

**GOVERNMENT OF INDIA  
NON-CONVENTIONAL ENERGY SOURCES  
LOK SABHA**

STARRED QUESTION NO:409

ANSWERED ON:24.08.2004

GENERATION OF POWER THROUGH NON-CONVENTIONAL ENERGY SOURCES

Jatiya Dr. Satyanarayan;Mahtab Shri Bhartruhari

**Will the Minister of NON-CONVENTIONAL ENERGY SOURCES be pleased to state:**

- (a) the details of centrally sponsored schemes being implemented under the NCES programme in the country at present;
- (b) the per unit cost and total generated capacity of each source under the programme and the grant-in-aid provided by the Government to each State during the last three years, source-wise;
- (c) whether any District Advisory Committee on renewable energy is functioning to accelerate the programme;
- (d) if so, the details thereof; and
- (e) the measures being taken by the Government to propagate and to give publicity to NCES programme?

**Answer**

MINISTER OF STATE OF THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (INDEPENDENT CHARGE) (SHRI VILAS MUTTEMWAR)

(a), (b), (c), (d)& (e) : A Statement is laid on the table of the House.

Statement referred in reply to parts (a), (b), (c), (d) & (e) of Lok Sabha starred Question No. 409 for 24.8.2004 regarding Generation of Power through Non-Conventional Energy Sources.

(a): The details of various programmes / schemes of the Ministry for the development and deployment of non-conventional energy systems / devices, including Centrally Sponsored Schemes (CSS) are given in Annexure-I.

(b): The cost of renewable electricity generation is resource, site and technology specific. The range of estimated cost of generation of renewable electricity per unit and the total renewable power generation capacity installed under various grid interactive renewable power programmes in the country are given in Annexure- II. The State-wise and programme-wise details of grants-in-aid provided to grid interactive renewable power projects during the last three years, i.e., 2001-02 to 2003-04 are given in Annexure-III.

(c) & (d): For accelerated and coordinated implementation of various renewable energy programmes and also for creating mass awareness, all States and Union Territories have been requested in July 2004 to set up District Advisory Committees on Renewable Energy with the Collector as Chairman and Project Director, District Rural Development Agency (DRDA) as Member-Secretary. Its members would include concerned district officers, representatives of industry association, non-governmental organizations, etc. Hon'ble Members of Parliament have been requested to suggest two nominees from their respective constituencies for membership of the Committee.

(e): Financial and fiscal incentives are being provided under various programmes, including the centrally sponsored schemes, for the deployment of non-conventional energy systems / devices in the country. Aditya Solar Shops have been established to provide retail outlets for renewable energy products and back-up support services. Other steps taken for propagating and publicising non-conventional energy programmes include organisation of Conference of Renewable Energy and Power Ministers of States and Union Territories on 29th June, 2004 and National Conference on Renewable Energy for Rural Areas with DRDAs and State Forest Departments on 26th July, 2004 with focus on technology options and suitable policies and programmes for the accelerated and coordinated deployment of renewable energy systems/devices. The 60th birth anniversary of the former Prime Minister, Late Shri Rajiv Gandhi has been celebrated as 'Rajiv Gandhi Akshay Urja Diwas', meaning thereby 'Rajiv Gandhi Renewable Energy Day'. A large number of school children have participated in rallies, human chains, debates, essay writing and painting competitions across the country. The Prime Minister released a special postage stamp on the occasion. Besides, the Ministry is popularising renewable energy by using both print and electronic media, such as advertisements in national and regional dailies, broadcast through All India Radio and telecast of films and documentaries through Doordarshan and is also participating in international, national and regional exhibitions, fairs and melas.

Annexure-I

Annexure-I referred to in reply to part (a) of Lok Sabha starred Question no. 409 for 24.8.2004 regarding Generation of Power through Non-Conventional Energy Sources.

**Details of various programmes / schemes of the Ministry for the development and deployment of non-conventional energy systems / devices, including Centrally Sponsored Schemes (CSS)**

S.No. Name of the Schemes

**I. Centrally Sponsored Schemes (CSS)**

- 1 Family Type Biogas Plants
- 2 Solar Photovoltaic (SPV) Programme
- 3 Small Hydro Power (up to 25 MW) Programme
- 4 Integrated Rural energy Programme (IREP)

**II. Central Sector Schemes (CS)**

- 5 Wind power Programme
- 6 Biomass Power / Cogeneration Programme
- 7 Biomass Gasifier Programme
- 8 SPV Grid Interactive Power Plant Programme
- 9 Energy from U&I Wastes
- 10 SPV Water Pumping Programme
- 11 Solar Water Heating Systems
- 12 Solar Cooker
- 13 Remote Village Electrification Programme
- 14 Water Pumping Wind Mills
- 15 Small Aerogenerator & Hybrid Systems

**Annexure-II**

Annexure-II referred to in reply to part (b) of Lok Sabha starred Question no. 409 for 24.8.2004 regarding Generation of Power through Non-Conventional Energy Sources.

Range of estimated cost of generation of renewable electricity per unit and the total renewable power generation capacity installed under various grid interactive renewable power programmes in the country as on 31.3.2004.

| S. No | Source | Range of estimated cost of renewable electricity generation per unit (Rs./kWh) | Total installed capacity (MW) |
|-------|--------|--|-------------------------------|
|-------|--------|--|-------------------------------|

|    |                       |               |         |
|----|-----------------------|---------------|---------|
| 1. | Small Hydro Power     | 1.50 - 2.50   | 1601.62 |
| 2. | Wind Power            | 2.00 - 3.00   | 2483.00 |
| 3. | Biomass Power         | 2.50 - 3.50   | 234.43  |
| 4. | Bagasse Co-generation | 2.50 - 3.00   | 379.00  |
| 5. | Biomass Gasifier      | 2.50 - 3.50   | 60.20   |
| 6. | Solar Photovoltaic    | 15.00 - 20.00 | 2.54    |
| 7. | Energy from Waste     | 2.50 - 7.50   | 41.43   |

kWh = kilowatt hour;  
MW = Megawatt

State-wise and programme-wise details of the grant-in-aid provided to grid interactive renewable power projects during the last three years, i.e., 2001-02 to 2003-04.

(Rs. in crore)

| Sl. No. | STATES/UT | Solar Power | Small Hydro Power | Biomass Gasifier | Biomass Power from Wastes | Wind Energy | Total |
|---------|-----------|-------------|-------------------|------------------|---------------------------|-------------|-------|
|---------|-----------|-------------|-------------------|------------------|---------------------------|-------------|-------|

|    |                      |       |       |       |      |       |       |       |
|----|----------------------|-------|-------|-------|------|-------|-------|-------|
| 1  | Andhra Pradesh       | 1.95  | 6.32  | 24.02 | 0.12 | 3.01  | 2.51  | 37.93 |
| 2  | Arunachal Pradesh    | 0.00  | 30.13 | 0.10  | 1.10 | 0.00  | 0.00  | 31.33 |
| 3  | Assam                | 0.00  | 0.00  | 0.07  | 0.02 | 0.00  | 0.00  | 0.09  |
| 4  | Bihar                | 0.00  | 0.04  | 0.13  | 0.00 | 0.00  | 0.00  | 0.17  |
| 5  | Chhattisgarh         | 0.00  | 1.24  | 0.05  | 0.05 | 0.00  | 0.00  | 1.34  |
| 6  | Goa                  | 0.00  | 0.00  | 0.00  | 0.00 | 0.00  | 0.00  | 0.00  |
| 7  | Gujarat              | 0.00  | 0.00  | 0.56  | 1.35 | 0.00  | 0.25  | 2.15  |
| 8  | Haryana              | 0.05  | 0.00  | 0.16  | 0.04 | 0.02  | 0.00  | 0.26  |
| 9  | Himachal Pradesh     | 0.00  | 12.82 | 0.04  | 0.00 | 0.00  | 0.00  | 12.86 |
| 10 | Jammu & Kashmir      | 0.00  | 4.05  | 0.00  | 0.14 | 0.00  | 0.00  | 4.19  |
| 11 | Jharkhand            | 0.00  | 0.00  | 0.07  | 0.08 | 0.00  | 0.08  | 0.23  |
| 12 | Karnataka            | 0.00  | 8.01  | 9.07  | 0.57 | 5.21  | 0.00  | 22.85 |
| 13 | Kerala               | 0.25  | 0.06  | 0.02  | 0.20 | 0.00  | 0.00  | 0.54  |
| 14 | Madhya Pradesh       | 0.20  | 0.40  | 0.54  | 0.08 | 0.00  | 0.00  | 1.22  |
| 15 | Maharashtra          | 0.00  | 1.46  | 1.56  | 0.06 | 3.81  | 0.74  | 7.63  |
| 16 | Manipur              | 0.00  | 0.05  | 0.00  | 0.73 | 0.00  | 0.00  | 0.78  |
| 17 | Meghalaya            | 0.00  | 2.43  | 0.09  | 0.06 | 0.00  | 0.00  | 2.57  |
| 18 | Mizoram              | 0.00  | 0.06  | 0.00  | 0.67 | 0.00  | 0.00  | 0.73  |
| 19 | Nagaland             | 0.00  | 4.75  | 0.00  | 0.64 | 0.00  | 0.00  | 5.39  |
| 20 | Orissa               | 0.00  | 0.00  | 0.09  | 0.02 | 0.00  | 0.00  | 0.12  |
| 21 | Punjab               | 2.69  | 3.04  | 8.71  | 0.00 | 0.00  | 0.00  | 14.44 |
| 22 | Rajasthan            | 1.10  | 0.00  | 0.70  | 0.01 | 2.88  | 0.00  | 4.68  |
| 23 | Sikkim               | 0.00  | 19.31 | 0.04  | 0.00 | 0.00  | 0.00  | 19.35 |
| 24 | Tamil Nadu           | 0.00  | 0.42  | 0.75  | 1.67 | 0.00  | 1.37  | 4.21  |
| 25 | Tripura              | 0.00  | 0.00  | 0.03  | 1.49 | 0.00  | 0.00  | 1.52  |
| 26 | Uttar Pradesh        | 0.44  | 0.88  | 0.40  | 0.40 | 0.00  | 15.80 | 17.91 |
| 27 | Uttaranchal          | 0.61  | 3.26  | 0.04  | 0.10 | 0.00  | 0.00  | 4.01  |
| 28 | West Bengal          | 0.32  | 7.20  | 0.20  | 1.98 | 3.27  | 0.00  | 12.97 |
| 29 | Andaman & Nicobar    | 1.49  | 6.56  | 0.00  | 0.00 | 0.00  | 0.00  | 8.04  |
| 30 | Chandigarh           | 0.05  | 0.00  | 0.00  | 0.00 | 0.00  | 0.00  | 0.05  |
| 31 | Dadar & Nagar Haveli | 0.00  | 0.00  | 0.00  | 0.00 | 0.00  | 0.00  | 0.00  |
| 32 | Daman & Diu          | 0.00  | 0.00  | 0.00  | 0.00 | 0.00  | 0.00  | 0.00  |
| 33 | Delhi                | 0.00  | 0.00  | 0.44  | 0.05 | 0.00  | 2.94  | 3.44  |
| 34 | Lakshwadeep          | 10.99 | 0.00  | 0.00  | 0.00 | 0.00  | 0.00  | 10.99 |
| 35 | Pondicherry          | 0.38  | 0.00  | 0.00  | 0.00 | 0.00  | 0.00  | 0.38  |
| 36 | Others               | 0.11  | 2.15  | 2.61  | 3.54 | 11.32 | 0.00  | 19.73 |

|       |       |        |       |       |       |       |        |
|-------|-------|--------|-------|-------|-------|-------|--------|
| Total | 20.63 | 114.63 | 50.48 | 15.15 | 29.53 | 23.70 | 254.12 |
|-------|-------|--------|-------|-------|-------|-------|--------|