the Project. Further, <Land owning agency> agrees to assist in obtaining separate power connection or enhancing the power supply at each location, if required by M/s <CPO NAME> in connection with the Project.
- h. M/s <CPO NAME> shall arrange deployment of qualified and suitable manpower and required necessary tools, logistics, spares & consumables during installation, commissioning and O&M of Public EV charging stations at SOL. <LAND OWNING AGENCY> hereby grants to M/s <CPO NAME> a right, co-terminus with the term to ingress and egress the location and access to electrical panels and conduits to interconnect or disconnect the System with the SOL electrical wiring.
- i. Safety is of paramount importance and M/s <CPO NAME> shall take all safety precautions in connection with the setting up and operation of the Public Charging Stations to ensure safety to the user. <LAND OWNING AGENCY> agrees to ensure to provide safe and secure environment to install and operate the System. In the event of any damage to the land-owning agency facilities, property due to any fault in the M/s <CPO NAME>'s equipment, M/s <CPO NAME> will be liable to make good the losses to SOL for the same. <LAND OWNING AGENCY> shall be responsible for the loss incurred by M/s <CPO NAME> limited to Public Charging Stations and established infrastructure due to gross negligence or willful default on the part of <LAND OWNING AGENCY> or their agents/ employees.

- j. <LAND OWNING AGENCY> agrees and confirms that the Public Charging Locations (including the unfettered access to the identified space for the respective <LAND OWNING AGENCY>) shall be free from encumbrances or hindrances, and if during the installation and operation period, the same is identified by M/s <CPO NAME>, then <LAND OWNING AGENCY> shall remove the encumbrance or hindrance or provide suitable space for the System within the same location at the cost and expense of <LAND OWNING AGENCY> with immediate effect.
- k. The Parties agree to jointly undertake the planning, design, setting-up and implementing the Projects/ Public Charging Stations at the respective <LAND OWNING AGENCY>. The Parties, *inter-alia*, agree to ensure; (a) Planning and designing the charging infrastructure in relation to the Projects; (b) Investment in the Projects by M/s <CPO NAME>; (c) Operating and maintaining the Projects by <CPO Name>; and (d) Managing the Projects using cloud-based solution system software.
- l. <LAND OWNING AGENCY> shall not directly or indirectly cause, create, incur, assume, or suffer to exist any lien on or with respect to the System or any interest therein. The Project and the System shall remain the property of M/s <CPO NAME> and shall not attach to or be deemed a part of, or fixture to the <LAND OWNING AGENCY>. Neither <LAND OWNING AGENCY> nor its lessees or tenants or any other Person shall have any right, benefit, or interest in the Project.
- m. <LAND OWNING AGENCY> shall provide sufficient space at the provided location for the temporary storage and staging of tools, materials, equipment and facilities reasonably necessary during the Installation Work, or Project removal, and access for rigging and material handling.
- n. Wherever separate power connection to Public EV Charging Stations is not mandated/ not provided, <LAND OWNING AGENCY> shall provide required power to M/s <CPO NAME> for the maintenance and operation of its System at the rate <LAND OWNING AGENCY> is paying to the distribution utility at the relevant SOL and M/s <CPO NAME> shall reimburse the same to <LAND OWNING AGENCY> on actuals. In case, requires additional transformer or any expenses for providing the power, the same shall be incurred by M/s <CPO NAME>. In the event of the Govt. announcing a policy for subsidized power charges for EV charging stations, then M/s <CPO NAME> shall make necessary arrangements including separate meter and approvals as required at their own cost to avail the lower tariff.
- o. Any other activities considered necessary for setting up Public Charging Stations for electric vehicles at provided locations or other suitable locations on mutually agreed covenants/commercial arrangements, which are not specifically set out herein, but which may be identified at a later date, shall be included by mutual discussion and consent of Parties.
- p. The number of identified locations considered for Public EV Charging Stations would not be a binding number and could be amended seeing the potential, increase in business volume, less vehicle turnaround etc., if any.
- q. The number of Public EV Charging Stations in a cluster would be tentative and could increase / decrease subject to joint agreement between <LAND OWNING AGENCY> and M/s. <CPO NAME>. The addition or deletion of EV Charging Stations could be subsequently conveyed to each other in writing.

- r. Branding: <LAND OWNING AGENCY> and M/s. <CPO NAME> shall do joint branding of the venture so as to create positive long-term association, market penetration, to create synergies based on unique strengths of each parties/brand, gain market share and increase revenue and also to boost the reputation of the parties in this project.

**3. Payment of License Fee, Revenue Share and Billing Cycle raising of invoices, release of payments, security deposit etc.**

- (a) M/s. <CPO NAME> to pay <LAND OWNING AGENCY> Rs. xxx/kWh which shall be ₹ 1.0 / kWh in case of such CPO being a Government/Public Entity or at discovered price through bidding with floor price of ₹ 1 / kWh in case CPO being a private entity of billed units(kWh) from charging business starting from 1<sup>st</sup> year, of billed units from charging business to <LAND OWNING AGENCY> within .... days after end of Quarter.
- (b) For the purpose of revenue sharing, M/s <CPO NAME> shall furnish the complete details of accounting of the billed units to <LAND OWNING AGENCY> for transparency and shall be governed by confidentiality under this Agreement.

M/s <CPO NAME> shall promptly pay the bill on monthly basis within 10 days of demand for electrical energy consumed for charging electric vehicles at the said locations as per actual minimum charges /as per actual. The charges should be paid to the <LAND OWNING AGENCY> till such time a separate meter is obtained in the name of <CPO NAME>. After obtaining a separate meter in the name of <CPO NAME>, the electricity charges shall be directly paid by <CPO NAME> based on the electrical energy consumed for charging EVs at each SOL. Dispute resolution mechanism of electricity bills, if any, to be taken up with relevant Discom with support from land owning agency.

**4. Payment of Taxes**

M/s <CPO NAME> shall pay all the statutory levies and taxes imposed by the Government or any other authorities present or future on the operation of EV charging stations. Further, M/s <CPO NAME> shall also pay to <LAND OWNING AGENCY> increase in the taxes and/or any levies on the land area used specifically for Public EV charging station, by any local authority including Municipal corporation/municipality/gram panchayat or any other statutory authority or by the government except property tax. <LAND OWNING AGENCY> shall pay property tax.

**5. Insurance**

M/s <CPO NAME> shall at all times and from time to time at its own cost and expense take out adequate and proper insurance during the continuance of this agreement from a well reputed insurance company against all risks including third party risk to persons and properties, fire and explosion risk and riot risks etc. covering operation of the Public Charging stations installed at SOL.

**6. Standard Indemnification**

Each party (indemnifying party) agrees to indemnify, defend and hold the other party (indemnified party) harmless from and against:

- a. Any third party claim (including intellectual property infringement claim), liability, obligation, loss, damage, deficiency, assessment, judgement, cost or expense (including, without limitation to costs and expenses incurred in preparing and defending against or prosecuting any third party litigation, claim, action, suit proceeding or demand) of any kind or character, arising out of or in any manner solely attributable to any failure of the indemnifying Party to perform its obligations described hereunder, gross negligence or wilful misconduct in the fulfilment of its obligations hereunder or for infringing the intellectual property rights of any third party.
- b. Any claim, liability, obligation, loss, damage, deficiency, assessment, judgement, cost or expense (including, without limitation to costs and expenses incurred in preparing and defending against or prosecuting any third party litigation, claim, action, suit proceeding or demand) of any kind or character arising from claims or sanctions or penalties imposed by any regulatory authority for failure by a Party or any of its respective officers, directors, employees, servants, sub-contractors or agents to comply with any applicable laws, rules and regulations.
- c. Any claim, liability, obligation, loss, damage, deficiency, assessment, judgement, cost or expense (including, without limitation to costs and expenses incurred in preparing and defending against or prosecuting any third party litigation, claim, action, suit proceeding or demand) of any kind or character with respect to any damage to or loss of property of a third party arising out of acts or omissions by a Party or any of its respective officers, directors, employees, servants, sub-contractors, or agents in the performance of its obligations under this agreement.

## **7. Term & Termination**

7.1 This Agreement shall come into force from the Effective Date of this agreement and remain in force during the 'Term' as defined under Definitions above. The agreement shall be further extended for a period as decided and agreed mutually in writing by the Parties. The Agreement may be terminated / exited by the Parties prior to the scheduled validity period due to any one of the following reasons:

- a. Any misrepresentation, breach or violation of the terms of this Agreement by either of the Parties;
- b. If <LAND OWNING AGENCY> fails to provide the Charging Locations for locating the Charging Points at the identified SOL or M/s <CPO NAME> failing to install the charging Points at the identified SOL within a reasonable time as agreed mutually; and
- c. With mutual consent of both the parties without assigning any reason.

7.2 Upon such early termination, M/s <CPO NAME> shall have the right to dismantle all the System, equipment and Charging Points and take control in its custody, the Charging Points, System and equipment. <LAND OWNING AGENCY> shall have no right to claim and recover any of the Charging Points and the System from any

Charging Locations at the identified locations and the equipment/ infrastructure establishment by M/s <CPO NAME>.

## **8. Representations and Warranties**

**Each Party represents and warrants to the other Parties that:**

- (a) it has power to execute, deliver and perform its obligations under the Agreement and all necessary corporate and other actions have been taken to authorise such execution, delivery and performance;
- (b) it has all requisite power and authority, and does not require the consent of any third party to enter into this AGREEMENT and grant the rights provided herein;
- (c) it is in compliance with all applicable laws and regulations, as may be applicable to it.
- (d) the execution, delivery and performance of its obligations under the Agreement does not and will not: (i) contravene any applicable law, or any judgment or decree of any court having jurisdiction over it; or (ii) conflict with or result in any breach or default under any agreement, instrument, regulation, license or authorisation binding upon it or any of its assets.
- (e) violate the memorandum and articles of association, by-laws or other applicable organisational documents thereof; and
- (f) there is no litigation pending or, to the best of such Party's knowledge, threatened to which it is a party that presently affects or which would have a material adverse effect on the financial condition or prospects or business of such Party in the fulfilment of its obligations under this AGREEMENT.

## **9. Confidentiality**

9.1. During the subsistence of this Agreement and after termination or expiration of this Agreement for any reason whatsoever, the Party receiving any information and/or document which are marked as Confidential (hereinafter referred to as the "Confidential Information") shall:

- a. Keep the confidential Information confidential;
- b. Do not disclose the Confidential Information to any other person without the prior written consent of the Party disclosing such information (hereinafter referred to as the "**Disclosing Party**") except to its employees, agents, shareholders, investors, partners and advisors on a strictly need-to-know basis, and upon such person executing a non-disclosure undertaking in respect of the Confidential Information in a format reasonably satisfactory to the Disclosing Party;

- c. Do not use the Confidential Information for any purpose other than the performance of its obligations under this Agreement; Without the prior written consent of the Disclosing Party, not to make a public announcement or any other disclosure of the Confidential Information except as required by any legal stipulation applicable to it. In case of such disclosure required by legal stipulation, a Party which is required to make such disclosure shall, as soon as practicable after it is made aware of the requirement to make such disclosure, inform the Disclosing Party of the need to disclose such Confidential Information, the content thereof and the legal stipulation which requires disclosure of such Confidential Information.

9.2. The obligations contained in the relevant clauses above shall not apply to any Confidential Information which:

- a. is at the date of this Agreement or at any time after the date of this Agreement comes into the public domain other than through breach of this Agreement by such Party; can be shown by the Party receiving the information to the reasonable satisfaction of the Disclosing Party that the same was known to such Party prior to the disclosure;
- b. subsequently comes lawfully into the possession of the Party receiving such information from a person other than the Disclosing Party; or
- c. such information which any Party is required to disclose by law, by a court of competent jurisdiction or by another appropriate regulatory body, provided that the Party required to disclose shall use reasonable endeavors to consult with the Disclosing Party and take into consideration is reasonable requests in relation to such disclosure.

## 10. Notice

**All communication, demand and notices required to be sent under this Agreement shall be sent or delivered to the receiving Party at the address set forth herein, or at such other address as the Parties may from time to time designate in writing:**

**M/s <CPO NAME>:**

**Address :-**

.....  
.....  
.....  
.....

**Fax No.:**

**Email id :-**

**LOA:**

**Address:**

**Email id:-**

**Any Notice, demand or other communication shall be sent by registered post / hand delivery.**

## 11. Intellectual Property Rights

Intellectual Property Rights owned by each respective Party shall remain the property of such Party and nothing in this AGREEMENT shall be taken to represent an assignment, license or grant of other rights in or under such Intellectual Property Rights to the other Party. All right, title and interest to all Intellectual Property of each Party as of the Effective Date of this AGREEMENT, including that which is or may become protectable by patent, copyright, trademark, trade secret or similar law, shall remain exclusively with that Party.

## 12. Governing Law and Jurisdiction

This AGREEMENT shall be governed by and construed in accordance with the laws of India. Courts at <City, State>, India shall have exclusive jurisdiction in respect of matters arising out of or in relation to this AGREEMENT.

## 13. Dispute Settlement

The Parties hereby agree that they shall work together to resolve any disputes that may arise under, in relation to or in connection with this Agreement (referred to in this clause as a “**Dispute**”). In the event such Dispute is not resolved amicably within 60 (sixty) days of the date of receipt of notice issued by disputing party with respect to same by the non- disputing party then in such case all Dispute shall be settled by binding arbitration pursuant to the Arbitration and Conciliation Act, 1996, as amended (“**Arbitration Act**”), in following manner:

If any dispute or difference of any kind whatsoever shall arise between the Parties in connection with or arising out of this agreement, such dispute or difference shall be resolved through arbitration as per the procedure mentioned herein below:

- a. The dispute or difference shall be referred to a sole arbitrator.
- b. The arbitration shall be through High Court Mediation and Arbitration Centre at High Court of Judicature at <city name> for the state of <state name>.
- c. The rules of the above mentioned Institutional Arbitration Forum shall be applicable to the arbitral proceedings.
- d. The Indian Arbitration & Conciliation Act 1996 and Arbitration and Conciliation (amendment) Act 2015 or any statutory modification or re-enactment thereof and the rules made there under for the time being in force shall apply to the arbitration proceedings under the clause.
- e. The seat of arbitration shall be at <city name>, <state name>, India.
- f. The proceedings shall be conducted in English language.
- g. The cost of the proceedings shall be equally borne by the parties, unless otherwise directed by the sole arbitrator.
- h. The following shall not be referred to arbitration:

Disputes having financial claims less than Rs. 5 Lakhs.

**Notwithstanding anything contained herein above (except 'h') upon arising of dispute the parties may agree to refer the same to arbitration of mutually acceptable sole arbitrator.**

#### **14. Limitation of Liability**

Notwithstanding anything in this AGREEMENT to the contrary and to the extent permitted by applicable law, in no event shall either Party, its officers, directors, or employees be liable for any form of incidental, consequential, indirect, special or punitive damages of any kind, or for loss of revenue or profits, loss of business, loss of information or data, or other financial loss, whether such damages arise in contract, tort or otherwise, irrespective of fault, negligence or strict liability or whether such Party has been advised in advance of the possibility of such damages. A Party will not be in breach of the AGREEMENT or be liable to the other Parties if it fails to perform or delays the performance of an obligation as a result of an event beyond its reasonable control, including, legislation, regulation, order or other act of any Government or Governmental agency.

#### **15. Waiver**

Failure of a Party to require performance of any provision of this Agreement shall not affect such Party's right to full performance thereof at any time thereafter, and any waiver by a Party of a breach of any provision hereof shall not constitute a waiver of a similar breach in the future or of any other breach. No waiver shall be effective unless in writing and duly executed by the concerned Party.

#### **16. Assignment**

Except as provided in this Agreement, none of the Parties shall be entitled to assign their rights and obligations under the Agreement to a third party without the prior written consent of the other Party, except to its affiliate companies

#### **17. Amendment**

No modification or amendment to this Agreement and no waiver of any of the terms or conditions hereof shall be valid or binding unless made in writing and duly executed by the Parties.

#### **18. Severability**

If any provision of this Agreement is held to be invalid, illegal or unenforceable, such provision will be struck from the Agreement and the remaining provisions of this Agreement shall remain in full force and effect. Further, the Parties shall endeavour to replace such provision with a valid, legally enforceable provision that reflects the original intent of the Parties.

#### **19. Entire Agreement**

This Agreement supersedes all prior discussions and agreements (whether oral or written, including all correspondence) if any, between the Parties with respect to the

subject matter of this Agreement, and this Agreement contains the sole and entire understanding and agreement between the Parties hereto with respect to the subject matter contained herein.

## **20. Force Majeure**

Neither Party shall be held responsible for non-fulfillment of their respective obligations under this AGREEMENT due to the exigency of one or more of the force majeure events which are beyond the reasonable control of the Party concerned such as but not limited to acts of God, wars, floods, earthquakes, lawful strikes not confined to the premises of the Party, lockouts beyond the control of the Party claiming force majeure, epidemics, riots, civil commotions etc. provided on the occurrence and cessation of any such event, the Party affected thereby shall give a notice in writing to the other Party within one (1) month of such occurrence or cessation. If the force majeure conditions continue beyond six (6) months, the Parties shall jointly decide about the future course of action.

## **21. Survival**

Those Clauses that by its nature should survive expiration or termination of this Agreement shall remain in effect after the expiration or termination of this Agreement. It specifically clarified that the provisions of Clauses 9 (*Representations and Warranties*), Clause 10 (*Confidentiality*), Clause 12 (*Intellectual Property Rights*), Clause 13 (*Governing Law and Jurisdiction*) and Clause 14 (*Dispute Settlement*) shall survive expiration or termination of this Agreement.

## **22. Counterparts**

This Agreement may be signed in counterparts, each of which shall be deemed to be an original, and all of which together shall constitute the same instrument.

## **23. Miscellaneous**

- a. It is agreed and understood by the Parties that this Agreement is a legally binding contract and under no circumstances shall stand terminated, except in terms of Clause 3 of this Agreement.
- b. This Agreement is on a principal-to-principal basis between the Parties hereto. Nothing contained in this Agreement shall be construed or deemed to create any association, partnership or joint venture or employer-employee relationship or principal-agent relationship in any manner whatsoever between the Parties.
- c. The Parties shall not use each other's name and/or trademark/logo or publicize or release any information about this Agreement or its contents or market, publish, advertise in any manner any information without prior written consent of the other Party.

## **24. Rules of Interpretation**

- a. Irrelevance of Gender and Plurality. The definitions in this Agreement shall apply equally to both the singular and plural forms of the terms defined. Whenever the context may require, any pronoun shall include the corresponding masculine, feminine and neuter forms.
- b. Internal References. All references herein to Clauses and Annexure shall be deemed to be references to Clauses of and Annexure to, this Agreement unless the context shall otherwise require. All Annexure attached hereto shall be deemed incorporated herein as if set forth in full herein. The terms “clause(s)” and “sub-clause(s)” shall be used herein interchangeably. The words “hereof,” “herein” and “hereunder” and words of similar import when used in this Agreement shall refer to this Agreement as a whole and not to any particular provision of this Agreement. The words “include”, “includes”, and “including” shall be deemed to be followed by the words “without limitation”.
- c. Default Rules. Unless expressly contradicted or otherwise qualified, (i) all references to a Person also refer to that Person’s successors and permitted assigns, including permitted transferees, and (ii) all references to and definitions of any agreement, instrument or statute herein or in any agreement or instrument referred to herein mean such agreement, instrument or statute, including the Articles, as from time to time may be amended, modified, supplemented or restated, including (in the case of agreements or instruments) by waiver or consent and (in the case of statutes) by succession of comparable successor statutes and references to all attachments thereto and instruments incorporated therein.
- d. Drafting. The Parties have participated jointly in the negotiation and drafting of this Agreement; accordingly, in the event an ambiguity or a question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the Parties, and no presumption or burden of proof shall arise favoring or disfavoring any Party by virtue of the authorship of any provisions of this Agreement.
- e. Clause Heading: The clause heading contained in this Agreement are for the convenience of the Parties and shall not affect the meaning or interpretation of this Agreement.

## **25. GENERAL PROVISIONS**

- a. If any provision of this AGREEMENT is held to be invalid or unenforceable to any extent, the remaining provisions of this AGREEMENT shall not be affected thereby and each remaining provision of this AGREEMENT shall be valid and enforceable to the fullest extent permitted by law. Any invalid or unenforceable provision of this AGREEMENT shall be replaced with a provision which is valid and enforceable and reflects, to the maximum extent possible, the original intent of the unenforceable provision.

- b. Each Party will be solely responsible for its own acts and omissions (and the acts and omissions of its employees and other agents) and neither Party will have the authority nor will purport to act for, or legally binding, the other Party in any transactions with a third party except as agreed in writing by the Parties.
- c. The release of any information and of all public announcements (other than when such disclosure is required under any applicable law) related to such projects by a Party shall be subject to the prior written approval of the other Party, unless required under stock exchange regulations/SEBI.
- d. This Agreement shall not be amended, modified or supplemented without prior written consent of the other Party.

**In Witness Whereof The Parties Hereto Have Signed This MoU In Duplicate On The \_\_\_\_\_ Day, \_\_\_\_\_ Month and \_\_\_\_\_ Year Herein Above Written In The Presence Of:**

**For <LAND OWNING AGENCY>**

**For M/S <CPO NAME>**

**Signed & Sealed**

**WITNESS:**

**1.**

**2.**

**Signed & Sealed**

**WITNESS:**

**1.**

**2.**

EESL/Res/RSQ/MoP/2021-22/01

10<sup>th</sup> March, 2022

To,  
Shri Govind Kumar,  
Under Secretary, EC Division,  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Rajya Sabha provisionally admitted Unstarred Question. Dy. No. U2561 regarding Electricity based cooking for answer on 22.03.2022.**

Sir,

This refers to EC Division, MoP's letter No. 7/11/2022-EC dated 9<sup>th</sup> March, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) the details of electricity based cooking penetration which helps in reduction in energy import dependency thereby achieving goal of Atmanirbhar Bharat;**
- (b) the penetration of electricity based cooking in urban and rural areas; and**
- (c) the details of city/town/village having the highest penetration of electricity based cooking in the country, including Karnataka?**

**Answer (a) to (C):** Information pertaining to EESL may be treated as 'NIL'.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/RSQ/MoP/2021-22/01

15<sup>th</sup> March, 2022

To,  
Shri Govind Kumar,  
Under Secretary, EC Division,  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Rajya Sabha provisionally admitted Starred/Unstarred Question Dy. No. U2672 regarding the salient features of UJALA and SLNP for answer on 22.03.2022.**

Sir,

This has reference to letter No. 7/13/2022-EC&ET-1 dated 10<sup>th</sup> March, 2022 on the above subject. The para wise reply is as follows:

**Question (a): the salient features of Unnat Jyoti by Affordable LEDs for All (UJALA) and LED Street Lighting National Programme (SLNP);**

**Answer (a):** The salient features of Unnat Jyoti by Affordable LEDs for All (UJALA) and LED Street Lighting National Programme (SLNP) is as follows:

**1) About UJALA:**

UJALA (Unnat Jyoti by Affordable LEDs for All) was launched on 5<sup>th</sup> January, 2015 by Hon'ble Prime Minister. The programme was started as an attempt to provide energy efficient LED bulbs to domestic consumers at an affordable price. The programme was successful in bringing down the retail price of the LED bulbs from Rs 300-350 per LED bulb in the year 2014 to Rs 70-Rs 80 per bulb, in a short span of 3 years. The salient features of the of the UJALA programme are as follows:

- Increase the demand of LED lights by aggregating requirements across the country and provide economies of scale to manufacturers through regular bulk procurement, which helped the manufacturers to reduce the cost of LED bulbs not only for UJALA program but for retail segment as well.
- Promote the use of the most efficient lighting technology at affordable rates to domestic consumers which benefits them by way of reduced energy bill while at the same time improving their quality of life through better illumination.
- Enhance consumer awareness on the financial and environmental benefits of using energy efficient appliances, thus creating market for energy efficient appliances.
- Distribution of 36.79 Crore (as on 11.03.2022) LED bulbs resulted in energy saving of 47,781 million units of electricity per annum, peak demand reduction of 9,566 MW and 38.70 million tonnes of CO<sub>2</sub> emission reduction annually.

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पाँचवा, छठा और सातवाँ तल,  
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## 2) About SLNP:

SLNP was launched on 5<sup>th</sup> January 2015 by Hon'ble Prime Minister Shri Narendra Modi as "Prakash Path" – National Program for adoption of LED Street Lighting. The main objective was to convert conventional Street Lights with energy efficient LED Street Lights. Under this Programme, replacement of 1.34 crores conventional street light was targeted. Energy Efficiency Services Limited (EESL) was designated as the implementing agency to implement this program across Pan-India. This initiative was a part of the Government's efforts to spread the message of energy efficiency in the country and bring market transformation for energy efficient appliances. EESL joined hands with the ULBs, Municipal Bodies, Gram Panchayats (GPs) and Central & State Governments to implement SLNP across India.

a) The main objectives/salient features of Street Light National Programme are as follows:

1. Reduction in Energy Consumption: Reduce energy consumption in lighting which helps DISCOMs to manage peak demand.
2. Market Transformation by reduced pricing through demand aggregation and Shift the buying preference from Sodium Vapour/ Fluorescent Lighting to LED Based Solid State Lighting.
3. Promote ESCO model Approach: Under this model, EESL replaces the conventional street lights with LEDs at its own costs (without any need for municipalities to invest) and the consequent reduction in energy and maintenance cost of the municipality is used to repay EESL over a period of time.
4. GHG Emission Reduction: Mitigate climate change by implementing energy efficient LED based street lights resulting in reduced GHG emissions. Also reduction in energy intensity thereby supporting India's NDC goals.
5. Improvement in the safety & security in public area in rural, semi urban, and urban settings through better illumination.
6. Progress & Impact: Till date, EESL has installed over 1.23 crore LED street lights in ULBs and Gram Panchayats across India.

**Question (b): Whether the said programme has been implemented in all the States/Union Territories of the country and if so, the details thereof and the status of the implementation thereof;**

**Answer (b):** For UJALA: Yes, the said programme is being implemented in all States/UT across the country. The details are as follows:

Sl. No.	State/UT	Nos. of LED bulb distributed (as on 11.03.2022)
1.	Andaman & Nicobar	4,00,000
2.	Andhra Pradesh	2,20,39,295
3.	Arunachal Pradesh	4,99,498

Sl. No.	State/UT	Nos. of LED bulb distributed (as on 11.03.2022)
4.	Assam	71,84,998
5.	Bihar	1,96,08,609
6.	Chandigarh	5,54,283
7.	Chhattisgarh	1,08,22,335
8.	Dadra & Nagar Haveli and Daman & Diu	3,06,431
9.	Delhi	1,33,59,504
10.	Goa	10,05,890
11.	Gujarat	4,14,48,713
12.	Haryana	1,56,08,118
13.	Himachal Pradesh	86,44,232
14.	Jammu & Kashmir and Ladakh*	87,17,209
15.	Jharkhand	1,36,45,874
16.	Karnataka	2,42,62,841
17.	Kerala	1,54,29,919
18.	Lakshadweep	2,00,000
19.	Madhya Pradesh	1,75,74,110
20.	Maharashtra	2,19,86,569
21.	Manipur	2,99,934
22.	Meghalaya	4,33,789
23.	Mizoram	6,15,332
24.	Nagaland	10,99,038
25.	Odisha	5,22,70,570
26.	Puducherry	6,09,251
27.	Punjab	30,10,852
28.	Rajasthan	1,73,21,034
29.	Sikkim	1,64,000
30.	Tamil Nadu	43,63,183
31.	Telangana	21,88,948
32.	Tripura	10,54,437
33.	Uttar Pradesh	2,62,94,218
34.	Uttarakhand	56,73,817
35.	West Bengal	92,29,228
<b>Total</b>		<b>36,79,26,060</b>

\*Distribution figures shown combined for both UTs

For SLNP: The programme is being implemented across the 29 States/UTs. The state-wise installation details are as below:

<b>SLNP Installation details</b>		
<b>Sl. No.</b>	<b>State/UT</b>	<b>No. of LED Street Lights installed (As on 11.03.2022)</b>
1	Andhra Pradesh	2939074
2	Telangana	1390733
3	Tamil Nadu	7876
4	Port Blair- A&N	14995
5	Maharashtra	1047324
6	Kerala	402609
7	Karnataka	13102
8	Goa	207110
9	Lakshadweep	1000
10	West Bengal	84230
11	Jharkhand	516043
12	Bihar	557395
13	Rajasthan	1069768
14	Gujarat	889986
15	Uttar Pradesh	1260773
16	Uttarakhand	121489
17	Chhattisgarh	377989
18	Odisha	339981
19	Madhya Pradesh	212956
20	Delhi	367891
21	Jammu & Kashmir	151390
22	Himachal Pradesh	61689
23	Punjab	122518
24	Chandigarh	46496
25	Haryana	84693
26	Sikkim	868
27	Tripura	76426
28	Assam	28695
29	Puducherry	1520
<b>Total</b>		<b>1,23,96,619</b>

**Question (c): State-wise and UT-wise number of LEDs bulbs distributed under the said programmes during the last three years and current year; and**

**Answer (c):** The number of LED bulbs distributed by EESL during the last three years and current year is tabulated below:

S. No.	State/UT	FY 2018-2019	FY 2019-2020	FY 2020-2021	FY 2021-22
1.	Andhra Pradesh	164,182	9,400	1,884	7,025
2.	Arunachal Pradesh	151,105	100	548	1,635
3.	Assam	4,949,693	97,065	111,623	8,310
4.	Bihar	1,818,123	305,093	102,199	37,188
5.	Chandigarh	105,458	12,291	-	68,894
6.	Chhattisgarh	878,099	132,162	300,901	24,289
7.	Dadra & Nagar Haveli and Daman & Diu	46,588	30,754	3125	57,381
8.	Delhi	448,335	250,461	8,600	69,695
9.	Goa	78,777	55,000	730	-
10.	Gujarat	2,282,968	340,164	223,660	57,476
11.	Haryana	771,489	81,780	17,568	19701
12.	Himachal	338,028	229,508	138,604	43,513
13.	Jammu & Kashmir and Ladakh*	605,342	79273	2,00,394	-
14.	Jharkhand	1,429,828	137,413	336,581	
15.	Karnataka	2,748,857	1,210,006	616,239	1,57,501
16.	Kerala	274,627	135,423	29,103	7,912
17.	Madhya Pradesh	498,687	156,815	83,232	39,939
18.	Maharashtra	259,605	33,862	11,638	2,508
19.	Manipur	147,926	25,000	-	
20.	Meghalaya	93,463	-	-	
21.	Mizoram	42,741	25	15	67
22.	Nagaland	183,637	47,777		
23.	Odisha	32,343,477	7,142,578	57,449	6,450
24.	Puducherry	24,696	-	-	-
25.	Punjab	301,128	118,516	1,573,333	29,233

S. No.	State/UT	FY 2018-2019	FY 2019-2020	FY 2020-2021	FY 2021-22
26.	Rajasthan	1,508,025	333,270	92,305	32,447
27.	Sikkim	58,842	-	-	-
28.	Tamil Nadu	1,844,325	419,661	148,044	2,104
29.	Telangana	260,081	6,978	36,591	2,450
30.	Tripura	290,635	9,046	15,605	7,463
31.	Uttar Pradesh	1,705,026	248,518	80,558	44,709
32.	Uttarakhand	629,772	229,701	60,262	26,356
33.	West Bengal	539,923	57,160	50,000	-
<b>Total</b>		<b>57,823,488</b>	<b>11,934,800</b>	<b>4,300,791</b>	<b>7,54,246</b>

\*Distribution figures shown combined for both UTs

**Question (d): whether Government has taken any steps to encourage manufacturers and distribution of LED bulbs and if so, the details thereof?**

**Answer (d):** Ministry of Power may please reply.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

EESL/Res/RSQ/MoP/2021-22/01

15<sup>th</sup> March, 2022

To,  
Shri Govind Kumar,  
Under Secretary, EC Division,  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Rajya Sabha provisionally admitted Starred/Unstarred Question Dy. No. U2672 regarding the salient features of UJALA and SLNP for answer on 22.03.2022.**

Sir,

This has reference to letter No. 7/13/2022-EC&ET-1 dated 10<sup>th</sup> March, 2022 on the above subject. The para wise reply is as follows:

**Question (a): the salient features of Unnat Jyoti by Affordable LEDs for All (UJALA) and LED Street Lighting National Programme (SLNP);**

**Answer (a):** The salient features of Unnat Jyoti by Affordable LEDs for All (UJALA) and LED Street Lighting National Programme (SLNP) is as follows:

**1) About UJALA:**

UJALA (Unnat Jyoti by Affordable LEDs for All) was launched on 5<sup>th</sup> January, 2015 by Hon'ble Prime Minister. The programme was started as an attempt to provide energy efficient LED bulbs to domestic consumers at an affordable price. The programme was successful in bringing down the retail price of the LED bulbs from Rs 300-350 per LED bulb in the year 2014 to Rs 70-Rs 80 per bulb, in a short span of 3 years. The salient features of the of the UJALA programme are as follows:

- Increase the demand of LED lights by aggregating requirements across the country and provide economies of scale to manufacturers through regular bulk procurement, which helped the manufacturers to reduce the cost of LED bulbs not only for UJALA program but for retail segment as well.
- Promote the use of the most efficient lighting technology at affordable rates to domestic consumers which benefits them by way of reduced energy bill while at the same time improving their quality of life through better illumination.
- Enhance consumer awareness on the financial and environmental benefits of using energy efficient appliances, thus creating market for energy efficient appliances.
- Distribution of 36.79 Crore (as on 11.03.2022) LED bulbs resulted in energy saving of 47,781 million units of electricity per annum, peak demand reduction of 9,566 MW and 38.70 million tonnes of CO<sub>2</sub> emission reduction annually.

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## 2) About SLNP:

SLNP was launched on 5<sup>th</sup> January 2015 by Hon'ble Prime Minister Shri Narendra Modi as "Prakash Path" – National Program for adoption of LED Street Lighting. The main objective was to convert conventional Street Lights with energy efficient LED Street Lights. Under this Programme, replacement of 1.34 crores conventional street light was targeted. Energy Efficiency Services Limited (EESL) was designated as the implementing agency to implement this program across Pan-India. This initiative was a part of the Government's efforts to spread the message of energy efficiency in the country and bring market transformation for energy efficient appliances. EESL joined hands with the ULBs, Municipal Bodies, Gram Panchayats (GPs) and Central & State Governments to implement SLNP across India.

a) The main objectives/salient features of Street Light National Programme are as follows:

1. Reduction in Energy Consumption: Reduce energy consumption in lighting which helps DISCOMs to manage peak demand.
2. Market Transformation by reduced pricing through demand aggregation and Shift the buying preference from Sodium Vapour/ Fluorescent Lighting to LED Based Solid State Lighting.
3. Promote ESCO model Approach: Under this model, EESL replaces the conventional street lights with LEDs at its own costs (without any need for municipalities to invest) and the consequent reduction in energy and maintenance cost of the municipality is used to repay EESL over a period of time.
4. GHG Emission Reduction: Mitigate climate change by implementing energy efficient LED based street lights resulting in reduced GHG emissions. Also reduction in energy intensity thereby supporting India's NDC goals.
5. Improvement in the safety & security in public area in rural, semi urban, and urban settings through better illumination.
6. Progress & Impact: Till date, EESL has installed over 1.23 crore LED street lights in ULBs and Gram Panchayats across India.

**Question (b): Whether the said programme has been implemented in all the States/Union Territories of the country and if so, the details thereof and the status of the implementation thereof;**

**Answer (b):** For UJALA: Yes, the said programme is being implemented in all States/UT across the country. The details are as follows:

Sl. No.	State/UT	Nos. of LED bulb distributed (as on 11.03.2022)
1.	Andaman & Nicobar	4,00,000
2.	Andhra Pradesh	2,20,39,295
3.	Arunachal Pradesh	4,99,498

Sl. No.	State/UT	Nos. of LED bulb distributed (as on 11.03.2022)
4.	Assam	71,84,998
5.	Bihar	1,96,08,609
6.	Chandigarh	5,54,283
7.	Chhattisgarh	1,08,22,335
8.	Dadra & Nagar Haveli and Daman & Diu	3,06,431
9.	Delhi	1,33,59,504
10.	Goa	10,05,890
11.	Gujarat	4,14,48,713
12.	Haryana	1,56,08,118
13.	Himachal Pradesh	86,44,232
14.	Jammu & Kashmir and Ladakh*	87,17,209
15.	Jharkhand	1,36,45,874
16.	Karnataka	2,42,62,841
17.	Kerala	1,54,29,919
18.	Lakshadweep	2,00,000
19.	Madhya Pradesh	1,75,74,110
20.	Maharashtra	2,19,86,569
21.	Manipur	2,99,934
22.	Meghalaya	4,33,789
23.	Mizoram	6,15,332
24.	Nagaland	10,99,038
25.	Odisha	5,22,70,570
26.	Puducherry	6,09,251
27.	Punjab	30,10,852
28.	Rajasthan	1,73,21,034
29.	Sikkim	1,64,000
30.	Tamil Nadu	43,63,183
31.	Telangana	21,88,948
32.	Tripura	10,54,437
33.	Uttar Pradesh	2,62,94,218
34.	Uttarakhand	56,73,817
35.	West Bengal	92,29,228
<b>Total</b>		<b>36,79,26,060</b>

\*Distribution figures shown combined for both UTs

For SLNP: The programme is being implemented across the 29 States/UTs. The state-wise installation details are as below:

<b>SLNP Installation details</b>		
<b>Sl. No.</b>	<b>State/UT</b>	<b>No. of LED Street Lights installed (As on 11.03.2022)</b>
1	Andhra Pradesh	2939074
2	Telangana	1390733
3	Tamil Nadu	7876
4	Port Blair- A&N	14995
5	Maharashtra	1047324
6	Kerala	402609
7	Karnataka	13102
8	Goa	207110
9	Lakshadweep	1000
10	West Bengal	84230
11	Jharkhand	516043
12	Bihar	557395
13	Rajasthan	1069768
14	Gujarat	889986
15	Uttar Pradesh	1260773
16	Uttarakhand	121489
17	Chhattisgarh	377989
18	Odisha	339981
19	Madhya Pradesh	212956
20	Delhi	367891
21	Jammu & Kashmir	151390
22	Himachal Pradesh	61689
23	Punjab	122518
24	Chandigarh	46496
25	Haryana	84693
26	Sikkim	868
27	Tripura	76426
28	Assam	28695
29	Puducherry	1520
<b>Total</b>		<b>1,23,96,619</b>

**Question (c): State-wise and UT-wise number of LEDs bulbs distributed under the said programmes during the last three years and current year; and**

**Answer (c):** The number of LED bulbs distributed by EESL during the last three years and current year is tabulated below:

S. No.	State/UT	FY 2018-2019	FY 2019-2020	FY 2020-2021	FY 2021-22
1.	Andhra Pradesh	164,182	9,400	1,884	7,025
2.	Arunachal Pradesh	151,105	100	548	1,635
3.	Assam	4,949,693	97,065	111,623	8,310
4.	Bihar	1,818,123	305,093	102,199	37,188
5.	Chandigarh	105,458	12,291	-	68,894
6.	Chhattisgarh	878,099	132,162	300,901	24,289
7.	Dadra & Nagar Haveli and Daman & Diu	46,588	30,754	3125	57,381
8.	Delhi	448,335	250,461	8,600	69,695
9.	Goa	78,777	55,000	730	-
10.	Gujarat	2,282,968	340,164	223,660	57,476
11.	Haryana	771,489	81,780	17,568	19701
12.	Himachal	338,028	229,508	138,604	43,513
13.	Jammu & Kashmir and Ladakh*	605,342	79273	2,00,394	-
14.	Jharkhand	1,429,828	137,413	336,581	
15.	Karnataka	2,748,857	1,210,006	616,239	1,57,501
16.	Kerala	274,627	135,423	29,103	7,912
17.	Madhya Pradesh	498,687	156,815	83,232	39,939
18.	Maharashtra	259,605	33,862	11,638	2,508
19.	Manipur	147,926	25,000	-	
20.	Meghalaya	93,463	-	-	
21.	Mizoram	42,741	25	15	67
22.	Nagaland	183,637	47,777		
23.	Odisha	32,343,477	7,142,578	57,449	6,450
24.	Puducherry	24,696	-	-	-
25.	Punjab	301,128	118,516	1,573,333	29,233

S. No.	State/UT	FY 2018-2019	FY 2019-2020	FY 2020-2021	FY 2021-22
26.	Rajasthan	1,508,025	333,270	92,305	32,447
27.	Sikkim	58,842	-	-	-
28.	Tamil Nadu	1,844,325	419,661	148,044	2,104
29.	Telangana	260,081	6,978	36,591	2,450
30.	Tripura	290,635	9,046	15,605	7,463
31.	Uttar Pradesh	1,705,026	248,518	80,558	44,709
32.	Uttarakhand	629,772	229,701	60,262	26,356
33.	West Bengal	539,923	57,160	50,000	-
<b>Total</b>		<b>57,823,488</b>	<b>11,934,800</b>	<b>4,300,791</b>	<b>7,54,246</b>

\*Distribution figures shown combined for both UTs

**Question (d): whether Government has taken any steps to encourage manufacturers and distribution of LED bulbs and if so, the details thereof?**

**Answer (d):** Ministry of Power may please reply.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

EESL/Res/PQ/CEA/2021-22/02

17<sup>th</sup> March, 2022

To,  
Shri Ashok Kumar Rajput  
Chief Engineer (R&D)  
Central Electricity Authority  
Ministry of Power  
Sewa Bhawan, R K Puram-I  
New Delhi-110066

**Subject: लोकसभा अतारांकित प्रश्न डायरी संख्या-10786 दाखिल संख्या -, Transition to Carbon Neutral Economy के संदर्भ में दिनांक 24-Mar-2022 के लिये।**

Sir,

This refers to CEA's email dated 17<sup>th</sup> March, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) whether five to seven percent biomass pellets are to be con-fired in thermal power plants resulting in CO<sub>2</sub> savings of 33 MMT annually;
- (b) if so, the details thereof;
- (c) the present status in this regard; and
- (d) the other steps taken/being taken by the Government for transition the Carbon Neutral Economy?

**Answer (a) to (d):** Information pertaining to EESL may be treated as 'NIL'.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/ CEA/2022-23/01

4<sup>th</sup> April, 2022

To,  
O/o Chief Engineer,  
(Renewable Technology & Integration),  
Central Electricity Authority,  
Ministry of Power  
Sewa Bhawan, R K Puram-I  
New Delhi-110066

**Subject: लोकसभा अतारांकित प्रश्न डायरी संख्या-18190 दाखिल संख्या- 5802 “Energy Storage Technology” के संदर्भ में दिनांक 07-Apr-2022 के लिये।**

Sir,

This refers to RTD-Division, CEA's email dated 1<sup>st</sup> April 2022 on the above subject. The para wise reply is as follows.

**Questions:**

- (a) whether the Government has invested in any pilot or test cases for energy storage technologies to accompany decentralised solar energy projects;
- (b) If so, the details therefore and if not, the reasons therefore;
- (c) whether there is a policy or white paper drafted on the said matter by the Government;
- (d) if so, the details thereof and if not, the reasons therefor?
- (e) whether any standalone energy storage systems have been granted electricity network connectivity under Electricity Rules issued last year; and
- (f) if so, the details thereof and if not, the reasons therefor?

**Answer (a) to (f):** Information pertaining to EESL may be treated as 'NIL'.

This issues with the approval of ED(CP).

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/MoP/2021-22/01

14<sup>th</sup> March, 2022

To,  
Shri Bhanu Joshi,  
Section Officer, EC Division,  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Starred Question for 17.03.2022 on Allocation of Funds by PSU - reg.**

Sir,

This has reference to your email dated 12<sup>th</sup> March, 2022 on the above subject. Reply of point no. (b) pertaining to EESL is as follows:

**Question (b): the details of schemes being implemented under CSR funds, States/UT wise?**

**Answer (b):** State/UT wise details of schemes being implemented by EESL under CSR funds, is enclosed at **Annexure -1**.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

Sr. No.	Project Name	Sector in which the project is covered	CSR project or activity identified	Project Cost (Rs.) As Per MoA	Amount spent Direct or through implementing agency*	FY-2019-2021	State/UT
1	Conducted Workshop	Health & Sanitization	Distribution of Sanitary napkins, medicine and education on Good Touch & Bad Touch to 250 Girl Students	6,17,900	M/s Udangkaar Jan Kalyaan Foundation	2019-2020	Uttarkhand
2	"Save the Little Hearts"	Health & Sanitization	Providing financial assistance for treatment of Congenital Heart Defects of critically ill under privileged children, under CSR activity of EESL.	39,90,000	M/s Genesis Foundation	2019-2020	Pan India Basis
3	Construction of individual Household Toilets in Uttarakhand	Swachh Bharat Abhiyan	Providing Financial Assistance for Construction of 150 Nos. of Toilet Blocks for deprived of Households of Pauri-Garhwal & Sitaganj Districts of Uttarakhand,	64,17,000	M/s Gramin Vikas Trust (Phase-II)	2019-2020	Uttarakhand
4	Contribution PM Cares Fund	Health and Sanitation	Contribution towards PM CARES Fund developed for assistance to tackle COVID-19 pandemic	4,50,000	PM Cares Fund	2019-2020	Delhi
5	Ayushman Hospital, Dwarka, New Delhi	Health and Sanitation	Setup of PSA Oxygen Plant	18,80,000	Summit Hygronics P. Ltd	2020-2021	Delhi
6	Health - Indoor Air Quality in office of MoP	Health and Sanitation	Installation of indoor stand along Air Purifiers	17,14,068	BeathEasy Consultants Pvt. Ltd.	2020-2021	Delhi
7	Swachh Bharat Kosh	-	Unspent amount of 2020-21 Contributed to Swachh Bharat Kosh	1,17,58,932	Swachh Bharat Kosh	2020-2021	Delhi

EESL/Res/LSQ/MoP/2021-22/03

11<sup>th</sup> March, 2022

To,  
Shri Govind Kumar,  
Under Secretary, EC Division,  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha provisionally admitted starred Question. Dy. No. 6455 regarding Achievement of EESL for answer on 17.03.2022.**

Sir,

This has reference to letter No. 7/12/2022-EC dated 9<sup>th</sup> March, 2022 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) whether achievements has been made by energy efficiency services limited (EESL) in increasing energy efficiency of the country's during the last three years and the current year;
- (b) if so, the details thereof; and
- (c) if not, the reasons therefor?

**Answer (a) to (c):**

Yes, EESL's energy efficiency measures and clean energy programs have resulted in electricity savings of over 58 billion kWh per annum, CO<sub>2</sub> emission reduction of over 46 million tonnes per annum and monetary savings of around INR 26,000 Cr per annum which includes about INR 20,000 crore per annum under UJALA only. Program-wise achievements of EESL in last 3 financial years and current year is hereby attached at **Annexure 1**.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

# Achievement of EESL in the last 3 Financial years and current Financial year

Date: March 11, 2022

## 1. Unnat Jyoti by Affordable LEDs for ALL (UJALA):

Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 launched UJALA programme to provide LED bulbs to domestic consumers for replacement of incandescent bulbs with LED bulbs at an affordable price.

- In the last 3 Financial years (FY19, FY20, FY21), EESL has distributed about 7.4 crore LED bulbs across India. In the current financial year EESL has distributed 7.54 lakh LED bulbs.
- In total, 36.79 crore LED bulbs have been distributed by EESL. This has resulted in estimated energy savings of over 48 billion kWh per year with avoided peak demand of about 9,769 MW, GHG emission reduction of over 39 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR about 19,300 crores in electricity bills of consumers.
- It may be noted that the procurement price of LED bulb reduced from INR 310/bulb in 2014 to INR 38/bulb in 2017.
- In addition, EESL has distributed 72.17 Lakh LED tube lights and 23.59 Lakh Energy Efficient fans under UJALA program till date.

## 2. Gram UJALA:

Gram Ujala program was launched by the Hon'ble Minister of Power, New and Renewable Energy in Bihar at Arrah District on 19<sup>th</sup> March, 2021. The program is being implemented by CESL (A wholly owned subsidiary of EESL) wherein ICL bulbs are replaced by efficient LED bulbs that consumes 88% less electricity. The bulbs are being offered at Rs 10/bulb and rest of the cost is proposed to be recovered from **Carbon Financing**. Over 80.54 lakh LED bulbs have been distributed under Gram Ujala. This has resulted in estimated energy savings of 1.15 billion kWh per year with avoided peak demand of about 317 MW, GHG emission reduction of 1.06 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 400 crore in electricity bills of consumers. CESL distributed **1 million LED Bulbs in a single day** on National Energy Conservation Day, 14<sup>th</sup> December 2021.

## 3. Street Lighting National Programme (SLNP):

Hon'ble Prime Minister, launched SLNP programme on 5<sup>th</sup> January, 2015 to replace conventional street lights with smart and energy efficient LED street lights.

- In the last 3 Financial years (FY19, FY20, FY21), EESL has installed over 62.2 lakh LED street lights in Urban Local Bodies (ULBs) and Gram Panchayats across India. In the current financial year EESL has installed 7.94 lakh LED street lights.
- In total, EESL has installed about 1.23 crore LED street lights across India. This has resulted in estimated energy savings of 8.33 billion kWh per year with avoided peak demand of about 1,387 MW, GHG emission reduction of 5.73 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 5,828 crore in electricity bills of municipalities.

## 4. Smart Meter Programme:

EESL with its JV IntelliSmart is currently doing Implementation of Smart Metering Program to significantly improve the billing and collection efficiencies of Distribution Companies (DISCOMs). Smart Meters will be the foundation for smart grid programme which will be crucial to meet challenges of the newly evolving energy mix and the target of providing

## Achievement of EESL in the last 3 Financial years and current Financial year

uninterrupted 24x7 power supply to every Indian. EESL launched the smart meter program in 2017.

During the last 3 Financial Years EESL has installed 16.5 lakh smart meters. In the current Financial year EESL has installed 7.49 lakh smart meters. In total EESL has installed over 24.02 lakh smart meters in the states/UT of Haryana, Delhi, Uttar Pradesh, Bihar, Rajasthan and Andaman.

### 5. Electric Vehicles

During the last three financial years, 1,389 numbers of Electric cars have been deployed on road to 185 clients comprising various government departments, both at Central and State level, PSUs, shared mobility operator etc. pan India. In the current financial year, 311 numbers of Electric cars which have been deployed on road by CESL (wholly owned subsidiary of EESL).

CESL is one of the first organizations in India to deploy Public Electric Vehicle Charging Stations (PCS) on an impactful scale. CESL has installed 256 PCS in the last three years comprising Bharat Standard DC001 (15kW), High Capacity Fast DC Combo Chargers 142kW (CCS2.0+ CHAdeMO + AC Type II), Standalone CCS2 (50kW) and Bharat Standard AC001 (10kW). In current financial year, EESL/CESL has installed 150 number of Public Electric Vehicle Charging Stations (PCS).

### 6. Decentralized Solar Power Plant Programme:

**Project wise progress:** Progress of EESL/CESL's decentralised solar project is indicated below:

FY	Capacity Commissioned (MWp)	Plants Commissioned (Nos.)	Remarks
2018-19	13.97	16	Solar plant size ranging from 0.3 MW to 10 MW at a single location
2019-20	50.12	57	
2020-21	66.68	50	
2021-22	53	17	
Total	183.77 MWp	140 nos.	

### 7. Buildings Energy Efficiency Programme (BEEP):

- In the last 3 Financial years (FY19, FY20, FY21), EESL has completed retrofitting work in 7,739 buildings by replacing old appliances with Energy efficient appliances like LED bulbs/lights, Tube lights, Fans & Air Conditioners. In the current financial year, EESL has completed retrofitting work in 1,122 buildings.
- In total, EESL has completed retrofitting work in 11,706 buildings. Energy Audits shows energy saving potential to the tune of up to 30% in these buildings.

## **Achievement of EESL in the last 3 Financial years and current Financial year**

### **8. Agricultural Demand Side Management (AgDSM):**

- In the last 3 Financial years (FY19, FY20, FY21), about 58,000 nos. pumps has been installed. In the current financial year, total 2,459 nos. of pumps have been installed by EESL.
- In total, 79,845 nos. pumps have been installed in the states of Andhra Pradesh and Uttar Pradesh. This has resulted in estimated energy savings of 206 million kWh per year with avoided peak demand of about 38 MW, GHG emission reduction of 0.15 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 103 crore in electricity bills of consumers.

EESL/Res/RSQ/CEA/2021-22/01

4<sup>th</sup> March, 2022

To,  
Shri Ashok Kumar Rajput  
Chief Engineer (RT&I) Division  
Central Electricity Authority  
Ministry of Power  
Sewa Bhawan, R K Puram-I  
New Delhi-110066

**Subject: Rajya Sabha Parliament Question No. S2410 for answer on 15.03.2022 regarding Installation of Electric Vehicles Charging Stations.**

Sir,

This has reference to R&D Division CEA's email dated 2<sup>nd</sup> March 2022 on the above subject. The para wise reply is as follows:

**Question (a): the total number of Electric Vehicle Charging Stations installed during the last three years in the country, especially in big cities like Delhi, Mumbai and Bengaluru etc.;**

**Answer (a):** Ministry of power may please reply.

However, Energy Efficiency Services Limited (EESL) a JV of PSU under MoP, GoI through Convergence Energy Services Limited (CESL – 100% Owned subsidiary of EESL) is developing Electric Vehicle Charging Infrastructure.

As on date EESL/CESL has installed 406 nos. of EV chargers across India of which 198 nos. are operational and rest are in the pre-commissioning stage.

Below are the State/UT wise details of chargers installed by EESL/CESL across India:

State/UT	City	EV Chargers Installed	EV Chargers Operational
Delhi	Delhi	151	80
Maharashtra	Nagpur	73	22
Karnataka	Bangalore	1	1
Goa	Goa	3	3
Gujarat	Ahmedabad	12	8
Haryana	Panchkula	2	2
Chhattisgarh	Raipur	4	4
Kerala	Thiruvananthapuram and Other Cities	17	12
Tamil Nadu	Chennai	52	25
Uttar Pradesh	Noida	69	25
Uttarakhand	Haridwar	1	1
West Bengal	Kolkata	21	15
<b>Total</b>		<b>406</b>	<b>198</b>

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पाँचवा और छठा तल,  
कोर - 3, स्कोप कॉम्प्लेक्स, लोधी रोड, नई दिल्ली - 110003  
दूरभाष: +91 (011) 45801260, फ़ैक्स: +91 (011) 45801265  
वेबसाइट: www.eeslindia.org

**REGISTERED OFFICE:** NFL Building, 5<sup>th</sup> & 6<sup>th</sup> Floor,  
Core – III, SCOPE Complex, Lodhi Road, New Delhi – 110003  
**Tel.:** +91 (011) 45801260, **Fax:** +91 (011) 45801265  
**Website:** www.eeslindia.org

**(b): whether Government has recently issued the revised consolidated guidelines and norms for infrastructure of Electric Vehicle Charging Stations, and if so, the details thereof; and**

**Answer (b):** Ministry of Power may please reply.

However, Ministry of Power, Government of India has laid down a national priority for rollout of EV Public Charging Infrastructure in its latest revised and consolidated Guidelines & Standards for Charging Infrastructure for Electric Vehicles released vide ref no. 12/2/2018-EV (Comp No. 244347) dated 14<sup>th</sup> January, 2022 (Enclosed at **Annexure -1**).

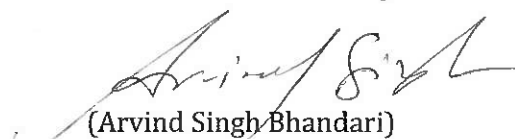
**(c): the other initiatives taken by Government to promote manufacturing and clearance of electric vehicles in the country?**

**Answer (c):** Ministry of Power may please reply.

However, Energy Efficiency Services Limited (EESL) a JV of PSU under MoP, GoI through Convergence Energy Services Limited (CESL – 100% Owned subsidiary of EESL) is implementing e-Mobility Programme.

Since the launch of the programme, total 1,699 numbers of Electric cars have been deployed on road to various clients mainly comprising government departments, both at the Central and State level, PSUs, shared mobility operator etc. pan India.

Yours Sincerely



(Arvind Singh Bhandari)  
Assistant Manager (Tech.)



No.12/2/2018-EV (Comp No. 244347)  
Government of India  
Ministry of Power

Shram Shakti Bhawan, Rafi Marg,  
New Delhi, the 14<sup>th</sup> January, 2022

To,

1. The Secretaries of all the Ministries/ Departments of Government of India
2. The Chief Secretaries of the States/UTs

**Subject: Charging Infrastructure for Electric Vehicles (EV) – the revised consolidated Guidelines & Standards-reg**

Sir/ Madam,

The "Charging Infrastructure for Electric Vehicles - Guidelines and Standards" were issued by the Ministry of Power on 14.12.2018 which were subsequently revised on 01.10.2019 and an Amendment thereof was issued on 08.06.2020. After careful consideration of progress made and suggestions received from various stakeholders, it has been decided to amend the guidelines to accelerate the E-Mobility transition in the country. In supersession of all previous guidelines in this regard, the revised consolidated guidelines are as follows:

**Objectives**

- a) To enable faster adoption of electric vehicles in India by ensuring safe, reliable, accessible and affordable Charging Infrastructure and eco-system.
- b) To provide for affordable tariff chargeable from Charging Station Operators/Owners and Electric Vehicle (EV) owners.
- c) To generate employment/income opportunities for small entrepreneurs.
- d) To proactively support creation of EV Charging Infrastructure.
- e) To encourage preparedness of Electrical Distribution System to adopt EV Charging Infrastructure.
- f) To promote energy security and reduction of emission intensity of the country by promotion of entire EV ecosystem

**Definitions:**

- i. **Electric Vehicle Supply Equipment (EVSE)** shall mean an element in Electric Vehicle Charging Infrastructure (EVCI) that supplies electrical energy for recharging the battery of electric vehicles.
- ii. **Public Charging Station (PCS)** shall mean an EV charging station where any electric vehicle can get its battery recharged.

- iii. **Battery Charging Station (BCS)** shall mean a station where the discharged or partially discharged electric batteries for electric vehicles are electrically recharged.
- iv. **Captive Charging Station (CCS)** shall mean an electric vehicle charging station exclusively for the electric vehicles owned or under the control of the owner of the charging station e.g., Government Departments, Corporate houses, Bus Depots, charging stations owned by the fleet owners etc. and shall not be used for commercial purpose of charging other vehicles on paid for basis.
- v. **Battery Swapping Station (BSS)** shall mean a station where any electric vehicle can get its discharged battery or partially charged battery replaced by a charged battery.

**Guidelines:**

- 1. Owners may charge their Electric Vehicles at their residence/offices using their existing electricity connections.
- 2. Any individual/entity is free to set up public charging stations provided that, such stations meet the technical, safety as well as performance standards and protocols laid down below as well as norms/ standards/ specifications laid down by Ministry of Power, Bureau of Energy Efficiency (BEE) and Central Electricity Authority (CEA) from time to time.
- 2.1 Public Charging Station (PCS), may apply for electricity connection and the Distribution Company licensee shall release connection for EV Public charging station (PCS) in accordance with the timelines stated in section 4 sub. (11) of the Electricity (Rights of Consumers) Rules 2020. Accordingly, timelines for providing the connectivity for the PCS are as under:
  - i. Post submission of application complete in all respect, the connection for a Public Charging Station shall be provided within time period not exceeding seven days in metro cities, fifteen days in other municipal areas and thirty days in rural areas, within which the distribution licensees shall provide new connection or modify an existing connection. Appropriate Commission may specify a time limit for providing such connection to a Public Charging Station which may be less than the aforementioned specified time limit.
  - ii. Provided that where such supply requires extension of distribution mains, or commissioning of new sub-stations, the distribution licensee shall supply the electricity to such premises immediately after such extension or commissioning or within such period as may be specified by the Appropriate Commission.
- 2.2 Any Public Charging Station/ Chain of Charging Stations may obtain electricity from any generation company through open access. Open Access shall be provided for this purpose within 15 days of receipt of the application complete in all respect. They will be required to pay the applicable surcharge – equal to the current level of cross subsidy (not more than 20 percent, as per the Tariff Policy Guidelines), transmission charges and wheeling charges. No other surcharge or charges shall be levied except mentioned in this provision.
- 3. **Public Charging Infrastructure (PCI)- Requirements:**
- 3.1 Every Public Charging Station (PCS) will comply with the following: -



- i. An exclusive transformer with all related substation equipment including safety appliance, if required by Supply Code as approved by Appropriate Electricity Regulatory Commission.
  - ii. Appropriate civil works
  - iii. Appropriate cabling & electrical works ensuring safety
  - iv. Adequate space for Charging and entry/exit of vehicles.
  - v. Appropriate Fire protection equipment and facilities.
  - vi. Public Charging Station shall have, any one or more chargers or any combination of chargers from the table given in ANNEXURE II & ANNEXURE III in one or more electric kiosk/boards.
  - vii. Charging Station for(two/three wheelers) e- vehicles shall be free to install any charger other than those specified above subject to compliance of technical & safety standards as laid down by CEA.
  - viii. Tie up with at least one online Network Service Providers (NSPs) to enable advance remote/online booking of charging slots by EV owners. Such online information to EV owners should also include information regarding location, types and numbers of chargers installed/available, service charges for EV charging, etc.
  - ix. Share charging station data with the appropriate State Nodal Agency (SNA) and adhere to protocols as prescribed by Central Nodal Agency (CNA) i.e., Bureau of Energy Efficiency (BEE) for this purpose. The CNA and SNA shall have access to this database.
  - x. Public Charging Stations for EVs shall comply with the provisions of Central Electricity Authority (Technical Standards for Connectivity of the Distributed Generation Resources) Amendment Regulations, 2019 and Central Electricity Authority (Measures relating to Safety and Electric Supply) (Amendment) Regulations, 2019.
- 3.2 Electric Vehicle Supply Equipment (EVSE) should have been type tested by an agency/lab accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL) from time to time.
- 3.3 The above minimum infrastructure requirements do not apply to Private Charging Points meant for self-use of individual EV owners (non-commercial basis).
- 3.4 Captive charging infrastructure for 100% internal use for a company's own/leased fleet for its own use will not be required to install chargers as per para 3.1 and to have Network Service Provider (NSP) tie ups.
- 3.5 Public Charging Station may also be installed by Housing societies, Malls, Office Complexes, Restaurants, Hotels, etc. with a provision to allow charging of visitor's vehicles which are permitted to come in its premises.
- 4. Public Charging Infrastructure (PCI) for long range EVs and/or heavy duty EVs:**
- 4.1 Fast Charging Stations (FCS) i.e. Public charging stations for long range EVs and/or heavy duty EVs (like trucks, buses etc) will have the following :
- i. At least two chargers of minimum 100 kW (200- 750 V or higher) each of different specification (CCS /CHAdeMO Chargers for above capacity or BIS

- Standards for eBus Charging Station (Level-4: 250 to 500 kW) as provided under ANNEXURE III (6)) with single connector gun each.
- ii. Appropriate Liquid Cooled Cables for high speed charging facility as above [4.1(i)], for onboard charging of Fluid Cooled Batteries (currently available in some long range EVs), if required.
- 4.2 Such Fast Charging Stations (FCS) which are meant for 100% in house/captive utilisation, for example buses of a company, would be free to decide the charging specifications as per requirement for its in- house company EVs.
- 5. Location of Public Charging Stations:**
- 5.1 In case of Public Charging Stations, the following requirements are laid down with regard to density/distance between two charging points:
- i. At least one Charging Station shall be available in a grid of 3 Km X 3 Km. Further, one Charging Station shall be set up at every 25 Km on both sides of highways/roads.
  - ii. For long range EVs and/or heavy duty EVs like buses/trucks etc., there shall be at least one Fast Charging Station with Charging Infrastructure Specifications as per para 4.1 above at every 100 Kms, one on each side of the highways/road located preferably within/alongside the Public Charging Stations as per ANNEXURE II or BIS Standards for Power Level 1 to 5 as per ANNEXURE III. Within cities, such charging facilities for heavy duty EVs may be located within Transport Nagars, bus depots.
- 5.2 Additional PCS/FCS can be installed even if there exists a PCS/FCS in the required grid or distance.
- 5.3 The above density/distance requirements shall be used by the concerned state/UT Governments/their Agencies for the twin purposes of arrangement of land in any manner for public charging stations as well as for priority in installation of distribution network including transformers/feeders etc. This shall be done in all cases including where no central/state subsidy is provided.
- 5.4 The appropriate Governments (Central/State/UTs) may also give priority to existing retail outlets (ROs) of Oil Marketing Companies (OMCs) for installation of Public EV Charging Stations (in compliance with safety norms) to meet the requirements as laid above. Further, within such ROs, Company Owned and Company Operated (COCO) ROs may be given higher preference.
- 6. Database of Public EV Charging Stations:**
- 6.1. Bureau of Energy Efficiency (BEE) shall create and maintain a national online database of all the Public Charging Stations in consultation with State Nodal Agencies (SNAs). Bureau of Energy Efficiency shall create a Web-Portal/Software/Mobile Application for the database of Public Charging Stations throughout the country. A common format for information in this regard shall be prepared by Bureau of Energy Efficiency (BEE) and State Nodal Agencies (SNAs) shall be directed to keep the details as per such format and update the same on the Web-Portal/Software/Mobile Application developed by BEE on weekly basis.



- 7. Tariff for supply of electricity to EV Public Charging Stations:**
- 7.1 The tariff for supply of electricity to Public EV Charging Stations shall be a single part tariff and shall not exceed the “Average Cost of Supply” till 31<sup>st</sup> March, 2025. The same tariff shall be applicable for Battery Charging Station (BCS).
- 7.2 The tariff applicable for domestic consumption shall be applicable for domestic charging.
- 7.3 The separate metering arrangement shall be made for PCS so that consumption may be recorded and billed as per applicable tariff for EV charging stations.
- 7.4 DISCOMs may leverage on funding from the Revamped Distribution Sector Scheme (RDSS) under ‘Part A – Distribution Infrastructure’ for the general upstream network augmentation necessitated due to the upcoming charging infrastructure in various areas. The cost of such works carried out by the DISCOMs with the financial assistance from Government of India under the Revamped Scheme shall not be charged from the consumers for Public Charging Stations for EVs.
- 8. Service charges at PCS:**
- 8.1 Charging of EVs is a service as already clarified by Ministry of Power vide letter No. 23/08/2018-R&R dated 13.04.2018.
- 8.2 As electricity is being provided at concessional rates and also considering the fact that subsidy is being provided by the Central/State Governments in many cases for setting up Public Charging Stations, the State Government shall fix the ceiling of Service Charges to be charged by such PCS/FCS.
- 9. Provision of land at promotional rates for Public Charging Stations (PCS):**
- 9.1 In initial years the penetration of Electric Vehicles on road is increasing gradually. Consequently, the utilization rate for the Public Charging Stations is very low. High cost of rent for land and chargers coupled with no definite visibility of revenues makes the overall investment proposition for setting up a public Charging Station challenging in present scenario.
- 9.2 Accordingly, it is provided that the land available with the Government/Public entities shall be provided for installation of Public Charging Stations to a Government/Public entity on a revenue sharing basis for installation of Public Charging Station at a fixed rate of ₹1/kWh (used for charging) to be paid to the Land-Ownning Agency from such PCS business payable on quarterly basis. A model revenue sharing agreement is placed at **Annexure –IV**. Such revenue sharing agreement may be initially entered by parties for a period of 10 years. The Revenue Sharing Model may also be adopted by the public Land-owning agency for providing the land to a private entity for installation of Public Charging Stations on bidding basis with floor price of ₹1/kWh.
- 9.3 Furthermore, based on available charging technologies and their evolution, type of vehicles, the types of chargers, indicating number of charging points required for setting up adequate PCS within the local urban areas including the building premises of all building types and with the long term vision of implementing 'electric mobility' during the next 30 years, amendments have been made in the relevant sections (Chapter 10) of the Model Building Bye-laws, 2016 and the Urban and Regional Development Plans Formulation and Implementation Guidelines (URDPFI – 2014)

by the Ministry of Housing and Urban Affairs (MoHUA). A copy of these amendments is enclosed at ANNEXURE V. These may be implemented fully to provide adequate space for setting up charging stations.

**10. Priority for Rollout of EV Public Charging Infrastructure:**

After extensive consultations with State Governments and different Department/Agencies of Central Government, phasing as follows are laid down as national priority for rollout of EV Public Charging Infrastructure:

**10.1 Phase I (1-3 Years):**

All Mega Cities with population of 4 million plus as per census 2011, all existing expressways connected to these Mega Cities & important Highways connected with each of these Mega Cities may be taken up for coverage. A list of these Mega Cities and existing connected expressways is attached at ANNEXURE I.

**10.2 Phase II (3-5 Years):**

Big cities like State Capitals, UT headquarters may also be covered for distributed and demonstrative effect. Further, important Highways connected with each of these Mega Cities may be taken up for coverage.

10.3 The above priorities for phasing of rollout may be kept in mind by all concerned, including, different agencies of Central/State Governments while framing of further policies/guidelines for Public Charging Infrastructure of EVs, including for declaring further incentives/subsidies for such infrastructure and for such other purposes.

**11. Implementation Mechanism for Rollout:**

11.1 Bureau of Energy Efficiency (BEE) shall be the Central Nodal Agency for rollout of EV Public Charging Infrastructure. All relevant agencies including Central Electricity Authority (CEA) shall provide necessary support to Central Nodal Agency.

11.2 Every State Government shall nominate a Nodal Agency for that State for setting up charging infrastructure. The State DISCOM shall generally be the Nodal Agency for such purposes. However, State Government shall be free to select a Central/State Public Sector Undertaking (PSU) including Urban Local Bodies (ULBs), Urban/Area Development Authorities etc. as its Nodal Agency.

**12. Selection of Implementation Agency for Rollout:**

12.1 The Central Nodal Agency shall finalize the cities and expressways/highways to be finally taken up from the priority as given at para 10 above, in consultation with the respective State Governments.

12.2 An Implementation Agency may be selected by the respective State Nodal Agency and shall be entrusted with responsibility of installation, operation and maintenance of PCS/FCS for designated period as per parameters laid down in this policy and as entrusted by the concerned Nodal Agency. The Implementation Agency maybe an Aggregator as mutually decided between Central and State Nodal Agencies. However, they may also decide to choose different PCS providers for bundled packages or for individual locations as mutually decided. Further, whenever bundled packages are carved for bidding, such packages may include at least one



identified expressway/highway or part thereof to prepare a cohesive regional package; the selected identified cities may be divided into one or more parts as necessary for such purposes.

13. These Guidelines and Standards shall supersede the Revised “Charging Infrastructure for Electric Vehicles – Guidelines and Standards” issued by Ministry of Power on 1st October, 2019 and subsequent amendments dated 08.06.2020.

This issues with the approval of Hon’ble Minister of Power, New & Renewable Energy.



**(S. Majumdar)**

**Under Secretary to the Govt. of India**

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**Email: suman.m@nic.in**

**Copy to:**

1. Prime Minister’s Office/Cabinet Secretariat
2. CEO, NITI Aayog
3. The Secretaries of the CERC/State Commissions/JERCs
4. Chairperson, CEA
5. DG, BEE



**(S. Majumdar)**

**Under Secretary to the Govt. of India**

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## **Annexure I**

### **I. List of 4 million plus cities (as per census 2011)**

<b>1</b>	<b>Mumbai</b>
<b>2</b>	<b>Delhi</b>
<b>3</b>	<b>Bangalore</b>
<b>4</b>	<b>Hyderabad</b>
<b>5</b>	<b>Ahmedabad</b>
<b>6</b>	<b>Chennai</b>
<b>7</b>	<b>Kolkata</b>
<b>8</b>	<b>Surat</b>
<b>9</b>	<b>Pune</b>

### **II. List of corridors**

<b>1</b>	<b>Mumbai-Pune Expressway</b>
<b>2</b>	<b>Ahmedabad-Vadodara Expressway</b>
<b>3</b>	<b>Delhi-Agra Yamuna Expressway</b>
<b>4</b>	<b>Delhi-Jaipur</b>
<b>5</b>	<b>Bengaluru-Mysore</b>
<b>6</b>	<b>Bengaluru-Chennai</b>
<b>7</b>	<b>Surat-Mumbai Expressway</b>
<b>8</b>	<b>Agra - Lucknow Expressway</b>
<b>9</b>	<b>Eastern Peripheral Expressway</b>
<b>10</b>	<b>Delhi-Agra NH2 Expressway</b>
<b>11</b>	<b>Hyderabad ORR expressway</b>
<b>12</b>	<b>5 connected highways to each megacity</b>

**\*\*\*\*\***

**ANNEXURE II****Electric Vehicle Chargers as provided under Para 3.1 (vi) of the Guidelines**

<b>Charger Type</b>	<b>S. No.</b>	<b>Charger Connectors*</b>	<b>Rated Output Voltage(V)</b>	<b>No. of No. of Connector guns (CG)</b>	<b>Charging vehicle type(W=wheeler)</b>
<b>Fast</b>	1	Combined Charging System(CCS) (min 50 kW)	200-750 or higher	1 CG	4W
	2	CHArgedeMOve (CHAdemo) (min 50 kW)	200-500 or higher	1 CG	4W
	3	Type-2 AC (min 22 kW)	380- 415	1 CG	4W, 3W, 2W
<b>Slow/ Moderate</b>	4	Bharat DC-001 (15 kW)	48	1 CG	4W, 3W, 2W
	5.	Bharat DC-001 (15 kW)	72 or higher	1 CG	4W
	6.	Bharat AC-001 (10 kW)	230	3 CG of 3.3 kW each	4W, 3W, 2W

**\*\*\*\*\***

**Indian Standards EV Charging notified by BIS of 01.11.2021****1. Light EV AC Charge Point**

Power Level 1	Charging Device	EV-EVSE Communication	Charge Point Plug/ Socket	Vehicle Inlet/ Connector
Up to 7 kW	IS-17017-22-1	Bluetooth Low Energy	IS-60309	As per EV manufacturer

**2. Light EV DC Charge Point**

Power Level 1	Charging Device	EV-EVSE Communication	Charge Point Plug/ Socket	Vehicle Inlet/ Connector
Up to 7 kW	IS-17017-25 [CAN]		Combined Socket under development	IS-17017-2-6

**3. Parkbay AC Charge Point**

Power Level-2	Device/ Protocol	EV-EVSE Communications	Infrastructure Socket	Vehicle Connector
Normal Power ~11kW/ 22 kW	IS-17017-1	IS-15118 [PLC] for Smart Charging	IS-17017-2-2	IS-17017-2-2

**4. Parkbay DC Charge Point**

Power Level-2	Device/ Protocol	EV-EVSE Communications	Infrastructure Socket	Vehicle Connector
Normal Power ~11kW/ 22 kW	IS-17017-23	IS-17017-24 [CAN] IS-15118 [PLC]	IS-17017-22-2	IS-17017-2-3

**5. DC Charging Protocol**

Power Level 3	Charging Device	EV-EVSE Communication	Connector
DC 50 kW to 250 kW	IS-17017-23	IS-17017-24 [CAN] IS-15118 [PLC]	IS-17017-2-3

**6. eBus Charging Station (Level-4: 250 to 500 kW)**

Power Level 4	Charging Device	EV-EVSE Communication	Connector
DC High Power (250 kW --> 500 kW)			
Dual Gun Charging Station	IS-17017-23-2	IS-15118 [PLC]	IS-17017-2-3
Automated Pantograph Charging Station	IS-17017-3-1		IS-17017-3-2

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**Annexure IV**

**Model Revenue Sharing Agreement between Land-Ownning Agency (LOA) and  
Charge Point Operator (CPO) for deployment of Public EV Charging Stations**

This agreement is entered into this ..... day of ..... <YYYY> at ....., India.

**BETWEEN**

**M/s. <Insert Name of Land Owning Agency>** which expression shall unless repugnant to the context or meaning thereof, include successors and assigns of the **FIRST PART**.

**AND**

**M/s. <Name of CPO>** a Company registered under the 1956 Act, having its registered Office at <CPO registered address> (hereinafter referred to as “<CPO>” which expression shall mean and include its successor(s), administrator(s) and assigns) of the **SECOND PART**.

<LAND OWNING AGENCY> and <CPO> are hereinafter individually referred to as the “**Party**” and collectively as the “**Parties**”.

**WHEREAS:**

- A. <Details of <LAND OWNING AGENCY> (Name & Address)>.
- B. <Details of CPO (Name & Address)>.
- C. <CPO> intends to establish, setup and operate Charging Point(s) (*defined herein below*) for charging of electric vehicles at identified sites operated by <<LAND OWNING AGENCY> Name> and <LAND OWNING AGENCY> intends to grant permission to <CPO NAME> to set up Public EV Charging Stations at selected sites in ..... (hereinafter referred as “**Public Charging Station Locations/ SOL**”) and manage the same at <LAND OWNING AGENCY> sites on mutually agreed terms and conditions outlined in this Agreement.
- D. In consideration of the above, this Agreement sets out the intent of the Parties in relation to the said proposal.

**NOW THEREFORE**, in consideration of the mutual covenants, terms, conditions and understandings set forth in this Agreement, the Parties hereby agree as follows:

## 1. Definitions

The following capitalized terms wherever used in this AGREEMENT shall have the meanings given hereunder:

“**Public EV Charging Stations(s)**” means a device or station that supplies power to charge the batteries of an electric vehicle;

“**CPO**” mean Charger Point Operator.

“**AC**” shall mean Alternating Current Charging;

“**DC**” shall mean Direct Current Charging;

“**GST**” shall mean Goods and Services Tax;

“**Installation Work**” means the construction and installation of the Public Charging stations and upstream supply, (if required) System and the operation and maintenance thereof, all performed by or for <CPO NAME> at the identified site.

“**KW**” shall mean rating of public EV Charger;

“**Operating Cost**” shall include direct electricity energy charge payment through payment gateway service provider appointed by <CPO NAME>, salary of supervisor or equivalent level person designated for managing the backend system, salary for semi-skilled/ skilled workers appointed by <CPO NAME> for maintenance of chargers, annual maintenance cost of chargers, telecommunication cost, IT System cost and customer support;

“**Projects/ Charging Locations**” shall have a meaning ascribed in above Recital C hereof;

“**SOL**” means sites owned and/or operated by <LAND OWNING AGENCY>.

“**Term**” shall mean 10 years with Annual Maintenance Cost (AMC) starting from the earlier of: (a) six months from the Effective Date, or (b) the date of installation of the last Charging Point at the identified SOL in terms of this Agreement.

Effective Date: DD/MM/YYYY

“**System**” includes the Charging Points, assemblies, converters, switches, wiring devices and wiring, and all other material/civil works comprising the Installation Work.

## 2. Proposal

- a. M/s CPO Name has proposed to establish and operate up to ..... no. of Public Electric vehicle Charging Point(s) at SOL owned and/or operated by Land owning agency. For Setting up of such Public EV charging stations by M/s CPO, Land owning agency would provide the required space of about ..... Sq. Ft within the premises of the identified locations subject to feasibility in order to develop the required infrastructure for charging of electric vehicles.

- b. The Parties are keen to develop partnership for the Projects/ Public EV Charging Locations at <Location Address> and may discuss further expansion at other locations, at the sole discretion of M/s <CPO Name>.
- c. The Parties shall jointly select the identified locations based on availability of space and feasibility of operation of the Public Charging Stations without affecting regular operation of the identified locations.
- d. M/s <CPO NAME> agrees to establish, setup and operate ..... nos. of charging points at each public charging station. The Charging Station shall have chargers in accordance with Guidelines notified by the Ministry of Power. The charging infrastructure so installed shall comply with the government/ministry of power guidelines and regulations for performance, safety & quality from time to time.
- e. M/s <CPO NAME> agrees to invest in setting up and operating the public charging stations including separate power connection, transformer and meter, if required, at its own cost, and shall upgrade and refurbish the Public Charging Stations, in line with the technology advancements and business needs, from time to time. The cost of electricity including surcharge, duty, contingency for power purchase adjustment charges, etc. and all operating and maintenance expenses related to Charging Points shall be borne by M/s <CPO NAME>.
- f. The Parties agree that the Public Charging Stations may be operated through a cloud-based solution technology developed and owned by M/s <CPO NAME> and manpower deployed at the identified locations by M/s <CPO name>
- g. The Parties agree that all applicable statutory approvals/ permissions from the respective authorities for the Public Charging Stations shall be procured and obtained by M/s <CPO NAME>. <LAND OWNING AGENCY> shall provide all assistance to M/s <CPO NAME> to enable M/s <CPO NAME> to obtain the consents, clearances and permits, and the governmental approvals in a timely manner in connection with the Project. Further, <Land owning agency> agrees to assist in obtaining separate power connection or enhancing the power supply at each location, if required by M/s <CPO NAME> in connection with the Project.
- h. M/s <CPO NAME> shall arrange deployment of qualified and suitable manpower and required necessary tools, logistics, spares & consumables during installation, commissioning and O&M of Public EV charging stations at SOL. <LAND OWNING AGENCY> hereby grants to M/s <CPO NAME> a right, co-terminus with the term to ingress and egress the location and access to electrical panels and conduits to interconnect or disconnect the System with the SOL electrical wiring.
- i. Safety is of paramount importance and M/s <CPO NAME> shall take all safety precautions in connection with the setting up and operation of the Public Charging Stations to ensure safety to the user. <LAND OWNING AGENCY> agrees to ensure to provide safe and secure environment to install and operate the System. In the event of any damage to the land-owning agency facilities, property due to any fault in the M/s <CPO NAME>'s equipment, M/s <CPO NAME> will be liable to make good the losses to SOL for the same. <LAND OWNING AGENCY> shall be responsible for the loss incurred by M/s <CPO NAME> limited to Public Charging Stations and established infrastructure due to gross negligence or willful default on the part of <LAND OWNING AGENCY> or their agents/ employees.

- j. <LAND OWNING AGENCY> agrees and confirms that the Public Charging Locations (including the unfettered access to the identified space for the respective <LAND OWNING AGENCY>) shall be free from encumbrances or hindrances, and if during the installation and operation period, the same is identified by M/s <CPO NAME>, then <LAND OWNING AGENCY> shall remove the encumbrance or hindrance or provide suitable space for the System within the same location at the cost and expense of <LAND OWNING AGENCY> with immediate effect.
- k. The Parties agree to jointly undertake the planning, design, setting-up and implementing the Projects/ Public Charging Stations at the respective <LAND OWNING AGENCY>. The Parties, *inter-alia*, agree to ensure; (a) Planning and designing the charging infrastructure in relation to the Projects; (b) Investment in the Projects by M/s <CPO NAME>; (c) Operating and maintaining the Projects by <CPO Name>; and (d) Managing the Projects using cloud-based solution system software.
- l. <LAND OWNING AGENCY> shall not directly or indirectly cause, create, incur, assume, or suffer to exist any lien on or with respect to the System or any interest therein. The Project and the System shall remain the property of M/s <CPO NAME> and shall not attach to or be deemed a part of, or fixture to the <LAND OWNING AGENCY>. Neither <LAND OWNING AGENCY> nor its lessees or tenants or any other Person shall have any right, benefit, or interest in the Project.
- m. <LAND OWNING AGENCY> shall provide sufficient space at the provided location for the temporary storage and staging of tools, materials, equipment and facilities reasonably necessary during the Installation Work, or Project removal, and access for rigging and material handling.
- n. Wherever separate power connection to Public EV Charging Stations is not mandated/ not provided, <LAND OWNING AGENCY> shall provide required power to M/s <CPO NAME> for the maintenance and operation of its System at the rate <LAND OWNING AGENCY> is paying to the distribution utility at the relevant SOL and M/s <CPO NAME> shall reimburse the same to <LAND OWNING AGENCY> on actuals. In case, requires additional transformer or any expenses for providing the power, the same shall be incurred by M/s <CPO NAME>. In the event of the Govt. announcing a policy for subsidized power charges for EV charging stations, then M/s <CPO NAME> shall make necessary arrangements including separate meter and approvals as required at their own cost to avail the lower tariff.
- o. Any other activities considered necessary for setting up Public Charging Stations for electric vehicles at provided locations or other suitable locations on mutually agreed covenants/commercials arrangements, which are not specifically set out herein, but which may be identified at a later date, shall be included by mutual discussion and consent of Parties.
- p. The number of identified locations considered for Public EV Charging Stations would not be a binding number and could be amended seeing the potential, increase in business volume, less vehicle turnaround etc., if any.
- q. The number of Public EV Charging Stations in a cluster would be tentative and could increase / decrease subject to joint agreement between <LAND OWNING AGENCY> and M/s. <CPO NAME>. The addition or deletion of EV Charging Stations could be subsequently conveyed to each other in writing.

- r. Branding: <LAND OWNING AGENCY> and M/s. <CPO NAME> shall do joint branding of the venture so as to create positive long-term association, market penetration, to create synergies based on unique strengths of each parties/brand, gain market share and increase revenue and also to boost the reputation of the parties in this project.

**3. Payment of License Fee, Revenue Share and Billing Cycle raising of invoices, release of payments, security deposit etc.**

- (a) M/s. <CPO NAME> to pay <LAND OWNING AGENCY> Rs. xxx/kWh which shall be ₹ 1.0 / kWh in case of such CPO being a Government/Public Entity or at discovered price through bidding with floor price of ₹ 1 / kWh in case CPO being a private entity of billed units(kWh) from charging business starting from 1<sup>st</sup> year, of billed units from charging business to <LAND OWNING AGENCY> within .... days after end of Quarter.
- (b) For the purpose of revenue sharing, M/s <CPO NAME> shall furnish the complete details of accounting of the billed units to <LAND OWNING AGENCY> for transparency and shall be governed by confidentiality under this Agreement.

M/s <CPO NAME> shall promptly pay the bill on monthly basis within 10 days of demand for electrical energy consumed for charging electric vehicles at the said locations as per actual minimum charges /as per actual. The charges should be paid to the <LAND OWNING AGENCY> till such time a separate meter is obtained in the name of <CPO NAME>. After obtaining a separate meter in the name of <CPO NAME>, the electricity charges shall be directly paid by <CPO NAME> based on the electrical energy consumed for charging EVs at each SOL. Dispute resolution mechanism of electricity bills, if any, to be taken up with relevant Discom with support from land owning agency.

**4. Payment of Taxes**

M/s <CPO NAME> shall pay all the statutory levies and taxes imposed by the Government or any other authorities present or future on the operation of EV charging stations. Further, M/s <CPO NAME> shall also pay to <LAND OWNING AGENCY> increase in the taxes and/or any levies on the land area used specifically for Public EV charging station, by any local authority including Municipal corporation/municipality/gram panchayat or any other statutory authority or by the government except property tax. <LAND OWNING AGENCY> shall pay property tax.

**5. Insurance**

M/s <CPO NAME> shall at all times and from time to time at its own cost and expense take out adequate and proper insurance during the continuance of this agreement from a well reputed insurance company against all risks including third party risk to persons and properties, fire and explosion risk and riot risks etc. covering operation of the Public Charging stations installed at SOL.

**6. Standard Indemnification**

Each party (indemnifying party) agrees to indemnify, defend and hold the other party (indemnified party) harmless from and against:

- a. Any third party claim (including intellectual property infringement claim), liability, obligation, loss, damage, deficiency, assessment, judgement, cost or expense (including, without limitation to costs and expenses incurred in preparing and defending against or prosecuting any third party litigation, claim, action, suit proceeding or demand) of any kind or character, arising out of or in any manner solely attributable to any failure of the indemnifying Party to perform its obligations described hereunder, gross negligence or wilful misconduct in the fulfilment of its obligations hereunder or for infringing the intellectual property rights of any third party.
- b. Any claim, liability, obligation, loss, damage, deficiency, assessment, judgement, cost or expense (including, without limitation to costs and expenses incurred in preparing and defending against or prosecuting any third party litigation, claim, action, suit proceeding or demand) of any kind or character arising from claims or sanctions or penalties imposed by any regulatory authority for failure by a Party or any of its respective officers, directors, employees, servants, sub-contractors or agents to comply with any applicable laws, rules and regulations.
- c. Any claim, liability, obligation, loss, damage, deficiency, assessment, judgement, cost or expense (including, without limitation to costs and expenses incurred in preparing and defending against or prosecuting any third party litigation, claim, action, suit proceeding or demand) of any kind or character with respect to any damage to or loss of property of a third party arising out of acts or omissions by a Party or any of its respective officers, directors, employees, servants, sub-contractors, or agents in the performance of its obligations under this agreement.

## **7. Term & Termination**

7.1 This Agreement shall come into force from the Effective Date of this agreement and remain in force during the 'Term' as defined under Definitions above. The agreement shall be further extended for a period as decided and agreed mutually in writing by the Parties. The Agreement may be terminated / exited by the Parties prior to the scheduled validity period due to any one of the following reasons:

- a. Any misrepresentation, breach or violation of the terms of this Agreement by either of the Parties;
- b. If <LAND OWNING AGENCY> fails to provide the Charging Locations for locating the Charging Points at the identified SOL or M/s <CPO NAME> failing to install the charging Points at the identified SOL within a reasonable time as agreed mutually; and
- c. With mutual consent of both the parties without assigning any reason.

7.2 Upon such early termination, M/s <CPO NAME> shall have the right to dismantle all the System, equipment and Charging Points and take control in its custody, the Charging Points, System and equipment. <LAND OWNING AGENCY> shall have no right to claim and recover any of the Charging Points and the System from any

Charging Locations at the identified locations and the equipment/ infrastructure establishment by M/s <CPO NAME>.

## **8. Representations and Warranties**

**Each Party represents and warrants to the other Parties that:**

- (a) it has power to execute, deliver and perform its obligations under the Agreement and all necessary corporate and other actions have been taken to authorise such execution, delivery and performance;
- (b) it has all requisite power and authority, and does not require the consent of any third party to enter into this AGREEMENT and grant the rights provided herein;
- (c) it is in compliance with all applicable laws and regulations, as may be applicable to it.
- (d) the execution, delivery and performance of its obligations under the Agreement does not and will not: (i) contravene any applicable law, or any judgment or decree of any court having jurisdiction over it; or (ii) conflict with or result in any breach or default under any agreement, instrument, regulation, license or authorisation binding upon it or any of its assets.
- (e) violate the memorandum and articles of association, by-laws or other applicable organisational documents thereof; and
- (f) there is no litigation pending or, to the best of such Party's knowledge, threatened to which it is a party that presently affects or which would have a material adverse effect on the financial condition or prospects or business of such Party in the fulfilment of its obligations under this AGREEMENT.

## **9. Confidentiality**

9.1. During the subsistence of this Agreement and after termination or expiration of this Agreement for any reason whatsoever, the Party receiving any information and/or document which are marked as Confidential (hereinafter referred to as the "Confidential Information") shall:

- a. Keep the confidential Information confidential;
- b. Do not disclose the Confidential Information to any other person without the prior written consent of the Party disclosing such information (hereinafter referred to as the "**Disclosing Party**") except to its employees, agents, shareholders, investors, partners and advisors on a strictly need-to-know basis, and upon such person executing a non-disclosure undertaking in respect of the Confidential Information in a format reasonably satisfactory to the Disclosing Party;

- c. Do not use the Confidential Information for any purpose other than the performance of its obligations under this Agreement; Without the prior written consent of the Disclosing Party, not to make a public announcement or any other disclosure of the Confidential Information except as required by any legal stipulation applicable to it. In case of such disclosure required by legal stipulation, a Party which is required to make such disclosure shall, as soon as practicable after it is made aware of the requirement to make such disclosure, inform the Disclosing Party of the need to disclose such Confidential Information, the content thereof and the legal stipulation which requires disclosure of such Confidential Information.

9.2. The obligations contained in the relevant clauses above shall not apply to any Confidential Information which:

- a. is at the date of this Agreement or at any time after the date of this Agreement comes into the public domain other than through breach of this Agreement by such Party; can be shown by the Party receiving the information to the reasonable satisfaction of the Disclosing Party that the same was known to such Party prior to the disclosure;
- b. subsequently comes lawfully into the possession of the Party receiving such information from a person other than the Disclosing Party; or
- c. such information which any Party is required to disclose by law, by a court of competent jurisdiction or by another appropriate regulatory body, provided that the Party required to disclose shall use reasonable endeavors to consult with the Disclosing Party and take into consideration is reasonable requests in relation to such disclosure.

## 10. Notice

**All communication, demand and notices required to be sent under this Agreement shall be sent or delivered to the receiving Party at the address set forth herein, or at such other address as the Parties may from time to time designate in writing:**

**M/s <CPO NAME>:**

**Address :-**

.....  
.....  
.....  
.....

**Fax No.:**

**Email id :-**

**LOA:**

**Address:**

**Email id:-**

**Any Notice, demand or other communication shall be sent by registered post / hand delivery.**

## 11. Intellectual Property Rights

Intellectual Property Rights owned by each respective Party shall remain the property of such Party and nothing in this AGREEMENT shall be taken to represent an assignment, license or grant of other rights in or under such Intellectual Property Rights to the other Party. All right, title and interest to all Intellectual Property of each Party as of the Effective Date of this AGREEMENT, including that which is or may become protectable by patent, copyright, trademark, trade secret or similar law, shall remain exclusively with that Party.

## 12. Governing Law and Jurisdiction

This AGREEMENT shall be governed by and construed in accordance with the laws of India. Courts at <City, State>, India shall have exclusive jurisdiction in respect of matters arising out of or in relation to this AGREEMENT.

## 13. Dispute Settlement

The Parties hereby agree that they shall work together to resolve any disputes that may arise under, in relation to or in connection with this Agreement (referred to in this clause as a “**Dispute**”). In the event such Dispute is not resolved amicably within 60 (sixty) days of the date of receipt of notice issued by disputing party with respect to same by the non- disputing party then in such case all Dispute shall be settled by binding arbitration pursuant to the Arbitration and Conciliation Act, 1996, as amended (“**Arbitration Act**”), in following manner:

If any dispute or difference of any kind whatsoever shall arise between the Parties in connection with or arising out of this agreement, such dispute or difference shall be resolved through arbitration as per the procedure mentioned herein below:

- a. The dispute or difference shall be referred to a sole arbitrator.
- b. The arbitration shall be through High Court Mediation and Arbitration Centre at High Court of Judicature at <city name> for the state of <state name>.
- c. The rules of the above mentioned Institutional Arbitration Forum shall be applicable to the arbitral proceedings.
- d. The Indian Arbitration & Conciliation Act 1996 and Arbitration and Conciliation (amendment) Act 2015 or any statutory modification or re-enactment thereof and the rules made there under for the time being in force shall apply to the arbitration proceedings under the clause.
- e. The seat of arbitration shall be at <city name>, <state name>, India.
- f. The proceedings shall be conducted in English language.
- g. The cost of the proceedings shall be equally borne by the parties, unless otherwise directed by the sole arbitrator.
- h. The following shall not be referred to arbitration:

Disputes having financial claims less than Rs. 5 Lakhs.

**Notwithstanding anything contained herein above (except 'h') upon arising of dispute the parties may agree to refer the same to arbitration of mutually acceptable sole arbitrator.**

#### **14. Limitation of Liability**

Notwithstanding anything in this AGREEMENT to the contrary and to the extent permitted by applicable law, in no event shall either Party, its officers, directors, or employees be liable for any form of incidental, consequential, indirect, special or punitive damages of any kind, or for loss of revenue or profits, loss of business, loss of information or data, or other financial loss, whether such damages arise in contract, tort or otherwise, irrespective of fault, negligence or strict liability or whether such Party has been advised in advance of the possibility of such damages. A Party will not be in breach of the AGREEMENT or be liable to the other Parties if it fails to perform or delays the performance of an obligation as a result of an event beyond its reasonable control, including, legislation, regulation, order or other act of any Government or Governmental agency.

#### **15. Waiver**

Failure of a Party to require performance of any provision of this Agreement shall not affect such Party's right to full performance thereof at any time thereafter, and any waiver by a Party of a breach of any provision hereof shall not constitute a waiver of a similar breach in the future or of any other breach. No waiver shall be effective unless in writing and duly executed by the concerned Party.

#### **16. Assignment**

Except as provided in this Agreement, none of the Parties shall be entitled to assign their rights and obligations under the Agreement to a third party without the prior written consent of the other Party, except to its affiliate companies

#### **17. Amendment**

No modification or amendment to this Agreement and no waiver of any of the terms or conditions hereof shall be valid or binding unless made in writing and duly executed by the Parties.

#### **18. Severability**

If any provision of this Agreement is held to be invalid, illegal or unenforceable, such provision will be struck from the Agreement and the remaining provisions of this Agreement shall remain in full force and effect. Further, the Parties shall endeavour to replace such provision with a valid, legally enforceable provision that reflects the original intent of the Parties.

#### **19. Entire Agreement**

This Agreement supersedes all prior discussions and agreements (whether oral or written, including all correspondence) if any, between the Parties with respect to the

subject matter of this Agreement, and this Agreement contains the sole and entire understanding and agreement between the Parties hereto with respect to the subject matter contained herein.

## **20. Force Majeure**

Neither Party shall be held responsible for non-fulfillment of their respective obligations under this AGREEMENT due to the exigency of one or more of the force majeure events which are beyond the reasonable control of the Party concerned such as but not limited to acts of God, wars, floods, earthquakes, lawful strikes not confined to the premises of the Party, lockouts beyond the control of the Party claiming force majeure, epidemics, riots, civil commotions etc. provided on the occurrence and cessation of any such event, the Party affected thereby shall give a notice in writing to the other Party within one (1) month of such occurrence or cessation. If the force majeure conditions continue beyond six (6) months, the Parties shall jointly decide about the future course of action.

## **21. Survival**

Those Clauses that by its nature should survive expiration or termination of this Agreement shall remain in effect after the expiration or termination of this Agreement. It specifically clarified that the provisions of Clauses 9 (*Representations and Warranties*), Clause 10 (*Confidentiality*), Clause 12 (*Intellectual Property Rights*), Clause 13 (*Governing Law and Jurisdiction*) and Clause 14 (*Dispute Settlement*) shall survive expiration or termination of this Agreement.

## **22. Counterparts**

This Agreement may be signed in counterparts, each of which shall be deemed to be an original, and all of which together shall constitute the same instrument.

## **23. Miscellaneous**

- a. It is agreed and understood by the Parties that this Agreement is a legally binding contract and under no circumstances shall stand terminated, except in terms of Clause 3 of this Agreement.
- b. This Agreement is on a principal-to-principal basis between the Parties hereto. Nothing contained in this Agreement shall be construed or deemed to create any association, partnership or joint venture or employer-employee relationship or principal-agent relationship in any manner whatsoever between the Parties.
- c. The Parties shall not use each other's name and/or trademark/logo or publicize or release any information about this Agreement or its contents or market, publish, advertise in any manner any information without prior written consent of the other Party.

## **24. Rules of Interpretation**

- a. Irrelevance of Gender and Plurality. The definitions in this Agreement shall apply equally to both the singular and plural forms of the terms defined. Whenever the context may require, any pronoun shall include the corresponding masculine, feminine and neuter forms.
- b. Internal References. All references herein to Clauses and Annexure shall be deemed to be references to Clauses of and Annexure to, this Agreement unless the context shall otherwise require. All Annexure attached hereto shall be deemed incorporated herein as if set forth in full herein. The terms “clause(s)” and “sub-clause(s)” shall be used herein interchangeably. The words “hereof,” “herein” and “hereunder” and words of similar import when used in this Agreement shall refer to this Agreement as a whole and not to any particular provision of this Agreement. The words “include”, “includes”, and “including” shall be deemed to be followed by the words “without limitation”.
- c. Default Rules. Unless expressly contradicted or otherwise qualified, (i) all references to a Person also refer to that Person’s successors and permitted assigns, including permitted transferees, and (ii) all references to and definitions of any agreement, instrument or statute herein or in any agreement or instrument referred to herein mean such agreement, instrument or statute, including the Articles, as from time to time may be amended, modified, supplemented or restated, including (in the case of agreements or instruments) by waiver or consent and (in the case of statutes) by succession of comparable successor statutes and references to all attachments thereto and instruments incorporated therein.
- d. Drafting. The Parties have participated jointly in the negotiation and drafting of this Agreement; accordingly, in the event an ambiguity or a question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the Parties, and no presumption or burden of proof shall arise favoring or disfavoring any Party by virtue of the authorship of any provisions of this Agreement.
- e. Clause Heading: The clause heading contained in this Agreement are for the convenience of the Parties and shall not affect the meaning or interpretation of this Agreement.

## **25. GENERAL PROVISIONS**

- a. If any provision of this AGREEMENT is held to be invalid or unenforceable to any extent, the remaining provisions of this AGREEMENT shall not be affected thereby and each remaining provision of this AGREEMENT shall be valid and enforceable to the fullest extent permitted by law. Any invalid or unenforceable provision of this AGREEMENT shall be replaced with a provision which is valid and enforceable and reflects, to the maximum extent possible, the original intent of the unenforceable provision.

- b. Each Party will be solely responsible for its own acts and omissions (and the acts and omissions of its employees and other agents) and neither Party will have the authority nor will purport to act for, or legally binding, the other Party in any transactions with a third party except as agreed in writing by the Parties.
- c. The release of any information and of all public announcements (other than when such disclosure is required under any applicable law) related to such projects by a Party shall be subject to the prior written approval of the other Party, unless required under stock exchange regulations/SEBI.
- d. This Agreement shall not be amended, modified or supplemented without prior written consent of the other Party.

**In Witness Whereof The Parties Hereto Have Signed This MoU In Duplicate On The \_\_\_\_\_ Day, \_\_\_\_\_ Month and \_\_\_\_\_ Year Herein Above Written In The Presence Of:**

**For <LAND OWNING AGENCY>**

**For M/S <CPO NAME>**

**Signed & Sealed**

**WITNESS:**

**1.**

**2.**

**Signed & Sealed**

**WITNESS:**

**1.**

**2.**

EESL/Res/LSQ/CEA/2021-22/01

30<sup>th</sup> July, 2021

To,  
Shri Ashok Kumar Rajput  
Chief Engineer (RT&I) Division  
Central Electricity Authority  
Ministry of Power  
Sewa Bhawan, R K Puram-I  
New Delhi-110066

**Subject: Admitted version of Unstarred Lok Sabha PQ No. 2624 on "Vocal for local" for answer on 04.08.2021.**

Sir,

I am directed to refer to email dated 29<sup>th</sup> July 2021 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) whether it is true that all Government departments are promoting the Prime Minister's call of 'Vocal for Local' and giving priority to India-made goods;
- (b) if so, the action taken by various departments of the Government to implement the PMs appeal for increasing use of India-made goods; and
- (c) the details of the action taken by the various Departments to manufacture various items in the country itself to give priority to exports?

**Answer (a) to (c):** Ministry of Commerce and Industry may please reply.

However, EESL is promoting the Prime Minister's call for Vocal for Local and giving priority to India-made goods. EESL has taken following actions/steps as per GOI directives in this regard:

- All domestic funded tender(s) upto value Rs. 200 Crores are being done through Domestic Competitive Bidding process.
- PPP-MII (Preference to Make in India) Order Guidelines (OM No. P-45021/2/2017 -PP (BE-II)) dated 16.09.2020 have been adopted in the tendering / procurement process.
- Relevant provisions of Order (OM No.6/18/2019-PPD) dated 23.07.2020 for "Bidders from country who shares Land Boarder with India" have been incorporated in the tendering / procurement process.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पाँचवा, छठा और सातवाँ तल,  
कोर - 3, स्कोप कॉम्पलेक्स, लोधी रोड, नई दिल्ली - 110003  
दूरभाष: +91 (011) 45801260, फ़ैक्स: +91 (011) 45801265  
वेबसाइट: www.eeslindia.org

**REGISTERED OFFICE:** NFL Building, 5<sup>th</sup>, 6<sup>th</sup> & 7<sup>th</sup> Floor,  
Core - III, SCOPE Complex, Lodhi Road, New Delhi - 110003  
**Tel.:** +91 (011) 45801260, **Fax:** +91 (011) 45801265  
**Website:** www.eeslindia.org

F.No.6/18/2019-PPD  
Ministry of Finance  
Department of Expenditure  
Public Procurement Division

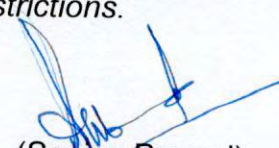
161, North Block,  
New Delhi  
23rd July, 2020

**Office Memorandum**

**Subject: Insertion of Rule 144 (xi) in the General Financial Rules (GFRs), 2017**

Rule 144 of the General Financial Rules 2017 entitled 'Fundamental principles of public buying', has been amended by inserting sub-rule (xi) as under:

*Notwithstanding anything contained in these Rules, Department of Expenditure may, by order in writing, impose restrictions, including prior registration and/or screening, on procurement from bidders from a country or countries, or a class of countries, on grounds of defence of India, or matters directly or indirectly related thereto including national security; no procurement shall be made in violation of such restrictions.*

  
(Sanjay Prasad)  
Joint Secretary (PPD)  
Email ID: [js.pfc2.doe@gov.in](mailto:js.pfc2.doe@gov.in)  
Telephone: 011-23093882

To,

- (1) Secretaries of All Ministries/ Departments of Government of India
- (2) Chief Secretaries/ Administrators of Union Territories/ National Capital Territory of Delhi



F.No.6/18/2019-PPD  
Ministry of Finance  
Department of Expenditure  
Public Procurement Division

161, North Block,  
New Delhi  
23rd July, 2020

**Order (Public Procurement No. 1)**

**Subject: Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017**

Attention is invited to this office OM no. 6/18/2019-PPD dated 23<sup>rd</sup> July 2020 inserting Rule 144 (xi) in GFRs 2017. In this regard, the following is hereby ordered under Rule 144 (xi) on the grounds stated therein:

**Requirement of registration**

1. Any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with the Competent Authority, specified in **Annex I**.
2. This Order shall not apply to (i) cases where orders have been placed or contract has been concluded or letter/notice of award/ acceptance (LoA) has been issued on or before the date of this order; and (ii) cases falling under **Annex II**.

**Transitional cases**

3. Tenders where no contract has been concluded or no LoA has been issued so far shall be handled in the following manner: -
  - a) *In tenders which are yet to be opened, or where evaluation of technical bid or the first exclusionary qualificatory stage (i.e. the first stage at which the qualifications of tenderers are evaluated and unqualified bidders are excluded) has not been completed:* No contracts shall be placed on bidders from such countries. Tenders received from bidders from such countries shall be dealt with as if they are non-compliant with the tender conditions and the tender shall be processed accordingly.
  - b) *If the tendering process has crossed the first exclusionary qualificatory stage:* If the qualified bidders include bidders from such countries, the

entire process shall be scrapped and initiated *de novo*. The *de novo* process shall adhere to the conditions prescribed in this Order.

- c) As far as practicable, and in cases of doubt about whether a bidder falls under paragraph 1, a certificate shall be obtained from the bidder whose bid is proposed to be considered or accepted, in terms of paras 8, 9 and 10 read with para 1 of this Order.

#### Incorporation in tender conditions

- 4. In tenders to be issued after the date of this order, the provisions of paragraph 1 and of other relevant provisions of this Order shall be incorporated in the tender conditions.

#### Applicability

- 5. Apart from Ministries / Departments, attached and subordinate bodies, notwithstanding anything contained in Rule 1 of the GFRs 2017, this Order shall also be applicable
  - a. to all Autonomous Bodies;
  - b. to public sector banks and public sector financial institutions; and
  - c. subject to any orders of the Department of Public Enterprises, to all Central Public Sector Enterprises; and
  - d. to procurement in Public Private Partnership projects receiving financial support from the Government or public sector enterprises/ undertakings.
  - e. Union Territories, National Capital Territory of Delhi and all agencies/ undertakings thereof

#### Definitions

- 6. "Bidder" for the purpose of this Order (including the term 'tenderer', 'consultant' 'vendor' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency, branch or office controlled by such person, participating in a procurement process.
- 7. "Tender" for the purpose of this Order will include other forms of procurement, except where the context requires otherwise.
- 8. "Bidder from a country which shares a land border with India" for the purpose of this Order means

- a) An entity incorporated, established or registered in such a country; or
- b) A subsidiary of an entity incorporated, established or registered in such a country; or
- c) An entity substantially controlled through entities incorporated, established or registered in such a country; or
- d) An entity whose *beneficial owner* is situated in such a country; or
- e) An Indian (or other) agent of such an entity; or
- f) A natural person who is a citizen of such a country; or
- g) A consortium or joint venture where any member of the consortium or joint venture falls under any of the above

9. "Beneficial owner" for the purpose of paragraph 8 above will be as under:

- (i) In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person(s), has a controlling ownership interest or who exercises control through other means.

Explanation—

- a. "Controlling ownership interest" means ownership of, or entitlement to, more than twenty-five per cent of shares or capital or profits of the company;
- b. "Control" shall include the right to appoint the majority of the directors or to control the management or policy decisions, including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
- (ii) In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
- (iii) In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
- (iv) Where no natural person is identified under (i) or (ii) or (iii) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;

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(v) In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

10. "Agent" for the purpose of this Order is a person employed to do any act for another, or to represent another in dealings with third persons.

#### Sub-contracting in works contracts

11. In works contracts, including turnkey contracts, contractors shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority. The definition of "contractor from a country which shares a land border with India" shall be as in paragraph 8 above. This shall not apply to sub-contracts already awarded on or before the date of this Order.

#### Certificate regarding compliance

12. A certificate shall be taken from bidders in the tender documents regarding their compliance with this Order. If such certificate given by a bidder whose bid is accepted is found to be false, this would be a ground for immediate termination and further legal action in accordance with law.

#### Validity of registration

13. In respect of tenders, registration should be valid at the time of submission of bids and at the time of acceptance of bids. In respect of supply otherwise than by tender, registration should be valid at the time of placement of order. If the bidder was validly registered at the time of acceptance / placement of order, registration shall not be a relevant consideration during contract execution.

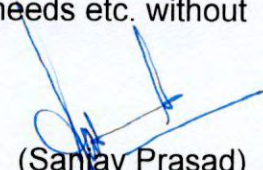
#### Government E-Marketplace

14. The Government E-Marketplace shall, as soon as possible, require all vendors/ bidders registered with GeM to give a certificate regarding compliance with this Order, and after the date fixed by it, shall remove non-compliant entities from GeM unless/ until they are registered in accordance with this Order.

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Model Clauses/ Certificates

15. Model Clauses and Model Certificates which may be inserted in tenders / obtained from Bidders are enclosed as **Annex III**. While adhering to the substance of the Order, procuring entities are free to appropriately modify the wording of these clauses based on their past experience, local needs etc. without making any reference to this Department.

  
(Sanjay Prasad)  
Joint Secretary (PPD)  
Email ID: [js.pfc2.doe@gov.in](mailto:js.pfc2.doe@gov.in)  
Telephone: 011-23093882

To

- (1) Secretaries of All Ministries/ Departments of Government of India for information and necessary action. They are also requested to inform these provisions to all procuring entities.
- (2) Secretary, Department of Public Enterprises with a request to immediately reiterate these orders in respect of Public Enterprises.
- (3) Secretary DPIIT with a request to initiate action as provided under Annex I
- (4) Chief Secretaries/ Administrators of Union Territories/ National Capital Territory of Delhi

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## Annex I: Competent Authority and Procedure for Registration

- A. The Competent Authority for the purpose of registration under this Order shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT)\*.
- B. The Registration Committee shall have the following members\*:
- i. An officer, not below the rank of Joint Secretary, designated for this purpose by DPIIT, who shall be the Chairman;
  - ii. Officers (ordinarily not below the rank of Joint Secretary) representing the Ministry of Home Affairs, Ministry of External Affairs, and of those Departments whose sectors are covered by applications under consideration;
  - iii. Any other officer whose presence is deemed necessary by the Chairman of the Committee.
- C. DPIIT shall lay down the method of application, format etc. for such bidders as stated in para 1 of this Order.
- D. On receipt of an application seeking registration from a bidder from a country covered by para 1 of this Order, the Competent Authority shall first seek political and security clearances from the Ministry of External Affairs and Ministry of Home Affairs, as per guidelines issued from time to time. Registration shall not be given unless political and security clearance have both been received.
- E. The Ministry of External Affairs and Ministry of Home Affairs may issue guidelines for internal use regarding the procedure for scrutiny of such applications by them.
- F. The decision of the Competent Authority, to register such bidder may be for all kinds of tenders or for a specified type(s) of goods or services, and may be for a specified or unspecified duration of time, as deemed fit. The decision of the Competent Authority shall be final.
- G. Registration shall not be granted unless the representatives of the Ministries of Home Affairs and External Affairs on the Committee concur\*.
- H. Registration granted by the Competent Authority of the Government of India shall be valid not only for procurement by Central Government and its agencies/ public enterprises etc. but **also for procurement by State Governments and their agencies/ public enterprises etc. No fresh registration at the State level shall be required.**

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- I. The Competent Authority is empowered to cancel the registration already granted if it determines that there is sufficient cause. Such cancellation by itself, however, will not affect the execution of contracts already awarded. Pending cancellation, it may also suspend the registration of a bidder, and the bidder shall not be eligible to bid in any further tenders during the period of suspension.
- J. For national security reasons, the Competent Authority shall not be required to give reasons for rejection / cancellation of registration of a bidder.
- K. In transitional cases falling under para 3 of this Order, where it is felt that it will not be practicable to exclude bidders from a country which shares a land border with India, a reference seeking permission to consider such bidders shall be made by the procuring entity to the Competent Authority, giving full information and detailed reasons. The Competent Authority shall decide whether such bidders may be considered, and if so shall follow the procedure laid down in the above paras.
- L. Periodic reports on the acceptance/ refusal of registration during the preceding period may be required to be sent to the Cabinet Secretariat. Details will be issued separately in due course by DPIIT.

[\*Note:

- i. In respect of application of this Order to procurement by/ under State Governments, all functions assigned to DPIIT shall be carried out by the State Government concerned through a specific department or authority designated by it. The composition of the Registration Committee shall be as decided by the State Government and paragraph G above shall not apply. However, the requirement of **political and security clearance as per para D shall remain and no registration shall be granted without such clearance.**
- ii. Registration granted by State Governments shall be valid only for procurement by the State Government and its agencies/ public enterprises etc. and shall not be valid for procurement in other states or by the Government of India and their agencies/ public enterprises etc.]

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## Annex II: Special Cases

- A. Till 31<sup>st</sup> December 2020, procurement of medical supplies directly related to containment of the Covid-19 pandemic shall be exempt from the provisions of this Order.
- B. *Bona fide* procurements made through GeM without knowing the country of the bidder till the date fixed by GeM for this purpose, shall not be invalidated by this Order.
- C. *Bona fide* small procurements, made without knowing the country of the bidder, shall not be invalidated by this Order.
- D. In projects which receive international funding with the approval of the Department of Economic Affairs (DEA), Ministry of Finance, the procurement guidelines applicable to the project shall normally be followed, notwithstanding anything contained in this Order and without reference to the Competent Authority. Exceptions to this shall be decided in consultation with DEA.
- E. This Order shall not apply to procurement by Indian missions and by offices of government agencies/ undertakings located outside India.

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### Annex III

#### **Model Clause /Certificate to be inserted in tenders etc.**

*(While adhering to the substance of the Order, procuring entities and GeM are free to appropriately modify the wording of the clause/ certificate based on their past experience, local needs etc.)*

#### Model Clauses for Tenders

- I. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority.
- II. "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
- III. "Bidder from a country which shares a land border with India" for the purpose of this Order means: -
  - a. An entity incorporated, established or registered in such a country; or
  - b. A subsidiary of an entity incorporated, established or registered in such a country; or
  - c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
  - d. An entity whose *beneficial owner* is situated in such a country; or
  - e. An Indian (or other) agent of such an entity; or
  - f. A natural person who is a citizen of such a country; or
  - g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above
- IV. The *beneficial owner* for the purpose of (iii) above will be as under:
  1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

Explanation—

    - a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent. of shares or capital or profits of the company;

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- b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
  3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
  4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
  5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.
- V. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.
- VI. *[To be inserted in tenders for Works contracts, including Turnkey contracts]* The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.

Model Certificate for Tenders (for transitional cases as stated in para 3 of this Order)

*"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I hereby certify that this bidder is not from such a country and is eligible to be considered."*

Model Certificate for Tenders

*"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the*

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*Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]”*

Model Certificate for Tenders for Works involving possibility of sub-contracting

*“I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]”*

Model Certificate for GeM:

*“I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this vendor/ bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this vendor/ bidder fulfills all requirements in this regard and is eligible to be considered for procurement on GeM. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]”*

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No. P-45021/2/2017-PP (BE-II)  
Government of India  
Ministry of Commerce and Industry  
Department for Promotion of Industry and Internal Trade  
(Public Procurement Section)

Udyog Bhawan, New Delhi  
Dated: 16<sup>th</sup> September, 2020

To

All Central Ministries/Departments/CPSUs/All concerned

**ORDER**

**Subject: Public Procurement (Preference to Make in India), Order 2017– Revision; regarding.**

Department for Promotion of Industry and Internal Trade, in partial modification [Paras 2, 3, 5, 10 & 13] of Order No.P-45021/2/2017-B.E.-II dated 15.6.2017 as amended by Order No.P-45021/2/2017-B.E.-II dated 28.05.2018, Order No.P-45021/2/2017-B.E.-II dated 29.05.2019 and Order No.P-45021/2/2017-B.E.-II dated 04.06.2020, hereby issues the revised 'Public Procurement (Preference to Make in India), Order 2017' dated 16.09.2020 effective with immediate effect.

**Whereas** it is the policy of the Government of India to encourage 'Make in India' and promote manufacturing and production of goods and services in India with a view to enhancing income and employment, and

**Whereas** procurement by the Government is substantial in amount and can contribute towards this policy objective, and

**Whereas** local content can be increased through partnerships, cooperation with local companies, establishing production units in India or Joint Ventures (JV) with Indian suppliers, increasing the participation of local employees in services and training them,

**Now therefore the following Order is issued:**

1. This Order is issued pursuant to Rule 153 (iii) of the General Financial Rules 2017.
2. **Definitions:** For the purposes of this Order:

*'Local content'* means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.

*'Class-I local supplier'* means a supplier or service provider, whose goods, services or works offered for procurement, meets the minimum local content as prescribed for 'Class-I local supplier' under this Order.

.....Contd. p/2

*'Class-II local supplier'* means a supplier or service provider, whose goods, services or works offered for procurement, meets the minimum local content as prescribed for 'Class-II local supplier' but less than that prescribed for 'Class-I local supplier' under this Order.

*'Non - Local supplier'* means a supplier or service provider, whose goods, services or works offered for procurement, has local content less than that prescribed for 'Class-II local supplier' under this Order.

*'L1'* means the lowest tender or lowest bid or the lowest quotation received in a tender, bidding process or other procurement solicitation as adjudged in the evaluation process as per the tender or other procurement solicitation.

*'Margin of purchase preference'* means the maximum extent to which the price quoted by a "Class-I local supplier" may be above the L1 for the purpose of purchase preference.

*'Nodal Ministry'* means the Ministry or Department identified pursuant to this order in respect of a particular item of goods or services or works.

*'Procuring entity'* means a Ministry or department or attached or subordinate office of, or autonomous body controlled by, the Government of India and includes Government companies as defined in the Companies Act.

*'Works'* means all works as per Rule 130 of GFR- 2017, and will also include *'turnkey works'*.

### **3. Eligibility of 'Class-I local supplier' / 'Class-II local supplier' / 'Non-local suppliers' for different types of procurement**

(a) In procurement of all goods, services or works in respect of which the Nodal Ministry / Department has communicated that there is sufficient local capacity and local competition, only 'Class-I local supplier', as defined under the Order, shall be eligible to bid irrespective of purchase value.

(b) Only 'Class-I local supplier' and 'Class-II local supplier', as defined under the Order, shall be eligible to bid in procurements undertaken by procuring entities, except when Global tender enquiry has been issued. In global tender enquiries, 'Non-local suppliers' shall also be eligible to bid along with 'Class-I local suppliers' and 'Class-II local suppliers'. In procurement of all goods, services or works, not covered by sub-para 3(a) above, and with estimated value of purchases less than Rs. 200 Crore, in accordance with Rule 161(iv) of GFR, 2017, Global tender enquiry shall not be issued except with the approval of competent authority as designated by Department of Expenditure.

(c) For the purpose of this Order, works includes Engineering, Procurement and Construction (EPC) contracts and services include System Integrator (SI) contracts.

### 3A. Purchase Preference

(a) Subject to the provisions of this Order and to any specific instructions issued by the Nodal Ministry or in pursuance of this Order, purchase preference shall be given to 'Class-I local supplier' in procurements undertaken by procuring entities in the manner specified here under.

(b) In the procurements of goods or works, which are covered by para 3(b) above and which are divisible in nature, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:

- i. Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract for full quantity will be awarded to L1.
- ii. If L1 bid is not a 'Class-I local supplier', 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price for the remaining 50% quantity subject to the Class-I local supplier's quoted price falling within the margin of purchase preference, and contract for that quantity shall be awarded to such 'Class-I local supplier' subject to matching the L1 price. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price or accepts less than the offered quantity, the next higher 'Class-I local supplier' within the margin of purchase preference shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly. In case some quantity is still left uncovered on Class-I local suppliers, then such balance quantity may also be ordered on the L1 bidder.

(c) In the procurements of goods or works, which are covered by para 3(b) above and which are not divisible in nature, and in procurement of services where the bid is evaluated on price alone, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:

- i. Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract will be awarded to L1.
- ii. If L1 is not 'Class-I local supplier', the lowest bidder among the 'Class-I local supplier', will be invited to match the L1 price subject to Class-I local supplier's quoted price falling within the margin of purchase preference, and the contract shall be awarded to such 'Class-I local supplier' subject to matching the L1 price.
- iii. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price, the 'Class-I local supplier' with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the 'Class-I local supplier' within the margin of purchase preference matches the L1 price, the contract may be awarded to the L1 bidder.

- (d) "Class-II local supplier" will not get purchase preference in any procurement, undertaken by procuring entities.

**3B. Applicability in tenders where contract is to be awarded to multiple bidders -**

In tenders where contract is awarded to multiple bidders subject to matching of L1 rates or otherwise, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:

- a) In case there is sufficient local capacity and competition for the item to be procured, as notified by the nodal Ministry, only Class I local suppliers shall be eligible to bid. As such, the multiple suppliers, who would be awarded the contract, should be all and only 'Class I Local suppliers'.
- b) In other cases, 'Class II local suppliers' and 'Non local suppliers' may also participate in the bidding process along with 'Class I Local suppliers' as per provisions of this Order.
- c) If 'Class I Local suppliers' qualify for award of contract for at least 50% of the tendered quantity in any tender, the contract may be awarded to all the qualified bidders as per award criteria stipulated in the bid documents. However, in case 'Class I Local suppliers' do not qualify for award of contract for at least 50% of the tendered quantity, purchase preference should be given to the 'Class I local supplier' over 'Class II local suppliers' / 'Non local suppliers' provided that their quoted rate falls within 20% margin of purchase preference of the highest quoted bidder considered for award of contract so as to ensure that the 'Class I Local suppliers' taken in totality are considered for award of contract for at least 50% of the tendered quantity.
- d) First purchase preference has to be given to the lowest quoting 'Class-I local supplier', whose quoted rates fall within 20% margin of purchase preference, subject to its meeting the prescribed criteria for award of contract as also the constraint of maximum quantity that can be sourced from any single supplier. If the lowest quoting 'Class-I local supplier', does not qualify for purchase preference because of aforesaid constraints or does not accept the offered quantity, an opportunity may be given to next higher 'Class-I local supplier', falling within 20% margin of purchase preference, and so on.
- e) To avoid any ambiguity during bid evaluation process, the procuring entities may stipulate its own tender specific criteria for award of contract amongst different bidders including the procedure for purchase preference to 'Class-I local supplier' within the broad policy guidelines stipulated in sub-paras above.

4. **Exemption of small purchases:** Notwithstanding anything contained in paragraph 3, procurements where the estimated value to be procured is less than Rs. 5 lakhs shall be exempt from this Order. However, it shall be ensured by procuring entities that procurement is not split for the purpose of avoiding the provisions of this Order.
5. **Minimum local content:** The 'local content' requirement to categorize a supplier as 'Class-I local supplier' is minimum 50%. For 'Class-II local supplier', the 'local content' requirement is minimum 20%. Nodal Ministry/ Department may prescribe only a higher

percentage of minimum local content requirement to categorize a supplier as 'Class-I local supplier'/ 'Class-II local supplier'. For the items, for which Nodal Ministry/ Department has not prescribed higher minimum local content notification under the Order, it shall be 50% and 20% for 'Class-I local supplier'/ 'Class-II local supplier' respectively.

6. **Margin of Purchase Preference:** The margin of purchase preference shall be 20%.
7. **Requirement for specification in advance:** The minimum local content, the margin of purchase preference and the procedure for preference to Make in India shall be specified in the notice inviting tenders or other form of procurement solicitation and shall not be varied during a particular procurement transaction.
8. **Government E-marketplace:** In respect of procurement through the Government E-marketplace (GeM) shall, as far as possible, specifically mark the items which meet the minimum local content while registering the item for display, and shall, wherever feasible, make provision for automated comparison with purchase preference and without purchase preference and for obtaining consent of the local supplier in those cases where purchase preference is to be exercised.
9. **Verification of local content:**
  - a. The 'Class-I local supplier'/ 'Class-II local supplier' at the time of tender, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for 'Class-I local supplier'/ 'Class-II local supplier', as the case may be. They shall also give details of the location(s) at which the local value addition is made.
  - b. In cases of procurement for a value in excess of Rs. 10 crores, the 'Class-I local supplier'/ 'Class-II local supplier' shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.
  - c. Decisions on complaints relating to implementation of this Order shall be taken by the competent authority which is empowered to look into procurement-related complaints relating to the procuring entity.
  - d. Nodal Ministries may constitute committees with internal and external experts for independent verification of self-declarations and auditor's/ accountant's certificates on random basis and in the case of complaints.
  - e. Nodal Ministries and procuring entities may prescribe fees for such complaints.
  - f. False declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

- g. A supplier who has been debarred by any procuring entity for violation of this Order shall not be eligible for preference under this Order for procurement by any other procuring entity for the duration of the debarment. The debarment for such other procuring entities shall take effect prospectively from the date on which it comes to the notice of other procurement entities, in the manner prescribed under paragraph 9h below.
- h. The Department of Expenditure shall issue suitable instructions for the effective and smooth operation of this process, so that:
  - i. The fact and duration of debarment for violation of this Order by any procuring entity are promptly brought to the notice of the Member-Convenor of the Standing Committee and the Department of Expenditure through the concerned Ministry /Department or in some other manner;
  - ii. on a periodical basis such cases are consolidated and a centralized list or decentralized lists of such suppliers with the period of debarment is maintained and displayed on website(s);
  - iii. in respect of procuring entities other than the one which has carried out the debarment, the debarment takes effect prospectively from the date of uploading on the website(s) in the such a manner that ongoing procurements are not disrupted.

**10. Specifications in Tenders and other procurement solicitations:**

- a. Every procuring entity shall ensure that the eligibility conditions in respect of previous experience fixed in any tender or solicitation do not require proof of supply in other countries or proof of exports.
- b. Procuring entities shall endeavour to see that eligibility conditions, including on matters like turnover, production capability and financial strength do not result in unreasonable exclusion of 'Class-I local supplier'/ 'Class-II local supplier' who would otherwise be eligible, beyond what is essential for ensuring quality or creditworthiness of the supplier.
- c. Procuring entities shall, within 2 months of the issue of this Order review all existing eligibility norms and conditions with reference to sub-paragraphs 'a' and 'b' above.

**d. Reciprocity Clause**

- i. When a Nodal Ministry/Department identifies that Indian suppliers of an item are not allowed to participate and/ or compete in procurement by any foreign government, due to restrictive tender conditions which have direct or indirect effect of barring Indian companies such as registration in the procuring country, execution of projects of specific value in the procuring country etc., it shall provide such details to all its procuring entities including CMDs/CEOs of PSEs/PSUs, State Governments and other procurement agencies under their administrative control and GeM for appropriate reciprocal action.

- ii. Entities of countries which have been identified by the nodal Ministry/Department as not allowing Indian companies to participate in their Government procurement for any item related to that nodal Ministry shall not be allowed to participate in Government procurement in India for all items related to that nodal Ministry/ Department, except for the list of items published by the Ministry/ Department permitting their participation.
  - iii. The stipulation in (ii) above shall be part of all tenders invited by the Central Government procuring entities stated in (i) above. All purchases on GeM shall also necessarily have the above provisions for items identified by nodal Ministry/ Department.
  - iv. State Governments should be encouraged to incorporate similar provisions in their respective tenders.
  - v. The term 'entity' of a country shall have the same meaning as under the FDI Policy of DPIIT as amended from time to time.
- e. Specifying foreign certifications/ unreasonable technical specifications/ brands/ models in the bid document is restrictive and discriminatory practice against local suppliers. If foreign certification is required to be stipulated because of non-availability of Indian Standards and/or for any other reason, the same shall be done only after written approval of Secretary of the Department concerned or any other Authority having been designated such power by the Secretary of the Department concerned.
- f. "All administrative Ministries/Departments whose procurement exceeds Rs. 1000 Crore per annum shall notify/ update their procurement projections every year, including those of the PSEs/PSUs, for the next 5 years on their respective website."

**10A. Action for non-compliance of the Provisions of the Order:** In case restrictive or discriminatory conditions against domestic suppliers are included in bid documents, an inquiry shall be conducted by the Administrative Department undertaking the procurement (including procurement by any entity under its administrative control) to fix responsibility for the same. Thereafter, appropriate action, administrative or otherwise, shall be taken against erring officials of procurement entities under relevant provisions. Intimation on all such actions shall be sent to the Standing Committee.

**11. Assessment of supply base by Nodal Ministries:** The Nodal Ministry shall keep in view the domestic manufacturing / supply base and assess the available capacity and the extent of local competition while identifying items and prescribing the higher minimum local content or the manner of its calculation, with a view to avoiding cost increase from the operation of this Order.

**12. Increase in minimum local content:** The Nodal Ministry may annually review the local content requirements with a view to increasing them, subject to availability of sufficient local competition with adequate quality.

13. **Manufacture under license/ technology collaboration agreements with phased indigenization:** While notifying the minimum local content, Nodal Ministries may make special provisions for exempting suppliers from meeting the stipulated local content if the product is being manufactured in India under a license from a foreign manufacturer who holds intellectual property rights and where there is a technology collaboration agreement / transfer of technology agreement for indigenous manufacture of a product developed abroad with clear phasing of increase in local content.

13A. In procurement of all goods, services or works in respect of which there is substantial quantity of public procurement and for which the nodal ministry has not notified that there is sufficient local capacity and local competition, the concerned nodal ministry shall notify an upper threshold value of procurement beyond which foreign companies shall enter into a joint venture with an Indian company to participate in the tender. Procuring entities, while procuring such items beyond the notified threshold value, shall prescribe in their respective tenders that foreign companies may enter into a joint venture with an Indian company to participate in the tender. The procuring Ministries/Departments shall also make special provisions for exempting such joint ventures from meeting the stipulated minimum local content requirement, which shall be increased in a phased manner.

14. **Powers to grant exemption and to reduce minimum local content:** The administrative Department undertaking the procurement (including procurement by any entity under its administrative control), with the approval of their Minister-in-charge, may by written order, for reasons to be recorded in writing,

- a. reduce the minimum local content below the prescribed level; or
- b. reduce the margin of purchase preference below 20%; or
- c. exempt any particular item or supplying entities from the operation of this Order or any part of the Order.

A copy of every such order shall be provided to the Standing Committee and concerned Nodal Ministry / Department. The Nodal Ministry / Department concerned will continue to have the power to vary its notification on Minimum Local Content.

15. **Directions to Government companies:** In respect of Government companies and other procuring entities not governed by the General Financial Rules, the administrative Ministry or Department shall issue policy directions requiring compliance with this Order.

16. **Standing Committee:** A standing committee is hereby constituted with the following membership:

Secretary, Department for Promotion of Industry and Internal Trade—Chairman  
Secretary, Commerce—Member  
Secretary, Ministry of Electronics and Information Technology—Member  
Joint Secretary (Public Procurement), Department of Expenditure—Member  
Joint Secretary (DPIIT)—Member-Convenor

The Secretary of the Department concerned with a particular item shall be a member in respect of issues relating to such item. The Chairman of the Committee may co-opt technical experts as relevant to any issue or class of issues under its consideration.

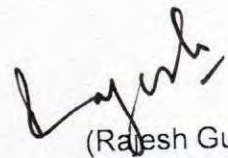
**17. Functions of the Standing Committee:** The Standing Committee shall meet as often as necessary, but not less than once in six months. The Committee

- a. shall oversee the implementation of this order and issues arising therefrom, and make recommendations to Nodal Ministries and procuring entities.
- b. shall annually assess and periodically monitor compliance with this Order
- c. shall identify Nodal Ministries and the allocation of items among them for issue of notifications on minimum local content
- d. may require furnishing of details or returns regarding compliance with this Order and related matters
- e. may, during the annual review or otherwise, assess issues, if any, where it is felt that the manner of implementation of the order results in any restrictive practices, cartelization or increase in public expenditure and suggest remedial measures
- f. may examine cases covered by paragraph 13 above relating to manufacture under license/ technology transfer agreements with a view to satisfying itself that adequate mechanisms exist for enforcement of such agreements and for attaining the underlying objective of progressive indigenization
- g. may consider any other issue relating to this Order which may arise.

**18. Removal of difficulties:** Ministries /Departments and the Boards of Directors of Government companies may issue such clarifications and instructions as may be necessary for the removal of any difficulties arising in the implementation of this Order.

**19. Ministries having existing policies:** Where any Ministry or Department has its own policy for preference to local content approved by the Cabinet after 1<sup>st</sup> January 2015, such policies will prevail over the provisions of this Order. All other existing orders on preference to local content shall be reviewed by the Nodal Ministries and revised as needed to conform to this Order, within two months of the issue of this Order.

**20. Transitional provision:** This Order shall not apply to any tender or procurement for which notice inviting tender or other form of procurement solicitation has been issued before the issue of this Order.



(Rajesh Gupta)  
Director

Tel: 23063211

[rajesh.gupta66@gov.in](mailto:rajesh.gupta66@gov.in)

EESL/Res/RSQ/EC/2021-22/01

5<sup>th</sup> August, 2021

To,  
Shri Arun Aggarwal  
Under Secretary  
Ministry of Power  
'F' Wing, Nirman Bhawan  
New Delhi - 110011

**Subject: Inputs for admitted unstarred question "Potential for Green Economy" due for 9.8.2021**

Sir,

I am directed to refer to email dated 5<sup>th</sup> August 2021 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) Whether the Government is aware of the Potential for a Green Economy in the country and if so, the details thereof;
- (b) whether there could be a green emission on a large scale as a result of the efforts made to tackle the problem of climate change; and
- (c) if so, the details thereof?

**Answer (a) to (c):** Ministry of Power may please reply.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

EESL/Res/LSQ/EC/2021-22/01

23<sup>rd</sup> July, 2021

To,  
Shri Arun Aggarwal  
Under Secretary  
Ministry of Power  
'F' Wing, Nirman Bhawan  
New Delhi - 110011

**Subject: Lok Sabha admitted question No. 1625 (Dy No. 4332) to be replied on 29/07/2021 regarding "Change of names of schemes"**

Sir,

I am directed to refer email dated 23<sup>rd</sup> July 2021 received from EC Division MoP on the above subject. The para wise reply is as follows:

**Questions:**

- (a) whether it is a fact the names of a number of schemes has been changed by the Ministry during the last five years;
- (b) if so, the names by which these schemes were being run previously along with the present names thereof;
- (c) the reasons for changing the names of the schemes; and
- (d) the details of benefits derived by changing the names of the schemes?

**Answer (a) to (d):** Information pertaining to EESL may be treated as **NIL**.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

EESL/Res/LSQ/CEA/2021-22/01

14<sup>th</sup> July, 2021

To,  
Shri Ashok Kumar Rajput  
Chief Engineer (R&D)  
Central Electricity Authority  
Ministry of Power  
Government of India

**Subject: Lok Sabha Dy. No. 531 regarding 'Alternative Energy' for 19.07.2021**

Sir,

I am directed to refer to your email dated 9<sup>th</sup> July 2021 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) Whether the country is facing the challenge of high fossil fuel consumption;
- (b) if so, the reasons therefor;
- (c) whether the government has formulated any plan to promote an alternative clean energy in future;
- (d) whether the government has formulated any plan to promote electric transport for energy security;
- (e) if so, the details thereof; and
- (f) if not, the reasons therefore?

**Answer (a) to (f):** Ministry of Petroleum and Natural Gas/Ministry of Heavy Industry may please reply.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

EESL/Res/LSQ/CEA/2021-22/01

9<sup>th</sup> August, 2021

To,  
Shri Ashok Kumar Rajput  
Chief Engineer (RT&I) Division  
Central Electricity Authority  
Ministry of Power  
Sewa Bhawan, R K Puram-I  
New Delhi-110066

**Subject: Lok Sabha Parliament Question 3963 for 12.08.2021 regarding Charging Stations for Electric Vehicles” -reg.**

Sir,

I am directed to refer to email dated 6<sup>th</sup> August 2021 on the above subject. The para wise reply is as follows:

**Questions:**

- (a): the measures taken by the Government to incentivise the use of electric vehicles in the country;**
- (b): the details of charging stations proposed to be installed along the National Highways (NHs) over the next five years;**
- (c): the average distance required between the two charging stations along NHs; and**
- (d): whether the Government proposes to introduce mobile charging stations along NHs and if so, the details thereof?**

**Answer (a) to (d):** Ministry of Heavy Industry may please reply.

However, Energy Efficiency Services Limited (EESL) a JV of PSU under MoP, GoI through Convergence Energy Services Limited (CESL – 100% Owned subsidiary of EESL) is implementing e-Mobility Programme with the objective to reduce dependence on oil imports & to provide an impetus for domestic electric vehicle manufacturers, charging infrastructure companies, fleet operators, service providers, etc. to gain efficiencies of scale and drive down costs, create local manufacturing facilities, grow technical competencies for the long-term growth of the electric vehicle (EV) industry in India and to enable Indian EV manufacturers to emerge as major global players.

Under this programme, EESL/CESL concluded the procurement of various categories of electric cars through an international competitive bidding process. Till date, EESL/CESL have deployed/under deployment 1,590 EVs in more than 160 Central and state government departments in 49 cities. These e-cars are being given on lease/outright purchase basis to replace the existing petrol and diesel vehicles taken on lease.

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**Tel.:** +91 (011) 45801260, **Fax:** +91 (011) 45801265  
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EESL/CESL is also developing Electric Vehicle Charging Infrastructure and has signed MoUs with multiple stakeholders across municipalities, DISCOMs for location assessment study and setting up of charging infrastructures in their jurisdiction location. As on date EESL/CESL has installed 370 nos. of EV chargers across India of which 155 nos. are operational and rest are in the process of pre-commissioning.

This issues with the approval of Competent Authority.

Yours Sincerely

A handwritten signature in black ink, appearing to be 'D. Sahani', with a stylized flourish at the end.

(Deepak Kumar Sahani)  
Manager (Tech.)

EESL/Res/LSQ/UMPP-EV/2021-22/01

5<sup>th</sup> August 2021

To,  
Rahul Kumar  
Assistant Section Officer (UMPP/EV)  
Ministry of Power  
New Delhi

**Subject: Lok Sabha Parliament Question D.No. 11287 for 12.08.2021 regarding "Charging Infrastructure for Electric Vehicles".**

Sir,

I am directed to refer to email dated 3<sup>rd</sup> August 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a): whether the Government proposes to take any steps to set up charging infrastructure for electric vehicles in Delhi;**

**(b): if so, the details thereof; and**

**Answer (a) & (b):** Ministry of Power may please reply.

However, Energy Efficiency Services Limited (EESL) a JV of PSU under MoP, GoI through Convergence Energy Services Limited (CESL – 100% Owned subsidiary of EESL) is implementing e-Mobility Programme with the objective to reduce dependence on oil imports & to provide an impetus for domestic electric vehicle manufacturers, charging infrastructure companies, fleet operators, service providers, etc. to gain efficiencies of scale and drive down costs, create local manufacturing facilities, grow technical competencies for the long-term growth of the electric vehicle (EV) industry in India and to enable Indian EV manufacturers to emerge as major global players.

EESL/CESL is also developing Electric Vehicle Charging Infrastructure and has signed MoUs with multiple stakeholders across municipalities, DISCOMs for location assessment study and setting up of charging infrastructures in their jurisdiction location. As on date EESL/CESL has installed 128 nos. of EV chargers in Delhi City of which 73 nos. are operational and rest are in the process of pre-commissioning.

**(c): the details of charging stations already set-up or to be set up in Delhi for electric vehicles?**

**Answer (c):** Ministry of Power may please reply.

However, the details of charging stations already installed by EESL (or in pre-commissioning stage) is placed at Annexure 1.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पाँचवा, छठा और सातवाँ तल,  
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**Annexure – 1**

<b>Sl. No.</b>	<b>Location</b>
<b>Installed Chargers</b>	
1.	Prithviraj Market, Rabindra Nagar, New Delhi- 110003
2.	Outside RWA Park, Jor Bagh Market, Jor Bagh Colony Road, New Delhi- 110003
3.	Opposite Dory Pharmacy, Khanna Market, Aliganj, Lodhi Colony, New Delhi- 110003
4.	Opposite Goel Opticals, Khanna Market, Aliganj, Lodhi Colony, New Delhi- 110003
5.	Dharma Marg, Block Y, Diplomatic Enclave, Malcha Market, New Delhi- 110021
6.	Outside Westend Vedi Tailors, Bock M, Middle Circle, Connaught Place, New Delhi- 110001
7.	Near NDMC Office, Fire Brigade Lane, Barakhamba, New Delhi- 110001
8.	EESL Feroze Gandhi Road, Lajpat Nagar, SDMC parking New Delhi
9.	EESL PVR Priya Vasant Vihar, SDMC parking New Delhi, Near Gold's Gym
10.	Opposite HDFC Bank, M- Block, , Connaught Place, New Delhi- 110001
11.	Outside Oriental Bank, Radial Road No. 7, Block M, Connaught Place, New Delhi- 110001
12.	SDMC Parking, R Block, GK-1, DELHI-110016
13.	NDMC Parking, Near Ferns n Petals, Near BPCL Petrol Pump, C Block RR5, Connaught Place, New Delhi- 110001
14.	NDMC Parking, Near Croma, D Block RR5, Opposite BPCL Petrol Pump, Connaught Place, New Delhi- 110001
15.	Next to PVR Plaza, H Block RR4, Connaught Place, New Delhi- 110001
16.	Near Woodland Showroom, Block B, Inner Circle, Connaught Place, New Delhi 110001
17.	Opposite HP Petrol Pump, Block E, Middle Circle, Connaught Place, New Delhi- 110001
18.	Outside Standard Chartered Bank, Sardar Patel Bhawan, Sansad Marg, New Delhi- 110001
19.	EESL PVR Priya Vasant Vihar, SDMC parking New Delhi, Near Plot 7
20.	Outside Iqbal Bros., G1, Block G, Connaught Place, New Delhi- 110001
21.	Outside Bharat Sanchar Bhawan, Ashoke Road, Janpath, New Delhi- 110001
22.	FICCI, FICCI Chowk, Mandi House, Todermal Road Area, Mandi House, New Delhi 110001
23.	Press Club of India, 1, Raisina Road, Windsor Place, New Delhi 110001
24.	Near Snow White, Block D, Inner Circle, Connaught Place, New Delhi 110001
25.	EESL Meharchand Double Storey Market, SDMC parking New Delhi
26.	Outside Van Heusen Showroom, Block C, Inner Circle, Connaught Place, New Delhi 110001
27.	Outside Devinder Collections, Shankar Market, Connaught Place, New Delhi- 110001
28.	Akashvani Bhawan, Sansad Marg, New Delhi 110001
29.	Outside Chelmsford Club/ Opposite CSIR Building, Rafi Marg, Sansad Marg Area, New Delhi 110001
30.	Yashwant Place, Chanakyapuri, New Delhi- 110021
31.	Opposite IVORY Mart, F Block, Inner Circle, Connaught Place, New Delhi 110001
32.	Near Bikanervala, Yashwant Place, Chanakyapuri, New Delhi- 110021

Sl. No.	Location
33.	SDMC Parking, SDA Market, Hauz Khas, New Delhi, Delhi 110016
34.	Dharma Marg, Block Y, Diplomatic Enclave, Malcha Market, New Delhi- 110021
35.	Laxmi Bai Market, Safderjung Flyover, New Delhi
36.	Near ICICI Bank/Metro Gate No. 7 & 8, Block A, Inner Circle, Connaught Place, New Delhi 110001
37.	Sarojini Nagar Market, Sarojini Nagar, New Delhi- 110023
38.	Gopal Das Building, Barakhamba Road, Connaught Lane, Barakhamba, New Delhi110001
39.	Outside Jain Bhawan, 12 Shaheed Bhagat Singh Marg, Gole Market, New Delhi- 110001
40.	Side of Hotel Claridges, Tees January Marg, Dr. APJ Abdul Kalam Road, New Delhi- 110003
41.	Indian Coffee House, Connaught Place, New Delhi
42.	Khan Market, Rabindra Nagar, New Delhi- 110003
43.	Charak Palika Hospital, C7 Lane, Moti Bagh 1, Blok F, New Moti Bagh, New Delhi 110021
44.	Hotel Claridges, Tees January Marg, Dr. APJ Abdul Kalam Road, New Delhi- 110003
45.	Janpath Guest House, Connaught Place, New Delhi
46.	Khan Market, Rabindra Nagar, New Delhi- 110003
47.	SDMC Parking, B6, Safderjung Enclave
48.	Outside UCO Bank, Block H, RR3, Connaught Place, New Delhi
49.	Charak Palika Hospital, C7 Lane, Moti Bagh 1, Blok F, New Moti Bagh, New Delhi 110021
50.	Opposite South Indian Bank, Block E, RR6, Middle Circle, Connaught Place, New Delhi- 110001
51.	Back of Hotel Claridges Near NDMC Power Sub Station, Tees January Marg, Dr. APJ Abdul Kalam Road, New Delhi- 110003
52.	PSOI Club, Chanakyapuri, New Delhi 110021
53.	Outside Chelmsford Club/ Opposite CSIR Building, Rafi Marg, Sansad Marg Area, New Delhi 110001
54.	Outside Chelmsford Club/ Opposite CSIR Building, Rafi Marg, Sansad Marg Area, New Delhi 110001
55.	PSOI Club, Chanakyapuri, New Delhi 110021
56.	Outside Chelmsford Club/ Opposite CSIR Building, Rafi Marg, Sansad Marg Area, New Delhi 110001
57.	Gate No. 1, Lodhi Garden, Lodhi Estate, Lodhi Road, New Delhi 110003
58.	EESL N-Block GK-1, SDMC parking New Delhi
59.	SDMC Parking, Aurbindo Market Place,Hauz Khas, New Delhi, Delhi 110016
60.	Talkatora Stadium, President's Estate, New Delhi110004
61.	Talkatora Stadium, President's Estate, New Delhi110004
62.	DLF Building, Sansad Marg, Janpath, Connaught Place, New Delhi 110001.
63.	EESL J-Block, Malviya Nagar, parking New Delhi
64.	Talkatora Garden, President's Estate, New Delhi110004
65.	Talkatora Garden, President's Estate, New Delhi110004
66.	NMDC Parking, Dilli Haat, West Kidwai Nagar, New Delhi 110023

Sl. No.	Location
67.	EESL J-Block, Malviya Nagar, parking New Delhi
68.	EESL Veer Savarkar Marg, Lajpat Nagar, SDMC parking New Delhi
69.	Palika Maternity Hospital, Block 11, Lodhi Colony, Near Khanna Market, New Delhi 110003
70.	Gate No. 1, Lodhi Garden, Lodhi Estate, Lodhi Road, New Delhi 110003
71.	Outside Chelmsford Club/ Opposite CSIR Building, Rafi Marg, Sansad Marg Area, New Delhi 110001
72.	Susma swaraj Bhawan, MEA, New Delhi
73.	NMDC Parking, Dilli Haat, West Kidwai Nagar, New Delhi 110023
<b>Chargers under Pre-Commissioning Stage</b>	
74.	Charger 4,c/o SDMC, GK-1 N Block market, New Delhi,, Delhi - 110048
75.	Charger 5, c/o SDMC, GK-1 N Block market, New Delhi,, Delhi - 110048
76.	EV Parking Slot 5, SDMC Parking, N Block Market, Greater Kailash - 1 , 110048
77.	EV Parking Slot 2, SDMC Parking, Hauz Khas Village, Hauz Khas - 1 , 110016
78.	c/o SDMC Hauz Khas Village New Delhi, Delhi - 110016
79.	Charger 6, c/o SDMC, GK-1 N Block market, New Delhi,, Delhi - 110048
80.	EV Parking Slot 3-5, SDMC Parking, N Block Market, Greater Kailash - 1 , 110048
81.	SDMC Hauz Khas Village New Delhi, Delhi - 110016
82.	PVR Priya Vasant Vihar
83.	Meharchand Double Storey Market
84.	Meharchand Double Storey Market
85.	RK Puram Sector 12 Market
86.	RK Puram Sector 12 Market
87.	Nehru place plot 81-85, SDMC New Delhi
88.	Nehru place plot 81-85, SDMC New Delhi
89.	EESL H-Block, Sarita Vihar, SDMC parking New Delhi
90.	EESL, Plot 81-85, Nehru Place, SDMC Parking, New Delhi
91.	EV Parking Slot 5, SDMC Parking, N Block Market, Greater Kailash - 1 , 110048
92.	EV Parking Slot 2, SDMC Parking, Hauz Khas Village, Hauz Khas - 1 , 110016
93.	Charger 2, SDMC Parking, Hauz Khas Village, New Delhi
94.	EESL PVR Priya Vasant Vihar, SDMC parking New Delhi, Near Gold's Gym
95.	SDMC Hauz Khas Village, New Delhi, Delhi - 110016
96.	SDMC Hauz Khas Village, New Delhi, Delhi - 110016
97.	Talkatora Garden, President's Estate, New Delhi110004
98.	Gate No. 1, Lodhi Garden, Lodhi Estate, Lodhi Road, New Delhi 110003
99.	Gate No. 1, Lodhi Garden, Lodhi Estate, Lodhi Road, New Delhi 110003
100.	NMDC Parking, Dilli Haat, West Kidwai Nagar, New Delhi 110023

<b>Sl. No.</b>	<b>Location</b>
101.	Hotel Claridges, Tees January Marg, Dr. APJ Abdul Kalam Road, New Delhi- 110003
102.	Akashvani Bhawan, Sansad Marg, New Delhi 110001
103.	Akashvani Bhawan, Sansad Marg, New Delhi 110001
104.	FICCI, FICCI Chowk, Mandi House
105.	Near NDMC Office, Fire Brigade Lane, Barakhamba, New Delhi- 110001
106.	Near NDMC Office, Fire Brigade Lane, Barakhamba, New Delhi- 110001
107.	Talkatora Stadium, President's Estate, New Delhi110004
108.	Talkatora Garden, President's Estate, New Delhi110004
109.	Talkatora Stadium, President's Estate, New Delhi110004
110.	Outside Chelmsford Club/ Opposite CSIR Building, Rafi Marg, Sansad Marg Area, New Delhi 110001
111.	Tara Mandal Nehru Planetarium, NDMC , New Delhi
112.	Nehru Park , NDMC, New Delhi
113.	Netaji Nagar, NDMC, New Delhi
114.	Kali Mandir lane, NDMC, New Delhi
115.	Mahatma Gandhi Samriti, NDMC, New Delhi
116.	Congress Nagar , Delhi
117.	Jhansi Rani, Delhi
118.	Agarsen Sq., Delhi
119.	Ambedkar Sq., Delhi
120.	Vaishno Devi Sq., Delhi
121.	Netaji Nagar, NDMC, New Delhi
122.	Netaji Nagar, NDMC, New Delhi
123.	Kali Mandir lane, NDMC, New Delhi
124.	Kali Mandir lane, NDMC, New Delhi
125.	Tara Mandal Nehru Planetarium, NDMC , New Delhi
126.	Bhart Garh, Moti Bagh
127.	NDMC Lodhi Garden, Gate No-4, Lodhi Road, New Delhi-110003
128.	NDMC Lodhi Garden, Gate No-4, Lodhi Road, New Delhi-110003

EESL/Res/LSQ/EC/2021-22/01

14<sup>th</sup> July, 2021

To,  
Shri Arun Aggarwal  
Under Secretary  
Ministry of Power  
'F' Wing, Nirman Bhawan  
New Delhi - 110011

**Subject: Lok Sabha provisionally admitted Starred Q. Dy. No. 1311 for answer on 22.07.2021 regarding Procurement Programme by EESL.**

Sir,

I am directed to refer to letter No. 7/22/2021-EC dated 12<sup>th</sup> July 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a): whether Energy Efficiency Services Limited (EESL) has started a bulk procurement programme to increase uptake of energy efficient air conditioners - using government funds and -if so, the details thereof along with the key features - of the plan, its successes and failures;**

**Answer (a):** Yes, Sir. EESL has done bulk procurement in two phases for 100,000 (May 2017) and 50,000 (June 2019) super-efficient air-conditioners (SEACs). However, No government fund was utilized for this procurement. So far about 19,500 SEACs have been deployed in government/ public sector undertakings buildings and domestic consumers. Consumers have availed super-efficient air-conditioners (20% more efficient than 5 star ACs) at affordable cost. It may be noted that with the specification of the SEAC, Government e-Marketplace (GeM) has launched a new category of "Green air conditioner" to promote energy efficient and environment friendly air conditioners.

**Question (b) Whether such bulk procurement plan is to be repeated in future and if so, the details thereof**

**Answer (b):** The procurement plan shall depend upon business requirements of EESL.

**Questions:**

**(c) whether the Bureau of Energy Efficiency (BEE) began a standards and labelling program for air conditioners and if some the details thereof;**

**(d) whether the BEE periodically revises its standards by mandating higher level of energy efficiency from manufacturers who shift cost burden on buyers of these appliances and if so, the details thereof;**

**(e) the details of successes and failures of the standards and labelling programme; and**

**(f) whether the Government proposes to make energy efficient air conditioners GST exempt to encourage uptake?**

**Answer (c to f):** Ministry of Power may please reply. However, GST exemption/reduction may promote SEAC uptake.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

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EESL/Res/LSQ/CEA/2021-22/01

20<sup>th</sup> July, 2021

To,  
Shri Ashok Kumar Rajput  
Chief Engineer (RT&I) Division  
Central Electricity Authority  
Ministry of Power  
Sewa Bhawan, R K Puram-I  
New Delhi-110066

**Subject: Lok Sabha provisionally admitted starred/ unstarred question D. No. 1484 on 'Status of Energy Production and Supply' to be answered on 22.07.2021**

Sir,

I am directed to refer to your email dated 19<sup>th</sup> July 2021 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) the present status of energy production and supply in the islands of the country; Island-wise;
- (b) the details of demand and supply of energy; Island-wise; and
- (c) the details of the proposals of the government on sustainable electricity generation in the islands with PPP model?

**Answer (a) to (c):** Ministry of Power/Minister of New and Renewable Energy may please reply.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

EESL/Res/LSQ/EC/2021-22/01

6<sup>th</sup> August, 2021

To,  
Shri Arun Aggarwal  
Under Secretary  
Ministry of Power  
'F' Wing, Nirman Bhawan  
New Delhi - 110011

**Subject: Lok Sabha provisionally admitted Unstarred Q. Dy. No. 11231 regarding Distribution of LED Bulbs for answer on 12.08.2021.**

Sir,

I am directed to refer to letter No. 7/26/2021-EC dated 29<sup>th</sup> July 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a): whether the Government in collaboration with the Energy Efficiency Services Limited (EESL) has started Unnat Jyoti Affordable LEDs for All (UJALA) scheme in the State of Uttar Pradesh;**

**Answer (a):** Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 launched UJALA programme to provide LED bulbs to domestic consumers for replacement of incandescent bulbs with LED bulbs at an affordable price. In Uttar Pradesh, UJALA programme was launched on 8<sup>th</sup> June, 2015.

The salient details of the of the UJALA programme in Uttar Pradesh are as follows:

- Distribution of 2.62 Crore LED bulbs (1.17 Crore 7-watt Bulbs and 1.45 Crore 9-watt Bulbs), 5.11 lakh LED Tube Lights and 2.03 lakh Energy Efficient Fans, resulted in energy saving of 3,410 million units of electricity per annum, peak demand reduction of 683 MW and 2.76 million tons of CO<sub>2</sub> emission reduction per annum.
- Promoted the use of the most efficient lighting technology at affordable rates to domestic consumers which benefits them by way of reduced energy bill and improve their livelihood.
- Enhance consumer awareness on the financial and environmental benefits of using energy efficient Increase the demand of LED lights by aggregating requirements across the country and provide an impetus to domestic lighting industry.

**(b) the number of present households in the State of Uttar Pradesh whose sanctioned electricity load is two or less than two watts, district-wise;**

**Answer (b):** Ministry of Power may please reply.

**(c) the number of households provided with 5 high quality LED bulbs of 7 watts in the said State so far; and**

**Answer (c):** The UJALA programme is voluntary in nature and consumers can purchase LED bulbs based on their requirement. It is estimated that approximately 23.40 lakh households were provided 7-watt LED bulbs by EESL in Uttar Pradesh.

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**(d) the number of households which would be provided with 10 high quality LED bulbs of 7 watts as their electricity load is more than 2 kilowatts in the said State?**

**Answer (d):** Ministry of Power may please reply. At present, no such scheme is under consideration by EESL.

This issues with the approval of Competent Authority.

Yours Sincerely

A handwritten signature in black ink, appearing to be 'D.K. Sahani', written in a cursive style.

(Deepak Kumar Sahani)  
Manager (Tech.)

EESL/Res/LSQ/EC/2021-22/01

16<sup>th</sup> July, 2021

To,  
Shri Arun Aggarwal  
Under Secretary  
Ministry of Power  
'F' Wing, Nirman Bhawan  
New Delhi - 110011

**Subject: Lok Sabha provisionally admitted Unstarred Q. Dy. No. 1169 for answer on 22.07.2021 regarding MAITREE.**

Sir,

I am directed to refer to letter No. 7/21/2021- EC dated 12<sup>th</sup> July 2021 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) whether MAITREE (Market Integration and Transformation Programme for Energy Efficiency) is bringing a positive change in cooling of houses and buildings;**  
**(b) if so, the details thereof;**

**Answer (a & b):** Ministry of Power may please reply.

However, USAID is providing in-kind technical assistance support to EESL under MAITREE program in the area of building energy efficiency and cooling. In cooling area, EESL is implementing the programs like super-efficient air-conditioners (SEAC) and Building Energy Efficiency Program (BEEP).

The MAITREE program has supported EESL in following activities for cooling:

- Demand aggregation for ACs as a part of implementation of Super-Efficient Air-conditioning Program (SEAC): EESL has deployed about 19500 SEACs in Government Buildings, Industries and domestic consumers.
- Development of strategy for Environmentally Safe Appliance Disposal for ACs and other electronic waste coming out of retrofit.
- Initiative for Healthy and Energy Efficient Buildings including technology identification, design specifications, and pilot project implementation: The 'Retrofit of Air Conditioning to Improve air quality for Safety and Efficiency' (RAISE) program was launched by Hon'ble Minister of Power, N&RE and skill development, Govt. of India on 20th July 2020. USAID is supporting EESL in program design, technical specifications, and scaling up of this program. EESL has completed the procurement of technology through competitive bidding with an estimated cost of USD 6.5 million.
- Market development for new technologies: Chiller Energy Efficiency Program including market assessment, feasibility study, business strategy, standard contracts, tool for chiller retrofit feasibility.

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**Website:** www.eeslindia.org

**Question (c): whether MAITREE has been proven cost effective;**

**Answer (c):** Ministry of Power may please reply. No impact assessment has been done for the support provided by MAITREE exclusively in the aforementioned programs. However, the SEAC program of EESL has brought down the cost of the super-efficient AC by about 15-20% compared to the similar product in retail market.

**Questions:**

**(d) whether it has been proven helpful in reducing energy consumption; and**

**(e) if so, the details thereof?**

**Answer (d & e):** Ministry of Power may please reply.

It may be noted that the SEAC currently promoted under the programs are about 20% more energy efficient than the average 5-star SEACs in the market. This translates annual energy savings of about 365 units of electricity per AC.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

EESL/Res/LSQ/EC/2021-22/01

6<sup>th</sup> August, 2021

To,  
Shri Arun Aggarwal  
Under Secretary  
Ministry of Power  
'F' Wing, Nirman Bhawan  
New Delhi - 110011

**Subject: Lok Sabha Question starred Diary No. 10325 for answer on 13.08.2021 reg.- Study on Global Warming.**

Sir,

I am directed to refer to email dated 5<sup>th</sup> August 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a): Whether the Government has undertaken any study for estimation of impact of global warming;**

**(b): If so, the details of the findings thereof;**

**(c): The action taken/proposed to be taken for controlling global warming induced climate change in the country;**

**(d): Whether the Government is planning to include global warming in school-curriculum in order to create widespread awareness among the people and to start public awareness campaign in this regard; and**

**(e): If so, the details thereof?**

**Answer (a) to (e):** Ministry of Power/ Ministry of Environment, Forest and Climate change may please reply.

However, Energy Efficiency Services Limited (EESL), a JV of PSUs under MoP is implementing Energy Efficiency and Climate Change mitigation projects under National Mission for Enhanced Energy Efficiency (NMEEE). It has pioneered innovative business approaches to successfully roll-out large-scale programs that allow for incentive alignment across the value chain and rapidly drive transformative impact. The programmes of EESL has resulted in reduction of approximately 45 million tonnes of CO<sub>2</sub> emission per year. Details of major programme are as follows:

- a) UJALA Programme: 39 million tCO<sub>2</sub> per year
- b) Gram UJALA Programme: 0.22 million tCO<sub>2</sub> per year
- c) Street Lighting National Programme: 5.51 million tCO<sub>2</sub> per year
- d) Agriculture Demand Side management (AgDSM): 0.15 million tCO<sub>2</sub> per year
- e) Building Energy Efficiency Programme: 0.18 million tCO<sub>2</sub> per year

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पाँचवा, छठा और सातवाँ तल,  
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EESL/Res/LSQ/Adm.II/2021-22/01

6<sup>th</sup> August, 2021

To,  
Shri Hausuanthang Guite  
Under Secretary  
Ministry of Power  
'F' Wing, Nirman Bhawan  
New Delhi - 110011

**Subject: Lok Sabha Starred Question Dy. No. 9681 for 12.08.2021 regarding COVID-19**

Sir,

I am directed to refer to letter No. 2-17/8/2021-Adm.II dated 3<sup>rd</sup> August 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a): the details of officers and employees working in various institutes under this Ministry including Power Grid who died of coronavirus;**

**Answer (a):** During the ongoing pandemic, the following two EESL Employees died due to COVID-19.

1. Late Shri Sudha Nand Roy, Assistant – General, Emp. Id – 10000124
2. Late Shri P. V. Samuel, Assistant, Emp. Id - 20000173

**(b): Whether the said institutes have given any assistance to the dependants of these employee who died due to coronavirus;**

**(c): If so, the details thereof;**

**Answer (b) & (c):** Yes, Sir. The terminal benefits as applicable under Gratuity Scheme /Superannuation Scheme/ EDLI Scheme/Group Insurance Scheme. EESL has also given lump sum amount under the EESL EL Donation Scheme.

**(d): Whether the said institutes proposes to formulate any plan to give jobs and other social assistance to such family members;**

**(e): If so, the details thereof?**

**Answer (d) & (e):** Compassionate employment to their spouse of the deceased employee as Contractual Manpower has been offered by EESL.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

EESL/Res/LSQ/DS/2021-22/01

23<sup>rd</sup> July, 2021

To,  
DS-I Section  
Room No. 622  
Ministry of Power  
Shram Shakti Bhawan  
Rafi Marg, New Delhi

**Subject: Lok Sabha Starred/Unstarred Diary No. 4161 for answer on 29/07/2021 regarding "Installation of Smart Meters.**

Sir,

I am directed to refer to email dated 22<sup>nd</sup> July 2021 received from DS Division, MoP on the above subject. The para wise reply is as follows:

**Question (a): whether the Government proposes to install smart meter for power consumers across the country and if so, the details thereof;**

**Answer (a):** Ministry of Power (MoP) may please reply.

However, Energy Efficiency Services Limited (EESL), a JV of PSU under MoP, GoI is implementing Smart Meter Programme for replacement of Conventional meters with Smart electricity meters. This programme is being implemented on BOOT model, where the initial investment is being done by EESL and the states/ utilities pays back to EESL on monthly rental basis. As on date, EESL has installed over 17.48 lakh smart meters across India under this programme.

The State/UT wise details of smart meters installed by EESL is as per below table:

S. No.	State/UT	No. of Smart Meters Installed by EESL
1.	Uttar Pradesh	11,47,910
2.	Haryana	2,87,946
3.	Bihar	1,74,311
4.	Rajasthan	25,947
5.	Andaman & Nicobar	51,761
6.	Delhi	60,551
<b>Total</b>		<b>17,48,426</b>

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## **Questions:**

- (b) whether the smart meter being installed in the state of Uttar Pradesh have many defects and their installation work has been discontinued in the recent past;**  
**(c) if so, the details thereof;**

**Answer (b) & (c):** To check the quality, there were 2 sets of testing done for meters, details for which are below:

### **1. Meter testing initiated by DISCOMs**

Meters were sent to CPRI, Noida and CPRI, Bhopal

- Initial samples of 98 meters were sent to CPRI between January 2020 and August 2020 and all meters were found to be acceptable as per IS.

### **2. Meter testing at consumer premises**

Summary of meter testing done at consumer premises in UP on sample basis and detailed report submitted to DISCOM in Feb. '21.

- Total meters tested – 144 nos.
- Meters found within accuracy – 144 nos.

Though, meter installation work has been discontinued in the state post 12<sup>th</sup> August 2020 by UPPCL after 1.58 lac meters were auto-disconnected due to a bug in HES script. Post the incident, UPPCL formed a committee to resolve the matter and neutralize any future possibilities of a similar nature. Following actions were taken by the committee and EESL:

- Standardization Testing and Quality Certification (STQC) audit has been conducted in the state by external agencies:
  - Audit has been completed for 5 applications and IT infrastructure security
  - Compliance report submitted for the applications security, for IT infrastructure security the compliance activity is under progress
- CERT-IN audit by Deloitte:
  - Audit completed, 90% of the high and medium risk observations has been complied
- User Acceptance Testing (UAT) has been completed and is under approval with UPPCL

System security has been ensured to be robust shape and all the concerns and issues related to meters as well as the IT system have been addressed.

**(d) whether the power consumers have to suffer financial loss in cast of defects found in smart meters and if so, the details thereof and the action taken thereto; and**

**(e) the steps taken/being taken by the Government thereto?**

**Answer (d) & (e):** There is no financial loss to consumers.

This issues with the approval of Competent Authority.

Yours Sincerely

A handwritten signature in black ink, appearing to be 'D.K.S.' with a stylized flourish.

(Deepak Kumar Sahani)  
Manager (Tech.)

## Response to 'Meter Jump' issue in Smart Meters

### Meter Jump cases so far

On the subject, it is submitted that out of total installed base of 11,47,910 smart meters in UP, Discoms have so far officially reported 39 meter jump/ meter fast cases. Out of these 39 meters, we have received 3 complaints in Apr 2021 and 1 such complaint in May 2021. On reporting of such cases, EESL/ IntelliSmart promptly replaced the meters with the new smart meters. Post replacement of the meter, consumption pattern analysis was carried out based on MDM data (which includes study of power consumption, tamper events recorded in the system etc). This root cause analysis based on the MDM data showed that there were magnet tamperers attempted in 2 cases. Out of balance 37 cases, in 33 cases no meter jumping was observed from MDM records and evaluation of balance 4 meter jump cases showed that there was no tampering done with the meter. Details of the analysis is summarized in below table:

Total cases reported by Discoms	Meter Jump cases as per MDM Record	No Meter Jumping observed based on MDM data	Type of tamper event observed
39	6	33	Magnet tamper in 2 cases

### Corrective action initiated

We have been running an extensive Quality Assurance Program to ensure the quality controls during the entire product life cycle, carrying out manufacturing process audits of our meter manufacturers and, additionally conducting tests on sample meters in external NABL labs. In order to pre-empt meter quality related issues, we are taking following actions:

1. We along with UPPCL successfully carried out accuracy testing of installed smart meters with reference meters in 10 cities of UP. All the 144 meters (tested during the site visits) were found within the accuracy limits. The results along with detailed report was shared with UPPCL vide letter reference: EESL\_R/SMNP/UP/UPPCL/2020-21/303 dtd. 26th Feb 2021.
2. We, along with UPPCL, have launched aggressive testing of the meters. Overall, 98 meters of various models were picked by UPPCL from warehouses and were sent to various labs across the country. Meter testing for all lots is completed and all lots have passed the testing.

### Reasons for perception of the consumers on this matter

1. **Accurate readings by smart meters** – When smart meters are installed, some of the consumers who have been tampering previous meters and are managing lower than actual readings by non-bonafide means get realistic readings and bills when smart meters are installed and thus perceive and portray it as fault of smart meters. Many such issues have been noticed in various areas of UP.
2. **Due to manual error** – Sometime despite smart meters installed, the readings are taken manual due to communication issues and this situation may lead to erroneous readings. However, these are corrected on analysis and correct readings are ensured.
3. **General perception** in consumers that the Smart meters run fast which is not substantiated.

### Proposed way Forward

1. We propose to carry out a special program to check the accuracy of installed meters for not only the cases where complaints are received but also on sample basis with the help of check meters, for the consumers wherever the Discoms seek to do it.
2. We can also launch an awareness campaign along with UPPCL to address any wrong perceptions about smart meter

### Summary of 6 nos. Smart Meters with meter jump issue

This is with reference to earlier submitted note on the subject wherein EESL, vide its email dated 23.06.2021, had submitted that in UP, Discoms have so far officially reported 39 meter jump/ meter fast cases. In 33 cases no meter jumping was observed from MDM records and evaluation of balance 6 nos. meter jump cases, is summarized below:

Sr. No.	Meter no.	Summary
1	GP7071111	The <b>meter recorded magnet tamper</b> . From the data and subsequent analysis, it was observed that the meter recorded frequent magnet tampers which was <b>due to dry soldering in magnet sensor</b> . Subsequently, the meter OEM strengthened soldering process and introduced additional quality check to visually check component soldering. This also points to the possibility that the magnet tamper may not be intentional and may be coming from component failure of magnet sensor.
2	IN0018023	The <b>meter recorded magnet tamper</b> . The replacement was carried out in May'21 and the meter is currently with Utility as per replacement process and will be sent to meter OEM for carrying out root cause analysis.
3	GP6704258	The <b>meter recorded magnet tamper</b> . From the data and subsequent analysis, it was observed that the meter recorded frequent magnet tampers which was <b>due to dry soldering in magnet sensor</b> . This is same case as at Sr. No.1 above (GP7071111).
4	GP5239556	The meter has recorded high consumption in load survey. The replacement was carried out in Apr'21 and <b>the meter has been sent to meter OEM for carrying out root cause analysis</b> . The result of the RCA will be available within next 3 weeks.
5	ZM0094087	The <b>meter recorded over voltage due to meter component failure in the measurement circuit</b> . The meter has already been replaced.
6	ZM0127298	Meter was replaced due to reported meter jump issue. After further assessment, <b>no defect was found in meter and the consumption pattern of the consumer after new meter replacement was found to be similar as in case of old meter</b> .

Submitted for your kind information as desired.

EESL/Res/LSQ/EC/2021-22/01

14<sup>th</sup> July, 2021

To,

DS-I Section  
Room No. 622  
Ministry of Power  
Shram Shakti Bhawan  
Rafi Marg, New Delhi

**Subject: Lok Sabha Unstarred Diary No. 1173 for answer on 22/07/2021 regarding " Status of Smart Meter Installation.**

Sir,

I am directed to refer to email dated 12<sup>th</sup> July 2021 received from EC Division, MoP on the above subject. The para wise reply is as follows:

**Questions:**

**(a) the status of smart meter installation during the last two years along with the cost of the said programme; year and State-wise;**

**Answer (a):** Energy Efficiency Services Limited (EESL) is implementing the Smart Metering programme for various DISCOMs in the following States and UTs-

State/UT	Year Wise Meter Installation		
	FY 2019-2020 (Units installed)	FY 2020-21 (Units installed)	FY 2021-22 (as on 11 <sup>th</sup> July) (Units installed)
Uttar Pradesh	8,92,463	1,29,800	-
Haryana	1,38,862	1,11,107	29,104
Bihar	25,184	1,18,349	22,906
Rajasthan	-	2,062	18,852
Andaman & Nicobar	-	48,516	2,627
Delhi	6,321	2,383	502
<b>Total</b>	<b>10,62,830</b>	<b>4,12,217</b>	<b>73,991</b>

The total cost of programme to implement sanctioned 77,86,000 smart meters across abovementioned 6 States/UTs is INR 5,319 Crore.

Currently the adoption of Smart Metering is voluntary by the States/DISCOMs. The smart metering programme implemented by EESL is currently funded by EESL itself and no grant/funds have been allocated by Government of India.

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Following is the state-wise breakup of the cost borne by EESL:

S. No.	State/UT	Total Programme Cost (in INR Cr)
1.	Uttar Pradesh	2,736
2.	Haryana	776
3.	Bihar	1,523
4.	Rajasthan	182
5.	Andaman & Nicobar	50
6.	Delhi	52
Total		5,319

**Question (b) whether the installation of smart meters has positively impacted the financial performance of DISCOMs and if so, the details thereof;**

**Answer (b):** Ministry of Power may please reply.

However, based on the experience of EESL, the meter reads being taken for generation of bills and collection efficiency of DISCOMs has improved significantly in the smart metering areas vis-à-vis the areas where conventional meters are installed. Also, this has resulted in enhanced revenue realization for DISCOMs.

**Question (c) the benefits of smart prepaid metering;**

**Answer (c):** Following are the benefits of the Smart Metering:

- Ability for consumers to monitor and manage electricity consumption and save money.
- Better cash flow with Smart Prepaid.
- Satisfied consumers due to error-free bills.
- Immediate generation of working capital for the DISCOM.
- Reduction in peak power purchase cost.
- Ability to conduct power quality analysis in near-real time such as power factor, maximum demand, voltage etc.
- Reduction in carbon footprint via reduced patrolling for meter reading, disconnection/ reconnection, outage detection etc.

**Question (d): whether the Government has taken measures to create awareness about it among the general public and if so, the details thereof; and**

**Question (e) the details of privacy related provisions made by the Government to ensure protection of private data of citizens using the smart meters?**

**Answer (d) & (e):** Ministry of Power may please reply.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

**Copy to:** Shri Arun Aggarwal, Under Secretary, Ministry of Power,  
'F' Wing, Nirman Bhawan, New Delhi – 110011

EESL/Res/LSQ/EC/2021-22/01

23<sup>rd</sup> July, 2021

To,  
Shri Arun Aggarwal  
Under Secretary  
Ministry of Power  
'F' Wing, Nirman Bhawan  
New Delhi - 110011

**Subject: Lok Sabha Unstarred Q. Dy. No. 4316 regarding Street Lighting National Programme for answer on 29.07.2021**

Sir,

I am directed to refer to letter No. 7/25/2021-EC dated 22<sup>nd</sup> July 2021 on the above subject. The para wise reply is as follows:

**Question (a): Whether the Government is successfully implemented the Street Lighting National Programme (SLNP) in the country, if so, the details thereof and the aims and objectives behind the move;**

**Answer (a):** Yes, Sir. Energy Efficiency Services Limited (EESL) a JV of PSU under MoP, is implementing Street Lighting National Programme (SLNP). The programme was launched by the Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 to replace conventional street lights with smart and energy efficient LED street lights.

Till date, EESL has installed over 1.18 crore LED street lights in ULBs and Gram Panchayats (GPs) across India. This has resulted in estimated energy savings of 7.99 billion kWh per year with avoided peak demand of about 1,331 MW, GHG emission reduction of 5.50 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 5,591 crore in electricity bills of municipalities.

**Aims and Objectives of SLNP: -**

1. To have energy efficient public lighting system for bringing strong positive externalities for society.
2. Reduction in Energy Consumption and Costs.
3. Reduced cost in operation and maintenance.
4. Reduced energy consumption in street lighting, helping DISCOMs to manage peak demand.
5. Provide a sustainable business model that obviates the need for upfront capital investment as well as additional expenditure for the procurement of LED street lights.
6. Mitigate climate change by implementing energy efficient LED based street lights resulting in CO<sub>2</sub> emission reduction.

**(b) Whether the Government has achieved the target set under SLNP and if so, the details thereof;**

**Answer (b):** So far, EESL has installed over 1.18 Cr. LED Street Lights out of targeted quantity of 1.34 Crore across India.

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**REGISTERED OFFICE:** NFL Building, 5<sup>th</sup>, 6<sup>th</sup> & 7<sup>th</sup> Floor,  
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**(c) The details of number of street lights installed including Jhansi and Lalitpur region so far under the said programme, Uttar Pradesh; and**

**Answer (c):** So far, EESL has installed 25,110 nos. of LED Street lights in Jhansi and 7,336 nos. of LED Street Lights in Lalitpur.

**(d) The steps taken by the Government to replace conventional street lights with smart and energy efficient Light Emitting Diode (LED) lights in a time bound manner?**

**Answer (d):** Ministry of Power may please reply.

However, following steps may be noted:

- SLNP program was Launched by the Hon'ble Prime Minister Shri Narendra Modi, on 5<sup>th</sup> January, 2015.
- EESL joined hands with the Urban Local Bodies (ULBs), Municipal Bodies, Gram Panchayats (GP's) and State & Central Governments to implement LED street lights across India.
- As of now, 1600 Urban Local Bodies (ULBs) enrolled out of which installation already completed in 1060 ULBs.
- As of now, 13,173 GPs have also been completed among the states of Jharkhand, Andhra Pradesh & Telangana.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

EESL/Res/LSQ/CEA/2021-22/01

30<sup>th</sup> July, 2021

To,  
Shri Ashok Kumar Rajput  
Chief Engineer (RT&I) Division  
Central Electricity Authority  
Ministry of Power  
Sewa Bhawan, R K Puram-I  
New Delhi-110066

**Subject: Lok Sabha USQ Dy No7948 regarding self reliance in the field of Electrical Equipment for answer on 5th August,21**

Sir,

I am directed to refer to email dated 28<sup>th</sup> July 2021 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) the efforts being made by the Government to achieve self-reliance in the field of electrical equipments (light installed during festivals and special occasions); and**
- (b) the efforts being made by the Government to reduce the import of the said equipment from China?**

**Answer (a) & (b):** Ministry of Power may please reply.

However, EESL is promoting the Prime Minister's call for Vocal for Local and giving priority to India-made goods. EESL has taken following actions/steps as per GOI directives in this regard:

- All domestic funded tender(s) upto value Rs. 200 Crores are being done through Domestic Competitive Bidding process.
- PPP-MII (Preference to Make in India) Order Guidelines (OM No. P-45021/2/2017 -PP (BE-II)) dated 16.09.2020 have been adopted in the tendering / procurement process.
- Relevant provisions of Order (OM No.6/18/2019-PPD) dated 23.07.2020 for "Bidders from country who shares Land Boarder with India" have been incorporated in the tendering / procurement process.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पॉचवा, छठा और सातवाँ तल,  
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F.No.6/18/2019-PPD  
Ministry of Finance  
Department of Expenditure  
Public Procurement Division

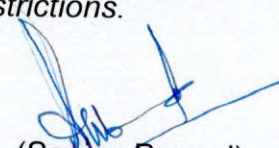
161, North Block,  
New Delhi  
23rd July, 2020

**Office Memorandum**

**Subject: Insertion of Rule 144 (xi) in the General Financial Rules (GFRs), 2017**

Rule 144 of the General Financial Rules 2017 entitled 'Fundamental principles of public buying', has been amended by inserting sub-rule (xi) as under:

*Notwithstanding anything contained in these Rules, Department of Expenditure may, by order in writing, impose restrictions, including prior registration and/or screening, on procurement from bidders from a country or countries, or a class of countries, on grounds of defence of India, or matters directly or indirectly related thereto including national security; no procurement shall be made in violation of such restrictions.*

  
(Sanjay Prasad)  
Joint Secretary (PPD)  
Email ID: [js.pfc2.doe@gov.in](mailto:js.pfc2.doe@gov.in)  
Telephone: 011-23093882

To,

- (1) Secretaries of All Ministries/ Departments of Government of India
- (2) Chief Secretaries/ Administrators of Union Territories/ National Capital Territory of Delhi



F.No.6/18/2019-PPD  
Ministry of Finance  
Department of Expenditure  
Public Procurement Division

161, North Block,  
New Delhi  
23rd July, 2020

**Order (Public Procurement No. 1)**

**Subject: Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017**

Attention is invited to this office OM no. 6/18/2019-PPD dated 23<sup>rd</sup> July 2020 inserting Rule 144 (xi) in GFRs 2017. In this regard, the following is hereby ordered under Rule 144 (xi) on the grounds stated therein:

**Requirement of registration**

1. Any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with the Competent Authority, specified in **Annex I**.
2. This Order shall not apply to (i) cases where orders have been placed or contract has been concluded or letter/notice of award/ acceptance (LoA) has been issued on or before the date of this order; and (ii) cases falling under **Annex II**.

**Transitional cases**

3. Tenders where no contract has been concluded or no LoA has been issued so far shall be handled in the following manner: -
  - a) *In tenders which are yet to be opened, or where evaluation of technical bid or the first exclusionary qualificatory stage (i.e. the first stage at which the qualifications of tenderers are evaluated and unqualified bidders are excluded) has not been completed:* No contracts shall be placed on bidders from such countries. Tenders received from bidders from such countries shall be dealt with as if they are non-compliant with the tender conditions and the tender shall be processed accordingly.
  - b) *If the tendering process has crossed the first exclusionary qualificatory stage:* If the qualified bidders include bidders from such countries, the

entire process shall be scrapped and initiated *de novo*. The *de novo* process shall adhere to the conditions prescribed in this Order.

- c) As far as practicable, and in cases of doubt about whether a bidder falls under paragraph 1, a certificate shall be obtained from the bidder whose bid is proposed to be considered or accepted, in terms of paras 8, 9 and 10 read with para 1 of this Order.

#### Incorporation in tender conditions

- 4. In tenders to be issued after the date of this order, the provisions of paragraph 1 and of other relevant provisions of this Order shall be incorporated in the tender conditions.

#### Applicability

- 5. Apart from Ministries / Departments, attached and subordinate bodies, notwithstanding anything contained in Rule 1 of the GFRs 2017, this Order shall also be applicable
  - a. to all Autonomous Bodies;
  - b. to public sector banks and public sector financial institutions; and
  - c. subject to any orders of the Department of Public Enterprises, to all Central Public Sector Enterprises; and
  - d. to procurement in Public Private Partnership projects receiving financial support from the Government or public sector enterprises/ undertakings.
  - e. Union Territories, National Capital Territory of Delhi and all agencies/ undertakings thereof

#### Definitions

- 6. "Bidder" for the purpose of this Order (including the term 'tenderer', 'consultant' 'vendor' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency, branch or office controlled by such person, participating in a procurement process.
- 7. "Tender" for the purpose of this Order will include other forms of procurement, except where the context requires otherwise.
- 8. "Bidder from a country which shares a land border with India" for the purpose of this Order means

- a) An entity incorporated, established or registered in such a country; or
- b) A subsidiary of an entity incorporated, established or registered in such a country; or
- c) An entity substantially controlled through entities incorporated, established or registered in such a country; or
- d) An entity whose *beneficial owner* is situated in such a country; or
- e) An Indian (or other) agent of such an entity; or
- f) A natural person who is a citizen of such a country; or
- g) A consortium or joint venture where any member of the consortium or joint venture falls under any of the above

9. "Beneficial owner" for the purpose of paragraph 8 above will be as under:

- (i) In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person(s), has a controlling ownership interest or who exercises control through other means.

Explanation—

- a. "Controlling ownership interest" means ownership of, or entitlement to, more than twenty-five per cent of shares or capital or profits of the company;
  - b. "Control" shall include the right to appoint the majority of the directors or to control the management or policy decisions, including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
- (ii) In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
  - (iii) In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
  - (iv) Where no natural person is identified under (i) or (ii) or (iii) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;

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(v) In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

10. "Agent" for the purpose of this Order is a person employed to do any act for another, or to represent another in dealings with third persons.

#### Sub-contracting in works contracts

11. In works contracts, including turnkey contracts, contractors shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority. The definition of "contractor from a country which shares a land border with India" shall be as in paragraph 8 above. This shall not apply to sub-contracts already awarded on or before the date of this Order.

#### Certificate regarding compliance

12. A certificate shall be taken from bidders in the tender documents regarding their compliance with this Order. If such certificate given by a bidder whose bid is accepted is found to be false, this would be a ground for immediate termination and further legal action in accordance with law.

#### Validity of registration

13. In respect of tenders, registration should be valid at the time of submission of bids and at the time of acceptance of bids. In respect of supply otherwise than by tender, registration should be valid at the time of placement of order. If the bidder was validly registered at the time of acceptance / placement of order, registration shall not be a relevant consideration during contract execution.

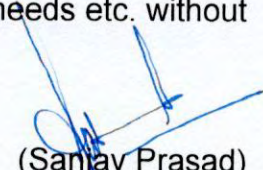
#### Government E-Marketplace

14. The Government E-Marketplace shall, as soon as possible, require all vendors/ bidders registered with GeM to give a certificate regarding compliance with this Order, and after the date fixed by it, shall remove non-compliant entities from GeM unless/ until they are registered in accordance with this Order.

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Model Clauses/ Certificates

15. Model Clauses and Model Certificates which may be inserted in tenders / obtained from Bidders are enclosed as **Annex III**. While adhering to the substance of the Order, procuring entities are free to appropriately modify the wording of these clauses based on their past experience, local needs etc. without making any reference to this Department.

  
(Sanjay Prasad)  
Joint Secretary (PPD)  
Email ID: [js.pfc2.doe@gov.in](mailto:js.pfc2.doe@gov.in)  
Telephone: 011-23093882

To

- (1) Secretaries of All Ministries/ Departments of Government of India for information and necessary action. They are also requested to inform these provisions to all procuring entities.
- (2) Secretary, Department of Public Enterprises with a request to immediately reiterate these orders in respect of Public Enterprises.
- (3) Secretary DPIIT with a request to initiate action as provided under Annex I
- (4) Chief Secretaries/ Administrators of Union Territories/ National Capital Territory of Delhi

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## Annex I: Competent Authority and Procedure for Registration

- A. The Competent Authority for the purpose of registration under this Order shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT)\*.
- B. The Registration Committee shall have the following members\*:
- i. An officer, not below the rank of Joint Secretary, designated for this purpose by DPIIT, who shall be the Chairman;
  - ii. Officers (ordinarily not below the rank of Joint Secretary) representing the Ministry of Home Affairs, Ministry of External Affairs, and of those Departments whose sectors are covered by applications under consideration;
  - iii. Any other officer whose presence is deemed necessary by the Chairman of the Committee.
- C. DPIIT shall lay down the method of application, format etc. for such bidders as stated in para 1 of this Order.
- D. On receipt of an application seeking registration from a bidder from a country covered by para 1 of this Order, the Competent Authority shall first seek political and security clearances from the Ministry of External Affairs and Ministry of Home Affairs, as per guidelines issued from time to time. Registration shall not be given unless political and security clearance have both been received.
- E. The Ministry of External Affairs and Ministry of Home Affairs may issue guidelines for internal use regarding the procedure for scrutiny of such applications by them.
- F. The decision of the Competent Authority, to register such bidder may be for all kinds of tenders or for a specified type(s) of goods or services, and may be for a specified or unspecified duration of time, as deemed fit. The decision of the Competent Authority shall be final.
- G. Registration shall not be granted unless the representatives of the Ministries of Home Affairs and External Affairs on the Committee concur\*.
- H. Registration granted by the Competent Authority of the Government of India shall be valid not only for procurement by Central Government and its agencies/ public enterprises etc. but **also for procurement by State Governments and their agencies/ public enterprises etc. No fresh registration at the State level shall be required.**

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- I. The Competent Authority is empowered to cancel the registration already granted if it determines that there is sufficient cause. Such cancellation by itself, however, will not affect the execution of contracts already awarded. Pending cancellation, it may also suspend the registration of a bidder, and the bidder shall not be eligible to bid in any further tenders during the period of suspension.
- J. For national security reasons, the Competent Authority shall not be required to give reasons for rejection / cancellation of registration of a bidder.
- K. In transitional cases falling under para 3 of this Order, where it is felt that it will not be practicable to exclude bidders from a country which shares a land border with India, a reference seeking permission to consider such bidders shall be made by the procuring entity to the Competent Authority, giving full information and detailed reasons. The Competent Authority shall decide whether such bidders may be considered, and if so shall follow the procedure laid down in the above paras.
- L. Periodic reports on the acceptance/ refusal of registration during the preceding period may be required to be sent to the Cabinet Secretariat. Details will be issued separately in due course by DPIIT.

[\*Note:

- i. In respect of application of this Order to procurement by/ under State Governments, all functions assigned to DPIIT shall be carried out by the State Government concerned through a specific department or authority designated by it. The composition of the Registration Committee shall be as decided by the State Government and paragraph G above shall not apply. However, the requirement of **political and security clearance as per para D shall remain and no registration shall be granted without such clearance.**
- ii. Registration granted by State Governments shall be valid only for procurement by the State Government and its agencies/ public enterprises etc. and shall not be valid for procurement in other states or by the Government of India and their agencies/ public enterprises etc.]

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## Annex II: Special Cases

- A. Till 31<sup>st</sup> December 2020, procurement of medical supplies directly related to containment of the Covid-19 pandemic shall be exempt from the provisions of this Order.
- B. *Bona fide* procurements made through GeM without knowing the country of the bidder till the date fixed by GeM for this purpose, shall not be invalidated by this Order.
- C. *Bona fide* small procurements, made without knowing the country of the bidder, shall not be invalidated by this Order.
- D. In projects which receive international funding with the approval of the Department of Economic Affairs (DEA), Ministry of Finance, the procurement guidelines applicable to the project shall normally be followed, notwithstanding anything contained in this Order and without reference to the Competent Authority. Exceptions to this shall be decided in consultation with DEA.
- E. This Order shall not apply to procurement by Indian missions and by offices of government agencies/ undertakings located outside India.

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### **Annex III**

#### **Model Clause /Certificate to be inserted in tenders etc.**

*(While adhering to the substance of the Order, procuring entities and GeM are free to appropriately modify the wording of the clause/ certificate based on their past experience, local needs etc.)*

#### **Model Clauses for Tenders**

- I. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority.
- II. "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
- III. "Bidder from a country which shares a land border with India" for the purpose of this Order means: -
  - a. An entity incorporated, established or registered in such a country; or
  - b. A subsidiary of an entity incorporated, established or registered in such a country; or
  - c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
  - d. An entity whose *beneficial owner* is situated in such a country; or
  - e. An Indian (or other) agent of such an entity; or
  - f. A natural person who is a citizen of such a country; or
  - g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above
- IV. The *beneficial owner* for the purpose of (iii) above will be as under:
  1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

Explanation—

    - a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent. of shares or capital or profits of the company;

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- b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
  3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
  4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
  5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.
- V. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.
- VI. *[To be inserted in tenders for Works contracts, including Turnkey contracts]* The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.

Model Certificate for Tenders (for transitional cases as stated in para 3 of this Order)

*"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I hereby certify that this bidder is not from such a country and is eligible to be considered."*

Model Certificate for Tenders

*"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the*

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*Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]”*

Model Certificate for Tenders for Works involving possibility of sub-contracting

*“I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]”*

Model Certificate for GeM:

*“I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this vendor/ bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this vendor/ bidder fulfills all requirements in this regard and is eligible to be considered for procurement on GeM. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]”*

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\*\*\*\*\*

No. P-45021/2/2017-PP (BE-II)  
Government of India  
Ministry of Commerce and Industry  
Department for Promotion of Industry and Internal Trade  
(Public Procurement Section)

Udyog Bhawan, New Delhi  
Dated: 16<sup>th</sup> September, 2020

To

All Central Ministries/Departments/CPSUs/All concerned

**ORDER**

**Subject: Public Procurement (Preference to Make in India), Order 2017– Revision; regarding.**

Department for Promotion of Industry and Internal Trade, in partial modification [Paras 2, 3, 5, 10 & 13] of Order No.P-45021/2/2017-B.E.-II dated 15.6.2017 as amended by Order No.P-45021/2/2017-B.E.-II dated 28.05.2018, Order No.P-45021/2/2017-B.E.-II dated 29.05.2019 and Order No.P-45021/2/2017-B.E.-II dated 04.06.2020, hereby issues the revised 'Public Procurement (Preference to Make in India), Order 2017' dated 16.09.2020 effective with immediate effect.

**Whereas** it is the policy of the Government of India to encourage 'Make in India' and promote manufacturing and production of goods and services in India with a view to enhancing income and employment, and

**Whereas** procurement by the Government is substantial in amount and can contribute towards this policy objective, and

**Whereas** local content can be increased through partnerships, cooperation with local companies, establishing production units in India or Joint Ventures (JV) with Indian suppliers, increasing the participation of local employees in services and training them,

**Now therefore the following Order is issued:**

1. This Order is issued pursuant to Rule 153 (iii) of the General Financial Rules 2017.
2. **Definitions:** For the purposes of this Order:

*'Local content'* means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.

*'Class-I local supplier'* means a supplier or service provider, whose goods, services or works offered for procurement, meets the minimum local content as prescribed for 'Class-I local supplier' under this Order.

.....Contd. p/2

*'Class-II local supplier'* means a supplier or service provider, whose goods, services or works offered for procurement, meets the minimum local content as prescribed for 'Class-II local supplier' but less than that prescribed for 'Class-I local supplier' under this Order.

*'Non - Local supplier'* means a supplier or service provider, whose goods, services or works offered for procurement, has local content less than that prescribed for 'Class-II local supplier' under this Order.

*'L1'* means the lowest tender or lowest bid or the lowest quotation received in a tender, bidding process or other procurement solicitation as adjudged in the evaluation process as per the tender or other procurement solicitation.

*'Margin of purchase preference'* means the maximum extent to which the price quoted by a "Class-I local supplier" may be above the L1 for the purpose of purchase preference.

*'Nodal Ministry'* means the Ministry or Department identified pursuant to this order in respect of a particular item of goods or services or works.

*'Procuring entity'* means a Ministry or department or attached or subordinate office of, or autonomous body controlled by, the Government of India and includes Government companies as defined in the Companies Act.

*'Works'* means all works as per Rule 130 of GFR- 2017, and will also include *'turnkey works'*.

### **3. Eligibility of 'Class-I local supplier' / 'Class-II local supplier' / 'Non-local suppliers' for different types of procurement**

(a) In procurement of all goods, services or works in respect of which the Nodal Ministry / Department has communicated that there is sufficient local capacity and local competition, only 'Class-I local supplier', as defined under the Order, shall be eligible to bid irrespective of purchase value.

(b) Only 'Class-I local supplier' and 'Class-II local supplier', as defined under the Order, shall be eligible to bid in procurements undertaken by procuring entities, except when Global tender enquiry has been issued. In global tender enquiries, 'Non-local suppliers' shall also be eligible to bid along with 'Class-I local suppliers' and 'Class-II local suppliers'. In procurement of all goods, services or works, not covered by sub-para 3(a) above, and with estimated value of purchases less than Rs. 200 Crore, in accordance with Rule 161(iv) of GFR, 2017, Global tender enquiry shall not be issued except with the approval of competent authority as designated by Department of Expenditure.

(c) For the purpose of this Order, works includes Engineering, Procurement and Construction (EPC) contracts and services include System Integrator (SI) contracts.

### 3A. Purchase Preference

(a) Subject to the provisions of this Order and to any specific instructions issued by the Nodal Ministry or in pursuance of this Order, purchase preference shall be given to 'Class-I local supplier' in procurements undertaken by procuring entities in the manner specified here under.

(b) In the procurements of goods or works, which are covered by para 3(b) above and which are divisible in nature, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:

- i. Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract for full quantity will be awarded to L1.
- ii. If L1 bid is not a 'Class-I local supplier', 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price for the remaining 50% quantity subject to the Class-I local supplier's quoted price falling within the margin of purchase preference, and contract for that quantity shall be awarded to such 'Class-I local supplier' subject to matching the L1 price. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price or accepts less than the offered quantity, the next higher 'Class-I local supplier' within the margin of purchase preference shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly. In case some quantity is still left uncovered on Class-I local suppliers, then such balance quantity may also be ordered on the L1 bidder.

(c) In the procurements of goods or works, which are covered by para 3(b) above and which are not divisible in nature, and in procurement of services where the bid is evaluated on price alone, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:

- i. Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract will be awarded to L1.
- ii. If L1 is not 'Class-I local supplier', the lowest bidder among the 'Class-I local supplier', will be invited to match the L1 price subject to Class-I local supplier's quoted price falling within the margin of purchase preference, and the contract shall be awarded to such 'Class-I local supplier' subject to matching the L1 price.
- iii. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price, the 'Class-I local supplier' with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the 'Class-I local supplier' within the margin of purchase preference matches the L1 price, the contract may be awarded to the L1 bidder.

- (d) "Class-II local supplier" will not get purchase preference in any procurement, undertaken by procuring entities.

**3B. Applicability in tenders where contract is to be awarded to multiple bidders -**

In tenders where contract is awarded to multiple bidders subject to matching of L1 rates or otherwise, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:

- a) In case there is sufficient local capacity and competition for the item to be procured, as notified by the nodal Ministry, only Class I local suppliers shall be eligible to bid. As such, the multiple suppliers, who would be awarded the contract, should be all and only 'Class I Local suppliers'.
- b) In other cases, 'Class II local suppliers' and 'Non local suppliers' may also participate in the bidding process along with 'Class I Local suppliers' as per provisions of this Order.
- c) If 'Class I Local suppliers' qualify for award of contract for at least 50% of the tendered quantity in any tender, the contract may be awarded to all the qualified bidders as per award criteria stipulated in the bid documents. However, in case 'Class I Local suppliers' do not qualify for award of contract for at least 50% of the tendered quantity, purchase preference should be given to the 'Class I local supplier' over 'Class II local suppliers' / 'Non local suppliers' provided that their quoted rate falls within 20% margin of purchase preference of the highest quoted bidder considered for award of contract so as to ensure that the 'Class I Local suppliers' taken in totality are considered for award of contract for at least 50% of the tendered quantity.
- d) First purchase preference has to be given to the lowest quoting 'Class-I local supplier', whose quoted rates fall within 20% margin of purchase preference, subject to its meeting the prescribed criteria for award of contract as also the constraint of maximum quantity that can be sourced from any single supplier. If the lowest quoting 'Class-I local supplier', does not qualify for purchase preference because of aforesaid constraints or does not accept the offered quantity, an opportunity may be given to next higher 'Class-I local supplier', falling within 20% margin of purchase preference, and so on.
- e) To avoid any ambiguity during bid evaluation process, the procuring entities may stipulate its own tender specific criteria for award of contract amongst different bidders including the procedure for purchase preference to 'Class-I local supplier' within the broad policy guidelines stipulated in sub-paras above.

4. **Exemption of small purchases:** Notwithstanding anything contained in paragraph 3, procurements where the estimated value to be procured is less than Rs. 5 lakhs shall be exempt from this Order. However, it shall be ensured by procuring entities that procurement is not split for the purpose of avoiding the provisions of this Order.
5. **Minimum local content:** The 'local content' requirement to categorize a supplier as 'Class-I local supplier' is minimum 50%. For 'Class-II local supplier', the 'local content' requirement is minimum 20%. Nodal Ministry/ Department may prescribe only a higher

percentage of minimum local content requirement to categorize a supplier as 'Class-I local supplier'/ 'Class-II local supplier'. For the items, for which Nodal Ministry/ Department has not prescribed higher minimum local content notification under the Order, it shall be 50% and 20% for 'Class-I local supplier'/ 'Class-II local supplier' respectively.

6. **Margin of Purchase Preference:** The margin of purchase preference shall be 20%.
7. **Requirement for specification in advance:** The minimum local content, the margin of purchase preference and the procedure for preference to Make in India shall be specified in the notice inviting tenders or other form of procurement solicitation and shall not be varied during a particular procurement transaction.
8. **Government E-marketplace:** In respect of procurement through the Government E-marketplace (GeM) shall, as far as possible, specifically mark the items which meet the minimum local content while registering the item for display, and shall, wherever feasible, make provision for automated comparison with purchase preference and without purchase preference and for obtaining consent of the local supplier in those cases where purchase preference is to be exercised.
9. **Verification of local content:**
  - a. The 'Class-I local supplier'/ 'Class-II local supplier' at the time of tender, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for 'Class-I local supplier'/ 'Class-II local supplier', as the case may be. They shall also give details of the location(s) at which the local value addition is made.
  - b. In cases of procurement for a value in excess of Rs. 10 crores, the 'Class-I local supplier'/ 'Class-II local supplier' shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.
  - c. Decisions on complaints relating to implementation of this Order shall be taken by the competent authority which is empowered to look into procurement-related complaints relating to the procuring entity.
  - d. Nodal Ministries may constitute committees with internal and external experts for independent verification of self-declarations and auditor's/ accountant's certificates on random basis and in the case of complaints.
  - e. Nodal Ministries and procuring entities may prescribe fees for such complaints.
  - f. False declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

- g. A supplier who has been debarred by any procuring entity for violation of this Order shall not be eligible for preference under this Order for procurement by any other procuring entity for the duration of the debarment. The debarment for such other procuring entities shall take effect prospectively from the date on which it comes to the notice of other procurement entities, in the manner prescribed under paragraph 9h below.
- h. The Department of Expenditure shall issue suitable instructions for the effective and smooth operation of this process, so that:
  - i. The fact and duration of debarment for violation of this Order by any procuring entity are promptly brought to the notice of the Member-Convenor of the Standing Committee and the Department of Expenditure through the concerned Ministry /Department or in some other manner;
  - ii. on a periodical basis such cases are consolidated and a centralized list or decentralized lists of such suppliers with the period of debarment is maintained and displayed on website(s);
  - iii. in respect of procuring entities other than the one which has carried out the debarment, the debarment takes effect prospectively from the date of uploading on the website(s) in the such a manner that ongoing procurements are not disrupted.

**10. Specifications in Tenders and other procurement solicitations:**

- a. Every procuring entity shall ensure that the eligibility conditions in respect of previous experience fixed in any tender or solicitation do not require proof of supply in other countries or proof of exports.
- b. Procuring entities shall endeavour to see that eligibility conditions, including on matters like turnover, production capability and financial strength do not result in unreasonable exclusion of 'Class-I local supplier'/ 'Class-II local supplier' who would otherwise be eligible, beyond what is essential for ensuring quality or creditworthiness of the supplier.
- c. Procuring entities shall, within 2 months of the issue of this Order review all existing eligibility norms and conditions with reference to sub-paragraphs 'a' and 'b' above.

**d. Reciprocity Clause**

- i. When a Nodal Ministry/Department identifies that Indian suppliers of an item are not allowed to participate and/ or compete in procurement by any foreign government, due to restrictive tender conditions which have direct or indirect effect of barring Indian companies such as registration in the procuring country, execution of projects of specific value in the procuring country etc., it shall provide such details to all its procuring entities including CMDs/CEOs of PSEs/PSUs, State Governments and other procurement agencies under their administrative control and GeM for appropriate reciprocal action.

- ii. Entities of countries which have been identified by the nodal Ministry/Department as not allowing Indian companies to participate in their Government procurement for any item related to that nodal Ministry shall not be allowed to participate in Government procurement in India for all items related to that nodal Ministry/ Department, except for the list of items published by the Ministry/ Department permitting their participation.
  - iii. The stipulation in (ii) above shall be part of all tenders invited by the Central Government procuring entities stated in (i) above. All purchases on GeM shall also necessarily have the above provisions for items identified by nodal Ministry/ Department.
  - iv. State Governments should be encouraged to incorporate similar provisions in their respective tenders.
  - v. The term 'entity' of a country shall have the same meaning as under the FDI Policy of DPIIT as amended from time to time.
- e. Specifying foreign certifications/ unreasonable technical specifications/ brands/ models in the bid document is restrictive and discriminatory practice against local suppliers. If foreign certification is required to be stipulated because of non-availability of Indian Standards and/or for any other reason, the same shall be done only after written approval of Secretary of the Department concerned or any other Authority having been designated such power by the Secretary of the Department concerned.
- f. "All administrative Ministries/Departments whose procurement exceeds Rs. 1000 Crore per annum shall notify/ update their procurement projections every year, including those of the PSEs/PSUs, for the next 5 years on their respective website."

**10A. Action for non-compliance of the Provisions of the Order:** In case restrictive or discriminatory conditions against domestic suppliers are included in bid documents, an inquiry shall be conducted by the Administrative Department undertaking the procurement (including procurement by any entity under its administrative control) to fix responsibility for the same. Thereafter, appropriate action, administrative or otherwise, shall be taken against erring officials of procurement entities under relevant provisions. Intimation on all such actions shall be sent to the Standing Committee.

**11. Assessment of supply base by Nodal Ministries:** The Nodal Ministry shall keep in view the domestic manufacturing / supply base and assess the available capacity and the extent of local competition while identifying items and prescribing the higher minimum local content or the manner of its calculation, with a view to avoiding cost increase from the operation of this Order.

**12. Increase in minimum local content:** The Nodal Ministry may annually review the local content requirements with a view to increasing them, subject to availability of sufficient local competition with adequate quality.

13. **Manufacture under license/ technology collaboration agreements with phased indigenization:** While notifying the minimum local content, Nodal Ministries may make special provisions for exempting suppliers from meeting the stipulated local content if the product is being manufactured in India under a license from a foreign manufacturer who holds intellectual property rights and where there is a technology collaboration agreement / transfer of technology agreement for indigenous manufacture of a product developed abroad with clear phasing of increase in local content.

13A. In procurement of all goods, services or works in respect of which there is substantial quantity of public procurement and for which the nodal ministry has not notified that there is sufficient local capacity and local competition, the concerned nodal ministry shall notify an upper threshold value of procurement beyond which foreign companies shall enter into a joint venture with an Indian company to participate in the tender. Procuring entities, while procuring such items beyond the notified threshold value, shall prescribe in their respective tenders that foreign companies may enter into a joint venture with an Indian company to participate in the tender. The procuring Ministries/Departments shall also make special provisions for exempting such joint ventures from meeting the stipulated minimum local content requirement, which shall be increased in a phased manner.

14. **Powers to grant exemption and to reduce minimum local content:** The administrative Department undertaking the procurement (including procurement by any entity under its administrative control), with the approval of their Minister-in-charge, may by written order, for reasons to be recorded in writing,

- a. reduce the minimum local content below the prescribed level; or
- b. reduce the margin of purchase preference below 20%; or
- c. exempt any particular item or supplying entities from the operation of this Order or any part of the Order.

A copy of every such order shall be provided to the Standing Committee and concerned Nodal Ministry / Department. The Nodal Ministry / Department concerned will continue to have the power to vary its notification on Minimum Local Content.

15. **Directions to Government companies:** In respect of Government companies and other procuring entities not governed by the General Financial Rules, the administrative Ministry or Department shall issue policy directions requiring compliance with this Order.

16. **Standing Committee:** A standing committee is hereby constituted with the following membership:

Secretary, Department for Promotion of Industry and Internal Trade—Chairman  
Secretary, Commerce—Member  
Secretary, Ministry of Electronics and Information Technology—Member  
Joint Secretary (Public Procurement), Department of Expenditure—Member  
Joint Secretary (DPIIT)—Member-Convenor

The Secretary of the Department concerned with a particular item shall be a member in respect of issues relating to such item. The Chairman of the Committee may co-opt technical experts as relevant to any issue or class of issues under its consideration.

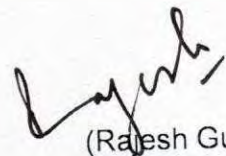
**17. Functions of the Standing Committee:** The Standing Committee shall meet as often as necessary, but not less than once in six months. The Committee

- a. shall oversee the implementation of this order and issues arising therefrom, and make recommendations to Nodal Ministries and procuring entities.
- b. shall annually assess and periodically monitor compliance with this Order
- c. shall identify Nodal Ministries and the allocation of items among them for issue of notifications on minimum local content
- d. may require furnishing of details or returns regarding compliance with this Order and related matters
- e. may, during the annual review or otherwise, assess issues, if any, where it is felt that the manner of implementation of the order results in any restrictive practices, cartelization or increase in public expenditure and suggest remedial measures
- f. may examine cases covered by paragraph 13 above relating to manufacture under license/ technology transfer agreements with a view to satisfying itself that adequate mechanisms exist for enforcement of such agreements and for attaining the underlying objective of progressive indigenization
- g. may consider any other issue relating to this Order which may arise.

**18. Removal of difficulties:** Ministries /Departments and the Boards of Directors of Government companies may issue such clarifications and instructions as may be necessary for the removal of any difficulties arising in the implementation of this Order.

**19. Ministries having existing policies:** Where any Ministry or Department has its own policy for preference to local content approved by the Cabinet after 1<sup>st</sup> January 2015, such policies will prevail over the provisions of this Order. All other existing orders on preference to local content shall be reviewed by the Nodal Ministries and revised as needed to conform to this Order, within two months of the issue of this Order.

**20. Transitional provision:** This Order shall not apply to any tender or procurement for which notice inviting tender or other form of procurement solicitation has been issued before the issue of this Order.



(Rajesh Gupta)  
Director

Tel: 23063211

[rajesh.gupta66@gov.in](mailto:rajesh.gupta66@gov.in)

EESL/Res/LSQ/UMPP-EV/2021-22/01

28<sup>th</sup> July, 2021

To,  
Shri Rahul Kumar  
Assistant Section Officer (UMPP/EV)  
Ministry of Power  
New Delhi

**Subject: Parliament Question Diary Number 8291 for 05.08.2021 regarding "Electric Vehicle Charging Points".**

Sir,

I am directed to refer to email dated 26<sup>th</sup> July 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a): whether the Government has selected the properties in States to develop Electric Vehicle charging points; and**

**(b): if so, the details thereof, State-wise?**

**Answer (a) & (b):** Ministry of Power may please reply.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

EESL/Res/LSQ/DS/2021-22/01

30<sup>th</sup> July, 2021

To,  
DS-I Section  
Room No. 622  
Ministry of Power  
Shram Shakti Bhawan  
Rafi Marg, New Delhi

**Subject: Parliament Question Unstarred Admitted No. 2761 for answer on 05/08/2021 regarding "Conventional Meters-**

Sir,

I am directed to refer to email dated 30<sup>th</sup> July 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a): whether the Government maintain any data of number of conventional meters installed in the State of Uttar Pradesh;**

**(b): if so, the details thereof, district-wise;**

**Answer (a) & (b):** Ministry of Power may please reply.

**(c): the present status of installation of prepaid smart meters across the country;**

**Answer (c):** Ministry of Power may please reply.

However, Energy Efficiency Services Limited (EESL), a JV of PSU under MoP, GoI is implementing Smart Meter Programme for replacement of Conventional meters with Smart electricity meters. This programme is being implemented on BOOT model, where the initial investment is being done by EESL and the states/ utilities pays back to EESL on monthly rental basis. As on date, EESL has installed over **17.63 lakh** smart meters across India including **2.45 lakh** Prepaid Smart Meters under this programme.

The State/UT wise details of smart meters installed by EESL is as per below table:

S. No.	State/UT	Cumulative Smart Meters installed by EESL as on 29 <sup>th</sup> July 2021 (units)	Prepaid Smart Meters Installed by EESL as on 29 <sup>th</sup> July 2021 (units)
1.	Uttar Pradesh	11,47,910	64,885
2.	Haryana	2,90,796	251
3.	Bihar	1,82,470	1,80,231
4.	Rajasthan	29,912	-
5.	Andaman & Nicobar	52,188	-
6.	Delhi	60,609	-
<b>Total</b>		<b>17,63,885</b>	<b>2,45,367</b>

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पॉचवा, छठा और सातवाँ तल,  
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**(d): the number of smart meters installed in the State of Uttar Pradesh, district-wise;**

**Answer (d):** District-wise details of Smart Meter installed by EESL in the State of Uttar Pradesh are as follows:

S. No.	District	Smart Meters installed (units) by EESL as on 29 <sup>th</sup> July 2021
1.	Varanasi	1,80,717
2.	Prayagraj	82,686
3.	Gorakhpur	56,543
4.	Lucknow	2,97,283
5.	Barabanki	22,518
6.	Bareilly	56,048
7.	Meerut	1,48,599
8.	Saharanpur	49,823
9.	Mathura, Vrindavan	83,894
10.	Aligarh	42,729
11.	Firozabad	20,837
12.	Kanpur	1,06,233
<b>Total</b>		<b>11,47,910</b>

**(e): whether the Government proposes to replace all the conventional meters with smart meters in the State of the Uttar Pradesh especially in Jaunpur district; and**

**(f): if so, the details of all the agencies involved in this project including private contractors?**

**Answer (e) & (f):** Ministry of Power may please reply.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

EESL/Res/RSQ/EC/2021-22/01

12<sup>th</sup> July, 2021

To,  
Shri Arun Aggarwal  
Under Secretary  
Ministry of Power  
'F' Wing, Nirman Bhawan  
New Delhi - 110011

**Subject: Provisional Rajya Sabha Question Dy No. U266 to be answered on 20.07.2021 regarding "Scheems/Programmes in Power Sector" - Reg.**

Sir,

I am directed to refer to email dated 8<sup>th</sup> July 2021 received from EC Division, MoP on the above subject. The para wise reply is as follows:

**Questions:**

**(a) The details of schemes/programmes introduced/launched in the power sector in various States, State-wise/UT-wise including Karnataka;**

**Answer (a):** Details of scheme/programmes introduced/launched in various states are mentioned below:

**1. National LED Programme:**

Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 launched National LED Programme which has components **(i) Unnat Jyoti by Affordable LEDs for All (UJALA)** to provide LED bulbs to domestic consumers for replacement of incandescent bulbs with LED bulbs and **(ii) Street Lighting National Programme (SLNP)** to replace conventional street lights with smart and energy efficient LED street lights. As on date, Energy Efficiency Services Limited (EESL) has distributed 36.74 crore LED bulbs and installed over 1.18 crore LED street lights in about 1,600 Urban Local Bodies (ULBs) and 13,000 Gram Panchayats. This has resulted in estimated energy savings of 55.69 billion kWh per year with avoided peak demand of 10,800 MW and estimated GHG emission reduction of 44 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 24,600 crore in electricity bills of consumers/ULBs.

The State/UT wise progress of the UJALA programme till 9<sup>th</sup> July 2021 is as follows:

S. No.	State/UT	LED bulbs distributed by EESL
1	Andaman & Nicobar	4,00,000
2	Andhra Pradesh	2,20,39,295
3	Arunachal Pradesh	4,99,498
4	Assam	71,77,088
5	Bihar	1,96,44,563
6	Chandigarh	5,54,283
7	Chhattisgarh	1,08,04,806
8	Dadra & Nagar Haveli	1,63,808

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पाँचवा, छठा और सातवाँ तल,  
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S. No.	State/UT	LED bulbs distributed by EESL
9	Daman & Diu	1,42,623
10	Delhi	1,33,15,688
11	Goa	10,13,101
12	Gujarat	4,14,40,842
13	Haryana	1,56,04,167
14	Himachal Pradesh	86,03,890
15	Jammu & Kashmir	84,88,961
16	Jharkhand	1,36,50,772
17	Karnataka	2,40,70,387
18	Kerala	1,54,21,887
19	Lakshadweep	2,00,000
20	Ladakh	2,30,630
21	Madhya Pradesh	1,75,71,724
22	Maharashtra	2,19,71,431
23	Manipur	2,99,934
24	Meghalaya	4,33,789
25	Mizoram	6,15,293
26	Nagaland	10,99,038
27	Odisha	5,22,73,791
28	Puducherry	6,09,251
29	Punjab	30,10,852
30	Rajasthan	1,71,32,368
31	Sikkim	1,64,000
32	Tamil Nadu	43,57,601
33	Telangana	21,88,948
34	Tripura	10,54,437
35	Uttar Pradesh	2,63,04,435
36	Uttarakhand	56,64,120
37	West Bengal	92,29,228
<b>Total</b>		<b>36,74,46,529</b>

The State/UT wise progress of SLNP till 9<sup>th</sup> July 2021 is as follows.

S. No.	State/UT	LED Street Lights installed by EESL
1	Andhra Pradesh	29,38,072
2	Assam	28,695
3	Bihar	5,22,887
4	Chandigarh	46,496
5	Chhattisgarh	3,77,989
6	Delhi	3,55,120
7	Goa	2,07,110
8	Gujarat	8,89,986
9	Haryana	84,693
10	Himachal Pradesh	60,631
11	Jammu & Kashmir	1,47,307
12	Jharkhand	5,16,043
13	<b>Karnataka</b>	<b>13,102</b>
14	Kerala	2,72,639
15	Lakshadweep	1,000
16	Madhya Pradesh	1,50,456
17	Maharashtra	9,71,025
18	Odisha	3,39,981
19	Pondicherry	1,520
20	Andaman & Nicobar	14,995
21	Punjab	1,12,091
22	Rajasthan	10,54,146
23	Sikkim	868
24	Tamil Nadu	7,876
25	Telangana	12,99,490
26	Tripura	76,426
27	Uttar Pradesh	11,99,694
28	Uttarakhand	94,821
29	West Bengal	84,213
<b>Total</b>		<b>1,18,69,372</b>

Energy Efficiency Services Limited (EESL) launched the Energy Efficient Fan Programme and LED Tube Light Programme on 7<sup>th</sup> April 2016. Till date, about 23.44 Lakh 5-star rated ceiling fans and 72.14 lakh LED tube lights have been distributed across India.

The state/UT-wise progress of the fan and tube light programmes till 9<sup>th</sup> July 2021 is as follows.

S. No.	State/UT	Total LED Tube Lights distributed till date	Total EE fans distributed till date
1	Andaman & Nicobar	-	-
2	Andhra Pradesh	1,49,873	3,24,710
3	Arunachal Pradesh	42,713	32,508
4	Assam	1,51,491	42,905
5	Bihar	1,13,561	43,435
6	Chandigarh	57,342	15,454
7	Chhattisgarh	2,82,275	65,053
8	Dadra & Nagar Haveli	4,884	1,886
9	Daman & Diu	547	19
10	Delhi	2,54,726	17,981
11	Goa	-	-
12	Gujarat	12,76,256	6,43,255
13	Haryana	2,13,279	60,709
14	Himachal Pradesh	94,039	21,824
15	Jammu & Kashmir	14,363	7,283
16	Jharkhand	1,68,019	31,621
17	Karnataka	4,12,846	72,197
18	Kerala	19,650	9,100
19	Lakshadweep	50,000	-
20	Ladakh	-	-
21	Madhya Pradesh	4,25,014	1,08,111
22	Maharashtra	5,31,133	1,86,211
23	Manipur	20,593	-
24	Meghalaya	4,495	-
25	Mizoram	36,125	1,579
26	Nagaland	25,833	7,499
27	Odisha	1,70,868	37,770
28	Puducherry	-	-
29	Punjab	99,766	18328
30	Rajasthan	3,48,684	91786
31	Sikkim	7,819	0
32	Tamil Nadu	6,20,181	174193
33	Telangana	3,13,793	48310

S. No.	State/UT	Total LED Tube Lights distributed till date	Total EE fans distributed till date
34	Tripura	84,213	15334
35	Uttar Pradesh	5,11,690	203377
36	Uttarakhand	39,114	5815
37	West Bengal	6,69,711	56558
<b>Total</b>		<b>72,14,896</b>	<b>23,44,811</b>

In the state of Karnataka, over 2.40 crore LED bulbs have been distributed and 13,102 LED street lights have been installed. Additionally, 72,119 energy efficient fans and over 4.12 lakh LED tube lights have also been distributed in Karnataka. This has resulted in estimated energy savings of 3.13 billion kWh per year with avoided peak demand of 624 MW and estimated GHG emission reduction of 2.5 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 1,252 crore in electricity bills of consumers/ULBs.

## 2. Gram Ujala:

Hon'ble Power Minister, Shri R K Singh launched Gram UJALA programme in Bihar at Arrah District on 19<sup>th</sup> March, 2021. Gram UJALA program is being implemented by Convergence Energy Service Limited (CESL), a wholly owned subsidiary of Energy Efficiency Services Limited.

The bulbs being offered under the Gram Ujala initiative are energy efficient LED bulbs that consumes 88% percent less electricity as compared to the incandescent bulbs. The energy savings garnered through switching to energy efficient bulbs will also lead to reduction in a household's energy cost, which will bolster the household's disposable income and lifetime savings, thus improving their quality of life.

Under this scheme eligible rural consumer are given 7W & 12W LED Bulbs @10 Rupees per bulb on submission of working incandescent bulbs of 60W & 100W respectively.

➤ Status of the scheme is tabulated below:

S. No.	State/UT	Total nos. of LED bulbs distributed as on 09.07.2021
1	Bihar	4,33,696
2	Uttar Pradesh	3,09,610
<b>Total</b>		<b>7,43,306</b>

This has resulted in estimated energy saving of 106 million kWh and avoided peak demand of 29.27 MW.

### 3. Smart Meters Programme:

EESL is implementing the Smart Meter Programme for replacement of conventional meters with Smart electricity meters. EESL's Smart Meter program was launched by the Hon'ble Power Minister, Shri R K Singh in the year 2018. This programme is being implemented on BOOT model, where the initial investment is being done by EESL and the states/utilities pays back to EESL on monthly rental basis.

As on 09.07.2021, EESL has installed 17,27,081 Smart meters across the country. Following is the state/UT wise break up of Smart Meter installation by EESL:

State/UT	Smart Meters installed by EESL (nos.)
Uttar Pradesh	11,47,910
Haryana	2,84,946
Bihar	1,63,687
Rajasthan	19,057
Andaman & Nicobar	51,009
Delhi	60,472
<b>Total</b>	<b>17,27,081</b>

#### Question:

**(b) The quantum of funds allocated, sanctioned, released and utilized thereunder during the last three years and the current year, State-wise;**

**Answer (b):** No funds were sanctioned or released for the schemes mentioned above because these programmes run without any budgetary allocation from Government of India. In fact, UJALA & SLNP are based on a sustainable business model where the cost of efficient lighting is repaid by consumers/ULBs from energy savings over a period of time. The entire upfront investment is made by Energy Efficiency Services Ltd (a JV of PSUs under Ministry of Power). EESL aggregates demand across the country and procures LED bulbs and street lights through a transparent and competitive bidding process for further distribution/installation to domestic consumers/ULBs at lower cost compared to retail market.

#### Questions:

**(c) The number of households deprived of power facility in the rural and urban areas of the country category-wise, including Scheduled Castes/ Scheduled Tribes and others; and**

**(d) The total number of villages electrified in the country during the last two years and the current year?**

**Answer (c) & (d):** Ministry of Power may please reply.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

EESL/Res/RSQ/EC/2021-22/01

22<sup>nd</sup> July, 2021

To,

Section Officer  
Coordination Division  
Ministry of Power  
New Delhi

**Subject: Provisional Rajya Sabha Question Dy No. U1043 to be answered on 27.07.2021 regarding "Development schemes for Uttar Pradesh" - Reg.**

Sir,

I am directed to refer to email dated 22<sup>nd</sup> July 2021 received from EC Division, MoP on the above subject. The para wise reply is as follows:

**Questions:**

- (a) The details of the schemes launched by the Government since 2014 till date along with the details of targets set and achievements made under each of the said schemes; and**

**Answer (a):** Ministry of Power may please reply.

Details of schemes launched in the states of Uttar Pradesh are mentioned below:

**1. Unnat Jyoti by Affordable LEDs for All (UJALA):**

Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 launched UJALA programme to provide LED bulbs to domestic consumers for replacement of incandescent bulbs with LED bulbs at an affordable price.

In Uttar Pradesh, first phase of UJALA programme was launched on 8<sup>th</sup> June, 2015 and second phase was launched on 14<sup>th</sup> April, 2017. Being a voluntary scheme, no specific target was set. However, as on date 2.62 Crore LED bulbs, 5.11 lakh LED Tube Lights and 2.03 lakh Energy Efficient Fans have been distributed in Uttar Pradesh. This has resulted in estimated energy savings of 3.4 billion kWh per year with avoided peak demand of 682 MW and estimated GHG emission reduction of 2.7 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 1,364 crore in electricity bills of consumers.

**2. Street Lighting National Programme (SLNP):**

Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 launched SLNP programme to replace conventional street lights with smart and energy efficient LED street lights.

In Uttar Pradesh, the programme was started in the year, 2017. Being a voluntary scheme, no specific target was set. However, as on date 12.03 lakh LED street lights have been installed in Uttar Pradesh. This has resulted in estimated energy savings of 808 million kWh per year with avoided peak demand of 134 MW and estimated GHG emission reduction of 0.55 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 565 crore in electricity bills of ULBs.

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पाँचवा, छठा और सातवाँ तल,  
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### **3. Gram Ujala:**

Hon'ble Power Minister, Shri R. K. Singh launched Gram UJALA programme in Bihar at Arrah District on 19<sup>th</sup> March, 2021. Gram UJALA program is being implemented by Convergence Energy Service Limited (CESL), a wholly owned subsidiary of Energy Efficiency Services Limited. Under this scheme eligible rural consumer are given 7W & 12W LED Bulbs @10 Rupees per bulb on submission of working incandescent bulbs of 60W & 100W respectively.

In Uttar Pradesh the programme was launched on 24<sup>th</sup> March, 2021 at Varanasi District. CESL is targeting to distribute 36 lakhs LED bulbs by Mid of November 2021 in the State of Uttar Pradesh. As on date 5.37 lakh LED bulbs have been distributed in Uttar Pradesh to approximately 85 thousand Households. This has resulted in saving of Rs. 24.84 Cr and reducing peak demand of 20.54 MW. Currently CESL is doing its distribution under the district of Varanasi, Allahabad, Pratapgarh, Fatehpur and Jaunpur covering more than 150 villages.

### **4. Smart Meters Programme:**

EESL is implementing the Smart Meter Programme for replacement of conventional meters with Smart electricity meters. EESL's Smart Meter program was launched by the Hon'ble Power Minister, Shri R. K. Singh in the year 2018. This programme is being implemented on BOOT model, where the initial investment is being done by EESL and the states/utilities pays back to EESL on monthly rental basis.

EESL has been sanctioned to install 40 lakh smart meters in the State of Uttar Pradesh. As on 21<sup>st</sup> July 2021, over 11.47 lakh smart meters have been installed in the state.

### **Question:**

**(b) The details of the proposals received from Uttar Pradesh along with the proposals approved by Government under the schemes for Uttar Pradesh sponsored by the Ministry?**

**Answer (b):** Ministry of Power may please reply.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

### **Copy to:**

Shri Arun Aggarwal  
Under Secretary  
Ministry of Power  
'F' Wing, Nirman Bhawan  
New Delhi - 110011

EESL/Res/RSQ/UMPP-EV/2021-22/01

27<sup>th</sup> July, 2021

To,  
Rahul Kumar  
Assistant Section Officer (UMPP/EV)  
Ministry of Power  
New Delhi

**Subject: Provisionally admitted Parliamentary Question U 2275 "Charging Station for Electric Vehicles" to be answered on 04.08.2021.**

Sir,

I am directed to refer to email dated 26<sup>th</sup> July 2021 on the above subject. The para wise reply is as follows:

**Question (a): the target for setting up charging stations for electric vehicles, statewise, by 2024**

**Answer (a):** Ministry of Power may please reply.

Energy Efficiency Services Limited (EESL) a JV of PSU under MoP, GoI through Convergence Energy Services Limited (CESL – 100% Owned subsidiary of EESL) is developing Electric Vehicle Charging Infrastructure and has received Letter of Award (LOA) from Department of Heavy Industry (DHI) under FAME India Scheme Phase - II for deployment of 1,184 EV Chargers across following 12 cities in India. The details of the same is as follows:

Sl. No.	Name of State/UT	Name of City	Total Number of EV chargers
1	Delhi	Delhi	128
2	Gujarat	Ahmedabad	246
3	Karnataka	Bengaluru	36
4	Maharashtra	Mumbai	99
5	Telangana	Hyderabad	147
6	West Bengal	Kolkata	69
7	Tamil Nadu	Chennai	78
8	Rajasthan	Jaipur	21
9	Chandigarh	Chandigarh	45
10	Maharashtra	Nagpur	114
11	Haryana	Gurugram	39
12	Uttar Pradesh	Noida	162
<b>Total</b>			<b>1,184</b>

Further, it is planned to install 5,000 EV chargers in next 5 years.

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पाँचवा, छठा और सातवाँ तल,  
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Core – III, SCOPE Complex, Lodhi Road, New Delhi – 110003  
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**Website:** www.eeslindia.org

**Question (b):** how many have been set up so far; and

**Answer (b):** Ministry of Power may please reply.

Below are the State/UT wise details of chargers installed by EESL/CESL:

Sl. No.	Name of State/UT	Name of City	Total Charger Installed
1	Delhi	Delhi	128
2	Gujarat	Ahmedabad	9
3	Karnataka	Bengaluru	1
4	Chhattisgarh	Raipur	4
5	West Bengal	Kolkata	18
6	Tamil Nadu	Chennai	37
7	Goa	Goa	3
8	Kerala	Kerala	13
9	Maharashtra	Nagpur	29
10	Haryana	Gurugram	2
11	Uttar Pradesh	Noida	58
Total			302

**Question (c):** whether there is any plan to involve the private sector in the scheme of things?

**Answer (c):** Ministry of Power may please reply.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

EESL/Res/RSQ/UMPP-EV/2021-22/01

2<sup>nd</sup> August, 2021

To,  
Rahul Kumar  
Assistant Section Officer (UMPP/EV)  
Ministry of Power  
New Delhi

**Subject: Provisionally Admitted Question for Rajya Sabha Diary Number S3873 for 10.08.2021 regarding "Electricity - based kitchens in the country"**

Sir,

I am directed to refer to email dated 29<sup>th</sup> July 2021 on the above subject. The para wise reply is as follows:

**Questions:**

- (a): the initiatives being taken to promote the use of electric cooking equipment in households;**
- (b): whether Government intends to promote use of electric cooking equipment in all Indian Households;**
- (c): if so, how this equipment shall be extended to poor families;**
- (d): the total amount in rupees Government will expend on this initiatives; and**
- (e): the benefits of using electric cooking equipment?**

**Answer (a) to (e):** Ministry of Power may please reply.

However, Energy Efficiency Services Limited (EESL), a JV of PSUs under ministry of Power is in planning stage for developing a programme on Electric/Induction cook stoves. EESL has carried out an MoU with BSES Yamuna for the same. The benefits of using electric cooking equipment are as follows:

- It is an energy efficient system with heat transfer efficiency 25-30% higher than that of LPG burners
- The technology is well proven – It can be available in standalone, hybrid (i.e. with LPG burner) and Solar based system
- It provides clean and safe cooking to the users with provisions of programmable temperature controller
- Induction cook-tops heat faster and distribute heat more evenly
- It is simple to install and use

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पाँचवा, छठा और सातवाँ तल,  
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EESL/Res/RSQ/MHI/2021-22/01

4<sup>th</sup> August, 2021

To,  
Saurabh Kumar,  
Assistant Section Officer (AEI),  
Ministry of Heavy Industries,  
Udyog Bhawan, New Delhi- 110011

**Subject: Rajya Sabha admitted PQ No 2309 reg. National e-mobility programme.**

Sir,

I am directed to refer to email dated 3<sup>rd</sup> August 2021 on the above subject. The requisite reply is as follows:

**Questions (c): whether both Energy Efficiency Services Limited (EESL) and BHEL have taken steps to explore opportunities in field of e-Mobility, fast track adoption of EVs under NeMP and if so, details thereof; and**

**Answer (c):** Ministry of Heavy Industry may please reply.

However, Energy Efficiency Services Limited (EESL) a JV of PSU under MoP, GoI through Convergence Energy Services Limited (CESL – 100% Owned subsidiary of EESL) is implementing e-Mobility Programme with the objective to reduce dependence on oil imports & to provide an impetus for domestic electric vehicle manufacturers, charging infrastructure companies, fleet operators, service providers, etc. to gain efficiencies of scale and drive down costs, create local manufacturing facilities, grow technical competencies for the long-term growth of the electric vehicle (EV) industry in India and to enable Indian EV manufacturers to emerge as major global players.

Under this programme, EESL/CESL concluded the procurement of various categories of electric cars through an international competitive bidding process. Till date, EESL/CESL have deployed/under deployment 1,590 EVs in more than 160 Central and state government departments in 49 cities. These e-cars are being given on lease/outright purchase basis to replace the existing petrol and diesel vehicles taken on lease earlier.

EESL/CESL is also developing Electric Vehicle Charging Infrastructure and has signed MoUs with multiple stakeholders across municipalities, DISCOMs for location assessment study and setting up of charging infrastructures in their jurisdiction location. As on date EESL/CESL has installed 301 nos. of EV chargers across India of which 147 nos. are operational and rest are in the process of pre-commissioning.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

EESL/Res/RSQ/EC/2021-22/01

12<sup>th</sup> July, 2021

To,  
Shri Arun Aggarwal  
Under Secretary  
Ministry of Power  
'F' Wing, Nirman Bhawan  
New Delhi - 110011

**Subject: Rajya Sabha Provisional Starred/Unstarred Question Diary No. S287 for 19/07/2021 regarding "Transfer of low Carbon technology"**

Sir,

I am directed to refer to email dated 8<sup>th</sup> July 2021 received from EC Division, MoP on the above subject. The para wise reply is as follows:

**Questions:**

- (a) the challenges and issues arising out of the need to tackle climate change in India;**
- (b) whether Government proposes to collaborate with the developed countries for transfer of low carbon energy technologies to tackle climate change; and**
- (c) if so, the details thereof along with the barriers in transferring clean technologies between the developed and developing countries?**

**Answer (a) to (c):** Ministry of Power/ MoEF&CC may please reply.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

EESL/Res/RSQ/BEE/2021-22/01

2<sup>nd</sup> August, 2021

To,  
Shri Ashok Kumar  
Deputy Director General  
Bureau of Energy Efficiency, Ministry of Power  
4<sup>th</sup> Floor Sewa Bhawan, R K Puram, New Delhi - 110066

**Subject: Rajya Sabha provisionally admitted Starred/Unstarred Q. Dy. No. U3034 regarding National Mission for Enhanced Energy Efficiency for answer on 10.08.2021.**

Sir,

I am directed to refer to email dated 30<sup>th</sup> July 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a): the current status of implementation of National Mission for Enhanced Energy Efficiency (NMEE) and the various schemes under it including Perform Achieve and Trade (PAT) and Market Transformation for Energy Efficiency (MTEE);**

**(b): whether PAT Cycles III, IV have achieved its target, if so, the details thereof; and**

**(c): the status of implementation of PAT Cycle VI?**

**Answer (a) to (c):** Ministry of Power may please reply.

However, it may be noted that following two programs are being implemented by Energy Efficiency Services Limited (EESL), a JV of PSUs under ministry of Power since year 2015 under Market Transformation for Energy Efficiency (MTEE).

**1) Unnat Jyoti by Affordable LEDs for All (UJALA):**

UJALA program was launched by the Hon'ble Prime Minister on 5<sup>th</sup> January, 2015 for replacement of incandescent lamps with LED (Light-Emitting Diode) bulbs, in order to promote energy efficiency in the country. Under the said scheme EESL, provides LED bulbs to domestic consumers at a low cost. LEDs have a relatively longer life and are highly energy efficient as compared to incandescent bulbs and CFLs (compact fluorescent lamps), thus saving both energy and costs in the medium term. EESL with support of stakeholders was able to achieve reduction in procurement price from Rs 310 per 7W bulb in 2014 to Rs 38 per 9W bulb in 2016.

As on date, EESL has distributed 36.74 crore LED bulbs, 72.14 lakhs LED tube lights and 23.44 lakhs energy efficient fans across the country under UJALA program.

## 2) Street Lighting National Programme (SLNP):

Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 launched Street Lighting National Program (SLNP) to replace conventional streetlights with smart and energy efficient LED streetlights across India.

EESL replaces the conventional streetlights with LEDs at its own costs (without any need for municipalities to invest) and the consequent reduction in energy and maintenance cost of the municipality is used to repay EESL over a period of time. The contracts that EESL enters into with municipalities are typically of 7 years' duration where it not only guarantees a minimum energy saving (of-typically 50%) but also provides free replacements and maintenance of lights at no additional cost to the municipality. EESL is also implementing LED Street lighting projects in Gram Panchayats on the same service model to promote the use of efficient lighting in rural areas.

Till date, EESL has installed over 1.19 Crore LED streetlights in ULBs and Gram Panchayats across India. Under SLNP, 1600 Urban Local Bodies (ULBs) have been enrolled, out of these ULBs, work has been completed in 1060 ULBs.

Cumulatively these programs (UJALA & SLNP) have resulted in estimated energy savings of over **56 billion kWh** per year with avoided peak demand of **11,000 MW** and estimated GHG emission reduction of **44 million t CO<sub>2</sub>** per year and estimated annual monetary savings of **INR 24,800 crore** in electricity bills of consumers/ULBs.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

EESL/Res/RSQ/DS/2021-22/01

23<sup>rd</sup> July, 2021

To,  
DS-I Section  
Room No. 622  
Ministry of Power  
Shram Shakti Bhawan  
Rafi Marg, New Delhi

**Subject: Rajya Sabha Starred /Unstarred Diary No. S2488. for answer on 03/08/2021 regarding "Purchase of electrical meters for Installation in Assam.**

Sir,

I am directed to refer to email dated 20<sup>th</sup> July 2021 received from DS Division, MoP on the above subject. The para wise reply is as follows:

**Questions:**

- (a) whether it is a fact that the Ministry of Power is purchasing electrical meters for installation in household for measuring of electricity consumption;
- (b) if so, the details thereof;
- (c) whether it is also a fact that in last 10 years Meter purchased has crossed more than double the number of consumers;
- (d) if so, the details thereof and the details of energy meter purchased by State Power Utilities under various schemes for consumers of Assam including Make, Capacity, Rate, Quantity etc; and
- (e) number of energy meters owned by consumers themselves at their cost and fitted in their premises in Assam?

**Answer (a) to (e):** Ministry of Power (MoP) may please reply.

However, Energy Efficiency Services Limited (EESL), a JV of PSU under MoP, GoI is implementing Smart Meter Programme for replacement of Conventional meters with Smart electricity meters. This programme is being implemented on BOOT model, where the initial investment is being done by EESL and the states/ utilities pays back to EESL on monthly rental basis. As on date, EESL has installed over 17.48 lakh smart meters across India under this programme.

The State/UT wise details of smart meters installed by EESL is as per below table:

S. No.	State/UT	No. of Smart Meters Installed by EESL
1.	Uttar Pradesh	11,47,910
2.	Haryana	2,87,946
3.	Bihar	1,74,311
4.	Rajasthan	25,947
5.	Andaman & Nicobar	51,761
6.	Delhi	60,551
<b>Total</b>		<b>17,48,426</b>

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

EESL/Res/RSQ/DS/2021-22/01

16<sup>th</sup> July, 2021

To,  
DS-I Section  
Room No. 622  
Ministry of Power  
Shram Shakti Bhawan  
Rafi Marg, New Delhi

**Subject: Rajya Sabha Starred/ Unstarred Diary No. U646, U653. for answer on 27/07/2021 regarding "Details of Smart Meters Installation in the Country."**

Sir,

I am directed to refer to email dated 14<sup>th</sup> July 2021 received from IPDS Section, MoP on the above subject. The para wise reply is as follows:

**Questions:**

**(a) whether the National Tariff Policy has mandated provision of smart electricity meters in premises of all consumers consuming more than 200 units of electricity per month in a phased manner and if so, the details thereof;**

**Answer (a):** Ministry of Power (MoP) may please reply

**Question (b): the aims and objective of installing smart electricity meters in premises;**

**Answer (b):** Ministry of Power (MoP) may please reply. However, inputs from EESL are as follows:

- Reduced AT&C Losses.
- Help make DISCOMs agile by offering lead indicators on demand and mitigating the need for manual checking
- Enable auto collection of meters read over the air, reducing the need for manual intervention, remote connect/disconnect as per the state utility guidelines
- Help DISCOMs function remotely by eliminating manual collections
- Offer consumers a seamless online billing process & digital payment of bills
- Help consumers have access to real time tracking of electricity usage
- Usher in a reduction of billing errors
- Help consumers track their consumption patterns and adopt more energy-efficient behaviours and appliances.
- Offer them an option to pre-pay for electricity, based on their requirements and thus be in control of their total energy spends.
- Enable time of day metering and thus, playing a pivotal role in the integration of renewable power

**Questions:**

- (c) the number of smart meters sanctioned under the National Smart Grid Mission to different States;
- (d) the time by which the installation of smart meters will be started and completed; and
- (e) whether time frame has been fixed for installation of smart meters in a time bound manner and if so, the details thereof?

**Answer (c) to (e):** Ministry of Power (MoP) may please reply.

Energy Efficiency Services Limited (EESL), a JV of PSU under MoP, GoI is implementing Smart Meter Programme for replacement of Conventional meters with Smart electricity meters. This programme is being implemented on BOOT model, where the initial investment is being done by EESL and the states/ utilities pays back to EESL on monthly rental basis. As on date, EESL has installed over 17.36 lakh smart meters across India under this programme.

The State/UT wise details of smart meters installed by EESL is as per below table:

S. No.	State/UT	No. of Smart Meters Installed by EESL
1.	Uttar Pradesh	11,47,910
2.	Haryana	2,86,456
3.	Bihar	1,68,323
4.	Rajasthan	22,315
5.	Andaman & Nicobar	51,466
6.	Delhi	60,504
<b>Total</b>		<b>17,36,974</b>

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

EESL/Res/RSQ/EC/2021-22/01

23<sup>rd</sup> July, 2021

To,  
Shri Arun Aggarwal  
Under Secretary  
Ministry of Power  
'F' Wing, Nirman Bhawan  
New Delhi - 110011

**Subject: Rajya Sabha Starred/ Unstarred Q. Dy. No. S2294 regarding LED distribution under Ujala Jyoti Yojana for answer on 03.08.2021**

Sir,

I am directed to refer to letter No. 7/24/2021- EC dated 20<sup>th</sup> July 2021 on the above subject. The para wise reply is as follows:

**Questions (a): The number of LED bulb and fans distributed so far under Unnat Jyoti by Affordable LEDs for All (UJALA) Yojana for energy conservation and saving of electricity; and**

**Answer (a):** Under Unnat Jyoti by Affordable LEDs for all (UJALA) yojana, as on 21<sup>st</sup> July, 2021, 36.74 Crore LED bulbs and 23.44 lakh Energy Efficient Fans have been distributed. This has resulted in estimated energy savings of 47.92 billion kWh per year.

**Question (b): The details of LED bulb and Fans distributed in development block of Sidhi and Singrauli districts in Madhya Pradesh, village wise?**

**Answer (b):** The details of LED bulbs and energy efficient fans distributed in Sidhi and Singrauli district is tabulated below:

Sl. No.	District Name	Number of Bulbs distributed	Number of Fans distributed
1	Sidhi	1,02,328	1,054
2	Singrauli	82,642	6,117

(Programme details are captured only till district level under the UJALA scheme)

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पाँचवा, छठा और सातवाँ तल,  
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EESL/Res/LSQ/MNRE/2021-22/01

20<sup>th</sup> July, 2021

To,  
Shri Pankaj Saxena  
Advisor (Planning & Coordination)  
Ministry of New & Renewable Energy

**Subject: Parliament Question Diary No. 1292 to be answered on 22.07.2021-reg.**

Sir,

I am directed to refer to email dated 16<sup>th</sup> July 2021 received from EC Division, MoP on the above subject. The para wise reply is as follows:

**Questions:**

- (a) the progress made in direction of production of energy through non-conventional ways in view of energy conservation in the country;
- (b) whether use of non-conventional sources of energy has been adopted in various Government and non-Government institutes of the country;
- (c) whether any target has been fixed by the Government in this regard;
- (d) if so, the details thereof, institute wise;
- (e) whether there has been decrease in consumption of conventional energy as a result of these efforts; and
- (f) if so, the details thereof;

**Answer (a) to (f):** Ministry of Power/Ministry of New and Renewable Energy may please reply.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

**Copy to:**

Shri Arun Aggarwal  
Under Secretary  
Ministry of Power  
'F' Wing, Nirman Bhawan  
New Delhi – 110011

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पाँचवा, छठा और सातवाँ तल,  
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EESL/Res/RSQ/EC/2021-22/01

12<sup>th</sup> July, 2021

To,  
Shri Arun Aggarwal  
Under Secretary  
Ministry of Power  
'F' Wing, Nirman Bhawan  
New Delhi - 110011

**Subject: Rajya Sabha Provisionally admitted Question Dy. No. U192 for the answer on 19.07.2021 on 'Effect of Climate Change on Ecosystem'.**

Sir,

I am directed to refer to email dated 8<sup>th</sup> July 2021 received from EC Division, MoP on the above subject. The para wise reply is as follows:

**Questions:**

- (a) Whether any study has been conducted by Government on the effect of climate change on various ecosystems including agriculture sector during the last two years;
- (b) if so, the details thereof;
- (c) whether Government has formulated any action plan in collaboration with global agencies to fight with the ill effects of climate change; and
- (d) if so, the details thereof and the characteristics of such action plan?

**Answer (a) to (d):** Ministry of Power/MoEF&CC may please reply.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

EESL/Res/RSQ/CEA/2021-22/01

4<sup>th</sup> August, 2021

To,  
Shri Ashok Kumar Rajput  
Chief Engineer (RT&I) Division  
Central Electricity Authority  
Ministry of Power  
Sewa Bhawan, R K Puram-I  
New Delhi-110066

**Subject: RS Provision question starred unstarred dy no S3871 due for ans on 10.08.2021 reg Using artificial intelligence for load forecasting.**

Sir,

I am directed to refer to your email dated 2<sup>nd</sup> August 2021 on the above subject. The para wise reply is as follows:

**Questions:**

- (a): whether Government intends to encourage innovation in the power sector using Artificial Intelligence and big data for load forecasting;
- (b): whether data from State and National Load Dispatch Centres is collected and analysed in any way;
- (c): whether Government will encourage private sector innovation and entrepreneurship in this sector; and
- (d): the total amount allocated in rupees during the past three years to innovation in the power sector?

**Answer (a) to (d):** Ministry of Power may please reply.

This issues with the approval of Competent Authority.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Tech.)

EESL/Res/LSQ/EC/2021-22/04

25<sup>th</sup> November, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Inputs for Lok Sabha Starred Question Diary No. 38 for 29.11.2021 regarding 'Fund Allocation to States'.**

Sir,

I am directed to refer to email dated 25<sup>th</sup> November 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a): the details of the funds allocated by the Union Government to States including Bihar for various schemes during the last five years;**

**(b): the amount of funds spent by States so far;**

**(c): whether the Government has an existing auditing mechanism to look into the amount of funds not utilised so far along with the reasons for non-utilisation of the entire funds;**

**(d): if so, the details thereof, and**

**(e): the steps taken by the Government to ensure timely utilisation of the entire funds by the States?**

**Answer (a) to (e):** Ministry of Power may please reply. Information pertaining to EESL may be treated as NIL.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/EC/2021-22/01

24<sup>th</sup> November, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Inputs on Lok Sabha Qst. Diary No. 92 for answer on 29.11.2021 reg. study on impact of global warming.**

Sir,

I am directed to refer to email dated 23<sup>rd</sup> November 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a): Whether the Government has undertaken any study for estimation of impact of global warming;**

**(b): If so, the details thereof along with the outcome thereto;**

**(c): The action taken/proposed to be taken for controlling global warming induced climate change in the country;**

**(d): Whether the Government proposed to increase forest cover to address the problem of climate change in the country;**

**(e): if so, the details thereof along with the funds allocated for the purpose during the current year; and**

**(f): Whether the Government is planning to include global warming in school-curriculum in order to create widespread awareness among the people and to start public awareness campaign in this regard; and If so, the details thereof?**

**Answer (a) to (f):** Ministry of Power/ Ministry of Environment, Forest and Climate change may please reply.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

**Additional information:**

Energy Efficiency Services Limited (EESL), a JV of PSUs under MoP is implementing Energy Efficiency and Climate Change mitigation projects under National Mission for Enhanced Energy Efficiency (NMEEE). It has pioneered innovative business approaches to successfully roll-out large-scale programs that allow for incentive alignment across the value chain and rapidly drive transformative impact. The programmes of EESL has resulted in reduction of around 46 million tonnes of CO<sub>2</sub> emission per year. Details of major programme are as follows:

- i. UJALA Programme: 39.6 million tCO<sub>2</sub> per year
- ii. Gram UJALA Programme: 0.43 million tCO<sub>2</sub> per year
- iii. Street Lighting National Programme: 5.59 million tCO<sub>2</sub> per year
- iv. Agriculture Demand Side management (AgDSM): 0.15 million tCO<sub>2</sub> per year
- v. Building Energy Efficiency Programme: 0.18 million tCO<sub>2</sub> per year

EESL/Res/RSQ/EC/2021-22/03

25<sup>th</sup> November, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Rajya Sabha provisionally Admitted starred/unstarred Diary No. S92 due on 01.12.2021 reg.**

Sir,

I am directed to refer to email dated 24<sup>th</sup> November 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a): the stapes taken by Government to mitigate the increase of natural disasters in sensitive area of Himalayan States;**

**(b): whether policies and regulations for infrastructure project are updated to have minimal impact in Himalayan States, and if not, reasons therefor;**

**(c): whether any investment in research and development of disaster forecasting and early warning systems has been taken up;**

**(d): if so, details thereof, and if not, the reasons therefor;**

**(e): whether Government has any longterm framework and/or action plan for disaster management and climate resilience in Himalayan States; and**

**(f): if so, details thereof, and if not, the reasons therefor?**

**Answer (a) to (f):** Ministry of Power may please reply. Information pertaining to EESL may be treated as NIL.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/EC/2021-22/02

26<sup>th</sup> November, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary  
Ministry of Power  
'F' Wing, Nirman Bhawan  
New Delhi - 110011

**Subject: Lok Sabha provisionally admitted Unstarred Q. Dy. No. 2054 for answer on 02.12.2021 regarding Conservation of Electricity.**

Sir,

I am directed to refer to letter No. 7/30/2021-EC dated 25<sup>th</sup> November 2021 on the above subject. The para wise reply is as follows:

**Question: (a) the details of initiatives taken by the Government to conserve electricity?**

**Answer (a):** Ministry of Power may please reply.

However, it may be noted that Energy Efficiency Services Limited (EESL), a JV of PSUs under the Ministry of Power is implementing following major programs for conservation of electricity:

**(1) Unnat Jyoti by Affordable LEDs for All (UJALA):**

Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 launched UJALA programme to provide LED bulbs to domestic consumers for replacement of incandescent bulbs with LED bulbs at an affordable price. As on date, EESL has distributed over 36.78 crore LED bulbs across India. This has resulted in estimated energy savings of 47.77 billion kWh per annum.

**(2) Street Lighting National Program (SLNP):**

Hon'ble Prime Minister, launched SLNP programme on 5<sup>th</sup> January, 2015 to replace conventional street lights with smart and energy efficient LED street lights. As on date EESL has installed over 1.20 crore LED street lights in Urban Local Bodies (ULBs) and Gram Panchayats. This has resulted in estimated energy savings of 8.12 billion kWh per annum.

**(3) Gram Ujala:**

Gram UJALA program is being implemented by Convergence Energy Service Limited (CESL), a wholly owned subsidiary of Energy Efficiency Services Limited wherein ICL bulbs are replaced by efficient LED bulbs that consumes 88% less electricity.

As on date, CESL has distributed over 33 lakh LED bulbs under this program. This has resulted in estimated energy saving of 467 million kWh per annum.

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पाँचवा, छठा और सातवाँ तल,  
कोर - 3, स्कोप कॉम्प्लेक्स, लोधी रोड, नई दिल्ली - 110003  
दूरभाष: +91 (011) 45801260, फ़ैक्स: +91 (011) 45801265  
वेबसाइट: www.eeslindia.org

**REGISTERED OFFICE:** NFL Building, 5<sup>th</sup>, 6<sup>th</sup> & 7<sup>th</sup> Floor,  
Core - III, SCOPE Complex, Lodhi Road, New Delhi - 110003  
**Tel.:** +91 (011) 45801260, **Fax:** +91 (011) 45801265  
**Website:** www.eeslindia.org

**(4) Buildings Energy Efficiency Programme (BEEP):**

Building Energy Efficiency Program (BEEP) was launched to implement energy efficiency measures in government buildings across India. Under this Program 10,451 Buildings have been retrofitted with energy efficient equipment like LED Lights, 5 Star rated Fans and super-efficient Air-condition. Due to above interventions, there are energy savings of 250 million kWh per annum.

**(5) Agricultural Demand Side Management (AgDSM):**

EESL is implementing Agricultural Demand Side Management (AgDSM) Programme to distribute BEE 5-star energy efficient agricultural pumps to ensure a minimum of 30% reduction in energy consumption. As on date about 79,000 nos. pumps has been installed in the states of Andhra Pradesh and Uttar Pradesh. This has resulted in estimated energy savings of 204 million kWh per year.

**Questions:**

- (b) whether any mechanism exists to ensure efficiency in domestic, agricultural and commercial sectors of the country?**
- (c) if so, the details thereof?**
- (d) whether the Government has conducted any energy audit during the last three years? and**
- (e) if so, the details thereof along with the steps taken to ensure implementation of the mechanism developed to conserve electricity?**

**Answer (b) to (e):** Ministry of Power/BEE may please reply.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/EC/2021-22/02

27<sup>th</sup> November, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha provisionally admitted Unstarred Q. Dy. No. 2159 regarding Achievements of EESL for answer on 02.12.2021.**

Sir,

I am directed to refer to letter No. 7/28/2021-EC dated 25<sup>th</sup> November 2021 on the above subject. The para wise reply is as follows:

**Question (a): the details of achievements of Energy Efficiency Services Limited (EESL) during the last three years?**

**Answer (a):** Achievements of EESL in last 3 years is hereby enclosed at Annexure - 1.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

## Achievement of EESL in the last 3 years

Date: 26<sup>th</sup> November 2021

### 1. Unnat Jyoti by Affordable LEDs for ALL (UJALA):

Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 launched UJALA programme to provide LED bulbs to domestic consumers for replacement of incandescent bulbs with LED bulbs at an affordable price.

- In the last 3 Financial years, EESL has distributed about 7.4 crore LED bulbs across India.
- In total, 36.78 crore LED bulbs have been distributed by EESL.

### 2. Gram UJALA:

Gram Ujala program was launched by the Hon'ble Minister of Power, New and Renewable Energy in Bihar at Arrah District on 19th March, 2021. The program is being implemented by Convergence Energy Service Limited\* (CESL) wherein ICL bulbs are replaced by efficient LED bulbs that consumes 88% less electricity. The bulbs are being offered at Rs 10/bulb and rest of the cost is proposed to be recovered from **Carbon Financing**. Over 33.02 lakh LED bulbs have been distributed under Gram Ujala.

\* Convergence Energy Services Ltd (CESL), a wholly owned subsidiary of EESL has been formed dedicated to Distributed Renewable Energy (DRE), EVs and projects on Carbon Financing.

### 3. Street Lighting National Programme (SLNP):

Hon'ble Prime Minister, launched SLNP programme on 5<sup>th</sup> January, 2015 to replace conventional street lights with smart and energy efficient LED street lights.

- In the last 3 Financial years, EESL has installed over 62.2 lakh LED street lights in Urban Local Bodies (ULBs) and Gram Panchayats across India.
- In total, EESL has installed about 1.20 crore LED street lights across India.

### 4. Smart Meter National Programme (SMNP):

- In the last 3 Financial years, EESL has installed over 16.52 lakh smart electricity meters in the state of Uttar Pradesh, Haryana, Bihar, Rajasthan, Andaman and Delhi.
- In total, EESL has installed over 20.77 lakh smart electricity meters across the country.

### 5. E-mobility & Electric Vehicles Charging Infrastructure:

- In the last 3 years, CESL has deployed 1,594 Nos. of 4W EVs with more than 180 clients which includes various ministries/government dept. both Central and State, PSUs, Autonomous bodies, shared mobility operator etc. Also, it has installed 396 nos. of Public Charging Stations across India.
- EESL/CESL being nominated as the aggregating agency for Electric Three Wheelers under remodeled FAME II with a mandate to aggregate 3,00,000 Electric Three wheelers in next two years. It is also aggregating demand for e-buses. CESL has launched a one of its kind call for demand "Grand Challenge" for 3472 electric buses.
- CESL is deploying its EV under the Carbon Neutral Ladakh initiative. It has also developed first of its kind marketplace "MyEV App" for procuring electric two wheelers. The program has been launched in Kerala on 1st Sept 2021.

## Achievement of EESL in the last 3 years

- CESL is one of the first organizations in India to deploy Public Electric Vehicle Charging Stations (PCS) on an impactful scale. CESL has installed 396 PCS in the last three years comprising Bharat Standard DC001 (15kW), High Capacity Fast DC Combo Chargers 142kW (CCS2.0+ CHAdeMO + AC Type II), Standalone CCS2 (50kW) and Bharat Standard AC001 (10kW). CESL has set up the India's First EV Charging Plaza at Rafi Marg, New Delhi in partnership with New Delhi Municipal Council (NDMC) where 4 nos. of High Capacity Fast DC Combo Chargers 142kW (CCS2.0+ CHAdeMO + AC Type II) and 2 nos. Bharat Standard DC001 (15kW) have been installed capable of charging 14 electric cars simultaneously.
- EESL (CESL) has received Letter of Award (LOA) from Department of Heavy Industry (DHI) under FAME India Scheme Phase - II scheme for deployment of 1184 EV Chargers across 12 cities in India.
- EESL in consortium with CESL has received Letter of Award (LOA) from Ministry of Heavy Industries, Government of India under FAME India Scheme Phase-II for deployment of 2270 EV Chargers on (10) Highways and (6) Expressways across India.

### 6. Decentralized Solar Power Plant Programme:

- In the last 3 Financial years, EESL has commissioned decentralized solar power plant (0.3 MW to 10 MW) of approx. 130.7 MWp
- In total, EESL has commissioned decentralized solar power plant of approx. 170 MWp

### 7. Buildings Energy Efficiency Programme (BEEP):

- In the last 3 Financial years, EESL has completed retrofitting work in 7739 buildings by replacing old appliances with Energy efficient appliances like LED bulbs/lights, Tube lights, Fans & Air Conditioners.
- In total, EESL has completed retrofitting work in 10,451 buildings

### 8. Agricultural Demand Side Management (AgDSM):

- In the last 3 Financial years, over 58,000 nos. pumps has been installed.
- In total, 79000 nos. pumps have been installed in the states of Andhra Pradesh and Uttar Pradesh.

EESL/Res/LSQ/EC/2021-22/08

3<sup>rd</sup> December, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha provisionally admitted Unstarred Q. Dy. No. 5057 for answer on 09.12.2021 regarding Energy Conservation Act.**

Sir,

I am directed to refer to letter No. 7/35/2021-EC dated 1<sup>st</sup> December 2021 on the above subject. The para wise reply is as follows:

**Questions:**

- (a): whether there is any proposal to amend the Energy Conservation Act, 2001 to specify minimum quantum of renewable energy in the overall energy conservation;
- (b) if so, the details thereof; and
- (c) the steps taken by the Government to promote and encourage production and use of renewable sources of energy in the country?

**Answer (a) to (c):** Ministry of Power may please reply. Information pertaining to EESL may be treated as NIL.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/EC/2021-22/11

3<sup>rd</sup> December, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha provisionally admitted Unstarred Q. Dy. No. 5147 for answer on 09.12.2021 regarding Street Lighting National Programme.**

Sir,

I am directed to refer to letter No. 7/36/2021-EC dated 2<sup>nd</sup> December 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a) the details of number of LED bulbs installed in Madhya Pradesh and Rajasthan under the Street Lighting National Programme, district-wise;**

**Answer (a):** The details of LED street lights installed by EESL in the States of Madhya Pradesh and Rajasthan under Street Lighting National Program (SLNP) is enclosed at **Annexure -1**.

**(b) the details of quantum of funds and energy saved therefore; and**

**Answer (b):** Details of monetary and energy saving due to SLNP are as follows:

Savings	Madhya Pradesh	Rajasthan
Energy saved per year (MUs)	101.04	718.03
Monetary saving per year ( INR Cr)	70.73	502.62

**(c) the details of targets fixed under the said programme for the next three years?**

**Answer (c):** EESL has proposed a goal of installation of 1.6 Cr. LED streetlights under SLNP in the next three years across the country.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

**Annexure -1**

Details of district wise LED street lights installation in the States of Madhya Pradesh and Rajasthan:

<b>Name of the State</b>	<b>District</b>	<b>Total Installed Quantity (as on 30 November 21)</b>
Madhya Pradesh	Ratlam	13948
Madhya Pradesh	Rewa	19367
Madhya Pradesh	Satna	19668
Madhya Pradesh	Ujjain	23843
Madhya Pradesh	Gwalior	36334
Madhya Pradesh	Jabalpur	37275
	<b>Total</b>	<b>1,50,435</b>

<b>State</b>	<b>District</b>	<b>Total Installed Quantity (as on 30 November 21)</b>
Rajasthan	Ajmer	73954
Rajasthan	ALWAR	44367
Rajasthan	Banswara	8706
Rajasthan	Baran	9525
Rajasthan	Barmer	18336
Rajasthan	Bharatpur	32851
Rajasthan	Bhilwara	44833
Rajasthan	Bikaner	45663
Rajasthan	Bundi	13715
Rajasthan	Chittorgarh	22122
Rajasthan	Churu	42944
Rajasthan	Dausa	15667
Rajasthan	Dholpur	9007
Rajasthan	Dungarpur	13905
Rajasthan	Hanumangarh	27705
Rajasthan	Jaipur	151817
Rajasthan	Jaisalmer	11340
Rajasthan	Jalore	11860
Rajasthan	Jhalawar	9823
Rajasthan	Jhunjhunu	41003
Rajasthan	Jodhpur	76232
Rajasthan	Karauli	12904
Rajasthan	Kota	59714
Rajasthan	Nagaur	41451
Rajasthan	Pali	40952
Rajasthan	Pratapgarh	6216
Rajasthan	Rajsamand	18759

<b>State</b>	<b>District</b>	<b>Total Installed Quantity (as on 30 November 21)</b>
Rajasthan	Sawaimadhopur	17403
Rajasthan	Sikar	36048
Rajasthan	SIROHI	15315
Rajasthan	Sri Ganganagar	30418
Rajasthan	Tonk	19939
Rajasthan	Udaipur	44575
	<b>Total</b>	<b>10,69,069</b>

EESL/Res/LSQ/EC/2021-22/06

3<sup>rd</sup> December, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha provisionally admitted Unstarred Q. Dy. No. 5045 for answer on 09.12.2021 regarding 'Progress made under UJALA scheme'.**

Sir,

I am directed to refer to letter No. 7/34/2021-EC dated 1<sup>st</sup> December 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a): the progress made under the Unnat Jyoti by Affordable LEDs for All (UJALA) scheme in the country;**

**Answer (a):** As on date, over 36.78 crore LED bulbs have been distributed by EESL across India. This has resulted in estimated energy savings of 47.77 billion kWh per year with avoided peak demand of 9,565 MW and GHG emission reduction of 38.69 million t CO<sub>2</sub> per year.

**(b) the total number of LED bulbs distributed in the country, State-wise;**

**Answer (b):** State/UT wise details of LED bulbs distribution by EESL is enclosed at Annexure – 1.

**(c) whether the Government has any estimate of energy savings, achieved under the scheme;**

**Answer (c):** UJALA scheme has resulted in estimated energy savings of 47.77 billion kWh per year.

**(f) if so, the details thereof along with the estimate of benefits available to consumers from the energy bills?**

**Answer (f):** Estimated Energy saving is about 130 kWh per annum per bulb which amounts to INR 520/- (at Rs 4/kWh). Cumulatively UJALA scheme has resulted in reduction of electricity bills of domestic consumers of about INR 19,000 crore per year.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

**Annexure -1**

<b>S. No.</b>	<b>State/UT</b>	<b>Total no. of LED bulbs distributed by EESL</b>
1.	Andaman & Nicobar	400,000
2.	Andhra Pradesh	22,039,295
3.	Arunachal Pradesh	499,498
4.	Assam	7,184,155
5.	Bihar	19,607,495
6.	Chandigarh	554,283
7.	Chhattisgarh	10,821,163
8.	Dadar & Nagar Haveli	163,808
9.	Daman & Diu	142,623
10.	Delhi	13,339,576
11.	Goa	1,005,890
12.	Gujarat	41,448,713
13.	Haryana	15,608,118
14.	Himachal	8,634,216
15.	Jammu & Kashmir	8,486,579
16.	Jharkhand	13,645,874
17.	Karnataka	24,258,810
18.	Ladakh	230,630
19.	Kerala	15,429,919
20.	Lakshadweep	200,000
21.	Madhya Pradesh	17,574,110
22.	Maharashtra	21,986,569
23.	Manipur	299,934
24.	Meghalaya	433,789
25.	Mizoram	615,331
26.	Nagaland	1,099,038
27.	Odisha	52,270,570
28.	Puducherry	609,251
29.	Punjab	3,010,852
30.	Rajasthan	17,321,034
31.	Sikkim	164,000
32.	Tamil Nadu	4,362,448
33.	Telangana	2,188,948
34.	Tripura	1,054,437
35.	Uttar Pradesh	26,287,808
36.	Uttarakhand	5,673,121
37.	West Bengal	9,229,228
<b>Total</b>		<b>367,881,113</b>

EESL/Res/LSQ/EC/2021-22/07

3<sup>rd</sup> December, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha provisionally admitted Unstarred Q. Dy. No. 5046 for answer on 09.12.2021 regarding 'Status of UJALA Scheme'.**

Sir,

I am directed to refer to letter No. 7/33/2021-EC dated 1<sup>st</sup> December 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a): whether the Government has achieved the target set for Unnat Jyoti by Affordable LEDs for All (UJALA) scheme;**

**(b): if so, the details thereof during the last three years, State and year-wise;**

**Answer (a) & (b):** Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 launched UJALA programme with an objective to provide LED bulbs at affordable prices to consumers. The goal was to distribute 77 crore LED bulbs.

UJALA brought a market transformation in energy efficiency & lighting sector. The procurement price of LED bulb has dropped significantly due to aggregation of demand from INR 310 (Jan. 2014, 7W bulb) to INR 39.90 (August 2019, 9W bulb). The domestic LED market has also grown significantly owing to the UJALA programme, with the industry selling over 160 crore LED bulbs, thereby far exceeding the UJALA programme's goal.

State/UT wise details of LED bulbs distribution by EESL in last 3 years is enclosed at Annexure – 1.

**(c): the total number of LED bulbs distributed in the country;**

**Answer (c):** As on date, over 36.78 crore LED bulbs have been distributed by EESL across India. This has resulted in estimated energy savings of 47.77 billion kWh per year with avoided peak demand of 9,565 MW and GHG emission reduction of 38.69 million t CO<sub>2</sub> per year. Total number of LED bulbs sold in the country by all sources is more than 200 crores.

**(d): the details of expenditure made under the scheme;**

**Answer (d):** UJALA scheme is a self-financing program where the consumer purchases the LED bulbs on upfront basis. EESL mobilizes the necessary capital cost for this program and recovers the same from the consumers. There is no expenditure involved from the Govt. budget.

**(e): whether the Government proposes to further extend the scheme to reach more beneficiaries in the country; and**

**(f): if so, the details thereof?**

**Answer (e) & (f):** Ministry of Power may please reply.

However, UJALA program has created substantial market transformation in the country and it is expected that the LED industry would take it forward. However, to further penetrate to the rural consumers, CESL (a wholly owned subsidiary of EESL) is implementing "Gram UJALA" program for distribution of LED bulbs in Rural areas.

Hon'ble Power Minister, Shri R K Singh launched Gram UJALA programme in Bihar at Arrah District on 19<sup>th</sup> March, 2021. In Gram UJALA, ICL bulbs are replaced by efficient LED bulbs that consumes 88% less electricity. The bulbs are being offered at Rs 10/bulb and rest of the cost is planned to be recovered from Carbon Financing. As on date, CESL has distributed over 33 lakh LED bulbs under this program. This has resulted in estimated energy saving of 467 million kWh per annum.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

**Annexure - 1**

<b>S. No.</b>	<b>State/UT</b>	<b>FY 2018-2019</b>	<b>FY 2019-2020</b>	<b>FY 2020-2021</b>
1.	Andaman & Nicobar	-	-	-
2.	Andhra Pradesh	164,182	9,400	1,884
3.	Arunachal Pradesh	151,105	100	548
4.	Assam	4,949,693	97,065	111,623
5.	Bihar	1,818,123	305,093	102,199
6.	Chandigarh	105,458	12,291	-
7.	Chhattisgarh	878,099	132,162	300,901
8.	Dadra & Nagar Haveli	31,033	25,816	2,633
9.	Daman & Diu	15,555	4,938	492
10.	Delhi	448,335	250,461	8,600
11.	Goa	78,777	55,000	730
12.	Gujarat	2,282,968	340,164	223,660
13.	Haryana	771,489	81,780	17,568
14.	Himachal	338,028	229,508	138,604
15.	Jammu & Kashmir	605,342	48,643	394
16.	Jharkhand	1,429,828	137,413	336,581
17.	Karnataka	2,748,857	1,210,006	616,239
18.	Ladakh	-	30,630	200,000
19.	Kerala	274,627	135,423	29,103
20.	Lakshadweep	-	-	-
21.	Madhya Pradesh	498,687	156,815	83,232
22.	Maharashtra	259,605	33,862	11,638
23.	Manipur	147,926	25,000	-
24.	Meghalaya	93,463	-	-
25.	Mizoram	42,741	25	15
26.	Nagaland	183,637	47,777	-
27.	Odisha	32,343,477	7,142,578	57,449
28.	Puducherry	24,696	-	-
29.	Punjab	301,128	118,516	1,573,333
30.	Rajasthan	1,508,025	333,270	92,305
31.	Sikkim	58,842	-	-
32.	Tamil Nadu	1,844,325	419,661	148,044
33.	Telangana	260,081	6,978	36,591
34.	Tripura	290,635	9,046	15,605
35.	Uttar Pradesh	1,705,026	248,518	80,558
36.	Uttarakhand	629,772	229,701	60,262
37.	West Bengal	539,923	57,160	50,000
	<b>Total</b>	<b>57,823,488</b>	<b>11,934,800</b>	<b>4,300,791</b>

EESL/Res/LSQ/EC/2021-22/03

1<sup>st</sup> December 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha Q. Dy. No. 3180 for answer on 06.12.2021 regarding Emission of CO<sub>2</sub> received from Ministry of Environment, Forests and Climate Change for seeking inputs.**

Sir,

I am directed to refer to letter No. 6/4/2021-EC dated 30<sup>th</sup> November 2021 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) whether the has made a national level assessment of CO<sub>2</sub> emission. If yes, for which years and what is the estimated emission for 2020;
- (b) what actions have been taken for carbon capture and storage and what is the progress so far;
- (c) Is there any plan to use the saved carbon for economic and industrial purpose, details of the same and what is the time bound plan for this.
- (d) Has the Government included carbon sequestration as a major policy in decarbonisation of India's energy, electricity and manufacture industries. If yes, details of the same and if not, why and the plan and timelines for same; and
- (e) would the government make available data on produced CO<sub>2</sub> both from oil and gas fields and from industrial processes; and
- (f) whether Government is considering any program on Seagrasses as they are very efficient for their CO<sub>2</sub> sequestration and ecosystem stabilization capabilities and if so, please provide details thereof and if not, please give reason thereon?

**Answer (a) to (f):** Ministry of Power/ Ministry of Environment, Forest and Climate change may please reply. Additional information pertaining to EESL is enclosed as Annexure -1.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

**Additional information:**

Energy Efficiency Services Limited (EESL), a JV of PSUs under MoP is implementing Energy Efficiency and Climate Change mitigation projects under National Mission for Enhanced Energy Efficiency (NMEEE). It has pioneered innovative business approaches to successfully roll-out large-scale programs that allow for incentive alignment across the value chain and rapidly drive transformative impact. The programmes of EESL has resulted in reduction of around 46 million tonnes of CO<sub>2</sub> emission per year. Details of major programme are as follows:

- i. UJALA Programme: 39.6 million tCO<sub>2</sub> per year
- ii. Gram UJALA Programme: 0.43 million tCO<sub>2</sub> per year
- iii. Street Lighting National Programme: 5.59 million tCO<sub>2</sub> per year
- iv. Agriculture Demand Side management (AgDSM): 0.15 million tCO<sub>2</sub> per year
- v. Building Energy Efficiency Programme: 0.18 million tCO<sub>2</sub> per year

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha Starred Question. Dy. No. 10547 for reply on 23.12.2021 regarding Street Lighting National Programme.**

Sir,

I am directed to refer to letter No. 7/37/2021-EC dated 13<sup>th</sup> December 2021 on the above subject. The para wise reply is as follows:

**Questions (a): Whether the government is implementing Street Lighting National Programme (SLNP), if so, the details therefore.**

**Answer (a):** Yes. Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 launched National LED Programme under which Street Lighting National Program (SLNP) was formulated to replace conventional street lights with energy efficient LED street lights. Energy Efficiency Services Limited (EESL), a JV of CPSUs under Ministry of Power, GoI is implementing Street Lighting National Programme in 23 States and 6 Union Territories.

Till date, EESL has installed over 1.21 crore LED street lights in ULBs and Gram Panchayats (GPs) across India. This has resulted in estimated energy savings of 8.13 billion kWh per year with avoided peak demand of about 1,355 MW, GHG emission reduction of 5.60 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 5,692 crore in electricity bills.

**b) Whether the government has set any target to replace conventional streetlights in country under SLNP and if so, the step taken by the Government to achieve the said target set;**

**Answer (b):** So far, EESL has installed over 1.21 crore LED Street Lights out of targeted quantity of 1.34 crore across India. This program is being implemented in Urban Local Bodies (ULB), Gram Panchayats (GP). This is a voluntary program and Govt. of India has not set any budget and target for street light replacement. ULBs & GPs and EESL enter into mutual agreement and when the State/UT administration approves the same and agreements are signed, the replacement of street lights is taken up by EESL.

**c) The details of financial allocation made for this programme during the last three years?**

**Answer (c):** SLNP is a self-financing program where the agreement is signed between the client & EESL. Based on the agreement terms, EESL/ULBs mobilizes necessary capital for the project. There is no expenditure involved from the Govt. budget.

**d) The other step taken by the government to replace conventional street lights with smart and energy efficient light emitting diode (LED) lights in a time bound manner?**

**Answer (d):** Considering the importance of Street lighting National programme, Hon'ble Minister of Power in his review of the programme dated 11.11.2021 mandated EESL for installation of 1.6 crore additional street lights by March 2024.

A supplementary note on Street Lighting National Program is hereby attached.

Yours Sincerely

(Deepak Kumar Sahani)  
Manager (Corporate Planning)

Q1: What is the cost of conventional street light vis-à-vis the cost of LED street lights?

Ans: Conventional street lights ratings generally varies from 35W to 1000W and the benchmark costing of conventional High Pressure Sodium Vapour (HPSV) lights is Rs 20/W. Thus a conventional street light cost varies from Rs 700 to 20000. LED street light rating varies from 10W to 400W with benchmark cost of Rs 40/W, translating to Street light cost of Rs 400 to 16000. However, LED streetlights provide more illumination/watt translating to 50% less energy consumption with respect to HPSV lights for same illumination.

Q2: How does EESL meet the cost of procurement and distribution of LED street light?

Ans: SLNP program is financed by EESL. The funds are arranged with Equity-Debt ratio of 20:80. EESL signs agreement for cost to be paid in equal Monthly/Quarterly instalments by Urban Local Bodies and Gram Panchayats which is used to pay back borrowings from Local banks /Bilateral and Multilateral organisations.

Q3: ULB and GP wise energy savings and the amount dues from them?

Ans: Energy savings in ULBs is more than 6005 MUs whereas in GPs its more than 1890 MUs. For ease of review, overall dues state-wise in SLNP programme as on 30.11.2021 is tabulated below:

State	Grand Total (INR) as on 30.11.2021	SLNP business model
Andhra Pradesh	6,62,64,13,972	AP ULB- ESCO Model and AP GP on Energy saving model
Rajasthan	5,75,84,62,446	ESCO Model
Uttar Pradesh	2,89,79,03,648	ESCO Model
Maharashtra	1,63,58,61,270	ESCO Model
Telangana	1,53,94,88,816	ESCO Model
Gujarat	1,19,91,40,732	Energy Saving sharing Model
Bihar	1,14,14,76,688	ESCO Model
Jharkhand	95,79,86,386	Jharkhand ULB- ESCO Model and JH GP on upfront model
Delhi	93,91,97,333	ESCO Model
Goa	87,46,61,632	ESCO Model and then sold on upfront basis
Orissa	40,07,62,614	Upfront payment model
Madhya Pradesh	33,49,24,142	ESCO model
West Bengal	18,97,18,638	50% ESCO and 50% upfront payment model
Jammu and Kashmir	16,68,52,297	ESCO model
Haryana	15,28,44,890	Upfront payment model
Punjab	13,12,23,527	ESCO model

Tripura	9,12,12,108	ESCO model
Chandigarh	8,11,91,486	ESCO model
Chhattisgarh	7,21,90,846	ESCO model
Andaman and Nicobar	6,87,23,705	ESCO model
Uttarakhand	5,93,05,055	ESCO model
Himachal Pradesh	5,78,32,124	ESCO model
Assam	5,76,45,968	ESCO model
Kerala	5,18,80,835	Upfront payment model
<b>Grand Total</b>	<b>25,48,69,01,158</b>	

Q4: What was lacking in the agreements signed by EESL that they could not ensure payment security which led to mounting of huge dues?

Ans: The agreements have a Payment Security Mechanism in form of ESCROW/ LC etc. However, some ULBs do not open escrow account and some do not provide funds to ESCROW account leading to mounting of dues.

*In retrospect, there could have been provision for centralised payments from state govt. with dedicated/separate head for budgetary allocation.*

Q5: ULB and GP wise targets and actual replacement of streetlights with LED lights.

Ans: The programme is voluntary in nature. EESL submits proposals to all states/UTs and as and when the state/UT administration approves the same and agreement are signed with respective ULBs/GPs, the replacement of street light is taken up by EESL. Ministry had mandated replacement of 1.34 Cr conventional Street lights with LED Street lights and EESL has achieved replacement of 1.21 Cr conventional Street lights with LED Street lights. There are no specific ULB and GP wise targets in the initiative.

Q6: What is further plan of EESL to expand SLNP?

Ans: Considering the importance of Street lighting National programme, Hon'ble Minister of Power, in his review of the programme dated 11.11.2021, was presented with action plan by EESL for replacement of additional 1.6 crore conventional street lights by LED Street lights by March 2024 by EESL.

Q7: What are the business models being considered by EESL to ensure payment security to avoid accumulation of dues for new projects under SLNP?

Ans: Three business models are being considered in New projects to minimise/avoid accumulation of dues:

- PMC based model where EESL gets some payment as advanced and rest linked to installation in Capex mode avoiding long term exposure. The O&M is to be managed by ULBs.
- PMC + Opex based model, where Capex is paid as above and Monthly fee is paid during maintenance phase of project.
- Annuity based project where EESL installs and maintains the lights for 5/7 years. However this model is proposed only when there is agreement at

state level for centralised payments and with dedicated/separate head for budgetary allocation. EESL has to carry-out due diligence of financial capacity of the State to make the annual payments for the project to EESL before going ahead.

Q8: State wise feasibility study report and likely nos. of streetlights to be replaced by LED lights in near future by EESL.

Ans: The EESL assessment for 1.6 Cr Street Lights was based on assessment as detailed in attached supplementary note and under different categories summarised as follows:

- a) ULBs: 89 Lacs
- b) GPs: 61 Lacs
- c) Institutional: 10 Lacs

Total: 1.6 Cr

Q9: The LED street lights are installed after a detailed survey of the existing infrastructure is undertaken. The survey inter-alia looks at the infrastructure gaps, verification of inventory and mapping locations for setting up CCMS (Centralized Control and Monitoring System)- how the decision is taken by EESL to decide about feasible nos. of streetlights to be replaced?

Ans: The data for number of street lights as well as CCMS to be replaced/ setup afresh in green field project is provided by the ULBs/GPs and EESL installs based on implementation agreement.

Q10: Whether any component of SLNP was funded by MPLAD? If yes, please give State wise details.

Ans: No, MPLAD fund is not utilised in SLNP.

Q11: The contracts that EESL enters into with local bodies are typically of 7 years' duration where it not only guarantees a minimum energy saving (of-typically 50%) but also provides free replacements and maintenance of lights at no additional cost to the local bodies- please clarify the contract/agreement period under SLNP and minimum energy saving assured by EESL State wise.

Ans: The contract agreement period varies between 5 to 7 years with minimum guaranteed energy savings of 50%.

Q12: Under SLNP, 1576 Urban Local Bodies (ULBs) have been enrolled, out of these ULBs, work has been completed in 1060 ULBs. How many GPs were enrolled State wise and actual nos. of streetlights replaced by EESL there?

Ans: EESL has in it's initial phase of SLNP enrolled 10,000 GPs in state of Andhra Pradesh where 23,65,641 street lights were installed and 2300 GPs in state of

Jharkhand, where 3,90,262 LED street lights have been installed. Further 36,070 lights have been installed in Telangana GPs.

Ques 13; 3States where SLNP has worked well

Ans 3 states where SLNP has worked well (Significant installation with less dues) i.e. CG, SDMC (Delhi) and Kerala; Agreement copies with salient points/features of the agreement are mentioned below:

<b>CG ULBs</b>		<b>Remarks</b>
Project Start (Date of MoU Signing)	28.09.2016	Payment security Mechanism with funds from state Govt Budget
No. of Lights Installed	3,71,870	
Amount Invested	126	
Invoiced	111.48	
Outstanding (Cr) as of 30.11.2021	7.21	
<b>Delhi ULBs</b>		
Project Start (Date of MoU Signing)	15-01-2015	ULB having good financial standing
No. of Lights Installed (Nos)	367833	
Amount Invested (Cr.)	248.6	
Invoiced (Cr.)	358.5	
Outstanding(Cr.) as of 30.11.2021	88.79	
<b>Kerala ULBs+GPs</b>		
Project Start (Date of MoU Signing)	26-Feb-21	Project is in PMC mode
No. of Lights Installed (Nos)	276505	
Amount Invested (Cr.)	48.58	
Invoiced (Cr.)	43.3	
Outstanding(Cr.) as of 30.11.2021	5.18	

Ques 14; 3States where SLNP has not worked well

Ans 3 states where SLNP has not worked well (Significant installation with high dues) i.e. Andhra Pradesh-Gram Panchayat, Rajasthan and Maharashtra; Agreement copies with salient points/features of the agreement are mentioned below:

<b>AP Gram Panchayat</b>		<b>Remarks</b>
1. Project Start (Date of MoU Signing)	17-Jul-17	Dedicated state budgetary head was not provided
2. No. of Lights Installed (Lacs)	23.68	
3. Amount Invested (Cr)	900	
4. Invoice value (In Cr)	389	
5. Payment received (in Cr.)	61	
<b>Rajasthan</b>		
1. Project Start (Date of MoU Signing)	23-Jan-15	Payment were supposed to be released to EESL from RUDF but same was diverted for other uses by Government
2. No. of Lights Installed (Lacs)	10.78	

3. Amount Invested (Cr)	1100.44	
4. Invoice value (In Cr)	749.6	
5. Payment received (in Cr.)	178	
<b>Maharashtra</b>		
1. Project Start (Date of MoU Signing)	14-Feb-18	Although ESCROW Account was provisioned for each ULB, The same accounts were either not opened by ULBs or were Not funded.
2. No. of Lights Installed (Lacs)	10.23	
3. Amount Invested (Cr)	650	
4. Invoice value (In Cr)	260.21	
5. Payment received (in Cr.)	101.81	

Ques 15; State wise actual replacement; segregated in ULB and Gram Panchayats (GP)

#### GP Details

Sr. No.	Cluster Name	State	No. of LED SL Installed	Estimated Energy Saving (MUs)
1	South East-Telangana	<b>ANDHRA PRADESH (GP)</b>	23,65,641	1,588.86
		<b>TELANGANA (GP)</b>	36,070	24.23
	Eastern- West Bengal	<b>JHARKHAND (GP)</b>	3,90,262	262.12
<b>Grand Total</b>			<b>27,91,973</b>	<b>1875.21</b>

#### State-wise ULB Details

Sr. No.	Cluster Name	State	No. of LED SL Installed	Estimated Energy Saving (MUs)
1	South East-Telangana	<b>ANDHRA PRADESH</b>	5,73,239	385.01
		<b>TELANGANA</b>	13,16,784	884.41
		<b>TAMILNADU</b>	7,876	5.29
		<b>PORTBLAIR</b>	14,995	10.07
2	South West-Maharashtra	<b>MAHARASHTRA</b>	10,26,038	689.13
		<b>KERALA</b>	2,72,639	183.12
		<b>KARNATAKA</b>	13,102	8.80
		<b>GOA</b>	2,07,110	139.10
		<b>LAKSHADWEEP</b>	1,000	0.67
3		<b>WEST BENGAL</b>	84,230	56.57

	Eastern- West Bengal	JHARKHAND	1,25,781	84.48
		BIHAR	5,52,661	371.19
4	Western- Rajasthan	RAJASTHAN	10,62,721	713.77
		GUJARAT	8,89,986	597.75
5	Northern Central- Uttar Pradesh	UTTAR PRADESH	12,17,902	817.99
		UTTARAKHAND	1,13,656	76.34
6	Central Region- Raipur	CHHATTISGARH	3,77,989	253.87
		ODISHA	3,39,981	228.35
		MADHYA PRADESH	1,95,099	131.04
7	North Region	DELHI	3,63,151	243.91
		JAMMU & KASHMIR	1,51,043	101.45
		HIMACHAL PRADESH	61,614	41.38
		PUNJAB	1,19,151	80.03
		CHANDIGARH	46,496	31.23
		HARYANA	84,693	56.88
8	North East	SIKKIM	868	0.58
		TRIPURA	76,426	51.33
		ASSAM	28,695	19.27
Not included in clusters		PONDICHERY	1,520	1.02
Grand Total			93,26,446	6264.03

## Supplementary note on Street Lighting National Programme (SLNP)

Date: 17<sup>th</sup> December 2021

- **Background & Objectives:**

- Energy efficiency assumes significance for the nation in the current environment of concerns over climate change. Lighting itself accounts for about 20% of the total electricity consumption in India. **Street Lighting National Programme (SLNP)** was launched on 5<sup>th</sup> January 2015 by **Hon'ble Prime Minister Shri Narendra Modi as "Prakash Path" – National Program for adoption of LED in Home and Street Lighting**. The main objective was to convert conventional Street Lights with energy efficient LED Street Lights. Under this Programme, EESL had set a goal of replacement of 1.34 crores conventional street light by March 2020 which will result in savings of 9,000 million units annually. Keeping future generations in mind, the revolutionary step was taken to conserve as much energy as possible.
- Energy Efficiency Services Limited (EESL) a JV of CPSUs under Ministry of Power was designated as the implementing agency to implement this program across Pan-India. This initiative was a part of the Government's efforts to spread the message of energy efficiency in the country and bring market transformation. **EESL joined hands with the ULBs, Municipal Bodies, Gram Panchayats (GPs) and Central & State Governments to implement SLNP across India.**
- The main objectives/salient features of Street Lighting National Programme are as follows:
  - **Reduction in Energy Consumption:** Reduce energy consumption in lighting which helps DISCOMs to manage peak demand.
  - **Market Transformation by reduced pricing from demand aggregation:** Shift buying preferences from Sodium Vapour/ Fluorescent Lighting to LED Based Solid State Lighting.
  - **Promote ESCO in Deemed Savings Approach:** No need for upfront capital investment by ULBs, enhanced service levels at no additional maintenance costs. Provide a sustainable service model that obviates the need for upfront capital investment as well as additional revenue expenditure to pay for procurement of LED lights. For street lights, the reduction of electricity bill and maintenance charges is used to repay the EESL investments over a 7-year period.
  - **GHG Emission Reduction:** Mitigate climate change by implementing energy efficient LED based street lights resulting in reduced GHG emissions.
  - **Support to ULBs, Gram Panchayats (GPs) & Municipal Bodies:** Enhance municipal services at no upfront capital cost to Municipalities & Gram Panchayats.
  - Create understanding about the service model amongst all stakeholders such as industry, government agencies, financial institutions, etc. so that market based energy efficiency can happen.
  - Create an enabling environment for private sector investments in the lighting sector.

## Supplementary note on Street Lighting National Programme (SLNP)

- **Street Light National Programme; A Govt. Programme;**

As mentioned above; the programme was launched on 5<sup>th</sup> January 2015 by Hon'ble Prime Minister Shri Narendra Modi as "Prakash Path" – National Program for adoption of LED in Home and Street Lighting. The programme is without any support, grant or subsidy from Government of India. However, GOI has supported the SLNP Programme by approving concessional multilateral & bilateral financing from agencies like KfW, ADB, IBRD etc. and extending sovereign guarantee for such financing for funding SLNP programme.

Since 2015-16 and from time to time thereafter, GOI through Secretary Power, has been advising Chief Secretaries of respective states to implement both Energy Efficient Domestic and Street Lighting Programmes through its implementation arm i.e. EESL. A few such advisories are enclosed as **Annexure A** to this note.

- To begin with, GOI advised state governments of Andhra Pradesh and Rajasthan to sign MOUs with EESL for replacement of conventional streetlights with energy efficient streetlights under GOI '24x7 Power for all' mission.

The '24x7 Power for all' document for various states are public documents available on the website of Ministry of Power. These documents outlines '*Municipal Demand Side Energy Efficiency*' (Mu DSM) as a key area of intervention for achieving energy efficiency and power for all.

The role of EESL has been clearly defined in these documents as an agency of Central government responsible for design & development of the SLNP programme. A sample 24x7 document for state of Gujarat is enclosed for your ready reference as **Annexure B**.

- EESL since 2015-16 is required to submit a weekly MIS for these programmes to a nodal officer in MOP that forms the basis of periodic review of these nationwide programmes by the ministry.
- SLNP & UJALA figure in the prestigious list of *PRAGATI* Projects that are reviewed by the Hon'ble Prime Minister's office on a regular basis. Hon'ble Minister of Power regularly reviews the performance of street light National Programme. One such review notice is placed at **Annexure C**.
- Hon'ble Minister of Power wrote to MoHUA for support on settlement of EESL dues of Street Light National Programme. The same is placed at **Annex D**.
- Hon'ble Minister of Power in his review dated 11.11.2021 mandated EESL to install additional 1.6 Cr street lights by March 2024. The same is placed at **Annex E**.
- That GOI from time to time has been highlighting the achievements under SLNP programme through various press releases, which is further a testimony of it being a Government programme.

## Supplementary note on Street Lighting National Programme (SLNP)

- **Business Model**

EESL is implementing the SLNP project in the below two models:

**(a) ESCO Mode:** In this model, the entire upfront investment is done by EESL. The project cost will therefore be material cost, EESL's Project Management Cost (PMC), the cost of financing (i.e. Return on Equity and the Interest for debt component) for timeline mutually agreed by client and EESL. Here, repayment to EESL by the Urban Local Body is done through Monthly or Quarterly Instalments as per the agreement from the energy savings. Typically, it is seen that the monthly/quarterly instalments paid by the user to EESL is lower than the monetised energy saved by the user during that period. Therefore, this model is popularly known as "Pay-as-You-Save (PAYS)" model. The program was supposed to be backed up through a robust security mechanism such as Escrow or State Guarantee however these have not been met and EESL has significant dues for which it is seeking assistance of GoI (MoHUA). EESL provides an SLA based deployment model along with a unified call centre for repair and replacement within defined timelines.

**(b) Supply Contract Mode or PMC Mode:** In the Project Management Consultancy (PMC) model, the user shall bear the product cost where EESL provides the services for Dismantling, Installation, Maintenance and Repair of these Light.

The PMC support includes the following:

1. **Finalization of the scheme for replacement:** Number of lights to be replaced, technical specifications, estimation of energy saving, investment requirement etc.
2. **Procurement of Lights:** Through open competitive bidding
3. **Supply of Lights at Site:** Facilitation/Management of supply of lights at the site with due co-ordination with the supplier.
4. **Warranty Obligation:** Ensuring the warranty obligation with the supplier
5. **Update in National SLNP Dashboard:** Estimated Energy Saving and other benefits to be reflected in a national dashboard
6. **Payment Terms:** Client had to make upfront payments to EESL on the material and EESL's PMC fees however this in-effect happens after supplies are made after customer acceptance certificates of supplies are provided to the customer. The risk in this model is lower as disputes related to street-lighting are significantly lower.

**(C) Hybrid or Composite Mode:** This is a mix of both ESCO and Supply mode where the EESL provides the lights in supply mode but get paid by the user based on deferred manner (i.e. monthly/quarterly) over a period of 7 years. This means that the cost of financing is loaded in the EESL's repayment amount. However, the infrastructure development, complete installation, repair & maintenance for 7 years shall be the responsibility of the user.

## Supplementary note on Street Lighting National Programme (SLNP)

### Typical ESCO Program Design Components for ULBs

Component	Approach	Outcome
Demand aggregation	Across Various ULBs	Benefit of economy of scale
Procurement	Bulk procurement by EESL through open bidding	Best brands Compete Price Reduction in LED
Financing	Entire investment by EESL	No upfront Financial Burden on ULBs
Repayment to EESL	By ULBs from resulted saving in energy & maintenance cost	EESL Recovered its investment in 7 years
Warranty and Support	Warranty on Product for Project Duration	Reduction in Frequent Failures

## Supplementary note on Street Lighting National Programme (SLNP)

- The Major **Milestones and Achievements** of Street Lighting National Programme are as follows:
  - In October 2019, EESL crossed installation of **ONE Crore LED Street Lights** mark which resulted in estimated energy savings of approx. 7 billion kWh per year with avoided peak demand of approx. 1,100 MW and estimated GHG emission reduction of 4.6 million t CO<sub>2</sub> per year.
  - As on Dec 2021, 1.21 Crores number of LED Street Lights has been installed across India which includes 28 Lacs in Rural areas under Gram Panchayats.
  - As on date, **1601 ULBs in more than 20 States have been** enrolled, including the Smart cities, out of which installation already complete in **1060** ULBs.
  - As on date, **13,173 GPs** have been completed in Jharkhand, Andhra Pradesh and Telangana.
- > Achievements (as on date):
  - Estimated annual monetary savings of INR 5,692 Cr. in Electricity Bills of Municipalities.
  - Estimated Annual Energy Savings of 8.13 billion units.
  - 5.60 million Tonnes per year estimated CO<sub>2</sub> Reduction
  - Global SSL (Solid-State Lighting) Award for outstanding achievements
  - 21<sup>st</sup> National Award for Excellence in Energy Management-2020 by CII
  - Illuminated 3,00,000 KM of Roads in India
  - Increased Uptime of Street Lights (uptime now>95%)
  - Increase in Industrial Capacity: From 5000 SLs per day (2014) to 40000 per day (2020)
  - LED Street Light pricing has dropped from Rs 180/W to less than Rs 40/W in 7 i.e. the average prices reduced by approx. 30%.
  - LED Street Lights Supplied to Industrial Organizations, PSUs and Private Sectors: NTPC, Mahindra & Mahindra, etc.
  - Automated ON & OFF of Street Lights through Centrally Controlled Monitoring System (CCMS), reducing wastage of electricity.
  - LED Street Lights Supplied in Building Energy Efficiency Programme (BEEP) PAN INDIA to Govt Buildings, PWD and Railways.
  - More Social Safety on Roads by Increased Illumination levels at Night

## Supplementary note on Street Lighting National Programme (SLNP)

- **State-wise Penetration of LED Street Lights:**

Since 2015, EESL has installed Street Lights in the below mentioned States/UTs and the State-wise installation details as on 11<sup>th</sup> December 2021 are as below:

PAN India Street Light installation by EESL		
Sr. No.	State/UT	Total LED Street Lights Installed (Nos.)
1	Andhra Pradesh	29,38,880
2	Telangana	13,52,854
3	Tamil Nadu	7,876
4	Andaman & Nicobar	14,995
5	Maharashtra	10,26,038
6	Kerala	2,72,639
7	Karnataka	13,102
8	Goa	2,07,110
9	Lakshadweep	1,000
10	West Bengal	84,230
11	Jharkhand	5,16,043
12	Bihar	5,52,661
13	Rajasthan	10,62,721
14	Gujarat	8,89,986
15	Uttar Pradesh	12,17,902
16	Uttarakhand	1,13,656
17	Chhattisgarh	3,77,989
18	Odisha	3,39,981
19	Madhya Pradesh	1,95,099
20	Delhi	3,63,151
21	Jammu & Kashmir	1,51,043
22	Himachal Pradesh	61,614
23	Punjab	1,19,151
24	Chandigarh	46,496
25	Haryana	84,693
26	Sikkim	868
27	Tripura	76,426
28	Assam	28,695
29	Pondicherry	1,520
TOTAL (Nos.)		1,21,18,419

## Supplementary note on Street Lighting National Programme (SLNP)

- Challenges in SLNP (Outstanding Recivables)

The single most important challenge has been the high Level of receivables under the program. There have been different kinds of agreement with customers ranging where the payment security for EESL has been watered down. Some agreements provide standard payment security mechanism in the form of ESCROW, however these have been made infructuous by ULB's non-cooperation in opening of Escrow accounts or not having funds in these accounts. The biggest challenge has been with the Gram Street Lighting Programs where payment levels are very low and in one case customer having taken over maintenance citing low performance while no payments are being made. ULBs have weak internal cash generation and are dependent solely on state funds. There is no dedicated mechanism/budget head at state level to make payment to EESL. Also, it is seen that there is reluctance on the part of ULBs for payment to EESL citing operational issues, frequent changes in administration etc. The present receivables stand at around Rs.2500 Cr tabulated below. It is strongly felt that a robust and smooth payment security mechanism is highly necessary to make the investments sustainable in such flagship program which has huge national importance.

State	Outstanding Receivables (INR) as on 30.11.2021
Andaman and Nico.Is.	6,87,23,705
Andhra Pradesh	6,62,64,13,972
Assam	5,76,45,968
Bihar	1,14,14,76,688
Chandigarh	8,11,91,486
Chhattisgarh	7,21,90,846
Dadra and Nagar Hav.	1
Delhi	93,91,97,333
Goa	87,46,61,632
Gujarat	1,19,91,40,732
Haryana	15,28,44,890
Himachal Pradesh	5,78,32,124
Jammu and Kashmir	16,68,52,297
Jharkhand	95,79,86,386
Kerala	5,18,80,835
Madhya Pradesh	33,49,24,142
Maharashtra	1,63,58,61,270
Orissa	40,07,62,614
Punjab	13,12,23,527
Rajasthan	5,75,84,62,446
Telangana	1,53,94,88,816
Tripura	9,12,12,108
Uttar Pradesh	2,89,79,03,648
Uttarakhand	5,93,05,055
West Bengal	18,97,18,638
<b>Grand Total</b>	<b>25,48,69,01,158</b>

As per directions of Honourable Minister of State for Power EESL would enter into agreements with state governments under a robust contract with appropriate protection arrangements. For the past dues support is being sought from MoHUA so that this program can resurrected as in the current form it is unsustainable.

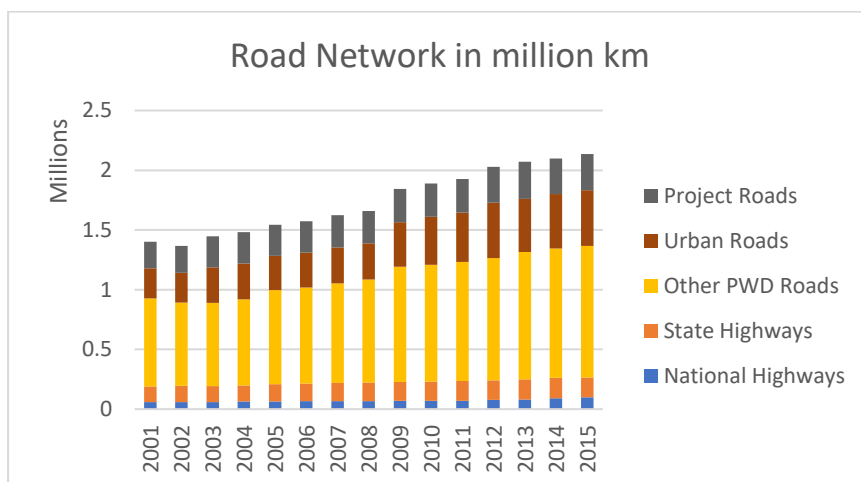
## **Supplementary note on Street Lighting National Programme (SLNP)**

*With the above background and pre-conditions, following “Vision” is proposed by EESL for the Streetlight National Program in India in order to create an attractive business proposition (for EESL) apart from resulting substantial energy and cost saving to the energy-end users. The vision paper has been prepared based on EESL’s past experience, secondary research, internal discussions and few consultations.*

## Supplementary note on Street Lighting National Programme (SLNP)

### • Vision for SLNP: 2021-22 to 2029-30

Current focus of EESL has been on the Urban Street Lighting, further deployments are saturated in this segment. Gram Panchayat street lighting presents the next significant energy saving potential however a viable business model is not available. Other segments are in Highways which have lighting deployments at intersections, bridges or accident prone areas. This segment in comparison to Urban Roads may offer relatively better payment track record. Though current deployment in these segments is small international norms and Indian Standard specify lighting requirements which are much higher than Urban roads.



The following strategic points are suggested as a vision for SLNP till 2029-30 from now.

#### *Strategy #1: Widening and Deepening the Streetlight Program across Sectors*

Although EESL has installed 1.2 Cr LED streetlights during 2015-2020, there seems to have further appetite in this segment. The potential segment wise includes:

- Gram Panchayats Roads (GP) (does not include connecting roads)
- New ULBs (Nagar Panchayats, Census Towns) those have not installed LED lights or partially installed
- Additional LED light installations in ULBs which were already covered by EESL due to organic growth of cities by 3 to 5% every year
- Project Roads such as those in Oil, Power, Rail, Ports and other infra sectors
- National/State Highways: Culverts, Bridges, Intersections which can come under retrofits
- PWD Roads: Similar to the requirement above these sections have retrofit potential

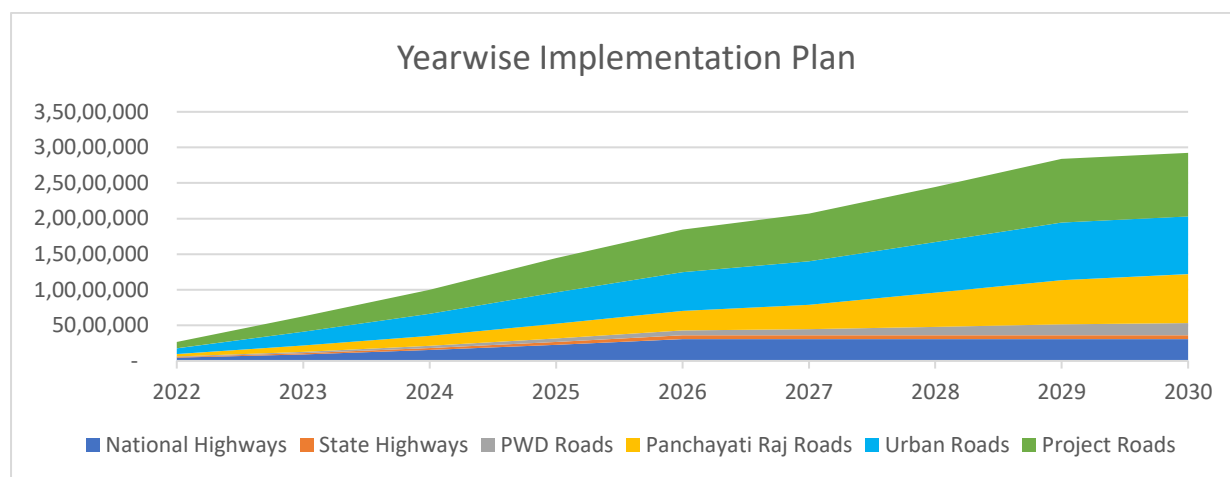
Table below shows the potential and business EESL can expect to capture considering current policies and payment security mechanisms available. For ULBs it is being assumed that robust payment security mechanism will be available.

Retrofit Plan	Projected Km 2030	Lamps/km	Ener-gized %	Potential	EESL Share%	Addln Target till 2030	LED Lamp Cost Turnkey	Investment Potential (Rs. Crores)
National Highways	2,83,691	90	15%	38,29,824	80%	30,63,859	6,000	1,838
State Highways	2,00,314	60	15%	18,02,825	30%	5,40,847	6,000	325
PWD Roads	14,27,921	30	20%	85,67,526	20%	17,13,505	5,000	857

## Supplementary note on Street Lighting National Programme (SLNP)

<b>GP Roads</b>	22,89,229	15	100%	3,43,38,430	20%	68,67,686	1,000	687
<b>Urban Roads</b>	6,38,632	30	100%	1,91,58,955	80%	81,27,164	3,000	2,438
<b>Project Roads</b>	3,71,811	60	80%	1,78,46,920	50%	89,23,460	3,000	2,677
<b>Total</b>	52,11,597			8,55,44,480		2,92,36,522		8,822

The above physical potential translates to a LED Street Lighting market of over Rs. 22,000 crores of which EESL will capture Rs. 8,822 Cr investment in next 10 years. EESL's typical installation rate EESL is around 20 – 25 lakhs LED streetlights per year. This may be enhanced to about 40-50 lakh per year with structured institutional arrangement and upscaling the program management skill in EESL. It is estimated that EESL may be able to expand the SLNP by adding another 3.0 Cr LED (around 28% of the identified potential) streetlights to existing 1.2 Cr fleet of lights. With this vision, by 2030, EESL would be intervening in about 4.2 Cr LED streetlights provided EESL current SLNP program receivables are paid. Role of EESL in State Highways, Gram Panchayat and PWD Roads would be to demonstrate segment viability and prepare contractual structure such that PPP models can be developed for scale up.



### *Strategy #2: De-emphasizing the ESCO Model and Encouraging Upfront Payment Model*

Till now, around 85% of the total installations are in ESCO model with project period of 7 years where there is an annuity being billed to the ULBs. But due to repayment issues from ULBs (as explained earlier) and recurring overdues on ULBs, it would be prudent to de-emphasize the ESCO model and focus on upfront payment model. EESL has the advantage of lower prices and some customers have the Installation and Repair manpower are likely to prefer the Trading model. In some segments 50% of the new installations may be taken up in upfront payment model. Therefore, a lower share of investment in the GP and PWD Roads segment is tenable. The investment here would be directly from customer or through an ESCO mode.

### *Strategy #3: Renewal of agreement with the ULBs for R&M work beyond 7-years project period*

The 1<sup>st</sup> SLNP project started in Vizag in 2015 and due for closure in 2022 and the same pattern will follow in following years. It is envisaged that ULBs would find it difficult to maintain these SLs due to various reasons. For ULB's whose dues are clear it would be prudent to renew the agreement and continue the R&M work for another 5 years (considering the residual life in the LED lights). EESL would be able to suitably utilize its resource (manpower/material) in these activities. This can be combined with installation of lights with advanced features to attain further energy savings. This would be an additional revenue stream for EESL which is estimated as Rs.1400 Cr. in 10-years period. However, this would require around Rs 700 Cr investment.

## Supplementary note on Street Lighting National Programme (SLNP)

### Estimated Additional Revenue from ULBs beyond Project Period

FY	ESCO Installations (Lakhs)	Termination Period	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
			(No. of LED Lights due for R&M in Lakhs)								
2015-16	1.2	2022-23	1.17	1.17	1.17	1.17	1.17				
2016-17	11.8	2023-24		11.83	11.83	11.83	11.83	11.83			
2017-18	29.8	2024-25			29.84	29.84	29.84	29.84	29.84		
2018-19	25.6	2025-26				25.63	25.63	25.63	25.63	25.63	
2019-20	19.4	2026-27					19.37	19.37	19.37	19.37	19.37
2020-21	7.9	2027-28						7.88	7.88	7.88	7.88
<b>Total</b>	<b>95.7</b>		<b>1.17</b>	<b>13.00</b>	<b>42.84</b>	<b>68.46</b>	<b>87.84</b>	<b>94.55</b>	<b>82.71</b>	<b>52.88</b>	<b>27.25</b>
<b>Expected Revenue (Cr)</b>			<b>3.51</b>	<b>39.01</b>	<b>128.51</b>	<b>205.39</b>	<b>263.51</b>	<b>283.64</b>	<b>248.14</b>	<b>158.64</b>	<b>81.75</b>

#### Strategy #4: Transfer of entire Street Lighting Assets to a SPV or separate entity

As the eco-system has already been developed in program design and project management, EESL may consider in transferring the entire lighting assets to a SPV or separate entity and focus on other business areas for revenue generation. The following attributes / benefits are expected in this mechanism:



EESL may do necessary due diligence like asset evaluation and legal provisions in this case.

#### Strategy #5 : Provide Value-Added Services apart from Illumination and Centralized Control System

Western and other developed countries have implemented LED street lighting projects for additional data acquisition, sensor based solutions, IoT based solutions etc. which seems to be very effective. There is a good scope in expanding the SLNP with such value added services like :

- Smart Lighting System : Weather Forecasting (Meteorological Deptt), Traffic Information (Police Deptt.), CCTV Camera (Police Deptt), Illumination Level (Municipality) may be added in “Green Field Projects” as a “Proof-of Concept”.
- Advertisement leasing on Poles – This may be an additional revenue source for EESL which may be arranged with municipality in a cost sharing process. EESL may target 10% of the existing fleet of lights i.e. in 12 lakh lights (Poles). It is estimated that around Rs. 60 Cr annual revenue could be generated in this intervention.

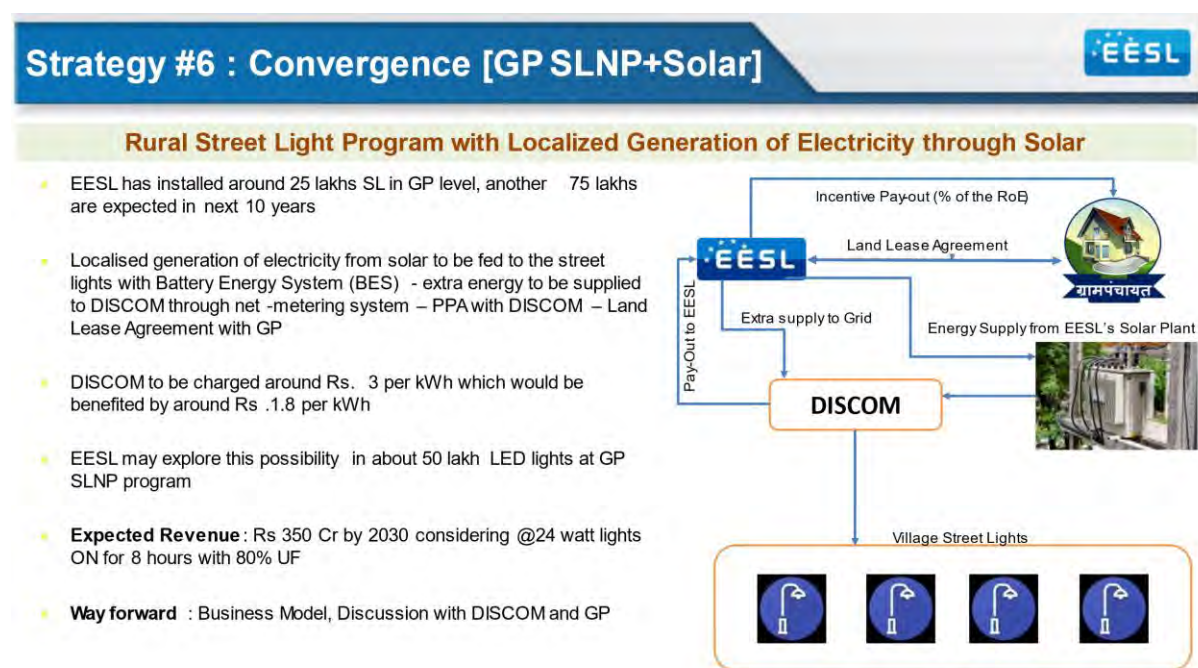
## Supplementary note on Street Lighting National Programme (SLNP)

While the revenue potential from smart lighting system is to be estimated, a conservative estimation of Rs. 50 Cr per annum is assumed. Considering 3 years simple payback period, the investment requirement would be around Rs. 1000 Cr in 10 years period.

A detailed market assessment, stakeholder consultation and business model should be taken up by EESL in this regard.

### Strategy #6 : Rural Street Light Program with Localized Generation of Electricity through Solar

The rural streetlighting program may be explored to be linked with localized electricity generation from solar. This is in the same model of solarization of agricultural feeders which EESL has successfully demonstrated in Maharashtra or KUSUM model of MNRE. It is expected that 50 lakh rural LED street lights could be covered under this model. Considering average 24 watt lights and Rs. 55/- per watt as investment, EESL would require Rs.660 Cr investment (excluding land development cost). The overall concept is depicted below.



Based on the strategies mentioned above, the Target for March 2024 is as follows:

SL	Beneficiaries	Proposed Numbers (Lakhs)	Remarks (Investment-Rs. Cr)
1	States & UTs EESL is working – additional demand	41	19 States, 1079 ULBs (Rs. 221 Cr)
2	States where EESL has submitted proposals	24	4 States (Rs.129 Cr)
3	States & UTs who haven't joined SLNP yet	24	11 States, 1002 ULBs (Rs. 130 Cr)
4	Institutional Consumers	10	4 Categories (Rs. 55 Cr)
5	Gram Panchayats	61	Telangana & UP (Rs. 328 Cr)
	<b>Total</b>	<b>160</b>	<b>(Rs. 863 Cr)</b>

## Supplementary note on Street Lighting National Programme (SLNP)

- **Payment Security Mechanism**

EESL has invested over Rs. 4,000 crore in replacement of street lights till date and the unpaid dues are over Rs. 2,500 crore. This is due to variety of reasons, including inadequate budgetary allocations to Municipal bodies/ ULBs by states, EESL has significant outstanding dues from states. The priority is to liquidate the dues and to enable a robust payment security measure so that the problem does not recur that will enable EESL to expand its services to various stakeholders.

It is proposed to evolve a two step process that will enable liquidation of current outstanding dues and will also prevent recurrence of the same in future. The steps involved are proposed to be as under:

**Securitisation of current outstanding dues:** It is proposed to securitise the outstanding dues through pooling of the receivables obligations and selling the related cash flows to investors through structured securities/instruments i.e Bonds/CDOs. Investors are paid interest/principal from the cash collected from the underlying receivables. Further, The enhanced payment security measure being put in place will help in enhancing the creditworthiness of the pooled assets. The pooling of securitized assets can mitigate to a great extent the risk of individual clients. The bonds will be of 5 year duration repayable half yearly and the states are expected to pay the dues along with interest in 10 equal instalments for servicing of bonds.

**Credit enhancement:** However, this would become more attractive to investors if there is an underlying instrument of credit enhancement attached to this, the credit risk / rating of the instrument will improve. It is proposed that Ministry of Housing and Urban Affairs and Ministry of Finance approve the allocation of default amount of any state directly from the budgetary grants being devolved to states.

It also necessary to provide the dispensation to EESL through Ministry of Housing and Urban Affairs to deduct unpaid dues by state ULBs from their budgetary allocations and remit the same to EESL. This credit enhancement will enable EESL to raise bonds at a lower interest rate and will also ensure financial discipline and payment security measure for its existing projects. This may be approved for the balance period of EESL contract to prevent recurrence of dues accumulation.

## Supplementary note on Street Lighting National Programme (SLNP)

- **Financial Implications**

It is re-emphasized that SLNP should continue with more vigour with the strategic approaches mentioned earlier. This will continue to be one of the major revenues earning vertical in next 10 years. It is estimated that the cumulative revenue which could be generated from SLNP is around Rs. 18,700 Cr with an estimated investment of Rs. 16,500 Cr by 2030. The following table shows the expected revenue and investments required in next 10 years.

Area of Intervention	Expected Revenue by 2030 (Rs. Cr)	Investment by 2030 (Rs.Cr)
Existing ESCO Projects	3,715	2000
New business	15496	6800
R&M after Project Period	1,400	700
Value Added Services	970	1,000
GP SLNP	2150	6000
<b>Total</b>	<b>24,001</b>	<b>16,500</b>

D.O No. 13/1/2015-EC

14.01.2015

Dear

The Hon'ble Prime Minister has launched a national programme for LED based energy efficient street lights and domestic lights on 5<sup>th</sup> January, 2015. This programme will cover at least 100 cities for LED based street lighting and domestic lighting by March 2016, and will continue to be rolled out across the country.

2. Lighting accounts for about 20% of the total electricity consumption in India. Most of the lighting needs in domestic and public lighting sectors are met by conventional lights, including highly inefficient incandescent bulbs in domestic sector. Use of LEDs in domestic and public lighting could result in 50-90% reduction in energy consumed by lighting. However, the high cost of LEDs and inadequate information of their comparative advantages has limited their demand. Bureau of Energy Efficiency (BEE), a statutory body under Ministry of Power, and Energy Efficiency Services Limited (EESL), a joint venture company formed by four power sector CPSUs, i.e. National Thermal Power Corporation (NTPC), Power Grid Corporation of India Limited (PGCIL), Power Finance Corporation (PFC) and Rural Electrification Corporation Limited (REC) have developed programmes to facilitate rapid adoption of LED-based home lighting and street lighting across the country.

3 EESL offers an innovative business model to municipalities and to electricity distribution companies in which it invests all the capital upfront, without any need for investment by electricity distribution companies or municipalities. The EESL investments are paid back by the distribution companies or municipalities over a period of time from energy and costs savings that accrue as a result of the installation of energy efficient LED lights. During the project period, EESL also provides performance guarantees of the installed equipment. EESL has already implemented such projects in Andhra Pradesh and Puducherry during the last one year, while the same is under implementation in Delhi.

4. We are now in the process of finalizing a list of 100 cities for implementing the Domestic Efficient Lighting Programme (DELP) and the LED street lighting programme. I would be grateful if you could please:

- (a) Identify at least 4-5 cities in your State for implementing each of these programmes; and
- (b) Nominate Nodal officers, who could coordinate with this Ministry and EESL.

5. Sh. Saurabh Kumar, Managing Director, EESL will be the nodal officer from this Ministry. His contact details are +91-98-102-46553 and skumar@eesl.co.in. I am attaching a note on the programme and would request your consideration at the earliest.

With regards,

Yours sincerely,

Encl : as above

Sd/-  
( Pradeep K. Sinha )

All Chief Secretaries of States / UTs

Copy to : 1) Shri Ajay Mathur, DG, BEE  
2) Shri Saurabh Kumar, MD, EESL



  
( Pradeep K. Sinha )

प्रदीप कुमार पुजारी  
सचिव

भारत सरकार

P. K. PUJARI

Secretary

Government of India



सायबेद जयदी

Ministry of Power  
Shram Shakti Bhawan  
New Delhi - 110001

विद्युत मंत्रालय

श्रम शक्ति भवन

नई दिल्ली-110001

Tele : 23710271/23711316

Fax : 23721487

E-mail : secy-power@nic.in

D.O. No.9/23/2014-EC(Vol.II)

13<sup>th</sup> January, 2016

Dear Chief Secretary,

The National LED programme was launched by Hon'ble Prime Minister on 5<sup>th</sup> January 2015 and has two components (I) Domestic Efficient Lighting Programme (DELP) for replacement of conventional domestic bulb with LED bulb and (II) Street Lighting National Programme (SLNP) for replacement of conventional street lights with LED street lights.

2. The National LED Programmes are being implemented by Energy Efficiency Services Ltd. (EESL), a joint venture company under the administrative control of Ministry of Power. You may recall that my predecessor had addressed a D.O. letter 13/1/2015-EC dated 14<sup>th</sup> January 2015 requesting for initiation of implementation of the LED Programmes.

3. I would request you to kindly direct the concerned officers to immediately take up this Programme. You may also consider utilizing the services of EESL to execute this programme, as it has already been executing the programme in several parts of the country. I may add that at present EESL has already distributed more than 4 crore LED bulbs and have replaced over 5 lakh street lights with LED. A note on National LED Programme is enclosed.

4. Should you require any further clarification or assistance in the matter, you may like to advise your officers to contact Shri Saurabh Kumar, Managing Director, Energy Efficiency Services Limited (Mobile No. 09810246553, email ID : skumar@eesl.co.in, Landline No. (Direct) 0120-4908002).

With best wishes,

Yours sincerely,

( P.K. Pujari )

Encl : as above

Shri G.R. Alorla,  
Chief Secretary,  
Government of Gujarat  
Sachivalaya, Gandhinagar

→ Letter issued to all Chief Secretaries.  
copy for information to as per list.  
→ MD, EESL.



**Name of State/UT Where Neither DELP nor SLNP is being executed. - Group -1**

1. Andaman & Nicobar Islands ✓
2. Arunachal Pradesh ✓
3. Chandigarh ✓
4. Daman & Diu ✓
5. Gujarat ✓
6. Lakshadweep ✓
7. Manipur ✓
8. Meghalaya ✓
9. Mizoram ✓
10. Nagaland ✓
11. Punjab ✓
12. Sikkim ✓
13. Tamil Nadu ✓

*Group-1*

**Name of the State/UT where no progress is made on Street Lighting (SLNP) under National LED Programme - Group-2**

1. Bihar ✓
2. Chhattisgarh ✓
3. Dadra & Nagar Haveli ✓
4. Delhi ✓
5. Himachal Pradesh ✓
6. Jharkhand ✓
7. Karnataka ✓
8. Kerala ✓
9. Madhya Pradesh ✓
10. Maharashtra ✓
11. Puducherry ✓
12. Uttar Pradesh ✓
13. Uttarakhand ✓
14. West Bengal

*Group 2*

**Name of State/UT where no progress is made on Domestic Lighting (DELP) under National LED Programme -Group-3**

1. Assam
2. Goa
3. Odisha
4. Telangana
5. Tripura

*Group-3*

प्रदीप कुमार पुजारी  
सचिव

भारत सरकार

P. K. PUJARI

Secretary

Government of India



सामर्थ्य शक्ति

Ministry of Power  
Shram Shakti Bhawan  
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Tele : 23710271/2371131

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E-mail : secy-power@nic.

D.O. No. 9/23/2014-EC (Vol.II)

January 13, 2016

Dear Shri Prasad,

The Hon'ble Prime Minister during the infrastructure review meeting held on 9th November, 2015 has directed that LED-Programme must be implemented in all the 98 Smart Cities approved by the Government. The National LED Programme was launched by Hon'ble Prime Minister on 5th January, 2015 and has two components (i) Domestic Efficient Lighting Program (DELP) to replace incandescent bulbs with LED bulbs and (ii) Street Lighting National Program (SLNP) to replace conventional street lights with smart and energy efficient LED street lights. This Programme will result in electricity saving and reduction in demand, leading to monetary savings accruing to domestic consumers and ULBs. Additionally, it will play a major role in mitigating climate change by effecting greenhouse gas emission reductions.

2. Energy Efficiency Services Limited (EESL), a Joint Venture Company of Public Sector Undertakings, under the administrative control of Ministry of Power has been designated as the nodal implementing agency for both the programmes. To achieve the targeted energy savings through these LED Programmes, EESL has evolved a business model where it invests upfront and is repaid by DISCOMs/ULBs over a period of time from savings in energy costs. A Note on National LED Programmes is attached.

3. In keeping with the decision taken in the Prime Minister's infrastructure review meeting, I would request you to make implementation of LED Programme mandatory in all the 98 smart cities. You may consider utilizing the services of EESL to execute this programme, as it has already been executing the Programme in several parts of the country. I may also add that EESL has already distributed more than 4 crore LED bulbs and have replaced over 5 lakh street lights with LED. Should you require any further clarification or assistance in the matter, you may like to advise your officers to contact Shri Saurabh Kumar, Managing Director, Energy Efficiency Services Limited (mobile No. 09810246553, email ID : skumar@eesl.co.in, Landline No.(Direct) 0120-4908002).

With best wishes

Yours sincerely,

(P.K. Pujari)

Shri Madhusudan Prasad,  
Secretary  
Ministry of Urban Development,  
122-C, Nirman Bhavan,  
New Delhi

Copy for information to : M.O, EESL



RIGHT TO  
INFORMATION



N-14-2016 13:22 From:



## 24X7 POWER FOR ALL

### A JOINT INITIATIVE OF GOVERNMENT OF INDIA AND GOVERNMENT OF GUJARAT



FEBRUARY 2016



सत्यमेव जयते

Government of India



## Piyush Goyal

Minister of State (Independent Charge) for Power, Coal and New & Renewable Energy

### Foreword

Electricity consumption is one of the most important indicators and tool to achieve rapid economic growth and socio-economic development that decides the development level of a nation. The Government of India is committed to improve the quality of life of its citizens through higher electricity consumption. Our aim is to provide each household access to electricity, round the clock. The 'Power for All' programme is a major step in this direction. Gujarat is one of the high per capita electricity consumption states in the country and is also one of the states which has achieved 100% village electrification long time back.

Gujarat has been pioneer in implementing the electricity reforms and has achieved nil peaking shortage and even surplus in energy availability. Gujarat also holds the distinction of covering 100% rural areas under three phase supply system which ensures reliable and quality supply to rural hinterland. The state is expected to continue this initiative and complete the identified works in this report within stipulated time and cost.

This joint initiative of Government of India and Government of Gujarat aims to enhance the satisfaction levels of the consumers and improve the quality of life of people through 24x7 power supply at affordable cost. This would lead to rapid economic development of the state in primary, secondary & tertiary sectors resulting in inclusive development.

I compliment the Government of Gujarat and wish them all the best for implementation of this programme. The Government of India will complement the efforts of Government of Gujarat State in bringing uninterrupted quality power to all households, industries, commercial businesses, public needs & any other electricity consuming entities and adequate power to agriculture as per the state policy.



Government of Gujarat



## Smt. Anandiben Patel

### Chief Minister of Gujarat

#### Foreword

Power sector is a critical infrastructure element required for the smooth functioning of the economy. An efficient, resilient and financially sustainable power sector is essential to stimulate growth and prosperity in the state. The availability of reliable, quality and affordable power can ensure growth of all sectors of economy including agricultural, industrial and others.

Gujarat is a prosperous state with 100% electrification. However, there is need for strengthening the system and enhance the average hours of power supply to consumers coupled with the need to control the cost of power and keep the power companies also in pink of financial health. AT & C loss reduction and application of energy efficiency measures would go a long way in achieving these objectives.

It is at this juncture that “**24x7 Power for all**” programme play a pivotal role. Conceived with the objective of providing 24x7 quality, reliable and affordable power for all, this programme takes a holistic approach for addressing the concerns across the value chain in Power sector.

On behalf of Government of Gujarat, I would like to thank Government of India, Hon’ble Prime Minister and Hon’ble Minister of Power for implementation of this programme.



सत्यमेव जयते

Government of India



સત્યમેવ જયતે  
ગુજરાત સરકાર

Government of Gujarat

## Joint Statement

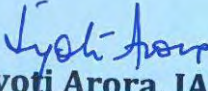
The State of Gujarat is committed to provide quality life to people of state. Electricity supply serves as an important means to achieve this. The programme of “24x7 power for all” is an important step in this direction and this programme will be implemented by Government of Gujarat (GoG) with the objective to connect the unconnected in phased manner by FY 2018-19 to ensure supply of quality, reliable and affordable power to all category of consumers on 24x7x365 basis.

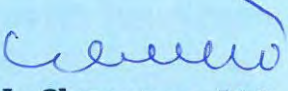
Government of Gujarat would ensure that all the necessary steps outlined in the PFA document are taken up in terms of capacity addition, power procurement, strengthening the required transmission and distribution network, encouraging renewable, demand side management & energy efficiency measures, undertaking customer centric initiatives, reduction of AT & C losses, bridging the gap between ACS & ARR, and following good governance practices in implementation of all central and state government schemes.

Government of India (GoI) would supplement the efforts of Government of Gujarat by fast tracking resolution of key issues pertaining to generation, expediting the additional interstate connectivity and ensuring optimum allocations in various distribution schemes, as per the provisions of applicable policies.

Government of Gujarat would endeavor to implement the programme within the targeted time frame of FY 2018-19 or even earlier than the targeted date.

The central and state governments would meet regularly to review the progress of the programme over the next four (4) years and would strive to achieve the objectives of the programme by taking the necessary steps as envisaged in the PFA document.

  
**Jyoti Arora, IAS**  
Joint Secretary  
Minister of Power (GoI)

  
**L. Chuaungo, IAS**  
Principal Secretary  
Energy & Petrochemicals Department  
Government of Gujarat (GoG)

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## **MAPS**

### **POWER MAP OF GUJARAT**



## EXECUTIVE SUMMARY

24x7 Power for All (24x7 PFA) is a Joint initiative of Government of India (GoI) and State Governments with the objective to ensure availability of 24x7 power supply to all households, industries, commercial businesses, public needs & any other electricity consuming entity and adequate power to agriculture consumers by FY 2018-19 as per the state policy.

This roadmap document aims to meet the above objectives for the state of Gujarat. Gujarat has already achieved 100% village electrification long time back and the per capita consumption of power in Gujarat was 1839 unit during FY 2014-15 which was much higher than the National average of 1010 units observed during FY 2014-15.

The power establishment of Gujarat after unbundling of erstwhile Gujarat Electricity Board is shared by four Government owned DISCOMS-UGVCL, DGVCL, MGVCL and PGVCL and Pvt. DISCOM like – Torrent Power Limited and MPSEZ. Additionally, there are bulk consumers like port trust etc.

### GROWTH IN DEMAND

As per power supply position in the state, Gujarat had peak power shortage up to FY 2011-12 which is nullified in the following years and since then there is no peaking shortage. On energy side, there is surplus to the tune of 25% in FY 2014-15 following the surplus trend in previous years also.

In order to achieve the objective of 24 x 7 power supply to All, the state would see an increase in peak demand from 14,005 MW at present (FY 2014-15) to 17,665 MW in FY 2018-19 with corresponding increase in energy requirement from 90998 MU in FY 2014-15 to 1,14,512 MU in FY 2018-19.

The future demand has been derived by estimating the urban and rural household consumption taking into account the growth in number of electrified households on the one hand and the growth in average consumption per household on the other. The combined growth rate based on five (5) years CAGR (from

FY 2010-11 to FY 2014-15) and in view of future growth potential of Industrial and Commercial activities, average CAGR of 7.0% p.a. has been adopted to project consumption of “other than domestic category” consumers.

### SUPPLY ADEQUACY

The available capacity (installed as well as allocated share) for the State as on 31<sup>st</sup> March 2015 was 24207.80 MW. In order to meet the estimated increased demand for providing 24x7 power supply in the state, the state has already planned additional capacity availability of 7,546 MW by FY 2018-19 through own generating stations, renewable energy sources, central generating stations and long term/medium term PPAs in a phased manner. Out of this, 3,610 MW shall be added through non-conventional energy sources and balance 3,936 MW through conventional sources.

The capacity utilisation of gas based power plants in Gujarat is poor due to inadequate availability of gas.

As such, for determining installed capacity (state share) of the State, the total installed capacity of gas based power stations has been considered. However, the Peak Demand and Energy Availability have been calculated considering the following two scenarios :

**Scenario-I** : Considering actual capacity utilisation of gas based plants based on present availability of gas.

**Scenario – II** : Considering full availability of gas and full capacity utilisation of gas based plants.

Gujarat State has informed that in case, domestic gas allocation is not available, the generation from gas based capacity i.e. 5650 MW (including 1648 MW of private licensee) can be availed on other SPOT RLNG based fuel to meet any intermittent demand / power deficit scenario.

In view of this, the entire gas based capacity, in line with Scenario – II, has been considered for working out energy and peaking availability. The surplus / deficit figures also have been arrived at considering Scenario-II.



In line with Scenario – II, it is to be noted that with the availability of additional capacity, the state will have surplus peaking availability in the range of 15.92% to 7.68% during FY 2015–16 to FY 2018-19. In terms of availability of energy, during the entire period of study i.e. from FY 2015 – 16 to FY 2018 – 19, the state will have availability of surplus energy ranging from 30.09% to 24.73%. It is to be noted that the GUVNL/ State Discoms have already made adequate power tie-up to meet the existing as well as upcoming power demand and there will not be any peaking deficit till FY 2018-19 considering the operational capacity and proposed capacity augmentation plan of state Discoms/ GUVNL.

Thus, the State of Gujarat emerges as a surplus state, both in terms of peak availability and energy availability, during the entire period of study i.e from FY 2015 – 16 to FY 2018-19. The peak demand can be effectively reduced further through proper implementation of DSM & Energy efficiency measures in the state. While procuring power, the state is required to give more preference to Hydro Power in order to improve the hydro-thermal generation mix which is poor in the state. This will also help in balancing the energy supply & demand scenario.

In case of use of SPOT RLNG, expected to be costlier, the cost of energy is expected to be higher. The option of using SPOT RLNG, should therefore be exercised by the State only to meet any intermittent demand / power deficit scenario.

Further, the state is required to firm up plan for disposing surplus power on short terms/ medium term basis through bilateral arrangements and power exchange and earn revenue.

The state is executing 1 x 800 MW Wanakbori Extension Unit 8 which is likely to be commissioned during FY 2018–19. Timely execution of the project will help the state in meeting the power requirement of the state beyond FY 2018 – 19.

## ADEQUACY OF TRANSMISSION NETWORK

The state is well served by a network of Inter-state transmission lines at 765 kV, 400 kV & 220 kV levels. The existing ISTS transmission system capacity is adequate for meeting the present power requirement.

In ISTS system, Power Grid Corporation Limited (PGCIL) & Gujarat Energy Transmission Corporation Limited (GETCO) have already undertaken/planned a number of transmission works for further strengthening & augmenting the capacity and to ensure better connectivity of Gujarat State Grid with national Grid for meeting the projected power demand of Gujarat by FY 2018-19 for 24x7 PFA (Power for all) in the state.

The existing combined transformation capacity of PGCIL and GETCO system at 400/220 kV level is 15340 MVA and the same shall be increased to 31175 MVA by FY 2018-19 after implementation of ongoing & planned schemes, which shall be adequate to meet the projected peak demand of Gujarat of 17665 MW by FY 2018-19.

The existing Intra state transmission capacity at 220 kV level is 24740 MVA & at 132 kV level is 7145 MVA to cater to the Max Demand of 14005 MW of the state. The Intra state transmission capacity shall be increased to 39990 MVA at 220 kV level by FY 2018-19 which will be adequate to cater the projected Power demand of 17665MW of the state by FY 2018-19 to meet the 24 x7 requirements.

The capacity addition in Intra-state transmission system has been planned with an investment of 10302 Crores from FY 2015-16 to FY 2018-19 in the state to meet the requirement as envisaged for 24x7 PFA.

## ADEQUACY OF DISTRIBUTION NETWORK

Power distribution in the State is handled by eleven distribution licensees i.e. DGVCL, PGVCL, MGVL, UGVCL, Torrent Power (AEC), SEC Ltd., Kandla, Port Trust, Torrent Energy Ltd., Dahej, Synfra Ltd., Waghodia, Vadodara, Mundra Port



SEZ Ltd. (MPSEZ), Mundra, Kutch, Jubilant Ltd. and Vagra, Bharuch.

These companies are serving about 1,55,14,151 numbers (1,31,86,185 GUVNL + 2327966 Torrent Power) of electricity consumers including 1184799 numbers (11,84,303 GUVNL + 496 Torrent Power) under agriculture category during FY 2014-15. It has achieved 100% household electrification levels, Except Transformer metering & Agricultural consumer, 100% metering is done for all categories of consumers.

Gujarat Discoms have proposed several initiatives like IPDS, DDUGJY, NEF, State govt schemes etc. during FY 2015-16 to FY 2018-19 towards capacity addition in the state to meet the requirement as envisaged for 24x7 PFA.

The monitoring committee had sanctioned Rs 924.66 Crores for DDUGJY against the requirement of Rs. 2000 Crores. Similarly, the monitoring committee has sanctioned Rs. 1121.88 Crores for IPDS against the requirement of Rs. 1871 Crores. The works of feeder separation, establishment of New PSS, (Conventional & GIS), augmentation of existing PSS, new 66 & 11 kV lines, LT lines, capacitor bank, Sansadadarsh Gram Yojana & metering are proposed to be implemented in the state by FY 2018-19. Network up-gradation in rural & urban areas through a planned capacity addition of 11802 MVA at 220/11kV, 132/11 kV, 66/11kV & 33/11 kV PSS, 14448 MVA at DT level and creation of 11kV ABC & Bare conductor lines, U/G cables, LT lines, Electronic consumer meters, Capacitor bank etc.

The proposed distribution network with projected addition through GOI/State schemes (RAPDRP-B, DDUGJY, IPDS, RGGVY and State govt schemes) would be adequate under projected peak load addition.

The AT & C losses of the state are projected to be reduced from 14.50 % to 13.0% by FY 2018-19 as per state data.

## FINANCIAL VIABILITY

The erstwhile Gujarat Electricity Board (GEB) was reorganized effective from 1st April, 2005 in to Seven Companies with functional responsibilities of Trading, Generation, Transmission and Distribution. The loss of GEB up to 31.03.2005 apportioned was Rs 737.24 crore which was recorded as opening balance of Profit & Loss account as on 01.04.2005 in GUVNL.

The Gujarat Urja Vikas Nigam Limited was incorporated as a Govt. of Gujarat Company. Since 100% Shares in the other six companies are held by GUVNL w.e.f 1st April, 2005 they have become Subsidiary Companies of GUVNL as per the provisions of the Companies Act, 1956.

The financial position of the four distribution companies are as follows.

Accumulated profit for 2013-14 and 2014-15 are as follows:

(Rs. in Crore)		
Name of DISCOM	FY 2013-2014	FY 2014-2015
UGVCL	62.50	79.74
DGVCL	272.81	323.64
MGVCL	159.36	188.21
PGVCL	83.87	94.75

The present initiatives under 24x7 power for All involves new projects and schemes having financial outlays as explained in subsequent chapters. The viability of this project under prevailing tariff and power purchase regime and loss and demand growth projections as laid down under this roadmap have been examined and sensitivities of the same have also been worked out in order to assess the impact of change of Parameters like AT & C losses, Financing mix etc on the viability. It has been inferred that while meeting the objectives of Power For All-24x7 for the state of Gujarat, the state DISCOMs may have to go in for tariff hikes to the tune of 1% in FY 2016-17 in few scenarios to have financial viability by FY 2018-19.



## CHAPTER – 1: INTRODUCTION

Access to electricity on 24x7 basis for all its citizens means much more than merely an act of infrastructure development to any nation as this has direct co-relation with the socio economic profile of the community. Thus this issue has acquired significant dominance on the national as well as state agenda. Endeavour to perk-up the growth in electricity consumption to stand in pace with global benchmark therefore are to be taken up with top most priority. The state of Gujarat has attained full connectivity in past. Therefore, in the specific context of Gujarat, this initiative can be reinterpreted as targeting supply of quality power and make this more reliable and affordable.

Under the Indian Constitution, electricity is a concurrent subject and distribution of electricity falls under the purview of the respective State Government/State Power Utility. As per Electricity Act 2003, it is the duty of a distribution licensee to develop and maintain an efficient, co-ordinated and economical distribution system in his area of supply and to supply electricity in accordance with the provisions contained in the Act. The State Electricity Regulatory Commission (SERC) has to specify and enforce standards with respect to quality, continuity and reliability of service by licensees. Accordingly, State Electricity Regulatory Commissions (SERCs) have notified the Standards of Performance specifying maximum allowable time for restoration of supply due to forced breakdowns and Supply Code specifying the supply voltages & frequency etc, to be followed by Discoms. SERCs also monitor the performance of distribution companies on the basis of notified Performance of Standards.

### OBJECTIVES OF THE 24X7 POWER FOR ALL – JOINT INITIATIVE

To supplement the efforts of State Government, Government of India and Government of Gujarat have taken a joint initiative to provide 24 X 7 reliable power in the state to all consumers. The hours of adequate supply to agriculture consumers will be decided by the state Government. This initiative aims at ensuring

uninterrupted supply of quality power to existing consumers and providing access to electricity to all upcoming consumers by FY 2018-19.

The initiative of 24x7 Power supply to all encompasses mainly the following:

- i. To provide reliable & quality 24X7 power supply to the existing consumers in a phased manner within a period of three years from the date of commencement of the programme.
- ii. To ensure adequate capacity addition planning & tie ups for power from various sources at affordable price to meet the projected increase in power demand for future in a cost effective manner.
- iii. To strengthen the Transmission and Distribution network to cater to the expected growth in demand of existing as well as forthcoming consumers.
- iv. Monitoring the timely commissioning of various generating plants, transmission and distribution infrastructure to meet the expected growth in demand.
- v. To put in place a strategy to ensure reduction of AT&C losses as per or even better than the agreed loss reduction trajectory and methodology and steps required to be taken at every level of distribution.
- vi. Overall Power Supply Improvement – To be achieved by undertaking measures such as energy mix optimization, reduction in power operational inefficiency of state generation plant(s) and optimal fuel procurement policy.
- vii. To take financial measures including investment rollout plans and undertaking necessary balance sheet analysis to assess the financial strength/ weaknesses in the utility finances.
- viii. To introduce modern technologies to monitor reliable supply like sub-station



automation, providing adequate communication infrastructure, GIS, Reliability, Centralised Network Analysis and Planning tools, SAP driven ERP systems, DMS (Distribution Management Systems), OMS (Outage Management System), etc.

- ix. To take essential measures for meeting the performance standards as laid down by SERC.

An action plan would be drawn to achieve the above aims and objectives. The plan will be executed by the State Government with the support of Government of India, wherever necessary, as per their approved plans, schemes and policies. This joint initiative of Government of India and Government of Gujarat aims to enhance the satisfaction levels of consumers, improve the quality of life of people, and increase the economic activities resulting into inclusive development of the state.

#### **METHODOLOGY FOR PREPARATION OF THE ACTION PLAN FOR THE 24X7 POWER FOR ALL**

The plan aims at the following:

- Bridging the gap between the demand and supply for the already identified/registered consumers and other consuming entities, if any.
- If connectivity is already achieved, then ensuring quality, reliable and affordable power for all.

Accordingly the methodology adopted to prepare the 'Action Plan' for 24x7 PFA includes inter-alia:

- 1) Projection of average per day consumption of rural and urban households based on respective historical compounded annual growth rates (CAGR) during the past five years.
- 2) Projection of demand of consumers encompassing commercial, industrial, agricultural and remaining all have been considered under "others" category based on past data and historical CAGR thereof recorded for the state during the past years.
- 3) Project the annual energy requirement and maximum demand by aggregating the requirement of all consumer categories and applying an appropriate load factor.
- 4) Prepare a broad plan to meet/manage power demand in future through additional generation capacity/ export arrangements in case of surplus power, as the case may be.
- 5) Assess the financial implications on utilities for procuring additional energy to meet the energy requirement of all segments of consumers. Assess the adequacy of the network - both inter-state and intra-state transmission as well as distribution so as to meet the projected power requirement of all consumer categories of the state.
- 6) Conduct sensitivity analysis on various parameters namely tariff and AT&C loss reduction, etc. in order to assess the impact thereof on viability.
- 7) Set monitorable targets to achieve the goal of 24x7 Power for All in a cost effective manner to the consumers of the State.



## CHAPTER – 2: FACTS ABOUT GUJARAT

Gujarat, with a geographical spread of 196244 km<sup>2</sup> is the 6<sup>th</sup> largest state of Indian union in terms of area, and the 9<sup>th</sup> largest by population (as per census 2011) with total population of 6.04 Crores.

Gujarat is considered as one of the most prosperous and efficiently governed states in India. Forbes list of the world's fastest growing cities ranks Ahmadabad -the Gujarat capital- at number-3 after Chengdu and Chongqing of China. The state is bounded by Arabian sea to the west and south west and has Indian states of Rajasthan, Madhya Pradesh and Maharashtra as its neighbours.

Gujarat is considered to have the best infrastructure in India. This includes road, rail, air and seaport transport links along 1600 km long coastline that are well equipped and extensive throughout the region.

As a part of reform process, Government of Gujarat has unbundled the various functions of erstwhile Gujarat electricity Board (GEB). The various functions of board were entrusted to newly formed entities as follows:

1. GUVNL(Holding Company and single bulk buyer and supplier of power to DISCOMS)
2. GSECL(Generation Company)
3. GETCO(State Transmission utility)
4. PGVCL(DISCOS for western Gujarat)
5. UGVCL(DISCOS for Northern Gujarat)
6. MGVL(DISCOS for Central Gujarat)
7. DGVCL(DISCOS for southern Gujarat)

The power supply responsibility in the state is managed by the above listed GoG establishments alongwith private entities like Torrent Power Limited catering to the

consumers of Ahmadabad and Surat region. In addition, there are few other licensees/ bulk consumers like Kandla port trust, MPSEL and Torrent Energy Limited (Dahej SEZ). The complete list is shown in Chapter-7.

Over a period of time, Gujarat has successfully diversified its industrial base. At present, Gujarat has a production share of over 34% petroleum products and approx. 27% in chemical and pharma while it holds a share of approx. 10% in engineering industries. Gujarat also accounts for 80% of processed diamonds and 90% of diamond exports from India.

The brief profile of the state is as follows:

**Table-2.1**

### **Brief Profile of Gujarat**

Sl. No.	Description	
1	Area (Sq. Km.)	196244
2	Population (Persons as per 2011 census)	60439692
	- Rural	57.4%
	- Urban	42.6%
3	Per Capita income at current prices-FY 2013-14 (in Rs.)	106831
4	No. of Districts	33
5	State GDP growth rate (FY 2013-14)	15.5%
6	Total electrified household-FY 2014-15 as per state data(Rural)	6332012
7	Total electrified household-FY 2014-15 as per state data (Urban)	6725072

*GoG website and Statistics Times.com*



## CHAPTER – 3: CONSUMPTION PATTERN AND ELECTRIFICATION STATUS

As per Census 2011 data, there were about 121.8 Lakhs households in the State. The distribution thereof under urban and rural and

in terms of electrification status during that time frame was as follows:

**Table-3.1**

Description	Rural	Urban	Total
No. of Households in Gujarat	6765403 (55.5%)	5416315 (44.5%)	12181718
No. of Electrified Households	5749271 (52.2%)	5263943 (47.8%)	11013214
No. of Un-Electrified Households	1016132(87.0%)	152372(13.0%)	1168504

(Source: Census of India-2011)

The details of present day household status in the State of Gujarat based on Census figures and as per GoG data are as under:

**Table-3.2**

**No of Households in Gujarat (census 2011Projected to FY 2014-15, GoG owned Discoms & as per Torrent Power)**

Particulars	2001	2011	CAGR	As projected from Census figures	GoG owned Discoms (FY 2014-15)	As per Torrent Power (FY 2014-15)	Total for Gujarat State (FY 2014-15)
Total Households	9643989	12181718	2.36%	13057084	11134353	1922731	13057084
Rural Households	5885961	6765403	1.40%	6332012	6332012	0	6332012
Urban Households	3758028	5416315	3.72%	6725072	4802341	1922731	6725072
Total Electrified Households	7754307	11013214	3.57%	13057084	11134353	1922731	13057084
Rural Electrified H/H	4244758	5749271	3.08%	6332012	6332012	0	6332012
Urban Electrified H/H	3509549	5263943	4.14%	6725072	4802341	1922731	6725072
Total Un-electrified H/H	1889682	1168504	- 4.69%	0	0	0	0
Rural Un-electrified H/H	1641203	1016132	- 4.68%	0	0	0	0
Urban Un-electrified H/H	248479	152372	- 4.77%	0	0	0	0

Considering the expected rapid growth appetite of the state in the coming years, following assumptions for projection of demand under different categories have been considered:

- The number of electrified and un-electrified households in FY 2014-15 has been taken as

per Government of Gujarat data, but has been also compared with census data.

- Based on the urban & rural consumption data provided by GoG and Torrent Power Ltd., present per household consumption has been assessed as shown below :

Table-3.3

**ESTIMATION OF EXISTING PER HOUSEHOLD CONSUMPTION**

Sl. No.	Particulars/States → ↓	GoG owned Discoms (FY 2014-15)	As per Torrent Power (FY 2014-15)	Total data pertaining to Discoms
1	Total Households in State (nos.)	11134353	1922731	13057084
2	Total Urban Households (nos.)	4802341	1922731	6725072
3	Total Rural Households (nos.)	6332012	0	6332012
4	Total Electrified Households (nos.)	11134353	1922731	13057084
5	Total Electrified Households - Urban (nos.)	4802341	1922731	6725072
6	Total Electrified Households - Rural (nos.)	6332012	0	6332012
7	Balance Unelectrified Households (nos.)	0	0	0
8	Balance Unelectrified Households - Urban (nos.)	0	0	0
9	Balance Unelectrified Households - Rural (nos.)	0	0	0
10	Electrification of houses under 12th Plan RGGVY	0	0	0
11	Balance Unelectrified Households as per State Government (nos.)	0	0	0
12	Annual energy sold in the State during 2014-15 (MUs)	60237	9759	69996
13	Annual Domestic energy sold in the State during 2014-15 (MUs)	9529	3050	12580
14	Average Annual Energy Consumption per household during 2014-15 (kWh)	856	1586	963
15	Average Daily Energy Consumption per household during 2014-15 (kWh)	2.34	4.35	2.64
16	Annual Total Rural Consumption (MUs)	2896		2896
17	Annual per household rural consumption (kWh)	457		457
18	Annual Total Urban Consumption (MUs)	6633	3050	9683
19	Annual per Household Urban Consumption (kWh)	1381	1586	1440
20	Daily per household rural consumption (kWh)	1.25	0.00	1.25
21	Daily per household Urban consumption (kWh)	3.78	4.35	3.94

From the above table, the average daily per household Rural and Urban consumption works out to be 1.25 units/day and 3.94 units/day respectively. This has been considered in

projection of the Annual energy requirement for Electrified and Newly Constructed Households in the state from FY 2015-16 to FY 2018-19.

## CHAPTER – 4: DEMAND AND SUPPLY SCENARIO

For long, Gujarat has been taking initiatives in its power sector resulting into nil peaking shortage since FY 2012-13, while observing 25% surplus in energy in FY 2014-15.

The Power Supply Scenario in Gujarat (as per state data) from the FY 2008-09 to FY 2014-15 has been as under-

**Table-4.1**

**Power Supply Scenario**

Period/Items	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15
Peak Demand (MW)	12294	10848	11296	11401	12348	12577	14005
Peak Met (MW)	9437	9883	10461	11209	12348	12577	14005
Peak Deficit/Surplus (MW) (-/+)	-2857	-965	-835	-192	0	0	0
Peak Deficit/Surplus (%) (-/+)	-23%	-9%	-7%	-2%	0%	0%	0%
Energy Requirement (MU)	68188	68131	67065	72836	80575	79338	90998
Energy Availability (MU)	62214	75737	83974	96538	115233	116746	120543
Energy Deficit/Surplus (MU) (-/+)	-5974	7606	16909	23702	34658	37408	29545
Energy Deficit/Surplus (%) (-/+)	-10%	10%	20%	25%	30%	32%	25%

**Source : State Power Utilities.**

The above figures indicate that substantial steps were taken by the Government of Gujarat on power security front and thus a very robust and vibrant power sector is there today for Gujarat supporting its all round and rapid growth appetite.

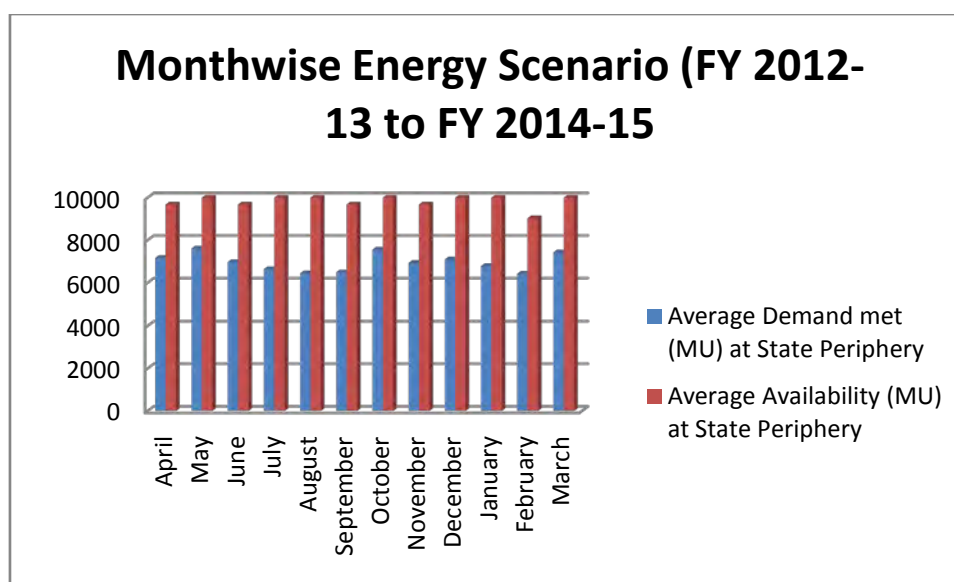
### Per Capita consumption (consumption of Units/ Year)

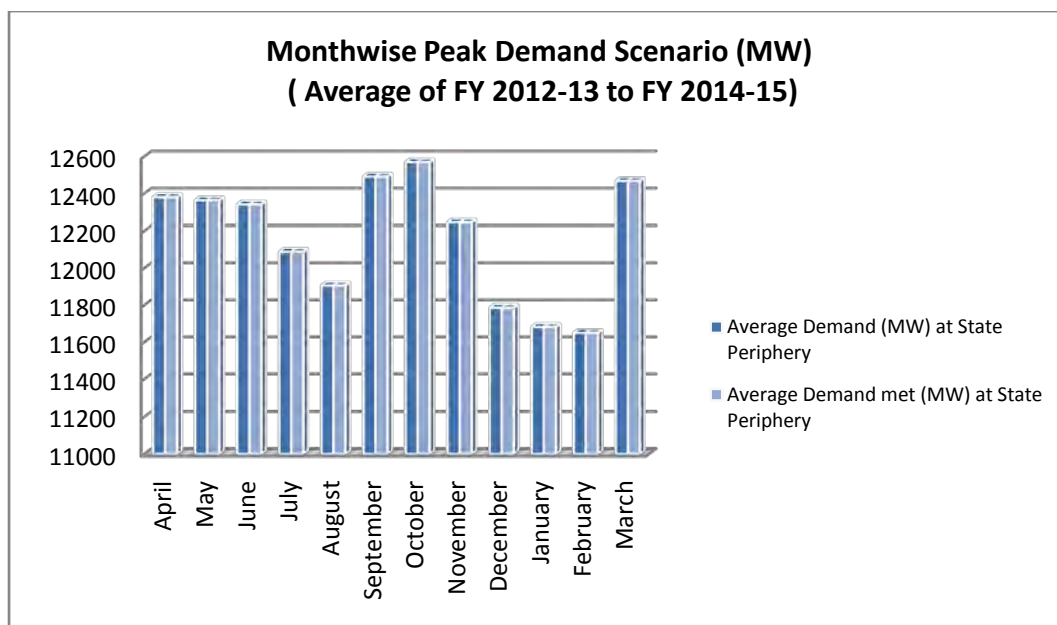
Based on the data available, the per capita consumption of 1839 units/ year during

FY 2014-15 in the state of Gujarat which is much higher than the National average of 1010 units/ year observed now. This higher per capita consumption is a testimony of the good quality of life in the state.

### Demand Variation

In order to have an insight of typical seasonal demand availability pattern of Gujarat, month wise demand availability scenario has also been analyzed. The season led demand variation based on average figures for FY 2012-13 to FY 2014-15 has been graphically represented as hereunder:





It can be visualized from the above that during months of December to February, the demand remains low while during rest of the year it remains in the band of 12000 MW to 12600 MW on an average.

### Demand Projections

The base year for the purpose of beginning the future assessment of demand has been considered as year FY 2014-15 which has an aggregated demand of 90.9 Billion Units (BU).

### Demand Estimation Methodology

The electricity distribution in Gujarat is taken care of by four numbers of Government owned DISCOMS- UGVCL, DGVCL, MGVCL, PGVCL and Private DISCOM – Torrent power limited supplying power to Ahmadabad and Surat regions. Additionally, there are other smaller Discoms/ bulk consumers like Kandla Port Trust and MPSEZ areas mainly catering to the port area consumption.

For the purpose of estimation, power consumers have been broadly classified into the domestic consumers and others (commercial, industrial, agriculture etc.). The demand projection has been done taking into account the demand for 24X7 power supply under following heads:

- Demand growth to a targeted value of already electrified households (both Urban and Rural).
- Demand from electrification of newly constructed Household (both Urban and Rural).
- Demand on account of users other than domestic consumers.
- Out of the total energy requirement of Gujarat during FY 2014-15 (90998 MU at state periphery), State owned DISCOMS account for 75162 MU (As per state data), 10637 MU is on account of Torrent Power Ltd. The balance is considered to be consumed by bulk consumers like port trust, special economic zone etc.

The assumptions for projection of demand under different categories are described below:

- The number of electrified and un-electrified households in FY2014-15 has been taken as per Government of Gujarat data and that of Torrent Power Ltd., though have been compared with census data.
- Based on the urban & rural consumption data provided by GoG and Pvt. DISCOMS, present per household consumption have been assessed as 1.25 unit/ day in rural area and 3.94 unit/day in urban area.

- Energy requirement for rural & urban households have been computed keeping in view the latent demand and considering a CAGR of **7.0%** on per household consumption for every consecutive year and thus increasing from the current levels of 1.25 units/day to **1.64** units/day by FY 2018-19 for rural households and per household from the current levels of 3.94 units/day to **5.17** units/day per urban household by FY 2018-19.
- Demand projections for consumers other than domestic have been done assuming 10% p.a. constant growth in energy requirement based on the CAGR calculated over past four years and discussion with state officials regarding future growth perspectives in these sectors. Also, as described previously, the bulk consumer demand has been considered under this category for projection purpose for the state.

#### PROJECTIONS OF ANNUAL ENERGY REQUIREMENT OF THE STATE

The annual energy requirement at consumer level for all types of consumers in the state works out to be around 75.68 BU in FY 2015-16 which is scaling up to around 94.40 BU in FY 2018-19 after considering the following :

#### a) Demand of already electrified households

The consumption level of present electrified households in the state is expected to grow due to ensured un-interrupted power supply. The annual energy requirement for existing households works out to be 16.49 BU in FY 2018-19.

#### b) Demand from electrification of newly constructed Household

To account for energy requirement of new houses which are likely to be constructed in coming years, projection have been done considering CAGR of 3.72% (census of 2001 & 2011) on number of urban households and CAGR of 1.40% in number of rural households based on census data.

#### c) Demand on account of users other than domestic consumer segment.

The annual energy requirement for consumers other than domestic has been calculated after discussion with State officials assuming that such segment of consumers are expected to grow at a constant CAGR of 7.0% p.a.

The summary of energy calculation at consumer level and requirement at State periphery is summarized in the table hereunder.

**Table-4.2**

Sl. No.	PARTICULARS→ ↓	YEARS			
		FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
A	<b>Total - Domestic (State Govt DISCOMs &amp; Pvt. DISCOM)</b>				
1	Total Annual Energy Requirement for existing electrified H/Hs incl. additional annual energy requirement	13460	14402	15410	16489
2	Annual Energy Requirement for Electrification of un-electrified Household	0	0	0	0
3	Cumulative Annual Energy Requirement for newly constructed Household	429	934	1526	2216
	<b>TOTAL DOMESTIC</b>	<b>13889</b>	<b>15336</b>	<b>16936</b>	<b>18705</b>
4	Total Annual Energy Requirement including additional energy requirement - Other than Domestic Consumers (with 7% growth P.A.)	61791	66116	70744	75696
	<b>GRAND TOTAL</b>	<b>75680</b>	<b>81452</b>	<b>87680</b>	<b>94402</b>
B	<b>Total - Domestic (State Govt DISCOMs)</b>				



Sl. No.	PARTICULARS→ ↓	YEARS			
		FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
1	Total Annual Energy Requirement for existing electrified H/Hs incl. additional annual energy requirement	10,196	10,910	11,674	12,491
2	Annual Energy Requirement for Electrification of un-electrified Household	-	-	-	-
3	Cumulative Annual Energy Requirement for newly constructed Household	308	670	1,093	1,586
	<b>TOTAL DOMESTIC</b>	<b>10,504</b>	<b>11,580</b>	<b>12,767</b>	<b>14,077</b>
4	Total Annual Energy Requirement including additional energy requirement - Other than Domestic Consumers (with 7% growth P.A.)	54,640	58,465	62,558	66,937
	<b>GRAND TOTAL</b>	<b>65,144</b>	<b>70,045</b>	<b>75,325</b>	<b>81,014</b>

**Annual energy requirement at state periphery**

for the years FY 2015-16 to FY 2018-19 at the state periphery -

The table below shows projected energy requirement at the state periphery considering Distribution and intrastate transmission losses

**Table-4.3**

Sl. No.	Year	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
<b>A</b>	<b>Total (State Govt DISCOMs &amp; Pvt. DISCOM)</b>				
	Total Energy requirement for distribution (MU)				
	As per demand projections	75680	81452	87680	94402
	Distribution losses	14.50%	14.00%	13.50%	13.00%
	Intra state transmission losses	3.80%	3.80%	3.80%	3.80%
	Inter state transmission losses	1.50%	1.50%	1.50%	1.50%
	Energy requirement at state periphery	93412	99952	106973	114512
	Peak Demand (MW) at 74% Load Factor	14410	15419	16502	17665
<b>B</b>	<b>State Govt. DISCOMs</b>				
	Total Energy requirement for distribution (MU)	-	-	-	-
	As per demand projections	65,144	70,045	75,325	81,014
	Distribution losses	14.50%	14.00%	13.50%	13.00%
	Intra state transmission losses	3.80%	3.8%	3.8%	3.8%
	Inter state transmission losses	1.50%	1.50%	1.50%	1.50%
	Energy requirement at state periphery	80408	85955	91899	98272
	Peak Demand (MW) at 74% Load Factor	12404	13260	14177	15160
<b>C</b>	<b>Private DISCOM (A-B)</b>				
	Energy requirement	13004	13998	15074	16240
	Peak Demand (MW) at 74% Load Factor	2006	2159	2325	2505

The load factor of 74% has been considered based on the average of actual data furnished by state for past years.

The detailed calculation of energy demand under different categories is given at annexure-I.

Consequent upon projecting the unrestricted demand up to the terminal year of FY 2018-19, the energy requirement at consumers end is estimated as 94.40 BU which corresponds to 114.51 BU at State periphery for all categories of consumers after accounting for losses. The consequent maximum demand requirement of the state is projected to increase to 17665 MW by FY 2018-19.

As per projections made in 18th EPS of CEA, the projected energy demand and peak load for the state of Gujarat would be 125 BU and 21942 MW in FY 2018-19 as against the now calculated energy demand of 114.51 BUs and peak load of 17665 MW in FY 2018- 19.

As against energy demand of 114.51 BU in FY 2018-19, the energy availability projections from all possible sources as per State Generation Plan by FY 2018-19 works out to 152.0 BU (shown in next chapter) and thus, there is a surplus scenario as per projections for FY 2018-19.

The adoption of various energy efficiency measures like energy efficient irrigation pump-sets, energy efficient lighting (use of LEDs), adopting demand side management initiatives like introduction of Time of Day (TOD) tariff etc., or by adopting accelerated AT & C loss reduction targets would also help in reducing the peak demand.

However, an assessment of the adequacy of Generation, Transmission and Distribution infrastructure has been made in the subsequent chapters to meet the projected demand of 17665 MW of the state and the same are covered in the subsequent chapters.



## CHAPTER – 5: GENERATION PLAN

### GENERATION PLAN

Study of generation plan will ensure adequate capacity addition planning & tie ups for power from various sources at affordable price to meet the projected increase in power demand for future. Areas of studies are:

- a. Existing Generation
- b. Future Generation Plans (Projects under construction and future projects)
- c. Generation capacity required to meet Peak Demand
- d. Power procurement costs
- e. Fuel Requirement
  - Coal requirement based on linkage with CIL
  - Coal Imports to meet shortfall of Coal

- Short availability of gas
  - Issues regarding coal procurement plan
  - Allocation of coal linkage/coal blocks for future power projects
  - Hydro Power issues
- f. Year-wise capacity addition plan from renewable source (separately for Solar, Wind, Biomass etc.)
  - g. Action plan of the state
  - h. Fund Requirements
  - i. GoI/ State Government Interventions

### Existing Generation Capacity / Availability of Power (As on 31.03.2015)

The details of existing generating capacity available as on 31.03.2015 for the state of Gujarat are shown in table-5.1 below :

**Table- 5.1**

**Existing Generation Capacity/ Availability of Power (As on 31.03.2015)**

Ownership / Sector	MODE WISE BREAK UP							Grand Total (MW)
	Thermal				Nuclear	Hydel	Renewables (Wind. Solar. Biomass, Small Hydro)	
	Coal/ lignite	Gas	Oil	Total				
STATE	4220	728	-	4948	-	540*	21	5509.00
IPPs / JV (STATE)	750	1519	-	2269.00	-	-	302.80	2571.80
IPPs (PRIVATE)	5405	2603**	-	8008.00	-	-	4269.00	12277.00
CENTRAL	2625	424	-	3049.00	559.00	232.00	10.00	3850.00
TOTAL	13000	5274	0	18274	559.00	772.00	4602.80	24207.80

Source: State Power Utilities

\* 7 MW State's small hydro is included under renewable.

\*\* includes 1648 MW of Private licensee Torrent share (861MW SUGEN, 287MW Uno SUGEN, 100MW VATVA & 400MW DGEN)

As shown in Table-5.1 above, the total generation capacity / availability of power as on 31.03.2015 for the state of Gujarat is 24207.80 MW. Out of which 53.7% is from Coal / lignite based Thermal, 21.79% is from Gas based Thermal, 2.31% is from Nuclear, 3.19% is from Hydro and balance 19.01% is from Renewable Energy Sources.

In terms of ownership, Private IPPs/ UMPP/ Purchase has the largest share of 50.71%, followed by State Sector Projects which is about

22.76%. The share of Central Sector Allocation is about 15.90% and State Sector IPPs contribute about 10.62%.

### Future plan for augmentation of generation capacity / availability of power

As per generation Plan of State of Gujarat, capacity of around 7546 MW is expected to be added by FY 2018-19 (from new projects, from enhanced allocation from central sector and IPP project). Out of this, about 3610 MW shall be added through non-conventional energy sources



and balance 3936 MW through conventional sources. As such the total available capacity by FY 2018 – 19 is expected to be 31753.8 MW (23548 MW – conventional and around 8205.80 MW – Renewable).

Year wise Summary of Generation Capacity / Availability of Power (State Share) up to year 2018-19 are indicated in Table 5.2 below:

**Table 5.2**

Particulars	Year wise existing & likely Capacity to be added (MW) – Cumulative				
	As on March 2015	As Planned			
		FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
STATE SECTOR					
State Sector Thermal (Coal / Lignite)	4220.00	4720.00	4720.00	4720.00	5520.00
State Sector Thermal (Gas)	728	1104	1104	1104	1104
State Hydro	540.00	540.00	540.00	540.00	540.00
State small Hydro (RES)	7.00	7.00	7.00	7.00	7.00
CENTRAL GENERATING STATION SHARE					
CGS Thermal (Coal)	2625.00	2838	3238	3458	3909
CGS Thermal(Gas)	424.00	424.00	424.00	424.00	424.00
CGS Hydro	232.00	232.00	232.00	232.00	232.00
CGS Nuclear	559.00	559.00	1035.00	1035.00	1035.00
PRIVATE IPP PROJECTS					
Private IPP Thermal (Coal/Lignite)	5405.00	5405.00	5405.00	5405.00	5405.00
Private IPP Thermal (Gas)*	2603.00	2603.00	2603.00	2603.00	2603.00
STATE IPP PROJECTS					
State IPP Thermal (Coal / Lignite)	750.00	1250.00	1250.00	1250.00	1250.00
State IPP Thermal (Gas)	1519.00	1519.00	1519.00	1519.00	1519.00
RES (IPP + State)					
Biomass	41.20	41.20	41.20	41.20	41.20
Small Hydro	9.60	25.60	28.60	42.60	57.60
Solar	1003.00	1097.00	1142.00	1803.00	2489.00
Wind	3542.00	4147.00	4814.00	5204.00	5618.00
TOTAL	24207.80	26511.80	28102.80	29387.80	31753.80

Source: State Power Utilities

\*includes 1648 MW of Private licensee Torrent share (861MW SUGEN, 287MW Uno SUGEN, 100MW VATVA & 400MW DGEN)

Break up and details of capacities likely to be added year wise is indicated in Annexure-II.

**Capacity Under / Planned for Renovation & Modernisation (R&M) in Gujarat and their status:**

Some of the plants / units of the state utility (GSECL) are under Renovation & Modernisation (R&M) plan. Details and status of the same are as furnished in Table 5.3 below:



**Table- 5.3**

Sl. No.	Name of the Plant / Unit	Status
1	Retrofitting of LMZ turbines of 210 MW of Wanakbori TPS Unit No. 3 and 200 MW Ukai TPS Unit No.4(Phase – I)	(a) LOA placed on M/s NASL on 29.04.15 (b) Zero Date: 10.03.2015 (c) Contract signed on 25.05.2015 (d) Detail Engg. Work started (e) Project cost is Rs. 206.75 Crores (f) Estimated time for completion of work is about 22 months up to commissioning.
2	Retrofitting of ESP – Ukai Unit No. 3 & 4 (Phase – I)	(a) LOA placed on M/s NASL on 28.07.2014 (b) Detail engineering and approval of drawings and supply for Ukai – 3 & 4 under progress. (c) Project cost is Rs. 46.75 Crores (d) Time limit for completion of work is 16 months
3	Retrofitting of ESP – Wanakbori Unit no. 1, 2, 3 & Ukai Unit No. 5 (Phase – II)	(a) Price bids opened on 05.05.2015. However, tender has been scrapped and revised bids have been invited. (b) Estimated project cost is Rs. 110 Crores.
4.	Up gradation of C&I System Ukai TPS No. 3 & 4	(a) LOA placed on M/s BHEL on 18.06.2015 (b) Estimated project cost is Rs. 20 Crores (c) The work of unit -3 shall be carried out during shutdown ESP retrofitting work from 15.12.2015. The work for unit-4 shall be carried with turbine retrofitting work.
5.	Availability & Efficiency improvement through modification in boiler back pass and air preheater –Ukai Unit No. 4	(a) LOI placed on M/s BHEL. (b) Project Cost is Rs. 54.10 (c) Zero date is 17.08.2015. (d) Time schedule is 12 months. (e) Work shall be carried out with turbine retrofitting work.

Source: GSECL

### Peaking & Energy Availability to Meet Peak & Energy Demand

Year wise peaking availability has been worked out based on the peaking availability & auxiliary power consumption norms of each plant as per National Electricity Plan (Vol-I) for 12<sup>th</sup> five year Plan. 8% contribution from solar and wind installed capacity has been considered for estimation of Peak demand. Similarly the energy availability in each year has also been worked out based on the PLF & auxiliary power consumption norms of each plant as per National Electricity Plan (Vol-I) for 12<sup>th</sup> five year Plan and as per the information made available by the State.

Though Gujarat State has a considerable Gas Based Generation Capacity, the capacity utilisation of these plants is poor due to inadequate availability of gas. As such, for determining the installed capacity (state share) of the State, the total installed capacity (state

share) of the gas based power stations have been considered. However, the Peak Demand and Energy Availability have been calculated considering the following two scenarios :

**Scenario –I :** Considering actual capacity utilisation of gas based plants based on present availability of gas. Under this scenario, out of 5650 MW gas based capacity, only 2207 MW has been considered for working out Peak Demand and Energy Availability during the period FY 2015 – 16 to FY 2018 -19 considering that similar situation with regard to gas availability shall prevail till FY 2018 – 19.

**Scenario – II:** Considering full availability of gas and full capacity utilisation of gas based plants. Under this scenario total 5650 MW gas based capacity has been considered for working out Peak Demand and Energy Availability during the period FY 2015 – 16 to FY 2018 -19 considering

that adequate quantity of gas shall be available during the period of study i.e from FY 2015 – 16 to FY 2018-19.

have been worked out upto FY 2018-19 for both the scenarios and are shown in Table 5.4a and Table 5.4b below:

The availability of peaking capacity and energy availability projection from all possible sources

**Table-5.4a**

**Scenario – I**

Financial Year	Total Capacity (MW)	Estimated Peak Availability at State Periphery (MW)	Estimated Energy availability at State Periphery	
			Energy from all sources (MU)	Energy from renewable energy sources (MU)
FY 2015-16	26511.80	14198.17	108159.35	9389.58
FY 2016-17	28102.80	14850.92	114999.56	10643.60
FY 2017-18	29387.80	15119.35	121318.89	12480.03
FY 2018-19	31753.80	16195.66	126685.30	14403.98

**Table-5.4b**

**Scenario – II**

Financial Year	Total Capacity (MW)	Estimated Peak Availability at State Periphery (MW)	Estimated Energy availability at State Periphery	
			Energy from all sources (MU)	Energy from renewable energy sources (MU)
FY 2015-16	26511.80	17137.85	133624.77	9389.58
FY 2016-17	28102.80	17790.60	140449.55	10643.60
FY 2017-18	29387.80	18059.04	146768.88	12480.03
FY 2018-19	31753.80	19135.35	152135.29	14403.98

Gujarat State has informed that in case, domestic gas allocation is not available, the generation from gas based capacity i.e. 5650 MW (including 1648 MW of private licensee) can be availed on other SPOT RLNG based fuel to meet any intermittent demand / power deficit scenario. As such the entire gas based capacity, in line with Scenario - II has been considered for further working.

Based on the deliberations in the previous text, the scenario in the state emerges as shown in the Table-5.5a below. It could be seen from Table 5.5a that the peak demand of Gujarat would be about 17665 MW by FY 2018-19 considering the additional power requirement for providing 24x7 power supply to all in the state. The expected energy requirement at state periphery for FY 2015-16 is about 93412 MU which is likely to increase to 114512 MU by FY 2018-19.

It is also observed from Table 5.5a that in terms of peaking availability, Gujarat state will have surplus availability in FY 2015 – 16 (15.92%), FY 2016 – 17 (13.33%), FY 2017 – 18 (8.62%) and FY 2018 – 19 (7.68%).

In FY 2018-19, out of total demand of 17665 MW, the demand of State Discoms is 15160 MW and the balance 2505 MW is demand of the Private Discoms/ Licenses. Similarly, the out of total peak availability of 19135 MW (FY 2018-19), 17324 MW is available for State Discoms and balance 1811 MW is available for Private Discoms/ Licenses.

It is to be noted that the GUVNL/ State Discoms have already made adequate power tie-up to meet the existing as well as upcoming power demand and there will not be any peaking deficit till 2018-19 considering the operational capacity and proposed capacity augmentation plan of State Discoms/ GUVNL.

In terms of availability of energy, during the entire period of study i.e. from FY 2015 – 16 to FY 2018 – 19, the state will have availability of surplus energy ranging from 30.09% to 24.73%.

Thus, the State of Gujarat emerges as a surplus state, both in terms of peak availability and energy availability, during the entire period of study i.e from FY 2015 – 16 to FY 2018-19. The peak demand can be effectively reduced further



through proper implementation of DSM & Energy efficiency measures in the state. While procuring power, the state is required to give more preference to Hydro Power in order to improve the hydro-thermal generation mix which is poor in the state. This will also help in balancing the energy supply & demand scenario.

Regarding energy projections, it is to be noted that the figures have been arrived at considering Scenario – II i.e. full utilization of Gas based generation capacity. In case of use of SPOT

RLNG, expected to be costlier, the cost of energy generated also is expected to be higher. The option of using SPOT RLNG, should be exercised by the State only to meet any intermittent demand / power deficit scenario.

Further, the state is required to firm up plan for disposing surplus power on short term/ medium term basis through bilateral arrangements and Power exchange and earn revenue.

**Table -5.5a**

Sl. No.	Power Supply Position	Unit	Year wise Figures			
			FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
1	Peak Requirement (L.F. = 0.74)	MW	14410	15419	16502	17665
2	Estimated Peak Availability	MW	17138	17791	18059	19135
3	Surplus(+) / Deficit(-)	MW	2728	2372	1557	1470
4	Surplus (+) / Deficit(-)	%	15.92	13.33	8.62	7.68
5	Energy Requirement at State Periphery	MU	93412	99952	106973	114512
6	Estimated Energy Availability at State Periphery	MU	133625	140450	146769	152135
7	Surplus(+) / Deficit(-)	MU	40213	40498	39796	37623
8	Surplus(+) / Deficit(-)	%	30.09	28.83	27.11	24.73

The generation mix as per the proposed generation plan (refer Table-5.2 above) of the state is shown in Table-5.5b.

**Table -5.5b**

GENERATION MIX					
Financial Year	Thermal (Coal / lignite), (%)	Thermal (Gas) (%)	Hydro (%)	Nuclear (%)	RES (%)
FY 2014-15	53.70	21.79	3.19	2.31	19.01
FY 2015-16	53.61	21.31	2.91	2.11	20.06
FY 2016-17	52.00	20.10	2.75	3.68	21.47
FY 2017-18	50.47	19.23	2.63	3.52	24.15
FY 2018-19	50.65	17.79	2.43	3.26	25.86

Generation mix for the state of Gujarat is skewed. Hydro power contributes only about 2-3%. Tying up power supply from Hydel power stations will improve the energy mix.

#### Fuel Scenario & Issues:

Generating Stations in Gujarat are required to perform at higher PLF enabling state of Gujarat to achieve “24 x 7 power for all” for which there should not be any constraint of coal / lignite and

gas supply. Adequate and consistent availability of fuels will also ensure that no capacity in Gujarat remains unutilized for the want of fuel.

#### Fuel (Coal and Gas) Requirement:

The current coal and gas scenario and the projections for next 5 years have been presented below in Table-5.6a and Table-5.6b.

**A) Coal Requirement / Availability:**

**Table- 5.6a**

TYPE	Year wise Coal Requirement (Million Tonnes) – GSECL Plants			
	FY 15-16	FY 16-17	FY 17-18	FY 18-19
Coal Requirement	20.51	21.73	21.73	23.50
Fuel Availability / Linkage	18.67	18.67	18.67	18.67
Shortfall in Coal	1.84	3.06	3.06	4.83
Additional Coal requirement	1.84	3.06	3.06	4.83
Coal import planned	1.00	2.50	2.50	2.50
Shortfall in Coal even after import	0.84	0.56	0.56	2.33

*In addition to the above, for Kutch Lignite Thermal Power Station (KLTPS), a pit head lignite based power plant, the total requirement of lignite for generation at normative availability (@80%) is around 24.50 lakh tones per annum basis.*

The shortfall in coal needs to be met through additional coal linkage from GoI on time to time basis or by purchasing from the market through

e-auction. Alternatively, the issue of shortfall can also be addressed by planning enhanced imports of coal.

**B) Gas Requirement / Availability for GSECL gas based plants:**

**Table- 5.6b**

TYPE	Gas requirement (MMSCMD) – GSECL Plants				
	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19
Gas Requirement	4.65	4.80	4.80	4.80	4.80
Gas allocation	0.20	0.25	0.25	0.25	0.25
Shortfall in Gas	4.45	4.55	4.55	4.55	4.55

**Note:** Gas requirement and availability for plants of Torrent Power / Torrent Energy is not included in the above table as the data is yet to be made available by Torrent Power.

**Issue related to Fuel Requirement and availability:**

- (i) As informed by Gujarat State, in case domestic gas allocation is not available, the generation from gas based capacity can be availed on other SPOT RLNG based fuel to meet any intermittent demand / power deficit scenario.

However, the SPOT RLNG based generation is expected to be costlier.

- (ii) The present shortfall of gas is adversely affecting PLF of gas based stations in the state which is low. In view of this, cost of generation of Gas based Generating Stations becomes higher on account of less utilization of plant. For GUVNL / State Discoms ( except Torrent Power), against the gas requirement of 19.76 MCMD, gas available is 2.64 MCMD only.

- (iii) New gas based capacity of 1078 MW (376 MW Dhuvaran expansion of GSECL and 702 MW Pipavav of GPPC) is ready for operation. Gas supply for these power stations is yet to be tied up. As such, no gas is available & hence these plants are lying idle. As per the information provided by the State 3.52 MCMD gas for GPPC, Pipavav and 1.65 MCMD gas for Dhuvaran Expansion are required for maximum generation from these two plants.

- (iv) GUVNL has tied up 1010 MW with KSK (Mahanadi) Ltd. through competitive bidding ( Case – 1) wherein source of fuel is coal from Morga mines, Chattisgarh allocated to M/s GMDC. However, KSK is not supplying power to GUVNL citing non-availability of coal from GMDC. Presently,



the petition for adjudication of dispute is pending before GERC.

- (v) GUVN has also tied up 1600 MW ( 800 MW with Shapoorji Pallonji Energy Gujarat Ltd. and 800 MW with Essar Power Gujarat Limited) power through

competitive bidding (Case – 1). However, both these projects are inordinately delayed as the respective Project Developers are seeking increase in tariff citing promulgation of Indonesian regulation.

## ACTION PLAN – STATE

To complete the generating capacities of State and to monitor the Central Sector & IPP Projects as per following Roll out Plan:

**Table- 5.7**

Power for All – Roll Out Plan	FY 2015-16 (MW)	FY 2016-17 (MW)	FY 2017-18 (MW)	FY 2018-19 (MW)	Total (MW)
Generation (State Sector )	876	-	-	800	1676
NCE / RNES including state RES (solar PV)	715	715	1065	1115	3610
IPP (State)	500	-	-	-	500
Central Sector	213	876	220	451	1760
IPP (Private) Projects / Purchase	-	-	-	-	-
<b>TOTAL</b>	<b>2304</b>	<b>1591</b>	<b>1285</b>	<b>2366</b>	<b>7546</b>

- To firm up plan to address fuel (coal / gas) procurement and availability issues (as discussed above) so that no capacity within Gujarat state remains unutilized.
- To improve the generation mix (Thermal: Hydro ratio) through more tie up from hydro power plants in order to balance the energy supply & demand scenario. Matter to be taken up by State with MoP, GoI for more allocation from Central Sector Hydro Projects to Gujarat..
- To firm up plan and implement DSM and energy efficiency measures to reduce the peak demand.
- To firm up plan for disposing surplus power on short terms/ medium term basis through bilateral arrangements and power exchange and earn revenue.
- To expedite timely execution and commissioning of 800MW Capacity of Wanakbori TPP Extension Unit 8.
- To execute R & M projects as per schedule so that renovated and refurbished unit are back in generation as planned.
- GoG through GERC is requested to help resolve the dispute between KSK (Mahanadi) and GUVNL at the earliest so that 1010 MW power is available to the state.

## POWER PURCHASE PLANNING

The state will work towards institutionalizing and strengthening the Power Purchase Planning and Procurement Cell, which will dedicatedly work on the short / medium / long term power purchase planning and work on the procurement of power on cost effective basis.

This cell will also work on the monthly power availability from already tied up sources ( on the basis of annual schedules provided by these sources) and accordingly work out the requirement for tying up power through competitive bidding route keeping into consideration the huge seasonal variation in

availability of energy from various sources across the year.

### Best Practices Adopted by Gujarat State for reduction in costly power purchase:

GUVNL has tied up 7615 MW Capacity through competitive bidding ( 5810 MW thru' Case 1 & 1805 MW thru' Case – 2) out of which State Utilities are already receiving 5005 MW power at competitive rates. The break up of 5005 MW power being received by the State is as follows:

- Mundra Power Project of Adani ( Case -1) – 2000 MW.
- ACB India Limited (Case – 1) – 200 MW
- Essar Power Gujarat Ltd. (Case – 1) – 1000 MW
- Mundra UPMM – Coastal Gujarat (Case – 2) – 1805 MW

Moreover, power is purchased in real time basis by State Load Despatch Centre / Distribution Companies based upon the prevailing power demand observing the Merit order protocol i.e

cheaper to costlier generation in order to optimize the power purchase cost. Further, GUVNL on behalf of its Distribution Companies is disposing off the surplus power in short term market through bilateral arrangement & Power exchanges for optimum utilization of the available generation capacity.

### Government of India (GOI) Intervention Required:

- GoI's intervention is required to facilitate availability of cheaper gas in adequate quantity for the gas based plants (either lying idle or running at low PLF).
- GoI's intervention is also required to facilitate enhanced linkage for coal to meet the shortfall.

### Fund Requirement:

The detail of estimated fund requirement of the State Sector Projects is given in table 5.8 below:

**Table- 5.8**

#### For State Sector Projects

Sl. No.	Type	Total Cost of Project (Rs. Crores)	Expenditure up to March 2015 (Rs. Crores)	Year wise Fund Requirement (Rupees in crores)				Tie Ups for Fund
				FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	
A.	Projects under Expansion							80% debt (through bank loans), 20% Equity
a.	Sikka thermal	3180	3046	134	--	--	--	
b.	Wankbori Thermal	4465	-	719.40	1194.80	1281.70	1269.10	
	Total for Expansion Projects	7645	3046	853.40	1194.80	1281.70	1269.10	
B.	Projects Under Renovation & Modernisation (R&M)							To be given by GoG as grant.
a.	Wanakbori Unit 1-6	554.80	-	60.25	89.88	143.99	260.68	
b.	Ukai Unit 3-5	504.96	-	115.24	117.57	52.90	219.25	
c.	Gandhinagar	8.25	-	1.00	7.25	0.00	0.00	
	Total for R&M Projects	1068.01	-	176.49	214.70	196.89	479.93	
	Grand total			1029.89	1409.50	1478.59	1749.03	

## CHAPTER - 6 : TRANSMISSION PLAN

The present peak power demand and energy requirement of Gujarat at state periphery during FY 2014-15 is 14005 MW and 90998MU respectively. The above requirement in the coming years is expected to increase significantly due to various factors such as increase in agriculture consumption, increased uses of various appliances in domestic sector, increase in commercial activities & industrialization in the state. Taking into account all the above with an objective to provide 24x7 power supply to all, the expected power demand of Gujarat by FY 2018-19 would be of the order of 17665 MW with annual energy requirement of 114512 MU. To meet this growing demand, a robust & reliable Inter-state & Intra-state transmission network is required. In view of this, existing transmission system would be strengthened both at Inter-state level as well as Intra-state level with proper planning to cater the demand in a reliable manner. In order to improve reliability in transmission system, 400 kV ring main system has been

developed in the state having connectivity with central grid. For details refer power Transmission map of Gujarat 132 kV and above as on 31.01.2015 (attached in the report after Annexure).

### Existing Inter State Transmission System (ISTS)

Presently about 6158 ckt km EHV transmission line comprising of 765 kV (418 ckt km) 400 kV (4740 ckt km), 220 kV (1000 ckt km) and 6 nos. of Grid sub-stations with 1no. 765/400 kV & 5 nos. 400/220 kV with total transformation capacity of 6965 MVA are existing in Gujarat under Inter-state Transmission system of PGCIL.

The existing Inter-state transformation capacity at 400 kV level is 3965 MVA having 5 nos. of Grid substations.

The details of existing ISTS Grid sub-stations are as mentioned below :

**Table-6.1**

**Details of existing Grid sub-station (ISTS)**

Sl. No.	Name of GSS	Voltage Ratio	No. of Transformers	MVA capacity	Total Transformer capacity(MVA)
<b>765 kV GRID SUBSTATION (PGCIL)</b>					
1	Vadodara (GIS)	765/400	2	1500	3000
<b>Total :</b>					<b>3000</b>
<b>400 kV GRID SUBSTATION (PGCIL)</b>					
1	Bachau	400/220 kV	2	315	630
2	Dehgam	400/220 kV	2	315	630
3	Pirana	400/220 kV	2	315	630
4	Vapi	400/220 kV	3	315	945
5	Navsari	400/220 kV			1130
<b>Total :</b>					<b>3965</b>
<b>400 kV GRID SUBSTATION (GETCO)</b>					
1	Asoj	400/220 kV	3	2x500+1x315	1315
2	Kosamba	400/220 kV	3	315	945
3	Soja	400/220 kV	2	500	1000
4	Kasor	400/220 kV	2	315	630
5	Chorania	400/220 kV	2	500	1000
6	Amreli	400/220 kV	3	315	945
7	Vadavi	400/220 kV	3	315	945
8	Varsana	400/220 kV	2	315	630
9	Zerda	400/220 kV	3	315	945
10	Halvad	400/220 kV	2	315	630
11	Jetpur	400/220 kV	4	1x500+3x315	1445
12	Hadala	400/220 kV	3	315	945
<b>Total :</b>					<b>11375</b>
<b>Total (PGCIL+ GETCO)</b>					<b>15340</b>

In order to facilitate the drawl of power by Gujarat and to meet the projected peak load of 19779MW by FY 2018-19, a robust inter-state transmission system (ISTS) would be required. The present ISTS system capacity of PGCIL at 400/220 kV level is 3965 MVA and it would be increased to 6965 MVA by FY 2018-19 after implementation of ongoing schemes. In addition to this, the existing transformation capacity at 400/220 kV level of GETCO system is 11375 MVA and it would be increased to 24210MVA by FY 2018-19 after new addition & augmentation of substations. (For GETCO details refer Intra state transmission system indicated in subsequent para of this chapter). The combined Transformation capacity of PGCIL & GETCO system at 400/220 kV level would be 31175MVA by FY 2018-19 after implementation of ongoing and proposed schemes, which shall take care the increased power demand of Gujarat up to FY 2018-19.

The various ongoing/ planned ISTS projects are outlined below. :

#### On-Going ISTS Projects

##### New GSS & Transmission lines

- **New GSS** :1000 MVA

Sl. No.	Sub-Station	765/400kV	400/220kV
1	Vadodara (GIS)	-	1,000
	<b>Sub-total :</b>	-	<b>1,000</b>

- **400 kV transmission lines –**  
**Total approx. : 1820 ckt km.**
- **Total Cost -Approx. Rs. 5250 Cr.**

##### Scheme Details:

#### i) Western Region System Strengthening –V (Part System) (~725 Cr.)

- 400 kV Vapi- Kudus (MSETCL) D/c-120 km (Completion schedule : June' 2016)

#### ii) Tr. System of Mundra Ultra Mega Power Project (Part-B) (Part System) (~2000 Cr.)

- Navsari-Boisar 400 kV D/c : 204 km (Completion schedule : March' 2016)

#### iii) Transmission system for evacuation of Kakrapar Atomic Power Project unit 3 & 4 (2X700 MW) (~380 Cr.)

- Kakrapar NPP- Navsari 400kV D/c – 65 km
- Kakrapar NPP- Vapi 400kV D/c - 120 km (Completion schedule : Oct' 2016)

#### vi) Transmission system for strengthening for IPPs in Chhattisgarh & MP (~1600 Cr.)

- Extention at 400/220 kV Vadodara GIS ICT (2x500 MVA) (Completion schedule: July' 2016)

#### v) Transmission System Associated with Essar Power Gujarat Ltd. (~550 Cr.)

- EPGL TPS - Bachau 400kV D/c (Triple) line (Completion schedule : Dec., 2015)

**Note:** The following inter-regional transmission system under implementation by POWERGRID shall also facilitate transfer of power from Gujarat to other regions.

##### West – South

- a) Kolhapur – Narendra 765kV D/c (initially charged at 400kV) ( Completion schedule : Oct, 2015)

##### West – North

- a) Gwalior– Jaipur 765kV 2X S/c (Commissioned)

#### Planned ISTS Projects

##### • Planned GSS Transformation Capacity

<b>Total capacity</b>	: 9,000 MVA
<b>765kV</b>	: 6,000 MVA
<b>400kV</b>	: 3,000 MVA

Sl. No.	Sub-Station	765/400kV	400/220kV
1	Bhuj Pool	3,000	1,000
2	Banaskantha	3,000	1,000
3	Vataman	-	1,000
	<b>Sub-total</b>	<b>6,000</b>	<b>3,000</b>

- **765 kV and 400 kV transmission lines –**  
**Total approx. : 1700 ckt km.**  
**765kV : 1500 ckt km**  
**400kV : 200 ckt km**



- **Total Cost - Approx. Rs. 8000 Cr.**

#### **Scheme Details :**

#### **i) Evacuation of Renewable Energy generations located in WR and NR to Northern Region states.**

**Green Energy Corridor :Part C (2250 Cr.) & Green Energy Corridor : Part B (3750 Cr.)**

- Bhuj Pool-Banaskantha 765 kV D/c (July' 2018)
- Banaskantha -Chittorgarh 765 kV D/c (July' 2018)
- Banaskantha-Sankhari 400 kV D/c (July' 2018)
- Establishment 765/400/220kV (765/400 kV-2x1500 MVA & 400/220kV-2x500MVA)sub-station each at Bhuj Pool and Banaskantha. (July' 2018)
- Associated reactive compensation (Bus reactors & line reactors) (July' 2018)

#### **ii) Transmission system associated with Chhattisgarh UMPP (5x800 MW) (Part System) (~2000 Cr.)**

(System currently on hold : Shall be taken up depending on progress of Chhattisgarh UMPP)

- Indore- Vadodra 765kV 2nd S/c- 300 km
- Vadodra- Vataman 400kV D/c (Quad)

- Establishment of 2x500 MVA, 400/220kV substation at Vataman
- Augmentation of transformation capacity at 765/400kV Vadodra Substation by 1x1500 MVA

**Note: 1. other schemes being implemented by POWERGRID in Western Region shall indirectly benefit Gujarat.**

**2. The following inter-regional transmission system under implementation by POWERGRID shall also facilitate transfer of power from Gujarat to other regions.**

#### **West – South**

- Wardha- Nizamabad- Hyderabad 765kV D/c (May' 2018)
- $\pm 600$ kV, 4000MW HVDC Bipole from Raigarh (Kotra) in Western Region to Pugulur in Southern Region (2018-19/2019-20)

#### **West – North**

- Jabalpur- Orai 765kV D/c (April' 2018)

The details of year wise ongoing New/ augmentation on existing sub-stations are as follows :

**Table-6.2**

Project	Voltage Level	Unit	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
Inter-State Transmission Network	765/400 kV	No./MVA		-		2/6000
	400 /220 kV	No./MVA		1/1000		2/2000

#### **On-going Tariff Based Competitive Bidding (TBCB) Scheme:**

- **Presently no scheme is under implementation under this head.**

**Inter and Intra state Transmission plan for evacuation of power from existing and upcoming Renewable Energy sources. Balancing Infrastructure envisaged for integration of large scale renewable.**

The existing renewable energy generation of Gujarat is of the order of 4596 MW which shall increase up to 8206MW by FY 2018-19. The

existing renewable bulk size wind farm generations are being evacuated through 132kV & 220 kV network. The power evacuation from proposed bulk renewable generation is being planned to be evacuated by green energy corridor project.



### Renewable Energy Management centers proposed for Real time monitoring of Generation from RE sources:

Presently Renewable Energy Management center is not there but CTU will implement this under green energy corridor project.

### Adequacy to meet Power Transfer requirement of the state till 2019

The present ISTS system transformation capacity at 400/220 kV CTU level is 3965 MVA and after augmentation it shall be increased to 6965 MVA. At GETCO system existing capacity at 400/220 kV level is 11375 and it would be increased to 24210 MVA by FY 2018-19 after new addition & augmentation. Hence the combined transformation capacity at 400/220 kV level would be 31175 MVA by FY 2018-19.

In addition to above, the state's ISTS network is evacuating power at 220 kV and below level from state generating units. From state generating units approximately 6729 MW power was being evacuated in FY2014-15 and it is expected that approximately 6799 MW in FY 2015-16, 6859 MW in FY2016-17, 6956 MW in FY2017-18, 7057 MW in FY2018-19 would be

evacuated at 220 kV and below level by GETCO network.

The projected power demand of Gujarat by FY2018-19 would be 17665 MW (19628 MVA). Considering drawal of power from state generating units at 220 kV level and below, the balance power drawal at 400 kV level would be 7611MW (8457MVA) by FY 2015-16, 8560MW (9511MVA) by FY 2016-17, 9546MW (10607MVA) by FY 2017-18, 10608MW (11786MVA) by FY 2018-19. Considering 80% loading on transformers and overall diversity factor of 1.2, minimum transformation capacity required at 400 kV level would be 1.5 times the projected peak demand i.e. 12685 MVA (8457 x 1.5) by FY 2015-16, 14267 MVA (9511 x 1.5) by FY 2016-17, 15910 MVA (10607 x 1.5) by FY 2017-18, 17680 MVA (11786x 1.5) by FY 2018-19.

The year wise generation addition, total available capacity vis-a-vis transmission system available at 400 kV level for Gujarat is tabulated as under:

**Table-6.3**

Financial Year	Generation Within Gujarat (MW)		Inter state (ISGS) – Generation outside Gujarat (MW)		Total Peak Availability (in MW)	Peak Power Demand of Gujarat at 400 kV level (Peak power demand- power evacuated at 220 kV level & below) MW	Minimum Transformation capacity required at 400 kV level (MVA)*	Available Transformation System capacity existing/Planned at 400 kV level including PGCIL & GETCO(Inter & Intra state) 400/220 kV GSS MVA
	Addi- tion	Total	Addi- tion	Total				
FY 2015-16	2091	23039.8	213	3472	17148.39	14410-6799 =7611	12685	19415
FY 2016-17	1191	24230.8	400	3872	17800.66	15419-6859 =8560	14266.67	23360
FY 2017-18	1065	25295.8	220	4092	18068.82	16502-6956= 9546	15910	26175
FY 2018-19	1915	27210.8	451	4543	19144.58	17665-7057= 10608	17680	31175

\* Minimum transmission capacity at 400 kV level = Peak power demand at 400 kV level (in MW /0.9) x 1.5.

As such, the existing and planned ISTS System would be adequate to meet the projected peak demand of Gujarat of 17665 MW by FY 2018-19.

#### **Action Plan – CTU**

- Ongoing schemes (New Sub-stations & Transmission lines) shall be implemented as per schedule by PGCIL for ensuring robust and reliable transmission system.

#### **Intra state Transmission System:**

The existing Intra state transmission capacity at 400kV GSS level (400/220 kV) is 11375 MVA, at 220 kV GSS level (220/132 kV, 220/66 kV, 220/33 kV & 220/11 kV) is 24740 MVA, and at 132 kV GSS level (132/66 kV, 132/33 kV, 132/11 kV) is 7145 MVA.

The ongoing strengthening program of Intra-state transmission system is under implementation. After implementation of this plan the existing transformation capacity shall increase to 24210 MVA at 400 kV and 39990 MVA at 220 kV by FY2018-19 after new addition & augmentation.

#### **Intra State Transmission System (Existing):**

The transmission network as on March' 2015 that presently caters to the load demand across the State is as follows:

- 12 Nos. of 400 kV grid sub-stations with 11375 MVA transformation capacity along with 4052 ckt km of associated Transmission lines.
- 94 Nos. of 220 kV grid substations with 24740 MVA transformation capacity (220/132 kV - 5300 MVA, 220/66 kV 19020 MVA, 220/33 - 20 MVA, 220/11 kV – 400 MVA) along with 16987 ckt km associated 220 KV line.

- 54 Nos. of 132 kV grid substations with 7145 MVA transformation capacity (132/66 kV - 6230 MVA, 132/33 kV - 290 MVA, 132/11 – 625 MVA) along with 5073 ckt km associated 132 kV line.

**Note: List of existing 400kV, 220 kV & 132 kV Substations and transmission lines is enclosed as Annexure-III.**

#### **Details of ongoing / Planned Inter State Transmission system**

##### **New Sub-stations, Augmentation/ Transmission lines**

- 8 nos. 400/220 kV grid sub-stations at Charanka (630 MVA), Chharodi (1500 MVA), Sankhari (630 MVA), Kalavad (1000 MVA), Vav (1500 MVA), Shapar (1000 MVA), Fedra (1000 MVA), Bhachunda (1000 MVA).
- 18 No. of 220/66 kV grid sub-stations with 320 MVA transformation capacity and 2 No. of 220/66 kV grid sub-stations with 480 MVA transformation capacity.
- 5 No. of 220/132 kV grid sub-stations with 300 MVA transformation capacity at Wankaner, Sankhari, Gotri, Babara & Zaiod.
- Augmentation of existing 7 nos. of 400/220 KV grid sub-stations with total 4575 MVA transformation capacity addition.
- Augmentation of existing 45 nos. of 220/66 KV grid sub-stations with total 6080 MVA transformation capacity addition.
- Augmentation of existing 7 nos. of 220/132 KV grid sub-stations with total 950 MVA transformation capacity addition.

The year wise proposed physical plan of new sub-station/augmentation & Transmission lines are as follows:

**Table-6.4**

Project	Voltage Level	Unit	Existing as on March'15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
Intra-State Transmission Network	400/220kV	No./MVA	12/11375	4075	2945	2815	3000
	400KV	ckt. km.	4052	-	-	70	120
	220/132kV	No./MVA	11/5300	250	900	900	400
	220KV	ckt. km.	16987	-	120	80	325
	220/66kV	No./MVA	13/19020	3180	3260	3260	3100
	132/66kV	No./MVA	/6230	500	450	200	200
	132/11kV	No./MVA	/625	50	-	-	-

The details of ongoing/ planned Intra-state transmission system are enclosed as Annexure-IV.

The year wise peak power demand of state, vis-a-vis transmission system available at 220 kV level for Gujarat is tabulated as under:

**Adequacy to meet Power Transfer requirement of the state till 2019**

**Table- 6.5**

Financial Year	Peak power demand (MW)		Minimum Transformation capacity required at GSS (MVA)*	Transmission System existing/Planned at 220kV level (220/66kV & 220/132 kV ) (MVA)	
	Addition	Total		Addition	Total
FY 2014-15		14005	23342		24740
FY 2015-16	405	14410	24017	3430	28170
FY 2016-17	1009	15419	25698	4160	32330
FY 2017-18	1083	16502	27503	4160	36490
FY 2018-19	1163	17665	29442	3500	39990

**\* Minimum transformation capacity in MVA = Peak power demand at distribution level (in MW /0.9) x 1.5.**

As such, the existing and planned Intra-state transmission system would be adequate to meet the projected peak demand of Gujarat of 17665MW by FY 2018-19 at 220 kV level as well down below level.

**Year wise fund requirement for development of Planned Transmission system:**

Total estimated investment of about Rs. 10302 Crores from FY 2015-16 to FY 2018-19 has been

envisaged for intra state system. Details of year wise investment plan for transmission infrastructure for FY 2015-16 to FY 2018-19 are indicated in Table- 6.6 below.

**Year wise details of Physical targets and proposed investments are detailed in Annexure-V.**

**Table-6.6****Intra State Transmission system investment**

Sl. No.	Financial Year	Investment Rs (Crores)
1	FY 2015-16	2385
2	FY 2016-17	2532
3	FY 2017-18	2712
4	FY 2018-19	2674
	<b>Total Investment in Intra state</b>	<b>10302</b>

**Action Plan – GETCO (STU)**

- The ongoing scheme needs to be implemented as per schedule for ensuring 24x7 power supply to all in the State.
- Financial tie up for approved infrastructure shall be timely arranged/tied up with funding agencies and State Govt. shall be requested to provide equity support, if required.

**State Government intervention**

- The state government shall provide all necessary help to STU for installation of new GSS with associated transmission line with respect to land acquisition & Right of way constraints in the state.

**Government of India intervention**

- **Mitigation of Right of way constraints and availability of land:** GOI, MoP has issued guidelines on 15.10.2015 for providing compensation for acquiring ROW clearance for transmission lines which shall be considered for the same.

**Best practices adopted/ other initiatives taken by Power Transmission Company (GETCO)**

- ➔ *Integration of upcoming generation capacity within State to ensure timely evacuation*
- ➔ *Planning of sub-transmission network for upcoming Central Power through ISTS*
- ➔ *Technical requirements:*

- ❑ *Reactive Power Management – Reduce Transmission Losses and quality power supply.*

- ❑ *Optimization of distribution feeder length and fix substation location to overcome load diversity -Agriculture and urban area for proper load distribution.*

- ❑ *Reliability – Ring Main System to curb radial feeders*

- ❑ *n-1 criteria for transformer for system reliability.*

- ➔ *Identify upcoming load potential pockets- DMIC, DFCC, GIDC, Ports, Railways & Metro Projects, Automobile Hub, etc.*

- ➔ *Replacement of aged, chemically & pollution affected, obsolete technology and unsafe equipments with latest state of art technological equipments.*

- ➔ *Integration of Renewable energy at remote locations- Peak & Off Peak*

- ➔ *Close coordination with DISCOMs for their requirement*

- ➔ *Failure investigation team formed for root cause analysis and Corrective & Preventive action*

- ➔ *Web based Transmission Asset Management System (TAMS) for monitoring of entire life cycle of equipment and R&M planning*

- ➔ *Third party diagnostic monitoring of 66 kV class transformer and CTs to curb failure of CTs - replacement of ITC make CTs of batch 1992 – 96.*

- ➔ *Addition in Equipment Specification*

- ➔ *Online Diagnostic like DGA Equipment and Tan delta measurement of bushing*

- ➔ *Maintenance free condition control breather provided*

- ➔ *Lightning impulse and temperature rise test as special test on 1 out of lot for major EHV equipments.*

- ➔ *600 multiple chopped lightning impulse withstand test - As a type test*

- ➔ *Manufacturing stage wise inspection and proto inspection incorporated*



→ Tan delta is limited to 0.3% in Current Transformer

→ Leakage current is limited to 0.5 mA – Acceptance test

→ Moisture content is limited to 0.5% of total mass of insulating oil.

#### Other initiatives undertaken:

**Table-6.6**

Technologies adopted	Purpose
Substation Automation System	Human interface at limited points - Manpower optimization
Optical CT and merging units	A step towards Digital Substation for better reliability and availability
OPGW – Replacement of Conventional PLCC to FOTE	To away with obsolete technology Bigger band width for data transmission
GIS and Hybrid switchgear	Maintenance free and economical on life cycle cost basis
Geographical Information System (GIS)	Asset mapping for network planning
Reactive power compensation - 4903 MVAR installed	Quality power supply
PMU and WAMS – Sponsored R&D project with IIT, Mumbai	Pre-warning analytics , Oscillation mode identification , Hybrid State Estimator, Dynamic Security Assessment
New Energy Accounting Software for Deviation Settlement Mechanism (DSM)	Automated Energy Accounting at SLDC
High performance conductor in place of traditional ACSR conductor	50% more capacity with lesser transmission loss

## CHAPTER – 7 : DISTRIBUTION PLAN

Gujarat is the most modern state in the western region of India known locally as Jewel of the Western Part. The power demand of the state is expected to increase from 14005 MW in FY 2014-15 to 17665 MW by FY 2018-19 due to natural increase in demand from the present consumer base, addition of new households, rapid growth in industry & more commercial activities in and around the urban areas. The objectives of this Roadmap for supplying 24X7 Power For All (PFA) to all the consumers can be achieved through capacity augmentations, building redundancies in the upstream networks, adopting appropriate technologies and efficient systems for a reliable and quality power for the end consumers. The state has achieved 100% electrification level in household sector.

Power distribution in the State of Gujarat is served by following eleven distribution licensees:

- **DGVCL:** DAKSHIN GUJARAT VIJ COMPANY LIMITED which distributes electricity in seven districts of south Gujarat.
- **MGVCL:** MADHYA GUJARAT VIJ COMPANY LIMITED which distributes electricity in the central areas of Gujarat.
- **PGVCL:** PASCHIM GUJARAT VIJ COMPANY LIMITED which is the electricity distributor in Western region of Gujarat. PGVCL is the largest amongst all the four State run distribution companies. The area of operation of PGVCL includes Saurashtra and Kachchh regions.
- **UGVCL:** UTTAR GUJARAT VIJ COMPANY LIMITED which operates through the network spread over 50000 Sq. Kms covering six full districts in northern region of Gujarat and three part districts in western and central areas.
- **Torrent Power (AEC) Limited:** It is the electricity distributor in the city of Ahmadabad in Gujarat.
- **Torrent Power (SEC) Limited:** It is the electricity distributor in the city of Surat in Gujarat.

- Kandla Port Trust
- Torrent Energy Ltd., Dahej
- Synfra Ltd., Waghodia, Vadodara
- Mundra Port SEZ Ltd. (MPSEZ), Mundra, Kutch
- Jubilant Ltd., Vagra, Bharuch

These companies are serving about 1,55,14,151 numbers (1,31,86,185 GUVNL + 2327966 Torrent Power) of electricity consumers including 1184799 numbers (11,84,303 GUVNL + 496 Torrent Power) under agriculture category during FY 2014-15.

All categories of consumers, except agriculture consumers, in the state are being given supply with 24 hrs electricity. The agriculture consumers are getting 8 hours of three phase electricity, whereas, for rest of the hrs, they are getting single phase power. There is no planning for further increase in number of hours of providing electricity to agriculture consumers in the state.

The DISCOM wise **Reliability index parameter** for the state of Gujarat for last 3 years is furnished below in the Table- 7.1 :

**Table- 7.1**

<b>2014-15</b>			
<b>DISCOM</b>	<b>SAIFI (No)</b>	<b>SAIDI (minutes)</b>	<b>% DT failure rate</b>
DGVCL	8.35	0.45	4.46
MGVCL	4.75	0.20	4.06
PGVCL	8.26	0.94	13.15
UGVCL	2.75	0.17	5.6
Torrent Power	Not available		0.89

<b>2013-14</b>			
<b>DISCOM</b>	<b>SAIFI (No)</b>	<b>SAIDI (minutes)</b>	<b>% DT failure rate</b>
DGVCL	10.10	0.57	7.9
MGVCL	5.18	0.23	4.51
PGVCL	8.14	0.43	13.97
UGVCL	2.97	0.19	6.76
Torrent Power	Not available		



## 2012-13

DISCOM	SAIFI (No)	SAIDI (minutes)	% DT failure rate
DGVCL	8.99	0.51	9.38
MGVCL	5.56	0.30	4.7
PGVCL	2.34	0.25	11.49
UGVCL	2.88	0.16	6.85
Torrent Power	Not available		

**Metering status:** The Discom wise status of Metering efficiency for last 3 years is shown in table 7.2 and the planning for completion of distribution transformer metering is shown in **Annexure-VI**.

**Table 7.2**2014-15

<b>DISCOM</b>	<b>Consumer Metering (%)</b>	<b>Feeder Metering (%)</b>	<b>Transformer Metering (%)</b>
DGVCL	98.31	100	68
MGVCL	99.09	100	98
PGVCL	94.31	100	69
UGVCL	94.95	100	74

## 2013-14

DISCOM	Consumer Metering (%)	Feeder Metering (%)	Transformer Metering (%)
DGVCL	98.24	100	61.37
MGVCL	99.06	100	88.64
PGVCL	94.10	100	28.02
UGVCL	94.77	100	74.81

## 2012-13

<b>DISCOM</b>	<b>Consumer Metering (%)</b>	<b>Feeder Metering (%)</b>	<b>Transformer Metering (%)</b>
DGVCL	98.16	100	43.40
MGVCL	99.04	100	50.11
PGVCL	93.65	100	25.29
UGVCL	94.53	100	78.74

### HT: LT Ratio

Various initiatives by distribution companies like HVDS, Bifurcation of 11 kV feeders etc have been taken to increase the **HT to LT** ratio. The Table-7.3 furnished below reflects the outcomes of these measures.

**Table- 7.3**

Description	FY 2005-06	FY 2006-07	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15
HT Lines (22/11kV (CKM)	196451	202071	213441	223702	220885	244513	258954	284911	308749	326083
LT Lines (CKM)	228737	239357	252764	264343	278562	286191	292354	297099	302442	307717
Ratio of HT/LT	0.86	0.84	0.84	0.85	0.79	0.85	0.89	0.96	1.02	1.06



## EXISTING DISTRIBUTION SYSTEM

The distribution network comprises of 220/11kV, 132/11kV, 66/11kV & 33/11kV PSS, 66 kV & 33 kV Sub transmission lines, 11 kV lines and LT distribution systems which deliver electricity to the majority of the end consumers. An abstract of the distributed network of all distribution licensees in the state in terms of

installed transformation capacity and line lengths of feeders at sub-transmission and distribution voltage levels is provided below in Table No-7.4. This shows operational statistics cum overall view of the strength of Electrical distribution network under four numbers of discoms in the state of Gujarat as on 31st March 2015.

**Table-7.4**

Sl. No.	Particulars	Unit	Status of FY 2014-15
1	Total number of 66KV & 33kV Lines/feeders	No.	2237
2	Total length of 66KV & 33kV lines	Ckt km	26361
3	Total number of 220/11kV, 132/11kV, 66/11kV, 33/11kV PSS	No.	1409
5	Total capacity of 220/11kV, 132/11kV, 66/11kV, 33/11kV PSS	MVA	45405
6	Total number of 11 KV & 22KV Lines	No.	12108
7	Total length of 11KV & 22 KV lines	Ckt km	326083
5	Total Number of Distribution transformers	No.	881376
8	Total capacity of Distribution transformers	MVA	36512
9	Total length of LT Lines	Ckt km	307717

*Source: State Power Utilities*

The operational statistics cum overall view of the strength of Torrent power Electrical distribution network is given in Table No- 7.5 as on 31st March 2015.

**Table-7.5**

Sl. No.	PARTICULARS	UNIT	STATUS OF FY 2014-15
1	220 kV lines	Ckt km	129.13 (D/C)
2	132 kV lines	Ckt km	(155.84(O/H)+23.43(U/G))D/C
3	66 kV lines	Ckt km	(89.34(O/H)+57.26(U/G))D/C
4	33 kV lines	Ckt km	(298.41 U/G)D/C
5	11 kV lines	Ckt km.	(354.64 O/H+5627.52U/G)S/C
6	Total Number of Power transformers	No.	214
7	Total capacity of Power transformers	MVA	7907.5
8	Total Number of Distribution transformers (11/0.415) kV	No.	9399
9	Total capacity of Distribution transformers	MVA	2621.64
10	Total length of LT Lines	Ckt km	28424.35

*Source: Torrent Power*

## Category Wise Consumers

The number of consumers (category wise) as on 31.03.2015 for Gujarat state discoms (4 nos.) is shown below in Table- 7.6 :

**Table- 7.6**

Sl. No.	Category-Wise Consumers	Numbers	Consumption (MU)	% of Consumption
1	Domestic	10267164	9529	16 %
2	Commercial	127991	221	3 %
3	Industrial(LT)	1497713	31413	50%
4	Industrial(HT)	12032		
5	Public Lighting	30388	247	0%
6	Railways	13	742	1%
7	Agriculture	1184303	16443	27%
8	Public Water Works & Sewage Pumping	66581	1526	3%
9	Others			
	<b>Total</b>	<b>13186185</b>	<b>60236</b>	<b>100%</b>

Source: State Power Utilities

The number of consumers (category wise) for Torrent power as on 31.03.2015 is shown below in Table- 7.7

**Table-7.7**

Sl. No.	Category-Wise Consumers	Numbers in FY 2014-15
1	Domestic (RGP)	1,754,239
2	Commercial (Non RGP)	521,672
3	Industrial (LTP/LTMD)	43,525
4	Industrial (HT)	1,388
5	Temporary	30
6	Agriculture	496
7	General	6616
	<b>Total</b>	<b>2,327,966</b>

Source: Torrent Power

## DISTRIBUTION SCHEMES UNDER IMPLEMENTATION

### RAPDRP

Restructured Accelerated Power Development and Reforms Program (R-APDRP) was launched by Ministry of Power, Govt. of India in the XI<sup>th</sup> Five year Plan as a Central Sector Scheme to cover urban areas - towns and cities with population of more than 30,000 as per Census of 2001. Power Finance Corporation Limited (PFC) has been designated as the Nodal Agency for this program. . The continuation of RAPDRP for 12th & 13th plan has been subsumed in the newly launched IPDS scheme in Dec 2014. The focus of R-APDRP Programme was on Actual Demonstrable Performance in terms of

sustained loss reduction in distribution network. Establishment of reliable and automated systems for sustained collection of accurate base line data, and adoption of Information Technology in the areas of energy accounting will be before taking up the regular distribution strengthening projects.

The program was divided into two (2) parts, Part-A and Part-B. Part-A includes projects for establishment of baseline data and IT applications like Meter Data Acquisition, Meter Reading, Billing, Collections, GIS, MIS, Energy Audit, New Connection, Disconnection, Customer Care Services, Web self-service, etc. and verification of baseline AT&C losses as well as implementation of SCADA/DMS



(Supervisory Control And Data Acquisition/ Distribution Management System).

Part-B of RAPDRP includes regular distribution strengthening projects i.e. renovation, modernization and strengthening of 11 kV lines and Substations, Re-conductoring of lines at 11kV level and below, Load Bifurcation, Feeder Separation, Load Balancing, HVDS (11kV), Aerial Bunched Conductor in dense areas, replacement of electromagnetic energy meters with tamper proof electronic meters, installation of capacitor banks and mobile service Centre, etc.

100% grant is provided under R-APDRP Part-A projects while a maximum of 50% grant is being provided for Part B projects after fulfilling certain conditions.

#### **Status of R-APDRP**

Accordingly under this scheme, 84 towns having population of more than 30,000 have been covered. In all the towns, major activities like GIS consumer survey, GIS asset mapping, meter & modem installation have been completed 100%. All the 84 towns have been declared "Go-Live". 75 % data availability in MDAS has also been achieved. Moreover, 6 towns (Surat, Bhavnagar, Jamnagar, Rajkot, Ahmadabad, Vadodara) population of more than 4 Lakh and energy input of more than 350 MUs per Year have been identified for installation of SCADA/DMS system.

The circle wise details of works completed and associated amounts in each discoms for the complete R-APDRP scheme is furnished in Annexure-VII & VIIIA.

#### **RGGVY**

Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) was launched by Government of India during 10<sup>th</sup> plan period in 2005 for providing access to electricity for all rural households in the country. The scheme has been subsumed in newly launched Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY) in Dec 2014.

Under this scheme, 90% grant was provided for electrification of un-electrified Households, intensification of partially electrified households

and free electricity connections to BPL households in the country.

#### **STATUS OF RGGVY**

Government of India launched RGGVY scheme during 10<sup>th</sup> plan period for providing access to electricity to all rural households in the country. The scheme was continued during 11<sup>th</sup> Plan and the continuation of 12<sup>th</sup> & 13<sup>th</sup> plan RGGVY has been subsumed in the newly launched DDUGJY scheme of GOI in Dec 2014.

Gujarat Govt. has submitted Detail Project Reports of all the 25 nos. of Districts in 2005. In all 25 projects, Work has been completed & closure proposals have already been submitted to REC.

District wise progress of RGGVY is furnished in **Annexure-IX** & financial status of closure of RGGVY Projects is given in **Annexure-VIII**.

#### **ADDITIONAL MEASURES**

In addition to R-APDRP and RGGVY schemes, some additional measures as enlisted below have also been taken by GoG & central Government.

#### **National Electricity Fund (NEF):**

Central government has launched a NEF scheme for improving the distribution infrastructure of MGCL discom fed area and sanctioned an amount of Rs. 100 crores for the same.

**Kutirjyoti-** In this scheme, Electrification of Households of Scheduled Tribe Beneficiaries in Tribal Area is done.

#### **State Government schemes:**

Government of Gujarat has launched several schemes such-

**TASP Wells & Petapara-** The scheme covers Agriculture wells and **Petapara Electrification** in Tribal Areas. Under this scheme total investment planned is around Rs 1482.60 crores for 4 years from FY 2015-16 to FY 2018-19.

**SCSP for House Holds Connections-** The scheme covers electrification of households of scheduled caste beneficiaries. Under this scheme GOG planned to invest Rs. 20 crores.



**Zupadpatti** - The scheme covers electrification of house holds of poor families. Under this scheme GOG planned to invest Rs 80 crores.

**Sagarkhedu Sarvangivikas Yojana (Grant)** - The scheme covers strengthening of distribution line & transmission line and the scheme had been merged with erstwhile RGGVY which has now also subsumed into DDUGJY.

**Sagarkhedu Sarvangivikas Yojana (Share Capital)** - The scheme covers construction of new 66/11 kV sub station and electrification of AG wells in area of PGVCL.

**Energy Conservation**- The scheme covers installation of small capacity transformers and activities related to energy conservation.

**Kisan Hit Urja Shakti Yojana (KHUSHY)**- The scheme covers installation of small capacity transformers in the area of PGVCL. Under this scheme total investment planned is around Rs 600 crores for 4 years from FY 2015-16 to FY 2018-19.

**Agriculture Wells (Non Tribal Areas)**-The scheme covers electrification of agriculture wells .

**TASP Transmission Line &Sub Station** – The scheme covers installation of new sub stations and lines in tribal area. Under this scheme GOG planned to invest Rs 640 crores.

#### **Smart Village Distributed Renewable Energy Generation with Smart Grid Concept Scheme-**

The scheme covers smart village distributed renewable energy generation with smart grid concept scheme in PGVCL area.

**Solar Ag Pump Set (Achievement Up to July-2015)**– The scheme covers installing solar pump sets. Under this scheme GOG planned to invest Rs 240 crores.

**Share Capital Contribution to GUVNL for Shifting /replacement of poles and Distribution lines in the area of Municipal Corporations and Nagarpalikas.** - The scheme covers shifting /replacement of poles and distribution lines in the area of municipal corporations and Nagarpalikas. Under this scheme GOG planned to invest Rs 400 crores. Scheme wise fund requirement from FY 2015-16 to FY 2018-19 for the above GOG projects has been given in **Annexure –X**.

#### **System strengthening work by Discoms:**

This segment is not included in State / Central Govt. Schemes. It is funded from DISCOM's own fund. This segment should be covered as fund requirement under PFA. The Discom wise fund requirement for system strengthening work is given in Table-7.8. The detailed requirement is given in Annexure-XIA.

**Table-7.8**

(Rs. in Cr.)

DISCOMS	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total
DGVCL	58.70	53.50	60.45	83.00	255.64
MGVCL	29.79	22.97	32.18	57.00	141.95
PGVCL	597.87	246.74	277.19	388.00	1509.80
UGVCL	137.28	128.48	132.98	119.00	517.74
GUVNL (TOTAL)	823.65	451.76	502.80	647.00	2425.21

## IT INITIATIVE TAKEN BY STATE OF GUJARAT

The IT initiative taken by each discom is furnished below :

- DGVCL**
- Started GPRS based LT Billing
  - Android based mobile application and bill payment
  - Web based Urja Suraksha Setu for consumer and employee awareness for Electrical Safety.
- MGVCL**
- Implemented RAPDRP IT applications & ERP system
  - Latest technology adopted in Distribution network
- PGVCL**
- PGVCL has started online application process for recruitment.
  - SMS to consumers for planned shutdown, bill detail, payment made, log/closure of complaints etc.
- Consumer Portal to facilitate consumers for online payment, view/download bills/payments , apply for new connection/shifting/load change, Complaint registration etc.
- Payment facility through ECS, consumer portal, ATP, ATM, e-Gram Centralized Customer Care center with toll free no. to facilitate consumers for log their complaints, check the status of complaint, last bill/payment details etc.
- UGVCL**
- Online job application portal
  - Mobile/photo billing
  - Web based AT & C loss monitoring system
  - Consumer Monitoring System

## PLAN FOR PROVIDING AGRICULTURE CONNECTIONS

Registration for new and providing agriculture connections is a continuous process. To clear the backlog, every year maximum agriculture wells are being electrified, but flow of applications for new connections also increased considerably. Moreover, ban imposed on providing AG

Connection in Dark Zone areas was lifted from March-2012. Hence, huge Ag applications were registered under Dark zone areas in the FY 2012-13.

Details of Applications received and Agriculture connections released from FY 2010-11 to FY 2015-16 (up to July-15) are as under.

**Table-7.9**

Financial Year	Applications for New Agriculture connection received	Nos. of Agricultural Wells electrified
FY 2010-11	85769	36652
FY 2011-12	58110	68941
FY 2012-13	209196	97459
FY 2013-14	74804	95312
FY 2014-15	84938	100250
FY 2015-16 (Up to July-15)	26941	38742
<b>Total</b>	<b>539758</b>	<b>437356</b>



### Measures already been adopted by GoG to reduce AT&C losses

The Distribution loss which is a combination of Technical and Commercial losses has been brought down to the present levels through a number of rectification activities as enumerated below.

#### Reduction of Technical losses:-

- Bifurcation of lengthy/overloaded feeders either from the Existing S/S or by erecting new feeders from the newly commissioned S/S in co-ordination with the State Transmission Utility (GETCO).
- Replacement of Conventional CRGO transformers by Amorphous Core transformers to achieve a reduction in the Core losses by 40 to 45 %. (No load losses of transformer). In fact, in the last three financial years a total of 18221 nos. either new Amorphous transformer provided or CRGO transformers were replaced by Amorphous Core transformers.
- Adoption of HVDS system to minimize the LT line losses, if not to eliminate which not only improves the HT/LT ratio in addition to curbing the power theft through hooking by unscrupulous consumers. Total 1157 nos. of new small capacity transformers were installed to promote HVDS system.
- Action taken for knowing correct Distribution loss
  - Consumers are correctly feeder coded.
  - All the consumers of one feeder brought in one billing cycle.
  - Feeder wise billing started.
- Line Capacitors:  
At present it is decided to carry out the work of providing Line capacitors to improve power factor.
- Underground Cable:  
Since underground cable network has discrete advantages of reduced interruptions, increased system reliability, reduction in accidents, increased customer satisfaction and reduction in technical loss.

#### Reduction of Commercial losses:-

- Replacement of old/sluggish meters by new quality/static meters along with providing New Metal Meter Boxes (MMB), and sealing of the installations to make them foolproof.
- Replacement of Bare LT conductors with LT Aerial Bunched Cables (ABC) in addition to the practice of erecting LT lines in theft prone areas by using A B Cables only.
- Vigorous installation checking programs conducted by the Vigilance wing of the company as well as by the (O&M) squads.
- Adoption of the facility of Automatic Meter Reading in case of HT/EHT consumers to avoid the manual intervention in addition to cross verification of the meter readings taken by meter readers in case of LT consumers, analysis of consumption category wise, verification of the zero/Low consumption cases as well as the Non billing cases.
- RAPDRP scheme covering part A and Part B was introduced to bring down the losses Increase in Collection Efficiency.

As a part of increasing the consumer's satisfaction in addition to the increased collection efficiency, DGVCL has taken a number of steps to facilitate the consumers in payment of their energy bills.

- Full day collection centers in all Sub Divisions through e-Gram and post offices at the remote and scattered areas.
- DGVCL has installed 42 nos. of ATP (All Time Payment) machines for any time payment of energy bills. DGVCL has planned of 25 nos. of additional ATP machines for better service.
- Payment of energy bills are accepted at 67 locations by cooperative societies, and cooperative banks. Also at post offices and at Gram Panchayat offices payment is accepted.
- Facility of e-Payment is available 24 x 7 from June-2012 onwards.



## IMPROVING CONSUMER CONVENIENCE & REVAMPING MAINTENANCE PHILOSOPHY

Detail measures for improving Consumer Convenience & Revamping Maintenance Philosophy adopted by the various discom wise given below :

<b>DGVCL</b>	<ul style="list-style-type: none"> <li>• 24X7 Customer Care Centre</li> <li>• Providing ATP machine for cash collection</li> <li>• SMS facility to Customer</li> </ul>
<b>MGVCL</b>	<ul style="list-style-type: none"> <li>• Centralized customer care centre with Outage Management system developed for improvement of reliability</li> <li>• Online bill payment, new connection etc facility</li> <li>• SMS facility</li> </ul>
<b>PGVCL</b>	<ul style="list-style-type: none"> <li>• Centralized customer care centre with Outage Management system developed for improvement of reliability</li> <li>• Online bill payment</li> <li>• SMS facility</li> <li>• ATP machine for cash collection</li> </ul>
<b>UGVCL</b>	<ul style="list-style-type: none"> <li>• Customer Care Centre</li> <li>• U/G of Bol GIDC</li> <li>• U/G of Heritage Area</li> <li>• U/G of Japanese Industrial Area</li> <li>• Ahmadabad periphery area SCADA</li> <li>• U/G of Pramukh Feeder and Kudasan Area</li> <li>• Online bill payment</li> <li>• SMS to R-APDRP/Non-RAPDRP consumers for billing, payment and planned shut down</li> <li>• E-Gram bill collection system</li> </ul>

### Best Practices in Distribution Companies

- **Jyoti Gram Yojana** :-- 24X7 continuous quality power supply.
- **Increased Metering and billed energy**:-- No unmetered connection and innovative methods for billing & bill collection.
- **Curbing power theft**:-- Strict penalty, vigorous checking drives.
- **System renovation & Infrastructure development**:-- HVDS, feeder bifurcation, Loss reduction activities.
- **Use of Information Technology (ERP)**:-- Better accounting for utilities & speedy services & satisfaction to the consumers.
- DIG (S) & CVO is the head of Vigilance & Security and Enforcement in GUVNL.
- DISCOM wise Police Stations in all the Four DISCOMs of Gujarat State with One more

additional Police Station in Paschim Gujarat Vig Co. Ltd. as it has bigger area. i.e. Five Police Stations. There are total 73 Checking squads in all DISCOMs of Gujarat. Team leader of each checking is Junior Engineer or Deputy Engineer with necessary meter testing staff & vehicle. All 73 Checking Squads are under DIG(S) & CVO, Vigilance Department, GUVNL. A mass checking drive is being arranged in every DISCOM with the help of all 73 checking squads & DISCOMs checking teams during every week for 4-5 days throughout the year under the direct supervision of DIG(S) & CVO & Addl. Chief Engineer, Vigilance.

### **PERFORMANCE MONITORING MECHANISM:**

The following performance monitoring mechanism (as given in table 7.11) is under implementation in the state of Gujarat.



## A. Various Meetings proposed at different level

**Table-7.11**

Sl. No.	Name of Meetings	Participants	Place	Frequency
1	HOD meeting	Officers of the level of EE and above all departments and selected DEs	Corporate office	Fortnightly
2	SE's conference	SE-Circle + 11 EEs +22 DE (in rotation/ specific related to poor performance)	Corporate Office	Every month
3	DE(Tech)s meeting	All Circles' and Zones DE	Corporate office	Every month
4	DE(RE)'s meeting	All Circles' and Zones DE	Corporate office	Every month
5	EEs + SDO meeting	all EEs of Divisions and all SDOs of sub-division by SE in presence of Concerned monitoring officers(CE/ACE)	At Circle level	Every month
6	AO(IA&I)	All AO (IA&I)	Corporate	Every month
7	AO meeting	All Circle	Corporate	Quarterly
8	AS meeting	All circle	Corporate	Quarterly
9	Line staff meeting	All line staff including village EA	Sub division	Every month
10	Meter Reader's meeting	All line staff including village EA	Sub division	Every month

## B. Field visits & Inspections

- All SDOs, EEs, SEs, are taking field visits regularly in every week.
- All ACEs, CEs are taking field visits regularly in every month.
- All AO(Rev) &SA(Rev) are taking visit of 4 sub-divisions per month
- INSPECTION:- All Sub Divisions, Divisions are being inspected at regular interval as per annual schedule by EEs & SEs

Follow-up of field visits taken by DE&EE is done by the SE and Filed visit of SE by the Corporate for the observation points

## FUND REQUIREMENT

Fund requirement for govt. schemes (approved & un-approved) is given below in Table- 7.12, 7.13 & 7.14.

**Table-7.12**

(In Rs Crores)

Schemes	Fund Sanctioned	Fund released Up to 31 <sup>st</sup> March 2014-15	Fund Utilised Up to 31 <sup>st</sup> March 2014-15	Requirement (Crores)					Remarks
				FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total	
RAPDRP- Part- A (For towns with population more than 30,000)	230.72	154.52	149.53	76.20	0	0	0	76.20	0
RAPDRP Part A – SCADA projects	138.51	42.52	9.32	38.39	57.59	0	0	95.99	0
RAPDRP- Part-B	1123.90	546.82	649.26	230.83	346.25	0	0	577.08	0
<b>Total sanctioned GOI schemes</b>	<b>1493.13</b>	<b>743.86</b>	<b>808.11</b>	<b>345.43</b>	<b>403.84</b>	<b>0.00</b>	<b>0</b>	<b>749.27</b>	<b>0</b>

**Table-7.13****Fund Requirement (approved) for ongoing & proposed schemes****(In Rs. Crores)**

	<b>FY 2015-16</b>	<b>FY 2016-17</b>	<b>FY 2017-18</b>	<b>FY 2018-19</b>	<b>Total</b>
<b>DGVCL</b>					
DDUGJY	18.60	93.02	74.42	0.00	186.047
IPDS	18.70	93.52	74.82	0.00	187.04
R-APDRP	38.26	44.73	0.00	0.00	82.99
System Strengthening activities of the distribution network	58.70	53.50	60.45	83.00	255.64
Normal Development and System improvement work	307.84	307.84	307.84	307.84	1231.36
<b>Total</b>	<b>442.11</b>	<b>592.61</b>	<b>517.52</b>	<b>390.84</b>	<b>1943.08</b>
<b>MGVCL</b>					
DDUGJY	25.96	129.81	103.84	0.00	259.61
IPDS	37.29	186.46	149.17	0.00	372.92
R-APDRP	69.73	81.53	0.00	0.00	151.26
System Strengthening activities of the distribution network	29.79	22.97	32.18	57.00	141.95
Normal Development and System improvement work	343.90	343.90	343.90	343.90	1375.60
<b>Total</b>	<b>506.68</b>	<b>764.67</b>	<b>629.09</b>	<b>400.90</b>	<b>2301.34</b>
<b>PGVCL</b>					
DDUGJY	35.68	178.42	142.74	0.00	356.84
IPDS	45.97	229.85	183.88	0.00	459.70
R-APDRP	180.72	211.30	0.00	0.00	392.02
System Strengthening activities of the distribution network	597.87	246.74	277.19	388.00	1509.80
Normal Development and System improvement work	1319.55	1319.55	1319.55	1319.55	5278.20
<b>Total</b>	<b>2179.80</b>	<b>2185.86</b>	<b>1923.36</b>	<b>1707.55</b>	<b>7996.56</b>
<b>UGVCL</b>					
DDUGJY	12.22	61.08	48.86	0.00	122.16
IPDS	10.22	51.11	40.89	0.00	102.22
R-APDRP	56.70	66.30	0.00	0.00	123.00
System Strengthening activities of the distribution network	137.28	128.48	132.98	119.00	517.74
Normal Development and System improvement work	606.25	606.25	606.25	606.25	2425.00
<b>Total</b>	<b>822.67</b>	<b>913.21</b>	<b>828.98</b>	<b>725.25</b>	<b>3290.12</b>
<b>GUVNL</b>					
DDUGJY	92.47	462.33	369.86	0.00	924.66
IPDS	112.19	560.94	448.75	0.00	1121.88
R-APDRP	345.41	403.86	0.00	0.00	749.27
System Strengthening activities of the distribution network	823.65	451.69	502.80	647.00	2425.14
Normal Development and System improvement work	2577.54	2577.54	2577.54	2577.54	10310.16
<b>Total</b>	<b>3951.26</b>	<b>4456.35</b>	<b>3898.95</b>	<b>3224.54</b>	<b>15531.10</b>

**Table-7.14(a)**

**Fund Requirement for system strengthening & Approved work of proposed GOI schemes  
(DDUGJY & IPDS)**

**(In Rs. Crores)**

	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total
DDUGJY	92.46	462.33	369.86	0.00	924.66
IPDS	112.18	560.94	448.76	0.00	1121.88
R-APDRP	749.27	0.00	0.00	0.00	749.27
<b>Total</b>	<b>953.91</b>	<b>1023.27</b>	<b>818.62</b>	<b>0.00</b>	<b>2795.81</b>

**Table-7.14(b)**

**Fund Requirement for system strengthening & approved work of proposed  
GoG schemes**

	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total
Government of Gujarat Schemes.	2577.54	2577.54	2577.54	2577.54	10310.16

**Table-7.14(c)**

**Balance Fund Requirement for system strengthening & unapproved work of proposed  
GOI/ GoG schemes**

**(In Rs. Crores)**

	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total
System Strengthening activities of the distribution network	823.65	451.69	502.80	647.00	2425.14

**Table-7.14(d)**

**Total Fund Requirement for the above (Table 7.14(a+b+c))**

**(In Rs. Crores)**

	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total
<b>Total</b>	<b>3951.26</b>	<b>4456.35</b>	<b>3898.95</b>	<b>3224.54</b>	<b>15531.10</b>

## PROPOSED SCHEMES FOR RURAL & URBAN AREAS

To provide 24x7 quality & reliable power to the consumers in the state, Discoms have formulated a plan for augmentation of distribution system in rural areas and urban areas. The monitoring committee had sanctioned Rs. 924.66 Crores for DDUGJY against the requirement of Rs. 2000 Crores. Similarly, the monitoring committee has sanctioned Rs. 1121.88 Crores for IPDS against the requirement of Rs. 1871 Crores. The works of feeder separation, establishment of New PSS, (Conventional & GIS), augmentation of existing PSS, new 66 & 11 kV lines, LT lines, capacitor bank, Sansadadarsh Gram Yojana & metering are proposed to be implemented in the state by FY 2018-19.

## THE FUND REQUIREMENT FOR THE URBAN & RURAL AREAS

**Table-7.15**

(In Rs. Cr)		
Sl. No.	Name of Scheme/Project Requirement	Fund Requirement
1	Urban areas	1871
2	Rural areas	2000

## DEEN DAYAL UPADHYAYA GRAM JYOTI YOJANA (DDUGJY)

Government of India launched Deen Dayal Upadhyay Gram Jyoti Yojana (DDUGJY) on 3<sup>rd</sup> December, 2014 for;

- Separation of agriculture and non-agriculture feeders facilitating judicious re-storing of supply to agricultural & non-agriculture consumers in the rural areas.
- Strengthening and augmentation of sub-transmission & distribution infrastructure in rural areas, including metering of distribution transformers/ feeders/ consumers.

- Rural electrification for completion of the targets laid down under RGGVY for 12<sup>th</sup> and 13<sup>th</sup> Plans by carrying forward the approved outlay for RGGVY to DDUGJY.

The components at (i) and (ii) of the above schemes will have an estimated outlay of Rs. 43033 Crores including a budgetary support of Rs. 33453 Crores from Government of India during the entire implementation period.

The scheme of RGGVY as approved by CCEA for continuation in 12<sup>th</sup> and 13<sup>th</sup> Plans has been subsumed in this scheme as a separate rural electrification component for which CCEA has already approved the scheme cost of Rs. 39275 Crores including a budgetary support of Rs. 35447 Crores. This outlay will be carried forward to the new scheme of DDUGJY in addition to the outlay of Rs.43033 Crores. REC is the nodal agency for the operationalization of DDUGJY in the Country.

Gujarat discoms has the total requirement covering all Distribution Zones including system strengthening, metering, feeder segregation & Sansadadarsh Gram Yojna at Estimated cost of Rs 2000 Crores for getting funding under DDUGJY.

Monitoring Committee headed by Secretary (Power) approved the DDUGJY projects on 06.08.2015 for Rs. 924.7 Crores for Gujarat which include projects worth

- Rs. 527.86 Crores for electrification of rural households as well as for system improvement,
- Rs. 193.31 Crores for Distribution transformer & consumer metering.
- Rs. 196.96 Crores for segregation and augmentation of 11kV feeders.
- Rs. 2.04 Crores for SAGY (Sansad Adarsh Gram Yojna) scheme.

The approved cost also includes Rs. 4.58 crores as PMA charges. The remaining fund as



per the requirement would have to be arranged by the State. The detailed requirement (approved) is given in Annexure-XA.

### **INTEGRATED POWER DEVELOPMENT SCHEME (IPDS)**

The Central Government has sanctioned "Integrated Power Development Scheme" (IPDS) on 3<sup>rd</sup> December, 2014 for urban area for :

- (i) Strengthening of sub-transmission and distribution networks in the urban areas.
- (ii) Metering of distribution transformer/ feeders/ consumers in the urban areas.
- (iii) IT enablement of distribution sector and strengthening of distribution network for completion of the targets laid down under R-APDRP for 12<sup>th</sup> and 13<sup>th</sup> Plans by carrying forward the approved outlay for R-APDRP to IPDS.

The components at (i) and (ii) above will have an estimated outlay of Rs. 32,612 Crores including a budgetary support of Rs. 25,354 Crores from Government of India during the entire implementation period.

The scheme of R-APDRP as approved by CCEA for continuation in 12<sup>th</sup> and 13<sup>th</sup> Plans has been subsumed in this scheme as a separate component relating to IT enablement of distribution sector and strengthening of distribution network [component (iii) above] for which CCEA has already approved the scheme cost of Rs. 44,011 Crores including a budgetary support of Rs. 22,727 Crores. This outlay will be carried forward to the new scheme of IPDS in addition to the outlay indicated above. PFC is the nodal agency for the operationalization of IPDS in the country.

It is related to the work of renovation & up gradation of transmission & distribution infrastructure of urban area in Gujarat. Under IPDS, Government of Gujarat has the total requirement with an estimated cost of Rs. 1871 Crores for augmentation of distribution system in 38 towns in the state. Monitoring Committee headed by Secretary (Power) approved the IPDS projects of 38 towns at an estimated cost of Rs. 1121.88 Crores. The detailed requirement (approved) is given in Annexure-XI.

### **ASSESSMENT OF ADEQUACY OF DISTRIBUTION SYSTEM**

The network growth as planned by various State run distribution companies (4 No) is as follows in Table-7.16:

**Table-7.16**

Sl. No.	Particulars	Unit	Status of FY 2014-15	During FY 2015-16	During FY 2016-17	During FY 2017-18	During FY 2018-19	Cumulative up to FY 2018-19
1	No. of 66KV & 33kV Lines/feeders	No.	2237	94	98	96	98	2622
2	Total length of 66KV & 33 kV lines in	ckt. Km.	26361	1484	1568	1656	1749	32817
3	Total No. of 220/11 kV,132/11kV, 66/11, &33/11kV PSS	No.	1409	90	96	102	108	1805
4	Total capacity of 220/11 kV,132/11kV, 66/11 & 33/11kV PSS in MVA	MVA.	45405	2700	2861	3031	3211	57207
5	Total No. of Distribution transformers	No.	881376	104938	124336	140010	157660	1408321
6	Total capacity of Distribution transformers in MVA	MVA.	36512	3119	3465	3768	4097	50960
7	No of 11 KV+22KV Lines	No	12108	620	652	685	720	14785
8	Total length of 11KV+22 KV lines in ckt. Km	ckt. Km	326083	24520	26363	28346	30477	435790

Sl. No.	Particulars	Unit	Status of FY 2014-15	During FY 2015-16	During FY 2016-17	During FY 2017-18	During FY 2018-19	Cumulative up to FY 2018-19
9	Total length of LT Lines in ckt. Km	ckt. Km	307717	4700	4772	4845	4919	326952

From the above table it is evident that the transformation capacity at PSS is projected to grow from 45405 MVA in FY 2014-15 to 57207MVA in FY 2018-19. The transformation capacity at 11/0.415kV level is projected to grow from 36512 MVA in FY2014-15 to 50960 MVA in FY 2018-19.

The Projected peak demand of the state, including demand of large industrial consumers has been Projected at 17665 MW in FY 2018-19. Correspondingly the peak demand at 11 kV would be 19628 MVA considering a power factor of 0.9. Against this peak requirement, the installed capacity 220/11kV,132/11kV,66/11kV & 33/11kV level in FY 2018-19 is projected at 57207 MVA. This shows that the sub transmission system would be adequate for meeting the projected load. Average loading of the system would be around 34% on 132/11kV, 66/11kV and 33/11 kV transformers under peak demand conditions.

Considering the load of HT consumers in FY 2018-19 is about 2000 MW derived from the data of HT CONSUMER billed in FY 2014-15. Correspondingly the demand met at 415 V would be 15,665 MW (17665 MW-2000 MW) which corresponds to 17,405 MVA considering a power factor of 0.9. Against this peak requirement, the installed capacity 11/0.415kV level is in FY 2018-19 is projected at 50960 MVA which shows that the Distribution transformation capacity planned at DT level for FY 2018-19 would be adequate for meeting the projected demand by FY 2018-19 and Average loading of DTs would be around 34 %.

From the aforesaid it can be concluded that Distribution transformation capacity planned at DT level for FY 2018-19 would be adequate for meeting the projected demand.

#### ACTION POINT-FOR STATE GOVERNMENT

1. To complete all the distribution works necessary for providing 24x7 quality supply to all the connected consumers.
2. To meet the agreed trajectory for reduction of AT&C losses through initiatives as described earlier under sub heading "Reduction in AT&C losses"
3. To introduce modern technologies to monitor reliable supply like sub-station automation, providing adequate communication infrastructure, GIS, Reliability, Centralized Network Analysis and Planning tools, SAP driven ERP systems, DMS (Distribution Management Systems), OMS (Outage Management System), etc.
4. State would take necessary steps to meet the Performance Standards specified by PERC. Proper mechanism of monitoring Key performance Index (KPI) as described under sub heading "Performance Monitoring Mechanism"
5. To make arrangement of balance funds of schemes of GOI like DDUGJY and IPDS including amount required for System Strengthening.

#### GOI INTERVENTION

To approve the net fund requirement i.e. unapproved portion of **DDUGJY** and **IPDS** including amount required for **System Strengthening** to fulfill the requirement as envisaged under 24x7 PFA scheme.

## CHAPTER – 8 : RENEWABLE ENERGY STATUS AND PLAN

Renewable energy is increasingly becoming an important source of the energy mix –meeting the twin objectives of energy security and clean energy considerations. Gujarat has good potential for promotion and development of renewable and non conventional energy projects, particularly Wind, Solar, Biomass and Small / Mini Hydel Projects. Good explorable options and potential exists for power generation from irrigation canal drops, solar including solar PV on canal top, wind, biomass generation etc. State has already issued liberal policies for promotion of renewable energy generation.

Government of Gujarat (GoG) is keen to tap renewable power potential of the state to meet the growing demand of power in an environmental friendly and sustainable manner. In this direction GoG has taken a number of initiatives. Three cities viz. Gandhinagar, Surat and Rajkot of Gujarat have been declared to be developed as Solar Cities. GoG has developed a solar park near Charanka Village in Patan District which is the world's first multi developer, multi facility, multi technology and multi beneficiary park. The Charanka Solar Park, when fully built, is planned to host 500 MW of solar power using state-of-the-art thin film and crystalline technology. The present installed capacity of the Charanka Solar Park as on September 2015 is 345 MW.

State of Gujarat is also pioneer in developing Canal Top Solar PV Projects. 1 MW canal top Solar PV project has been developed by GSECL on the Narmada Branch Canal near Chandrasan Village in Kadi Taluka. Sardar Sarovar Narmada Nigam Limited (SSNNL) has also commissioned 10 MW Canal Top Solar PV project on the Narmada Canal in Vadodara for their captive use. In Wind Power Generation, State of Gujarat holds the second position in the country, the first being Tamilnadu. The installed wind power capacity in Gujarat upto July 2015 is 3752 MW vis-à-vis all India capacity of 23865 MW.

The areas of present study are:

- Renewable energy plan especially for Wind, Solar and Biomass based power projects
- Grid connected and off grid Roof Top Solar scheme
- Solar water pumping scheme particularly for agricultural consumers
- Action plan of the state
- Fund Requirements
- GoI/ State Govt Interventions

### Grid Connected Renewable Energy:

The total grid connected Renewable Energy (RE) installed capacity (consisting of Wind, Solar, biomass, Small hydel etc.) as on 31.03.15 and potential of Gujarat State (as per MNRE) are given in Table- 8.1 below:

**Table -8.1**

Source	Present Installed Capacity (MW) already Commissioned (as on 31.03.15)	Under Execution (MW)	Potential (MW) (As per MNRE)
Solar Power	1003	25	35770
Wind Power	3542	200	35071
Biomass Power	41.2	--	1221
Bagasse Cogeneration	--	--	350
Small Hydro Power including 7 MW state small hydro	16.6	--	202
Waste to Energy	--	--	112
Total	4602.8	225	72726

**Note:** In Renewable Energy Sector, 200 MW of Wind Capacity tied up by the state is likely to get commissioned by March 2016. Moreover, 25 MW solar thermal project for which long term PPA has been signed by the State Utilities is likely to be commissioned by June - 2017.

### Policy and notifications in place

Various 'New and Renewable Energy Policies' are already in place in Gujarat. The policies notified by GoG and GERC are as described below:

- a) "Solar Power policy 2009".
- b) "Gujarat Solar Power Policy 2015"- (Notification dated 13.08.2015) for augmenting solar capacity in the state.
- c) "GERC order no. 3 of 2015 - determination of tariff for Solar Energy Projects.
- d) "GERC order for determination of tariff for biomass based power generation"
- e) "GERC Order – Determination of tariff for Bagasse based cogeneration power plant"
- f) "Wind Power Policy 2007"
- g) GERC regulation on wind power dated 11.08.2006"
- h) Wind Power Policy 2009 – GEDA"
- i) "Wind Power Policy Extension dated 19.03.2013"
- j) "Wind Power Policy 2013" – (Notification dated 25.07.2013) for augmenting Wind capacity in the state.

For further promoting generation through NRSE, GoG has also come out with many notifications with respect to exemptions of taxes & duties, with respect to land use, etc.

### Government of Gujarat Initiatives and Plan

Gujarat Energy Development Agency (GEDA) is the State Nodal Agency for promotion and development of Renewable Energy projects and the State Designated Agency (SDA) for the implementation of Energy Conservation Act, 2001. GEDA is also the State agency for Renewable Energy Certificates (REC) accreditation under the notification by GERC in accordance with the REC Regulation of CERC.

Following strategic initiatives have been taken:

- a) To create conducive conditions for attracting private sector investment in NRSE projects along with broader participation by public community / civil society.
- b) To provide decentralized renewable energy for agriculture, industry, commercial and household sectors particularly in rural areas thereby improving the quality of power and reducing transmission and distribution losses.
- c) To give support to specific NRSE projects and schemes for generating energy and conserving energy through energy efficiency.
- d) To support research, development, and commercialization of new and emerging technologies in RE sector such as fuel cell, hydrogen and chemical energy, alternative fuels for transportation use, etc.
- e) To use agricultural waste and cattle dung for the production of bio fuel.
- f) To create awareness through work shop / seminars, energy audits and demo projects in order to promote energy efficiency in different sectors of the economy in the state.

### RENEWABLE PURCHASE OBLIGATION (RPO):

Every obligated entity (distribution licensee(s), captive users, open access customers etc.) shall purchase electricity from RE sources including solar, not less than a percentage specified by GERC from time to time. As per regulation 2010 with amendments for procurement of energy from Renewable Sources ( Notification no. 3 of 2010, CORAM Order on RPO dated 17.04.2010, Notification No. 4 of 2010 dated 16.07.2010 and First Amendment Regulations 2014 vide Notification No. 2 of 2014).



**Table -8.2**

Year	FY2015 -16	FY2016 -17	FY2017 - 18	FY2018 - 19
Non Solar RPO (%)	7.00	7.75	8.50	9.25
Solar RPO (%)	1.50	1.75	2.00	2.25
Others (%)	0.50	0.50	0.50	0.50
<b>Total RPO (%)</b>	<b>9.00</b>	<b>10.00</b>	<b>11.00</b>	<b>12.00</b>

Year Wise Availability (Cumulative) through proposed capacity addition plan - through renewable (grid interactive) is as follows:

**Table-8.3**

Sl. No.	NRSE Projects	Year wise Availability (Cumulative) – In MW				
		Installed Capacity as on March 31, 2015	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
1	Solar Power	1003	1097	1142	1803	2489
2	Wind Power	3542	4147	4814	5204	5618
3	Others:					
	- Biomass Power	41.2	41.2	41.2	41.2	41.2
	- Bagasse Cogeneration	-	-	-	-	-
	- Small Hydro Power	16.60	32.60	35.60	49.60	64.60
	- Waste to Energy	-	-	-	-	-
<b>Total Expected MWs</b>		<b>4602.8</b>	<b>5318</b>	<b>6033</b>	<b>7098</b>	<b>8213</b>

#### Action Plan of the State for Grid Interactive NCE/RNES Plants

The state has to ensure completion and addition of renewable generating capacities in the State of Gujarat as per the following roll out plan:

**Table -8.4**

Sl. No.	NRSE Projects	Year wise Addition of Capacity (MW)				Total (MW)
		FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	
1	Solar Power *	94	45	661	686	1486
2	Wind Power	605	667	390	414	2076
3	Others:					
	- Biomass Power	-	-	-	-	-
	- Bagasse Cogeneration	-	-	-	-	-
	- Small Hydro Power	16.0	3.0	14.0	15.0	48.0
	- Waste to Energy	-	-	-	-	-
<b>Total</b>		<b>715</b>	<b>715</b>	<b>1065</b>	<b>1115</b>	<b>3610</b>

\* Excluding Rooftop Solar

## Fund Requirement

Total fund required for RE projects for capacity addition is estimated and the same is shown in Table below:

**Table-8.5**

### Fund Requirement

Sl. No.	NRSE Projects	Year wise Fund Requirement ( Rs. in Crores)				Total (Rs in Cr.)
		FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	
1	Solar Power	658	315	4627	4802	10402
2	Wind Power	4068	4092	4500	4944	17604
3	Others: - Biomass Power - Bagasse Cogeneration - Small Hydro Power - Waste to Energy	96	18	84	90	288
	<b>Total</b>	<b>4822</b>	<b>4425</b>	<b>9211</b>	<b>9836</b>	<b>28294</b>

### Funding of proposed investment

Total proposed investment of Rs. 28294 Crores for installation of additional 3610 MW capacity of Renewable Energy Projects will be met mostly through funding of Private developers / IPPs. However, assistance/grant as available from Central/State Govt. source as indicated below may also be sought to meet the total requirement of fund.

- Central Financial Assistance provided by MNRE, GoI under its various schemes.
- Central Financial Assistance provided by MoP, GoI as applicable.
- Grant provided by State Government (GoG).
- State Green Energy Cess Fund as applicable.

### Intervention by Govt. of Gujarat:

- GoG may submit their proposal to MNRE for VGF funding as per norms of the scheme.
- Set up single window clearances mechanism to expedite clearances of NCE / RNES projects.
- To provide solar energy generation based rebate in electricity bills for motivating consumers to install solar power plants.
- Grid connected solar PV plant on Canal Top may be taken up aggressively by GEDA for implementation in the state.

### Intervention by GOI :

- Viability Gap Funding (VGF) as applicable for various solar Projects in the State.
- Subsidy for development of Green energy Corridor from NCEF.

### Renewable Energy Initiatives of Govt. of Gujarat at Consumer Level:

#### Grid connected and Off Grid Roof Top Solar Scheme:

#### GEDA- INITIATIVES REQUIRED TO BE TAKEN:

- Off grid Rooftop Solar Power Plant at Govt. buildings may be implemented in the State by Renewable Energy Department / GEDA. Solar rooftop power plant of suitable capacity (say 1 kWp range) at various residences and commercial buildings may be implemented by FY 2018 -19.
- Rooftop SPV power programme may be implemented by FY 2018 -19. At present, 5 MW and 4 MW capacity rooftop SPV power plants are installed in Gandhinagar and Vadodara respectively. However, solar rooftop policy yet to be finalised by the Government of Gujarat. Finalisation of the same is to be expedited.

- Installation of Solar Power plant at District Collectorate, Hospital & Circuit Houses of each districts of Gujarat may be completed by FY 2018 -19.

### **Solar water Pumping Scheme**

In the State of Gujarat there are various pockets where the ground water level is less than 100 feet i.e. river catchment area, Canals etc. Further there is substantial scope of Solar Water Pumping System in the Poly Houses and green houses. So there shall be promotion of solar water pumping system in these areas.

During FY 2014-15 MNRE has allocated target of 1500 solar water pumps under Central Finance Assistance (CFA) to Gujarat. However, as per the internal planning of GoG, 1594 nos. of solar water pumps ( 104 nos. of 3HP and balance 1490 pumps of 5 HP) were planned to be installed in FY 2014 – 15. In FY 2014 – 15, only 955 pumps are commissioned and the balance pumps are being installed and commissioned in FY 2015 – 16. GoG has provided a grant of Rs. 50 Crores with matching grant from MNRE ( MNRE Grant – Rs. 32400/HP).

For FY 2015–16, GoG has planned installation of 2300 nos ( 300 nos. 3 HP and 2000 nos. 5HP) solar water pumps for which orders have already been placed. GoG has granted Rs. 60 Crores for the project. However, MNRE approval of CFA is yet to be received.

The contribution of beneficiaries of various categories is as follows:

- a) General Category – Rs. 5000/HP
- b) SC, ST Category – Rs. 1000/HP

### **Solar Off-Grid Systems**

It is an ongoing scheme of MNRE in which domestic lighting system (DLS) / home lighting

system (HLS- Model-II) are being provided to the beneficiaries in rural and urban areas having one solar module of 24 W, 2 LEDs each of 9 W and one battery of 12V, 12Ah capacity. This scheme is having a provision of 30% subsidy from MNRE, 60% from GOG and balance 10% to be borne by the beneficiary.

GoG has planned installation of 11000 nos. solar home lighting system in FY 2015–16 for remote and forest areas ( Gir forest region) of Gujarat. GoG has granted Rs. 50 Crores for the scheme. Under the scheme one solar module of 400 W with battery back-up each consisting of 1 no. 5 W LED, 2 nos. 8 W LEDs, 1 nos. fan of 24 W, 1 no. connection for TV and 1 nos. connection for mobile charger shall be given to each household covered under the scheme. GUVNL has sent a proposal through GEDA for obtaining CFA assistance from MNRE. The contribution of beneficiaries of various categories under solar lighting scheme is as follows:

- a) General Category – 10% cost of the system
- b) SC, ST, BPL Category – Free of cost

The Government buildings, hospitals, Public Health Centres (PHCs), Block offices in rural and semi-urban areas may also be proposed to be provided with Solar Off-Grid Systems with battery support.

Proposal for above schemes would be prepared on annual basis and submitted to MNRE for approval. The projected figures of above scheme are mentioned in Table given below:

Table-8.6

**Details of Renewable Energy Initiatives ( Physical & Investment)**

Sl. No.	Particulars	Unit	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Total
<b>A</b>	<b>Grid connected Solar Rooftops (as per MNRE plan)</b>		15 MW	385MW	400 MW	480MW	1280MW
	Investment required	Rs. Cr.	120	3080	3200	3840	10240
	Subsidy from MNRE	%	As applicable				
<b>B</b>	<b>Solar off-grid systems</b>						
<b>i)</b>	<b>Solar power Plant</b>						
	Investment required	Rs. Cr.					
	Assistance from MNRE	%					
	Assistance from GoG	%					
<b>ii)</b>	<b>Solar pump systems</b>	No.	2939				
	Investment required	Rs. Cr.	99.55				
	Assistance from MNRE	%	As applicable				
	Assistance from GoG	%	As applicable				
	Beneficiary	%	Balance Fund				
<b>iii.</b>	<b>Solar Power Pack (400 W each) with Battery back up</b>	No.	11100				
	Investment required	Rs. Cr.	45.51				
	Assistance from MNRE	%	As applicable				
	Assistance from GOP	%	As applicable				
	Beneficiary	%	Balance Fund				
<b>iv.</b>	<b>Solar Street Lighting</b>	Nos					
	Investment required	Rs. Cr.					
	Assistance from MNRE	%					
	Assistance from GoG	%					
	Beneficiary	%	Balance Fund				
<b>v.</b>	<b>Solar Lantern for BPL and SC &amp; ST</b>	Nos.					
	Investment required	Rs. Cr.					
	Assistance from MNRE	%					
	Assistance from GoG	%					

**Funding for implementation of above scheme will be met from:**

- Central Financial Assistance (CFA) provided from Ministry of New and Renewable Energy, GoI under its various scheme.
- Central Financial Assistance from Ministry of Power, GoI under DDG scheme.
- Grant provided from State Government.
- State Green Energy Fund, if any.
- Various private developers.

**Action PLAN - state -renewable energy**

DPRs for above schemes would be prepared and submitted to MNRE for approval on yearly basis

**GOI INTERVENTION**

- To facilitate earlier approval of DPRs for the above scheme.
- Capital subsidy under Rashtriya Krishi Vikash Yojana for solar Pump system.
- The target shall be given on programme mode instead of project mode.
- Central Financial Assistance shall be provided in the beginning of financial year.

With increasing importance being given to low carbon growth these days, the cheapest and more affordable option to overcome the energy deficit is Demand Side Management (DSM) and implementation of energy efficiency measures in various sectors such as agriculture, municipalities, buildings, domestic, industries etc. The DSM has been traditionally seen as a means of reducing peak electricity demand. In fact, by reducing the overall load on an electricity network, DSM has various beneficial effects, including mitigating electrical system emergencies, reducing the number of blackouts and increasing system reliability. Possible benefits can also include reducing dependency on expensive imports of fuel, reducing energy cost, and reducing harmful emissions to the environment.

Finally, DSM has a major role to play in deferring high investments in generation, transmission and distribution networks. Thus DSM applied to electricity systems provides significant economic, reliability and environmental benefits. Opportunities for reducing energy demand are numerous in all sectors and many are low-cost, or even no cost, items that most enterprises or individuals could adopt in the short term, if good energy management is practiced.

In view of absence of any data, an exercise has been undertaken using data from other states such as Rajasthan and Andhra Pradesh. Going by the experience of these states, one finds the most common measures of DSM and the average normative approximate savings for each measure are as furnished below:

**Table-9.1**

Sector	DSM Technique	Energy saving Potential as % of total consumption	Investment/MU of savings (INR Crores)
Agriculture	Replacement with Energy efficient pump Sets	27%	1.5
Domestic	Replacement of ICLs with LED bulbs	23%	0.8
Commercial building	Retrofitting of Energy efficient equipments	15%	1.5
Public water Works (PWW)	Replacement with energy efficient Pumps	26%	0.6
Municipal Street lighting(MSL)	Replacement of existing street light with LEDs	51%	2.0

Application of the above provides substantial energy savings per year. In Street lighting, the saving potential is maximum, because in this sector DSM can be planned and implemented by municipal authority. Public water works is a government organization and hence penetration rate is quite high. In other sectors, serious awareness campaign through stakeholders' consultation is required to achieve and enhances the desired energy savings.

Enlisted below are some of the DSM measures and energy efficiency initiatives to be taken up in the state of Gujarat.

- Mandatory use of LED / CFL in Govt. buildings / Govt. aided institutions / Boards / Corporations.

- Promotion of Solar water heating system in domestic sector
- Solar Water Heating System to be made mandatory in industries where hot water is required for processing, hospitals and nursing homes, Govt. hospitals, hotels, motels and banquet halls, jail barracks, canteens, housing complexes set up by Group Housing Societies/Housing Boards, Residential buildings built on a plot of size 500 sq.yds. and above falling within the limits of Municipal Committees/Corporations and all Govt. buildings, Residential Schools, Educational Colleges, Hostels, Technical/Educational Institutes, District Institute of Education and

Training, Tourism Complexes and Universities etc.

- Use of star rated pumps to be mandated for agriculture sector.

### **Government of Gujarat (GoG) Initiatives**

To encourage Energy Efficiency (EE) and DSM, GoG has taken up many initiatives as given below:

- a) Mandatory energy audit for H.T. consumers.
- b) Walk through Energy Audit for L.T. consumers.
- c) Micro irrigation scheme linked with new Agricultural Connection.
- d) Use of solar technology- Facilitation for installation of solar water heating for domestic consumers.
- e) Energy Conservation Building Code (ECBC) mandatory for consumers having load more than 500KW.
- f) Municipal energy efficiency programme through Gujarat Urban Development Corporation (GUDC).
- g) Agricultural Feeder bifurcation from Rural Feeder and 8 hr. power supply arrangement for Agricultural Load in order to flatten load curve of DISCOM/State.
- h) Replacement of inefficient Agriculture pump sets with high efficiency star rated pumps. Promoting use of solar water pump sets for agriculture purpose at various locations of DISCOMs.
- i) Replacement of incandescent bulbs with LED.
- j) Installation of Automatic Power Factor Controller (APFC) panel for Industrial/urban and Agriculture Feeders.
- k) Time of Day (TOD) Tariff & Power factor penalty/incentives for HT Industrial Consumers.
- l) Exclusive night hour tariff for HT & LT consumers.
- m) Campaign for increasing awareness in consumers to provide energy Efficiency & Energy Conservation.

### **Policy and notification in Place**

Gujarat Electricity Regulatory Commissions (GERC) has notified Demand Side Management (DSM) Regulation, 2012 vide notification no. 1 of 2012 dated 08.05.12. The regulation requires the DISCOMs under Gujarat Urja Vikas Nigam Limited (GUVNL) as well as Torrent Power Limited (TPL) to formulate DSM Action Plan and programs to be implemented in their respective licensed area.

Energy Conservation Building Code (ECBC) has been launched by Bureau of Energy Efficiency, MOP, GOI on 27th May, 2007 to be implemented on voluntary basis. The code is applicable to buildings/ building complexes that have a connected load/ contract demand of 100 kW/ 120 KVA or more. However, in Gujarat the ECBC is mandatory for consumers having load more than 500 kW.

### **Agency responsible for DSM:**

Energy Conservation Measures shall be implemented and enforced in the state by GEDA (the State Designated Agency for Energy Conservation) in accordance with the provisions contained in the Energy Conservation Act-2001 of GoI and amendment thereon as the Energy Conservation (Amendment) Act 2010, in consultation with Bureau of Energy Efficiency, Ministry of Power and Government of India.

### **Objectives and suggested Interventions**

The objectives of DSM action plan have been identified as

- a) Supplementing national level efforts for implementation of various DSM schemes set out by the Bureau of Energy Efficiency,
- b) Encouraging consumers to amend their electricity consumption pattern both with respect to timing and level of electricity demand for efficient use of energy,
- c) Reducing the environmental damage by reducing the emission of greenhouse gases,
- d) Promoting strategic efforts to induce lasting structural or behavioral changes in the market that result in increased adoption of energy-efficient technologies, services, and practices.

Keeping this in view, GUVNL entrusted TERI (The Energy and Resources Institute) with the task of preparation of “Demand Side Management Plan for the four distribution companies”.

As required in the Regulations, a detailed load research study was carried out in order to analyse the load patterns of different consumer categories; namely Agricultural, Domestic (Rural & Urban), and Industry (LTMD & HT) by studying the load data at the feeder level in licensed areas of DGVCL, MGVC, PGVCL and UGVCL. Detailed interactions with different stakeholders, such as Utilities, GERC, industry sub-sectors and other consumer/industry associations, were also conducted to understand current initiatives undertaken in implementing energy efficiency measures in different categories, barriers/challenges faced and possible steps required in overcoming these challenges.

Based on the above, DSM interventions are identified for different consumer categories and prioritized for each target consumer category based on ease of implementing the measures.

Suggested interventions included:

- a) Promoting facilitation support to industries for implementing energy auditing measures,
- b) Promoting energy efficient appliances,
- c) Promoting mandatory purchase of energy efficient pumps for new agricultural connections,
- d) Promoting solar pumps,
- e) Introducing demand response on a pilot basis in industries and large commercial buildings, and establishing Centers of Excellence, conducting capacity building workshops and forming energy club/associations for educating children and youth. Introduction of electric vehicles and inter-state trading are recommended as strategic load growth options.

## Funding Models – Options

Different funding model options for funding DSM programmes to be explored which may include State Energy Conservation Fund, part funding through Energy Service Companies (ESCO), ARR, Energy Efficiency Services Limited (EESL), International Funding Agencies, such as, GEF, World Bank, ADB etc. ESCO model is recommended as the most suitable strategy for implementation of some of the proposed DSM interventions. The need for pro-active involvement and participation of the utilities, GoG, GEDA, financial institutions is also highlighted.

## DSM activities to be taken up by various DISCOMs:

In the meeting held on 3<sup>rd</sup> June, 2014 at Gandhinagar for the proposed DSM Plan of the State owned DISCOMs and TPL as per GERC (DSM) Regulations, 2012, it was decided that the following DSM activities should be undertaken by various DISCOMs

- Solar Pumps Installation and Awareness:  
**By all DISCOMs**
- Industrial Energy Audit:
  - **DGVCL (Ankleshwar & Sachin area)**
  - **MGVCL (V.V.Nagar)**
- Promotion of Energy Efficient Appliances:  
**By all DISCOMs**
- Demand Response: **UGVCL**

## Saving Potential through DSM

There is a substantial potential of saving of energy up to 20-30% in different sectors of the economy in the state.

The agricultural sector accounted for about 24.56% of the state's energy consumption during FY 2012-13. Substantial saving potential (up to 27% i.e. about 4038 MUs) exists in this sector through replacement programmes of existing pumps by energy efficient pumps. However, actual potential of savings in the state on account of DSM can be ascertained only after completion of DSM plan for state.

Domestic sector accounted for about 14.20 % of the state's energy consumption during 2012-13. In order to stimulate investments in energy efficient lighting projects, high quality LED lamps are proposed to be given to households at the cost of incandescent lamps (ICLs) to encourage them to invest in energy efficiency under the Domestic Efficient Lighting Program (DELP).

The Domestic Efficient Lighting Programme (DELP) seeks to promote high quality LED lighting in the domestic sector by overcoming the high first cost barrier. DELP will enable sale of LED bulbs from designated places at a cost that is much less than the market price of Rs. 350-450 as replacements of Incandescent Lamps (ICLs). The programme will reduce installed load approximately by 1048 MW as shown in Table-9.2 and will lead to approximate annual energy consumption reduction of the

#### DELP KEY FEATURES

- LED at cost of Rs. 95-105 as against a market price of Rs 350-450
- Consumer take LED bulb at Rs. 10/-, Balance paid by DISCOM from energy savings or by consumer in 8-12 months installment.
- 3 years free replacement warrantee
- No impact on tariff
- Total upfront investments by EESL

state by more than 1119 million KWh. The saved energy can be sold to better paying consumers like Industry and Commercial, which will provide additional revenue stream to the state utility.

ICLs are extremely energy inefficient form of lighting. In contrast, LEDs consume a fraction of energy used by ICLs to provide better light output. A single LED outlasts about 30 ICLs, and hence on life cycle cost effectiveness it fares better than ICL and CFL. However, the penetration of LEDs is very low because of their high first cost. To overcome this barrier, Energy Efficiency Services Limited (EESL), has been implementing programmes in several states to provide high quality LEDs as replacements to ICLs and CFLs at a cost of Rs. 95-105 each to residential consumers.

EESL, procures the LEDs bulbs and provides to consumers at an initial rate of Rs. 10 each (balance by DISCOM from energy savings or by consumer in installment) as against their market price of Rs. 350-450.

**Table-9.2**

	RURAL	URBAN	TOTAL	REMARKS
No. of House Hold Consumers targeted, (Lakhs)	61.75	65.54	127.29	Total electrified H/Hs including 17 lakhs H/Hs electrified by Torrent Power at Surat & Ahmedabad
No. of inefficient ICLs & CFLs to be replaced, (Lakhs)	123.50	131.08	254.58	<b>RURAL</b> – 2 nos. ICLs ( 60 W each) to be replaced with LEDs ( 7 W each) <b>URBAN</b> – 1 no. ICL (60 W each) and 1 no. CFL (14 W each) to be replaced with LEDs (7 W each)
Total reduction of connected load in the state, (MW)	655	393	1048	
Total energy consumption reduction in the state, (MUs)	699	420	1119	
Energy bill reduction for households per annum (Rs.)	280 to 370	160 to 210	---	Average domestic tariff considered Rs. 2.5 to Rs.3.25 per kWh
Cost reduction for DISCOMS per annum of peak power (Rs. Crores)	838	503	1341	Cost of peak power considered Rs. 1.28 Crores / MW / Annum
Upfront investment by State/ DISCOM	Nil	Nil	Nil	
Total Program Investment by EESL/ Lighting companies* (Rs. Crores)	135	143	278	Cost of LED bulb considered as Rs. 109 per bulb inclusive of transportation and bulb distribution charges.
Recovery of cost	1. DISCOM Repayment 2. Consumer Repayment			

**Note:** \* Taxes such as service tax, sales tax, or any other taxes as applicable will be charged on actual basis which is not included in these amounts.

EESL will make / arrange the upfront investment estimated at Rs. 278 Crores for procurement, transportation, distribution of 254.58 Lakhs LEDs to domestic households in the state.

Initiatives / Measures already taken by state and indicative savings is as given in Table- 9.3 below:

**Table- 9.3**

**Initiative of Different Discoms During FY 2014- 15 and FY 2015- 16**

Particulars	Quantity	Energy Savings per Annum (MU)	Demand Savings (MW)	Total Cost in Rs. Crores
<b>DAKSHIN GUJARAT VIJ COMPANY LIMITED (DGVCL)</b>				
Replacement of fans				
-5 Star rated Energy Efficient	86100	2.91	3.64	17.22
-Super Energy Efficient	2501			0.65
Replacement of Tube Light	17918	0.63	0.6	1.07
Installation of Agricultural Solar Water Pumps (5 HP)	300	2.53	1.44	21
Energy Audit	---	---	---	0.12
Awareness Programme	---	---	---	0.28
Administrative Cost	---	---	---	4.03
<b>Sub Total for DGVCL</b>		<b>6.07</b>	<b>5.68</b>	<b>44.37</b>
<b>PASCHIM GUJARAT VIJ COMPANY LIMITED (PGVCL)</b>				
Upfront support of differential cost on 5 star rated Agriculture pump under new connection	25000	37.66	21.50	23.87
Replacement of Fans	75030	2.464	3.08	14.02
<b>Sub Total for PGVCL</b>		<b>40.124</b>	<b>24.58</b>	<b>37.89</b>
<b>UTTAR GUJARAT VIJ COMPANY LIMITED (UGVCL)</b>				
Replacement of ICls by LED lamps	279822	15.57	14.57	9.89
Energy efficient pumps for Agriculture	1000	2.52	1.44	4.98
Efficient ceiling fan for household	139911	11.33	14.17	28.98
Energy efficient fans for Govt. School	1000	0.39	0.49	1.65
<b>Sub Total for UGVCL</b>		<b>29.81</b>	<b>30.67</b>	<b>45.49</b>
<b>MADHYA GUJARAT VIJ COMPANY LIMITED (MGVCL)</b>				
No. of LEDs to be installed	68011	34.15	31.96	2.4
No. of star rated fans to be installed	67754	2.224	2.78	12.83
No. of solar pumps to be installed	59	0.498	0.28	3.07
<b>Sub Total for MGVCL</b>		<b>36.872</b>	<b>35.02</b>	<b>18.30</b>

**Approach / Strategy**

All the above interventions involve replacement of inefficient equipment / appliances with energy efficient ones for the agriculture, domestic, commercial buildings and municipalities. **These can be undertaken by the State Government at no upfront cost by using the Energy Service Company (ESCO) model.** The model is based on the concept of promoting Performance Contract mode where

the company invests in any project by entering into a contract agreement with the facility owner which is recovered through the savings accrued due to reduced electricity bills.

**Actions Points**

The sector-wise Central Government and State Government actions envisaged to facilitate implementation of energy efficiency measures as mentioned above are detailed below:



### Central Government

- BEE may consider formulation of specification for LED bulbs and introducing star label scheme for LED bulbs.
- Energy Efficiency Services Limited (EESL) to take up project design and project development.

### State Government

- Distribution Companies / Utilities may file DSM petition with Gujarat Electricity Regulatory Commission (GERC) for getting sanction of the proposed DSM plan.
- Ensure formulation of a detailed time line in consultation with concerned departments like Distribution Companies for implementation of energy efficiency measures in municipalities.
- Ensure establishment of a payment security mechanism so that the company making investments under the ESCO mode recovers the same through the savings accrued due to reduced electricity bills.

### Central Government

- BEE may provide technical support for effective enforcement of ECBC and promotion of ESCO based retrofitting works in Government buildings. BEE can provide support for capacity building of state department through establishment of ECBC cells for compliance of ECBC and retrofitting in Government buildings.
- Energy Efficiency Services Limited (EESL) to take up project design and project development for retrofitting in commercial buildings.

### State Government

- Government of Gujarat has to adopt ECBC Directives for new commercial building design and mandated energy audit of existing commercial building once in a three-year period. Effective enforcement of ECBC compliance and mandating retrofitting in energy-audited buildings may result in reduction of electrical consumption from commercial sector. Government of Gujarat may consider mandatory retrofitting in Government buildings with an objective of reduction of electricity bills, which state government is paying against electricity bill of these buildings. This would also demonstrate impact of ESCO based retrofitting projects to private building owners to adopt the same.
- As per the Planning Commission's projection; residential building are becoming one of the larger consumers of electricity in the country by 2030. BEE is introducing design guidelines for energy efficient multi storey residential apartments including in the composite and hot & dry climatic zone. State Government may mandate compliance of these guidelines through institutional framework in the state.
- For residential buildings, the state could adopt the star labeling scheme for multi-storey residential apartment buildings, being prepared by BEE.

In addition to the above, Gujarat Electricity Regulatory Commission (RERC) may be requested to issue directives for creation of DSM funds by DISCOMs / Utilities of the State so that DSM activities can get extra emphasis. Such funds can be utilized for meeting incremental cost of efficiency improvement.

## CHAPTER – 10: FINANCIAL VIABILITY OF DISTRIBUTION COMPANIES

### Gujarat Financial Position

As a part of Power Reform Process, the Electricity Act, 2003, was passed by the Central Government and Gujarat Electricity Industry (Re-organization & Regulation) Act, 2003, was passed by the Government of Gujarat to restructure the Electricity Industry with an aim to improve efficiency in management and delivery of services to consumers.

Under the provisions of the said Acts Govt. of Gujarat framed the Gujarat Electricity Industry Re-organization & Comprehensive Transfer Scheme, 2003, (the Transfer Scheme) vide

Government Notification dated 24-10-2003 for transfer of assets/liabilities etc. of erstwhile GEB to the successor entities.

Accordingly erstwhile Gujarat Electricity Board (GEB) was reorganized effective from 1st April, 2005 into Seven Companies with functional responsibilities of Trading, Generation, Transmission and Distribution. The loss of GEB up to 31.03.2005 apportioned was Rs 737.24 crore which was recorded as opening balance of Profit & Loss account as on 01.04.2005 in GUVNL.

### The Companies incorporated are as under:

1. Gujarat Urja Vikas Nigam Ltd. (GUVNL)	- Holding Company
2. Gujarat State Electricity Corp. Ltd.(GSECL)	- Generation
3. Gujarat Energy Transmission Corp. Ltd.(GETCO)	- Transmission
4. Uttar Gujarat Vij Company Ltd. (UGVCL)	- Distribution
5. Dakshin Gujarat Vij Company Ltd. (DGVCL)	- Distribution
6. Madhya Gujarat Vij Company Ltd. (MGVCL)	- Distribution
7. Paschim Gujarat Vij Company Ltd. (PGVCL)	- Distribution

The Gujarat UrjaVikas Nigam Limited was incorporated as a Govt. of Gujarat Company. Since 100% Shares in the other six companies are held by GUVNL w.e.f 1st April, 2005 they have become Subsidiary Companies of GUVNL as per the provisions of the Companies Act, 1956.

The financial position of the four distribution companies are as follows.

Accumulated profit for 2013-14 and 2014-15 are as follows:

(Rs. in Crore)		
Name of DISCOM	FY 2013-2014	FY 2014-2015
UGVCL	62.50	79.74
DGVCL	272.81	323.64
MGVCL	159.36	188.21
PGVCL	83.87	94.75

### Financial Viability

Based on the road map discussed in the previous chapters, various scenarios have been prepared to visualize the profitability from operating the business as per the roadmap laid down and sensitivity thereof with changes in important input parameters like tariff and AT&C losses.

However, the analysis has been restricted up to FY 2018-19 being the analysis framework for 24x7 PFA initiatives.

The following scenarios have been detailed in subsequent sections:

- At targeted growth rate as per “24x7 Power for All” Road Map (Base case) for State DISCOMs and Private DISCOM.
- Same as (a) and tariff hikes for viability, if required
- Non-Adherence to AT & C Loss Reduction Trajectory and subsequent dependence on higher tariff hike for viability.
- At targeted growth and loss reductions as per roadmap and all fundings including those under GOI schemes as per Debt equity ratio of 70:30.
- UDAY Scheme - State to take over 75.0% of DISCOMs debt as on 30 sept’ 2015 over two years -50.0% in FY 2015-16 and 25.0% in FY 2016-17 and Interest rate on balance 25.0% to be charged at 9.0%



## Common Assumptions

1. Average cost of power purchase considered as Rs. 3.95 per unit including intrastate transmission charges for all the State Government DISCOMs as provided by the GoG and Rs 5.29 per unit including intra state transmission charges for private DISCOMs/Bulk consumers respectively. The details are given as hereunder:

**Table-10.1**

Sl. No	Description	State Govt. DISCOMs (FY 2014-15)	Private DISCOMs (FY 2015-16)
1.	Energy purchased (MU)	75162	10,102.27
2.	Purchase cost (Cr. Rs.) incl. PGCIL Charges	29672	5,344.44
3	Per Unit purchase Cost incl. intra state transmission charges (Rs/kWh)	3.95	5.29

Source: GoG data and Annual report/ Tariff order of Pvt DISCOM-FY2015-16

2. Escalation towards O&M cost (excl employees cost) and administrative and General expenses has been considered @ 6% p.a. in line with average changes in WPI;

**Table-10.2**

Month/ Year	WPI Indices	CPI Indices
Average FY 2012-13	168	215
Average FY 2013-14	178	236
Increase	5.95%	9.8%
Say	6.0%	10%

Source: eaindustry.gov.in

3. Escalation towards Employee Cost considered @ 10% p.a. based on CPI Indices.
4. Purchase Demand considered as forecasted in previous chapters
5. Grant, Loan and Equity on Govt. sponsored scheme are calculated as per guidelines/policy of respective scheme

6. Interest computation has been done as per the existing loan profiles of all DISCOMs of the State. Interest on future long term loan has been calculated @ 12% p.a.
7. The existing average billing rate was Rs 5.13/kWh in FY 2015-16 based on the actual sales provided by the GoG for FY 2014-15. From FY 2016-17 to FY 2018-19, the average billing rate has been derived from the projected annual energy requirement at consumer end figures. The weighted average ABR is shown hereunder:

**Table-10.3**

Year	State Gov DISCOMs (Rs./kWh)	Private DISCOMs (Rs./kWh)
FY 2015-16	5.13	6.22
FY 2016-17	5.13	6.18
FY 2017-18	5.13	6.17
FY 2018-19	5.13	6.16

Source: GoG & Pvt DISCOMs- FY 2015-16

The details of wt. average billing rate is given in Annexure-XII.

8. Depreciation has been computed @ average 3.76% for existing assets and 5.28% for new incoming assets.
9. Escalation towards Meter Rent & Other Receipts has been considered@ 3.57% p.a. as per CAGR of no. of electrified households and other income considered growing @ 2.0% p.a.
10. Receivable against supply of power has been projected @ 2 months level.
11. Liabilities for purchase of power has been considered as 2 month of power purchase.
12. Collection efficiency has been assumed as 100%.
13. The income tax has been computed @34.61%.



**Scenario-A: At targeted growth rates as per the 24x7 Road Map (Base case)**

**Assumptions**

- ✓ No tariff hike and change in power purchase cost
- ✓ T&D losses, AT&C losses and Collection Efficiency as per targeted trajectory.

**Financial Position of the State Gov DISCOMs (Scenario A)**

**Table-10.4A**

**(In Rs. Crores)**

Assumptions		SCN-A				
Sl.no	Description	Units	2015-16	2016-17	2017-18	2018-19
1	Total unrestricted annual energy requirement (Consumer end)	MU	65,144	70,045	75,325	81,014
2	Requirement at state periphery (Grossed up)	MU	80,408	84,665	90,521	96,798
3	AT & C Losses(As per agreed trajectory)	%	14.50%	14.00%	13.50%	13.00%
4	Collection efficiency	%	100.0%	100.0%	100.0%	100.0%
5	T&D Losses excl inter state transmission losses	%	17.75%	17.27%	16.79%	16.31%
6	Inter state transmission losses	%	1.50%	1.50%	1.50%	1.50%
7	Energy availability at state periphery(MU)		79,202	84,665	90,521	96,798
8	Power purchase cost incl intra state transmission charges	Rs/Unit	3.95	3.95	3.95	3.95
9	Purchased power	MU	80,408	84,665	90,521	96,798
10	Average billing rate	Rs/Unit	5.13	5.13	5.13	5.13
11	Tariff increase	%	0.0%	0.0%	0.0%	0.0%
12	Effective Average billing rate	Rs/Unit	5.13	5.13	5.13	5.13
13	Surplus energy available	MU	42361	43723	44187	43275
14	Backdown energy	MU	42361	43723	44187	43275
15	Surplus energy sold to other states	MU	-	-	-	-
<b>Expense</b>						
1	Employ cost escalation	%	10%	10%	10%	10%
2	Repair & Maintenance escalation	%	6%	6%	6%	6%
3	Administrative & General escalation	%	6%	6%	6%	6%
<b>Financial position of Utility -</b>		<b>SCN-A</b>				
Sl.no	Description	Units	2015-16	2016-17	2017-18	2018-19
1	Net sales-Power	Rs Cr	33,419	35,946	38,649	41,560
2	Meter rent,theft recov etc	Rs Cr	906	939	972	1,007
3	Revenue Subsidies	Rs Cr	1,100	1,100	1,100	1,100
4	Other Income (Intt., DPS & Grant etc.)	Rs Cr	740	754	769	785
<b>Total Income</b>			<b>36,165</b>	<b>38,739</b>	<b>41,491</b>	<b>44,452</b>
<b>Expenditure</b>						
4	Power Purchase	Rs Cr	31,761	33,443	35,756	38,235
5	Fixed cost payable against backdown capacity	Rs Cr	-	-	-	-
6	Employee cost	Rs Cr	1,684	1,853	2,038	2,242
7	R & M Cost	Rs Cr	128	136	144	153
8	Admn. & General expenses	Rs Cr	137	145	154	163
9	Others	Rs Cr	170	170	170	170
<b>Total Expenses</b>			<b>33,881</b>	<b>35,747</b>	<b>38,262</b>	<b>40,963</b>
10	Gross Profit	Rs Cr	2,284	2,992	3,229	3,489
11	Interest	Rs Cr	777	1,114	1,400	1,571
12	Depreciation	Rs Cr	1,211	1,418	1,610	1,768
13	Profit before tax	Rs Cr	296	460	219	150
14	Tax	Rs Cr	103	159	76	52
<b>Net Profit after taxes</b>			<b>194</b>	<b>301</b>	<b>143</b>	<b>98</b>

**Table-10.4B**

<b>Cash-flow statement</b>				
				(Rs.in Cr.)
Description	2015-16	2016-17	2017-18	2018-19
<b>Cash inflow</b>				
-Grants	123	613	638	499
-Equity	1,041	1,012	1,005	967
-Long term loans-Govt.	2,615	3,005	2,255	1,758
-Profit before Tax	296	460	219	150
-Depreciation	1,211	1,418	1,610	1,768
-Interest	777	1,114	1,400	1,571
-Bank borrowings for working capital	1	2	2	2
-Security deposit from consumers	396	436	479	527
Deposit for Electrification, Service Connection etc.	48	53	58	64
Short term borrowings	-	-	-	-
<b>Total Cash inflow</b>	<b>6,508</b>	<b>8,111</b>	<b>7,667</b>	<b>7,306</b>
<b>Cash outflow</b>				
-capital expenditure	3,779	4,629	3,899	3,225
-Loan repayments	312	312	874	1,044
-Repayment of short term borrowings	-	-	-	-
-Interest payouts	777	1,114	1,400	1,571
-Increase in working capital	91	111	81	95
-Interest on short term borrowings	-	-	-	-
-Tax	103	159	76	52
<b>Total cash outflow</b>	<b>5,061</b>	<b>6,325</b>	<b>6,330</b>	<b>5,987</b>
Net cash inflow	1,447	1,786	1,337	1,320
Opening cash & bank balance from previous year	492	1,939	3,725	5,062
<b>Closing cash balance</b>	<b>1,939</b>	<b>3,725</b>	<b>5,062</b>	<b>6,382</b>

Based on the above figures, it is evident that if Govt. DISCOMS in the state adhere to the target electrification and reduction of T&D losses as per agreed trajectory, financial losses would not be there.

Table-10.4C

## Financial Position of the Private DISCOM

(In Rs. Crore)

Assumptions		SCN-A				
Sl.no	Description	Units	2015-16	2016-17	2017-18	2018-19
1	Total unrestricted annual energy requirement (Consumer end)	MU	10,535	11,407	12,356	13,388
2	Requirement at state periphery (Grossed up)*	MU	13,004	13,998	15,074	16,240
3	Energy availability (MU)		12,062	12,062	12,062	12,062
4	Power purchase cost incl intra state transmission charges	Rs/Unit	5.29	5.29	5.29	5.29
5	Purchased power	MU	13,004	13,998	15,074	16,240
6	Average billing rate	Rs/Unit	6.22	6.17	6.16	6.15
7	Tariff increase	%	0.0%	0.0%	0.0%	0.0%
8	Effective Average billing rate	Rs/Unit	6.22	6.17	6.16	6.15
9	Surplus energy sold to other states	MU	-	-	-	-
<b>Expense</b>						
1	Employ cost escalation	%	10%	10%	10%	10%
2	Repair & Maintenance escalation	%	6%	6%	6%	6%
3	Administrative & General escalation	%	6%	6%	6%	6%
<b>Financial position of Utility -</b>		<b>SCN-A</b>				
Sl.no	Description	Units	2015-16	2016-17	2017-18	2018-19
1	Net sales-Power	Rs Cr	6,553	7,038	7,611	8,233
2	Meter rent,theft recov etc	Rs Cr	89	92	95	99
3	Revenue Subsidies & Grants	Rs Cr	-	-	-	-
4	Other Income (Intt., DPS etc.)	Rs Cr	56	59	62	65
<b>Total Income</b>			<b>6,698</b>	<b>7,189</b>	<b>7,768</b>	<b>8,397</b>
<b>Expenditure</b>						
5	Power Purchase	Rs Cr	6,879	7,405	7,974	8,591
6	Employee cost	Rs Cr	160	176	194	213
7	R & M Cost	Rs Cr	117	124	131	139
8	Admn. & General expenses	Rs Cr	144	153	162	171
9	Others	Rs Cr	-	-	-	-
<b>Total Expenses</b>			<b>7,300</b>	<b>7,857</b>	<b>8,461</b>	<b>9,114</b>
10	Gross Profit	Rs Cr	(602)	(669)	(693)	(718)
11	Interest	Rs Cr	141	217	321	463
12	Depreciation	Rs Cr	158	158	158	158
13	Profit before tax	Rs Cr	(901)	(1,044)	(1,173)	(1,339)
14	Tax	Rs Cr	-	-	-	-
<b>Net Profit after taxes</b>			<b>(901)</b>	<b>(1,044)</b>	<b>(1,173)</b>	<b>(1,339)</b>

\* The Requirement at state periphery has been arrived at by the difference of total annual energy requirement of the State and the same for only the state DISCOMs (Refer Table No. 4.3 in Chapter-4)

Table-10.4D

**Cash-Flow Statement for Private DISCOM (Scenario A)**

(In Rs. Crore)

<b>Cash-flow statement</b>				
				(Rs.in Cr.)
<b>Description</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Cash inflow</b>				
-Grants	-	-	-	-
-Equity	-	-	-	-
-Long term loans-Govt.	-	-	-	-
-Profit before Tax	(901)	(1,044)	(1,173)	(1,339)
-Depreciation	158	158	158	158
-Interest	141	217	321	463
-Bank borrowings for working capital	-	-	-	-
-Security deposit from consumers	66	73	80	88
Deposit for Electrification, Service Connection etc.	4	5	5	6
Short term borrowings	1,507	2,651	3,941	5,425
<b>Total Cash inflow</b>	<b>975</b>	<b>2,059</b>	<b>3,333</b>	<b>4,801</b>
<b>Cash outflow</b>				
-capital expenditure	-	-	-	-
-Loan repayments	119	119	119	119
-Repayment of short term borrowings	648	1,507	2,651	3,941
-Interest payouts	141	133	125	119
-Increase in working capital	46	104	93	110
-Interest on short term borrowings	84	196	345	512
-Tax	-	-	-	-
<b>Total cash outflow</b>	<b>1,039</b>	<b>2,059</b>	<b>3,333</b>	<b>4,801</b>
Net cash inflow	(64)	-	0	(0)
Opening cash balance from previous year	64	(0)	0	(0)
<b>Closing cash balance</b>	<b>0</b>	<b>(0)</b>	<b>0</b>	<b>(0)</b>

**Scenario B: Non-Adherence to Performance Parameters (Loss Reduction Trajectory) and subsequent dependence on Higher Tariff Hike for viability.**

**ASSUMPTIONS**

- AT&C losses higher by 1% than the targeted trajectory.
- All other assumptions same as in Base case



Table-10.5A

## Financial Position of the State Gov DISCOMs (Scenario B)

(In Rs. Crores)

Assumptions		SCN-B				
Sl.no	Description	Units	2015-16	2016-17	2017-18	2018-19
1	Total unrestricted annual energy requirement (Consumer end)	MU	65,144	70,045	75,325	81,014
2	Requirement at state periphery (Grossed up)	MU	81,360	85,661	91,579	97,923
3	AT & C Losses(As per agreed trajectory)	%	15.50%	15.00%	14.50%	14.00%
4	Collection efficiency	%	100.0%	100.0%	100.0%	100.0%
5	T&D Losses excl inter state transmission losses	%	18.71%	18.23%	17.75%	17.27%
6	Inter state transmission losses	%	1.50%	1.50%	1.50%	1.50%
7	Energy availability at state periphery(MU)		79,202	84,665	90,521	96,798
8	Power purchase cost incl intra state transmission charges	Rs/Unit	3.95	3.95	3.95	3.95
9	Purchased power	MU	81,360	85,661	91,579	97,923
10	Average billing rate	Rs/Unit	5.13	5.13	5.13	5.13
11	Tariff increase	%	0.0%	0.0%	0.0%	0.0%
12	Effective Average billing rate	Rs/Unit	5.13	5.13	5.13	5.13
13	Surplus energy available	MU	42361	43723	44187	43275
14	Backdown energy	MU	42361	43723	44187	43275
15	Surplus energy sold to other states	MU	-	-	-	-
<b>Expense</b>						
1	Employ cost escalation	%	10%	10%	10%	10%
2	Repair & Maintenance escalation	%	6%	6%	6%	6%
3	Administrative & General escalation	%	6%	6%	6%	6%
<b>Financial position of Utility -</b>		<b>SCN-B</b>				
Sl.no	Description	Units	2015-16	2016-17	2017-18	2018-19
1	Net sales-Power	Rs Cr	33,419	35,946	38,649	41,560
2	Meter rent,theft recov etc	Rs Cr	906	939	972	1,007
3	Revenue Subsidies	Rs Cr	1,100	1,100	1,100	1,100
4	Other Income (Intt., DPS & Grant etc.)	Rs Cr	740	754	769	785
<b>Total Income</b>			<b>36,165</b>	<b>38,739</b>	<b>41,491</b>	<b>44,452</b>
<b>Expenditure</b>						
4	Power Purchase	Rs Cr	32,137	33,836	36,174	38,680
5	Fixed cost payable against backdown capacity	Rs Cr	-	-	-	-
6	Employee cost	Rs Cr	1,684	1,853	2,038	2,242
7	R & M Cost	Rs Cr	128	136	144	153
8	Admn. & General expenses	Rs Cr	137	145	154	163
9	Others	Rs Cr	170	170	170	170
<b>Total Expenses</b>			<b>34,257</b>	<b>36,140</b>	<b>38,680</b>	<b>41,408</b>
10	Gross Profit	Rs Cr	1,908	2,598	2,811	3,044
11	Interest	Rs Cr	777	1,114	1,400	1,571
12	Depreciation	Rs Cr	1,211	1,418	1,610	1,768
13	Profit before tax	Rs Cr	(79)	67	(199)	(295)
14	Tax	Rs Cr	-	23	-	-
<b>Net Profit after taxes</b>			<b>(79)</b>	<b>44</b>	<b>(199)</b>	<b>(295)</b>

Table-10.5B

<b>Cash-flow statement</b>				
				(Rs.in Cr.)
Description	2015-16	2016-17	2017-18	2018-19
<b>Cash inflow</b>				
-Grants	123	613	638	499
-Equity	1,041	1,012	1,005	967
-Long term loans-Govt.	2,615	3,005	2,255	1,758
-Profit before Tax	(79)	67	(199)	(295)
-Depreciation	1,211	1,418	1,610	1,768
-Interest	777	1,114	1,400	1,571
-Bank borrowings for working capital	1	2	2	2
-Security deposit from consumers	396	436	479	527
Deposit for Electrification, Service Connection etc.	48	53	58	64
Short term borrowings	-	-	-	-
<b>Total Cash inflow</b>	<b>6,132</b>	<b>7,718</b>	<b>7,249</b>	<b>6,862</b>
<b>Cash outflow</b>				
-capital expenditure	3,779	4,629	3,899	3,225
-Loan repayments	312	312	874	1,044
-Repayment of short term borrowings	-	-	-	-
-Interest payouts	777	1,114	1,400	1,571
-Increase in working capital	59	109	79	93
-Interest on short term borrowings	-	-	-	-
-Tax	-	23	-	-
<b>Total cash outflow</b>	<b>4,927</b>	<b>6,188</b>	<b>6,252</b>	<b>5,933</b>
Net cash inflow	1,205	1,530	997	929
Opening cash & bank balance from previous year	492	1,697	3,227	4,224
<b>Closing cash balance</b>	<b>1,697</b>	<b>3,227</b>	<b>4,224</b>	<b>5,153</b>

The scenario exhibits that if state DISCOMs do not adhere to the committed AT&C loss reduction trajectory by even 1%, financial losses would be there.

Tariff Hike to the tune of 1.0% in FY 2016-17 on average Billing rate of Rs. 5.13 per unit in FY 2016-17 would be required for financial sustainability.

**Scenario C: All the funding including those by GOI as per Debt : Equity ratio of 70:30**

#### ASSUMPTIONS

- All schemes finance as per D:E Ratio of 70:30.
- All other assumptions same as in Base case
- Grant considered as zero in all future years.



Table-10.6A

## Financial Position of the State Gov DISCOMs (Scenario C)

(In Rs. Crores)

Assumptions		SCN-C				
Sl.no	Description	Units	2015-16	2016-17	2017-18	2018-19
1	Total unrestricted annual energy requirement (Consumer end)	MU	65,144	70,045	75,325	81,014
2	Requirement at state periphery (Grossed up)	MU	80,408	84,665	90,521	96,798
3	AT & C Losses(As per agreed trajectory)	%	14.50%	14.00%	13.50%	13.00%
4	Collection efficiency	%	100.0%	100.0%	100.0%	100.0%
5	T&D Losses excl inter state transmission losses	%	17.75%	17.27%	16.79%	16.31%
6	Inter state transmission losses	%	1.50%	1.50%	1.50%	1.50%
7	Energy availability at state periphery(MU)		79,202	84,665	90,521	96,798
8	Power purchase cost incl intra state transmission charges	Rs/Unit	3.95	3.95	3.95	3.95
9	Purchased power	MU	80,408	84,665	90,521	96,798
10	Average billing rate	Rs/Unit	5.13	5.13	5.13	5.13
11	Tariff increase	%	0.0%	0.0%	0.0%	0.0%
12	Effective Average billing rate	Rs/Unit	5.13	5.13	5.13	5.13
13	Surplus energy available	MU	42361	43723	44187	43275
14	Backdown energy	MU	42361	43723	44187	43275
15	Surplus energy sold to other states	MU	-	-	-	-
<b>Expense</b>						
1	Employ cost escalation	%	10%	10%	10%	10%
2	Repair & Maintenance escalation	%	6%	6%	6%	6%
3	Administrative & General escalation	%	6%	6%	6%	6%
<b>Financial position of Utility -</b>		<b>SCN-C</b>				
<b>Sl.no</b>	<b>Description</b>	<b>Units</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
1	Net sales-Power	Rs Cr	33,419	35,946	38,649	41,560
2	Meter rent,theft recov etc	Rs Cr	906	939	972	1,007
3	Revenue Subsidies	Rs Cr	1,100	1,100	1,100	1,100
4	Other Income (Intt., DPS & Grant etc.)	Rs Cr	740	754	769	785
<b>Total Income</b>			<b>36,165</b>	<b>38,739</b>	<b>41,491</b>	<b>44,452</b>
<b>Expenditure</b>						
4	Power Purchase	Rs Cr	31,761	33,443	35,756	38,235
5	Fixed cost payable against backdown capacity	Rs Cr	-	-	-	-
6	Employee cost	Rs Cr	1,684	1,853	2,038	2,242
7	R & M Cost	Rs Cr	128	136	144	153
8	Admn. & General expenses	Rs Cr	137	145	154	163
9	Others	Rs Cr	170	170	170	170
<b>Total Expenses</b>			<b>33,881</b>	<b>35,747</b>	<b>38,262</b>	<b>40,963</b>
10	Gross Profit	Rs Cr	2,284	2,992	3,229	3,489
11	Interest	Rs Cr	782	1,148	1,476	1,659
12	Depreciation	Rs Cr	1,214	1,440	1,661	1,832
13	Profit before tax	Rs Cr	288	403	92	(3)
14	Tax	Rs Cr	100	140	32	-
<b>Net Profit after taxes</b>			<b>189</b>	<b>264</b>	<b>60</b>	<b>(3)</b>

**Table-10.6B**

<b>Cash-flow statement</b>				
				(Rs.in Cr.)
<b>Description</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Cash inflow</b>				
-Grants	-	-	-	-
-Equity	1,082	1,216	1,170	967
-Long term loans-Govt.	2,697	3,413	2,584	1,758
-Profit before Tax	288	403	92	(3)
-Depreciation	1,214	1,440	1,661	1,832
-Interest	782	1,148	1,476	1,659
-Bank borrowings for working capital	1	2	2	2
-Security deposit from consumers	396	436	479	527
Deposit for Electrification, Service Connection etc.	48	53	58	64
Short term borrowings	-	-	-	-
<b>Total Cash inflow</b>	<b>6,508</b>	<b>8,111</b>	<b>7,521</b>	<b>6,808</b>
<b>Cash outflow</b>				
-capital expenditure	3,779	4,629	3,899	3,225
-Loan repayments	312	312	923	1,121
-Repayment of short term borrowings	-	-	-	-
-Interest payouts	782	1,148	1,476	1,659
-Increase in working capital	91	111	81	95
-Interest on short term borrowings	-	-	-	-
-Tax	100	140	32	-
<b>Total cash outflow</b>	<b>5,063</b>	<b>6,340</b>	<b>6,411</b>	<b>6,099</b>
Net cash inflow	1,445	1,771	1,111	708
Opening cash & bank balance from previous year	492	1,937	3,708	4,819
<b>Closing cash balance</b>	<b>1,937</b>	<b>3,708</b>	<b>4,819</b>	<b>5,527</b>

Tariff Hike to the tune of 1.0% in FY 2016-17 on average Billing rate of Rs. 5.13 per unit in FY

2016-17 would be required for financial sustainability.



## Scenario D: As per UDAY Scheme

### ASSUMPTIONS

- State to take over 75.0% of DISCOMs debt as on 30 sept' 2015 over two years -50.0% in FY 2015-16 and 25.0% in FY 2016-17.
- Interest rate on balance 25.0% to be charged at 9.0%

**Table-10.7A**

### **Financial Position of the State Gov DISCOMs (Scenario D)**

(In Rs. Crores)

Assumptions		SCN-D				
Sl.no	Description	Units	2015-16	2016-17	2017-18	2018-19
1	Total unrestricted annual energy requirement (Consumer end)	MU	65,144	70,045	75,325	81,014
2	Requirement at state periphery (Grossed up)	MU	80,408	84,665	90,521	96,798
3	AT & C Losses(As per agreed trajectory)	%	14.50%	14.00%	13.50%	13.00%
4	Collection efficiency	%	100.0%	100.0%	100.0%	100.0%
5	T&D Losses excl inter state transmission losses	%	17.75%	17.27%	16.79%	16.31%
6	Inter state transmission losses	%	1.50%	1.50%	1.50%	1.50%
7	Energy availability at state periphery(MU)		79,202	84,665	90,521	96,798
8	Power purchase cost incl intra state transmission charges	Rs/Unit	3.95	3.95	3.95	3.95
9	Purchased power	MU	80,408	84,665	90,521	96,798
10	Average billing rate	Rs/Unit	5.13	5.13	5.13	5.13
11	Tariff increase	%	0.0%	0.0%	0.0%	0.0%
12	Effective Average billing rate	Rs/Unit	5.13	5.13	5.13	5.13
13	Surplus energy available	MU	42361	43723	44187	43275
14	Backdown energy	MU	42361	43723	44187	43275
15	Surplus energy sold to other states	MU	-	-	-	-
	<b>Expense</b>					
1	Employ cost escalation	%	10%	10%	10%	10%
2	Repair & Maintenance escalation	%	6%	6%	6%	6%
3	Administrative & General escalation	%	6%	6%	6%	6%
	<b>Financial position of Utility -</b>	<b>SCN-D</b>				
Sl.no	Description	Units	2015-16	2016-17	2017-18	2018-19
1	Net sales-Power	Rs Cr	33,419	35,946	38,649	41,560
2	Meter rent,theft recov etc	Rs Cr	906	939	972	1,007
3	Revenue Subsidies	Rs Cr	1,100	1,100	1,100	1,100
4	Other Income (Intt., DPS & Grant etc.)	Rs Cr	740	754	769	785
	<b>Total Income</b>		<b>36,165</b>	<b>38,739</b>	<b>41,491</b>	<b>44,452</b>
	<b>Expenditure</b>					
4	Power Purchase	Rs Cr	31,761	33,443	35,756	38,235
5	Fixed cost payable against backdown capacity	Rs Cr	-	-	-	-
6	Employee cost	Rs Cr	1,684	1,853	2,038	2,242
7	R & M Cost	Rs Cr	128	136	144	153
8	Admn. & General expenses	Rs Cr	137	145	154	163
9	Others	Rs Cr	170	170	170	170
	<b>Total Expenses</b>		<b>33,881</b>	<b>35,747</b>	<b>38,262</b>	<b>40,963</b>
10	Gross Profit	Rs Cr	2,284	2,992	3,229	3,489
11	Interest	Rs Cr	765	996	1,290	1,499
12	Depreciation	Rs Cr	1,211	1,418	1,610	1,768
13	Profit before tax	Rs Cr	308	578	329	222
14	Tax	Rs Cr	107	200	114	77
	<b>Net Profit after taxes</b>		<b>202</b>	<b>378</b>	<b>215</b>	<b>145</b>



Table-10.7B

<b>Cash-flow statement</b>				
				(Rs.in Cr.)
Description	2015-16	2016-17	2017-18	2018-19
<b>Cash inflow</b>				
-Grants	123	613	638	499
-Equity	1,041	1,012	1,005	967
-Long term loans-Govt.	2,615	3,005	2,255	1,758
-Profit before Tax	308	578	329	222
-Depreciation	1,211	1,418	1,610	1,768
-Interest	765	996	1,290	1,499
-Bank borrowings for working capital	1	2	2	2
-Security deposit from consumers	396	436	479	527
Deposit for Electrification, Service Connection etc.	48	53	58	64
Short term borrowings	-	-	-	-
<b>Total Cash inflow</b>	<b>6,508</b>	<b>8,111</b>	<b>7,667</b>	<b>7,306</b>
<b>Cash outflow</b>				
-capital expenditure	3,779	4,629	3,899	3,225
-Loan repayments	-	-	562	731
-Repayment of short term borrowings	-	-	-	-
-Interest payouts	765	996	1,290	1,499
-Increase in working capital	91	111	81	95
-Interest on short term borrowings	-	-	-	-
-Tax	107	200	114	77
<b>Total cash outflow</b>	<b>4,741</b>	<b>5,936</b>	<b>5,946</b>	<b>5,627</b>
Net cash inflow	1,767	2,175	1,721	1,680
Opening cash & bank balance from previous year	492	2,259	4,435	6,156
<b>Closing cash balance</b>	<b>2,259</b>	<b>4,435</b>	<b>6,156</b>	<b>7,836</b>

Tariff Hike would not be required as profitability is there.



## CHAPTER – 11 : OTHER INITIATIVES

### Communication

Successful implementation of 24X7 Power Supply Scheme requires clear communication among all the stakeholders across the value chain, including the consumers. In order to avoid potential roadblocks in implementation due to poor communication and flow of information, the following table lists the primary responsibility of each stakeholder and the corresponding method in which it will be carried out.

A centralized corporate communication team can be formed at headquarters of the DISCOM for

looking at activities of overall communication strategy.

The financial situation in Gujarat makes it imperative to raise tariffs while other initiatives including 24X7 supply are implemented. Such tariff increases would inevitably impact consumers and meet with resistance. To address this, the utilities would clearly communicate their plans on implementing the reliable 24X7 supply scheme along with the other reliability and efficiency improvement measures that they are implementing. A high level of involvement of the Government of Gujarat will also be required.

**Table-11.1**

**Proposed communication responsibilities**

Communication Objective	Responsibility	Frequency
“ Power for all” - Roll Out Plan	ACS, Power	Quarterly
Power Supply Position	MD Transco	Daily
Energy Savings & Conservation	MD, Discoms	Monthly
Planned Outages & Disruption	MD, Discoms	Daily
Real time feeder-wise Information	MD, Discoms	Daily
Status update on Deliverables	ACS, Power	Quarterly
Renewable Power	Director, State Renewable Energy Deptt	Quarterly
Generation- Projects, PLF & Fuel	MD, State Genco	Monthly
Transmission Projects – Physical Progress and Achievements	MD, Transco	Monthly
Distribution – Progress ,Achievements, Losses, Consumer Initiatives etc.	MD, Discoms	Monthly

### Information Technology Initiatives

The need to adopt IT in every sphere of utility operation is pervasive. Power is a complex product that must be consumed on a real time basis. The overall value involved in the process is very high. Even more importantly it touches all citizens. Yet, the information systems that drive the operations of the sector are generally very basic and information transparency and consistency is poor. While sporadic efforts have been made in the past to improve this, quantum changes are required to increase IT adoption in all spheres of power sector operation.

In Gujarat, IT adoption on a massive scale will required to be pursued in the following areas:

- At the corporate level, the operations need to be integrated through implementation of Enterprise Resource Planning Systems (ERP). This would cover critical aspects like Finance and Accounts, Asset Management, Inventory Management, Human Resource Management, Project Management, Personal information System (PIS). ERP will help in timely capitalization of asset, deriving better business value of investment etc.
- At the commercial operations level there is a need to comprehensively implement Customer Management Systems (CMS) for undertaking customer related processes including billing and collections, customer



complaint management, new connection provision etc.

- Centralized Information & Monitoring System for operational, enforcement & litigation, vigilance activities and analysis.
- Power management would require the institution of technically capable controlling facilities equipped with tools like SCADA and Distribution Management Systems (DMS) that allow for adequate visualization of the networks and response capabilities. Technologies for sub-station automation, GIS, SCADA, DMS, OMS, etc., shall be adopted. For the urban areas SCADA is quite useful for improving reliability and reduction of network downtime.
- Regional Distribution Control Centres (RDCC) within the State are proposed to be established. These will initially cater to the principal load centres, but would thereafter be expanded to all load centres of the state. This will be a key initiative, not only for effectively managing 24X7 supply, but also thereafter for other functions like forecasting.
- Renewable Energy Management centres shall be established and equipped with adequate capabilities through financing availed from KfW and ADB.
- Power procurement optimization tools will be implemented to reduce the power procurement costs and improve supply reliability. This shall be achieved through the institution of technically robust forecasting, scheduling and dispatch (Unit Commitment) and settlement tools. The tools shall be used to ensure that the control room operators have the ability to take real time decisions to ensure cost reduction.
- Project monitoring tools shall be incorporated in the PMU to ensure that progress on the investments in the state are

monitored rigorously and bottlenecks identified.

- Standards of service specified under Section 57 of the EA 2003 shall be monitored. The utilities shall use IT tools to gather the information with regards to service standards with minimal manual intervention to ensure transparency and credibility.

The above need to be implemented urgently, and also need to be integrated with each other to ensure that the systems are inter-operable (i.e., they can talk to each other). For this the utilities shall evolve a detailed IT plan to implement the above in a well-coordinated manner.

### Institutional Arrangement

A strong monitoring framework is essential to ensure the success of the “Power for all” scheme. The following structure is being proposed to undertake regular monitoring of the progress of all initiatives being under-taken in this scheme.

- **Government of India (GOI) Level Committee:** It is proposed that this committee will review the overall progress of the scheme on a quarterly basis and provide necessary support to ensure a coordinated response from the Central Govt. - where necessary. The committee may be constituted with the following members – PFC, REC, CEA, SECI, EESL, Ministry of Power Ministry of Coal, and MNRE.
- **State Government Level Committee:** It is proposed that a State level committee headed by the Chief Secretary will be formed to review the progress of the scheme on a quarterly basis. This committee will monitor the progress of the works undertaken as part of the scheme and issue directions to enable faster execution. This committee will be constituted with the following Principal Secretaries/ Secretaries of the Power, Finance, Urban Development, Agriculture and other relevant departments along with the CMD/Chairman/MD of state utilities.



- **Department Level Committee:** It is proposed that the Department level committee headed by the ACS power/Secretary Power will be formed and shall undertake steps required to ensure the projects are progressing as per the action plan. This committee will undertake progress reviews on a monthly basis. The committee will be constituted with the following members –ACS Power /Secretary Power and MDs of state power utilities.
- **District Level Committee** – It is proposed to constitute a district level committee headed by the Deputy Commissioner to take action that is necessary to ensure the projects are completed in a timely manner and address any issues pertaining to land or other relevant approvals. The committee will be constituted with the following members – Deputy Commissioner and Superintendent Engineer of state utilities.
- **Project Monitoring Unit (PMU)** – A project monitoring unit shall be set up for monitoring the progress of the works being undertaken under this scheme. The PMU will operate under the Secretary, Energy and shall be operated by an external independent agency. The PMU shall be responsible for undertaking coordination, preparing the action plans and monitoring progress of all works under the “Power for all” scheme. The PMU would also help facilitate in tracking the action steps and providing feedback to the

various committee that are proposed to be set up under the scheme. Government of India shall provide grants for the PMU operations.

The committees that are being proposed above are required to be set up at the earliest to kick start the whole scheme. It is important that the committees keep meeting on a regular basis as per the frequency/ timelines mentioned above – to ensure that the objectives set out under the “Power for all” scheme are achieved.

### Capacity Building

With the increase of IT in the Generation, Transmission & Distribution system and to meet the expectations of 24 X 7 power supply for the consumers in the state, it is important to focus on capacity building of the employees for enhancement of technical know-how for latest technological developments and to increase the consumer satisfaction. The capacity building may also include consumer grievance system, awareness regarding importance of working with safety, outage management system, demand side management etc. It is also imperative to state that for serving the consumers in a different way change of mindset of the employees would be required. It is critical that Change Management initiatives are rolled out and institutionalized throughout the DISCOM for achieving better results. The details of the present employee in the Gujarat Discoms is as under:

**Table-11.2**

#### Employee Base

Sl. No.	Name of Co.	Class	Tech	Non-Tech	Sanctioned Post
1	PGVCL	I	548	51	599
2		II	773	133	906
3		III	1793	4594	6387
4		IV	4614	755	5369
	<b>TOTAL</b>		<b>7728</b>	<b>5533</b>	<b>13261</b>
1	DGVCL	I	271	29	300
2		II	409	53	462
3		III	778	2060	2838
4		IV	2309	274	2583
	<b>TOTAL</b>		<b>3767</b>	<b>2416</b>	<b>6183</b>
1	MGVCL	I	248	37	285
2		II	318	93	411



Sl. No.	Name of Co.	Class	Tech	Non-Tech	Sanctioned Post
3		III	904	2228	3132
4		IV	2443	436	2879
	<b>TOTAL</b>		<b>3913</b>	<b>2794</b>	<b>6707</b>
1	<b>UGVCL</b>	I	284	23	307
2		II	398	73	471
3		III	888	2580	3468
4		IV	2862	392	3254
	<b>TOTAL</b>		<b>4432</b>	<b>3068</b>	<b>7500</b>
1	<b>GSECL</b>	I	1053	96	1149
2		II	900	92	992
3		III	3441	798	4239
4		IV	2120	555	2675
	<b>TOTAL</b>		<b>7514</b>	<b>1541</b>	<b>9055</b>
1	<b>GETCO</b>	I	701	45	746
2		II	792	92	884
3		III	4915	1091	6006
4		IV	4556	419	4975
	<b>TOTAL</b>		<b>10964</b>	<b>1647</b>	<b>12611</b>
1	<b>GUVNL</b>	I	64	36	100
2		II	27	25	52
3		III	13	99	112
4		IV	7	81	88
	<b>TOTAL</b>		<b>111</b>	<b>241</b>	<b>352</b>
1	<b>All</b>	I	3169	317	3486
2		II	3617	561	4178
3		III	12732	13450	26182
4		IV	18911	2912	21823
	<b>TOTAL</b>		<b>38429</b>	<b>17240</b>	<b>55669</b>

In view of the importance of the training on new technologies, there is a requirement for development and implementation of Human Resource training program so as to realize the dream of 24 X 7 power supply system in the state in its true sense .

Gujarat Energy Training and Research Institute (GETRI) is an autonomous institute promoted by Gujarat Urja Vikas Nigan Limited and its group companies and registered under Bombay Public

Trust Act. This institute has been established with a view to provide a platform for continuous development of employees by imparting various training, supported by research and documentation of best practices needed in the modern era.

Various internal & external training programmes conducted by Power companies for their Technical & Non technical Employees is shown in **Annexure-XIII**



## CHAPTER – 12 : YEAR WISE ROLL OUT PLAN

DELIVERABLES						
Power for All – Roll Out Plan	Units	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total
GENERATION						
Generation (State Sector )	MW	876	-	-	800	1676
NCE / RNES including state RES (solar PV)	MW	788	730	1425	1525	4468
IPP (State)	MW	500	-	-	-	500
Central Sector	MW	240	876	220	220	1556
IPP (Private) Projects / Purchase	MW	-	-	-	-	-
<b>TOTAL</b>	<b>MW</b>	<b>2404</b>	<b>1606</b>	<b>1645</b>	<b>2545</b>	<b>8200</b>
TRANSMISSION						
<b>Inter State</b>						
Grid Substation (New/ Augmentation)						
765/400 KV	Nos/MVA				2/6000	2/6000
400/220 KV	Nos/MVA		1/1000		2/2000	3/3000
<b>Lines</b>						
765 KV	ckt km					
400 KV	ckt km	408	610			1018
<b>Intra State</b>						
Grid Substation (New/ Augmentation)						
400/220 KV	Nos/MVA	4075	2945	2815	3000	12835
220/132 KV	Nos/MVA	250	900	900	400	2450
220/66 KV	Nos/MVA	3180	3260	3260	3100	12800
132/66 KV	Nos/MVA	500	450	200	200	1350
132/11 KV	Nos/MVA	50	-	-	-	50
<b>Lines</b>						
400 KV	ckt km	510	595	550	600	2255



DELIVERABLES						
Power for All – Roll Out Plan	Units	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total
220 KV	ckt km	1140	1126	950	950	4166
DISTRIBUTION						
No. of 66KV & 33kV Lines/feeders	No.	94	98	96	98	386
Total length of 66KV & 33 kV lines in	ckt. Km.	1484	1568	1656	1749	6456
Total No. of 220/11 kV,132/11kV, 66/11, & 33/11kV PSS	No.	90	96	102	108	396
Total capacity of 220/11 kV,132/11kV, 66/11 & 33/11kV PSS in MVA	MVA.	2700	2861	3031	3211	11802
<b>Total No. of Distribution transformers</b>	No.	<b>104938</b>	<b>124336</b>	<b>140010</b>	<b>157660</b>	<b>526945</b>
Total capacity of Distribution transformers in MVA	MVA.	3119	3465	3768	4097	14448
No of 11 KV+22KV Lines	No	620	652	685	720	2677
<b>Total length of 11KV+22 KV lines in ckt. Km</b>	ckt. Km	<b>24520</b>	<b>26363</b>	<b>28346</b>	<b>30477</b>	<b>109706</b>
<b>Total length of LT Lines in ckt. Km</b>	ckt. Km	<b>4700</b>	<b>4772</b>	<b>4845</b>	<b>4919</b>	<b>19235</b>
<b>AT&amp;C losses</b>	%	<b>14.50</b>	<b>14.00</b>	<b>13.50</b>	<b>13.00</b>	
RENEWABLE ENERGY						
Solar Power *	MW	94	45	661	686	1486
Wind Power	MW	678	682	750	824	2934
Others: - Biomass Power - Bagasse Cogeneration - Small Hydro Power - Waste to Energy	MW	16	3	14	15	48
<b>Total Renewable Energy :</b>	<b>MW</b>	<b>788</b>	<b>730</b>	<b>1425</b>	<b>1525</b>	<b>4468</b>



## CHAPTER - 13 : SECTOR WISE INVESTMENT PLAN & FUND REQUIREMENT

(in Rs. Crore)

		Sector	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total	Remarks
<b>Generation</b>	Projects under Expansion	Sikka Extension-3 & 4	134.00	0.00	0.00	0.00	134.00	
		Wankbori thermal	719.40	1194.80	1281.70	1269.10	4465.00	
	R & M Works (Special Projects)	Wanakbori Unit 1-6	60.25	89.88	143.99	260.68	554.80	
		Ukai Unit 3-5	115.24	117.57	52.90	219.25	504.96	
		Gandhinagar	1.00	7.25	0.00	0.00	8.25	
	<b>Total Investment</b>		<b>1029.89</b>	<b>1409.50</b>	<b>1478.59</b>	<b>1749.03</b>	<b>5667.01</b>	
	<b>Total Fund Requirement till FY 2018-19</b>		<b>1029.89</b>	<b>1409.50</b>	<b>1478.59</b>	<b>1749.03</b>	<b>5667.01</b>	
	<b>Grant from GoG for R &amp; M (Special Projects)</b>		<b>176.49</b>	<b>214.70</b>	<b>196.89</b>	<b>479.93</b>	<b>1068.01</b>	
	<b>Equity Contribution to be approved by GoG</b>		<b>177.38</b>	<b>238.96</b>	<b>256.34</b>	<b>253.82</b>	<b>926.50</b>	
<b>Transmission</b>	Loan from Commercial Banks/Fund requirement under PFA		676.02	955.84	1025.36	1015.28	3672.50	
	<b>Intra State</b>							
	400 KV Sub Station		328	146	237	180	891	
	400 KV Lines		688	594	641	451	2375	
	220 KV Sub Station		247	188	318	280	1033	
	220 KV Lines		285	218	251	276	1030	
	132 KV Sub Station		33	22	28	11	94	
	132 KV Lines		15	15	15	12	57	
	66 KV Sub Station		254	428	341	407	1429	
	66 KV Lines		197	338	283	325	1144	
	Bus Reactor		0	15	15	15	45	
	Capacitor Bank		0	32	32	32	96	
	SVC		0	2	2	2	6	
	<b>Total</b>		<b>2047</b>	<b>1998</b>	<b>2163</b>	<b>1992</b>	<b>8200</b>	
	R&M						0	
	Renovation and Modernization		174	100	150	150	574	
	Augmentation of Sub-station/ Lines		136	419	377	500	1432	
	<b>Total</b>		<b>309</b>	<b>519</b>	<b>527</b>	<b>650</b>	<b>2005</b>	
	OPGW		29	15	22	32	97	



		Sector	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total	Remarks
	<b>Grand Total</b>		<b>2385</b>	<b>2532</b>	<b>2712</b>	<b>2674</b>	<b>10302</b>	
	<b>Total Fund Requirement till FY 2018-19</b>		<b>2385</b>	<b>2532</b>	<b>2712</b>	<b>2674</b>	<b>10302</b>	
	Fund raise from Green Energy Corridor Project (Rs. 1962.12 Crore upto 2020)		0	392	589	589	<b>1570</b>	
	NCEF Grant (40%)		0	157	177	235	<b>569</b>	
	Loan from KfW (40%)		0	157	235	235	<b>628</b>	
	Equity (20%)		0	78	118	118	<b>314</b>	
	Fund requirement Excluding GEC		2385	2139	2123	2085	<b>8732</b>	
	Debt: 80% of the total Fund Requirement from Nationalized bank & ADB / <b>Fund requirement under PFA</b>		1908	1711	1699	1668	<b>6986</b>	
	<b>GoG Grant /Equity : 20% of total Fund Requirement (Including TASP &amp; Sagarkhedu share equity)</b>		<b>477</b>	<b>428</b>	<b>425</b>	<b>417</b>	<b>1746</b>	
<b>Total Transmission</b>			<b>2385</b>	<b>2532</b>	<b>2712</b>	<b>2674</b>	<b>10302</b>	
<b>Distribution</b>	RAPDRP Part-A		76.20	0.00			<b>76.20</b>	
	RAPDRP Part-A (SCADA)		38.39	57.59			<b>95.99</b>	
	RAPDRP Part-B		230.83	346.25			<b>577.08</b>	
	DDUGJY		92.01	460.06	372.63		<b>924.70</b>	
	IPDS		112.19	560.94	448.75		<b>1121.88</b>	
	System Strengthening activities of the distribution network		823.65	451.69	502.80	647.00	<b>2425.14</b>	
	TASP for sub stations / lines		160.00	160.00	160.00	160.00	<b>640.00</b>	
	Electrification of Hutments		20.00	20.00	20.00	20.00	<b>80.00</b>	
	Kutir Jyoti Scheme		3.75	3.75	3.75	3.75	<b>15.00</b>	
	TASP for Rural Electrification wells & petaparas		370.65	370.65	370.65	370.65	<b>1482.60</b>	
	Scheduled Caste Sub Plan		5.00	5.00	5.00	5.00	<b>20.00</b>	
	Energy Conservation		40.00	40.00	40.00	40.00	<b>160.00</b>	
	Sagar Khedu Sarvangi Vikas Yojana		425.00	425.00	425.00	425.00	<b>1700.00</b>	
	KHUSHY for PGVCL – Equity		150.00	150.00	150.00	150.00	<b>600.00</b>	
	Share capital for Agri. Connection		1158.14	1158.14	1158.14	1158.14	<b>4632.56</b>	
	Solar Pump Sets (AG)		60.00	60.00	60.00	60.00	<b>240.00</b>	



		Sector	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total	Remarks
	Scheduled Caste Sub Plan AG Connection (Capital)		35.00	35.00	35.00	35.00	140.00	
	Share Capital Contribution to GUVNL for shifting/replacement of Poles and Distribution Lines in the area of Municipal Corporations and Nagarpalikas		100.00	100.00	100.00	100.00	400.00	
	Assistance to State PSEs for providing solar based Decentralized Electrification in non-electrified areas (New item)		50.00	50.00	50.00	50.00	200.00	
	<b>Grand Total Distribution</b>		<b>3950.82</b>	<b>4454.07</b>	<b>3901.72</b>	<b>3224.54</b>	<b>15531.14</b>	
	Total Fund Requirement till FY 2018-19		3951	4454	3902	3225	15531	
	Fund from GoG Grant		2577.540	2577.540	2577.540	2577.540	10310	
	Fund from GoI Grant		550	1425	821	0	2796	
	Net fund requirement (Loan from Bank )/ <b>Fund requirement under PFA</b>		824	452	503	647	2425	
<b>Renewable Energy</b>	Solar Power		658.00	315.00	4627.00	4802.00	10402.00	* Gujarat has tie up the renewable capacity with ipps by PPA hence, this fund will not need to be arrange by GUVNL.
	Wind Power		4068.00	4092.00	4500.00	4944.00	17604.00	
	Others:		96.00	18.00	84.00	90.00	288.00	
	- Biomass Power							
	- Bagasse Cogeneration							
	- Small Hydro Power							
	- Waste to Energy							
<b>Total Renewable Energy</b>			<b>4822.00</b>	<b>4425.00</b>	<b>9211.00</b>	<b>9836.00</b>	<b>28294.00</b>	
<b>Grand Total</b>			<b>12187.44</b>	<b>12820.16</b>	<b>17303.14</b>	<b>17483.58</b>	<b>59794.32</b>	



**ANNEXURE – I**

**DETAILED CALCULATION OF ENERGY DEMAND UNDER DIFFERENT CATEGORIES**

Sl. No.	Particulars→ ↓	Calculation steps		Years			
				2015-16	2016-17	2017-18	2018-19
A	DEMAND PROJECTIONS FOR ELECTRIFIED HOUSEHOLDS						
1	Consumption of Rural Electrified Households						
2	Consumption (units per day per household)		Units	1.34	1.43	1.54	1.64
3	Annual Energy Requirement for existing electrified Rural Household	6332012	MUs	3,099	3,316	3,548	3,797
4	Consumption of Urban Electrified Households						
5	Consumption (units per day per household)		Units	4.22	4.52	4.83	5.17
6	Annual Energy Requirement for existing urban electrified Household	6725072	MUs	10,361	11,086	11,862	12,693
7	Consumption of Domestic consumers with Torrent power	0	MUs	-	-	-	-
7	Total Annual Energy Requirement for existing electrified households	(3+6+7)	MUs	13,460	14,402	15,410	16,489
B	ADDITIONAL ENERGY REQUIREMENTS FOR ELECTRIFIED DOMESTIC CONSUMERS						
1	Additional Energy Required for Electrified Households (Annual projection (-) current Energy available MUs)	(A7-E3)	MUs	880	1,822	2,830	3,909
C	ELECTRIFICATION OF UNELECTRIFIED HOUSEHOLDS ( per year)						
	URBAN						
1	Unelectrified Household as on 31.03.2014		Nos.				



Sl. No.	Particulars→ ↓	Calculation steps		Years			
				2015-16	2016-17	2017-18	2018-19
2	Electrification of unelectrified Household	-	Nos.	-	-	-	-
3	Cumulative Annual Energy Requirement for Electrification of unelectrified Household	$(A5 \times C2 \times 365) / 10^6$	MUs	-	-	-	-
	<b><u>RURAL</u></b>						
4	Unelectrified Households as on 31.03.2014	0	Nos.				
5	Targeted Electrification of unelectrified		%				
6	Electrification of unelectrified Household	$C4 \times C5$	Nos.	-	-	-	-
7	Cumulative Annual Energy Requirement for Electrification of unelectrified Household	$(A2 \times C6 \times 365) / 10^6$	MUs	-	-	-	-
8	Total households electrified out of unelectrified (Rural + Urban)	$(C2 + C6)$	Nos.	-	-	-	-
9	Annual Energy Requirement for Electrification of unelectrified Household	$(C3 + C7)$	MUs	-	-	-	-
<b>D</b>	<b>ELECTRIFICATION OF NEWLY CONSTRUCTED HOUSEHOLDS ( per year)</b>						
	<b><u>URBAN</u></b>						
1	Total Household - Urban (nos.) 2014	6725072					
	Yearly Increase in Urban H/H	3.72%	Nos	2,50,364	2,59,684	2,69,352	2,79,379
2	Yearly cumulative Increase in Urban H/H as per GoG		Nos.	2,50,364	5,10,048	7,79,399	10,58,779
3	Cumulative Annual Energy Requirement (MUs) for newly constructed Household - Urban	$(A5 \times D2 \times 365) / 10^6$	MUs	386	841	1,375	1,998
	<b><u>RURAL</u></b>						
4	Total Household Rural 2014	6332012					
	Yearly Increase in Rural H/H as per GOG	1.40%	Nos.	88,791	90,036	91,299	92,579

Sl. No.	Particulars→ ↓	Calculation steps		Years			
				2015-16	2016-17	2017-18	2018-19
5	Yearly cummulative Increase in Rural H/H as per GOR			88,791	1,78,827	2,70,126	3,62,705
6	Annual Energy Requirement for newly constructed Household	$(D5 \times A2 \times 365) / 10^6$	MUs	43	94	151	217
7	Total newly constructed households	(D2+D5)	Nos.	3,39,155	6,88,875	10,49,526	14,21,484
8	Cumulative Annual Energy Requirement for newly constructed Household	(D3+D6)	MUs	429	934	1,526	2,216
<b>E</b>	<b>ANNUAL ENERGY REQUIREMENTS</b>						
1	Total Additional Annual Energy Requirement - Domestic Consumer	(B1+C9+D8)	MUs	1,309	2,756	4,356	6,125
2	Current Energy Available - Total	70328	MUs	70,328	70,328	70,328	70,328
3	Current Energy Available - Domestic	12580	MUs	12,580	12,580	12,580	12,580
5	Total Domestic Annual Energy Requirement (Current + Projection)	(E1+E3)	MUs	13,889	15,336	16,936	18,705
6	Current Energy Available - Other than Domestic	57,748	MUs	57,748	57,748	57,748	57,748
7	Total Annual Energy Requirement - Other than Domestic Consumers (with 7% growth P.A.)		MUs	61,791	66,116	70,744	75,696
8	Additional Energy Required for other than domestic Categories of Consumers (yearwise)		MUs	4,042	4,325	4,628	4,952
7	Additional Energy Required for other than domestic (Cumulative)			4,042	8,368	12,996	17,948
9	Total Energy Requirements (all)	(E1+E2+E7)	MUs	75,680	81,452	87,680	94,401

**ANNEXURE – II**

**BREAK UP & DETAILS OF CAPACITIES EXISTING AND LIKELY TO BE ADDED YEAR WISE**

Sl. No.	Power Sources / Generating Stations	Type (Thermal / Hydro / NRSE etc.)	Location of the Plant	As on March 2015 (MW)	Capacity Available As Planned				REMARKS
					FY 2015-16 (MW)	FY 2016-17 (MW)	FY 2017-18 (MW)	FY 2018-19 (MW)	
A	STATE SECTOR (OWN) GENERATING STATIONS								
A1	THERMAL								
A1.1	Ukai Thermal Power Station, Ukai ( 2 x 120 MW + 2 x 200 MW + 1 x 210 MW + 1 x 500 MW)= 1350 MW	Thermal (coal)	Gujarat	1350	1350	1350	1350	1350	
A1.2	Gandhinagar Thermal Power Station, Gandhinagar (2 x 120 MW + 3 x 210 MW) = 870 MW	Thermal (coal)	Gujarat	870	870	870	870	870	
A1.3	Wanakbori Thermal Power Station (7 X 210 MW) = 1470 MW + 800 MW = 2270	Thermal (coal)	Gujarat	1470	1470	1470	1470	2270	800 MW Unit will be added in FY 2018 – 19 from extension U-8 (800 MW)
A1.4	Sikka Thermal Power Station ( 2 x 120 MW) = 240 MW + 500 MW = 740 MW	Thermal (coal)	Gujarat	240	740	740	740	740	500 MW Unit will be added in FY 2015 – 16 from U-3&4 (2x250 MW)
A1.5	Kutch Lignite Thermal Power Station (2 x 70 MW + 2 x 75 MW) = 290 MW	Thermal (Lignite)	Gujarat	290	290	290	290	290	
A1.6	Dhuvaran Thermal Power Station ( 4 x 63.5 + 2 x 140 MW) = 534 MW	Thermal (Gas)	Gujarat	0	0	0	0	0	All units have been retired. Last one in December 2010.
A1.7	Dhuvaran CCPP – I (1 x 67.85 MW GTG + 38.767 MW STG)	Thermal (Gas)	Gujarat	106	106	106	106	106	
A1.8	Dhuvaran CCPP – II (1 x 72.51 MW GTG + 1 x 39.94 MW STG)	Thermal (Gas)	Gujarat	112	112	112	112	112	
A1.9	Dhuvaran CCCP - III	Thermal	Gujarat	0	376	376	376	376	



Sl. No.	Power Sources / Generating Stations	Type (Thermal / Hydro / NRSE etc.)	Location of the Plant	As on March 2015 (MW)	Capacity Available As Planned				REMARKS
					FY 2015-16 (MW)	FY 2016-17 (MW)	FY 2017-18 (MW)	FY 2018-19 (MW)	
	(376 MW)	(Gas)							
A1.10	Utran Gas Based Power Station (CCPP - 1 & CCPP - 2), 510 MW	Thermal (Gas)	Gujarat	510	510	510	510	510	
A1.11	<b>SUBTOTAL STATE THERMAL</b>			<b>4948</b>	<b>5824</b>	<b>5824</b>	<b>5824</b>	<b>6624</b>	
<b>A2</b>	<b>HYDEL POWER GENERATING STATIONS (INCLUDING MICRO HYDRO PROJECTS)</b>								
A2.1	Ukai Hydro Power Station, Ukai ( 4 x 75 MW ) = 300 MW	Hydel	Gujarat	300	300	300	300	300	
A2.2	Ukai Left Bank Canal Hydro Power Station ( 2 x2.5 MW ) = 5 MW	Hydel (Small Hydro - RES)	Gujarat	5	5	5	5	5	
A2.3	Kadana Hydro Power Station ( 4 x 60 MW ) = 240 MW	Hydel	Gujarat	240	240	240	240	240	
A2.4	Panam Canal Mini Hydro Power Station (2 x 1 MW) = 2 MW	Hydel (Small Hydro - RES)	Gujarat	2	2	2	2	2	
A2.5	<b>SUBTOTAL STATE HYDEL</b>			<b>547</b>	<b>547</b>	<b>547</b>	<b>547</b>	<b>547</b>	
<b>A3</b>	<b>TOTAL STATE SECTOR (Thermal &amp; Hydel) (A1.11+A2.5)</b>			<b>5495</b>	<b>6371</b>	<b>6371</b>	<b>6371</b>	<b>7171</b>	
<b>B</b>	<b>CENTRAL SECTOR POWER GENERATING STATIONS (CGS)</b>								
<b>B1</b>	<b>CGS THERMAL</b>								
<b>B1a</b>	<b>NTPC THERMAL PLANTS</b>								
B1a.1	NTPC - Kawas , 656 MW - CCPP	Thermal (Gas)	Gujarat	187	187	187	187	187	
B1a.2	NTPC - Jhanor Gandhar , 657 MW - CCPP	Thermal (Gas)	Gujarat	237	237	237	237	237	
B1a.3	NTPC - Korba - ( 3 x 200 + 3 x 500 + 1 x 500 MW ) = 2600 MW	Thermal (Coal)	Chhattisgarh	456	456	456	456	456	
B1a.4	NTPC - Vindhyachal Stage 1, 2, 3 & 4 - ( 6 x 210 + 6 x 500 MW ) = 4260	Thermal (Coal)	M.P.	975	1068	1068	1068	1068	93 MW will be additionally available in

Sl. No.	Power Sources / Generating Stations	Type (Thermal / Hydro / NRSE etc.)	Location of the Plant	As on March 2015 (MW)	Capacity Available As Planned				REMARKS
					FY 2015-16 (MW)	FY 2016-17 (MW)	FY 2017-18 (MW)	FY 2018-19 (MW)	
	MW								FY 2015 – 16 From U-5
B1a.5	NTPC, Mouda Stage - I - 2 x 500 MW = 1000 MW	Thermal (Coal)	Maharashtra	240	360	480	480	480	120 MW will be additionally available in FY 2015 - 16, from Stage II U-1, Another 120 MW will be additionally available from 16 - 17, from Stage II, U-2.
B1a.6	NTPC - Sipat ( 3 x 660 + 2 x 500 ) = 2980 MW	Thermal (Coal)	Chhattisgarh	813	813	813	813	813	
B1a.7	NTPC - Kahalgaon II (3 x 500 MW) = 1500 MW	Thermal (Coal)	Bihar	141	141	141	141	141	
B1a.8	NTPC - Lara ( 2 x 800MW)	Thermal (Coal)	Chhattisgarh	0	0	280	280	280	280 MW will be available in FY 2016 - 17
B1a.9	NTPC - Gadarwara ( 1 x 800)	Thermal (Coal)	M.P.	0	0	0	220	220	220 MW will be available in FY 2017 - 18
B1a.10	NTPC - Khargone (1 x 660 MW)	Thermal (Coal)	M.P.	0	0	0	0	220	220 MW will be available in FY 2018 - 19
B1a.11	NTPC- North Karanpura (3X660MW)	Thermal (Coal)	Jharkhand	0	0	0	0	231	231 MW will be available in FY 2018 - 19
<b>B1a.12</b>	<b>SUB TOTAL - CGS NTPC THERMAL</b>			<b>3049</b>	<b>3262</b>	<b>3662</b>	<b>3882</b>	<b>4333</b>	
<b>B2</b>	<b>CGS NUCLEAR</b>								
<b>B2a</b>	<b>NPCIL NUCLEAR PLANT</b>								
B2a.1	Kakrapar Atomic Power Station (2 X 220MW) = 440 MW + 2 x 700 MW = 1840 MW	Nuclear	Gujarat	125	125	601	601	601	476 MW will be available in FY 2016 – 17 From Kakrapar Extension
B2a.2	Tarapur Atomic Power Station (1 & 2) ( 320 MW)	Nuclear	Maharashtra	160	160	160	160	160	
B2a.3	Tarapur Atomic Power Station (3 & 4) ( 1080 MW)	Nuclear	Maharashtra	274	274	274	274	274	

Sl. No.	Power Sources / Generating Stations	Type (Thermal / Hydro / NRSE etc.)	Location of the Plant	As on March 2015 (MW)	Capacity Available As Planned				REMARKS
					FY 2015-16 (MW)	FY 2016-17 (MW)	FY 2017-18 (MW)	FY 2018-19 (MW)	
B2a.4	<b>SUB TOTAL - CGS NUCLEAR</b>			<b>559</b>	<b>559</b>	<b>1035</b>	<b>1035</b>	<b>1035</b>	
<b>B3</b>	<b>CGS Hydel - (SARDAR SAROVAR NIGAM LTD.) - SSNL</b>								
B3.1	Share of Gujarat from SSP (RBPH) - River Bed Power House - (6 x 200 MW)	Hydel	Gujarat	192	192	192	192	192	
B3.2	Share of Gujarat from SSP (CHPH) - Canal Head Power House - (5 x 50 MW)	Hydel	Gujarat	40	40	40	40	40	
B3.3	<b>SUB TOTAL - CGS SSNL Hydel</b>			<b>232</b>	<b>232</b>	<b>232</b>	<b>232</b>	<b>232</b>	
<b>B4</b>	<b>TOTAL CGS SHARE (B1a.8 + B2a.4 + B3.3)</b>			<b>3840</b>	<b>4053</b>	<b>4929</b>	<b>5149</b>	<b>5600</b>	
<b>C</b>	<b>IPP (PRIVATE SECTOR) PROJECTS</b>								
C1	Torrent Power - Sabarmati (1 x 60MW + 1 x 120MW + 1 x 110MW + 1 x 121 MW)	Thermal (Coal)	Gujarat	400	400	400	400	400	
C2	Torrent Power - Vatva (2 x 32.5 MW - GT + 1 x 35 MW STG)	Thermal (Gas)	Gujarat	100	100	100	100	100	
C3	Torrent Power - SUGEN: (1148 MW)Uno SUGEN (383 MW)DGEN (1200 MW)CCPPs	Thermal (Gas)	Gujarat	<b>1548.00</b>	<b>1548.00</b>	<b>1548.00</b>	<b>1548.00</b>	<b>1548.00</b>	Shares of: SUGEN- 861MW UNOSUGEN-287 MW DGEN-400MW
C4	ESSAR Power Gujarat Ltd. (EPGL) - Salaya-I (2 x 600 MW)	Thermal (Coal)	Gujarat	1000	1000	1000	1000	1000	Competitive Bidding (Case - 1)
C5	ESSAR Power Generation Ltd. (EPGL) - HAzira (515 MW)	Thermal (Gas)	Gujarat	300	300	300	300	300	
C6	China Light Power India - CLPI (Gujarat Paguthan Energy Corprn. Ltd. - GPEC)(3 x 138 MW GTG + 1 x	Thermal (Gas)	Gujarat	655	655	655	655	655	

Sl. No.	Power Sources / Generating Stations	Type (Thermal / Hydro / NRSE etc.)	Location of the Plant	As on March 2015 (MW)	Capacity Available As Planned				REMARKS
					FY 2015-16 (MW)	FY 2016-17 (MW)	FY 2017-18 (MW)	FY 2018-19 (MW)	
	241 MW STG)								
C7	Adani Power – Mundra (5 x 660 MW + 4 x 330 MW) = 4620MW	Thermal (Coal)	Gujarat	2000	2000	2000	2000	2000	Competitive Bidding (Case – 1)
C8	Tata Power - Mundra - UMPP - CGPL ( Coastal Gujarat Power Ltd.)- (5 x 800 MW)	Thermal (Coal)	Gujarat	1805	1805	1805	1805	1805	Competitive Bidding (Case – 2)
C9	ACB (India Limited), Chattisgarh	Thermal (Coal)	Chattisgarh	200	200	200	200	200	Competitive Bidding (Case – 1)
C10	<b>TOTAL IPP (PRIVATE SECTOR) PROJECTS (SUM : C1 to C9)</b>			<b>8008</b>	<b>8008</b>	<b>8008</b>	<b>8008</b>	<b>8008</b>	
<b>D</b>	<b>IPP (STATE SECTOR) PROJECTS</b>								
D1	Gujarat Industries Power Co. Ltd. (GIPCL) - Vadodara - I, 165 MW Stage -II 145 MW	Thermal (Gas)	Gujarat	<b>310</b>	<b>310</b>	<b>310</b>	<b>310</b>	<b>310</b>	
D2	Gujarat Industries Power Co. Ltd. (GIPCL) - SLPP - I & II - Lignite Based (2 x 125 MW + 2 x 125 MW) = 500 MW	Thermal (Lignite)	Gujarat	<b>500</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>500</b>	
D3	Gujarat State Energy Generation Ltd. (GSEG) - Hazira Surat ( 156 MW CCPP)	Thermal (Gas)	Gujarat	<b>156</b>	<b>156</b>	<b>156</b>	<b>156</b>	<b>156</b>	
D4	Gujarat State Energy Generation Ltd. (GSEG) - Hazira - CCPP - II (351 MW CCPP)	Thermal (Gas)	Gujarat	<b>351</b>	<b>351</b>	<b>351</b>	<b>351</b>	<b>351</b>	
D5	Gujarat Mineral Development Corporation - GMDC - Akrimota ( 2 x 125 MW)	Thermal (Lignite)	Gujarat	<b>250</b>	<b>250</b>	<b>250</b>	<b>250</b>	<b>250</b>	
D6	Gujarat Pipavav Power Company	Thermal	Gujarat	<b>702</b>	<b>702</b>	<b>702</b>	<b>702</b>	<b>702</b>	



Sl. No.	Power Sources / Generating Stations	Type (Thermal / Hydro / NRSE etc.)	Location of the Plant	As on March 2015 (MW)	Capacity Available As Planned				REMARKS
					FY 2015-16 (MW)	FY 2016-17 (MW)	FY 2017-18 (MW)	FY 2018-19 (MW)	
	Ltd. (GPPC)(702 MW CCPP)	(Gas)							
D7	Bhavnagar Energy Co. Ltd. (BECL) - Unit 1 & 2 ( 2 x 250 MW = 500 MW)	Thermal (Lignite)	Gujarat	0	500	500	500	500	500 MW will be available in FY 2015 - 16
D8	<b>TOTAL IPP (STATE SECTOR) PROJECTS (SUM : D1 to D7)</b>			<b>2269</b>	<b>2769</b>	<b>2769</b>	<b>2769</b>	<b>2769</b>	
<b>E</b>	<b>GUJARAT ENERGY DEVELOPMENT AUTHORITY (GEDA) AND NEW &amp; RENEWABLE SOURCES OF ENERGY (State &amp; Private)</b>								
E1	Biomass IPP	NRSE	Gujarat	41.2	41.2	41.2	41.2	41.2	
E2	Mini / small Hydel	NRSE	Gujarat	9.6	25.6	28.6	42.6	57.6	
E3	Solar	NRSE	Gujarat	1003	1097	1142	1803	2489	
E4	Wind	NRSE	Gujarat	3542	4147	4814	5204	5618	
E5	<b>SUBTOTAL GEDA &amp; NRSE (State &amp; Private)</b>			<b>4596</b>	<b>5311</b>	<b>6026</b>	<b>7091</b>	<b>8206</b>	
	<b>GRAND TOTAL( A3+ B4+ C10+D7+E5)</b>			<b>24207.8</b>	<b>26511.8</b>	<b>28102.8</b>	<b>29387.8</b>	<b>31753.8</b>	

**DETAILS OF EXISTING INTRA-STATE GRID SUB-STATIONS**

Sl. No.	Name of Sub Station	TR. Circle	District	Taluka	Dt. of T.C / Commi.	Financial Year	Calendar Year	Voltage Class
1	220KV Mogar	Nadiad	Anand	Anand	28-01-1972 31-03-2015	71-72 14-15	1972 2015	220 KV
2	132KV Atul	Navsari	Valsad	Valsad	3/20/1973	72-73	1973	132 KV
3	132KV Bhesan	Navsari	Surat	Choryasi	1/3/1966	65-66	1966	132 KV
4	132KV Valia	Bharuch	Bharuch	Valiya	5/22/1972	72-73	1972	132 KV
5	132KV Bharuch	Bharuch	Bharuch	Bharuch	5/19/1973	73-74	1973	132 KV
6	132KV Ankleshwar	Bharuch	Bharuch	Ankleshwar	10/12/1976	76-77	1976	132 KV
7	132KV Tilakwada	Jambuva	Narmada	Tilakwada	9/4/1973	73-74	1973	132 KV
8	132KV Vasedi (Chhota' pur)	Jambuva	Chhotaudepur	Chhotaudepur	3/27/1998	97-98	1998	132 KV
9	132KV Manjusar	Jambuva	Vadodara	Savli	3/31/1996	95-96	1996	132 KV
10	132KV Fertilizernagar	Jambuva	Vadodara	Vadodara	12/10/1968	68-69	1968	132 KV
11	132KV Jawaharnagar	Jambuva	Vadodara	Vadodara	1/23/1973	72-73	1973	132 KV
12	132KV Nandesari (Dhanora)	Jambuva	Vadodara	Vadodara	7/27/1982	82-83	1982	132 KV
13	132KV Karjan (Miyagam)	Jambuva	Vadodara	Karjan	6/15/1989	89-90	1989	132 KV
14	132KV Gotri	Jambuva	Vadodara	Vadodara City	6/19/1964	64-65	1964	132 KV
15	132KV Dahod	Jambuva	Dahod	Dahod	12/17/1983	83-84	1983	132 KV
16	132KV Ode	Nadiad	Anand	Anand	2/10/1984	83-84	1984	132 KV
17	132KV Undel	Nadiad	Anand	Cambay	3/29/1995	94-95	1995	132 KV
18	132KV Mehmedabad	Nadiad	Kheda	Mehmedabad	6/6/1969	69-70	1969	132 KV
19	132KV Nadiad	Nadiad	Kheda	Nadiad	10/2/1974	74-75	1974	132 KV
20	132KV Vatva (Narol)	Nadiad	Ahmedabad	Ahmedabad	1/16/1964	63-64	1964	132 KV
21	132KV Sabarmati	Nadiad	Ahmedabad	City	12/29/1969	69-70	1969	132 KV
22	132KV Chiloda	Nadiad	Gandhinagar	Gandhinagar	1/2/1989	88-89	1989	132 KV

**DETAILS OF EXISTING INTRA-STATE GRID SUB-STATIONS**

Sl. No.	Name of Sub Station	TR. Circle	District	Taluka	Dt. of T.C / Commi.	Financial Year	Calendar Year	Voltage Class
23	132KV Talod	Himatnagar	Sabarkantha	Talod	1/3/1974	73-74	1974	132 KV
24	132KV Dhandhuka	S'nagar	Ahmedabad	Dhandhuka	2/16/1972	71-72	1972	132 KV
25	132KV Sitagadh	S'nagar	Surendranagar	Sayla	10/30/1992	92-93	1992	132 KV
26	132KV Visnagar	Himatnagar	Mehsana	Visnagar	3/5/1992	91-92	1992	132 KV
27	132KV Idar	Himatnagar	Sabarkantha	Idar	1/25/1978	77-78	1978	132 KV
28	132KV Sidhpur	Mehsana	Patan	Sidhpur	1/18/1970	69-70	1970	132 KV
29	132KV Patan	Mehsana	Patan	Patan	8/11/1985	85-86	1985	132 KV
30	132KV Deesa	Palanpur	Banaskantha	Deesa	9/1/1980	80-81	1980	132 KV
31	132KV Wankaner	Gondal	Morbi	Wankaner	2/1/1965	64-65	1965	132 KV
32	132KV Lalpur	Gondal	Morbi	Wankaner	3/18/1995	94-95	1995	132 KV
33	132KV Vikram (Rajkot-C)	Gondal	Rajkot	Rajkot	6/14/1988	88-89	1988	132 KV
34	132KV Vajadi	Gondal	Rajkot	Rajkot	8/28/1999	99-00	1999	132 KV
35	132KV Jasdan	Gondal	Rajkot	Jasdan	3/10/1999	98-99	1999	132 KV
36	132KV Naghedi (Jamnagar)	Jamnagar	Jamnagar	Jamnagar	3/31/1972	1972	1972	132 KV
37	132KV Dhrol	Gondal	Jamnagar	Dhrol	3/31/2002	01-02	2002	132 KV
38	132KV Bhatia	Jamnagar	Devbhumi Dwarka	Kalyanpur	3/29/1995	94-95	1995	132 KV
39	132KV Jam Khambhalia	Jamnagar	Devbhumi Dwarka	Jam-Khambhaliya	3/11/1992	91-92	1992	132 KV
40	132KV Dhoraji	Junagadh	Rajkot	Dhoraji	1/4/1971	70-71	1971	132 KV
41	132KV Bhayavadar	Junagadh	Rajkot	Upleta	3/6/1997	96-97	1997	132 KV
42	132KV Junagadh	Junagadh	Junagadh	Junagadh City	10/17/1987	87-88	1987	132 KV
43	132KV Bhuj	Anjar	Kutch	Bhuj	6/5/1971	71-72	1971	132 KV
44	132KV Samkhiyali	Anjar	Kutch	Bhachau	1/30/1995	94-95	1995	132 KV
45	132KV Talala	Junagadh	Gir Somnath	Talala	3/16/1970	69-70	1970	132 KV



**DETAILS OF EXISTING INTRA-STATE GRID SUB-STATIONS**

Sl. No.	Name of Sub Station	TR. Circle	District	Taluka	Dt. of T.C / Commi.	Financial Year	Calendar Year	Voltage Class
46	132KV Haripur	Junagadh	Gir Somnath	Talala	3/26/2003	02-03	2003	132 KV
47	132KV Paliyad	Amreli	Botad	Botad	12/31/1988	88-89	1988	132 KV
48	132KV Barwala	Amreli	Botad	Barwala	12/31/1988	88-89	1988	132 KV
49	132KV Vallabhipur	Amreli	Bhavnagar	Vallabhipur	2/1/1994	93-94	1994	132 KV
50	132KV Bhomiyavadar	Jamnagar	Porbandar	Porbandar	2/28/2012	11-12	2012	132 KV
51	132KV Limkheda	Jambuva	Dahod	Limkheda	3/29/2013	12-13	2013	132 KV
52	220KV Vapi	Navsari	Valsad	Vapi	4/29/1980	80-81	1980	220 KV
53	220KV Bhilad	Navsari	Valsad	Umargam	2/14/1994	93-94	1994	220 KV
54	220KV Navsari	Navsari	Navsari	Navsari	4/4/1967	67-68	1967	220 KV
55	220KV Chikhali (Ambheta)	Navsari	Navsari	Chikhli	3/27/1999	98-99	1999	220 KV
56	220KV Vav (Valthan)	Navsari	Surat	Kamrej	1/15/1980	79-80	1980	220 KV
57	220KV Ichha'pore	Navsari	Surat	Choryasi	3/23/1992	91-92	1992	220 KV
58	220KV Sachin (Talangpur)	Navsari	Surat	Choryasi	1/22/2000	99-00	2000	220 KV
59	220KV Bardoli (Mota)	Navsari	Surat	Bardoli	5/30/2001	01-02	2001	220 KV
60	220KV Kim	Bharuch	Surat	Mangrol	8/19/1993	93-94	1993	220 KV
61	220KV Achhalia	Bharuch	Bharuch	Zagadiya	3/17/1979	78-79	1979	220 KV
62	220KV Haldarva	Bharuch	Bharuch	Bharuch	3/30/1992	91-92	1992	220 KV
63	220KV Zagadia	Bharuch	Bharuch	Zagadiya	6/6/1995	95-96	1995	220 KV
64	220KV Dahej	Bharuch	Bharuch	Wagra	23/03/1998 21-03-08	97-98 07-08	1998	220 KV
65	220KV Wagra	Bharuch	Bharuch	Wagra	12/2/2008	08-09	2008	220 KV
66	220KV Jambuva	Jambuva	Vadodara	Vadodara	2/10/1972	71-72	1972	220 KV
67	220KV Mobha (Gavasad)	Jambuva	Vadodara	Padra	3/9/2000	99-00	2000	220 KV
68	220KV Wadhodia	Jambuva	Vadodara	Waghodiya	7/24/1993	93-94	1993	220 KV
69	220KV Chandrapura	Jambuva	Panchmahal	Halol	1/26/1989	88-89	1989	220 KV

**DETAILS OF EXISTING INTRA-STATE GRID SUB-STATIONS**

Sl. No.	Name of Sub Station	TR. Circle	District	Taluka	Dt. of T.C / Commi.	Financial Year	Calendar Year	Voltage Class
70	220KV Godhara	Jambuva	Panchmahal	Godhra	1/15/1999	98-99	1999	220 KV
71	220KV Karamsad	Nadiad	Anand	Anand	7/30/1970	70-71	1970	220 KV
72	220KV Kapadvanj	Nadiad	Kheda	Kapadvanj	3/20/1993	92-93	1993	220 KV
73	220KV Salejada (Dholka)	Nadiad	Ahmedabad	Dholka	3/16/1998	97-98	1998	220 KV
74	220KV Ranasan	Nadiad	Gandhinagar	Gandhinagar	10/30/1969	69-70	1969	220 KV
75	220KV Khanpur (Dehgam)	Nadiad	Gandhinagar	Dehgam	11/19/1994	94-95	1994	220 KV
76	220KV Dhansura	Himatnagar	Arvalli	Dhansura	4/24/1984	83-84	1984	220 KV
77	220KV Viramgam	S'nagar	Ahmedabad	Viramgam	1/1/1976	75-76	1976	220 KV
78	220KV Limbdi	S'nagar	Surendranagar	Limbdi	10/27/1970	71-72	1970	220 KV
79	220KV Dhrangadhra	S'nagar	Surendranagar	Dhrangadhra	2/26/1991	90-91	1991	220 KV
80	220KV Halvad	S'nagar	Morbi	Halvad	1/23/2004	03-04	2004	220 KV
81	220KV Dhanki (Deposit)	S'nagar	Surendranagar	Lakhatar	1/17/2005	04-05	2005	220 KV
82	220KV Adalsar (SSNNL - Deposit)	S'nagar	Surendranagar	Lakhatar	9/30/2006	06-07	2006	220 KV
83	220KV Rajpur (SSNNL - Deposit)	S'nagar	Surendranagar	Wadhwan	3/31/2008	07-08	2008	220 KV
84	220KV Bala (SSNNL - Deposit)	S'nagar	Surendranagar	Wadhwan	1/20/2009	08-09	2009	220 KV
85	220KV Dudhrej (SSNNL - Deposit)	S'nagar	Surendranagar	Wadhwan	1/22/2009	08-09	2009	220 KV
86	220KV Chhatral	Mehsana	Gandhinagar	Kalol	5/23/1977	77-78	1977	220 KV
87	220KV Jamla	Himatnagar	Gandhinagar	Kalol	6/24/1995	95-96	1995	220 KV
88	220KV Mehsana	Mehsana	Mehsana	Mehsana	11/28/1975	75-76	1975	220 KV
89	220KV Vijapur	Himatnagar	Mehsana	Vijapur	3/26/1987	86-87	1987	220 KV
90	220KV Mitha	Mehsana	Mehsana	Mehsana	6/4/2001	01-02	2001	220 KV
91	220KV Agiyol (H'nagar)	Himatnagar	Sabarkantha	Himatnagar	11/26/1990	90-91	1990	220 KV



**DETAILS OF EXISTING INTRA-STATE GRID SUB-STATIONS**

Sl. No.	Name of Sub Station	TR. Circle	District	Taluka	Dt. of T.C / Commi.	Financial Year	Calendar Year	Voltage Class
92	220KV Mathasur (Bhutia)	Sabarkantha	Sabarkantha	Idar	1/28/2006	05-06	2006	220 KV
93	220KV Kheralu	Palanpur	Mehsana	Kheralu	3/24/1996	95-96	1996	220 KV
94	220KV Sankhari	Mehsana	Patan	Patan	8/14/1995	95-96	1995	220 KV
95	220KV Jangral	Palanpur	Patan	Saraswati	11/2/2003	03-04	2003	220 KV
96	220KV Radhanpur	Palanpur	Patan	Radhanpur	12/31/2004	04-05	2004	220 KV
97	220KV Palanpur	Palanpur	Banaskantha	Palanpur	12/26/1988	88-89	1988	220 KV
98	220KV Deodar (Vakha)	Palanpur	Banaskantha	Deodar	1/31/1989	88-89	1989	220 KV
99	220KV Tharad	Palanpur	Banaskantha	Tharad	9/2/1998	98-99	1998	220 KV
100	220KV Thavar (Dhanera)	Palanpur	Banaskantha	Dhanera	11/16/2006	06-07	2006	220 KV
101	220KV Agathala	Palanpur	Banaskantha	Lakhni	3/28/2010	09-10	2010	220 KV
102	220KV Gondal	Gondal	Rajkot	Gondal	4/15/1965	65-66	1965	220 KV
103	220KV Nyara (Rajkot)	Gondal	Rajkot	Rajkot	3/29/1996	95-96	1996	220 KV
104	220KV Morbi (Pipli)	Gondal	Morbi	Morbi	3/27/1997	96-97	1997	220 KV
105	220KV Jamnagar	Jamnagar	Jamnagar	Jamnagar	3/29/1995	94-95	1995	220 KV
106	220KV Moti Paneli	Junagadh	Rajkot	Upleta	1/23/1998	97-98	1998	220 KV
107	220KV Keshod	Junagadh	Junagadh	Keshod	12/27/1988	88-89	1988	220 KV
108	220KV Visavadar	Junagadh	Junagadh	Visavadar	3/31/1995	94-95	1995	220 KV
109	220KV Sardargadh	Junagadh	Junagadh	Manavadar	11/20/1997	97-98	1997	220 KV
110	220KV Ranavav	Jamnagar	Porbandar	Ranavav	6/5/1980	80-81	1980	220 KV
111	220KV Anjar	Anjar	Kutch	Anjar	7/15/1988	88-89	1988	220 KV
112	220KV Nakhatrana	Anjar	Kutch	Nakhatrana	9/25/1995	95-96	1995	220 KV
113	220KV Nanikhakhar	Anjar	Kutch	Mandvi	12/31/1997	97-98	1997	220 KV
114	220KV Chitrod (Shivlakha)	Anjar	Kutch	Rapar	5/8/2004	04-05	2004	220 KV
115	220KV Varsana	Anjar	Kutch	Anjar	1/30/2008	07-08	2008	220 KV
116	220KV Kukma	Anjar	Kutch	Bhuj	6/30/2008	08-09	2008	220 KV



**DETAILS OF EXISTING INTRA-STATE GRID SUB-STATIONS**

Sl. No.	Name of Sub Station	TR. Circle	District	Taluka	Dt. of T.C / Commi.	Financial Year	Calendar Year	Voltage Class
117	220KV Vartej	Amreli	Bhavnagar	Bhavnagar	2/2/1966	65-66	1966	220 KV
118	220KV Dhasa	Amreli	Botad	Gadhda	1/29/1999	98-99	1999	220 KV
119	220KV Palitana (Sagapara)	Amreli	Bhavnagar	Palitana	6/8/1999	99-00	1999	220 KV
120	220KV Mahuva (Otha)	Amreli	Bhavnagar	Mahuva	3/31/2000	99-00	2000	220 KV
121	220KV Savarkundla	Amreli	Amreli	Savarkundla	3/31/1966	1966	1966	220 KV
122	220KV Timbdi (Kodinar)	Junagadh	Gir Somnath	Sutrapada	12/31/1989	89-90	1989	220 KV
123	220KV Dhokadva (Kansari)	Junagadh	Gir Somnath	Girgadhada	3/31/1996	96-97	1996	220 KV
124	220KV Botad	Amreli	Botad	Botad	3/31/2010	09-10	2010	220 KV
125	220KV Bhat (Bavla)	Nadiad	Ahmedabad	Dascroi	6/3/2010	10-11	2010	220 KV
126	220KV Shapar	Junagadh	Junagadh	Vanthali	3/29/2012	11-12	2012	220 KV
127	220KV Lalpar	Gondal	Morbi	Morbi	1/11/2012	11-12	2012	220 KV
128	220KV Kangsiyali	Gondal	Rajkot	Lodhika	6/27/2011	11-12	2011	220 KV
129	220KV Charanka	Palanpur	Patan	Santalpur	12/31/2011	11-12	2011	220 KV
130	220KV Lunawada	Jambuva	Mahisagar	Lunawada	3/31/2012	11-12	2012	220 KV
131	220KV Sarla (Chotila)	S'nagar	Surendranagar	Sayla	3/15/2013	12-13	2013	220 KV
132	220KV Vadala (Mokha)	Anjar	Kutch	Mundra	3/23/2013	12-13	2013	220 KV
133	220KV Vondh (Bhachau)	Anjar	Kutch	Bhachau	3/24/2013	12-13	2013	220 KV
134	220KV Bhatiya	Jamnagar	Devbhumi Dwarka	Kalyanpur	3/30/2013	12-13	2013	220 KV
135	400KV Asoj	Jambuva	Vadodara	Vadodara	8/15/1986	86-87	1986	400 KV
136	400KV Kasor	Nadiad	Anand	Sojitra	1/31/1996	95-96	1996	400 KV
137	400KV Soja	Himatnagar	Gandhinagar	Kalol	1/16/1987	86-87	1987	400 KV
138	400KV Vadavi (Ranchodpur)	Mehsana	Mehsana	Kadi	1/28/2006	05-06	2006	400 KV
139	400KV Kansari (Zerda)	Palanpur	Banaskantha	Deesa	3/5/1999	98-99	1999	400 KV
140	400KV Jetpur	Gondal	Rajkot	Jetpur	3/12/1987	86-87	1987	400 KV



**DETAILS OF EXISTING INTRA-STATE GRID SUB-STATIONS**

Sl. No.	Name of Sub Station	TR. Circle	District	Taluka	Dt. of T.C / Commi.	Financial Year	Calendar Year	Voltage Class
141	400KV Hadala	Gondal	Morbi	Tankara	5/26/2007	06-07	2007	400 KV
142	400KV Choraniya	S'nagar	Surendranagar	Limbdi	10/18/1994	94-95	1994	400 KV
143	400KV Amreli	Amreli	Amreli	Amreli	3/31/1999	98-99	1999	400 KV
144	400KV Dinod (Kosamba)	Bharuch	Surat	Mangrol	3/31/2011	10-11	2011	400 KV
145	400KV Tappar	Anjar	Kutch	Anjar	1/13/2011	10-11	2011	400 KV
146	220KV Bhachau (PS-3)	Anjar	Kutch	Bhachau	3/31/2014	13-14	2014	220 KV
147	220KV Sartanpar (Tankara)	Gondal	Morbi	Wankaner	3/31/2014	13-14	2014	220 KV
148	220KV Karjan (132KV upgradation)	Jambuva	Vadodara	Karjan	3/27/2014	13-14	2014	220 KV
149	220KV Vyankatpura (Jarod)	Jambuva	Vadodara	Waghodiya	3/31/2014	13-14	2014	220 KV
150	132KV Chandkheda (Zundal/Khorj)	Nadiad	Ahmedabad	Dascroi	03-03-2014 31/03/2015	13-14 14-15	2014 2015	132 KV
151	220 KV Popada (Bhestan)	Navsari	Surat	Choryasi	3/29/2014	13-14	2014	220 KV
152	132KV Vakhatpar (Doliya)	S'nagar	Surendranagar	Sayla	3/31/2014	13-14	2014	132 KV
153	220KV Vallabhipur	Amreli	Bhavnagar	Vallabhipur	2/28/2015	14-15	2015	220 KV
154	220KV Nani Hamipur (PS-2)	Anjar	Kutch	Rapar	3/31/2015	14-15	2015	220 KV
155	220KV Suva (Near Dahej)	Bharuch	Bharuch	Wagra	3/31/2015	14-15	2015	220 KV
156	220KV Faredi (Modasa)	Himatnagar	Arvalli	Modasa	3/30/2015	14-15	2015	220 KV
157	132KV Zoz	Jambuva	Chhotaudepur	Chhotaudepur	3/31/2015	14-15	2015	132 KV
158	132KV Bhavnath (HYB)	Junagadh	Junagadh	Junagadh city	3/29/2015	14-15	2015	132 KV
159	400KV Halvad (Mansar)	S'nagar	Morbi	Halvad	1/23/2015	14-15	2015	400 KV
160	220KV Dhanki-2	S'nagar	Surendranagar	Lakhatar	3/27/2015	14-15	2015	220 KV

**DETAILS OF EXISTING INTRA STATE TRANSMISSION LINES - 400 kV**

Sl. No.	Name of Circle	Name of Line.	S/C D/C	Length in Kms.
1	Bharuch	400 KV Kosamba-Asoj	S/C	122.35
2	Bharuch	400 KV Kosamba - Ukai 1	D/C	68.10
3	Bharuch	400 KV Kosamba - Ukai 2	D/C	68.10
4	Bharuch	401 KV Kosamba - Ukai 3	S/C	91
5	Jambuva	400 KV Asoj-Wanakbori	S/C	76.00
6	Jambuva	400 KV Asoj-Chorania-1	S/C	166.00
7	Jambuva	400 KV Asoj-Chorania-2	S/C	177.00
8	Jambuva	400 KV Asoj-SSP	S/C	83.00
9	Nadiad	400 KV Kasor-SSP	S/C	146.00
10	Nadiad	400 KV Kasor-GPEC	S/C	98.00
11	Nadiad	400 KV Kasor-Chorania	S/C	103
12	Mehsana	400 KV Vadavi-Dehgam(PGCL)-1	D/C	62.3
13	Mehsana	400 KV Vadavi-Dehgam(PGCL)-2	D/C	62.3
14	Palanpur	400 KV Soja-Kansari	D/C	135
15	H'nagar	400 KV Soja- Wanakbori	S/C	95.1
16	H'nagar	400 KV Soja- PGCIL (Dehgam)	S/C & D/C	40
17	H'nagar	400 KV PGCIL- Wanakbori	S/C & D/C	67
18	Amreli	400 KV Amreli-Jetpur 1	S/C	96
19	Amreli	400KV Amreli-Jetpur-2		115
20	Amreli	400KV Amreli-Hadala		164
21	Gondal	400 KV Hadala-Jetpur	S/C	115
22	Gondal	400 KV Mundra - Hadala	S/C	238
23	Gondal	400KV Vadinar - Hadala -1	D/C	112.88
24	Gondal	400KV Vadinar - Hadala -2	D/C	112.88
25	Anjar	400 KV Varsana - Hadala	S/C	154
26	Anjar	400 KV Mundra (Adani) - Varsana 1	S/C	86.05
27	Anjar	400 kv Varsana - Adani line-2	D/C	80.042
28	Anjar	400 kv Varsana - Adani line-3	D/C	80.042
29	Chorania	400 KV Chorania-Hadala	S/C	166.4
30	Chorania	400 KV Chorania- Amreli	S/C	164
31	Chorania	400 KV Kosamba Chorania 1	D/C	228.5
32	Chorania	400 KV Kosamba Chorania 2	D/C	228.5

**DETAILS OF EXISTING INTRA STATE TRANSMISSION LINES - 220 kV**

Sl. No.	Name of Circle	Name of Line.	S/C D/C	Length in Kms.
1	Navsari	Ambheta-Vapi	S/C	46.95
2	Navsari	Bhilad-TAPS.	S/C	62.37
3	Navsari	Ichhapore-Essar-1.	D/C	16.00
4	Navsari	Ichhapore-Essar-2.	D/C	16.00
5	Navsari	Ichhapore-Kawas No. 1	S/C	6.00
6	Navsari	Ichhapore-RIL-1.	D/C	9.00
7	Navsari	Ichhapore-RIL-2.	D/C	9.00
8	Navsari	Navsari-Ambheta.	S/C	21.64
9	Navsari	Navsari-Bhilad.	S/C	88.70
10	Navsari	Navsari-Talangpur	S/C	30.54
11	Navsari	Navsari-Nasik-1.	D/C	70.00
12	Navsari	Navsari-Nasik-2.	D/C	70.00
13	Navsari	Navsari - Popda	S/C	22.55
14	Navsari	Vav - Popda	S/C	28.45
15	Navsari	Talangpur-Essar-1.	D/C	30.60
16	Navsari	Talangpur-Essar-2.	D/C	30.60
17	Navsari	Ukai(Th.)-Ukai(Hy.)-1.	D/C	2.50
18	Navsari	Ukai(Th.)-Ukai(Hy.)-2.	D/C	2.50
19	Navsari	Ukai-Mota(Bardoli) - 2	S/C	52.80
20	Navsari	Vapi-Bhilad-2.	D/C	22.81
21	Navsari	Vapi-Tarapur-2.	S/C	80.64
22	Navsari	Ichh -Kawas -2		6.00
23	Navsari	Vav-Mota(Bardoli) -2	S/C	13.50
24	Navsari	Vav-Talangpur-1.	D/C	38.54
25	Navsari	Vav-Mota-1.	S/C	13.50
26	Navsari	Mota-Ukai(Th.)-KAPP-1.	S/C	52.80
27	Navsari	Vapi-Ambheti-1	D/C	14.18
28	Navsari	Bhilad-Ambheti-1	D/C	20.77
29	Navsari	Bhilad-Ambheti-2	D/C	21.74
30	Navsari	Bhilad-Ambheti-3	D/C	21.74
31	Navsari	Mota-Ambheta Line No-1	D/C	47.11
32	Navsari	Mota-Ambheta Line No-2	D/C	47.11
33	Navsari	Vav-Utran-2	S/C	24.65
34	Navsari	Mora(L&T)-GSEG	S/C	2.91
35	Navsari	Mora(L&T)-L&T 1	D/C	0.75
36	Navsari	Mora(L&T)-L&T 2	D/C	0.75
37	Bharuch	Haladarwa-GPEC-1	D/C	10.29
38	Bharuch	Haladarwa-GPEC-2	D/C	10.29
39	Bharuch	Haladarwa-Jambuva	S/C	61.5
40	Bharuch	Haladawa- Zagadia	S/C	55
41	Bharuch	Haladarwa-Dahej	D.C	62
42	Bharuch	Haladarwa-Wagra	S/C	29

**DETAILS OF EXISTING INTRA STATE TRANSMISSION LINES - 220 kV**

Sl. No.	Name of Circle	Name of Line.	S/C D/C	Length in Kms.
43	Bharuch	Haldarwa-IPCL-1	D/C	59.2
44	Bharuch	Haldarwa-IPCL-2	D/C	59.2
45	Bharuch	Wagra-Railway-1	D/C	9.26
46	Bharuch	Wagra-Railway-2	D/C	9.26
47	Bharuch	Achhalia - Ukai (Th) 1	D/C	84
48	Bharuch	Achhalia - Ukai (Th) 2	D/C	84
49	Bharuch	Achhalia - Ukai (Th) 3	S/C	84
50	Bharuch	Achhalia - Ukai (Hy) 1	D/C	83
51	Bharuch	Achhalia - Ukai (Hy) 2	D/C	83
52	Bharuch	Achhalia- Jambuva-1	D/C	47
53	Bharuch	Achhalia- Jambuva-2	D/C	47
54	Bharuch	Achhalia- Jambuva-3	D/C	50
55	Bharuch	Achhalia- Jambuva-4	D/C	50
56	Bharuch	Zagadia-Mangrol-1	D/C	35
57	Bharuch	Zagadia-Mangrol-2	D/C	35
58	Bharuch	Zagadia-Jambuva	D/C	61.5
59	Bharuch	Zagadia- Kim	D/C	40.82
60	Bharuch	Zagadia- Kosamba-3	D/C	25.26
61	Bharuch	Zagadia- RMGL	D/C	0.3
62	Bharuch	Zagadia- Kosamba-1	D/C	24.2
63	Bharuch	Zagadia- Kosamba-2	D/C	24.2
64	Bharuch	Dahej-Wagra	D.C	36.65
65	Bharuch	Dahej-GACL-1	D.C	1.5
66	Bharuch	Dahej-GACL-2	D.C	1.5
67	Bharuch	Dahej - Indogulf -1	D.C	5.5
68	Bharuch	Dahej - Indogulf -2	D.C	5.5
69	Bharuch	Dahej-ONGC - LNG - 1	D.C	6.63
70	Bharuch	Dahej - LNG - 2	D.C	5.9
71	Bharuch	Kosamba Suva	D.C	128.04
72	Bharuch	Suva Mobha	D.C	77.192
73	Bharuch	Suva Kosamba	D.C	128.04
74	Bharuch	Kim - Utran -1	D/C	22.2
75	Bharuch	Kim - Utran - 2	D/C	22.2
76	Bharuch	Kim - GSEG	D/C	48.25
77	Bharuch	Kim - Mora	D/C	49.15
78	Bharuch	Kim - TPGL 1	D/C	4.06
79	Bharuch	Kim - TPGL 2	D/C	4.06
80	Bharuch	Kim - Vav 1	D/C	21
81	Bharuch	Kim-Kosamba 1	D/C	24.6
82	Bharuch	Kim-Kosamba 2	D/C	24.6
83	Bharuch	Kosamba-Utran 1	D/C	42.58
84	Bharuch	Kosamba-Vav(Old Kosmba-Utran-2)	D/C	35.3

**DETAILS OF EXISTING INTRA STATE TRANSMISSION LINES - 220 kV**

Sl. No.	Name of Circle	Name of Line.	S/C D/C	Length in Kms.
85	Bharuch	Kosamba - GSEG 1	D/C	62.37
86	Bharuch	Kosamba - GSEG 2	D/C	62.37
87	Bharuch	Kosamba-Mobha-1	D/C	88.4
88	Jambuva	Jambuva-Karamsad-1	D/C	48.42
89	Jambuva	Jambuva-Karamsad-2	D/C	48.42
90	Jambuva	Jambuva-Waghodia	S/C	26.32
91	Jambuva	Jambuva-Asoj	S/C	24.50
92	Jambuva	Waghodia-Asoj	S/C	32.00
93	Jambuva	Gavasad-Kasor-1	D/C	52.67
94	Jambuva	Gavasad-Kasor-2	D/C	52.67
95	Jambuva	Gavasad-SLPP-1	D/C	107.20
96	Jambuva	Gavasad-SLPP-2	D/C	107.20
97	Jambuva	Gavasad-Karjan	S/C	43.33
98	Jambuva	SLPP-Karjan	S/C	89.69
99	Jambuva	Gavasad-SLPP-4	D/C	110.70
	Jambuva	Gavasad-Suva	S/C	77.00
100	Jambuva	Gavasad-Kosamba-1	D/C	89.00
101	Jambuva	Gavasad-Kosamba-2	D/C	89.00
102	Jambuva	Godhra-Chandrapura-1	D/C	35.00
103	Jambuva	Godhra-Chandrapura-2	D/C	35.00
104	Jambuva	Godhra-Kadana	D/C	80.00
105	Jambuva	Godhra-Savdasna Muvada	D/C	56.00
106	Jambuva	Godhra-Wanakbori	S/C	35.00
107	Jambuva	Savdasna Muvada-Kadana	S/C	24.00
108	Jambuva	Chandrapura-PMSteel	S/C	10.00
109	Jambuva	Asoj-Chandrapura-1	D/C	35.00
110	Jambuva	Asoj-Chandrapura-2	D/C	35.00
111	Jambuva	Asoj Karamsad 1	D/C	44.00
112	Jambuva	Asoj Karamsad 2	D/C	44.00
113	Jambuva	Asoj -Vyankatpura	D/C	21.00
114	Jambuva	Vyankatpura- wanakbori	D/C	75.00
115	Jambuva	Asoj- Wanakbori 2	D/C	63.00
116	Nadiad	Kapadwanj-Ranasan-1	D/C	63.36
117	Nadiad	Kapadwanj-Ranasan-2	D/C	63.36
118	Nadiad	Wanakbori-Kapadwanj-1	D/C	35.76
119	Nadiad	Wanakbori-Kapadwanj-2	D/C	35.76
120	Nadiad	Khanpur-AECo.-1	D/C	29
121	Nadiad	Khanpur-AECo.-2	D/C	29
122	Nadiad	Khanpur-Kapadwanj-1	D/C	40
123	Nadiad	Khanpur-Kapadwanj-2	D/C	40
124	Nadiad	Khanpur-PGCL-1	D/C	11.77
125	Nadiad	Khanpur-PGCL-2	D/C	11.77

**DETAILS OF EXISTING INTRA STATE TRANSMISSION LINES - 220 kV**

Sl. No.	Name of Circle	Name of Line.	S/C D/C	Length in Kms.
126	Nadiad	Ranasan-Gandhinagar-1	D/C	19.83
127	Nadiad	Ranasan-Gandhinagar-2	D/C	19.83
128	Nadiad	Ranasan-PGCL-1	D/C	19.83
129	Nadiad	Ranasan-PGCL-2	D/C	19.83
130	Nadiad	Salejada-Bhat-1	D/C	26.296
131	Nadiad	Salejada-Bhat-2	D/C	26.296
132	Nadiad	Bhat-Pirana-1	D/C	14.632
133	Nadiad	Bhat-Pirana-2	D/C	14.632
134	Nadiad	Salejada-Chorania	S/C	76.3
135	Nadiad	Karamsad-Ranasan-1	D/C	71.44
136	Nadiad	Karamsad-Ranasan-2	D/C	71.44
137	Nadiad	Karamsad-Salejada	S/C	76.8
138	Nadiad	Karamsad-GEPC-1	D/C	94.5
139	Nadiad	Karamsad-GEPC-2	D/C	94.5
140	Nadiad	Karamsad-Kasor-1	D/C	12
141	Nadiad	Karamsad-Kasor-2	D/C	12
142	Nadiad	Kasor-Dhuwaran	S/C+D/C	52.7
143	Nadiad	Kasor-Botad	D/C	144.6
144	Mehsana	G'nagar-Mehsana-1	D/C	52.00
145	Mehsana	G'nagar-Mehsana-2	D/C	52.00
146	Mehsana	Mehsana-Radhanpur	S/C	95.00
147	Mehsana	Mehsana-Sankhari	S/C	48.20
148	Mehsana	Mitha-Sankhari - 1	D/C	33.06
149	Mehsana	Mitha-Sankhari - 2	D/C	33.06
150	Mehsana	Mitha-Santhal	D/C	9.00
151	Mehsana	G'nagar-Chhatral-1	S/C	27.30
152	Mehsana	Gandhinagar-Chhatral-2	S/C	27.30
153	Mehsana	220KV Sankhari-Shivlakha	S/C	185.00
154	Mehsana	220kv Sankhari-Jangral-1	D/C	32.29
155	Mehsana	220kv Sankhari-Jangral-2	D/C	32.29
156	Mehsana	Kheralu-Palanpur-1	D/C	51.00
157	Mehsana	Kheralu-Palanpur-2	D/C	51.00
158	Mehsana	Kheralu - Bhutiya CKT - 1	D/C	49.00
159	Mehsana	Kheralu - Bhutiya CKT - 2	D/C	49.00
160	Mehsana	Chhatral-Vadavi	S/C & D/C	12.60
161	Mehsana	Vadavi-Viramgam	S/C	42.70
162	Mehsana	Vadavi-Mitha-1	D/C	44.14
163	Mehsana	Vadavi-Mitha-2	D/C	44.14
164	Palanpur	220KV DEODAR-CHARNKA	S/C	88.00
165	Palanpur	220KV CHARNKA - SHIVLAKHA	S/C	122.00
166	Palanpur	220KV THARAD-DEODAR -1	D/C	38
167	Palanpur	220KV THARAD-DEODAR -2	D/C	38

**DETAILS OF EXISTING INTRA STATE TRANSMISSION LINES - 220 kV**

Sl. No.	Name of Circle	Name of Line.	S/C D/C	Length in Kms.
168	Palanpur	220KV KANSARI-DEODAR-1	D/C	52.00
169	Palanpur	220KV KANSARI-DEODAR-2	D/C	52.00
170	Palanpur	220KV KANSARI-AGTHALA	D/C	28.00
171	Palanpur	220KV AGATHALA-THARAD	D/C	28.00
172	Palanpur	220KV KANSARI-THARAD-2	D/C	56.00
173	Palanpur	220KV THARAD - THAVAR - 1	D/C	49.00
174	Palanpur	220KV THARAD - THAVAR - 2	D/C	49.00
175	Palanpur	220KV THARAD - AMARAPUR - 1	D/C	86.59
176	Palanpur	220KV THARAD - AMARAPUR - 2	D/C	86.59
177	Palanpur	220KV PALANPUR-KANSARI-1	D/C	40.00
178	Palanpur	220KV PALANPUR-KANSARI-2	D/C	40.00
179	Palanpur	220KV KANSARI -JANGRAL-I	D/C	37.00
180	Palanpur	220KV KANSARI -JANGRAL-II	D/C	37.00
181	Palanpur	220KV RADHANPUR-DEODAR	D/C	35.00
182	Palanpur	220KV KANSARI-THAVAR-1	D/C	28.00
183	Palanpur	220KV KANSARI-THAVAR-2	D/C	28.00
184	Palanpur	220KV CHARANKA-NaniHamirpar PS2	D/C	116.00
185	Himatnagar	220KV Agiyol-Vijapur	S/C	35.2
186	Himatnagar	220KV Agiyol-Bhutiya-1	D/C	35.6
187	Himatnagar	220KV Agiyol-Bhutiya-2	D/C	35.6
188	Himatnagar	220KV W'bori-Dhansura-1	D/C	75.6
189	Himatnagar	220KV W'bori-Dhansura-2	D/C	75.6
190	Himatnagar	220KV Kadana-Dhansura-1	D/C	58.9
191	Himatnagar	220KV Kadana-Dhansura-2	D/C	58.9
192	Himatnagar	220KV Dhansura-Agiyol-1	D/C	33.41
193	Himatnagar	220KV Dhansura-Agiyol-2	D/C	35.2
194	Himatnagar	220KV G'nagar-Jamla 1 Line	D/C	22
195	Himatnagar	220KV G'nagar-Jamla 2 Line	D/C	22
196	Himatnagar	220KV Jamla-Kheralu 1 line	D/C	62
197	Himatnagar	220KV Jamla-Kheralu 2 line	D/C	62
198	Himatnagar	220KV Soja-Mehsana-1	S/C	34
199	Himatnagar	220KV Soja-Mehsana-2	S/C	36
200	Himatnagar	220KV Soja-Mitha	D/C	45.8
201	Himatnagar	220KV Soja-Jamla-1	D/C	3.5
202	Himatnagar	220KV Soja-Jamla-2	D/C	3.5
203	Himatnagar	220KV G'nagar-Soja-1	S/C & D/C	16
204	Himatnagar	220KV G'nagar-Soja-2	S/C & D/C	16
205	Himatnagar	220KV Soja-Santhal	D/C	37
206	Himatnagar	220KV Soja-Vijapur-1	D/C	27.5
207	Himatnagar	220KV Soja-Vijapur-2	D/C	27.5
208	Surendranagar	Dhrangadhra-Halvad-1	S/C	27.11



**DETAILS OF EXISTING INTRA STATE TRANSMISSION LINES - 220 kV**

Sl. No.	Name of Circle	Name of Line.	S/C D/C	Length in Kms.
209	Surendranagar	Dhrangadhra-Halwad -2	S/C	27.11
210	Surendranagar	220KV Mansar Bhimsar 1	D/C	142.00
211	Surendranagar	220KV Mansar Bhimsar 2	D/C	142.00
212	Surendranagar	220KV Halvad Mansar line 1	D/C	12.00
213	Surendranagar	220KV Halvad Mansar line 2	D/C	12.00
214	Surendranagar	220KV Halvad-Sartanpar 1	D/C	95.19
215	Surendranagar	220KV Halvad-Sartanpar 2	D/C	95.19
216	Surendranagar	220 KV Rajpar-Dudhrej	D/C	10.00
217	Surendranagar	220 KV Bala - Dudhrej	D/C	14.71
218	Surendranagar	220 KV Bala - Rajpar	D/C	5.35
219	Surendranagar	220 KV Sadla-Gondal	S/C	115.10
220	Surendranagar	220 KV Dhanki-Bala	D/C	20.10
221	Surendranagar	220 KV Adalsar-Bala	D/C	10.85
222	Surendranagar	220 KV Viramgam Neno line no-1	D/C	26.50
223	Surendranagar	220 KV Viramgam-Neno line no- 2	D/C	26.50
224	Surendranagar	220 KV Viramgam Bhat line no-1	D/C	35.20
225	Surendranagar	220 KV Viramgam Bhat line no-2	D/C	35.20
226	Surendranagar	220 KV Viramgam-Dhanki No.1	D/C	30.49
227	Surendranagar	220 KV Viramgam-Dhanki No.2	D/C	30.49
228	Surendranagar	220 KV Dhanki-Adalsar	D/C	9.19
229	Amreli	220K Botad Vartej	S/C	71.00
	Amreli	220KV Botad-Valbhipur Line	S/C	43.4
230	Amreli	220KV Amreli-Dhasa 1	D/C	38.00
231	Amreli	220KV Amreli-Dhasa 2	D/C	38.00
232	Amreli	220 kv SKD-Visavadar	S/C	94.60
233	Amreli	220Kv SKD-Dhokdwa	S/C	65.00
234	Amreli	220Kv SKD-Amreli 1	D/C	45.00
235	Amreli	220Kv SKD-Amreli 2	D/C	45.00
236	Amreli	22KV S'KUNDLA-220KV GPPC 1	D/C	80.2
237	Amreli	22KV S'KUNDLA-220KV GPPC 2	S/C	80.20
238	Amreli	220Kv GPPC-Otha No. 01	D/C	69.2
239	Amreli	220KV GPPC-OTHA-2 LINE	S/C	69.20
240	Amreli	220 kv Otha Sagapara No 1	D/C	47.787
241	Amreli	220 kv Otha Sagapara No 2	D/C	47.787
242	Amreli	220Kv SKD-GPPL	S/C	54.60
243	Amreli	220Kv GPPL-Kovaya	S/C	7.50
244	Amreli	220Kv SKD-Kovaya No 02	S/C	51.10
245	Amreli	220Kv SKD-BECL-Vartej	S/C	150.60
246	Amreli	220Kv Vartej - Sagapara	S/C	38.60
247	Amreli	220Kv SKD-Sagapara	S/C	78.00
248	Amreli	220 KV Sagapara - BECL-1	D/C	41.90
249	Amreli	220 KV Sagapara - BECL-2	D/C	41.90

**DETAILS OF EXISTING INTRA STATE TRANSMISSION LINES - 220 kV**

Sl. No.	Name of Circle	Name of Line.	S/C D/C	Length in Kms.
250	Gondal	220KV Gondal-Kangasiyali	S/C	45.40
251	Gondal	220KV Nyara - Kangasiyali	S/C	33.50
252	Gondal	220KV Nyara - Tebhada line -1	D/C	93.00
253	Gondal	220KV Nyara - Tebhada line -2	D/C	93.00
254	Gondal	220KV Jetpur-Gondal	S/C	26.00
255	Gondal	220KV Jetpur-Rajkot	D/C	72.00
256	Gondal	220KV Jetpur-Visavadar	S/C	54.50
257	Gondal	220kV Jetpur Shapur	S/C	46.50
258	Gondal	220KV Jetpur-Sardargadh	S/C	65.00
259	Gondal	220KV Jetpur-Ranavav	S/C	104.00
260	Gondal	220KV Jetpur-Motipaneli	S/C	74.00
261	Gondal	220KV Jetpur-Jamnagar-I	D/C	92.00
262	Gondal	220KV Jetpur-Jamnagar-II	D/C	92.00
263	Gondal	220 KV Hadala-Morbi	D/C	59.46
264	Gondal	220KV Hadala-Nyara-1	D/C	12.11
265	Gondal	220KV Hadala-Nyara-2	D/C	12.11
266	Gondal	220KV Hadala Sartanpar Line no. 1	D/C	63.83
267	Gondal	220KV Hadala Sartanpar Line no. 2	D/C	63.83
268	Gondal	220KV Morbi - Lalpar	S/C	7.24
269	Gondal	220 kV Morbi - Bhimasar	S/C	113.00
270	Gondal	220KV Sartanpar Bhimasar	S/C	125.61
271	Gondal	220KV Lalpar Sartanpar	S/C	8.81
272	Junagadh	220KV Motipaneli-Ranavav	S/C	64.00
273	Junagadh	220KV Sardargadh-Keshod	S/C	69.00
274	Junagadh	220KV Keshod Timbadi	S/C	66.00
275	Junagadh	220KV Motipaneli-sadodar-1	D/C	26.82
276	Junagadh	220KV Motipaneli-sadodar-2	D/C	26.82
277	Junagadh	220KV Motipaneli-Sardargadh-1	D/C	35.52
278	Junagadh	220KV Motipaneli-Sardargadh-2	D/C	35.52
279	Junagadh	220KV Dhokadva-Timbdi	S/C	63.00
280	Junagadh	220kV Shapur-Keshod	S/C	29.50
281	Jamnagar	220KV Jamnagar-Essar-I	D/C	47.50
282	Jamnagar	220KV Jamnagar-Essar-II	D/C	47.50
283	Jamnagar	220 KV Jam-RPL	D/C+ S/C	37
284	Anjar	220KV Nakhatrana - Akrimota No.1	D/C	99
285	Anjar	220KV Jamanvada - Akrimota No.2	D/C	136.27
286	Anjar	220kV Nakhatrana-Jamanvada Line	D/C	69.99
287	Anjar	220KV Pandhro - Nakhatrana No. 1	D/C	75
288	Anjar	220KV Pandhro - Nakhatrana No. 2	D/C	75
289	Anjar	220 KV Suthari-Sindhodi line	S/C	13.837
290	Anjar	220 KV Akri-Panadhro line No.1	S/C	27.5

**DETAILS OF EXISTING INTRA STATE TRANSMISSION LINES - 220 kV**

Sl. No.	Name of Circle	Name of Line.	S/C D/C	Length in Kms.
291	Anjar	220 KV kukma- Panadhro No.1	D/C	124.5
292	Anjar	220 KV kukma- Panadhro No.2	D/C	124.5
293	Anjar	220kv Nakhatrana- Varsana- no.1	D/C	107
294	Anjar	220kv Nakhatrana- Varsana- no.2	D/C	107
295	Anjar	220KV Nakhatrana - Nanikhakhar-1	D/C	59
296	Anjar	220KV Nakhatrana - Nanikhakhar-2	D/C	59
297	Anjar	220 KV Adani- Nani khakhar-1	D/C	16.25
298	Anjar	220 KV Adani- Nani khakhar-2	D/C	16.25
299	Anjar	220 KV Suthari-Nani-Khakhar line No.1	D/C	78.612
300	Anjar	220 KV Suthari-Nani-Khakhar line No.2	D/C	78.612
301	Anjar	220 kv Sindhodi - Nani Khakhar No.1	D/C	82.49
302	Anjar	220 kv Sindhodi - Nani Khakhar No.2	D/C	82.49
303	Anjar	220 kv CGPL - Nani Khakhar	D/C	15.467
304	Anjar	220KV Nanikhakhar -Mokha	D/C	47.598
305	Anjar	220KV Tappar -Mokha	D/C	57.598
306	Anjar	220 KV Tappar-Khakhar	D/C	83.7
307	Anjar	220KV Welspun -Anjar	D/C	15.81
308	Anjar	220KV Shivilakha-welspun	D/C	73.238
309	Anjar	220kv Shivilakha Anjar line	D/C	75
310	Anjar	220 KV Tappar-APL No.1	D/C	82.16
311	Anjar	220 KV Tappar-APL No.2	D/C	82.16
312	Anjar	220KV Tapper-Vondh line	D/C	30.7
313	Anjar	220KV Tapper-Hadala line	D/C	165.39
314	Anjar	220KV Anjar - Kukma -1	D/C	27.9
315	Anjar	220KV Anjar - Kukma-2	D/C	27.9
316	Anjar	220KV Tappar - Varsana line no:3	D/C	3.876
317	Anjar	220KV Tappar - Varsana line no:4	D/C	3.876
318	Anjar	220KV Mokha - OPG line	S/C	13.987
319	Anjar	220 KV Shivilakha-Tappar No.1	D/C	55
320	Anjar	220 KV Shivilakha-Tappar No.2	D/C	55
321	Anjar	220 KV Shivilakha-Morbi No.1	D/C	73
322	Anjar	220 KV Shivilakha-Morbi No.2	D/C	73
323	Anjar	220kv Shivilakha Vestas line no.1	D/C	21.665
324	Anjar	220kv Shivilakha Vestas line no.2	D/C	21.665
325	Anjar	220KV Vondh-Morbi	D/C	78.8
326	Anjar	220KV Shivilakha - PS-2 (Nani Hamirpar)	D/C	63
327	Anjar	220KV PS-2 (Nani Hamirpar)- PS1 (Manjuvas)-1	D/C	11

**DETAILS OF EXISTING INTRA STATE TRANSMISSION LINES - 220 kV**

Sl. No.	Name of Circle	Name of Line.	S/C D/C	Length in Kms.
328	Anjar	220KV PS-2 (Nani Hamirpar)- PS1 (Manjuvas)-2	D/C	11
329	Chorania	220KV Chorania- Sadla	S/C	43
330	Chorania	220KV Chorania- Limbadi -1	D/C	3.00
331	Chorania	220KV Chorania- Limbadi -2	D/C	3.00
332	Chorania	220KV Chorania - Viramgam	S/C	71.00
333	Chorania	220KV Chorania -Dhrangdhra -1	D/C	72.00
334	Chorania	220KV Chorania -Dhrangdhra -2	D/C	72.00
335	Chorania	220KV Chorania - Bala Line - 1	D/C	29.50
336	Chorania	220KV Chorania - Bala Line - 2	D/C	29.50

**DETAILS OF TRANSMISSION LINES - 132 kV**

Sl. No.	Name of Circle	Name of Line.	S/C D/C	Length in Kms.
1	Navsari	132kv Navsari - Popda No. 1.	S/C	17
2	Navsari	132kv Popda - Bhestan No. 1.	S/C	11.68
3	Navsari	132kv Navsari-Bhestan-2.	D/C	27
4	Navsari	132kv Navsari-Atul.	S/C	48.12
5	Navsari	132kv Atul-Railway-1.	D/C	4.4
6	Navsari	132kv Atul-Railway-2.	D/C	4.4
7	Navsari	132kv Bhestan-Railway-1.	D/C	2.4
8	Navsari	132kv Bhestan-Railway-2.	D/C	2.4
9	Bharuch	Haldarwa-Karjan	S/C	35.36
10	Bharuch	Achhalia-Ankleshwar -1	D/C	35
11	Bharuch	Achhalia-Ankleshwar -2	D/C	35
12	Bharuch	Achhalia-GNFC-1	D/C	36
13	Bharuch	Achhalia-GNFC-2	D/C	36
14	Bharuch	Achhalia-Valia -1	D/C	26
15	Bharuch	Achhalia-Valia -2	D/C	26
16	Bharuch	Achhalia-RPL 1	D/C	7.2
17	Bharuch	Achhalia-RPL 2	D/C	7.2
18	Bharuch	Valia-Guj. Gardian -1	D/C	10
19	Bharuch	Valia-Guj. Gardian -2	D/C	10
20	Bharuch	Haldarwa- Bharuch	S/C	6.94
21	Bharuch	Bharuch- Railway - 1	D/C	1.51
22	Bharuch	Bharuch- Railway - 2	D/C	1.51
23	Bharuch	Ankleshwar - Bharuch -1	D/C	8.94
24	Bharuch	Ankleshwar - Bharuch -2	D/C	8.94
25	Jambuva	Jambuva-Gotri-1	S/C	12.86
26	Jambuva	Jambuva-Gotri-2	S/C	12.86



**DETAILS OF TRANSMISSION LINES - 132 kV**

Sl. No.	Name of Circle	Name of Line.	S/C D/C	Length in Kms.
27	Jambuva	Jambuva-Karjan	S/C	20.76
28	Jambuva	Jambuva-Tilakwada	S/C	52.50
29	Jambuva	Jambuva-Railway-1	D/C	2.20
30	Jambuva	Jambuva-Railway-2	D/C	2.20
31	Jambuva	Jambuva-ModernPetro-1	D/C	12.50
32	Jambuva	Jambuva-ModernPetro-2	D/C	12.50
33	Jambuva	Gotri-Fertilizernagar-1	D/C	10.23
34	Jambuva	Gotri-Fertilizernagar-2	D/C	10.23
35	Jambuva	Gotri-Dhuvaran-1	D/C	47.50
36	Jambuva	Gotri-Dhuvaran-2	D/C	47.50
37	Jambuva	Karjan-Inox	D/C	0.50
38	Jambuva	Karjan-JCT	S/C	6.50
39	Jambuva	Karjan-Haldarwa	S/C	22.20
40	Jambuva	Godhra-W.Railway-1	D/C	7.00
41	Jambuva	Godhra-W.Railway-2	D/C	7.00
42	Jambuva	Dahod-W.Railway-1	D/C	2.85
43	Jambuva	Dahod-W.Railway-2	D/C	2.85
44	Jambuva	Godhra-C'Udepur(Vasedi)	S/C	76.60
45	Jambuva	Godhra-Dahod	S/C	65.43
46	Jambuva	Godhra-Limkheda	S/C	48.00
47	Jambuva	Limkheda-Dahod	S/C	37.00
48	Jambuva	Manjusar-Nirma-1	D/C	5.47
49	Jambuva	Manjusar-Nirma-2	D/C	5.47
50	Jambuva	F'nagar-J'nagar-1	S/C	7.10
51	Jambuva	F'nagar-J'nagar-2	S/C	7.10
52	Jambuva	Nandesari-GIPCL-1	S/C	2.14
53	Jambuva	Nandesari-GIPCL-2	S/C	2.14
54	Jambuva	Jawaharnagar-GIPCL-3	S/C	9.23
55	Jambuva	Jawaharnagar-GIPCL-4	S/C	9.23
56	Jambuva	Jawaharnagar-Jambuva-1	S/C	37.00
57	Jambuva	Jawaharnagar-Jambuva-2	S/C	37.00
58	Jambuva	Fertilizer-GSFC-1	D/C	0.01
59	Jambuva	Fertilizer-GSFC-2	D/C	0.01
60	Jambuva	Manjusar-ERDA	S/C	1.63
61	Jambuva	Asoj-Nandesari-1	D/C	19.76
62	Jambuva	Asoj-Nandesari-2	D/C	19.76
63	Jambuva	Asoj-Fertiliser 1	D/C	12.00
64	Jambuva	Asoj-Fertiliser 2	D/C	12.00
65	Jambuva	Asoj Manjusar 1	D/C	10.00
66	Jambuva	Asoj Manjusar 2	D/C	10.00
67	Jambuva	Asoj Railway 1	D/C	14.00
68	Jambuva	Asoj Railway 2	D/C	14.00

### DETAILS OF TRANSMISSION LINES - 132 kV

Sl. No.	Name of Circle	Name of Line.	S/C D/C	Length in Kms.
69	Nadiad	Chiloda-G'nagar-1	D/C	9.43
70	Nadiad	Chiloda-G'nagar-2	D/C	9.43
71	Nadiad	Chiloda-Talod	S/C	26.92
72	Nadiad	Ranasan-Chiloda	S/C	15.33
73	Nadiad	Ranasan-PRL	S/C	5.8
74	Nadiad	Ranasan-S'mati-1	D/C	13.12
75	Nadiad	Ranasan-S'mati-2	D/C	13.12
76	Nadiad	Ranasan-Talod	S/C	37.56
77	Nadiad	Ranasan-Vatva-1	D/C	26.56
78	Nadiad	Ranasan-Vatva-2	D/C	26.56
79	Nadiad	Ranasan-Vijapur	S/C	93.86
80	Nadiad	Sabarmati-AECo.1	D/C	0.2
81	Nadiad	Sabarmati-AECo.2	D/C	0.2
82	Nadiad	Dhuvaran-Undel	D/C	14.5
83	Nadiad	Undel-Vatva-1	D/C	95.5
84	Nadiad	Dhuvaran-Vatva-2	D/C	81.95
85	Nadiad	Vatva-Mehmedabad	S/C	23.56
86	Nadiad	Mehmedabad W Rly. I	D/C	2.14
87	Nadiad	Mehmedabad W Rly.-II	D/C	2.14
88	Nadiad	Nadiad-Mehmedabad	S/C	11.5
89	Nadiad	Karamsad-Nadiad	S/C	27.15
90	Nadiad	Karamsad-Ode	S/C	36.00
91	Nadiad	Karamsad-Dhuvaran-1[Gotri line-2]	S/C	41.20
92	Nadiad	Karamsad-Dhuvaran-2[Gotri line-1]	S/C	41.2
93	Nadiad	Ode-W'Rly-1	D/C	17.3
94	Nadiad	Ode-W'Rly-2	D/C	17.3
95	Mehsana	Mehsana-Sidhpur-1	D/C	48.00
96	Mehsana	Mehsana-Sidhpur-2	D/C	35.00
97	Mehsana	Mehsana-Patan-1	D/C	35.00
98	Mehsana	Mehsana-Patan-2	D/C	35.00
99	Mehsana	Mehsana-Visnagar	S/C	20.50
100	Mehsana	Sidhpur-Deesa	S/C	42.00
101	Himatnagar	132KV Agiyol-Idar	S/C & D/C	32.00
102	Himatnagar	132KV Agiyol-Talod	S/C & D/C	32.00
103	Himatnagar	132KV Idar-Vijapur	S/C	45.00
104	Himatnagar	132KV Visnagar-Vijapur	S/C	28.00
105	Surendranagar	Dhuvaran (CCPP)-Limbdi-1	D/C	138.00
106	Surendranagar	Dhuvaran (CCPP)-Limbdi--2	D/C	138.00
107	Surendranagar	Limbdi-Wankaner	D/C	106.00
108	Surendranagar	Sitagadh-Wankaner	S/C	42.00
109	Surendranagar	CCPP-Dhandhuka-1	D/C	95.60
110	Surendranagar	CCPP-Dhandhuka-2	D/C	95.60

### DETAILS OF TRANSMISSION LINES - 132 kV

Sl. No.	Name of Circle	Name of Line.	S/C D/C	Length in Kms.
111	Surendranagar	Dhandhuka-Paliyad	S/C	86.00
112	Surendranagar	Dhandhuka-Vikram	S/C	161.00
113	Surendranagar	Dhandhuka-Barwala	S/C	78.00
114	Surendranagar	Dhandhuka-Botad	S/C	86.00
115	Surendranagar	Vakhatpar - Sitagadh	S/C	15.94
116	Surendranagar	Limbdi-Vakhatpar	S/C	50.1
117	Amreli	Paliyad-Jasdan	S/C	55.80
118	Amreli	Paliyad-Vikram	S/C	132.80
119	Amreli	132KV Barwala-Vallabhipur	S/C	38.50
120	Amreli	132 KV Botad-Paliyad Line	S/C	25.00
121	Gondal	132KV Gondal-Jasdan	S/C	50
122	Gondal	132KV Gondal-Vikram	S/C	39
123	Gondal	132KV Gondal-Bhayavadar	S/C	84
124	Gondal	132KV Gondal-Haripur	S/C	100
125	Gondal	132KV Gondal-Dhoraji	S/C	58
126	Gondal	132kV Jasdan - Theoliya Line-01	D/C	7.24
127	Gondal	132kV Jasdan - Theoliya Line-02	D/C	7.24
128	Gondal	132KV Vikram-Nyara	S/C	33
129	Gondal	132KV Vikram-Vajdi	S/C	18
130	Gondal	132KV Nyara-Vajdi	S/C	15
131	Gondal	132KV Wankaner - Dhrol	S/C	68
132	Gondal	132KV Wankaner - Varshamedi - 1	D/C	65
133	Gondal	132KV Wankaner - Varshamedi - 2	D/C	65
134	Gondal	132kv Sikka - Dhrol line	D/C	71
135	Gondal	132kv Dhrol Sartanpar line	D/C	98.74
136	Gondal	132kv Sartanpar-Lalpar	S/C	10.542
137	Gondal	132kv Wankaner-Sartanpar line	S/C	23.272
138	Junagadh	Bhayavadar-Ranavav	S/C	90.00
139	Junagadh	Haripur-Talala	S/C	11.00
140	Junagadh	Talala - Junagadh	S/C	52.24
141	Junagadh	Timbdi-Talala No.1	D/C	22.00
142	Junagadh	Timbdi-Talala No.2	D/C	22.00
143	Junagadh	Timbdi-Ambuja No.1	D/C	12.00
144	Junagadh	Timbdi-Ambuja No.2	D/C	12.00
145	Junagadh	Timbdi-CCGL	S/C	10.00
146	Junagadh	Shapur - Dhoraji	S/C	31.8
147	Junagadh	Shapur - Junagadh	S/C	35.5
148	Jamnagar	132KV Jamnagar-Wankaner	S/C	97
149	Jamnagar	132KV Jamnagar-Naghedi-I	D/C	12
150	Jamnagar	132KV Jamnagar-Naghedi-II	D/C	12
151	Jamnagar	132KV Sikka-Jamnagar	D/C	27
152	Jamnagar	132KV RPL-Sikka	D/C+ S/C	21

**DETAILS OF TRANSMISSION LINES - 132 kV**

Sl. No.	Name of Circle	Name of Line.	S/C D/C	Length in Kms.
153	Jamnagar	132KV Jam-Khambhalia	S/C	64
154	Jamnagar	132KV Sikka-Naghedi	S/C	30
155	Jamnagar	132KV Sikka-Bhatia	S/C	78.6
156	Jamnagar	132KV Khambhalia-Bhatia-1	S/C	46.34
157	Jamnagar	132KV Bhatia-Enercon-1	S/C	8.12
158	Jamnagar	132KV Khambhalia-Bhatia-2	S/C	46.34
159	Jamnagar	132KV Bhatia-Enercon-2	D/C	8.12
160	Jamnagar	132KV Bhatia-Bhatia-1	D/C	1.16
161	Jamnagar	132KV Bhatia-Bhatia-2	D/C	1.16
162	Jamnagar	132KV SC & CI - I	D/C	1.00
163	Jamnagar	132KV SC & CI - II	D/C	1.00
164	Jamnagar	132KV Ranavav-Bhomiyavadar	S/C	35.40
165	Jamnagar	132KV Bhomiyavadar-Sikka	S/C	76.54
166	Jamnagar	132KV Gunda(suzlon)-Bhomiyavadar line-1	D/C	11.67
167	Jamnagar	132KV Gunda(suzlon)-Bhomiyavadar line-2	D/C	11.67
168	Anjar	132 Kv Samkhiyali - Shikarpur line-1	D/C	22.00
169	Anjar	132 Kv Samkhiyali - Shikarpur line-2	D/C	22.00

**ONGOING/ PLANNED INTRA STATE TRNSMISSION SYSTEM**

<b>A. 400/220 KV GSS NEW &amp; UNDER AUGMENTATION (Transformation Capacity in MVA )</b>							
<b>i) Capacity addition (MVA) due to augmentation of existing substations</b>							
400/220 KV	Existing Capacity	Augmantation of existing Substations					Total
		FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	13th FYP	
Asoj	1315	500					1815
Kosamba	945	315					1260
Soja	1000	500		500			2000
Kasor	630	315				500	1445
Chorania	1000		500		500		2000
Amreli	945		315				1260
Vadavi	945			315			1260
Varsana	630	315				500	1445
Zerda	945					500	1445
Halvad	630					1000	1630
Jetpur	1445						1445
Hadala	945				500		1445
<b>Total :</b>	<b>11375</b>	<b>1945</b>	<b>815</b>	<b>815</b>	<b>1000</b>	<b>2500</b>	<b>18450</b>
<b>ii) Capacity addition (MVA) due to creation of new substations</b>							
400/220 KV		FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	13th FYP	Total
Charanka		630					630
Chharodi		1500					1500
Sankhari			630				630
Kalavad				1000			1000
Vav			1500				1500
Shapar					1000		1000
Fedra				1000			1000
Bhogat						1000	1000
Achhalia						1000	1000
Bhachunda					1000		1000
Keshod						1000	1000
Pipavav						1000	1000
Chhara						1000	1000
Prantij						1000	1000
Chikhli						1000	1000
<b>Total :</b>		<b>2130</b>	<b>2130</b>	<b>2000</b>	<b>2000</b>	<b>7000</b>	<b>15260</b>

**ONGOING / PLANNED INTRA STATE TRANSMISSION SYSTEM**

B 220/132 & 220/66 KV GSS NEW (Transformation capacity in MVA)						
i) Capacity addition (MVA) due to creation of new substations						
2015-16	220/66 KV	220/132 KV		2016-17	220/66 KV	220/132 KV
Atul	320			Barejadi	320	
Charadava	320			Wankaner	480	300
Modasa	320			Sankhari	320	300
Mogar	320			Bhachunda	320	
Chharodi	320			Santej	320	
Total...	1600	0		Total...	1760	600
2017-18	220/66 KV	220/132 KV		2018-19	220/66 KV	220/132 KV
Gotri	480	300		Zalod	320	300
Babara	320	300		Gariyadhar	320	
Bagodara	320			Songadh (Virpor)	320	
Fedra	320			Shapar	320	
Kalavad	320			Bechradi	320	
Total...	1760	600		Total...	1600	300
13th FYP	220/66 KV	220/132 KV		2015-16	132/66 KV	132/11 KV
Vesu	480			Padavala	100	
Halol	320			Zoz	100	
Balasinor	320			Mota Dahisara	100	
Metoda	320			Bhavnath		50
Rajkot-II	320			Total...	300	50
Bagasara	320			2016-17	132/66 KV	132/11 KV
Dhanaj	320			Tankara	100	
Gondal-II	320			Vaghasiya	100	
Umargam	320			Total...	200	0
Bil	320			13th FYP	132/66 KV	132/11 KV
Khajod	320			Vakhatpar		50
Olpad	320			Total...	0	50
Moti Gop	320					
Keshod	320					
Pipavav	320					
Chhara	320					
Prantij	320					
Maglana	320					
Makansar	320					
Bhogat	320					
Khambhalia	320					
Veraval	320					
Rajula	320					
Kawat		300				
Talaja	320					
Total...	7840	300				
	220/66 KV	220/132 KV			132/66 KV	132/11 KV
Upto - 2019	6720	1500		Upto - 2019	500	50
Upto - 2022	7840	300		Upto - 2022	0	50
	14560	1800			500	100

**ONGOING/ PLANNED INTRA STATE TRANSMISSION SYSTEM**

<b>C) Capacity addition (MVA) due to augmentation of existing substations (FY 2015-16-17-18-19)</b>				
<b>Sub-station</b>	<b>220/66 KV</b>	<b>220/132 KV</b>		
Gondal		100		
Ranavav		100		
Limbdi		50		
Charanka	100			
Wagra	50			
Kapadwanj	100			
Agiyol	100			
Bhutiya	100			
Hadala	160			
Moti Paneli	100			
Shapur	100			
Visavadar	100			
Viramgam	100			
Amreli	100			
Tappar	160			
Kukma	100			
Nanikhakhar	100			
Panandhro	50			
Gavasad	100			
Sankhari	50			
Thavar	110			
Timbdi	100			
Otha	160			
Savarkundla	120			
Nakhatrana	160			
Sachin	120			
Karamsad	270			
Asoj	160			
Jambuva	160			
Zerda	160			
Palanpur	160			
Kim	160			
Tharad	160			
Asoj	60			
Asoj		150		
Jambuva	60			
Kheralu	220			
Bhat	220			
Ukai	200			
Ichchhpor	160			
Mota	110			
Botad	160			
Botad		150		
Ranasan		100		
Visavadar		300		
Zagadia	100			

**ONGOING/ PLANNED INTRA STATE TRANSMISSION SYSTEM**

<b>C) Capacity addition (MVA) due to augmentation of existing substations (FY 2015-16-17-18-19)</b>				
<b>Sub-station</b>	<b>220/66 KV</b>	<b>220/132 KV</b>		
Kangasiyali	180			
Shivlakha	100			
Deodar	160			
Vartej	220			
Keshod	160			
Charanka	300			
<b>Total...</b>	<b>6080</b>	<b>950</b>		
	<b>132/66 KV</b>			
Nadiad	100			
Ranasan	100			
Gondal	100			
Paliyad	150			
Bhayavadar	90			
Dhandhuka	60			
Vikram	100			
Manjusar	100			
Barvala	50			
<b>Total...</b>	<b>850</b>			
<b>Tentative Augmentation Plan</b>				
<b>Year / KV</b>	<b>220/132 KV</b>	<b>220/66 KV</b>	<b>132/66 KV</b>	<b>Total</b>
<b>2015-16</b>	250	1580	200	<b>2030</b>
<b>2016-17</b>	300	1500	250	<b>2050</b>
<b>2017-18</b>	300	1500	200	<b>2000</b>
<b>2018-19</b>	100	1500	200	<b>1800</b>
<b>Total..</b>	<b>950</b>	<b>6080</b>	<b>850</b>	<b>7880</b>

<b>(D) Summary of year-wise MVA capacity addition of GSS (400/220 KV, 220/132 KV, 220/66 KV, 132/66 KV, 132/11 KV)</b>						
<b>Year / KV</b>	<b>400/220 KV</b>	<b>220/132 KV</b>	<b>220/66 KV</b>	<b>132/66 KV</b>	<b>132/11 KV</b>	<b>Total</b>
<b>2015-16</b>	4075	250	3180	500	50	<b>8055</b>
<b>2016-17</b>	2945	900	3260	450	0	<b>7555</b>
<b>2017-18</b>	2815	900	3260	200	0	<b>7175</b>
<b>2018-19</b>	3000	400	3100	200	0	<b>6700</b>
<b>13th FYP</b>	9500	300	7840	0	50	<b>17690</b>
<b>Total...</b>	<b>22335</b>	<b>2750</b>	<b>20640</b>	<b>1350</b>	<b>100</b>	<b>47175</b>

**ANNEXURE -V**

**INTRA STATE YEAR WISE INVESTMENT PLAN (FOR FY 2015-16 to FY 2018-19)**

Amount in Rs Lacs					
Sl. No	Particulars	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
	<b>New Projects</b>				
1	400 KV Sub Station	32795	14608	23702	18019
2	400 KV Lines	68824	59414	64119	45104
3	220 KV Sub Station	24701	18814	31758	28018
4	220 KV Lines	28454	21831	25143	27616
5	132 KV Sub Station	3294	2237	2766	1120
6	132 KV Lines	1520	1452	1486	1232
7	66 KV Sub Station	25393	42761	34077	40698
8	66 KV Lines	19671	33818	28345	32525
9	Bus Reactor	0	1500	1500	1500
10	Capacitor Bank	0	3200	3200	3200
11	SVC	0	194	194	194
	<b>Total</b>	<b>204652</b>	<b>199829</b>	<b>216288</b>	<b>199226</b>
	<b>R&amp;M</b>				
1	Renovation and Modernization	17360	10000	15000	15000
2	Augmentation of Sub-station/ Lines	13560	41880	37720	50000
	<b>Total</b>	<b>30920</b>	<b>51880</b>	<b>52720</b>	<b>65000</b>
1	OPGW	2901	1451	2175.78	3175
	<b>Total</b>	<b>238473</b>	<b>253159</b>	<b>271183</b>	<b>267401</b>
	<b>(in Rs crores)</b>	<b>2385</b>	<b>2532</b>	<b>2712</b>	<b>2674</b>
1	Total Fund Requirement till FY 2018-19	2385	2532	2712	2674
2	Fund raise from Green Energy Corridor Project (Rs. 1962.12 Crore upto 2020)	0	392	589	589
2.a	NCEF Grant (40%)	0	157	177	235
2.b	Loan from KfW (40%)	0	157	235	235
2.c	Equity (20%)	0	78	118	118
3	Fund requirement Excluding GEC	2385	2139	2123	2085
3.a	Debt: 80% of the total Fund Requirement from Nationalized bank & ADB	1908	1711	1699	1668
3.b	Equity: 20% of total Fund Requirement (Including TASP & Sagarkhedu share equity)	477	428	425	417



**TRANSFORMER METERING STATUS**

Sl. No.	Particulars	Transformers as on March-15			Planning				
		Total	Metered	Unmetered	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
1	DGVCL	94205	64237	30586	12000	12000	6586	6100	
2	MGVCL	101074	99267	1807	1807				
3	PGVCL	486829	*335181	151648	29000	29500	31000	31000	31148
4	UGVCL	199268	147320	51948	5500	11500	11600	11800	11548
	<b>Total</b>	<b>881376</b>	<b>310824</b>	<b>235989</b>	<b>48307</b>	<b>53000</b>	<b>49186</b>	<b>48900</b>	<b>42696</b>

	Category	Total	Metered	Unmetered
<b>GUVNL</b>	RESIDENTIAL	10267164	10267164	0
	COMMERCIAL	127991	127991	0
	INDUSTRIAL LT	1497713	1497713	0
	PUBLIC LIGHTING	30388	30388	0
	WATER WORKS	66581	66581	0
	AGRICULTURE	1184303	698829	485474
	INDUSTRIAL HT	12032	12032	0
	RAILWAYS	13	13	0
		0	0	0
	<b>TOTAL</b>	<b>13186185</b>	<b>41943493</b>	<b>485474</b>

**ANNEXURE-VII**

**THE CIRCLE WISE DETAILS OF PROGRESS OF R-APDRP**

DGVCL	1	2	3	4	5	6	7	8										
Town	Surat	Vyara	Valsad	Vapi	Bilimora	Bharuch	Jambusar	Rajpipla	DGVCL Total									
Sanction Amount (Cr)	142.18	2.62	17.04	13.1	4.09	15.47	3.2	2.86	200.56									
Booked Amount (Cr)	109.53	2.59	14.91	13.91	3.94	16.41	2.88	2.39	166.56									
% Achv.	0.77	0.99	0.88	1.06	0.96	1.06	0.9	0.84	0.83									
MGVCL	1	2	3	4	5	6	7	8	9	10	11	12						
Name of Circle	ANAND					BARODA (O&M)		GODHRA					MGVCL Total					
Name of Town	Balasino	Chaklasi	Mehmdabad	Borsad	Kapadvanj	Padra	Dabhoi	Godhra	Halol	Lunawada	Anand	Dahod	Total					
Sanction Amount (Cr)	3.57	1.89	4.25	4.61	6.51	5.44	4.15	37.6	5.22	2.97	29.22	13.95	177.86					
Booked Amount (Cr)	3.57	1.89	4.25	6.51	4.61	5.44	4.15	25.6	5.22	2.97			64.21					
% Achv.	1	1	1	1	1	1	1	68.09	1	1			84.25					
PGVCL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Circle	AMR	AMR	AMR	AMR	AMR	AMR	BHJ	BHJ	BHJ	BHJ	BTD	BVN	BVN	BVN	BVN	BVN	JMN	JMN
Name of Town	Amreli	Una	S'kundla	Kodinar	Bagasara	Rajula	Bhuj	G'dham	Anjar	Mandvi	Botad	Bhavna gar	Mahuva	Palitana	Garia dhar	Siho r	Jamnagar	K'BHALIA
Sanction Amount (Cr)	8.9	4.15	4.38	4.87	2.71	2.51	10.41	16.27	6.39	4.62	8.61	62.02	5.81	7.67	4.38	3.57	145.31	5.24
Booked Amount (Cr)	7.11	3.62	3.96	4.55	2.31	2.3	8.41	12.4	5.56	4.26	6.78	32.01	5.6	5.57	3.72	3.5	60.36	4.79
% Achv.	0.8	0.87	0.9	0.93	0.85	0.92	0.81	0.76	0.87	0.92	0.79	0.52	0.96	0.73	0.85	0.98	0.42	0.91



Sl. No.	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	PGVCL TOTAL
Circle	JMN	JND	JND	MRB	MRB	PBR	PBR	RCC	RRC	RRC	RRC	RRC	RRC	SNR	SNR	SNR	SNR	
Name of Town	Dwarka	Junagadh	Veraval	Morvi	Wankaner	Keshod	Mangrol	Rajkot	Jetpur	Upleta	Gondal	Dhoraji	Jasdan	Wadhwan	D'dhara	Thangadh	Limbdi	
Sanction Amount (Crs)	1.81	37.84	40.33	16.76	5.87	3.43	1.88	156.19	6.86	3.95	8.22	5.53	7.8	31.35	8.78	7.34	4.9	656.69
Booked Amount (Crs)	1.68	31.33	30.49	14.69	4.76	3.17	1.75	67.96	5.93	3.34	6.82	4.28	3.01	19.4	6.54	5.54	3.83	391.32
% Achv.	0.93	0.83	0.76	0.88	0.81	0.92	0.93	0.44	0.87	0.85	0.83	0.77	0.39	0.62	0.75	0.75	0.78	0.6
UGVCL	1	2	3	4	5	6	7											
Town	Bavla	Viramgam	Sanand	Dehgam T	Kalol	Radhanpur	Ahmedabad Peri	Total										
Sanction Amount	4.04	7.69	2.68	1.84	6.36	2.01	106.05	89.12										
Booked Amount	3.88	6.42	2.68	1.78	6.38	2.03		23.17										
% Achv.	0.96	0.83	1	0.97	1	1.01		0.94										

**ANNEXURE-VIIA**

**DISCOM WISE PROGRESS OF R-APDRP-A and R-APDRP-B**

DISCOM	Scheme	No. of Towns Sanctioned	Sanctioned Amount Rs. in Crore	% Share		Total		
				Central	State Govt./ DISCOM	No. of Towns Completed	Amount Released	Amount Utilised
							Rs. in Crore	Rs. in Crore
DGVCL	R_APDRP Part-A	11	30.81	100.00	0.00	11.00	17.96	18.50
	R_APDRP Part-B	8	200.56	25.00	75.00	6.00	140.70	166.56
	SCADA Part-A	1	14.84	100.00	0.00		4.56	1.09
MGVCL	R_APDRP Part-A	17	89.49	100.00	0.00	17.00	55.03	48.75
	R_APDRP Part-B	12	177.86	25.00	75.00	10.00	79.20	68.21
	SCADA Part-A	1	26.18	100.00	0.00		8.04	2.11
PGVCL	R_APDRP Part-A	36	75.11	100.00	0.00	36.00	60.35	58.84
	R_APDRP Part-B	35	656.36	25.00	75.00	32.00	323.23	391.32
	SCADA Part-A	3	63.67	100.00	0.00		19.55	4.11
UGVCL	R_APDRP Part-A	20	35.31	100.00	0.00	20.00	21.18	23.44
	R_APDRP Part-B	7	89.12	25.00	75.00	6.00	3.69	23.17
	SCADA Part-A	1	33.82	100.00	0.00		10.38	2.01
<b>Total</b>	R_APDRP Part-A	84	230.72	100.00	0.00	84	154.52	149.53
	R_APDRP Part-B	62	1123.90	25.00	75.00	54	546.82	649.26
	SCADA Part-A	6	138.51	100.00	0.00	0	42.52	9.32
<b>Total</b>							<b>743.86</b>	<b>808.11</b>

R-APDRP Part-A						
Particulars		DGVCL	MGVCL	PGVCL	UGVCL	Total
Town		11	17	36	20	84
GIS Consumer Survey	No. (Lakhs)	8.54	8.9	14.73	6.16	38.04
	% Completed	100%	100%	100%	100%	100%
GIS Asset Mapping	Total No. of Fdrs	122	260	565	226	1173
	% Completed	100%	100%	100%	100%	100%
Meter & Modem Installation Progress	Total No. of Meter & Modems	7793	7025	20860	9422	50178
	% Completed	100%	100%	100%	100%	100%
Integrated towns		11	17	36	20	84
Go-live Towns		11	17	36	20	84
% Data availability in MDAS		66%	94%	73%	62%	75%

R-APDRP Part-B						
Sl. No.	Particulars	DGVCL	MGVCL	PGVCL	UGVC L	Total
1	Town	8	12	35	7	62
2	Population	3372467	827184	5338480	298668	9836799
3	Consumers	600386	240430	1418943	91377	23511436
4	Sanctioned DPR Cost (Crores)	200.56	177.86	656.66	89.12	1124.2
5	Amount arranged by PFC (25%)	50.14	44.465	164.165	22.28	281.05
6	1st tranche received from PFC (Crores) (15%)	30.08	26.68	99.4	3.08	159.24
7	Amount received from BoB (Crores)	110.62	52.52	223.83	0	386.97
8	Amount Utilized (Crores)	166.56	68.21	391.32	23.17	649.26
9	Completed Town	6	10	32	6	54
10	% Utilization w.r.t. sanctioned cost	83%	38%	60%	26%	58%

**ANNEXURE- VIII**

**DISTRICT WISE FINANCIAL STATUS OF CLOSURE OF RGGVY**

Name of Dist	Project Sanctioned Cost (Revised) Rs. In lacs	Amount Released Rs. In lacs				Expenditure Amount Rs. In lacs	During Year 2013-14	
		Loan Amt.	Subsidy Amt.	Interest	Total		Amount Released Rs. In lacs	Expenditure Amount Rs. In lacs
Bharuch	1857.44	184.79	1663.09	0	1847.88	1857.44	0	0
Dang	365.54	11.31	190.9	0	202.21	298.24	0	0
Narmada	1643.98	163.66	1472.93	0	1636.59	1636.59	0	0
Navsari	543.4	31.8	495.78	0	527.58	514.7	0	0
Surat/Tapi	3020.76	260.99	2348.93	0	2609.92	2609.46	0	0
Valsad	1689.67	147.58	1328.17	0	1475.75	1587.1	0	0
DGVCL	9120.79	800.13	7499.8	0	8299.93	8503.53	0	0
Anand	1247	111.1161	479.0897	0	590.2058	697	0	0
Dahod	1656.61	169.9437	1185.851	0	1355.795	1503.17	0	0
Kheda	2355.68	122.6765	1104.088	0	1226.765	1051.48	0	0
Panchmahal	3206	300.8144	2707.33	0	3008.144	3008.14	0	0
Vadodara	1170	114.8153	1062.227	0	1177.043	1176	0	0
MGVCL	9635.29	819.3659	6538.586	0	7357.951	7435.79	0	0
Bhavnagar	1015.98	90.0666	810.5996	0	900.6662	1122.44	0	0
Amreli	1030.43	91.3574	822.2163	0	913.5737	1384.47	0	0
Jamnagar	728.8	61.9441	577.146	0	639.0901	659.16	0	0
Junagadh	1309.45	50.8365	947.7183	0	998.5548	1182.29	0	0
Kutchh	2200.85	132.0542	1509.192	0	1641.246	2056.52	0	0
Porbandar	235.37	13.983	160.2488	0	174.2318	243.18	0	0
Rajkot	1044.26	39.9279	754.2885	0	794.2164	1020.9	0	0
S'Nagar	2132.37	127.9495	1549.381	0	1677.33	2009.4	0	0
PGVCL	9697.51	608.1192	7130.79	0	7738.909	9678.36	0	0
Ahmedabad	723.26	65.0934	606.4956	23.62	695.209	801.24	0	0.45
Banaskantha	3014.29	178.82	1633.77	63.63	1876.22	134.23	0	84.55
Gandhinagar	249.3	19.22772	153.526	5.98	178.7337	774.56	0	1.65
Mehsana	826.82	70.2797	664.5933	25.88	760.753	798.51	0	2.2
Patan	782.83	69.39788	638.9989	24.89	733.2868	2529.46	0	1.24
Sabarkantha	2650.8	253.0527	2156.157	83.98	2493.19	2893.49	0	0
UGVCL	8247.3	655.8714	5853.541	227.98	6737.393	7931.49	0	90.09
<b>Total</b>	<b>36700.89</b>	<b>2883.486</b>	<b>27022.72</b>	<b>227.98</b>	<b>30134.18</b>	<b>33549.17</b>	<b>0</b>	<b>90.09</b>

**ANNEXURE-IX****DISTRICT WISE PROGRESS OF RGGVY**

Sl. No.	District	Zero Date of Project	Target Date of Project Completion	Particular	Target by REC	Cumulative Achieve ment		Remark
						Total Achie.	% Achie.	
1	Bharuch	18.04.2006	17.12.2008	BPL H/H	25891	25891	1	Project Completed & final claim approved.
				HTLine	69	69	1	
				LT Line	432.6	432.6	1	
				Trans.	234	234	1	
2	Dang	06.03.2008	31.12.2013	BPL H/H	14446	11926	0.825557	Project Completed & final claim approved.
				HTLine	49	10.13	0.206735	
				LT Line	506	283.73	0.560731	
				Trans.	64	31	0.484375	
3	Narmada	07.12.2008	06.06.2008	BPL H/H	37014	37014	1	Project Completed & final claim approved.
				HTLine	55.77	55.77	1	
				LT Line	349	348.74	0.999255	
				Trans.	146	146	1	
4	Navsari	03.07.2009	02.07.2011	BPL H/H	16097	15684	0.974343	Project Completed & final claim approved.
				HTLine	6.01	7.05	1.173045	
				LT Line	118.5	121.26	1.023291	
				Trans.	5	15	3	
5	Surat	25.05.2009	31.12.2012	BPL H/H	82062	83373	1.015976	Project Completed & final claim approved.
				HTLine	34	18.68	0.549412	
				LT Line	744	590.8	0.794086	
				Trans.	54	56	1.037037	
6	Valsad	03.07.2009	31.12.2013	BPL H/H	34117	35886	1.051851	Project Completed & final claim approved.
				HTLine	49	33.398	0.681592	
				LT Line	526.47	514.35	0.976979	
				Trans.	53	55	1.037736	
	DGVCL			BPL H/H	209627	209774	1.000701	
				HTLine	262.78	194.028	0.738367	
				LT Line	2676.57	2291.48	0.856126	
				Trans.	556	537	0.965827	
7	Anand	06.03.2008	05.03.2010	BPL H/H	24230	24230	1	Project Completed &

Sl. No.	District	Zero Date of Project	Target Date of Project Completion	Particular	Target by REC	Cumulative Achievement		Remark
						Total Achie.	% Achie.	
				HTLine	12.5	20.59	1.6472	final claim approved.
				LT Line	240	133.97	0.558208	
				Trans.	25	43	1.72	
8	Dahod	22.07.2009	21.07.2011	BPL H/H	28735	28735	1	Project Completed & final claim approved.
				HTLine	27.4	17.36	0.633577	
				LT Line	882.9	635.76	0.720082	
				Trans.	40	40	1	
9	Kheda	23.07.2009	22.07.2011	BPL H/H	23630	23630	1	Project Completed & final claim approved.
				HTLine	28.3	28.12	0.99364	
				LT Line	457.53	281.44	0.615129	
				Trans.	50	60	1.2	
10	Panchmahal	04.10.2008	03.04.2008	BPL H/H	102536	102536	1	Project Completed & final claim approved.
				HTLine	20	18	0.9	
				LT Line	1015.1	1066.84	1.05097	
				Trans.	40	16	0.4	
11	Vadodara	06.03.2008	05.03.2010	BPL H/H	32626	32626	1	Project Completed & final claim approved.
				HTLine	53.7	52.07	0.969646	
				LT Line	251.75	258.9	1.028401	
				Trans.	146	146	1	
	MGVCL			BPL H/H	211757	211757	1	
				HTLine	141.9	136.14	0.959408	
				LT Line	2847.28	2376.91	0.8348	
				Trans.	277	305	1.101083	
12	Amreli	27.11.2009	26.11.2011	BPL H/H	27439	27446	1.000255	Project Completed & final claim approved.
				HTLine	59	60.01	1.017119	
				LT Line	187	213	1.139037	
				Trans.	161	209	1.298137	
13	Bhavnagar	28.04.2008	27.04.2010	BPL H/H	22076	22076	1	Project Completed & final claim approved.
				HTLine	83	83	1	
				LT Line	224	224	1	
				Trans.	184	187	1.016304	
14	Jamnagar	27.11.2009	26.11.2011	BPL H/H	17835	11352	0.636501	Project Completed & final claim approved.
				HTLine	40	33.07	0.82675	
				LT Line	189.04	122	0.645366	

Sl. No.	District	Zero Date of Project	Target Date of Project Completion	Particular	Target by REC	Cumulative Achievement		Remark
						<b>Total Achie.</b>	<b>% Achie.</b>	
				Trans.	108	120	1.111111	
15	Junagadh	27.11.2009	26.11.2011	BPL H/H	35201	23684	0.672822	Project Completed & final claim approved.
				HTLine	58	46	0.793103	
				LT Line	314.869	174	0.552611	
				Trans.	185	236	1.275676	
16	Kutchh	27.11.2009	26.11.2011	BPL H/H	48595	34996	0.720156	Project Completed & final claim approved.
				HTLine	215	124	0.576744	
				LT Line	567.5	436	0.768282	
				Trans.	332	253	0.762048	
17	Porbandar	27.11.2009	26.11.2011	BPL H/H	5211	3652	0.700825	Project Completed & final claim approved.
				HTLine	23	13.7	0.595652	
				LT Line	50.645	45	0.888538	
				Trans.	40	54	1.35	
18	Rajkot	23.11.2009	22.11.2011	BPL H/H	26567	18786	0.707118	Project Completed & final claim approved.
				HTLine	57	29.62	0.519649	
				LT Line	242	170	0.702479	
				Trans.	173	208	1.202312	
19	S'nagar	27.11.2009	26.11.2011	BPL H/H	60289	43594	0.723084	Project Completed & final claim approved.
				HTLine	118	73.83	0.625678	
				LT Line	357.62	282	0.788547	
				Trans.	344	364	1.05814	
	PGVCL			BPL H/H	243213	185586	0.76306	
				HTLine	661	463.23	0.700802	
				LT Line	2132.674	1666	0.781179	
				Trans.	1484	1631	1.099057	
20	Ahmedabad	16.05.2008	30.11.2011	BPL H/H	25500	22207	0.870863	Project Completed & final claim approved.
				HT Line	6	4.7	0.783333	
				LT Line	170	161.2	0.948235	
				Trans.	2	2	1	
21	Banaskanth a	26.05.2008	31.12.2013	BPL H/H	41817	39557	0.945955	Project Completed & final claim approved.
				HT Line	54.475	43.385	0.79642	
				LT Line	1238.654	1048.414	0.846417	

Sl. No.	District	Zero Date of Project	Target Date of Project Completion	Particular	Target by REC	Cumulative Achievement		Remark
						<b>Total Achie.</b>	<b>% Achie.</b>	
				Trans.	64	63	0.984375	
22	Gandhinagar	05.01.2009	30.11.2011	BPL H/H	5000	3985	0.797	Project Completed & final claim approved.
				HT Line	0	0	#DIV/0!	
				LT Line	100	39.36	0.3936	
				Trans.	0	0	#DIV/0!	
23	Mehsana	16.05.2008	30.11.2011	BPL H/H	18000	19933	1.107389	Project Completed & final claim approved.
				HT Line	8	3.119	0.389875	
				LT Line	325	251.295	0.773215	
				Trans.	12	11	0.916667	
24	Patan	16.05.2008	30.11.2011	BPL H/H	18000	24180	1.343333	Project Completed & final claim approved.
				HT Line	8	3.67	0.45875	
				LT Line	250	270.4	1.0816	
				Trans.	12	7	0.583333	
25	Sabarkantha	13.05.2008	30.11.2011	BPL H/H	29000	28481	0.982103	Project Completed & final claim approved.
				HT Line	137	122.69	0.895547	
				LT Line	1185	993.482	0.838381	
				Trans.	171	175	1.023392	
	UGVCL			BPL H/H	137317	138343	1.007472	
				HT Line	213.475	177.564	0.831779	
				LT Line	3268.65	2764.151	0.845655	
	<b>TOTAL</b>			<b>Trans.</b>	<b>261</b>	<b>258</b>	<b>0.988506</b>	
	GUVNL			BPL H/H	801914	745460	0.929601	
				HT Line	1279.155	970.962	0.759065	
				LT Line	10925.17	9098.541	0.832805	
				Trans.	2578	2731	1.059348	

**FUND REQUIREMENT FOR STATE GOVERNMENT SCHEMES**

Sl. No.	Name of the GOG Schemes	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total
1.	TASP for sub stations / lines	160.00	160.00	160.00	160.00	<b>640.00</b>
2.	Electrification of Hutments	20.00	20.00	20.00	20.00	<b>80.00</b>
3.	Kutir Jyoti Scheme	3.75	3.75	3.75	3.75	<b>15.00</b>
4.	TASP for Rural Electrification wells & petaparas	370.65	370.65	370.65	370.65	<b>1482.60</b>
5.	Scheduled Caste Sub Plan	5.00	5.00	5.00	5.00	<b>20.00</b>
6.	Energy Conservation	40.00	40.00	40.00	40.00	<b>160.00</b>
7.	Sagar Khedu Sarvangi Vikas Yojana	425.00	425.00	425.00	425.00	<b>1700.00</b>
8.	KHUSHY for PGVCL – Equity	150.00	150.00	150.00	150.00	<b>600.00</b>
9.	Share capital for Agri. Connection	1158.14	1158.14	1158.14	1158.14	<b>4632.56</b>
10.	Solar Pump Sets (AG)	60.00	60.00	60.00	60.00	<b>240.00</b>
11.	Scheduled Caste Sub Plan AG Connection (Capital)	35.00	35.00	35.00	35.00	<b>140.00</b>
12.	Share Capital Contribution to GUVNL for shifting/replacement of Poles and Distribution Lines in the area of Municipal Corporations and Nagarpalikas	100.00	100.00	100.00	100.00	<b>400.00</b>
13.	Assistance to State PSEs for providing solar based Decentralized Electrification in non-electrified areas (New item)	50.00	50.00	50.00	50.00	<b>200.00</b>

## DISCOMS WISE DETAILS OF DDUGJY SCHEME IN THE STATE OF GUJARAT

Sl. No.	Description	Particular	Unit	DGVCL		MGVCL		PGVCL		UGVCL		Total	
				Qty	Project Cost	Qty	Project Cost	Qty	Project Cost	Qty	Project Cost	Qty	Project Cost
1	Strengthening of sub-transmission and distribution network	66/11 KV New Sub station		3.00	15.25	10.00	15.00	0.00	0.00	2.00	10.20	15.00	40.45
2		New 66 KV line proposed		27.00	7.50	0.00	0.00	0.00	0.00	17.00	3.91	44.00	11.41
3		11 kV New Line/Crossing		0.00	0.00	1575.00	27.56	0.00	0.00	273.70	7.09	1848.70	34.65
4		11 kV Line : New Feeder/ Feeder Bifurcation		745.08	25.60	0.00	0.00			19.78	0.99	764.86	26.59
a		11 kV Line B/F feeder Bay	Nos.	0.00	0.00			229.00	13.42	0.00	0.00	229.00	13.42
b		11 kV Line : New Feeder/ Feeder Bifurcation	Kms.	0.00	0.00			1244.16	25.90	0.00	0.00	1244.16	25.90
5		Augmentation /Renovation of 11 KV Feeder	Kms.	12.90	0.44	218.60	3.83	3065.98	54.18	21.55	3.71	3319.03	62.16
6		LT Line : Augmentation / Renovation	Kms.	13.20	0.40	0.00		1095.21	13.40	207.76	5.16	1316.17	18.96
7		Aerial Bunched Cables		8082.74	88.13	0.00				1800.53	35.86	9883.27	123.99
a		3ph 4W conversion of LT line to ABC 50mmsq	Kms.					3074.82	39.55			3074.82	39.55
b		1ph 2W conversion of LT line to ABC 35mmsq	Kms.					2040.51	8.93			2040.51	8.93
8		Nos. of feeders proposed for HVDS	Nos.	19.80	0.69	0.00				77.00	0.49	96.80	1.18
a		11 KV prop. New HT line	Km					0.00	0.00			0.00	0.00

**DISCOMS WISE DETAILS OF DDUGJY SCHEME IN THE STATE OF GUJARAT**

Sl. No.	Description	Particular	Unit	DGVCL		MGVCL		PGVCL		UGVCL		Total	
				Qty	Project Cost	Qty	Project Cost	Qty	Project Cost	Qty	Project Cost	Qty	Project Cost
b		LT to HT conversion	Km					1337.10	17.58			1337.10	17.58
9		Reconductoring by HT ABC	Km	0.00	0.00	0.00		371.02	21.08	130.54	11.54	501.56	32.62
10		Repl. of 1 phase PVC service line with XLPE/Armored s/l	Km	0.00	0.00	0.00		384.11	2.03	0.00	0.00	384.11	2.03
11		Reactivation of DTC Earthing	Km	14699.00	5.88	0.00		39911.00	4.12	1655.00	1.00	56265.00	11.00
12		HVDS-New DTR proposed		2049.00	20.08	13200.00	169.62			1327.00	17.90	16576.00	207.60
a		10 KVA TC	No					6792.00	60.92			6792.00	60.92
b		16 KVA TC	No					680.00	6.47			680.00	6.47
c		25 KVA TC	No					279.00	2.95			279.00	2.95
d		63 KVA TC	No					42.00	0.70			42.00	0.70
e		100 KVA TC	No					0.00	0.00			0.00	0.00
13		NEW 1PH connection proposed	No	0.00	0.00	0.00	0.00	0.00	0.00	8034.00	2.14	8034.00	2.14
14		LT Metering(Shifting of Meter)	No	0.00	0.00	0.00	0.00	0.00	0.00	23184.00	4.67	23184.00	4.67
15	Metering	1 PH Static Meters	No	105118.00	8.28	330000.00	35.18	500374.00	53.34	135411.00	11.03	1070903.00	107.83
16		3 PH Static Meters	No	13741.00	2.77	27676.00	8.24	60327.00	17.97	8943.00	2.66	110687.00	31.64
17		Providing Meters with MMB on DTR	No	21278.00	6.59	0.00	0.00	17921.00	12.56	2789.00	3.23	41988.00	22.38
18		Others	No		4.43			0.00	0.00	0.00	0.00	0.00	4.43
		<b>Total :</b>			<b>186.04</b>		<b>259.61</b>		<b>356.84</b>		<b>122.16</b>		<b>924.70</b>

**ANNEXURE-XI**

**DISTRICT WISE OVERALL PLAN AND FUND REQUIREMENT AGAINST PROJECTS TO BE COVERED (IPDS)**

Total			DGVCL		MGVCL		PGVCL		UGVCL		Total	
Sl. No.	Particular	Unit	Qty	Project Cost (Rs. In Cr.)	Qty	Project Cost (Rs. In Cr.)	Qty	Project Cost (Rs. In Cr.)	Qty	Project Cost (Rs. In Cr.)	Qty	Project Cost (Rs. In Cr.)
1.	66/11 KV S/S : New	Nos	17	86.70	12	71.41	8	116.88	2	0.00	39	274.99
2.	33/11 KV S/S : Additional Transformer	Nos.	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
3.	33/11 KV S/S : Transformer capacity enhancement	Nos.	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
4.	Renovation & Modernisation of 33/11 kV SS	Nos.	0	0.00	11	7.51	0	0.00	0	0.00	11	7.51
5.	New 66 KV new feeders/Bifurcation of feeders:	Kms	80	24.00	40	12.00	0	0.00	0	0.00	120	36.00
6.	66 KV feeders Reconductoring/Augmentation	Kms	0	0.00	24	12.85	0	0.00	0	0.00	24	12.85
7.	33 kV Line Bay Extension at EHV station	Nos	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
8.	11 kV Line : New Feeder/ Feeder Bifurcation	Kms	78	7.95	265	23.35	107	5.71	12	0.14	463	37.14
9.	11 kV Line : Augmentation/Reconductoring	Kms	0	0.00	467	4.39	112	0.41	85	3.51	664	8.31
10.	Arial Bunched Cable	Kms	1224	12.07	1817	27.66	2208	27.81	1004	32.10	6252	99.64
11.	UG Cable	Kms	282	42.30	445	66.80	856	117.68	160	36.33	1743	263.11
12.	11 KV Bay Extension	Kms	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
13.	Installation of Distribution Transformer	Nos.	96	2.15	352	8.95	6885	78.60	66	1.69	7399	91.39
14.	Capacity enhancement of LT sub-station	Nos.	0	0.00	9	0.11	0	0.00	0	0.00	9	0.11
15.	LT Line : New Feeder/ Feeder Bifurcation	Kms	13	0.28	197	15.31	0	0.00	40	0.95	250	16.54
16.	LT Line : Augmentation/Reconductoring	Kms	0	0.00	0	0.00	10	0.02	0	0.00	10	0.02
17.	Capacitor Bank	Nos.	0	0.00	27	0.41	0	0.00	0	0.00	27	0.41
18.	HVDS	Nos.	0	0.00	293	4.36	367	3.60	40	0.32	700	8.28



**DISTRICT WISE OVERALL PLAN AND FUND REQUIREMENT AGAINST PROJECTS TO BE COVERED (IPDS)**

Total			DGVCL		MGVCL		PGVCL		UGVCL		Total	
Sl. No.	Particular	Unit	Qty	Project Cost (Rs. In Cr.)	Qty	Project Cost (Rs. In Cr.)	Qty	Project Cost (Rs. In Cr.)	Qty	Project Cost (Rs. In Cr.)	Qty	Project Cost (Rs. In Cr.)
19.	Metering	Nos.	38338	5.28	319500	92.91	272342	47.66	77319	12.19	707499	158.04
20.	Provisioning of solar panel	Lot	30	0.21	61	0.43	575	4.03	247	3.22	913	7.88
21.	RMU,Sectionaliser, Auto reclosures, FPI etc.	Lot	43	1.51	1259	2.77	8934	21.59	201	10.31	10437	36.17
22.	Others	Lot	20429	4.60	49464	21.72	38669	35.72	20709	1.31	129271	63.35
	<b>GRAND TOTAL</b>			<b>187.04</b>	<b>0</b>	<b>372.92</b>	<b>0</b>	<b>459.70</b>	<b>0</b>	<b>102.22</b>		<b>1121.88</b>



**ANNEXURE-XIA**

**SYSTEM STRENGTHENING ACTIVITIES OF THE DISTRIBUTION NETWORK AND EXPENDITURE THEREOF**

	Particulars	Unit	system strengthening work done		Planning of system strengthening work								System strengthening work approved under IPDS & DDGJY		Net Planning of system strengthening work							
			Average of last two Year		2015-16		2016-17		2017-18		2018-19		Total		2015-16		2016-17		2017-18		2018-19	
			Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs
<b>DGVC L</b>	Creation of New SS	No											20	102	0	0	0	0	0	0	0	0
	Augmuntation of Power Transformer	No											107	32	0	0	0	0	0	0	0	0
	Addition of new power transformer in Existing SS	No											0	0	0	0	0	0	0	0	0	0
	Feeder Bifurcation & Link line	No.	103	43	115	48	120	50	130	54	140	58	91	8	106	47	75	46	94	51	140	58
	DTC Review	No.	112	2	110	2	120	2	130	2	120	2	14699	6	0	0	0	0	0	0	120	2
	Conductor Replacement	KM	795	5	800	5	850	5	900	5	950	5	13	0	799	5	843	5	895	5	950	5
	Providing of LT ABC	in KM	1128	8	1100	7	1400	9	1600	10	1800	11	1224	12	978	6	788	3	1110	5	1800	11
	Providing of 5 KVA T/c	No.	144	1	170	1	200	1	250	1	250	1	96	2	160	1	152	0	212	0	250	1
	AG HVDS	feeder	2	2	4	4	5	5	5	5	6	6	2049	20	0	0	0	0	0	0	6	6
	Fund Req. in Crore			61		67		72		77		83	0	182	0	59	0	53	0	60	0	83
<b>MGVC L</b>	Creation of New SS	No											22	86						0	0	
	Augmuntation of Power Transformer	No											40	12						0	0	
	Addition of new power transformer in Existing	No											0	0	0	0	0	0	0	0	0	0



**SYSTEM STRENGTHENING ACTIVITIES OF THE DISTRIBUTION NETWORK AND EXPENDITURE THEREOF**

	Particulars	Unit	system strengtheni ng work done		Planning of system strengthening work								System strengthenin g work approved under IPDS & DDGJY		Net Planning of system strengthening work							
			Average of last two Year		2015-16		2016-17		2017-18		2018-19		Total		2015-16		2016-17		2017-18		2018-19	
			Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lac s	Phy	Exp in Lacs	Phy	Exp in Lac s	Phy	Exp in Lacs
	SS																					
	Feeder Bifurcation & Link line	No.	78	1	80	1	90	1	100	1	110	1	484	27	32						110	1
	DTC Review	No.	281	7	300	7	400	9	500	11	600	13	0	0	300	7	400	9	500	11	600	13
	Conductor Replacement	KM	348	9	400	10	450	11	500	12	550	13	467	4	353	10	216	9	313	10	550	13
	Providing of LT ABC	in KM	2264	15	2500	16	3000	19	3500	22	4000	25	1817	28	2318	13	2091	5	2773	11	4000	25
	Providing of 5 KVA T/c	No.	0	0	0								352	9							0	0
	AG HVDS	TC	560	5	560	5	560	5	560	5	560	5	3493	174	211						560	5
	Fund Req. in Crore			37		39		45		51		57	0	341	0	30	0	23	0	32	0	57
<b>PGVC L</b>	Creation of New SS	No	59	234	103	412	45	180	40	160	40	160	8	117	102	400	41	122	37	113	40	160
	Augmuntation of Power Transformer	No	62	31	17	9	56	30	60	32	58	31	0	0	17	9	56	30	60	32	58	31
	Addition of new power transformer in Existing SS	No	53	58	46	51	20	22	52	57	40	44	0	0	46	51	20	22	52	57	40	44
	Feeder Bifurcation & Link line	No.	319	27	250	21	200	17	210	18	190	16	4646	99							190	16
	DTC Review	No.	571	3	300	2	250	2	260	2	240	2	39911	4				0		0	240	2
	Conductor Replacement	KM	2188	9	5000	20	3500	14	3500	14	3000	12	6322	62	4368	14	339		971		3000	12
	Providing of LT ABC	in KM	3873	50	4500	58	4000	52	3500	46	3200	42	2579	49	4242	53	2711	28	2469	26	3200	42



**SYSTEM STRENGTHENING ACTIVITIES OF THE DISTRIBUTION NETWORK AND EXPENDITURE THEREOF**

	Particulars	Unit	system strengthening work done		Planning of system strengthening work								System strengthening work approved under IPDS & DDGJY		Net Planning of system strengthening work							
			Average of last two Year		2015-16		2016-17		2017-18		2018-19		Total		2015-16		2016-17		2017-18		2018-19	
			Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs
	Providing of 5 KVA T/c	No.	2745	14	2500	13	2000	10	1800	9	1600	8	6885	79	1812	5					1600	8
	AG HVDS	feeder	86	90	70	73	80	83	75	78	70	73	8160	75		66		46		48	70	73
	Fund Req. in Crore			515		659		410		416		388	0	485	0	598	0	247	0	277	0	388
<b>UGVC L</b>	Creation of New SS	No	32	148	22	104	24	113	25	118	20	94	4	10	22	103	22	108	23	114	20	94
	Augmentation of Power Transformer	No											17	4		0					0	0
	Addition of new power transformer in Existing SS	No											0	0	0	0	0	0	0	0	0	0
	Feeder Bifurcation & Link line	No.	172	19	235	26	200	22	180	20	150	17	34	4	232	26	183	20	166	18	150	17
	DTC Review	No.	49	1	55	1	60	1	55	1	70	1	1655	1		1		1		1	70	1
	Conductor Replacement	KM	87	1	80	0	80	0	90	0	120	0	293	9	51						120	0
	Providing of LT ABC	in KM	179	1	250	2	275	2	325	2	400	2	1134	44	137						400	2
	Providing of 5 KVA T/c	No.	0	0	0								66	2							0	0
	AG HVDS	feeder	11	6	18	10	13	7	10	5	10	5	1367	18		8					10	5
	Fund Req. in Crore			176		143		145		146		119	0	91	0	137	0	128	0	133	0	119
<b>Total</b>	Creation of New SS	No	90	382	125	516	69	293	65	278	60	254	54	315	124	503	63	229	60	227	60	254
	Augmentation of Power Transformer	No	62	31	17	9	56	30	60	32	58	31	164	47	17	9	56	30	60	32	58	31



**SYSTEM STRENGTHENING ACTIVITIES OF THE DISTRIBUTION NETWORK AND EXPENDITURE THEREOF**

	Particulars	Unit	system strengtheni ng work done		Planning of system strengthening work								System strengthenin g work approved under IPDS & DDGJY		Net Planning of system strengthening work							
			Average of last two Year		2015-16		2016-17		2017-18		2018-19		Total		2015-16		2016-17		2017-18		2018-19	
			Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lacs	Phy	Exp in Lac s	Phy	Exp in Lacs	Phy	Exp in Lac s	Phy	Exp in Lacs
	Addition of new power transformer in Existing SS	No	53	58	46	51	20	22	52	57	40	44	0	0	46	51	20	22	52	57	40	44
	Feeder Bifurcation & Link line	No.	672	90	680	96	610	90	620	93	590	92	5255	139	369	73	258	66	260	69	590	92
	DTC Review	No.	1013	13	765	12	830	14	945	16	1030	18	56265	11	300	8	400	9	500	12	1030	18
	Conductor Replacement	KM	3419	23	6280	35	4880	30	4990	31	4620	30	7095	76	5570	28	1399	14	2179	15	4620	30
	Providing of LT ABC	in KM	7444	73	8350	83	8675	82	8925	80	9400	80	6754	132	7675	72	5590	36	6352	43	9400	80
	Providing of 5 KVA T/c	No.	2888	14	2670	14	2200	11	2050	10	1850	9	7399	91	1972	6	152		212	0.14	1850	9
	AG HVDS	feeder	659	104	652	92	658	100	650	93	646	89	15069	287	211	74	0	46	0	48	646	89
	Fund Req. in Crore			789		908		672		690		647	0	1099	0	824	0	452	0	503	0	647
<b>This segment is not included in State / Central Govt. Schemes. It is funded from DISCOM's own fund. This segment should be covered as fund requirement under PFA</b>																						

**ANNEXURE-XII****AVERAGE BILLING RATE**

<b>ABR FOR FUTURE YEARS-STATE GOV DISCOMS</b>							
<b>Description/item</b>	<b>As per GoG (FY 2015-16)</b>	<b>FY 2016-17</b>		<b>FY 2017-18</b>		<b>FY 2018-19</b>	
		<b>MU</b>	<b>Cr Rs</b>	<b>MU</b>	<b>Cr Rs</b>	<b>MU</b>	<b>Cr Rs</b>
Domestic/General	4.94	11,580	5,717	12,767	6,303	14,077	6,950
Others incl Agriculture	5.17	58,465	30,229	62,558	32,346	66,937	34,610
<b>Total</b>		<b>70,045</b>	<b>35,946</b>	<b>75,325</b>	<b>38,649</b>	<b>81,014</b>	<b>41,560</b>
<b>ABR(Rs/unit)</b>	<b>5.13</b>	<b>5.13</b>		<b>5.13</b>		<b>5.13</b>	

<b>ABR for future years-Private DISCOM</b>							
<b>Description/item</b>	<b>Tariff order FY 2015-16</b>	<b>FY 2016-17</b>		<b>FY 2017-18</b>		<b>FY 2018-19</b>	
		<b>MU</b>	<b>Cr Rs</b>	<b>MU</b>	<b>Cr Rs</b>	<b>MU</b>	<b>Cr Rs</b>
Domestic/General	5.31	3,756	1,994	4,169	2,214	4,628	2,457
Others incl Agriculture	6.59	7,651	5,042	8,187	5,395	8,760	5,773
<b>Total</b>		<b>11,407</b>	<b>7,036</b>	<b>12,356</b>	<b>7,609</b>	<b>13,388</b>	<b>8,230</b>
<b>ABR(Rs/unit)</b>	<b>6.22</b>	<b>6.17</b>		<b>6.16</b>		<b>6.15</b>	

**ANNEXURE-XIII****EXTERNAL TRAINING SUMMARY (TECH/NON TECH) FOR THE FY 2014-15**

Sl. No.	Subject	Type of Training	Organisation	Place of Training Institute
1	Two days conference on Effective Management of Commerical contracts	NT	International Business Conferences	Mumbai
2	5 National conference on Emerging Vistas of Technology in 21st Century Power System, Power Electronics, Intelligent Control & Renewable Energy system.	TECH	Parul Institute of Engineering & Technology,	Vadodara
3	5 National conference on Gas Insulated substation	TECH	Central Board of Irrigation & Power	New Delhi
4	Emergency Medicine Procedural and Clinical Training	NT	Apollo Hospitals International Ltd.	Ahmedabad
5	Conference participant for "5th Annual International summit COALGAS 2014"	NT	Mission Energy foundation	Mumbai
6	Evaluation, Repair and Protection of structures against corrosion	TECH	Nirma University	Ahmedabad
7	Round Table conference on "Managing business Driven HR Transformation"	NT	BMA	Vadodara
8	One day workshop on Making training stick	NT	BMA	Vadodara
9	3 Annual conference on "Industrial water management and Desalination (Demand & Supply, Technology and Solutions)	TECH	India Infrastructure publishing Pvt. Ltd.	New Delhi
10	Behavioural training Module for MGVCL's officers (Batch - 1)	NT	School of Petroleum Management, (PDPU)	Gandhinagar
11	Behavioural training Module for MGVCL's officers (Batch - 2)	NT	School of Petroleum Management, (PDPU)	Gandhinagar
12	4 days Laboratory Quality system, Management & Internal Audit as per IS/ISO/17025	NT	Bureau of Indian Standards,	Noida
13	9th National Conference on Indian Energy Sector - "Synergy with Energy".	TECH	Saket Project Ltd.	Ahmedabad
14	Protection, Automation and Metering	TECH	Adani Power Training and Research Institute	Mundra
15	Best practices in water and coal chemistry in Power Plants	TECH	ESCI	Hyderabad
16	Strategies for Leading change, A research-based training solution for leaders	NT	Leadership Conulting, Vital Smarts Ind.	Mumbai
17	5 days training on "Boiler"	TECH	BHEL	Tiruchirapalli



Sl. No.	Subject	Type of Training	Organisation	Place of Training Institute
18	Effective presentation Skills - Need for Today	NT	BMA	Vadodara
19	3rd Annual Master Class on LNG & Gas contract, pricing Methodologies and Strategies	NT	Metis business solutions knowledge redefined	New delhi
20	5th T&D conclave & Round Table Meet - A Healthy T&D secotr - for a Sustainable Power Sector.	TECH	India- Tech Secretariat	Mumbai
21	23rd Annual Award for Outstanding Young Managers)	NT	BMA	Vadodara
22	Innovative Measure for Grid Stability including phase shifting Transformers & WAMs."	TECH	CBIP	New delhi
23	Occupational and environmental safety guidelines for handling PCBs, PCBs containing equipment.	TECH	Gujarat Pollution Control Board	Gandhinagar
24	12 weeks training in Live Line maintenance Techniques (95th Batch) using Hot Stick Method (HSM) up to 220 KV lines.	TECH	National Power Training Institute	Bangalore
25	Advance training on Photoshop, page Maker and Corel Draw	NT	Image Institute of Digital Technology Ltd.	Vadodara
26	National workshop on Geotechnical Consideration for Power Equipment Foundation	TECH	Indian Geotechnical Society	Vadodara
27	Failure of Distribution transformers and Remedial Measures	TECH	ESCI	Hyderabad
28	Grid Operation & Monitoring and Equipment Health Assessment	TECH	GETCO & ABB	Ahmedabad
29	Power Quality Harmonics & their control	TECH	International Business conference (IBC)	Mumbai
30	Transformer Residual Life Enhancement	TECH	Knowledge Cluster Pvt. Ltd.	Mumbai
31	Evaluation of Cables & Accessories	TECH	ERDA	Vadodara
32	Earthing Practices and Safety Measures in Electrical Installations	TECH	CIRE, REC	Hyderabad
33	Best practices in Power Distribution Management	TECH	CIRE, REC	Hyderabad
34	Safety in Power Distribution Utility	TECH	AIPM	Kolkata
35	Construction - Quality Control & Site Inspection	TECH	Marcep Inc.	Mumbai

Sl. No.	Subject	Type of Training	Organisation	Place of Training Institute
36	CII's 3rd edition of IR Conference 2014 "Industrial Relations at Crossroad."	NT	CIR,	Vadodara
37	Managing Commercial Contracts	NT	FORE School of Management	New Delhi
38	Laboratory Quality System Management and Internal Audit (IS/ISO 17025).	NT	CII Institute of Quality	Bangalore
39	Life After Retirement (GOI)	NT	SPIPA	Ahmedabad
40	7 <sup>th</sup> Annual conference on Solar Power in India	TECH	India Infrastructure Pvt. Ltd.	New Delhi
41	IRD Mechanalysis Vibration Training Module 1 (MVT1)	TECH	IRD Mechanalysis	Mumbai
42	15th Regulators & Policymakers Retreat - 2014	NT	Independent Power Producers Association of India (IPPA)	New Delhi
43	Distribution Automation SCADA and Smart Grid	TECH	Central Institute for Rural Electrification (CIRE)	Hyderabad
44	Technical workshop on "Best O&M"	TECH	Knowledge N Techniques	Mumbai
45	Inventory AND Spare parts Management	NT	Trivedi & Associates Tecknical services (P) Ltd.	Vadodara
46	CII Conference on Company Act 2013	NT	Confederation of Indian Industry	Vadodara
47	Key to communication - A programme on Interpersonal Effectiveness	NT	BMA	Vadodara
48	Latest Testing Trends in Transformers and Advancements of Battery Testing	TECH	CBIP	New Delhi
49	Development of Power Sector at International Level	TECH	CBIP	New Delhi
50	Latest Trends in Metering, Billing and Collection	TECH	CIRE	Hyderabad
51	Power Sector Accounting with reference to Indian Standards & IFRS	NT	CIRE	Hyderabad
52	Contract Mining in India	NT	ASCI	Hyderabad
53	MDP on "Key to Communication - A program on Interpersonal Effectiveness"	NT	BMA	Vadodara
54	Fly Ash Utilization	TECH	Mission Energy Foundation	Mumbai
55	Workshop on "Concrete Mix Design"	TECH	Ambuja Knowledge Initiative	Vadodara
56	Two days programme "Metering in India"	TECH	Power Line	New Delhi

Sl. No.	Subject	Type of Training	Organisation	Place of Training Institute
57	"AT&C Loss Management and Advance Metering Practices in Power Distribution".	TECH	Asia Institute of Power Management	Kolkatta
58	Workshop on "Witnessing Acceptance, Routine and type tests on Surge Arresters	TECH	CPRI	Bangalore
59	Condition Monitoring and Health Assessment of Transformers	TECH	ERDA	Vadodara
60	Diagnostic Techniques to improve Performance and Reliability of Boilers	TECH	India Boiler dot com	Vadodara
61	7 <sup>th</sup> Annual Conference on "Power Transmission in India"	TECH	Power Line	New Delhi
62	Metallurgical Aspects of Power Plant(CRM seats for Customer's participation in PMI Programme (FY 14-15) Schedule during July 2014 - March 2015.)	TECH	Power Management Institute, NTPC Ltd.	Noida
63	India LNG Partnership Summit	NT	Metis Business Solutions	New Delhi
64	Air Pollutation control & Monitoring- issues & solutions	TECH	Federation of Indian Chambers of Commerce and Industry	New Delhi
65	Power and Distribution Transformers – Efficient Operation and Maintenance	TECH	CIRE	Hyderabad
66	Condition Monitoring and Health Assessment of Transformers	TECH	ERDA	Vadodara
67	CII Conference on Company Act 2013	NT	Confederation of Indian Industry	Vadodara
68	Data Management and Analysis using Advanced Excel	NT	FORE School of Managemnet	New Delhi
69	Workshop on Cyber Security.	NT	India Smart Grid Forum (ISGF)	New Delhi
70	Flow Measurements in Open Channeis & Closed Conduits	TECH	Knowledge n Techniques	Mumbai
71	Two day training programme on Fundamentals of "Power Plant Chemistry"	TECH	MARCEP Inc.,	Mumbai
72	Conference on Western India Regional Practicing Company Secretary	NT	The Institute of Company Secretaries of India	Vadodara
73	One day conference "CII's Enviro Tech 2014"	TECH	Confederation of Indian Industry	Vadodara
74	Two days workshop on Smart Transmission through wide Area Measurements & Control of Large Power System	TECH	Power Systems Division Central Power Research	Bengaluru



Sl. No.	Subject	Type of Training	Organisation	Place of Training Institute
			Institute	
75	Orientation Programme on "Documentation of Energy Conservation Efforts for Gujarat Government Departments/PSUs".	TECH	National Productivity Council (NPC) and Gujarat Energy Development Agency (GEDA)	Ahmedabad
76	Specialist level course on "Power System Reliability" (Short term training programme during 2014-15, PSTI, Bangalore)	TECH	Power System Training Institute	Bangalore
77	Specialist level course on "Power System Reliability" (Short term training programme during 2014-15, PSTI, Bangalore)	TECH	Power System Training Institute	Bangalore
78	Leadership & People Development (DPE)	NT	Department of Public Enterprises (DPS)	New Delhi
79	Two day Annual Conference on "IT in Power"	TECH	Power Line Magazine	New Delhi
80	Earthing Systems	TECH	CBIP	New Delhi
81	Operation & Maintenance of Cooling Towers, Circulating Water system and Air Cooled Condenser	TECH	CBIP	New Delhi
82	"Cable fault location, testing and diagnostics and fault location on overhead Transmission Lines."	TECH	CBIP	New Delhi
83	Workshop on "Smart Initiatives in Energy Systems	TECH	IEEE Power & Energy Society (IEEE PES)	Bangalore,
84	Protection, Automation & Metering	TECH	Adani Power Training & Research Institute	Mundra
85	Short term Course on "Modeling and simulation of Sub Synchronous Resonance in Power System."	TECH	Indian Institute of Technology Bombay	Mumbai
86	3rd Annual Conference on "Solar Power in India : Technologies, Opportunities & Challenges".	TECH	Infraline Energy	Noida
87	CII workshop on Labour Laws	NT	CII	Vadodara
88	Laboratory Managemnet based on ISO/IEC 17025 : 2005 INCLUDING Internal Auditing	NT	Engineering Staff College of India	Hyderabad
89	4th India Smart Utilies week and Peer to Peer workshop	TECH	World Smart Grid	Delhi

Sl. No.	Subject	Type of Training	Organisation	Place of Training Institute
90	Gujarat Manufacturing show 2014 "Growth and Sustainability of Electrical and Electronic Industry for India Power Sector"	TECH	Confederation of Indian Industry	Ahmedabad
91	Workshop on "Mind Power"	NT	Baroda Management Association	Vadodara
92	Power System Economics	NT	National Power Training Institute	Faridabad
93	Gujarat State Level 25 <sup>th</sup> Silver Jubilee Convention on Quality Concepts VCCQC – 2014.	NT	Quality Circle Forum of India	Vadodara
94	Certificate Course on Dispute Settlement Mechanism under the ID Act.1947	NT	Gujarat Natinal Law University	Gandhinagar
95	National Conference on “Power Transmission and Distribution”.	TECH	Indian Power Management Academy	Bhopal
96	Technical Seminar on New Comprehensive system for cable testing & Diagnosis alongwith fault location.	TECH	Megger India Pvt. Ltd.	
97	Fundamental of Vibration Monitoring & Vibration Analysis	TECH	Reliability Conference	Hyderabad
98	New Challenges in Coal Handling Plant (CRM seats for Customer's participation in PMI Programme (FY 14-15) Schedule during July 2014 - March 2015.)	TECH	Power Management Institute, NTPC Ltd.	Noida
99	Variable Frequency Drives : Design & Maintenance (CRM seats for Customer's participation in PMI Programme (FY 14-15) Schedule during July 2014 - March 2015.)	TECH	Power Management Institute, NTPC Ltd.	Noida
100	Dynamic Life Management and Stress free Living (Skill Development training programme for executive and Employees of SLPEs)	NT	Department of Public Enterprises (DPS)	New Delhi
101	Project Management (Skill Development training programme for executive and Employees of SLPEs)	NT	Department of Public Enterprises (DPS)	New Delhi
102	Teriff Policy & Submission of ARRs-Regulatory Compliance.	TECH	Central Institute for Rural Electrification of Rural Electrification corporation Ltd.	Hyderabad
103	workshop on Power Reliability	TECH	Asia Institute of Power Management	Kolkata

Sl. No.	Subject	Type of Training	Organisation	Place of Training Institute
104	Punctured Insulator Detection (PID)	TECH	National Power Training Institute	Bangalore
105	Employees- certificate course on "Contract and Procurement Management."	NT	Gujarat National Law University	Gandhinagar
106	2 days workshop on "Managerial Excellence for Line Managers".	NT	Centre for Excellence	Ahmedabad
107	Workshop on Safety Audit	TECH	N MARC India	Mumbai
108	3rd Annual Convention on Lean Six Sigma - 2014	NT	Concept Business Excellence Pvt. Ltd.,	Vadodara
109	Substation Design, Engineering & Construction	TECH	The Society of Power Engineers(India)	Vadodara
110	Web Development using PHP & MYSQL	TECH	Engineering Staff College of India	Hyderabad
111	Management Development	NT	Baroda Management Association	Vadodara
112	Emotional Intelligence Leadership	NT	Baroda Management Association	Vadodara
113	Handling Chemistry in Power Plant (CRM Seats for Customer's participation in PMI programme (FY 14-15)	TECH	NTPC Ltd., PMI	Noida
114	ESP and Ash handling system (CRM Seats for Customer's participation in PMI programme (FY 14-15)	TECH	NTPC Ltd., PMI	Noida
115	Root cause analyses of failure of Elect.(CRM Seats for Customer's participation in PMI programme (FY 14-15)	TECH	NTPC Ltd., PMI	Noida
116	Specialist level course on "Power System Reliability" (Short term training programmes during 2014-15, PSTI, Bangalore.)	TECH	Power System Training Institute	Bangalore
117	Executive Certificate Programme in Power Management (Batch - V)	NT	School of Petroleum Management	Gandhinagar
118	8th India Energy Summit 2014	TECH	West Bengal State Electricity Distribution Company Ltd.	Kolkata
119	GIS Application	TECH	Engineering Staff College of India	Hyderabad
120	Earthing Practices and Safety measures in electrical installations	TECH	Central Institute for Rural Electrification of Rural electrification Corp. Ltd.,	Hyderabad
121	9th Conference on "Power Distribution in India."	TECH	Power Line Magazine	New Delhi



Sl. No.	Subject	Type of Training	Organisation	Place of Training Institute
122	Environment friendly Technologies for indian Power Sector- CFBC Boiler/Coal Blending	TECH	Excellence Enhancement Centre	New Delhi
123	CFBC Technology latest Trends and Advances	TECH	Indian Power Management Academy	Bhopal
124	Condition Monitoring, Maintenance & Testing of Electrical Equipments.	TECH	Marcep Inc.,	Mumbai
125	Planning and Project work of new projects for GSECL Engineers	TECH	Power Management Institute	Noida
126	Two days "WASTECH International Summit & Expo"	TECH	Confederation of Indian Industry	Ahmedabad
127	Wide Area Monitoring, Protection and Control (WAMPAC) - Novel Solutions using Phasor Measurement unit	TECH	Power Systems Division, Central Power Research Institute	Bengaluru
128	National Conclave on "Circuit Breakers and Protection Testing"	TECH	Central Board of Irrigation & Power (CBIP)	New Delhi
129	Laboratory Management system & International Audit as per ISO:17025, 2005"	NT	NITS	Hyderabad
130	Live Line Maintenance Techniques (LLMT) using Bare Hand Method (BHM) upto 400 KV lines.(20th Batch)	TECH	National Power Training Institute	Bangalore
131	26th Annual Management Convention	NT	Baroda Management Association	Vadodara
132	Smart Capacitors for Smart Grids - CAPACIT 2014	TECH	IEEMA	New Delhi
133	Revenue Management and Dynamic Pricing	NT	Indian Institute of Management Ahmedabad	Ahmedabad
134	HR Round Tables (Future of HR)	NT	VCCI, (nimspl)	Vadodara
135	Basic Level Course on "Power System Operation" (Short term training programmes during 2014-15, PSTI, Bangalore.)	TECH	Power System Training Institute	Bangalore
136	Performance Evaluation and setting Professionally Goal Oriented (Skill Development training programme for Exectutive and Employees of SLPEs, DPS, New Delhi.	NT	Department of Public Enterprises (DPS)	New Delhi

Sl. No.	Subject	Type of Training	Organisation	Place of Training Institute
137	Strategic Thinking for Growth and Sustenance (Skill Development training programme for Exectutive and Employees of SLPEs, DPS, New Delhi.	NT	Department of Public Enterprises (DPS)	New Delhi
138	Corporate Governance (Skill Development training programme for Exectutive and Employees of SLPEs, DPS, New Delhi.	NT	Department of Public Enterprises (DPS)	New Delhi
139	Quality Assurance & Quality Control in Civil Engineering Construction Project	TECH	Engineering Staff College of India	Hyderabad
140	Methodology/Techniques of Source emission monitoring and corrections to be applied.	TECH	Pollution Control Research Institute, BHEL	Haridwar
141	One day 2nd edition of Industrial Safety Summit 2014	TECH	Confederation of Indian Industry	Vadodara
142	Process Heat, Boilers & Steam System Management	TECH	Marcep Inc.	mumbai
143	Corporate Restructuring, M&A, Buyouts and Divestitures"	NT	Indian Institute of Management	Bangalore
144	Workshop on "Power Theft in Distribution System"	TECH	Central Power Research Institute	Bangalore
145	5th HR Convention - 2014 on Organizational Transformation : Necessity for Sustainable growth	NT	Gujarat Employers' organisation	Vadodara
146	Power Cable (HT & EHT) - selection, laying, testing, Termination, Maintenance and Causes of Failures"	TECH	Engineering Staff College of India	Hyderabad
147	ESP Design O&M and performamnce optimize (CRM Seats for Customer's participation in PMI Programme (FY - 14-15)	TECH	NTPC Ltd., Power Management Institute	Noida
148	Performance of Boiler and air pre-heater (CRM Seats for Customer's participation in PMI Programme (FY - 14-15)	TECH	NTPC Ltd., Power Management Institute	Noida
149	Specialist level course on "Power System Reliability" (Short term training programmes during 2014-15, PSTI, Bangalore.)	TECH	Power System Training Institute	Bangalore
150	Use of Construction Chemical in Construction Industries	TECH	Engineering Staff College of India	Hyderabad

Sl. No.	Subject	Type of Training	Organisation	Place of Training Institute
151	Revenue Management and Loss Recuction (R-APDRP of Ministry of Power, Govt. of India)	TECH	Indian Institute of Technology Roorkee	Roorkee
152	12th India Doble Power Forum on various topics	TECH	The DOBLE Engineering Pvt. Ltd.	Vadodara
153	12th India Doble Power Forum on various topics	TECH	The DOBLE Engineering Pvt. Ltd.	Vadodara
154	12th India Doble Power Forum on various topics	TECH	The DOBLE Engineering Pvt. Ltd.	Vadodara
155	Executive Certificate programme in Power Management (Batch - V) (Part - I)	NT	PDPUP	Gandhinagar
156	High Voltage Distributin system	TECH	Central Institute for rural Electrification of Rural electrification Corp. Ltd.	Hyderabad
157	56 <sup>th</sup> National cost convention – 2015.	NT	The Institute of cost Accountants of India	New Delhi
158	Hydro Power in India : Continuing Challenges, Emerging Solutions and New Opportunities".	TECH	Sai Cad Centre	New Delhi
159	Indo-European Modeling week and study Group Meeting on Industrial Problems.	NT	The Center for Industrial Mathematic, M.S.University of Baroda,	Vadodara
160	AutoCAD training for Engineer	TECH	Sai Cad Centre	Mehsana
161	Laboratory Managemnet based on ISO/IEC 17025 : 2005 INCLUDING Internal Auditing	NT	Engineering Staff College of India	Hyderabad
162	INTELECT - 2015	NT	IEEMA	Mumbai
163	Cyber security for Power Systems	TECH	Indian Smart Grid Forum	New Delhi
164	Inida Gas Infrastructure Summit 2015	NT	Metis Knowledge Redefined	New Delhi
165	36th State level Annual Safety Conference	TECH	Gujarat Safety Council	Vadodara
166	International Seminar on Implementation of PAT	TECH	STEAG Energy services (India) Pvt. Ltd.	Noida
167	Introduction to ISO 9001: 2015 (Draft International Standard).	NT	TUV India Pvt. Ltd.,	Vadodara

Sl. No.	Subject	Type of Training	Organisation	Place of Training Institute
168	18 <sup>th</sup> National Conference on eGovernance.	NT	Department of Administrative reforms & Public Grievances (DARPG),	Gandhinagar
169	Seminar on “Be Ready for GST”	NT	The Institute of Cost Accountants of India,	ahmedabad
170	Crane Safety Workshop 2015	TECH	Ocean Conference	Mumbai
171	Specialist Level Course on “Regulatory Framework in Power Sector” (PSTI, NPTI, Bangalore.)	TECH	NPTI, PSTI	Bangalore
172	GIS Application (Training programme under R-APDRP of Ministry of Power, Govt. of India)	TECH	India Institute of Technology Roorkee	Roorkee
173	Metering Technology & AMR applications (Training programme under R-APDRP of Ministry of Power, Govt. of India)	TECH	India Institute of Technology Roorkee	Roorkee
174	Revenue Management and Loss Reduction (Training programme under R-APDRP of Ministry of Power, Govt. of India)	TECH	India Institute of Technology Roorkee	Roorkee
175	Revenue Management & Loss Reduction (Training programme for A&B level officers under R-APDRP of Ministry of Power, Govt. of India.)	TECH	Reliance Energy Management Institute (REMI)	Mumbai
176	Metering Technologies & AMR Applications. (Training programme for A&B level officers under R-APDRP of Ministry of Power, Govt. of India.)	TECH	Reliance Energy Management Institute (REMI)	Mumbai
177	GIS Application (Training programme for A&B level officers under R-APDRP of Ministry of Power, Govt. of India.)	TECH	Reliance Energy Management Institute (REMI)	Mumbai
178	Revenue Management & Loss Reduction (Training programme for A&B level officers under R-APDRP of Ministry of Power, Govt. of India.)	TECH	Reliance Energy Management Institute (REMI)	Mumbai
179	Metering Technologies & AMR Applications. (Training programme for A&B level officers under R-APDRP of Ministry of Power, Govt. of India.)	TECH	Reliance Energy Management Institute (REMI)	Mumbai
180	GIS Application (Training programme for A&B level officers under R-APDRP of Ministry of Power, Govt. of India.)	TECH	Reliance Energy Management Institute (REMI)	Mumbai



Sl. No.	Subject	Type of Training	Organisation	Place of Training Institute
181	Revenue Management & Loss Reduction (Training programme for A&B level officers under R-APDRP of Ministry of Power, Govt. of India.)	TECH	Reliance Energy Management Institute (REMI)	Mumbai
182	Communication & Customer Relations with reference to Post-Go Live Scenario (R-APDRP Scheme training programme in Post-Go-Live Scenario)	NT	Central Institute for Rural Electrification	Hyderabad
183	Revenue Management and Loss Reeducation in Post- Go Live Scenario (R-APDRP Scheme training programme in Post-Go-Live Scenario)	TECH	Central Institute for Rural Electrification	Hyderabad
184	Management of Stress & Anger for Employed Women	NT	Faculty of family and Community Sciences	Vadodara
185	Electrical System Grounding & Electromagnetic Interference Analysis	TECH	Safe Engineering Services & Technologies India Pvt. Ltd.	Noida
186	GIS Application (R-APDRP)	TECH	Engineering Staff College of India	Hyderabad
187	Construction Site Supervision	TECH	Infrastructure Skill Development Academy	Ghaziabad
188	Modern Construction Practices including segmental Construction	TECH	National Council for Cement and Building Materials	Hyderabad
189	Refresher Course for EE/ SE/ CE levels (Leadership Skills & Stress Management)	NT	Infrastructure Skill Development Academy	Ghaziabad
190	condition Monitoring of Rotating Machines	TECH	Marcep Inc.	Mumbai
191	Venture-Learning Programme	NT	Baroda Management Association	Vadodara
192	HR Convention on "Organizational Excellence through HR & CSR	NT	Faculty of Social Work	Vadodara
193	Electricity Act (Amendment) Bills.2014	TECH	IPPAI	Mumbai
194	Seminar on "Challenges ahead in the Backdrop of Ealted role of company secretary"	TECH	Royal Orchid,Vadodara	Vadodara
195	Coal characteristics Blending Mill performance and combustion optimization."	TECH	Central Board of Irrigation and power	New Delhi

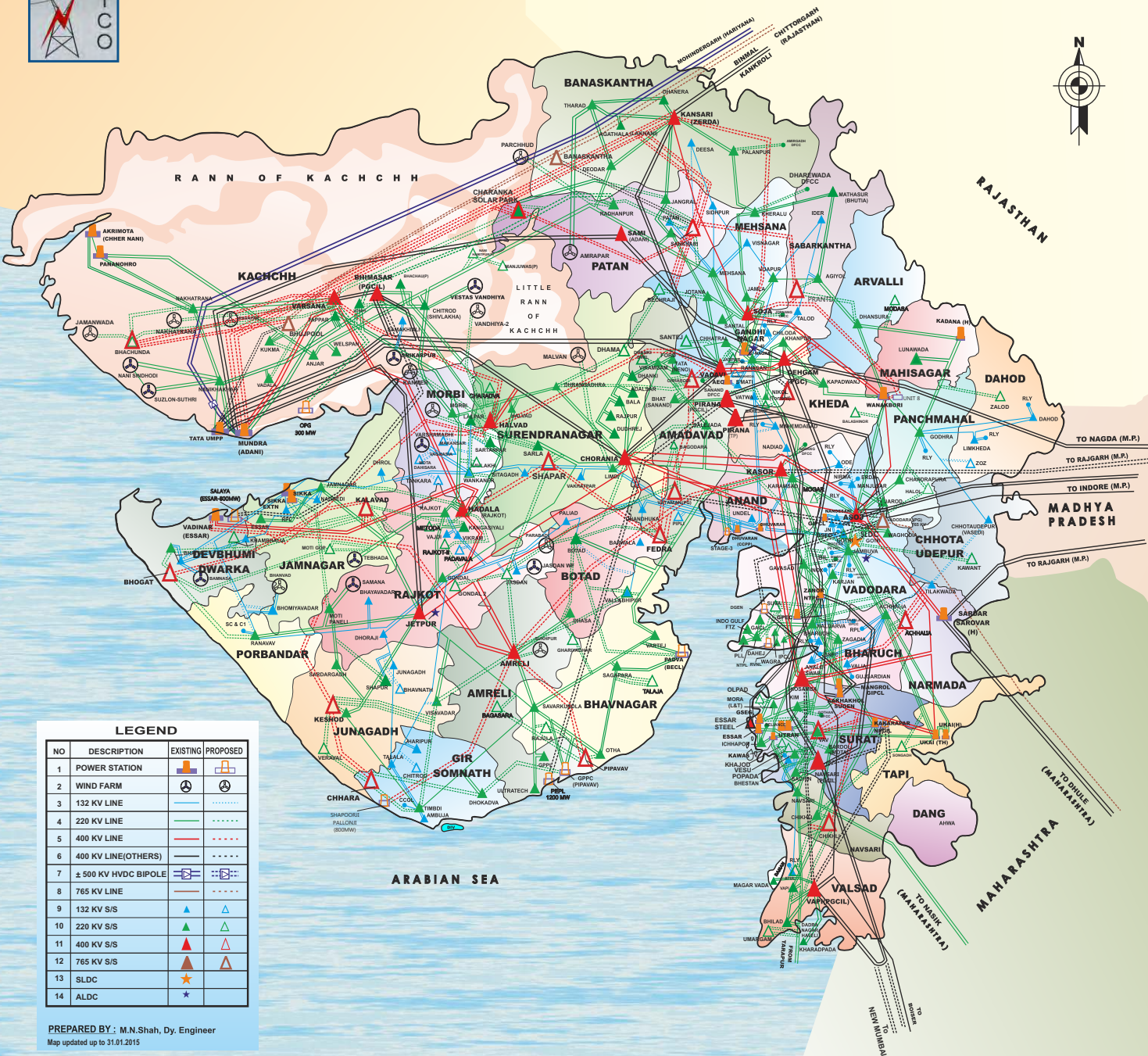
Sl. No.	Subject	Type of Training	Organisation	Place of Training Institute
196	Accident Investigation, Analysis & prevention:	TECH	N Mark India, Mumbai	Mumbai
197	Basic Level Course on "Power System Operation" (PSTI, NPTI, Bangalore.)	TECH	Power System Training Institute	Bangalore
198	Specialist Level Course on "Regulatory Framework in Power Sector" (PSTI, NPTI, Bangalore.)	TECH	Power System Training Institute	Bangalore
199	Metering Technology & AMR applications (Training programme under R-APDRP of Ministry of Power, Govt. of India)	TECH	India Institute of Technology Roorkee	Roorkee
200	Revenue Management and Loss Reduction (Training programme under R-APDRP of Ministry of Power, Govt. of India)	TECH	India Institute of Technology Roorkee	Roorkee
201	GIS Application (Training programme under R-APDRP of Ministry of Power, Govt. of India)	TECH	India Institute of Technology Roorkee	Roorkee
202	GIS Application (Training programme for A&B level officers under R-APDRP of Ministry of Power, Govt. of India.)	TECH	Reliance Energy Management Institute (REMI)	Mumbai
203	Revenue Management & Loss Reduction (Training programme for A&B level officers under R-APDRP of Ministry of Power, Govt. of India.)	TECH	Reliance Energy Management Institute (REMI)	Mumbai
204	Metering Technologies & AMR Applications. (Training programme for A&B level officers under R-APDRP of Ministry of Power, Govt. of India.)	TECH	Reliance Energy Management Institute (REMI)	Mumbai
205	GIS Application (Training programme for A&B level officers under R-APDRP of Ministry of Power, Govt. of India.)	TECH	Reliance Energy Management Institute (REMI)	Mumbai
206	Cost Management for Competitive Advantage (Management Development Programme for the month of January & February - 2015)	NT	National Institute of Industrial Engineering	Mumbai
207	Financial statement analysis for executives (Management Development Programme for the month of January & February - 2015)	NT	National Institute of Industrial Engineering	Mumbai
208	Communication & Customer Relations with reference to Post-Go Live Scenario (R-APDRP Scheme training programme in Post-Go-Live Scenario)	NT	Central Institute for Rural Electrification	Hyderabad

Sl. No.	Subject	Type of Training	Organisation	Place of Training Institute
209	Revenue Management and Loss Reduction in Post Go Live Scenario (R-APDRP Scheme training programme in Post-Go-Live Scenario)	TECH	Central Institute for Rural Electrification	Hyderabad
210	Revenue Management and Loss Reduction in Post Go Live Scenario (R-APDRP Scheme training programme in Post-Go-Live Scenario)	TECH	Central Institute for Rural Electrification	Hyderabad
211	Construction Maintenance of Concrete Roads	TECH	Engineering Staff College of India	Hyderabad
212	IT in Distribution	TECH	Engineering Staff College of India	Hyderabad
213	Construction Management - Best Practices and Modern Technologies.	TECH	Engineering Staff College of India	Hyderabad
214	Forensic Accounting & Investigative Audit	NT	Institute of Forensic Accounting & Investigative Audit	Noida
215	Life after retirement	NT	SPIPA	A'bad
216	Electrical Safety procedures and Accident Prevention	TECH	Marcep Inc.	Mumbai
217	Project management in construction Industry	NT	ESCI, Hyderabad	ESCI, Hyderabad
218	Chai pe ki urja ki charcha	TECH	IPPAL,	Mumbai
219	Workshop for construction supervisors	TECH	Ambuja Foundation, A'bad	A'bad
220	Seminar on "Safety Beyond Statutes"	TECH	Trivedi & Associates Technical Services (P) Ltd.	Vadodara
221	workshop on "Union budget,2015-16, Provisions of Central Excise, Service tax & Customs Laws"	NT	Indian Institute of Materials management	Vadodara
222	International conference and Exhibition on Smart Grids and Smart cities.	TECH	India Smart Grid Forum, Power Line	Bangalore
223	High Voltage Distribution system	TECH	Central Institute for rural Electrification of Rural electrification Corp. Ltd.	Hyderabad
224	Physical & Mental Fitness	NT	SPIPA	Ahmedabad
225	Corporate Social Responsibility & its Effective Management	NT	Bombay Academy of Management Studies,	Mumbai

Sl. No.	Subject	Type of Training	Organisation	Place of Training Institute
226	CII – CAP Workshop for CSR Teams	NT	Confederation of Indian Industry	Ahmedabad
227	Workshop on ‘Corporate Grooming Etiquette & personality Development’	NT	GFORD Institute of Management Pvt. Ltd	New Delhi
228	Challenges & issues for environment management (CRM Seats for Customer's participation in PMI Programme (FY - 14-15)	TECH	NTPC Ltd., Power Management Institute	Noida
229	Power system protection (CRM Seats for Customer's participation in PMI Programme (FY - 14-15)	TECH	NTPC Ltd., Power Management Institute	Noida
230	Revenue Management and Loss Reduction (Training programme under R-APDRP of Ministry of Power, Govt. of India)	TECH	India Institute of Technology Roorkee	Roorkee
231	GIS Application (Training programme under R-APDRP of Ministry of Power, Govt. of India)	TECH	India Institute of Technology Roorkee	Roorkee
232	Metering Technology & AMR Applications (Training programme under R-APDRP of Ministry of Power, Govt. of India)	TECH	India Institute of Technology Roorkee	Roorkee
233	Revenue Management & Loss Reduction (Training programme for A&B level officers under R-APDRP of Ministry of Power, Govt. of India.)	TECH	Reliance Energy Management Institute (REMI)	Mumbai
234	Metering Technologies & AMR Applications. (Training programme for A&B level officers under R-APDRP of Ministry of Power, Govt. of India.)	TECH	Reliance Energy Management Institute (REMI)	Mumbai
235	Communication & Customer Relations with reference to Post-Go Live Scenario	NT	Central Institute for Rural Electrification	Hyderabad
236	Communication & Customer Relations with reference to Post-Go Live Scenario	NT	Central Institute for Rural Electrification	Hyderabad
237	Revenue Management and Loss Reeducation in Post- Go Live Scenario	TECH	Central Institute for Rural Electrification	Hyderabad
238	Revenue Management and Loss Reeducation in Post- Go Live Scenario	TECH	Central Institute for Rural Electrification	Hyderabad



# POWER MAP OF GUJARAT



F. No.12/5/2021-EC(Part-I)  
Government of India  
Ministry of Power

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'F' Wing, 2<sup>nd</sup> Floor, Nirman Bhawan,  
New Delhi, the 9<sup>th</sup> November, 2021

To

**The Chief Executive Officer,**  
Energy Efficiency Services Ltd.,  
NFL Building, 5<sup>th</sup> & 6<sup>th</sup> Floor,  
Core-III, Scope Complex,  
Lodi Road, New Delhi – 110003.

**Sub: Presentation to be made before Hon'ble Minister of Power at 3.30 PM on 11.11.2021 on the programme for replacement of conventional street light by LED lights – Reg.**

Sir,

I am directed to say that while approving PPTs to be presented before Hon'ble Minister of Power at 3.30 PM on 11.11.2021, the Competent Authority has desired that the following may be also got from EESL for the aforesaid meeting/presentation:

- (i) Background paper with details of financials from EESL for submitting a Background Note to Secretary and Hon'ble Minister on the following:
  - (a) Goal upto 2023-24 (**3 Years** only) as detailed below:-
  - (b) 2021 -22 :- 15 Lakh, 2022 – 23:- 60 Lakh and 2023-24:- 85 Lakh.  
(Total 160 Lakhs)
  - (c) Installation of **1.6 Cr** LED Street Lights in ULB, GP and Institutional consumers as a widening of the SLNP.
  - (d) Total Project Cost : **Rs. 5167 Cr**
    - o Cost of Goods & Services : Rs. 4116 Cr
    - o EESL's Project Management Fees and Establishment & supervision charges: Rs. 524 Cr
    - o Cost of Financing : Rs. 527 Cr
- (ii) Further, PPTs on distribution of 1 crore LED bulbs during Azadi ka Amrit Mahotsava may also be presented in continuation of the aforesaid presentation on replacement of conventional street light by LED lights

2. Accordingly, EESL is requested to send the Background Note on the above and PPTs on distribution of 1 crore Bulb during Azadi ka Amrit Mahotsava to this Ministry **positively by Today i.e. 09.11.2021.**



**(Anand Upadhyay)**  
**Deputy Secretary to the Government of India**

आर. के. सिंह  
R. K. SINGH

OFFICE OF MoHUA

09 SEP 2021

Dy. No. 1841565



विद्युत मंत्री एवं  
नवीन और नवीकरणीय ऊर्जा मंत्री  
भारत सरकार

Minister of Power and  
Minister of New & Renewable Energy  
Government of India

D.O. No. 12/7/2020-EC

Secretary MoHUA  
31 AUG 2021  
Can we pl. discuss?  
Subscribed  
07/09/2021

Dear Hardeep,

During a recent review of Ministry of Power and New & Renewable Energy (in July, 2021) Hon'ble Prime Minister had directed us to take up the replacement of all old street lights by Light Emitting Diode (LED) lights in all urban local bodies (ULBs) in the country in a Mission mode while ensuring payment security mechanism (PSM) for the implementation agencies viz., Energy Efficiency Services Limited (EESL) by direct deduction of grants from Ministry of Housing and Urban Affairs (MoHUA) which is released to ULBs under different central sector schemes of MoHUA.

2. In this regard, Secretary (Power) had a meeting with Secretary (MoHUA) to work out the modalities for PSM by direct deduction of grants from MoHUA under different central sector schemes before releasing the due amounts to the concerned ULBs. Based on the discussion held between the two Secretaries, the following is proposed for your kind consideration and concurrence:

**Earlier Dues of EESL on account of non-payment of dues by ULBs under Street Light National Programme (SLNP):** It was suggested that MoHUA would devise a mechanism under which before releasing any grant to ULBs, the dues of EESL would be deducted in suitable instalments after giving notice to ULBs in this regard. EESL has informed that as on 30.06.2021 about Rs.2564.57 crores (copy enclosed as Annex) is still outstanding from ULBs in various States towards Street Lights & other programs.

**The replacement of old Street lights by LED lights in a Mission Mode:** In respect of new LED lights to be installed for replacing old streetlights, an escrow account could be opened at the State level where the concerned State Government would give the guarantee for payment to the implementing agency viz., EESL and in case of any default, MoHUA would deduct suitable amount from the grants to be released to the State/ ULBs of that State.

15/9/21  
Pl write to  
States as  
I wrote in  
group



अनुवर्ती/Continuation....

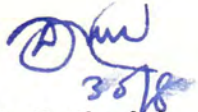
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3. In order to implement directions given by Hon'ble Prime Minister with respect to LED lighting of all the street lights of ULBs, may I request your kind support and pro-active action in devising and ensuring a centralized mechanism for ensuring payment from the Central Grant support from MoHUA earmarked for that particular States / UTs / ULBs.

*With regards,*

Yours sincerely,

Encl.: As above

  
( R. K. Singh )

**Shri Hardeep Singh Puri,**  
Minister of Housing and Urban Affairs , Petroleum & Natural Gas,  
Govt. of India,  
A-Wing, Shastri Bhawan,  
Dr. Rajendra Prasad Road,  
New Delhi-110001.

**Receivables due to EESL from Urban Local Bodies/ Municipal Corporations under Street Light & other programmes of EESL**

EESL launched Street Lighting National Program (SLNP) in Jan'2015. The main objective of this program is to replace conventional streetlights with smart and energy efficient LED streetlights across India and accordingly, instructions from Ministry of Power, GoI, was issued to all chief secretaries of states/UTs to adopt & implement national program for LED based energy efficient streetlights & domestic light through EESL.

Subsequently, umbrella MoU were executed with Urban Development Department of individual States followed by individual agreements with ULBs in that state.

Till date, EESL has executed umbrella MoU with 24 States & UTs covering around 1600 numbers of Urban Local Bodies/ Municipal Corporations & Gram Panchayats. As on date, brief of SLNP project is given below:

- Total number of SL installed : 1.18 Crores.
- Energy saved per annum : 7.67 billion units.
- Savings in INR per annum : Approx. 5210 Crores

For the services rendered under the agreements with ULBs, EESL has raised the invoices and ULBs/UDD are making payments against the invoice. Though the agreements are having provision for payment security mechanism in form of ESCROW account, it has not been operationalised in many States. The cash inflows of ULBs are largely dependent upon state/central allocation/grants, which are not consistent resulting in delayed payment to EESL. Further, there is no dedicated mechanism/budget head at the state level to make EESL payment.

It is submitted that, as on 30.06.2021, **about Rs.2564.57 Crores is still outstanding from ULBs in various states towards Street Light & other programs.** The state wise outstanding dues is given below:

**Street Light Outstanding Dues**

STATE	Outstanding as on 30/06/21 (In Crores)
Andhra Pradesh	641.12
Rajasthan	537.01
Uttar Pradesh	356.38
Maharashtra	140.16

**Contd...2**

Telangana	129.63
Goa	114.93
Delhi	109.10
Gujarat	107.72
Bihar	101.23
Jharkhand	87.85
Orissa	51.93
Chhattisgarh	29.76
Haryana	27.41
Madhya Pradesh	25.67
West Bengal	21.07
Jammu and Kashmir	13.97
Kerala	12.24
Himachal Pradesh	12.13
Punjab	10.58
Assam	9.80
Tripura	8.27
Andaman and Nicobar Island	7.44
Chandigarh	5.35
Uttarakhand	2.39
Karnataka	0.65
Puducherry	0.57
Manipur	0.14
Sikkim	0.10
<b>TOTAL</b>	<b>2564.57</b>

EESL has requested Urban Development Department (UDD) of States to make centralized payment. On request of EESL, some states namely, Uttar Pradesh, Andhra Pradesh (Gram Panchayat), Gujarat & Rajasthan has agreed for centralized payment and has released 1st tranche of payment.

Recently, Secretary, Ministry of Power, vide D.O. letter (reference no. 12/7/2020-EC) dated 12.05.2021 has written to Secretary, MoHUA to consider centralized mechanism to pay these dues from the grant support that MoHUA has been providing to State/ULBs.



**F. No.12/5/2021-EC**  
Government of India  
Ministry of Power

"F" Wing, Nirman Bhawan,  
New Delhi, the 23<sup>rd</sup> of November, 2021

To

Shri A K. Mishra,  
CEO, EESL,  
NFL Building, Ground Floor,  
Core-3, Scope Complex,  
Lodi Road, New Delhi-110003

**Sub:Record of Discussions (RoD) of meeting on "Street Light National Program (SLNP) and Gram UJALA" under the chairmanship of Hon'ble Minister for Power, New & Renewable Energy, Government of India held on 11.11.2021**

-reg.

Sir,

I am directed to the above mentioned subject and to enclosed herewith approved records of discussion under the chairmanship of Hon'ble Minister of Power on replacement of conventional street light by LED lights held on 11.11.2021 for information and taking further necessary action at your end.

Yours faithfully,

(Anand Upadhyay)  
Deputy Secretary to the Government of India

**Record of Discussions (RoD) of meeting on "Street Light National Program (SLNP) and Gram UJALA" under the chairmanship of Hon'ble Minister for Power, New & Renewable Energy, Government of India held on 11.11.2021 at Shram Shakti Bhawan, New Delhi**

A review meeting on Energy Efficiency Services Limited (EESL)'s "Street Light National Program (SLNP) and Gram UJALA Program" was held under the chairmanship of Hon'ble Minister for Power, New & Renewable Energy on 11.11.2021 at Shram Shakti Bhawan, New Delhi to discuss the roadmap of SLNP and carbon-financing based LED bulb distribution to rural consumers i.e. Gram UJALA program. The list of the participants is given at Annexure-1.

2. Chairman, EESL (i.e. CMD, POWERGRID) made a brief presentation about both the programs. After detailed deliberations, the following actionable points emerged:

**2.1 Street Light National Program (SLNP):**

- a. EESL has so far installed around 1.2 Cr LED street lights in Urban Local Bodies (ULBs) and Gram Panchayats (GPs) in the country. This program has resulted in substantial energy and cost savings to the ULBs. Considering the importance and impact of SLNP and its further potential in the country, EESL has been mandated by Government of India to replace the remaining estimated 1.6 crore conventional lights with LED street lights by March 2024 in identified ULBs/ States.
- b. The project duration / warranty obligation of LED Street lights may be fixed as 5 years.
- c. Primarily EESL proposed two business models i.e. the Supply model and the CAPEX+OPEX model to safeguard the cashflow situation of the projects. In these two models, most of the project cost would be realised by EESL within 6 months of the project period.
- d. Apart from the above models, it was also opined that the typical ESCO model may also be offered by EESL in order to facilitate implementation in States where upfront fund availability is a constraint. However, in this case it was decided that EESL should ensure centralized payments by the State Govt backed by a budget stream from the State budget head. State shall include a clause for payment security mechanism in the agreement document.
- e. It was also decided that EESL should do a "Credit Analysis" before entering into any such agreement with a State on ESCO model in SLNP.
- f. Accordingly, EESL should finalise the business models and submit the same to Ministry of Power (alongwith benefits to local bodies) so that the Ministry could advise the States for taking up this programme in mission mode.

**2.2 Gram UJALA Program:**

- i. The financial model of this program will be based on Carbon Financing from the Certified Emission Reductions (CERs) which would be generated in a span of 7 years.
- ii. Initially, One Million (10 Lakhs) LED Bulbs may be distributed on 14<sup>th</sup> December 2021 in the States which have indicated concurrence.

- iii. Rest of the Bulbs (9 Million or 90 Lakhs) are to be procured and distributed by March 2022 as part of Azadi ka Amrut Mahotshav (AKAM).
- iv. EESL/ CESL has to come up with a detailed plan at the earliest.
- v. It is expected that the CERs may start accruing from March 2022, which will be placed in the market sometimes in October 2022 to assess the demand and price of CERs.
- vi. Gram Ujala shall be progressed further, subject to assessment of demand of CERs and financial & operational viability of the project.

3. The meeting ended with thanks to the chair.

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List of the Participants

1. Shri R K Singh, Hon'ble Minister of Power : In the chair
2. Shri Krishan Pal Gujjar, Hon'ble MoS(Power)
3. Shri Alok Kumar, Secretary (Power)
4. Shri Vivek Kumar Dewangan, Addl. Secretary, MoP
5. Shri Anand Upadhayay, Deputy Secretary, MoP
6. Shri K. Sreekant, MD, EESL
7. Shri A. K. Mishra, CEO, EESL
8. Ms. Mahua Acharya, MD, CESL

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EESL/Res/LSQ/EC/MoP/2021-22/06

17<sup>th</sup> December, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha Unstarred Q No. 4125 to be answered on 22.12.2021 regarding "Role of public representatives".**

Sir,

I am directed to refer to EC Division, MoP's email dated 17<sup>th</sup> December 2021 on the above subject. The para wise reply is as follows:

**Questions**

**(a): the details of the role entrusted to the public representatives in regard to laying the foundation, inauguration, inspection and other matters pertaining to the schemes being run by the Union Government;**

**(b) whether the local administration/executive agencies in some States do not invite the local Member of Parliament for inspection of schemes, foundation laying and inauguration and other functions and if so the reasons therefor;**

**(c) whether the Government has taken cognizance thereof and if so, the steps taken by the Government in this regard; and**

**(d) the details of the steps taken by the Government to widen the role of public representatives in such schemes?**

**Answer (a) to (d):** Information pertaining to EESL may be treated as **NIL**.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

26<sup>th</sup> November, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha Unstarred Question Diary No. 136 for answer on 29.11.2021.**

Sir,

I am directed to refer to EC-Division, MoP's email dated 25<sup>th</sup> November 2021 on the above subject. As desired reply to para (d) is as follows:

**Questions:**

(a): whether it is a fact that as per the new CCEA policy, in order to challenge the arbitration awards given by courts, the Government Entities like. GOI Deptts/PSUs/SPVs will only take the decision to initiate proceedings for setting aside of the arbitral award with the opinion of the Law Officer in consultation with Department of Legal Affairs;

(b): if so, the details thereof;

(c): whether it is also a fact that, where a Government Entity has challenged an arbitral award, shall immediately pay as per the court order, an interim payment of 75% to the contractor/concessionaire against a bank guarantee; and

**(d): if so, the details thereof and the number of cases wherein interim payment of 75% were given during the last two years?**

**Answer (d):** Information pertaining to EESL may be treated as **NIL**.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/MoP/2021-22/01

20<sup>th</sup> December, 2021

To,  
Utility Reforms & Special Interventions - II,  
Ministry of Power, Govt. of India,  
Shram Shakti Bhawan, Rafi Marg,  
New Delhi-110001

**Subject: Lok Sabha Unstarred Question Diary No. 12005 regarding "National Smart Grid Mission" for answer on 23.12.2021.**

Sir,

I am directed to refer to UR&SI-II division, MoP's email dated 17<sup>th</sup> December 2021 on the above subject. The para wise reply is as follows:

**Question (a): the salient features of the National Smart Grid Mission;**

**Answer (a):** Information pertaining to EESL may be treated as **NIL**.

**(b) the number of smart meters installed in the country, under Phase 1 and 2 of the Mission, State-wise; and**

**Answer (b):** Information pertaining to EESL may be treated as **NIL**.

However, Energy Efficiency Services Limited (EESL) along with its JV M/s IntelliSmart is implementing the Smart Metering programme. Areas where EESL/IntelliSmart is executing metering program, the state-wise details are as follows:

**Phase 1 (2015-17):** No installation by EESL/IntelliSmart.

**Phase 2 (2017-2020):**

State / UT	Smart Meters Installation till 31 <sup>st</sup> Dec 2020 (End of Phase 2)	Smart Meter Installation till 17 <sup>th</sup> Dec 2021
Uttar Pradesh	11,42,277	11,54,306
Bihar	1,02,728	3,71,511
Haryana	2,45,264	3,72,790
Rajasthan	494	1,08,892
Andaman	23,936	70,195
New Delhi	59,304	61,599
<b>Total</b>	<b>15,74,003</b>	<b>21,39,383</b>

**(c) whether the Government has undertaken any study to analyse the benefits of smart-meters over conventional meters and**

**(d) if so, the details thereof?**

**Answer (c) & (d):** Information pertaining to EESL may be treated as **NIL**.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पाँचवा, छठा और सातवाँ तल,  
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EESL/Res/LSQ/EC/MoP/2021-22/01

18<sup>th</sup> December, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha Unstarred question Dy. No. 3452 for answer on 20.12.2021 regarding 'Funds for North Eastern States'.**

Sir,

I am directed to refer to email dated 16<sup>th</sup> December 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a): whether the development of North Eastern States has taken place on large scale during the last six years and if so, the details thereof;**

**(b): the details of the number of action plan sanctioned so far and various schemes launched/being run by the Government during the last three years and the current year along with their present status, Scheme-wise and State-wise;**

**(c): the funds sanctioned/allocated, released and utilised by the State Governments including Assam under various Schemes from 2004 to 2014;**

**(d): whether the allocated funds have been utilised within the time-limit and if so, the details thereof;**

**(e): if not, whether the Government has fixed anyone's accountability in this regard and if so, the details thereof; and**

**(f): the funds allocated to various Non-Government Organisations (NGOs) of Assam and North Eastern Region under various Schemes during the last five years along with the details of Schemes?**

**Answer (a) to (f):** EESL is not managing any scheme where MoP funds are allocated. Accordingly the input for above is Nil. However, data for EESL initiatives in the North East States is enclosed at **Annexure-1**.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

## Annexure – 1

### A. Status of EESL Projects/initiatives:

1. The state wise status on program implementation of Lighting and other EESL projects across North-Eastern states is given below:

Sl.	State	Project Implementation			
		SLNP (No. of LED lights Installed)	UJALA (No. of LED bulbs distributed)	BEEP (No. of Buildings retrofitted )	AJAY (No. of solar LED lights Installed)
1	Assam	28695	71,84,593	15	12,600
2	Arunachal Pradesh	0	4,99,498	0	-
3	Mizoram	0	6,15,332	0	-
4	Sikkim	868	1,64,000	0	-
5	Meghalaya	0	4,33,789	2	-
6	Manipur	0	2,99,934	1	6,85
7	Tripura	76426	10,54,437	41	3,203
8	Nagaland	0	10,99,038	1	-
<b>Total</b>		<b>1,05,989</b>	<b>1,13,50,181</b>	<b>60</b>	<b>16,490</b>

2. M/s IntelliSmart (A JV of EESL & NIIF) has been awarded a contract for deployment of 6.2 Lakhs Smart Meter across Assam State on competitive bidding basis. The Contract Period is 30 Months for Implementation & 90 Meter Months for O&M. Project Cost is approximately Rs. 567 Cr. The contract was awarded on 15.11.2021.
3. Convergence Energy Services Ltd. (CESL, a 100% owned subsidiary of EESL) has deployed 8 4W e-cars in north east States i.e. (2 in Arunachal Pradesh, 1 in Assam, 5 in Tripura) which has run more than 2.36 lac e-KMs.

EESL/Res/LSQ/IPDS/MoP/2021-22/01

14<sup>th</sup> December, 2021

To,  
Smt. Bimlesh Pawar  
Under Secretary  
Distribution Division  
Ministry of Power  
Shram Shakti Bhawan  
Tel No 011-23708051

**Subject: Lok Sabha Admitted Unstarred Question No. 3099 (Adv. Dy. No. 8772) for answer on 16.12.2021 regarding "Status of Upgradation to Prepaid Meters".**

Madam,

I am directed to refer to your email dated 14<sup>th</sup> December 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a): whether the Government has fixed any timeline in installation of prepaid or smart electricity meters all over the country in place of old meters and if so, the details thereof;**

**Answer (a):** Information pertaining to EESL may be treated as **NIL**.

**(b): the details of the current status of upgradation to prepaid meters, State-wise;**

**Answer (b):** Ministry of Power may please reply.

However, Energy Efficiency Services Limited (EESL) along with its JV M/s IntelliSmart is implementing the Smart Metering programme for DISCOMs and it has installed Prepaid Smart Meters in the following States:

S. No.	State	Smart Prepaid Meters Installed till 9 <sup>th</sup> Dec '21
1	Bihar	3,60,569
2	Uttar Pradesh	64,885
3	Haryana	457

**(c): whether the Government has any intention to fix prepaid meters for agricultural connections also and if so, the details thereof;**

**(d): whether the Government is offering any financial assistance in installation of prepaid meters to the various the state governments;**

**(e): if so, the details of the such assistance, State-wise and if not, the reasons therefor; and**

**Answer (c) to (e):** Information pertaining to EESL may be treated as **NIL**.

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**(f): the details of the companies involved in the supply and fixing of the meters along with the effectiveness of the prepaid collections in the installed States after upgradation, State-wise?**

**Answer (f):** Ministry of Power may please reply. The collection figures are not shared with EESL by the States.

However please note that average billing efficiency in EESL's smart meter program is more than 96% which significantly assists DISCOMs in better revenue collection. Also billing efficiency details on EESL's smart metering program is as follows:

1. In Uttar Pradesh billing efficiency in EESL's smart meter program have increased from 80.1% in January 2020 to 98% in November 2021.
2. In Bihar billing efficiency in EESL's smart meter program have increased from 95.4% in August 2020 to 97.1% in November 2021.
3. In Haryana billing efficiency in EESL's smart meter program have increased from 89.4% in December 2020 to 99% in November 2021.

Further, owing to the benefits to the smart metering program, collection efficiency of DISCOMs is projected to increase. E.g. SBPDCL, Patna in its tariff petition has projected increase in collection efficiency from 79.24% in FY 2019-20 to 85% in FY 2021-22.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/CEA/2021-22/01

17<sup>th</sup> December, 2021

To,  
Shri Ashok Kumar Rajput  
Chief Engineer (RT&I) Division  
Central Electricity Authority  
Ministry of Power  
Sewa Bhawan, R K Puram-I  
New Delhi-110066

**Subject: Lok Sabha Unstarred question Dy. No. 12346 for 23.12.2021 regarding "Supply of Electric Vehicles by EESL".**

Sir,

I am directed to refer to email dated 15<sup>th</sup> December 2021 on the above subject. The para wise reply is as follows:

**Questions:**

- (a): the number of Electric Vehicles (EVs) supplied by Energy Efficiency Services Limited (EESL) to various Ministries/the Government Departments during the last three years and the current year;
- (b): the terms and conditions of supply of EVs to the said Ministries/ the Government departments;
- (c): the response of the various Ministries/the Government Departments in this regard; and

**Answer (a) to (c):** The number of electric cars supplied by Energy Efficiency Services Ltd. (EESL)/ Convergence Energy Services Ltd. (CESL, a 100% owned subsidiary of EESL) to various ministries / Government Departments, both central and state level, pan India during the last three calendar years and the current year is 1,120 & 286 respectively.

These electric cars have been supplied through various mode of leasing, viz. Dry leasing (without driver) & Wet leasing (with driver), on monthly lease basis for varying lease periods as per the agreements signed with the concerned ministries/Government department and also through outright sale basis. The response from various ministries /the Government Departments is encouraging.

**(d): the steps taken by the Government to meet the global standard/latest technology for purchase of EVs in the country?**

**Answer (d):** Information pertaining to EESL may be treated as **NIL**.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

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EESL/Res/LSQ/EC/MoP/2021-22/02

18<sup>th</sup> December, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha provisionally admitted Unstarred Question. Dy. No. 11935 for reply on 23.12.2021 regarding 'Waste of Electricity'.**

Sir,

I am directed to refer to letter No. 7/38/2021 dated 15<sup>th</sup> December 2021 on the above subject. The para wise reply is as follows:

**Questions:**

- (a): whether a significant amount of electricity is wasted in domestic sector due to leakages, faulty appliances and usage of energy inefficient electric devices etc.;
- (b) if so, the details of energy wasted during the last three years, year and State-wise?

**Answer (a) & (b):** Information pertaining to EESL may be treated as **NIL**.

(c) the power consumed in the domestic and industrial sector during the said period along with the schemes under implementation for Demand Side Management (DSM) including saving and conservation of electricity?

**Answer (c):** Ministry of Power may please reply.

However, Energy Efficiency Services Limited (EESL), a JV of CPSUs under MoP, is implementing programs which falls under the category of Demand Side Management (DSM). Details of the same is enclosed at **Annexure -1**.

(d) whether the Union Government has introduced some special schemes to provide cash incentives to States saving energy and minimizing leakage/theft and; and

(e) if so, the details thereof?

**Answer (d) & (e):** Information pertaining to EESL may be treated as **NIL**.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पाँचवा, छठा और सातवाँ तल,  
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**(1) Unnat Jyoti by Affordable LEDs for All (UJALA)**

Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 launched UJALA programme to provide LED bulbs to domestic consumers for replacement of incandescent bulbs with LED bulbs at an affordable price. EESL's Unnat Jyoti by Affordable LEDs for All (UJALA) is the world's largest lighting replacement programme. As on date, over 36.78 crore LED bulbs, 72.17 lakh LED Tube lights and 23.59 lakh Energy efficient fans distributed by EESL across India. This has resulted in estimated energy savings of 48.30 billion kWh per year with avoided peak demand of 9,568 MW and GHG emission reduction of 39 million t CO<sub>2</sub> per year.

UJALA brought a market transformation in energy efficiency sector. The procurement price reduced by almost 90% between 2014 and 2017; from Rs. 310 to Rs. 38.

**(2) Street Lighting National Programme (SLNP):**

Hon'ble Prime Minister, launched SLNP programme on 5<sup>th</sup> January, 2015 to replace conventional street lights with smart and energy efficient LED street lights. EESL's Street Light Nation Program (SLNP), is the world's largest Street lighting replacement programme. As on date, over 1.21 crore LED Street lights has been installed by EESL across India. This has resulted in estimated energy savings of 8.13 billion kWh per year with avoided peak demand of 1,355 MW and estimated GHG emission reduction of 5.60 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 5,692 crore in electricity bills of municipalities.

**(3) Gram UJALA:**

Gram Ujala program was launched by the Hon'ble Minister of Power, New and Renewable Energy in Bihar at Arrah District on 19<sup>th</sup> March, 2021. The program is being implemented by Convergence Energy Service Limited (CESL- wholly owned subsidiary of EESL) wherein ICL bulbs are replaced by efficient LED bulbs that consumes 88% less electricity. The bulbs are being offered at Rs 10/bulb and rest of the cost is proposed to be recovered from Carbon Financing. As on date, CESL has distributed over 33.5 lakh LED bulbs under this program. The program has resulted in estimated energy saving of 467 MU of electricity per year, peak demand reduction of 128 MW and 4,30,384 tonnes of CO<sub>2</sub> emission reduction per year. It may be noted that Carbon financing is being used for funding of this program.

**(4) Buildings Energy Efficiency Programme (BEEP):**

Building Energy Efficiency Program (BEEP) was launched to implement energy efficiency measures in government buildings across India. Under this Program 10,451 Buildings have been retrofitted with energy efficient equipment like LED Lights, 5 Star rated Fans and super-efficient Air-condition. Due to above interventions, there are energy savings of 250 million kWh per annum.

**(5) Agricultural Demand Side Management (AgDSM):**

EESL is implementing Agricultural Demand Side Management (AgDSM) Programme to distribute BEE 5-star energy efficient agricultural pumps to ensure a minimum of 30% reduction in energy consumption. As on date about 79,000 nos. pumps has been installed in the states of Andhra Pradesh and Uttar Pradesh. This has resulted in estimated energy savings of 204 million kWh per year.

EESL/Res/LSQ/EC/2021-22/07

3<sup>rd</sup> December, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha Provisionally Admitted Parliament Question D. No. 3628 due for answer on 06.12.2021 regarding Closure of ash ponds - Inputs/Comments - reg.**

Sir,

I am directed to refer to email received from EC-Division dated 3<sup>rd</sup> December 2021 on the above subject. The para wise reply is as follows:

**Questions:**

- (a): whether there is an SOP on how coal-based power plants will be decommissioned to ensure safe management, handling and disposal of hazardous substances;
- (b): if so, the details thereof and if not, the reasons therefor;
- (c): whether there is an SOP for the closure of ash ponds as part of decommissioning coal-based power plant;
- (d): if so, the details thereof and if not, the reasons therefor; and
- (e): the details of measures being implemented to improve the efficiency of energy transition in the power sector?

**Answer (a) to (e):** Ministry of Power may please reply. Information pertaining to EESL may be treated as NIL.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/CEA/2021-22/02

29<sup>th</sup> November, 2021

To,  
Shri A K Rajput  
Chief Engineer  
R&D Division  
Central Electricity Authority  
Ministry of Power

**Subject: Lok Sabha Parliament Question Diary No. 1768 for 02.12.2021 regarding " Promotion of Electric Vehicles ".**

Sir,

I am directed to refer to letter No. CEA/PLG/R&D/PQ/2021 dated 25<sup>th</sup> November 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a): the details of schemes being operated to encourage use of electric vehicles along with the funds allocated for the said purpose;**

**(b): the steps being taken to strengthen supply of electricity for such vehicles in the country;**

**(c): whether the State Government of Chhattisgarh has sent any proposal to the Union Government regarding promotion of electric vehicles; and**

**(d): if so, the details thereof?**

**Answer (a) to (d):** DHI/MoP may please reply.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/CEA/2021-22/06

29<sup>th</sup> November, 2021

To,  
Shri A K Rajput  
Chief Engineer  
R&D Division  
Central Electricity Authority  
Ministry of Power

**Subject: Lok Sabha Parliament Question Dy. No. 1821 for answer on 02.12.2021 regarding "Charging Stations for Electric Vehicles".**

Sir,

I am directed to refer to letter No. CEA/PLG/R&D/PQ/2021 dated 25<sup>th</sup> November 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a): whether the Government proposes to use electric vehicles instead of gas/diesel powered vehicles;**

**(b): if so, the details thereof;**

**Answer (a) & (b):** Ministry of Power may please reply.

However, Energy Efficiency Services Limited (EESL) a JV of PSUs under MoP, GoI through its wholly owned subsidiary Convergence Energy Services Limited (CESL) is implementing e-Mobility Programme. CESL has deployed 1,594 electric cars out of which 1,306 electric cars are deployed with various central and state government departments.

**(c): whether any action plan has been framed to provide infrastructure like charging stations etc. for such vehicles; and**

**(d): if so, the details thereof along with the plan of proper maintenance/upkeep of these charging stations?**

**Answer (c) & (d):** CESL is developing Electric Vehicle Charging Infrastructure and has signed MoUs with multiple stakeholders across municipalities, DISCOMs, metro corporations, development authorities and other land partners for location assessment study and setting up of charging infrastructures in their jurisdiction location. As on date CESL has installed 396 nos. of public EV chargers across India of which 166 nos. are operational and rest are in the process of pre-commissioning.

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Below are the state wise chargers installed PAN India by CESL:

State	City	No. of PCS installed
Chhattisgarh	Raipur	4
Delhi	Delhi	146
Goa	Goa	3
Gujarat	Ahmedabad	12
Haryana	Panchkula	2
Karnataka	Bangalore	1
Kerala	Thiruvanthapuram	17
Maharashtra	Nagpur	73
Tamil Nadu	Chennai	48
Uttar Pradesh	Noida	69
West Bengal	Kolkata	21
<b>Total</b>		<b>396</b>

The deployed public EV charging station by CESL are covered under the comprehensive on-site warranty and Annual Maintenance Contract (AMC) services for a period of 10 years. Therefore, all the charging stations are maintained as per the defined terms of the contract through the respective OEMs (Original Equipment Manufacturers) of EV charging stations.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/EC/2021-22/03

6<sup>th</sup> December, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha provisionally admitted Question. Dy. No. 6336 for reply on 13.12.2021 regarding Carbon Emissions received from Ministry of Environment, Forest and Climate Change (MoEF&CC).**

Sir,

I am directed to refer to letter No. 6/4/2021-EC Dated 6<sup>th</sup> December 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a): the roadmap to reduce carbon emissions by one billion tonnes by 2030;**

**(b) the roadmap to increase renewable electricity capacity from the existing approximately 96 GW to 500 GW by 2030; and**

**(c) the cost commitment for these two roadmaps and how will it be divided between the Centre and the States?**

**Answer (a) to (c):** Ministry of Power/ Ministry of Environment, Forest and Climate change may please reply. However, additional information pertaining to EESL is enclosed at Annexure-1.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

### **Additional information:**

Energy Efficiency Services Limited (EESL), a JV of PSUs under MoP is implementing Energy Efficiency and Climate Change mitigation projects under National Mission for Enhanced Energy Efficiency (NMEEE). It has pioneered innovative business approaches to successfully roll-out large-scale programs that allow for incentive alignment across the value chain and rapidly drive transformative impact. The programmes of EESL has resulted in reduction of around 46 million tonnes of CO<sub>2</sub> emission per year. Details of major programme are as follows:

- i. UJALA Programme: 39.6 million tCO<sub>2</sub> per year
- ii. Gram UJALA Programme: 0.43 million tCO<sub>2</sub> per year
- iii. Street Lighting National Programme: 5.59 million tCO<sub>2</sub> per year
- iv. Agriculture Demand Side management (AgDSM): 0.15 million tCO<sub>2</sub> per year
- v. Building Energy Efficiency Programme: 0.18 million tCO<sub>2</sub> per year

EESL/Res/LSQ/MSME/2021-22/02

16<sup>th</sup> December, 2021

To,  
Shri Rakesh Kumar  
Joint Director  
O/o DC (MSME),  
Nirman Bhawan,  
Delhi-110011

**Subject: Lok Sabha Provisionally admitted Starred/Unstarred Question with Dy. No. 12319 due for answer on 23.12.2021 regarding "Reduce Pollution by MSME"-reg.**

Sir,

I am directed to refer to letter No. 17(2)/MSME Champions/PQ/2021-22 dated 15<sup>th</sup> December 2021 on the above subject. The para wise reply is as follows:

**Questions:**

- (a): the details of particulate matter released in the atmosphere by MSME in India;**
- (b): the details of carbon dioxide emissions of MSMEs in India, State and sector-wise;**
- (c): incentives that have been offered to MSMEs to switch to renewable sources of energy;**
- (d): APCDs (Air Pollution Control Devices) that are installed in MSMEs in India; and**
- (e): the number of MSMEs in India that are powered by renewable energy, district-wise details?**

**Answer (a) to (e):** Information pertaining to EESL may be treated as **NIL**.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/RSQ/EC/2021-22/05

25<sup>th</sup> November, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Parliament Questions for 255 Session –reg.**

Sir,

I am directed to refer to EC Division, MoP's email dated 25<sup>th</sup> November 2021 on the above subject. The para wise reply is as follows:

**Questions (a): What were the prices of LED bulb in 2014 and what are the prices now in the LED market?**

**Answer (a):** In 2014, LED bulbs through the UJALA program were sold at Rs 340/- per 7W bulb. The current price of LED bulbs being sold by EESL is Rs 70/- per 9W bulb. However, the present retail market price is around Rs. 80/- to Rs. 100/- per 9W bulb.

**b) How many bulbs have been distributed in the government's Ujala scheme?**

**Answer (b):** As on date, 36.78 Crore LED bulbs have been distributed under UJALA scheme.

**c) How many bulbs have been purchased in private and public sector?**

**Answer (c):** There is no information available with EESL on bulbs purchased by public and private sectors. However, as per ELCOMA, more than 160 Cr LED bulbs have been sold to the consumer by the private sector.

**d) What are the environmental benefits of this initiative?**

**Answer (d):** Distribution of 36.78 Crore LED bulbs by EESL has resulted in reduction of around 38.69 million tonnes of CO<sub>2</sub> emission per annum.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/RSQ/EC/2021-22/05

9<sup>th</sup> December, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Provisionally admitted question for Rajya Sabha Dy no U2770 for 16.12.2021.**

Sir,

I am directed to refer to EC-Division, MoP's email dated 7<sup>th</sup> December 2021 on the above subject. The para wise reply is as follows.

**Questions:**

- (a) the details of the funds received from developed countries for development & promotion of climate friendly technologies to achieve goal of paris agreement;**
- (b) the details of utilization of these funds for various initiatives promoting sustainability, State-wise including the assistance given to National Capital Territory of Delhi;**
- (c) whether Government has made any specific Investment in technologies which promote climate frienliness, & sustainability; and**
- (d) if so, the details thereof?**

**Answer (a) to (d):** MoP/MoEF&CC may please reply. However additional information pertaining to EESL is hereby enclosed at **Annexure 1**.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

## Annexure-1

### Additional Information:

As far as Energy Efficiency Services Limited (EESL) is concerned, no budgetary allocation from Government of India is provided for its programme.

However, EESL has arranged loans from Multilateral/Bilateral agencies as per following details:

S. No.	Loan from International Banks	Sanctioned Loan	Programmes for Utilisation	Coverage of Programme	Status
1	Kreditanstalt für Wiederaufbau (KfW-I)	Euro 50 Million	UJALA & SLNP	PAN India	Loan Closed
2	Agence Francaise De Developpement (AFD)	Euro 50 Million	UJALA & SLNP	PAN India	Loan Closed
3	Kreditanstalt für Wiederaufbau (KfW-II)	Euro 200 Million	UJALA, SLNP, Decentralised Solar & Smart Meters	PAN India	Ongoing
4	IBRD	USD 220 Million	Programme for Results for Energy Efficiency Scale Up	PAN India	Ongoing
5	Asian Development Bank (ADB)	USD 200 Million	Demand Side Energy Efficiency Sector Project (Street lights, Charging Infrastructure)	PAN India	Ongoing
6	Asian Development Bank (ADB)-CTF	USD 46 Million	Scaling Up Demand Side Energy Efficiency Sector Project (Distributed Solar)	PAN India	Ongoing
7	Asian Development Bank (ADB)-II	USD 250 Million	Scaling Up Demand Side Energy Efficiency Sector Project (Distributed Solar, Smart Meters, Electric Mobility & associated infrastructure)	PAN India	Ongoing

EESL/Res/RSQ/CEA/2021-22/03

20<sup>th</sup> December, 2021

To,  
Shri Ashok Kumar Rajput  
Chief Engineer (RT&I) Division  
Central Electricity Authority  
Ministry of Power  
Sewa Bhawan, R K Puram-I  
New Delhi-110066

**Subject: Rajya Sabha Dy. No. 3012 for 23-Dec Regarding Dual time zone policy.**

Sir,

I am directed to refer to CEA's email dated 18<sup>th</sup> December 2021 on the above subject. The para wise reply is as follows:

**Questions:**

- Whether government intends to implement a dual time zone policy in consideration of the time gap between Western and Eastern States;**
- whether Government has conducted an assessment of loss of human productivity and excess electricity consumption in the North –East Regions following a single time zone;**
- If so, the details thereof, and if not, the reason therefor;**
- The evidence of other countries that where having more than one time zone has compromised strategic interests; and**
- The recommendations made by the High Level Committee (HLC) in the matter of dual time zones and whether it is the final appellate body?**

**Answer (a) to (e):** Information pertaining to EESL may be treated as **NIL**.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/RSQ/CEA/2021-22/02

20<sup>th</sup> December, 2021

To,  
Shri Ashok Kumar Rajput  
Chief Engineer (RT&I) Division  
Central Electricity Authority  
Ministry of Power  
Sewa Bhawan, R K Puram-I  
New Delhi-110066

**Subject: Rajya Sabha Dy. No. 3013 for 23-Dec Regarding Two time zones in the country.**

Sir,

I am directed to refer to CEA's email dated 18<sup>th</sup> December 2021 on the above subject. The para wise reply is as follows:

**Questions:**

- a) Whether it is a fact that there is a difference in mean solar time between the Eastern most and Western most place, talking into account the vast geographic expanse of the country;
- b) whether any study has been conducted to estimate the gain in man-hours per day by having two time zones;
- c) if so, the broad findings of the study in terms of gain in man-hour per day and the increase in GDP it will result in; and
- d) the details thereof?

**Answer (a) to (d):** Information pertaining to EESL may be treated as **NIL**.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/RSQ/CEA/2021-22/04

3<sup>rd</sup> December, 2021

To,  
Shri Ashok Kumar Rajput  
Chief Engineer (RT&I) Division  
Central Electricity Authority  
Ministry of Power  
Sewa Bhawan, R K Puram-I  
New Delhi-110066

**Subject: Rajya sabha provisionally admitted starred/unstarred question Diary No. 1218 for answer on 14<sup>th</sup> December, 2021 Regarding "Switch over from conventional to smart meters".**

Sir,

I am directed to refer to CEA's email dated 1<sup>st</sup> December 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a): whether Government has issued an advisory to States/UTs to switch over to prepaid Smart Meters on priority;**

**(b): if so, complete details of advisory issued to States/UTs;**

**Answer (a) & (b):** Ministry of power may please reply.

However, Energy Efficiency Services Limited (EESL) is implementing Smart Meter Programme for replacement of Conventional meters with Smart electricity meters.

EESL has signed MoUs/Agreements for installation of smart meters with the DISCOMs in the state of Bihar, Haryana, Delhi, Rajasthan, Uttar Pradesh and UT of Andaman & Nicobar. As on date, EESL has installed over 20.94 lakh smart meters across India under this programme.

**(c): the estimated cost of change from conventional meters to smart card meters; and**

**Answer (c):** MoP/NSGM may please reply.

However, in areas where EESL is executing the Smart Metering Programme, the lifetime cost of change from conventional meters to smart meters is ~INR 6,000-7,000 per meter (lifetime: 8 years).

**(d): the estimated cost of aforesaid switch over throughout the country and whether the Government will compensate State Government in this regard?**

**Answer (d):** MoP/NSGM may please reply.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पाँचवा, छठा और सातवाँ तल,  
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वेबसाइट: www.eeslindia.org

**REGISTERED OFFICE:** NFL Building, 5<sup>th</sup>, 6<sup>th</sup> & 7<sup>th</sup> Floor,  
Core - III, SCOPE Complex, Lodhi Road, New Delhi - 110003  
**Tel.:** +91 (011) 45801260, **Fax:** +91 (011) 45801265  
**Website:** www.eeslindia.org

EESL/Res/RSQ/EC/2021-22/01

2<sup>nd</sup> December, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Rajya Sabha Starred/Unstarred Question Diary No. U755 for reply on 07.12.2021 regarding Schemes undertaken by the Ministry since 2016.**

Sir,

I am directed to refer to EC-Division, MoP's email dated 30<sup>th</sup> November 2021 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) the details of all the schemes undertaken by the Ministry since 2016 till date along with a brief description of the targets set and the achievements made under each of the schemes; and
- (b) whether Government has fixed any time limit to complete the pending schemes and, if so, the details thereof?

**Answer (a) & (b):** Ministry of Power may please reply.

However, it may be noted that Energy Efficiency Services Limited (EESL), a JV of PSUs under the Ministry of Power is implementing major programs in Energy Efficiency & Clean Energy space. Details of the same is enclosed as Annexure -1.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

**(1) Unnat Jyoti by Affordable LEDs for All (UJALA)**

Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 launched UJALA programme to provide LED bulbs to domestic consumers for replacement of incandescent bulbs with LED bulbs at an affordable price. EESL's Unnat Jyoti by Affordable LEDs for All (UJALA) is the world's largest lighting replacement programme. As on date, over 36.78 crore LED bulbs, 71 lakh LED Tube lights and 23 lakh Energy efficient fans distributed by EESL across India. This has resulted in estimated energy savings of 47.07 billion kWh per year with avoided peak demand of 9,570 MW and GHG emission reduction of 39 million t CO<sub>2</sub> per year.

UJALA brought a market transformation in energy efficiency sector. The procurement price of LED bulb has dropped significantly due to aggregation of demand from INR 310 (Jan. 2014) to INR 39.90 (August 2019).

**(2) Street Lighting National Programme (SLNP)**

Hon'ble Prime Minister, launched SLNP programme on 5th January, 2015 to replace conventional street lights with smart and energy efficient LED street lights. EESL's Street Light Nation Program (SLNP), is the world's largest Street lighting replacement programme. As on date, over 1.2 crore LED Street lights has been installed by by EESL across India. This has resulted in estimated energy savings of 8.24 billion kWh per year with avoided peak demand of 1,374 MW and estimated GHG emission reduction of 5.68 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 5,763 crore in electricity bills of municipalities.

As of now EESL has enrolled 1610 ULBs and more than 1060 ULB's & 13173 GP's have taken the benefit of using these LED streets. The procurement price of LED Street lights has dropped significantly due to aggregation of demand from INR 180/ watt (Jan. 2014) to less than INR 40/watt (August 2019).

**(3) Gram Ujala:**

Gram Ujala program was launched by the Hon'ble Minister of Power, New and Renewable Energy in Bihar at Arrah District on 19<sup>th</sup> March, 2021. The program is being implemented by Convergence Energy Service Limited (CESL- wholly owned subsidiary of EESL) wherein ICL bulbs are replaced by efficient LED bulbs that consumes 88% less electricity. The bulbs are being offered at Rs 10/bulb and rest of the cost is proposed to be recovered from Carbon Financing. As on date, CESL has distributed over 33 lakh LED bulbs under this program. This has resulted in estimated energy saving of 467 million kWh per annum.

**(4) Smart Meter Program:**

However, Energy Efficiency Services Limited (EESL), a JV of PSU under MoP, GoI is implementing Smart Meter Programme (Since 2018) for replacement of Conventional meters with Smart electricity meters. This programme is being implemented on BOOT model, where the initial investment is being done by EESL and the states/ utilities pays back to EESL on monthly rental basis. As on date, EESL has installed over 20.93 lakh smart meters across India under this programme.

#### **(5) E-Mobility Program:**

CESL is implementing e-Mobility Programme (launched in March, 2018) with the objective to reduce dependence on oil imports & to provide an impetus for domestic electric vehicle manufacturers, charging infrastructure companies, fleet operators, service providers, etc. to gain efficiencies of scale and drive down costs, create local manufacturing facilities, grow technical competencies for the long-term growth of the electric vehicle (EV) industry in India and to enable Indian EV manufacturers to emerge as major global players.

Under this programme, CESL concluded the procurement of various categories of electric cars through an international competitive bidding process. Till date, CESL have deployed 1,594 nos. of 4W EVs with more than 180 clients which includes various ministries/government dept. both Central and State, PSUs, Autonomous bodies, shared mobility operator etc.

#### **(6) Electric Vehicles Charging Infrastructure:**

CESL is also developing Electric Vehicle Charging Infrastructure and has signed MoUs with multiple stakeholders across municipalities, DISCOMs, metro corporations, development authorities and other land partners for location assessment study and setting up of charging infrastructures in their jurisdiction location. As on date CESL has installed 396 nos. of public EV chargers across India of which 166 nos. are operational and rest are in the process of pre-commissioning.

#### **(7) Decentralized Solar Power Plant Programme:**

EESL initiated a first of its kind large scale programme (in year 2018) wherein existing agricultural feeders is being solarized via implementation of decentralized solar power plants at vacant/un-used lands at DISCOM substations. In total, EESL has commissioned decentralized solar power plant of approx. 164 MWp cumulative capacity in vacant land of Maharashtra State Electricity Distribution Company Limited (MSEDCL)

EESL/Res/RSQ/EC/2021-22/01

2<sup>nd</sup> December, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Rajya Sabha Starred/Unstarred Question Diary No. U755 for reply on 07.12.2021 regarding Schemes undertaken by the Ministry since 2016.**

Sir,

I am directed to refer to EC-Division, MoP's email dated 30<sup>th</sup> November 2021 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) the details of all the schemes undertaken by the Ministry since 2016 till date along with a brief description of the targets set and the achievements made under each of the schemes; and
- (b) whether Government has fixed any time limit to complete the pending schemes and, if so, the details thereof?

**Answer (a) & (b):** Ministry of Power may please reply.

However, it may be noted that Energy Efficiency Services Limited (EESL), a JV of PSUs under the Ministry of Power is implementing major programs in Energy Efficiency & Clean Energy space. Details of the same is enclosed as Annexure -1.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

**(1) Unnat Jyoti by Affordable LEDs for All (UJALA)**

Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 launched UJALA programme to provide LED bulbs to domestic consumers for replacement of incandescent bulbs with LED bulbs at an affordable price. EESL's Unnat Jyoti by Affordable LEDs for All (UJALA) is the world's largest lighting replacement programme. As on date, over 36.78 crore LED bulbs, 71 lakh LED Tube lights and 23 lakh Energy efficient fans distributed by EESL across India. This has resulted in estimated energy savings of 47.07 billion kWh per year with avoided peak demand of 9,570 MW and GHG emission reduction of 39 million t CO<sub>2</sub> per year.

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Hon'ble Prime Minister, launched SLNP programme on 5th January, 2015 to replace conventional street lights with smart and energy efficient LED street lights. EESL's Street Light Nation Program (SLNP), is the world's largest Street lighting replacement programme. As on date, over 1.2 crore LED Street lights has been installed by EESL across India. This has resulted in estimated energy savings of 8.24 billion kWh per year with avoided peak demand of 1,374 MW and estimated GHG emission reduction of 5.68 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 5,763 crore in electricity bills of municipalities.

As of now EESL has enrolled 1610 ULBs and more than 1060 ULB's & 13173 GP's have taken the benefit of using these LED streets. The procurement price of LED Street lights has dropped significantly due to aggregation of demand from INR 180/ watt (Jan. 2014) to less than INR 40/watt (August 2019).

**(3) Gram Ujala:**

Gram Ujala program was launched by the Hon'ble Minister of Power, New and Renewable Energy in Bihar at Arrah District on 19<sup>th</sup> March, 2021. The program is being implemented by Convergence Energy Service Limited (CESL- wholly owned subsidiary of EESL) wherein ICL bulbs are replaced by efficient LED bulbs that consumes 88% less electricity. The bulbs are being offered at Rs 10/bulb and rest of the cost is proposed to be recovered from Carbon Financing. As on date, CESL has distributed over 33 lakh LED bulbs under this program. This has resulted in estimated energy saving of 467 million kWh per annum.

**(4) Smart Meter Program:**

However, Energy Efficiency Services Limited (EESL), a JV of PSU under MoP, GoI is implementing Smart Meter Programme (Since 2018) for replacement of Conventional meters with Smart electricity meters. This programme is being implemented on BOOT model, where the initial investment is being done by EESL and the states/ utilities pays back to EESL on monthly rental basis. As on date, EESL has installed over 20.93 lakh smart meters across India under this programme.

#### **(5) E-Mobility Program:**

CESL is implementing e-Mobility Programme (launched in March, 2018) with the objective to reduce dependence on oil imports & to provide an impetus for domestic electric vehicle manufacturers, charging infrastructure companies, fleet operators, service providers, etc. to gain efficiencies of scale and drive down costs, create local manufacturing facilities, grow technical competencies for the long-term growth of the electric vehicle (EV) industry in India and to enable Indian EV manufacturers to emerge as major global players.

Under this programme, CESL concluded the procurement of various categories of electric cars through an international competitive bidding process. Till date, CESL have deployed 1,594 nos. of 4W EVs with more than 180 clients which includes various ministries/government dept. both Central and State, PSUs, Autonomous bodies, shared mobility operator etc.

#### **(6) Electric Vehicles Charging Infrastructure:**

CESL is also developing Electric Vehicle Charging Infrastructure and has signed MoUs with multiple stakeholders across municipalities, DISCOMs, metro corporations, development authorities and other land partners for location assessment study and setting up of charging infrastructures in their jurisdiction location. As on date CESL has installed 396 nos. of public EV chargers across India of which 166 nos. are operational and rest are in the process of pre-commissioning.

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EESL initiated a first of its kind large scale programme (in year 2018) wherein existing agricultural feeders is being solarized via implementation of decentralized solar power plants at vacant/un-used lands at DISCOM substations. In total, EESL has commissioned decentralized solar power plant of approx. 164 MWp cumulative capacity in vacant land of Maharashtra State Electricity Distribution Company Limited (MSEDCL)

EESL/Res/RSQ/CEA/2021-22/03

2<sup>nd</sup> December, 2021

To,  
Shri Ashok Kumar Rajput  
Chief Engineer (RT&I) Division  
Central Electricity Authority  
Ministry of Power  
Sewa Bhawan, R K Puram-I  
New Delhi-110066

**Subject: Rajya Sabha Starred/Unstarred Question Dairy No. S2906 Regarding Bailout Package for DISCOMs to be answered on 14-12-2021.**

Sir,

I am directed to refer to CEA's email dated 30<sup>th</sup> November 2021 on the above subject. The para wise reply is as follows:

**Questions:**

- (a) the details of losses incurred by DISCOMS since last bailout package given by the Ministry, State DISCOM-wise and year-wise;
- (b) whether is it true that the Ministry is going to give Rs. 90,000 crores to DISCOM to take care of their technical and commercial losses;
- (c) the reasons that DISCOMS are incurring above losses;
- (d) the details of conditions put by the Ministry to avail the above Rs. 90,000 crores financial help from Ministry; and

**Answer (a) to (d):** Ministry of Power may please reply.

- (e) the details of the States that have installed prepaid smart meters?

**Answer (e):** MoP/NSGM may please reply.

However, Energy Efficiency Services Limited (EESL) along with its JV M/s IntelliSmart is implementing the Smart Metering programme for various DISCOMs and it has installed Prepaid Smart Meters in the following States:

State/UT	Prepaid Smart Meters installed by EESL/ IntelliSmart as on 30 <sup>th</sup> Nov.
Uttar Pradesh	64, 885
Bihar	3,49,697
Haryana	401

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पाँचवा, छठा और सातवाँ तल,  
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**REGISTERED OFFICE:** NFL Building, 5<sup>th</sup>, 6<sup>th</sup> & 7<sup>th</sup> Floor,  
Core - III, SCOPE Complex, Lodhi Road, New Delhi - 110003  
**Tel.:** +91 (011) 45801260, **Fax:** +91 (011) 45801265  
**Website:** www.eeslindia.org

EESL/Res/RSQ/EC/2021-22/02

2<sup>nd</sup> December, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Rajya Sabha Unstarred Question Dy. No. 1094 admitted for reply on 7/12/2021.**

Sir,

I am directed to refer to EC-Division, MoP's email dated 1<sup>st</sup> December 2021 on the above subject. The para wise reply is as follows.

**Question (a): the details of the initiatives taken by Government to push renewable sources of energy in the country;**

**Answer (a):** Ministry of Power may please reply.

However, Energy Efficiency Services Limited (EESL), a JV of PSU under MoP, through its wholly owned subsidiary Convergence Energy Services Limited (CESL) has initiated a first of its kind large scale programme wherein existing agricultural feeders is being solarized via implementation of decentralized solar power plants at vacant/un-used lands at DISCOM substations. As on date, CESL has commissioned decentralized solar power plant of approx. 164 MWp.

**(b): the total budget allocated by Government towards these initiatives; and**

**(c): the measures taken by Government to reduce carbon footprints in India?**

**Answer (b) & (c):** Ministry of Power/ Ministry of Environment, Forest and Climate change may please reply. Additional information pertaining to EESL initiatives is enclosed as Annexure -1.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

**Additional information:**

EESL is implementing Energy Efficiency and Climate Change mitigation projects under National Mission for Enhanced Energy Efficiency (NMEEE). It has pioneered innovative business approaches to successfully roll-out large-scale programs that allow for incentive alignment across the value chain and rapidly drive transformative impact. The programmes of EESL has resulted in reduction of around 46 million tonnes of CO<sub>2</sub> emission per year. Details of major programme are as follows:

- i. UJALA Programme: 39.6 million tCO<sub>2</sub> per year
- ii. Gram UJALA Programme: 0.43 million tCO<sub>2</sub> per year
- iii. Street Lighting National Programme: 5.59 million tCO<sub>2</sub> per year
- iv. Agriculture Demand Side management (AgDSM): 0.15 million tCO<sub>2</sub> per year
- v. Building Energy Efficiency Programme: 0.18 million tCO<sub>2</sub> per year

EESL/Res/RSQ/EC/2021-22/06

3<sup>rd</sup> December, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Rajya Sabha Provisional admitted Starred Question Dy No S2774, S33 for 13-12-2021 regarding Steps for coal phase down and its impact.**

Sir,

I am directed to refer to email received from EC-Division dated 3<sup>rd</sup> December 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a): the exact steps to be undertaken by Government to effect a “coal phase down” as pledged at COP26;**

**(b): whether the coal phase down will impact existing policies of electrification such as DDUGJY, SAUBHAGYA, UDAY, etc.;**

**(c): if so, whether Government is planning to modify these schemes to be consistent with the “coal phase down”;**

**(d): whether the Ministry has conducted any studies to understand the impact of the phasedown on coal-based industries such as cement, plastics, fertilisers, etc; and**

**(e): if so, the details thereof; if not, the reasons therefor?**

**Answer (a) to (e):** Ministry of Power may please reply. Information pertaining to EESL may be treated as NIL.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/RSQ/EC/MoP/2021-22/07

9<sup>th</sup> December, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Rajya sabha provisionally admitted Question Dy. No. S3701, S3716, S3723 for reply on 16.12.2021.**

Sir,

I am directed to refer to EC-Division, MoP's email dated 9<sup>th</sup> December 2021 on the above subject. The para wise reply is as follows.

**Questions:**

- (a): whether Government plans to prepare a year-wise roadmap for achieving targets of Nationally Determined Contributions (NDCs);
- (b) if so, the details thereof;
- (c) whether Government has plans to integrate low carbon technologies and emission reduction measures in various Government schemes and programmes;
- (d) if so, the details thereof;
- (e) whether Government has estimated the manual investments required to achieve 40 per cent of non-fossil fuels installed capacity by 2030; and
- (f) if so, the details thereof?

**Answer (a) to (f):** Ministry of Power/ Ministry of Environment, Forest and Climate change may please reply. Additional information pertaining to EESL's energy efficiency & clean energy programs is hereby attached at **Annexure -1**.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

**1. Unnat Jyoti by Affordable LEDs for ALL (UJALA):**

Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 launched UJALA programme to provide LED bulbs to domestic consumers for replacement of incandescent bulbs with LED bulbs at an affordable price.

- In the last 3 Financial years, EESL has distributed about 7.4 crore LED bulbs across India.
- In total, 36.78 crore LED bulbs have been distributed by EESL.

**2. Gram UJALA:**

Gram Ujala program was launched by the Hon'ble Minister of Power, New and Renewable Energy in Bihar at Arrah District on 19<sup>th</sup> March, 2021. The program is being implemented by Convergence Energy Service Limited\* (CESL) wherein ICL bulbs are replaced by efficient LED bulbs that consumes 88% less electricity. The bulbs are being offered at Rs 10/bulb and rest of the cost is proposed to be recovered from **Carbon Financing**. Over 33.02 lakh LED bulbs have been distributed under Gram Ujala.

\* Convergence Energy Services Ltd (CESL), a wholly owned subsidiary of EESL has been formed dedicated to Distributed Renewable Energy (DRE), EVs and projects on Carbon Financing.

**3. Street Lighting National Programme (SLNP):**

Hon'ble Prime Minister, launched SLNP programme on 5<sup>th</sup> January, 2015 to replace conventional street lights with smart and energy efficient LED street lights.

- In the last 3 Financial years, EESL has installed over 62.2 lakh LED street lights in Urban Local Bodies (ULBs) and Gram Panchayats across India.
- In total, EESL has installed about 1.21 crore LED street lights across India.

**4. Smart Meter National Programme (SMNP):**

- In the last 3 Financial years, EESL has installed over 16.52 lakh smart electricity meters in the state of Uttar Pradesh, Haryana, Bihar, Rajasthan, Andaman and Delhi.
- In total, EESL has installed over 20.37 lakh smart electricity meters across the country.

**5. E-mobility & Electric Vehicles Charging Infrastructure:**

- In the last 3 years, CESL has deployed 1,620 Nos. of 4W EVs with more than 186 clients which includes various ministries/government dept. both Central and State, PSUs, Autonomous bodies, shared mobility operator etc. Also, it has installed 396 nos. of Public Charging Stations across India.
- EESL/CESL being nominated as the aggregating agency for Electric Three Wheelers under remodeled FAME II with a mandate to aggregate 3,00,000 Electric Three wheelers in next two years. It is also aggregating demand for e-buses. CESL has launched a one of its kind call for demand "Grand Challenge" for 3472 electric buses.

- CESL is deploying its EV under the Carbon Neutral Ladakh initiative. It has also developed first of its kind marketplace “MyEV App” for procuring electric two wheelers. The program has been launched in Kerala on 1st Sept 2021.
- CESL is one of the first organizations in India to deploy Public Electric Vehicle Charging Stations (PCS) on an impactful scale. CESL has installed 396 PCS in the last three years comprising Bharat Standard DC001 (15kW), High Capacity Fast DC Combo Chargers 142kW (CCS2.0+ CHAdeMO + AC Type II), Standalone CCS2 (50kW) and Bharat Standard AC001 (10kW). CESL has set up the India’s First EV Charging Plaza at Rafi Marg, New Delhi in partnership with New Delhi Municipal Council (NDMC) where 4 nos. of High Capacity Fast DC Combo Chargers 142kW (CCS2.0+ CHAdeMO + AC Type II) and 2 nos. Bharat Standard DC001 (15kW) have been installed capable of charging 14 electric cars simultaneously.
- EESL (CESL) has received Letter of Award (LOA) from Department of Heavy Industry (DHI) under FAME India Scheme Phase - II scheme for deployment of 1184 EV Chargers across 12 cities in India.
- EESL in consortium with CESL has received Letter of Award (LOA) from Ministry of Heavy Industries, Government of India under FAME India Scheme Phase-II for deployment of 2270 EV Chargers on (10) Highways and (6) Expressways across India.

#### **6. Decentralized Solar Power Plant Programme:**

- In the last 3 Financial years, EESL has commissioned decentralized solar power plant (0.3 MW to 10 MW) of approx. 130.7 MWp
- In total, EESL has commissioned decentralized solar power plant of approx. 170 MWp

#### **7. Buildings Energy Efficiency Programme (BEEP):**

- In the last 3 Financial years, EESL has completed retrofitting work in 7739 buildings by replacing old appliances with Energy efficient appliances like LED bulbs/lights, Tube lights, Fans & Air Conditioners.
- In total, EESL has completed retrofitting work in 10,451 buildings

#### **8. Agricultural Demand Side Management (AgDSM):**

- In the last 3 Financial years, over 58,000 nos. pumps has been installed.
- In total, 79,000 nos. pumps have been installed in the states of Andhra Pradesh and Uttar Pradesh.

EESL/Res/RSQ/EC/MoP/2021-22/06

9<sup>th</sup> December, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Rajya sabha provisionally admitted Question Dy. No. U2748 for reply on 16.12.2021**

Sir,

I am directed to refer to EC-Division, MoP's email dated 9<sup>th</sup> December 2021 on the above subject. The para wise reply is as follows.

**Questions:**

(a): whether under Paris agreement, India has three quantifiable nationally determined contributions (NDCs), including lowering emissions intensity of its GDP by 33-35 percent compared to 2005 levels by 2030 and increase total cumulative electricity generation from fossil free energy sources to 40 percent by 2030 and create additional carbon sink of 2.5 to 3 billion tons through additional forest and tree cover;

(b): the status of implementation of Nationally Determined Contributions (NDC) of 2016;

(c): the number of states that have implemented projects under Nationally Determined Contributions (NDC) of 2016; and

(d): the details of the targets of NDC and their achievements as on date?

**Answer (a) to (d):** Ministry of Power/ Ministry of Environment, Forest and Climate change may please reply. Additional information pertaining to EESL (CO<sub>2</sub> mitigation by EESL programs) is enclosed as Annexure -1.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

## **Annexure-1**

### **Additional information:**

Energy Efficiency Services Limited (EESL), a JV of PSUs under MoP is implementing Energy Efficiency and Climate Change mitigation projects under National Mission for Enhanced Energy Efficiency (NMEEE). It has pioneered innovative business approaches to successfully roll-out large-scale programs that allow for incentive alignment across the value chain and rapidly drive transformative impact. The programmes of EESL has resulted in reduction of around 46 million tonnes of CO<sub>2</sub> emission per year. Details of major programme are as follows:

- i. UJALA Programme: 39.6 million tCO<sub>2</sub> per year
- ii. Gram UJALA Programme: 0.43 million tCO<sub>2</sub> per year
- iii. Street Lighting National Programme: 5.59 million tCO<sub>2</sub> per year
- iv. Agriculture Demand Side management (AgDSM): 0.15 million tCO<sub>2</sub> per year
- v. Building Energy Efficiency Programme: 0.18 million tCO<sub>2</sub> per year

EESL/Res/RSQ/EC/MoP/2021-22/01

13<sup>th</sup> December, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Rajya Sabha Admitted Question no. 1884 (Advance Diary No. U1213) regarding 'Expenditure incurred on advertisement of schemes' to be answered on 14.12.2021 by Ministry of Finance.**

Sir,

I am directed to refer to EC-Division, MoP's email dated 13<sup>th</sup> December 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a): the total expenditure incurred by the Central Government on advertisement of its schemes for the years 2018, 2019, 2020, 2021; and**

**(b): scheme-wise total expenditure incurred on advertisement by Central Government on all of its schemes for the years 2018, 2019, 2020, 2021?**

**Answer (a) & (b):** Ministry of Power may please reply.

EESL inputs:

EESL is carrying out energy efficient LED lighting schemes viz. Unnat Jyoti by Affordable LEDs for ALL (UJALA) and Street Lighting National Programme (SLNP) which was launched by Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015. These schemes are financed by EESL and does not involve expenditure by the central government. However, the expenses by EESL on advertisement for the last 4 Financial Years is as follows:

S. No.	Financial Year	Expenditure in INR
1.	FY 2020-21	NIL
2.	FY 2019-20	75,00,000
3.	FY 2018-19	73,95,000
4.	FY 2017-18	34,68,170

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पाँचवा, छठा और सातवाँ तल,  
कोर - 3, स्कोप कॉम्पलेक्स, लोधी रोड, नई दिल्ली - 110003  
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**REGISTERED OFFICE:** NFL Building, 5<sup>th</sup>, 6<sup>th</sup> & 7<sup>th</sup> Floor,  
Core - III, SCOPE Complex, Lodhi Road, New Delhi - 110003  
**Tel.:** +91 (011) 45801260, **Fax:** +91 (011) 45801265  
**Website:** www.eeslindia.org

EESL/Res/RSQ/EC/2021-22/04

2<sup>nd</sup> December, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Rajya Sabha Q. Dy. No. U949 on Implementation of Energy Efficiency in MSMEs due for answer on 06.12.2021 received from Ministry of Micro, Small and Medium Enterprises (MSMEs) -reg.**

Sir,

I am directed to refer to letter No. 6/4/2021-EC dated 30<sup>th</sup> November, 2021 on the above subject. The para wise reply is as follows:

**Questions:**

**(a) whether Government has taken any steps to compel industries and the Micro, Small and Medium Enterprises to go for energy audit and, if so, the details thereof;**

**(b) whether Government has taken any steps to compel industries and the MSMEs to implement the Energy Efficiency (EE) measure and, if so, the details thereof; and**

**(c) if not, the reasons therefor?**

**Answer (a) to (c):** Ministry of Power may please reply.

However, Energy Efficiency Services Limited (EESL) along with United Nations Industrial Development Organization (UNIDO) is implementing a Global Environment Facilities (GEF) funded project named – Promoting Market Transformation for Energy Efficiency in 10 SME Clusters in India. This project initiated in year 2018 and aim to demonstrate new energy efficient technologies in these SME Clusters. Under this project, 34 technologies have been identified for demonstration purpose and 19 technologies have been successfully implemented in 30 MSME units. The details are attached at Annexure -1.

Yours Sincerely,



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

## Annexure -1

S. No.	Name of Cluster	List of identified Technologies	Status
1	<b>Surat (Textile)</b>	Screw Air Compressor with VFD and PM Motor	Implemented
		PLC Based automation system for Jet Dyeing Machine	Implemented
		Condensate recovery System	Implemented
		Boiler automation	Implemented
		Micro turbine	Implemented
2	<b>Ankleshwar (Chemical)</b>	IBR Boiler	Implemented
		Scroll Chiller	Implemented
		Vertical Agitator	Implemented
		ANFD	Implemented
		Fitch Fuel Catalyst	
3	<b>Howrah (Mixed)</b>	Metallic Recuperator	Implemented
		Divided Blast Cupola	
		Swirl Burner	Implemented
		Reheating furnace automation	Implemented
4	<b>Jorhat (Tea)</b>	FRP Fan	Implemented
		Modulating Burner	Implemented
		Dryer Automation	Implemented
		Withering Automation	Implemented
5	<b>Batala, Jalandhar &amp; Ludhiana (Foundry &amp; Forging)</b>	Induction Billet Heater	Implemented
		Servo Motor	
		Special Purpose Machine	
6	<b>Varanasi (Textile)</b>	Combustion Control system	Implemented
		Low Grade waste heat recovery system	
		Automation of dyeing machine	
7	<b>Muzaffarnagar (Paper)</b>	Vacuum Pump	
		Direct Coupled Agitator	
8	<b>Vellore (Rice)</b>	LSU Dryer	Implemented
		IBR Boiler	
9	<b>Medak (Pharma)</b>	Condenser on-load automatic tube cleaning system	
		Electric Vacuum Pump	
		Side Stream Filtration for Cooling Tower	
		Mist Cooling Towers in place of Natural/Draft	
10	<b>Sundargarh (Iron &amp; Steel)</b>	Multi VFD	
		Screw Compressor	
	<b>Total</b>	<b>34</b>	<b>Demo Implemented: 19 technologies</b>

EESL/Res/RSQ/EC/2021-22/04

9<sup>th</sup> December, 2021

To,  
Shri Rahul Kumar  
ASO (UMPP/EV)  
Ministry of Power,  
Nirman Bhawan, Delhi-110001

**Subject: Seeking inputs Admitted PQ 2539 for 14.12.2021.**

Sir,

I am directed to refer to EV/UMPP Division, MoP's email dated 9<sup>th</sup> December 2021 on the above subject. The question wise reply is as follows.

**Questions:**

**(a): whether it is a fact that due to high cost of electric vehicles, there is very less demand of such vehicles in the country;**

**(b): if so, the details thereof and the correctional steps taken by the Government to reduce the cost of the vehicle;**

**Answer (a) & (b):** Ministry of Power may please reply. However, EESL inputs are as follows:  
Various Steps have been taken by the Govt. of India to reduce the cost of electric vehicles which include lower GST rates on electric vehicle, various incentives/subsidies under FAME1 & FAME2 (Fast Adoption of Manufacture of Electric Vehicle) etc.

Energy Efficiency Services Limited (EESL) a JV of PSU under MoP, GoI through Convergence Energy Services Limited (CESL – 100% Owned subsidiary of EESL) is implementing e-Mobility Programme with the objective to gain efficiencies of scale and drive down costs, create local manufacturing facilities, to reduce dependence on oil imports. EESL is also developing Electric Vehicle Charging Infrastructure across the country for promoting the adoption of Electric vehicles.

**(c): whether it is also a fact that there are only 2 per cent electric vehicles that are presently used in the Union Ministries; and**

**(d): if so, the details thereof and the action taken by the Government to increase the number of electric vehicles in the Ministries?**

**Answer (c) & (d):** EESL/CESL has deployed 1,620 electric cars out of which 165 Nos electric cars have been deployed with Union Ministries.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/EC/2021-22/02

8<sup>th</sup> December, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha Unstarred Question Diary. No. 8394 regarding LED Bulbs Distributed under UJALA for answer on 16.12.2021.**

Sir,

I am directed to refer to EC-Division, MoP's email dated 7<sup>th</sup> December 2021 on the above subject. The para wise reply is as follows.

**Questions:**

**(a): the number of LED bulbs and fans distributed so far under Unnat Jyoti by Affordable LEDs for All (UJALA) Scheme for energy conservation and saving of electricity? And**

**Answer (a):** Under Unnat Jyoti by Affordable LEDs for all (UJALA) program as on date over 36.78 Crore LED bulbs and over 23.59 lakh energy efficient fans have been distributed by EESL. This has resulted in estimated energy savings of 48 billion kWh per annum.

**(b): the details of LED bulbs and fans distributed in development block of Ratnagiri and Sindhudurg districts in Maharashtra, village-wise?**

**Answer (b):** The details of LED bulbs and energy efficient fans distributed in Ratnagiri and Sindhudurg district is tabulated below:

Sl. No.	District Name	Number of LED bulbs distributed	Number of Fans distributed
1	Ratnagiri	4,61,738	344
2	Sindhudurg	3,73,354	20

(LED bulb distribution figures are captured only till district level under the UJALA scheme)

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/RSQ/EC/2021-22/04

9<sup>th</sup> December, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Rajya Sabha provisionally admitted starred/unstarred question diary. No. S2659 for reply on 16.12.2021 regarding 'Funds for Net Zero Emission' received from Ministry of Environment, Forest and Climate Change (MoEF&CC).**

Sir,

I am directed to refer to EC-Division, MoP's email dated 7<sup>th</sup> December 2021 on the above subject. The para wise reply is as follows.

**Questions:**

- 1. the quantum of the fund requirements for adaption of the new technology (change of fossil fuel) to fulfil the Net Zero Emission commitment;**
- 2. the details of the funds spent for the last three years while adoption the new technology for non-conventional energy production; and**
- 3. the details of foreign assistance committed in the program by the foreign countries so far?**

**Answer (1) to (3):** MoP/MoEF&CC may please reply. However additional information pertaining to EESL is hereby enclosed at **Annexure 1**.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

## Annexure-1

### Additional Information:

As far as Energy Efficiency Services Limited (EESL) is concerned, no budgetary allocation from Government of India is provided for its programme.

However, EESL has arranged loans from Multilateral/Bilateral agencies as per following details:

S. No.	Loan from International Banks	Sanctioned Loan	Programmes for Utilisation	Coverage of Programme	Status
1	Kreditanstalt für Wiederaufbau (KfW-I)	Euro 50 Million	UJALA & SLNP	PAN India	Loan Closed
2	Agence Francaise De Developpement (AFD)	Euro 50 Million	UJALA & SLNP	PAN India	Loan Closed
3	Kreditanstalt für Wiederaufbau (KfW-II)	Euro 200 Million	UJALA, SLNP, Decentralised Solar & Smart Meters	PAN India	Ongoing
4	IBRD	USD 220 Million	Programme for Results for Energy Efficiency Scale Up	PAN India	Ongoing
5	Asian Development Bank (ADB)	USD 200 Million	Demand Side Energy Efficiency Sector Project (Street lights, Charging Infrastructure)	PAN India	Ongoing
6	Asian Development Bank (ADB)-CTF	USD 46 Million	Scaling Up Demand Side Energy Efficiency Sector Project (Distributed Solar)	PAN India	Ongoing
7	Asian Development Bank (ADB)-II	USD 250 Million	Scaling Up Demand Side Energy Efficiency Sector Project (Distributed Solar, Smart Meters, Electric Mobility & associated infrastructure)	PAN India	Ongoing

EESL/Res/RSQ/CEA/2021-22/01

25<sup>th</sup> November, 2021

To,  
Shri Ashok Kumar Rajput  
Chief Engineer (RT&I) Division  
Central Electricity Authority  
Ministry of Power  
Sewa Bhawan, R K Puram-I  
New Delhi-110066

**Subject: Rajya Sabha Parliament Question D. No. U407 for 30.11.2021 regarding "Electric Vehicles".**

Sir,

I am directed to refer to letter No. CEA/PLG/R&D/PQ/2021 dated 22<sup>nd</sup> November 2021 on the above subject. The para wise reply is as follows:

**Question (a): the details of electric vehicles procured by the EESL during the current financial year along with the costs and the manufacturers;**

**Answer (a):** Energy Efficiency Services Limited (EESL) a JV of PSU under MoP, GoI through Convergence Energy Services Limited (A wholly owned subsidiary of EESL) is implementing e-Mobility Programme.

The details of electric vehicles procured by the CESL during the current financial year 2021-22 along with the costs and the manufacturers are as follows:

Award Date	Manufacturer	Cost (Rs. Cr.)	Number of 4W electric vehicles.
14.05.2021	M/s Tata Motors	43.62	300
26.08.2021	M/s Hyundai	2.3	10*

\* for UT of Leh/Ladakh

**(b): whether Government proposes to buy more electric vehicles produced locally in future and if so, the details thereof; and**

**Answer (b):** Ministry of Power may please reply. However, as on date EESL/CESL has signed agreements for 1,651 electric vehicles.

**(c): the details of the charging stations being set up by the EESL in the country and if so, the details thereof?**

**Answer (c):** CESL is also developing Electric Vehicle Charging Infrastructure and has signed MoUs with multiple stakeholders across municipalities, DISCOMs, metro corporations, development authorities and other land partners for locational assessment study and setting up of charging infrastructures in their jurisdiction location. As on date CESL has installed 396 nos. of public EV chargers across India of which 166 nos. are operational and rest are in the process of pre-commissioning.

पंजीकृत कार्यालय: एन. एफ. एल. बिल्डिंग, पॉचवा, छठा और सातवाँ तल,  
कोर - 3, स्कोप कॉम्प्लेक्स, लोधी रोड, नई दिल्ली - 110003  
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**REGISTERED OFFICE:** NFL Building, 5<sup>th</sup>, 6<sup>th</sup> & 7<sup>th</sup> Floor,  
Core - III, SCOPE Complex, Lodhi Road, New Delhi - 110003  
**Tel.:** +91 (011) 45801260, **Fax:** +91 (011) 45801265  
**Website:** www.eeslindia.org

State/UT wise details of public EV chargers installed by EESL/CESL are as follows:

State/UT	City	No. of PCS installed
Chhattisgarh	Raipur	4
Delhi	Delhi	146
Goa	Goa	3
Gujarat	Ahmedabad	12
Haryana	Panchkula	2
Karnataka	Bangalore	1
Kerala	Thiruvanthapuram	17
Maharashtra	Nagpur	73
Tamil Nadu	Chennai	48
Uttar Pradesh	Noida	69
West Bengal	Kolkata	21
<b>Total</b>		<b>396</b>

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

EESL/Res/LSQ/EC/2021-22/01

9<sup>th</sup> December, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha Unstarred Question Diary. No. 8498 regarding Achievements of EESL for answer on 16.12.2021.**

Sir,

I am directed to refer to EC-Division, MoP's email dated 7<sup>th</sup> December 2021 on the above subject. The para wise reply is as follows.

**Questions:**

- (a): whether achievements has been made by energy efficiency services limited (EESL) in increasing energy efficiency of the country's economy during the last three years;
- (b) if so, the details thereof; and
- (c) if not, the reasons therefor?

**Answer (a) to (c):** Yes, EESL's energy efficiency measures and clean energy programs have resulted in electricity savings of over 57 billion kWh per annum, CO<sub>2</sub> emission reduction of over 46 million tonnes per annum and monetary savings of around INR 26,000 Cr per annum. Achievements of EESL in last 3 years is hereby attached at Annexure 1.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

## Achievement of EESL in the last 3 years

Date: 9<sup>th</sup> December 2021

### 1. Unnat Jyoti by Affordable LEDs for ALL (UJALA):

Hon'ble Prime Minister, on 5<sup>th</sup> January, 2015 launched UJALA programme to provide LED bulbs to domestic consumers for replacement of incandescent bulbs with LED bulbs at an affordable price.

- In the last 3 Financial years (FY19, FY20, FY21), EESL has distributed about 7.4 crore LED bulbs across India.
- In total, 36.78 crore LED bulbs have been distributed by EESL. This has resulted in estimated energy savings of 48.76 billion kWh per year with avoided peak demand of about 9,768 MW, GHG emission reduction of 39.56 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 19,200 crore in electricity bills of consumers.

### 2. Gram UJALA:

Gram Ujala program was launched by the Hon'ble Minister of Power, New and Renewable Energy in Bihar at Arrah District on 19<sup>th</sup> March, 2021. The program is being implemented by Convergence Energy Service Limited\* (CESL) wherein ICL bulbs are replaced by efficient LED bulbs that consumes 88% less electricity. The bulbs are being offered at Rs 10/bulb and rest of the cost is proposed to be recovered from **Carbon Financing**. Over 33.02 lakh LED bulbs have been distributed under Gram Ujala. This has resulted in estimated energy savings of 467 million kWh per year with avoided peak demand of about 128 MW, GHG emission reduction of 0.43 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 158 crore in electricity bills of consumers.

\* Convergence Energy Services Ltd (CESL), a wholly owned subsidiary of EESL has been formed dedicated to Distributed Renewable Energy (DRE), EVs and projects on Carbon Financing.

### 3. Street Lighting National Programme (SLNP):

Hon'ble Prime Minister, launched SLNP programme on 5<sup>th</sup> January, 2015 to replace conventional street lights with smart and energy efficient LED street lights.

- In the last 3 Financial years (FY19, FY20, FY21), EESL has installed over 62.2 lakh LED street lights in Urban Local Bodies (ULBs) and Gram Panchayats across India.
- In total, EESL has installed about 1.21 crore LED street lights across India. This has resulted in estimated energy savings of 8.13 billion kWh per year with avoided peak demand of about 1,355 MW, GHG emission reduction of 5.60 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 5,692 crore in electricity bills of municipalities.

### 4. E-mobility & Electric Vehicles Charging Infrastructure:

- In the last 3 years, CESL has deployed 1,594 Nos. of 4W EVs with more than 180 clients which includes various ministries/government dept. both Central and State, PSUs, Autonomous bodies, shared mobility operator etc. Also, it has installed 396 nos. of Public Charging Stations across India.
- EESL/CESL being nominated as the aggregating agency for Electric Three Wheelers under remodeled FAME II with a mandate to aggregate 3,00,000 Electric Three wheelers in next

## Achievement of EESL in the last 3 years

two years. It is also aggregating demand for e-buses. CESL has launched a one of its kind call for demand “Grand Challenge” for 3,472 electric buses.

- CESL is deploying its EV under the Carbon Neutral Ladakh initiative. It has also developed first of its kind marketplace “MyEV App” for procuring electric two wheelers. The program has been launched in Kerala on 1st Sept 2021.
- CESL is one of the first organizations in India to deploy Public Electric Vehicle Charging Stations (PCS) on an impactful scale. CESL has installed 396 PCS in the last three years comprising Bharat Standard DC001 (15kW), High Capacity Fast DC Combo Chargers 142kW (CCS2.0+ CHAdeMO + AC Type II), Standalone CCS2 (50kW) and Bharat Standard AC001 (10kW). CESL has set up the India’s First EV Charging Plaza at Rafi Marg, New Delhi in partnership with New Delhi Municipal Council (NDMC) where 4 nos. of High Capacity Fast DC Combo Chargers 142kW (CCS2.0+ CHAdeMO + AC Type II) and 2 nos. Bharat Standard DC001 (15kW) have been installed capable of charging 14 electric cars simultaneously.
- EESL (CESL) has received Letter of Award (LOA) from Department of Heavy Industry (DHI) under FAME India Scheme Phase - II scheme for deployment of 1184 EV Chargers across 12 cities in India.
- EESL in consortium with CESL has received Letter of Award (LOA) from Ministry of Heavy Industries, Government of India under FAME India Scheme Phase-II for deployment of 2270 EV Chargers on (10) Highways and (6) Expressways across India.

### 5. Decentralized Solar Power Plant Programme:

- In the last 3 years, EESL has commissioned decentralized solar power plant (0.3 MW to 10 MW) of approx. 130.7 MWp
- In total, EESL has commissioned decentralized solar power plant of approx. 170 MWp

### 6. Buildings Energy Efficiency Programme (BEEP):

- In the last 3 Financial years (FY19, FY20, FY21), EESL has completed retrofitting work in 7,739 buildings by replacing old appliances with Energy efficient appliances like LED bulbs/lights, Tube lights, Fans & Air Conditioners.
- In total, EESL has completed retrofitting work in 10,451 buildings. This has resulted in estimated energy savings of 224 million kWh per year with avoided peak demand of about 75 MW, GHG emission reduction of 0.18 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 194 crore in electricity bills of consumers.

### 7. Agricultural Demand Side Management (AgDSM):

- In the last 3 Financial years (FY19, FY20, FY21), over 58,000 nos. pumps has been installed.
- In total, 79,000 nos. pumps have been installed in the states of Andhra Pradesh and Uttar Pradesh. This has resulted in estimated energy savings of 204 million kWh per year with avoided peak demand of about 37 MW, GHG emission reduction of 0.15 million t CO<sub>2</sub> per year and estimated annual monetary savings of INR 102 crore in electricity bills of consumers.

EESL/Res/LSQ/EC/2021-22/05

29<sup>th</sup> November, 2021

To,  
Shri Anand Upadhyay  
Deputy Secretary, EC Division  
Ministry of Power,  
Nirman Bhawan, Delhi-110011

**Subject: Lok Sabha provisionally admitted Unstarred Q. Dy. No. 2267 regarding Implementation of UJALA Scheme for answer on 02.12.2021.**

Sir,

I am directed to refer to EESL response dated 27<sup>th</sup> November 2021 on MoP's letter no. 7/29/2021-EC dated 25<sup>th</sup> November 2021 on the above subject. Additional information pertaining to Gram UJALA program is hereby provided.

(a) & (b): Gram UJALA program is being run by CESL (A wholly owned subsidiary of EESL), wherein data on number of metered connection of Rural Consumers is collated Discom-wise before implementation of the scheme in particular state. The data for Andhra Pradesh and Telangana, Discom wise for rural consumers is as follows:

<b>Andhra Pradesh</b>	<b>1,42,06,745</b>
APSPDCL	49,74,363
APEPDCL	53,24,962
APCPDCL	39,07,420

<b>Telangana</b>	<b>33,83,393</b>
TSNPDCL	8,82,363
TSSPDCL	25,01,030

(c) The Gram UJALA program is likely to be launched in aforementioned states in December, 2021.

(d) No defected bulbs have been distributed under Gram UJALA scheme. There is provision for replacement of the failed LED bulbs with in the warranty period of three years without any additional cost to the consumer. The reported bulb failure rate under Gram UJALA scheme is also less than 1%.

(e) Gram UJALA program is also voluntary in Nature and the estimated energy saving per bulb is 141.71 kWh per annum. The Under Gram UJALA program, 33.02 Lacs bulbs have been distributed in the state of Uttar Pradesh and Bihar. This has resulted in Energy savings of 468 million kWh per annum.

Yours Sincerely



(Deepak Kumar Sahani)  
Manager (Corporate Planning)

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