

**GOVERNMENT OF INDIA
MINISTRY OF POWER
LOK SABHA
UNSTARRED QUESTION NO.1223
ANSWERED ON 09.02.2023**

COMPETITIVE PRICE SIGNALS

1223. SHRI MAGUNTA SREENIVASULU REDDY:

**Will the Minister of POWER
be pleased to state:**

- (a) the details of measures taken/being taken by the Government to deepen the green market and to provide competitive price signals;**
- (b) the progress made in this regard along with,State/UT-wise;**
- (c) the details of new products like Green Day Ahead Market (G-DAM) and Green-Term Ahead Market (G-TAM); and**
- (d) the expected benefits to be attained in this respect?**

A N S W E R

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a) to (d) : Ministry of Power has taken following initiatives to deepen the market for green electricity and to provide competitive price signals:

- 1. For unshackling the Renewable Energy(RE) Sector, i.e. to remove barriers in availability and utilisation of RE and to address the issues that have hindered the growth of open access for a long time, Electricity (Promoting Renewable Energy through Green Energy Open Access) Rules, 2022 have been issued. The Rules reduces the Open Access limit from 1 MW to 100 kW, which pave the way for small consumers also to purchase RE and there is no limit for Captive Consumers.**
- 2. Electricity (Promotion of generation of Electricity from Must-Run Power Plant) Rules, 2021 rules have been notified to provide that in the event of a curtailment of supply from a must-run power plant, the RE generator is also allowed to sell power in the power exchange and recover the cost.**
- 3. Waiver of inter-State transmission charges and losses on transmission of the electricity generated from solar and wind sources of energy for the projects up to 30th June, 2025 will make the electricity purchase from renewable energy cheaper and competitive.**
- 4. Real Time Market (RTM) was introduced in June, 2020, this allows DISCOMs/Buyers to buy power with an advance notice of one hour and meet the challenges related to grid management due to intermittent and variable nature of RE generation.**

5. Green Term Ahead Market (GTAM) and Green Day Ahead Market (G-DAM) enables procurement of green energy through Power Exchanges which is accounted towards the Renewable Purchase Obligation of Obligated Entities.

6. The Renewable Energy Certificate (REC) market has been redesigned effective from 5th December, 2022. The REC life has been increased to perpetuity with no floor and forbearance price. The market has also become fungible with single RECs market instead of Solar and Non-Solar segments.

In addition to existing Day Ahead Market (DAM) Segment at Power Exchange, an additional Green Day Ahead Market (GDAM) is available for allowing exclusive trade in Renewable Energy since October, 2021. The participants submit their bids in two parts, i.e., quantity and price they would be willing to buy or sell in GDAM and DAM based on their eligibility criteria. Participants have option to choose if they would like to transfer unselected quantity in GDAM to the DAM and can also price it differently. Market Clearing or Price Discovery takes place in a sequential manner i.e., first GDAM is cleared followed by DAM. The buyers can claim RPO credit based on the power purchased by the Buyer in GDAM. RE Sellers cleared in DAM may claim issuance of RECs. Total volume traded in GDAM since October 2021 to January 2023 is 4186.64 Million Units (MU).

Green Term Ahead Market (G-TAM) segment functioning since August, 2020 comprises of contracts for trade in electricity generation from renewable energy sources. There are three sub-segments within G-TAM market namely Solar, Non-Solar and Hydro. In Solar sub-segment, only electricity generated from solar energy sources is traded and in Non-Solar sub-segment, electricity generated from renewable energy sources other than Solar energy sources is traded and in Hydro sub-segment, only electricity generated from Hydro energy sources, which are eligible for compliance of Hydro Purchase Obligation (HPO). Under this segment RE can be traded for time horizon of intra-day, day ahead contingency, Daily, Weekly, Monthly and Any day single sided contract which provides flexible procurement of power up to 90 days as per the requirement of the participants. Total volume traded in GTAM since August, 2020 to January, 2023 is 8509.49 Million Units (MU).

The month-wise trading in G-DAM and G-TAM segments is at Annexure-I. The State/UT-wise break up is at Annexure-II.

Market based opportunities for sale and purchase of RE would help in faster expansion of new RE capacities as it builds up investor confidence in viability of RE projects.

ANNEXURE REFERRED IN REPLY TO PARTS (a) TO (d) OF UNSTARRED QUESTION NO. 1223 ANSWERED IN THE LOK SABHA ON 09.02.2023

Month-wise Trading in G-DAM segment (Inclusive of IEX, PXIL & HPX) is provided in the Table below:

Sr. No.	Month	Buy (MU)
1	Oct-21	19
2	Nov-21	149
3	Dec-21	157
4	Jan-22	198
5	Feb-22	191
6	Mar-22	205
7	Apr-22	214.73
8	May-22	493.17
9	Jun-22	362.23
10	Jul-22	446.58
11	Aug-22	320.50
12	Sep-22	324.64
13	Oct-22	292.92
14	Nov-22	288.27
15	Dec-22	237.97
16	Jan-23	285.15
	Grand Total	4186.64

Month-wise Trading in G-TAM segment (Inclusive of IEX, PXIL & HPX) is provided in the Table below:

Sr. No.	Month	Buy (MU)
1	Aug-20	2.93
2	Sep-20	82.85
3	Oct-20	208.39
4	Nov-20	164.28
5	Dec-20	89.78
6	Jan-21	92.40
7	Feb-21	93.73
8	Mar-21	51.46
9	Apr-21	191.69
10	May-21	357.74
11	Jun-21	439.34
12	Jul-21	741.63
13	Aug-21	445.27
14	Sep-21	602.53
15	Oct-21	422.69
16	Nov-21	422.19
17	Dec-21	447.88
18	Jan-22	237.65
19	Feb-22	655.52
20	Mar-22	497.46
21	Apr-22	328.74
22	May-22	535.36
23	Jun-22	234.02
24	Jul-22	193.43
25	Aug-22	177.98
26	Sep-22	154.69
27	Oct-22	141.27
28	Nov-22	153.23
29	Dec-22	221.89
30	Jan-23	121.48
	Grand Total	8,509.49

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Figures in Million Units (MUs)

Sl. No.	State/UT Name	GDAM		GTAM		Total	
		Buy	Sell	Buy	Sell	Buy	Sell
1	Chandigarh	0.00	0.00	0.00	0.00	0.00	0.00
2	Delhi	204.66	3.46	59.61	18.30	264.28	21.75
3	Himachal Pradesh	2.58	31.29	0.00	91.89	2.58	123.19
4	Haryana	79.63	0.01	65.97	0.00	145.60	0.01
5	J&K	0.00	84.97	0.00	11.91	0.00	96.88
6	Punjab	386.47	0.00	0.75	0.00	387.22	0.00
7	Rajasthan	25.93	27.56	2.29	21.81	28.21	49.36
8	Uttarakhand	2.53	0.00	5.75	0.00	8.28	0.00
9	Uttar Pradesh	111.53	22.95	134.17	0.66	245.70	23.61
10	Andhra Pradesh	4.01	839.60	7.71	1.63	11.72	841.23
11	Karnataka	128.69	539.39	0.00	731.47	128.69	1270.86
12	Kerala	55.46	24.21	0.00	0.20	55.46	24.41
13	Pondicherry	0.00	0.00	0.00	0.00	0.00	0.00
14	Telangana	8.28	202.99	0.00	74.70	8.28	277.68
15	Tamil Nadu	39.53	0.11	0.00	0.00	39.53	0.11
16	Bihar	0.00	0.00	0.00	0.00	0.00	0.00
17	DVC	230.35	0.00	27.62	10.50	257.97	10.50
18	Jharkhand	114.80	0.00	0.00	0.00	114.80	0.00
19	Orissa	76.23	0.00	447.27	0.00	523.50	0.00
20	Sikkim	0.00	5.01	0.00	0.90	0.00	5.92
21	West Bengal	37.12	0.00	58.32	0.00	95.44	0.00
22	Chhattisgarh	0.00	0.00	0.00	0.00	0.00	0.00
23	Daman & Diu Dadra & Nagar Haveli	140.80	0.00	74.91	0.93	215.71	0.93
24	Goa WR	0.00	0.00	0.00	0.00	0.00	0.00
25	Gujarat	317.40	0.00	289.49	27.14	606.89	27.14
26	Madhya Pradesh	87.87	133.15	0.00	20.51	87.87	153.66
27	Maharashtra	353.70	41.76	156.53	0.00	510.23	41.76
28	Arunachal Pradesh	0.00	0.00	0.00	0.00	0.00	0.00
29	Assam	151.03	0.00	0.00	0.00	151.03	0.00
30	Meghalaya	5.80	0.00	0.23	0.00	6.04	0.00
31	Manipur	0.00	0.00	0.00	0.00	0.00	0.00
32	Mizoram	0.00	0.00	0.00	0.00	0.00	0.00
33	Nagaland	0.00	0.00	0.00	0.00	0.00	0.00
34	Tripura	0.00	0.00	0.00	0.00	0.00	0.00
Total		2564.40	1956.46	1330.62	1012.55	3895.02	2969.01

*Data is for the period: April 2022 to December 2022
