# GOVERNMENT OF INDIA MINISTRY OF NEW AND RENEWABLE ENERGY RAJYA SABHA

### UNSTARRED QUESTION NO. 2214

ANSWERED ON 08/08/2023

#### RENEWABLE ENERGY IN THE COUNTRY

#### 2214. DR. LAXMIKANT BAJPAYEE

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

- (a) the total renewable energy produced in the country in 2013 and the total production now;
- (b) the measures taken/proposed to be taken and schemes introduced to promote renewable energy sources;
- (c) the steps taken/being take by Government to implement green energy corridors; and
- (d) the amount of subsidy allocated and disbursed since 2014 for adopting renewable energy sources, State/UT-wise?

#### **ANSWER**

## THE MINISTER OF NEW & RENEWABLE ENERGY AND POWER (SHRI R.K. SINGH)

(a) The installed Renewable energy capacity has increased from 28.07 GW in March 2013 to 176.49 GW in June 2023.

RE Generation has increased from 0.057 MU in 2012-13 to 365.60 BU in 2022-23 (upto March, 2023).

- (b) The Government has taken several measures to promote renewable energy in the country, including, inter-alia, the following:
  - Permitting Foreign Direct Investment (FDI) up to 100 percent under the automatic route,
  - Waiver of Inter State Transmission System (ISTS) charges for inter-state sale of solar and wind power for projects to be commissioned by 30<sup>th</sup> June 2025,
  - Declaration of trajectory for Renewable Purchase Obligation (RPO) up to the year 2029-30,
  - Setting up of Ultra Mega Renewable Energy Parks to provide land and transmission to RE developers for installation of RE projects at large scale,
  - Schemes such as Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM), Solar Rooftop Phase II, 12000 MW CPSU Scheme Phase II, etc,
  - Laying of new transmission lines and creating new sub-station capacity under the Green Energy Corridor Scheme for evacuation of renewable power,
  - Notification of standards for deployment of solar photovoltaic system/devices,
  - Setting up of Project Development Cell for attracting and facilitating investments,
  - Standard Bidding Guidelines for tariff based competitive bidding process for procurement of Power from Grid Connected Solar PV and Wind Projects.
  - Government has issued orders that power shall be dispatched against Letter of Credit (LC) or advance payment to ensure timely payment by distribution licensees to RE generators.
  - Notification of Promoting Renewable Energy through Green Energy Open Access Rules 2022.
  - Notification of "The Electricity (Late Payment Surcharge and related matters) Rules (LPS rules).
  - Launch of Green Term Ahead Market (GTAM) to facilitate sale of Renewable Energy Power through exchanges.
  - National Green Hydrogen Mission launched with an aim to make India a global hub for production, utilization and export of Green Hydrogen and its derivatives.
- (c) 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.

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) in order to facilitate integration of large-scale renewable generation capacity of aggregate 24 GW. The estimated project cost is Rs. 10141.68 crore with 40% Central Grant by MNRE, i.e. Rs. 4056.67 crore. Under Phase-I, 9,767 circuit kilometres (ckm) of transmission lines and 22,689 Mega Volt-Amperes (MVA) capacity of substations have been planned.

The Phase-II of GEC scheme is being implemented by 7 States of Gujarat, Himachal Pradesh, Karnataka, Kerala, Rajasthan, Tamil Nadu and Uttar Pradesh) in order to facilitate integration of large-scale renewable generation capacity of aggregate 20 GW. The estimated project cost is Rs. 12031.33 crore with 33% Central Grant by MNRE, i.e. Rs. 3970.34 crore. Under Phase-II, 10,753 ckm of transmission lines and 27,546 MVA capacity of substations have been planned.

(d) The State-wise list of subsidy allocated and disbursed since 2014 for adopting renewable energy sources is given at **Annexure.** 

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Annexure referred to in reply to part (d) of Rajya Sabha Unstarred Question No. 2214 for 08/08/2023 regarding 'Renewable energy in the country'

#### State-wise list of subsidy allocated and disbursed since 2014-15 upto 2023-24 (July 2023)

RASHMIR												(Rs. In Crores)
MAHARASHTRA   229.04   78.22   155.21   8.28   11.64   55.94   106.61   75.09   409.26   104.04	-	· ·	2014-15	2015-16	2016-17			2019-20	2020-21	2021-22	2022-23	(upto
LEANGANA   98.04   35.44   39.08   0   0   28.17   23.12   20.81   56.94   1.03			220.04	70.22	155.21			FF 0.4	100.01	75.00	400.20	-
3												•
ASSAMMIR   S1.79   90.92   49.67   14.94   75.01   21.39   4.99   51.6   29.48   0.08			98.04	35.44	39.08	U	U	28.17	23.12	20.81	50.94	1.03
S ALASTHAN		KASHMIR										0
6   KERALA   31.93   32.76   35.17   19.81   10.41   3.57   12.37   37.16   106.61   78.98     7   ARUNACHAL   15.68   5.47   20.08   22.72   5.94   24.07   25.42   11.36   11.14   0.08     8   TRIPURA   1.94   5.46   14.57   0   0   0   12.98   18.48   16.88   2.72   0.09     9   NAGALAND   9.9   7.89   17.97   2.65   0.33   16.55   10.69   5.86   0.87   0.00     10   SIKKIM   3.09   0.84   2.287   0   0   0.05   0   0.03   1.37   0.00     11   MEGHALAYA   8.39   8.62   20.52   14.86   0.38   7.14   1.23   0   0   0   0   1.2     12   UTTARACHAND   8.35   46.38   38   38   3.4   0.07   23.99   11.59   22.68   12.63   0.74     13   WEST BENGAL   17.17   9.44   1.36   0   0   0   13.38   0   0.51   12.38   2.1     14   HARYANA   52.22   36.26   16.24   0.16   9   18.51   55.45   178.35   162.13   37.54     15   GUIJARAT   36.09   58.65   74.09   26.49   15.2   124.33   106.18   1237.79   1604.91   342.22     16   ANDAMAN   0.09   0.03   0.05   0   0   0   1.01   0   0   0   1.75     17   ODISHA   27.92   11.03   21.17   0   0   11.04   11.2   5.66   46.69   10.8     18   TAMIL NADU   52.64   194.26   169.28   0.13   0.02   55.44   30.28   158.85   112.37   4.62     19   MANIPUR   1.63   14.65   12.33   0   0   0   16.86   23.06   14.89   6.09   0.31     20   CHANDIGARH   11.32   10.03   9.68   0   0   5.51   0.58   5.51   0   0   0     21   JHARKHAND   7.61   16.13   12.87   0   0   10.84   16.05   6.63   58.19   0   0     22   UTTAR   61.01   55.66   28.11   0.19   0.17   64.33   74.11   39.11   147.64   18.84     23   KARNATAKA   51.41   57.97   50.06   0.04   6.64   16.48   70.71   3.97   145.77   10.83     24   CHARDIGARH   13.26   10.63   3.28   0   0   0   0   0   0   0   0     25   DELHI   31.64   43.18   166.03   5.5   0.32   11.63   56.28   99.15   4.92   2.55     26   ANDHRA   18.60   18.64   70.92   70.00   0   0   0   0   0   0   0   0     27   ASSAM   16.15   15.32   60.28   0   0   0   0   0   0   0   0   0												0.88
RAINMACHAL   15.68												109.96
PRADESH	6		31.93	32.76	36.17	19.81	10.41	3.57	12.37	37.16	106.61	78.98
9   NAGALAND   9.9   7.89   17.97   2.65   0.33   16.55   10.69   5.86   0.87   0.00	7		15.68	5.47	20.08	22.72	5.94	24.07	25.42	11.36	11.14	0
10   SIKKIM   3.09				5.46	14.57	0	0	12.98	18.48	16.88	2.72	0
11   MEGHALAYA   8.39   8.62   20.52   14.86   0.38   7.14   1.23   2.0   0   1.2						2.65	0.33		10.69			0
12	10											0
13   WEST BENGAL   17.17   9.44   1.36   0   0   13.38   0   0.51   12.38   2.1     14   HARYANA   52.22   36.26   16.24   0.16   9   18.51   55.45   178.35   162.13   37.54     15   GUJARAT   36.09   58.65   74.09   26.49   15.2   124.33   106.18   1237.79   1604.91   342.22     16   ANDAMAN   0.09   0.03   0.05   0   0   0   0   1.01   0   0   0   1.75     17   ODISHA   27.92   11.03   21.17   0   0   0   11.04   1.12   5.66   46.69   10.8     18   TAMIL NADU   52.64   194.26   169.28   0.13   0.02   55.44   30.28   158.85   112.37   4.62     19   MANIPUR   1.63   14.65   12.53   0   0   16.86   23.06   14.89   6.09   0.31     20   CHANDIGARH   11.32   110.03   9.68   0   0   5.13   0.85   0   0   2   0     11   JHARKHAND   7.61   16.13   12.87   0   0   10.84   16.05   6.63   58.19   0     21   UTTAR   PRADESH   61.01   55.66   28.11   0.19   0.17   64.33   74.11   39.11   147.64   18.84     23   KARNATAKA   51.41   57.97   50.06   0.04   6.64   16.48   70.71   3.97   145.77   10.83     24   CHHATTISGARH   31.64   43.18   166.03   5.5   0.32   11.63   56.28   99.15   4.92   2.55     25   DELHI   31.64   43.18   166.03   5.5   0.32   11.63   56.28   99.15   4.92   2.55     26   ANDHRA   1.86   124.68   62.03   1.68   0.04   30.66   62.32   5.44   148.48   10.29     27   ASSAM   16.15   15.32   60.28   0   0   33.29   3.11   10.2   15.89   0.1     28   MIZORAM   8.98   10.63   22.38   0   7.89   16.12   20.33   3.29   8.46   0     29   HIMACHAL   R.98   10.63   22.38   0   7.89   16.12   20.33   3.44   15.63   42.93     30   PUDUCHERRY   0.01   0.006   1.11   0   0   0   0   0   0   0   0   0												1.2
HARYANA		_										0.74
15   GUJARAT   36.09   58.65   74.09   26.49   15.2   124.33   106.18   1237.79   1604.91   342.22									_			
16         ANDAMAN AND NICOBAR         0.09         0.03         0.05         0         0         0         1.01         0         0         1.75           17         ODISHA         27.92         11.03         21.17         0         0         11.04         1.12         5.66         46.69         10.8           18         TAMIL NADU         52.64         194.26         169.28         0.13         0.02         55.44         30.28         158.85         112.37         4.62           19         MANIPUR         1.63         14.65         12.53         0         0         16.86         23.06         14.89         6.09         0.31           20         CHARDIGARH         11.32         10.03         9.968         0         0         5.13         0.85         0         2         0           21         JHARKHAND         7.61         16.13         12.87         0         0         10.84         16.05         6.63         58.19         0           22         UTTAR         61.01         55.66         28.11         0.19         0.17         64.33         74.11         39.11         147.64         18.84           23         KARNATAKA<												
AND NICOBAR   0.09   0.03   0.05   0   0   0   1.01   0   0   0   1.75	15		36.09	58.65	/4.09	26.49	15.2	124.33	106.18	1237.79	1604.91	342.22
18         TAMIL NADU         52.64         194.26         169.28         0.13         0.02         55.44         30.28         158.85         112.37         4.62           19         MANIPUR         1.63         14.65         12.53         0         0         16.86         23.06         14.89         6.09         0.31           20         CHANDIGARH         11.32         10.03         9.68         0         0         5.13         0.85         0         2         0           21         JHARKHAND         7.61         16.13         12.87         0         0         10.84         16.05         6.63         58.19         0           22         UTTAR PRADESH         61.01         55.66         28.11         0.19         0.17         64.33         74.11         39.11         147.64         18.84           23         KARNATAKA         51.41         57.97         50.06         0.04         6.64         16.48         70.71         3.97         145.77         10.83           24         CHHATTISGARH         36.09         42.64         72.92         1.77         0         5.16         2.5         3.18         27.56         0.94		AND NICOBAR				0	0			_		1.75
19   MANIPUR   1.63   14.65   12.53   0   0   16.86   23.06   14.89   6.09   0.31	17											10.8
20	18	TAMIL NADU				0.13	0.02					4.62
The property   The												0.31
UTTAR												0
PRADESH   S1.01   S5.66   Z8.11   O.19   O.17   S4.33   74.11   39.11   147.64   18.84	21		7.61	16.13	12.87	0	0	10.84	16.05	6.63	58.19	0
CHHATTISGARH   36.09   42.64   72.92   1.77   0   5.16   2.5   3.18   27.56   0.94	22		61.01	55.66	28.11	0.19	0.17	64.33	74.11	39.11	147.64	18.84
DELHI							6.64					10.83
ANDHRA												0.94
PRADESH   1.86   124.68   62.03   1.68   0.04   30.66   62.32   5.44   148.48   10.29	25		31.64	43.18	166.03	5.5	0.32	11.63	56.28	99.15	4.92	2.55
28         MIZORAM         8.98         10.63         22.38         0         7.89         16.12         20.33         3.29         8.46         0           29         HIMACHAL PRADESH         23.99         53.08         36.39         4.64         4.12         32.04         73.98         33.44         15.63         42.93           30         PUDUCHERRY         0.01         0.006         1.11         0         0         0.79         0         0.03         0         0           31         GOA         1.22         1.57         0.17         0         0         0         0.08         3.6         0         0           32         MADHYA PRADESH         30.26         6.95         40.16         0         0         94.84         49.42         76.16         241.38         27.36           33         BIHAR         6.74         16.19         0         0         0         1.38         1.49         1.21         0         3.25           34         LADAKH         0         0         0         0         0         9.31         18.41         8.79         0           35         DAMAN AND DIU         0.06         0         0 </td <td>26</td> <td></td> <td>1.86</td> <td>124.68</td> <td>62.03</td> <td>1.68</td> <td>0.04</td> <td>30.66</td> <td>62.32</td> <td>5.44</td> <td>148.48</td> <td>10.29</td>	26		1.86	124.68	62.03	1.68	0.04	30.66	62.32	5.44	148.48	10.29
29         HIMACHAL PRADESH         23.99         53.08         36.39         4.64         4.12         32.04         73.98         33.44         15.63         42.93           30         PUDUCHERRY         0.01         0.006         1.11         0         0         0.79         0         0.03         0         0           31         GOA         1.22         1.57         0.17         0         0         0         0.08         3.6         0         0           32         MADHYA PRADESH         30.26         6.95         40.16         0         0         94.84         49.42         76.16         241.38         27.36           33         BIHAR         6.74         16.19         0         0         0         1.38         1.49         1.21         0         3.25           34         LADAKH         0         0         0         0         0         9.31         18.41         8.79         0           35         NAGAR & DAMAN AND DIU         0.06         0         0         0.34         0         0         0         0         0         0         0         0         0         0         0         0         0	27	ASSAM	16.15	15.32	60.28	0	0	33.29	3.11	10.2	15.89	0.1
PRADESH 23.99 53.08 36.39 4.64 4.12 32.04 73.98 33.44 15.63 42.93 30 PUDUCHERRY 0.01 0.006 1.11 0 0 0 0.79 0 0.03 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	28	MIZORAM	8.98	10.63	22.38	0	7.89	16.12	20.33	3.29	8.46	0
31         GOA         1.22         1.57         0.17         0         0         0         0.08         3.6         0         0           32         MADHYA PRADESH         30.26         6.95         40.16         0         0         94.84         49.42         76.16         241.38         27.36           33         BIHAR         6.74         16.19         0         0         0         1.38         1.49         1.21         0         3.25           34         LADAKH         0         0         0         0         0         9.31         18.41         8.79         0           35         DADAR AND NAGAR & DONG DIU         0         0         0         0         0         9.31         18.41         8.79         0           36         LAKSHADWEEP         0.07         3.78         0.45         0<	29		23.99	53.08	36.39	4.64	4.12	32.04	73.98	33.44	15.63	42.93
32         MADHYA PRADESH         30.26         6.95         40.16         0         0         94.84         49.42         76.16         241.38         27.36           33         BIHAR         6.74         16.19         0         0         0         1.38         1.49         1.21         0         3.25           34         LADAKH         0         0         0         0         0         9.31         18.41         8.79         0           35         DADAR AND NAGAR & DAMAN AND DIU         0         0         0         0.34         0         0         0         9.31         18.41         8.79         0           36         LAKSHADWEEP         0.07         3.78         0.45         0	30	PUDUCHERRY	0.01	0.006	1.11	0	0	0.79	0	0.03	0	0
32         PRADESH         30.26         6.95         40.16         0         0         94.84         49.42         76.16         241.38         27.36           33         BIHAR         6.74         16.19         0         0         0         1.38         1.49         1.21         0         3.25           34         LADAKH         0         0         0         0         0         9.31         18.41         8.79         0           35         DADAR AND NAGAR & DAMAN AND DIU         0         0         0.34         0	31		1.22	1.57	0.17	0	0	0	0.08	3.6	0	0
34 LADAKH 0 0 0 0 0 0 0 9.31 18.41 8.79 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	32		30.26	6.95	40.16	0	0	94.84	49.42	76.16	241.38	27.36
DADAR   AND   NAGAR   & DAMAN   AND   DIU	33	BIHAR	6.74	16.19	0	0	0	1.38	1.49	1.21	0	3.25
35         NAGAR & DAMAN AND DIU         0.06         0         0         0.34         0	34	LADAKH	0	0	0	0	0	0	9.31	18.41	8.79	0
37 CENTRAL AGENCY* 1376.54 1942.13 1193.28 755.85 954.5 2564.23 1875.56 4333.76 1875.06 1306.55	35	NAGAR & DAMAN AND	0.06	0	0	0.34	0			0	0	0
37 CENTRAL AGENCY* 1376.54 1942.13 1193.28 755.85 954.5 2564.23 1875.56 4333.76 1875.06 1306.55	36	LAKSHADWEEP	0.07	3.78	0.45	0	0			0		0
		CENTRAL						2564.23	1875.56			1306.55
			2474.13	3315.096	2540.82	892.11	1102.3	3431.16	2876.54	6687.15	3870.99	813.26

<sup>\*</sup> Payment to CPSUs, Autonomous Bodies, Developers, Institute, Administrative Charges etc.