

GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
LOK SABHA
UNSTARRED QUESTION NO. 3187
TO BE ANSWERED ON 03.08.2017

IMPACT OF RENEWABLE ENERGY ON NATIONAL POWER GRID

3187. SHRI BAIJAYANT JAY PANDA:

Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

- (a) the current share of renewable energy in the total power production in the country;
- (b) whether the increasing share of renewable energy in the overall energy mix has significant implications for the national grid;
- (c) if so, the details thereof and the measures undertaken to deal with the same;
- (d) whether transmission projects would be up for bids during this financial year in order to boost capacity of transmission of renewable energy;
- (e) if so, the details thereof;
- (f) whether a committee has been formed to assess the impact of GST on the power sector; and
- (g) if so, the details thereof?

ANSWER

THE MINISTER OF STATE FOR POWER, COAL, NEW & RENEWABLE ENERGY AND MINES
(INDEPENDENT CHARGE) (SHRI PIYUSH GOYAL)

(a): As on 30-06-2017, a total of 58.30 GW of renewable energy capacity has been installed in the country which is 17.65% of the total power (330.26 GW) installed capacity through all the sources.

(b) & (c): Large scale integration of renewable energy into the grid will be challenging due to intermittent nature of wind and solar energy. To meet such a challenge, following steps are being taken:

- Development of Green Energy Corridors.
- Notification of Forecasting and Scheduling of Regulations by CERC and SERCs.
- Amendment of Regulations for Technical Standards for Grid Connectivity.
- Development of Renewable Energy Management Centres.
- Installation of Availability Based Tariff meters.

(d) & (e): The details of the bids put up by various states for Intra-State transmission work under Green Energy Corridor scheme during 2017-18 are given in Annexure.

(f) & (g): Yes Madam. A Core Committee under the Chairmanship of Special Secretary, Ministry of Power had been constituted vide order No.10/5/2016-P&P dated 24.08.2016 to evaluate the impact of GST on Power Sector. The other members of the Committee had been drawn from CEA, NTPC, PGCIL, NHPC, PFC, GUVNL, Tata Power and Sterlite Power. The Terms of Reference of the Committee are as follows:

- i. To analyze the likely effect of GST separately for the generation, transmission and distribution sector.
- ii. To analyze the benefits which are likely to accrue to the ultimate consumers in case the power sector is included in the GST.
- iii. To suggest a tax rate under GST which would leave the power sector revenue neutral.
- iv. To suggest a time frame by when the power sector could be included in the GST.

**ANNEXURE REFERRED TO IN REPLY TO LOK SABHA UNSTARRED QUESTION NO. 3187 Part
(d & e) TO BE ANSWERED ON 03/08/2017**

**I-Details of bids put up by various states for Intra-State transmission works under Green Energy
Corridor during 2017-18**

-	Name of the State	Transmission projects whose bid is being done/will be done during 2017-2018
1.	Tamil Nadu	(1) 400kV DC line with Quad Moose ACSR with MC line from Kayathar 400 kV SS to proposedThennampatti 400 kV SS (7kms) for a total length of 24 km falling in wind zone-2. (2) Providing 4 Nos Bay extension at Kayathar 400 kV SS for Thennampatti Feeder and future bay
2	Rajasthan (for tranche –I)	(1) 220kV and 132kV Transmission Lines a) 220 KV D/C Gajner (U/C 220 KV GSS)-Kolayat line b) LILO of existing 132 KV S/C Kolayat-Bajju line at proposed 220 KV GSS Kolayat c) LILO of existing 132 KV S/C PS1-Bajju line at proposed 220 KV GSS PS_1 / Bajju d) LILO of both circuits of U/C 220 KV D/C Ramgarh GTPP – Dechu line at Pokaran (5kM D/C each x 2 = 10kM D/C) e) LILO of existing 132 KV S/C Chandan-Pokaran line at proposed 220 KV GSS Pokaran f) 220 kV D/C interconnection at proposed 220 kV GSS Undoo to 220 kV GSS Pokaran (iii) 132 kV D/C interconnections at proposed 220 kV GSS Undoo (2) Construction of 5x20/25 MVA, 132/33 kV GSSs along with 132 kV approx. 25kM D/C lines around 220 kV GSSs as per solar potential in respective areas (3) Procurement of Power Transformers 160MVA- 6 Nos., 40/50 MVA-2 Nos. and 20/25 MVA- 9 Nos. (4) Procurement of Zebra Conductor- 570 KMs approx. and Panther Conductor- 810 KMs approx. (For 220 kV and 132 kV lines at Kolayat, Bajju, Chatrail, Pokaran and Undoo.) (5) Construction of 400kV S/C Jaisalmer -2 - Akal Line - 50kms.
3	Andhra Pradesh	(1) Erection of Bay Extensions works at : i) Uravakonda 400kV SS : 2 x 500 MVA + 1 x 80MVAR ii) Jammalamadugu 400kV SS : 1 x 315 MVA + 1 x 80MVAR iii) Hindupur 400kV SS: 1x315 MVA (2) 220 KV DC Moose line from 400KV Jammalamadu SS to 220 KV Betamcherla SS(136 Ckm) (3) 220 KV DC Moose line from 400KV Hindupur SS to 220 KV Hindupur SS(40 Ckm) (4) 220 KV BEs at 220 KV Hindupur Substation (5) 220 KV DC Moose line from 400KV Hindupur SS to 220

		<p>KV Penukonda SS(100 Ckm)</p> <p>(6) 220/132 KV Substations at Penukonda(2x160 MVA)</p> <p>(7) 132 KV DC line from 220/132 KV Penukonda SS to 132 KV Penukonda SS (20 Ckm)</p> <p>(8) 132 KV BEs at 132/33 KV Penukonda Substation, including ,Pannels,TelcomEtc</p> <p>(9) 220/132 KV Substation at PampanurTanda (2x160 MVA)</p> <p>(10) 220 KV DC Twin Moose line from 400KV Hindupur SS to 220 KV PampanurTanda SS(180 Ckm) including ,Pannels,TelcomEtc</p>
4	Himachal Pradesh	<p>(1) Construction of 132/220 kV, 2x100 MVA GIS sub station at Dehan in Distt. Kangra</p> <p>(2) Providing additional 33/132 kV, 31.5 MVA Transformer at 33/132 kV, 31.5 MVA GIS sub station at Pandoh in Distt. Mandi</p> <p>(3) 33 kV Palchan-Prini line</p> <p>(4) Construction of 33 kV GIS switching station at Palchan in Distt. Kullu.</p> <p>(5) Providing additional 10 MVA, 66/22 kV power transformer a/w spare bay at 10 MVA, 66/22 kV Nogli for evacuation of power from SHEPs in Andhra Nogli Zone</p> <p>(6) Augmentation of Kotla- Nogli-Samoli 66 kV line with AL59 conductor (60 Km)</p> <p>(7) Augmentation of 2nd 66/22 kV, 10 MVA transformer at Samoli to 20 MVA</p> <p>(8) Construction of 66/22 kV, 2x10 MVA sub station at Hatkotialongwith 66 kV S/C line on D/C towers (20 Kms) from Hatkoti to Samoli</p> <p>(9) Augmentation of 66 kV D/C line between Ghanvi-II to Kotla with HTLS conductor (8 Kms)</p> <p>(10) Construction of 66 kV S/C line from Nathpa to Wangtooa/w terminal bays</p> <p>(11) C/O 66/22 kV 2x25/31.5 MVA S/St at Andhra and 22kV Controlling Substation at Gumma</p> <p>(12) Construction of 66/22 kV, 1x10 MVA sub station at yard of Rukti I alongwith 66 kV S/C line(6 Km) on D/C towersfrom the Yard of Rukti I to yard of Shaung Power House.</p> <p>(13) Construction of 66/22 kV, 1x10 MVA sub station at yard of Pooh alongwith 66 kV S/C line.</p> <p>(14) Augmentation of transformer from 2.5 MVA to 6.3 MVA and construction of 33 kV S/C line on D/C structures between Shillai and Satauna/w terminal bays (20 Kms)</p> <p>(15) 22KV S/C line on D/C structures and cross arms (0.15Sq. In “WOLF” cond.) between Hatkoti and Kotkhaia/w terminal bays and space for spare feeder bay</p> <p>(16) Augmentation of 33 KV existing line between Dadahu and DhaulaKuan&DhaultaKuan and Giri with WOLF conductor</p> <p>(17) 33 kV line from Prini to 220/33 kV sub station in the yard of AllainDhuangan HEP with 33 kV XLPE cable.</p> <p>(18) LILO of 33 KV Pandoh- Bijni line at proposed 33/132 KV Pandoh Sub-Station.</p>

		<p>(19) Strengthening of 33 KV D/C Pandoh-Bijiniline with WOLF conductor.</p> <p>(20) Strengthening of 33 KV S/C Padhar to Bijiniline with WOLF conductor.</p> <p>(21) Augmentation of existing 33 kV Gharola to LILO point at Karian with WOLF conductor of 33 kV line from Gharola to Chamba (48.5 Kms)</p> <p>(22) Strengthening / Up-gradation of existing S/C 33 kV feeder No.II from Baner Power House to 132/33/11 kV Sub-Station Dehan under ESD No.IIPalampur</p> <p>(23) LILO of one circuit of 33 KV D/C line from Shahpur to Kangra at proposed 33/132 KV CHAMBI Sub-Station and LILO 33kV S/C line from Gaj to Shahpur at 33/132kV sub-stationChambi along with reconductoring of Gaj-Shahpur Line (New line 9.5 Km, reconductoring 18.5 Km).</p>
5	Gujarat	<p>(1) LILO of both circuits of 132 KV D/C Sitac WF - Jasdan line at Babara (M/C line)</p> <p>(2) 4 Nos. of 400 KV feeder bays at Shapar and 2 Nos. of 400 KV feeder bays each at Kalavad, Hadala, Pachham (Fedra) &Varsana</p> <p>(3) 220 KV Babara substation (Dist. Amreli) 220/132 KV, 2 X 150 MVA, 220/66 KV, 3 X 160 MVA, 6 Nos. 220 KV, 4 Nos. of 132 KV & 6 Nos. 66 KV feeder bays.</p> <p>(4) 400 KV Bhachunda GIS substation (Dist. Kutch) (220/66 KV scheme is already approved), 400/220 KV, 3 X 500 MVA, 4 Nos. of 400 KV feeder bays, 400 KV, 1 x 125 MVAR Reactor with bay</p> <p>(5) 400/220/66 KV Bhogat GIS substation (Dist. Jamnagar), 400/220 KV, 3 X 500 MVA, 220/66 KV, 2 X 160 MVA, 4 Nos. of 400 KV feeder bays, 400 KV, 1 x 125 MVAR Reactor with bay, 6 Nos. of 220 KV & 6 Nos. of 66 KV feeder bays</p> <p>(6) 400 KV D/C Shapar – Pachham (Fedra) line (Twin AL-59)</p> <p>(7) 220 kV D/C Amreli-Babara line (AL-59)</p> <p>(8) 220 kV D/C Shapar-Babara line (AL-59)</p> <p>(9) 220 KV, 1 x 50 / 1 x 25 MVAR Bus Reactors each at 220 KV Moti Paneli, Bhatia, Nakhatrana, Bhachau& Deodar substations</p>
6	Karnataka	<p>(1) Construction of 220 kV SC line from 400kV Hiriyr (PGCIL) substation to 220/66/11kV Hiriyr sub station and Construction of 220kV DC line from 220/66/11kV Chitradurga substation to 220/66/11kV Hiriyr sub-station in existing corridor in Chitradurga District</p> <p>(2) Establishing 2x100MVA 220/66 kV and 1x12.5MVA 66/11kV substation at Hosadurga, Hosadurga taluk, Chitradurga district with 220 kV DC line from proposed 400/220 kV CN Halli sub-station</p>

		(3) Establishing 2x100MVA, 220/66 kV and 1x8MVA 66/11kV substation at Shivanasamudra , Malavalli taluk, Mandya district.
7	Madhya Pradesh	(1) 220kV & 132kV Lines and Substations works in Shajapur(Part-3) and Sheopur District
8	Maharashtra	<p>(1) 2nd ckt. stringing of 220 kV Miraj - Ichalkaranji (Tilawani) SCDC line</p> <p>(2) 132 kV Kavthemahankal - Savlaj SCDC line</p> <p>(3) 132 kV Kadegaon - Kirloskarwadi DCDC line</p> <p>(4) 132 kV Kavthemahankal - Jath D/C line</p> <p>(5) LILO of 132 kV Lonand - Phaltan S/C line at Phaltan MIDC</p> <p>(6) LILO of 132 kV Mayni - Dighanchi S/C line at Mhaswad S/s.</p> <p>(7) 2nd ckt. stringing of 132 kV Kale (T) - Warna SCDC line</p> <p>(8) 2nd ckt. stringing of 132 kV Aundh - Dahiwadi SCDC line</p> <p>(9) 132 kV D/C line from 220 kV Sawantwadi - Kudal</p> <p>(10) 2nd ckt. stringing of 132 kV Manmad - Yeola SCDC line</p> <p>(11) LILO on 132 kV Ozar - Chandwad S/C line at 220/132 kV Pimpalgaon S/s.</p> <p>(12) 2nd ckt. stringing of 132 kV Nandurbar - Visarwadi D/C line</p> <p>(13) 2nd ckt stringing of 220 kV Valve - Jamde SCDC line</p> <p>(14) 1 x 25 MVAR Bus reactors at 220 kV Dhule s/s.</p> <p>(15) 220 kV D/C line from M/s.Vish Wind S/s. - Bhenda</p> <p>(16) M/C line to connect 132KV Khaprle- Sangamner line to 220KV Sinnar (Musalgaon) S/s.</p> <p>(17) 132 kV Ahmednagar - Supa DC Line using existing Corridor.</p> <p>(18) 2nd ckt. stringing of 132 kV Shevgaon - Bhenda D/C line</p> <p>(19) 2nd ckt. stringing of 132 kV Shevgaon - Pathardi D/C line</p> <p>(20) 132 kV Ahmednagar - Ahmednagar MIDC D/C line</p> <p>(21) 132 KV D/C Babhaleshwar - Rahuri - Ahmednagar MIDC line</p> <p>(22) 2nd ckt. stringing of 132 kV Shevgaon - Ghodegaon SCDC line</p> <p>(23) 132 kV Kharda - Ashti D/C partly on M/C tower</p> <p>(24) 2nd ckt. stringing of 132 kV Georai - Beed SCDC line</p> <p>(25) LILO of one ckt of 220 kV Beed - Patoda D/C line at 220KV Manjarsumbha s/s.</p> <p>(26) LILO of 132 kV Sawangi - Pishor at 220 kV Phulambri S/s.</p> <p>(27) LILO of 132 kV Padegaon - Sillod S/C line at 220 kV Phulambri S/s.</p>

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