### GOVERNMENT OF INDIA MINISTRY OF NEW AND RENEWABLE ENERGY LOK SABHA UNSTARRED QUESTION NO-1764 ANSWERED ON-11.02.2021

### ELECTRICITY PRODUCTION BY RENEWABLE AND NONRENEWABLE SOURCES

### 1764 SHRI Y. DEVENDRAPPA

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

(a) the details of electricity production by renewable and non-renewable sources in the country during the last three years and the current year, year and Statewise;

(b) whether any new wind station, hydro power project and solar station has been set up by the Government during the said period and if so, the details thereof;

(c) whether the Government proposes to take any measure to increase the production of electricity by renewable sources; and

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

ANSWER

## THE MINISTER OF STATE (I/C) FOR NEW & RENEWABLE ENERGY, POWER and MoS for SKILL DEVELOPMENT AND ENTREPRENEURSHIP

(SHRI R.K. SINGH)

(a) The details of state-wise electricity production by renewable (excluding large hydro) and conventional energy sources in the country during the last three years and the current year are given in **Annexure-I & Annexure-II** respectively.

(b): The details of wind, solar, hydro (small and large) capacity installed in the country during the last three years and current year (upto December 2020) are given below:

(:= MW)

| <b>X</b> 7 | C I     | ***     | <b>G</b> 11 |             |
|------------|---------|---------|-------------|-------------|
| Year       | Solar   | wind    | Small       | Large Hydro |
|            |         |         | hydro       |             |
| 2017-18    | 9362.64 | 1865.23 | 105.95      | 795         |
| 2018-19    | 6529.20 | 1480.97 | 107.35      | 140         |
| 2019-20    | 6447.14 | 2117.78 | 90.00       | 300         |
| 2020-21    | 2836.81 | 880.40  | 67.29       | 360**       |
| (upto      |         |         |             |             |
| Dec'202    |         |         |             |             |
| 0)         |         |         |             |             |

\*\* as on 31.01.2021

(c) & (d) The measures taken by the Government to increase the production of electricity by renewable energy sources in the country, inter-alia, include:

- permitting Foreign Direct Investment (FDI) up to 100 percent under the automatic route,
- waiver of Inter State Transmission System (ISTS) charges and losses for inter-state sale of solar and wind power for projects to be commissioned by 30<sup>th</sup> June 2023,
- declaration of trajectory for Renewable Purchase Obligation (RPO) up to the year 2022,
- fiscal incentives such as accelerated depreciation, Goods and Services Tax (GST) at lower rates, concessional custom duty etc

- setting up of Ultra Mega Renewable Energy Parks to provide land and transmission on plug and play basis,
- 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/devises,
- 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 DISCOMs to RE generators.

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#### Annexure-I

# Annexure-I referred to Part- (a) of Lok Sabha Unstarred Question No. 1764 for 11/02/2021 regarding "Electricity Production by Renewable and NonRenewable Sources"

| (Op to December 2020). |                                      |           |           |                           |  |  |  |  |
|------------------------|--------------------------------------|-----------|-----------|---------------------------|--|--|--|--|
|                        | Actual Generation (in Million Units) |           |           |                           |  |  |  |  |
| Name of State/UT       | 2017-18                              | 2018-19   | 2019-20   | 2020-21 (upto-<br>Dec 20) |  |  |  |  |
| Chandigarh             | 7.87                                 | 13.51     | 13.33     | 6.57                      |  |  |  |  |
| Delhi                  | 241.10                               | 287.64    | 423.69    | 329.90                    |  |  |  |  |
| Haryana                | 567.55                               | 662.36    | 733.50    | 529.75                    |  |  |  |  |
| Himachal Pradesh       | 1903.05                              | 2287.93   | 2167.24   | 1981.56                   |  |  |  |  |
| J & K                  | 324.37                               | 312.20    | 443.13    | 373.28                    |  |  |  |  |
| Ladakh                 | 1432.07                              | 0.00      | 0.00      | 0.00                      |  |  |  |  |
| Punjab                 | 911.80                               | 2445.20   | 2739.42   | 2177.96                   |  |  |  |  |
| Rajasthan              | 10027.76                             | 11863.40  | 14332.06  | 12652.29                  |  |  |  |  |
| Uttar Pradesh          | 4649.98                              | 5694.81   | 5143.21   | 3388.06                   |  |  |  |  |
| Uttarakhand            | 1184.50                              | 1104.97   | 1193.95   | 1027.35                   |  |  |  |  |
| Chhattisgarh           | 1068.49                              | 945.10    | 1107.87   | 1131.96                   |  |  |  |  |
| Gujarat                | 11859.98                             | 13966.18  | 17716.92  | 13526.60                  |  |  |  |  |
| Madhya Pradesh         | 6713.52                              | 8257.15   | 8297.87   | 6465.47                   |  |  |  |  |
| Maharashtra            | 12036.78                             | 14974.88  | 13985.79  | 9971.78                   |  |  |  |  |
| Dadra and Nagar Haveli | 5.24                                 | 5.76      | 6.19      | 3.99                      |  |  |  |  |
| Daman & Diu            | 18.53                                | 18.94     | 21.83     | 26.55                     |  |  |  |  |
| Goa                    | 0.00                                 | 0.00      | 0.82      | 1.06                      |  |  |  |  |
| Andhra Pradesh         | 11008.55                             | 14550.51  | 13993.20  | 10626.31                  |  |  |  |  |
| Telangana              | 4647.92                              | 7045.99   | 6794.23   | 5004.51                   |  |  |  |  |
| Karnataka              | 13463.91                             | 21657.54  | 25648.42  | 21316.37                  |  |  |  |  |
| Kerala                 | 774.33                               | 770.32    | 804.75    | 892.87                    |  |  |  |  |
| Tamil Nadu             | 16179.88                             | 16898.49  | 19763.89  | 18238.43                  |  |  |  |  |
| Lakshadweep            | 1.58                                 | 1.11      | 0.66      | 0.36                      |  |  |  |  |
| Puducherry             | 1.17                                 | 2.58      | 4.15      | 3.33                      |  |  |  |  |
| Andaman Nicobar        | 25.93                                | 30.43     | 17.30     | 30.63                     |  |  |  |  |
| Bihar                  | 309.06                               | 488.14    | 358.68    | 185.54                    |  |  |  |  |
| Jharkhand              | 28.94                                | 21.72     | 24.18     | 20.54                     |  |  |  |  |
| Orissa                 | 531.74                               | 653.43    | 783.20    | 668.33                    |  |  |  |  |
| Sikkim                 | 30.54                                | 28.11     | 60.62     | 44.12                     |  |  |  |  |
| West Bengal            | 1590.61                              | 1486.19   | 1475.04   | 1113.57                   |  |  |  |  |
| Arunachal Pradesh      | 0.70                                 | 1.75      | 2.23      | 1.53                      |  |  |  |  |
| Assam                  | 24.49                                | 20.73     | 58.76     | 31.85                     |  |  |  |  |
| Manipur                | 0.15                                 | 1.88      | 4.20      | 5.86                      |  |  |  |  |
| Meghalaya              | 70.56                                | 50.51     | 62.73     | 41.26                     |  |  |  |  |
| Mizoram                | 54.67                                | 40.08     | 50.00     | 30.76                     |  |  |  |  |
| Nagaland               | 91.00                                | 87.46     | 75.87     | 57.89                     |  |  |  |  |
| Tripura                | 51.17                                | 82.08     | 28.10     | 9.52                      |  |  |  |  |
| Total                  | 101839.49                            | 126759.09 | 138337.02 | 111917.72                 |  |  |  |  |

Renewable Energy Generation (State Wise) from Year 2017-18 to Year 2020-21 (Up to December 2020).

## Annexure-II referred to Part- (a) of Lok Sabha Unstarred Question No. 1764 for 11/02/2021 regarding "Electricity Production by Renewable and NonRenewable Sources".

Conventional Energy Generation (State Wise) from Year 2017-18 to Year 2020-21 (Up to December 2020).

|                  |            |            | ( in Million Units) |                |  |  |
|------------------|------------|------------|---------------------|----------------|--|--|
| Name of State/UT | 2017 18    | 2018 10    | 2010-20             | 2020-21 (upto- |  |  |
| Name of State/01 | 2017-18    | 2010-19    | 2019-20             | Dec 20)        |  |  |
| DELHI            | 7048.70    | 7136.04    | 6015.11             | 4076.18        |  |  |
| HARYANA          | 26605.97   | 25435.43   | 17317.01            | 8772.09        |  |  |
| HIMACHAL         |            |            |                     |                |  |  |
| PRADESH          | 38783.00   | 35908.55   | 40834.88            | 33852.85       |  |  |
| JAMMU AND        |            |            |                     |                |  |  |
| KASHMIR          | 14937.56   | 16541.58   | 18094.12            | 14606.73       |  |  |
| LADAKH           |            |            | 270.28              | 336.81         |  |  |
| PUNJAB           | 29452.35   | 30699.66   | 26025.15            | 16435.82       |  |  |
| RAJASTHAN        | 51643.61   | 56978.26   | 55942.38            | 39055.97       |  |  |
| UTTAR PRADESH    | 128542.28  | 122772.40  | 124180.22           | 94267.93       |  |  |
| UTTARAKHAND      | 15606.60   | 14995.36   | 16541.32            | 11829.63       |  |  |
| CHHATTISGARH     | 110041.76  | 115714.33  | 118229.06           | 99623.50       |  |  |
| GOA              | 0.00       | 0.00       | 0.00                | 0.00           |  |  |
| GUJARAT          | 96519.87   | 96591.35   | 106949.32           | 78519.76       |  |  |
| MADHYA PRADESH   | 111173.47  | 121677.77  | 121100.02           | 94804.13       |  |  |
| MAHARASHTRA      | 124468.30  | 137023.78  | 131418.21           | 80968.74       |  |  |
| ANDHRA PRADESH   | 62961.57   | 63143.82   | 62943.12            | 35540.47       |  |  |
| KARNATAKA        | 44668.81   | 49756.96   | 45128.91            | 24896.92       |  |  |
| KERALA           | 5248.02    | 7325.09    | 5466.08             | 4801.56        |  |  |
| PUDUCHERRY       | 226.45     | 229.88     | 255.79              | 181.59         |  |  |
| TAMIL NADU       | 82386.30   | 83778.51   | 83498.02            | 51259.87       |  |  |
| TELANGANA        | 48804.20   | 49963.03   | 51854.82            | 34741.75       |  |  |
| ANDAMAN NICOBAR  | 258.79     | 120.73     | 96.19               | 97.90          |  |  |
| BIHAR            | 28440.03   | 32170.52   | 35360.76            | 23652.21       |  |  |
| JHARKHAND        | 27624.58   | 26981.63   | 26223.04            | 20293.88       |  |  |
| ORISSA           | 46512.83   | 46824.37   | 48253.97            | 46841.37       |  |  |
| SIKKIM           | 8887.99    | 9022.07    | 11027.36            | 10012.57       |  |  |
| WEST BENGAL      | 74705.22   | 76952.06   | 74311.77            | 53717.42       |  |  |
| ARUNACHAL        |            |            |                     |                |  |  |
| PRADESH          | 1416.74    | 1399.02    | 1786.46             | 3000.70        |  |  |
| ASSAM            | 6232.89    | 7224.98    | 8030.37             | 4224.77        |  |  |
| MANIPUR          | 837.74     | 602.61     | 366.59              | 512.41         |  |  |
| MEGHALAYA        | 1140.26    | 929.53     | 1018.29             | 1019.11        |  |  |
| MIZORAM          | 78.37      | 168.44     | 177.02              | 124.10         |  |  |
| NAGALAND         | 274.39     | 231.47     | 180.85              | 177.46         |  |  |
| TRIPURA          | 5999.27    | 6630.85    | 6092.94             | 5264.62        |  |  |
| Bhutan (IMP)     | 4778.33    | 4406.62    | 5794.48             | 8406.80        |  |  |
| Total            | 1206306.25 | 1249336.70 | 1250783.91          | 905917.62      |  |  |

Note: 1. Gross Generation from fuel sources (Thermal, Hydro and Nuclear) stations of 25 MW and above only.

2. Figures given above indicate gross generation of all power stations(Central, State& Private Sector) located geographically in the respective

3. Ladakh seperated from J&K in 2019-20.