

GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
LOK SABHA
UNSTARRED QUESTION NO. 2350
ANSWERED ON 03.08.2023

INTEGRATION AND TRANSMISSION OF RENEWABLE ENERGY

2350. SHRI GNANATHIRAVIAM S

Will the Minister of New & Renewable Energy be pleased to state:

- (a) the details of measures taken for integration and transmission of renewable energy in Tamil Nadu;
- (b) the details of projects being undertaken for large scale integration of renewable energy in the grid;
- (c) the details of measures being taken for transmission of power in States with high renewable energy installed capacity;
- (d) whether the Government proposes to equip DISCOMs of renewable energy rich States with advanced technologies; and
- (e) if so, the details thereof?

ANSWER

THE MINISTER OF NEW & RENEWABLE ENERGY AND POWER

(SHRI R.K. SINGH)

(a) The Ministry of New and Renewable Energy (MNRE) is implementing Green Energy Corridor (GEC) schemes, under which Intra-State Transmission System (InSTS) has been planned in total 10 States, including Tamil Nadu. The implementing agency in Tamil Nadu, Transmission Corporation of Tamil Nadu Ltd. (TANTRANSCO) has completed Phase-I of GEC which includes setting up of 1068 circuit kilometers (ckm) of transmission lines and 1910 Mega Volt-Amperes (MVA) of substations for evacuation of renewable energy (RE) power of approx. 1300 MW capacity in the State. Under Phase-II of GEC scheme, TANTRANSCO has planned setting up 624 ckm of transmission lines and 2200 MVA capacity substations for evacuation of RE power of approx. 4000 MW capacity in the State.

Further, as per information received from Ministry of Power, Inter-State Transmission System (ISTS) projects for evacuation of 3 GW RE capacity in Tamil Nadu (Karur: 2.5 GW; Tuticorin/Tirunelveli: 0.5 GW) has been planned in phased manner. In addition, transmission system has been planned for evacuation of 5 GW off-shore wind capacity off the coast of Tamil Nadu.

(b)& (c) The Phase-I of GEC scheme is being implemented by 8 States of Andhra Pradesh, Gujarat, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, and Tamil Nadu. The Phase-II of GEC scheme is being implemented by 7 States of Gujarat, Himachal Pradesh, Karnataka, Kerala, Rajasthan, Tamil Nadu and Uttar Pradesh. The state-wise details of the transmission projects under GEC schemes are at **Annexure-I**.

As per information received from Ministry of Power, it has also undertaken renewable energy transmission projects. The location-wise details are at **Annexure-II**. Further, establishment of

Renewable Energy Management Centres (REMCs) is being undertaken for large scale integration of renewable energy in the grid.

(d) & (e) Ministry of Power has launched Revamped Distribution Sector Scheme (RDSS) in July 2021 with the objective of improving the quality and reliability of power supply to consumers through a financially sustainable and operationally efficient Distribution Sector in the country. The scheme aims to reduce the Aggregate Technical & Commercial (AT&C) losses to pan-India levels of 12-15% and Average Cost of Supply - Average Realizable Revenue (ACS-ARR) gap to zero by 2024-25. The scheme has an outlay of Rs.3,03,758 crore and an estimated gross budgetary support (GBS) of Rs.97,631 crore from the Central Government for upgradation of distribution infrastructure including IT intervention like SCADA/DMS along with system metering with communication features & installation of pre-paid smart meters pan India for 25 crore consumers, etc.

Under RDSS, advanced Information and Communication Technology like Artificial Intelligence, Machine Learning and Block chain Technology would be leveraged to analyse data generated through IT/OT devices including System Meters, prepaid Smart meters to prepare actionable MIS from system generated energy accounting reports every month so as to enable the DISCOMs to take informed decisions on loss reduction, demand forecasting, asset management, Time of Day (ToD) tariff, renewable energy integration and for other predictive analysis.

Under the Scheme, smart metering works for Rs 1.35 lakh crore (with GBS of Rs 25,048.55 crore) and loss reduction distribution infrastructure works for Rs 1.2 lakh crore (with GBS of Rs 76,850.78 crore) have been sanctioned under RDSS.

Annexure-I referred to in reply to parts (b) and (c) of the Lok Sabha Question No. 2350 for answer on 03.08.2023 regarding 'Integration and Transmission of Renewable Energy'

State-wise details of transmission projects under GEC Phase-I:

Sl. No.	State	Locations (districts) of Completed Projects	Locations (districts) of Projects under Implementation
1	Andhra Pradesh	Ananthapuramu, Kadapa	Sri Sathya Sai, Kadapa & Kurnool
2	Gujarat	Jamnagar, Amreli, Rajkot & Kutchh	Jamnagar, Surendranagar, Dwarka, Kutchh & Morbi
3	Himachal Pradesh	Shimla, Kangra, Mandi, Hamirpur & Chamba	Shimla, Chamba, Kullu & Kinnaur
4	Karnataka	Gadag, Chitradurga, Devanagere, Mandya, Belgaum, Haveri & Dharwad	<i>All projects completed</i>
5	Madhya Pradesh	Barwani, Dhar, Mandsaur, Ujjain, Indore, Sagar, Neemuch, Ratlam, Sheopur Sehore & Malwa	<i>All projects completed</i>
6	Maharashtra	Kolhapur, Sangli, Pune, Satara, Ahmednagar, Nandurbar & Nashik	Ahmednagar, Nashik, Beed
7	Rajasthan	Jaisalmer, Barmer, Jalore & Bikaner	<i>All projects completed</i>
8	Tamil Nadu	Dindigul, Thoothukudi, Coimbatore, Dharmapuri, Tirunelveli, Cuddalore, Viluppuram, Tiruvannamalai, Erode, Virudhunagar & Pudukkottai	<i>All projects completed</i>

State-wise details of transmission projects under GEC Phase-II:

Sl. No.	State	Locations (districts) identified
1	Gujarat	Kutchh, Jamnagar, Junagadh, Dwarka, Surendranagar, Morbi, Rajkot, Bhavnagar, Amreli & Patan
2	Himachal Pradesh	Lahaul & Spiti, Kullu & Chamba
3	Karnataka	Bagalkot, Chitradurga, Gadag, Bidar, Koppal
4	Kerala	Palakkad & Idukki
5	Rajasthan	Hanumangarh, Udaipur & Dungarpur
6	Tamil Nadu	Tirunelveli, Kanyakumari & Tiruppur
7	Uttar Pradesh	Lalitpur, Jalaun, Hamirpur, Mahoba, Jhansi, Banda & Chitrakoot

Annexure-II referred to in reply to parts (b) and (c) of the Lok Sabha Question No. 2350 for answer on 03.08.2023 regarding 'Integration and Transmission of Renewable Energy'

Sl. No.	State / UT	Locations (districts) identified	Locations (districts) of Completed Projects
1	Rajasthan	Sanchore, Sirohi, Jalor, Pali, Ajmer, Bikaner, Nagaur, Barmer, Jaisalmer & Jodhpur	Jodhpur & Jaisalmer
2	Himachal Pradesh	Kaza	-
3	Ladakh	Leh	-
4	Gujarat	Banaskantha, Dwarka, Bhuj & Khavda	Banaskantha, Dwarka & Bhuj
5	Madhya Pradesh	Rewa, Neemuch, Morena, Chhatarpur, Rajgarh, Sagar & Khandwa	Rewa
6	Maharashtra	Osmanabad, Solapur, Wardha, Dhule & Parli	-
7	Andhra Pradesh	Ananthapuramu, Kadapa & Kurnool	Ananthapuramu
8	Karnataka	Gadag, Bidar, Koppal, Devangere, Chitradurga, Bijapur, Bellary & Tumkur	Tumkur
9	Tamil Nadu	Karur, Tirunelveli	Karur, Tirunelveli
10	Telangana	Rangareddy, Medak, Nizamabad & Karimnagar	-
