

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

STARRED QUESTION NO:591
ANSWERED ON:06.05.2005
DEVELOPMENT OF NCES PROGRAMME
Bishnoi Shri Jaswant Singh;Singh Shri Dushyant

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

- (a) the number and details of schemes/programmes launched and implemented by the Government under Non-Conventional Energy Sources in the country during the last three years; State-wise;
- (b) the quantum of electricity generated from each scheme/source during the period; year-wise and State-wise;
- (c) the total financial assistance provided to each State during the period; scheme-wise and year-wise;
- (d) the target fixed for electricity generation and achieved during the said period; State-wise;
- (e) the target fixed for the Tenth Five Year Plan and achieved till date;
- (f) whether any action plan has been formulated by the Government for expansion and development of NCES;
- (g) if so, the details thereof; and
- (h) if not, the reasons therefor?

Answer

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

(a), (b), (c), (d), (e), (f), (g) & (h): A statement is laid on the Table of the House.

Statement referred in reply to parts (a), (b), (c), (d), (e), (f), (g) & (h) of Lok Sabha Starred Question No. 591 for 06.05.2005 regarding Development of NCES Programme

(a): Details of schemes / programmes of the Ministry of Non-conventional Energy Sources giving therein the level of central financial assistance are given in Annexure-I.

(b): The capacity set up during 2002-03 to 2004-05 through the installation of grid-interactive renewable electricity generation and estimated electricity generation are given source-wise and state-wise in Annexure-II.

(c): The central financial assistance provided state-wise during 2002-03 to 2004-05 for major schemes, including those for grid-interactive renewable electricity generation, are given in Annexure-III.

(d) & (e): The target set for the installation of grid-interactive renewable electricity generation during the 10th Plan, i.e., 2002-03 to 2006-07, is 3075 MW, of which 2643 MW has been achieved during the first 3 years of the Plan period, i.e., 2002-03 to 2004-05, details of which are given in Annexure-IV. State-wise targets are not set for the aforesaid.

(f), (g) & (h): The Ministry of Non-conventional Energy Sources is focusing on deployment in the following broad areas:

(i) Grid-Interactive Renewable Electricity: The broad aim is to set up around 10 per cent of the additional power generation capacity from renewable electricity during the 10 year period, 2002-03 to 2011-12, i.e., the 10th & 11th Plan periods, which translates to around 10,000 MW. Of this, 3075 MW is the target for the 10th Plan and the proposed target for the 11th Plan would accordingly be around 7,000 MW.

(ii) Renewable Energy for Rural Areas: Two programmes cover rural areas, namely, Remote Village Electrification Programme (RVEP) and Integrated Rural Energy Programme (IREP), as detailed below:

(a) Remote Village Electrification Programme covers electrification of 25,000 odd unelectrified census villages, where grid-extension is neither cost-effective nor feasible, termed remote villages. The target for the 10th Plan is electrification of 5,000 such villages, of which around 2,500 villages and hamlets have been electrified during the three years, i.e., 2002-03 to 2004-05; and

(b) IREP covers electrified or to be electrified villages in which renewable sources, such as bio-energy, bio-fuels, solar-thermal, wind, micro-hydel etc., are to be deployed for providing non-electrical energy services of cooking, lighting and motive power, for extension purposes, apart from assisting in planning for an optimal fuel-mix for the aforesaid energy services.

(iii) Renewable Energy for Industrial, Commercial & Urban Applications: Programme has been formulated to comprehensively address the issue of accelerated deployment of renewables in these 3 sectors in furtherance of the aim of conventional energy conservation through fuel-switching apart from providing renewable energy services of cooking, lighting and motive power.

(iv) Research, Design, Development and Demonstration (RDDD) - This activity is to facilitate new & renewable energy industry in becoming competitive through indigenous design, development and manufacture of new and renewable energy products & services required for deployment either in programmes of this Ministry or otherwise, with the underlying aim of making this sector a net foreign exchange earner. The RDDD focus areas are:

Technology Mapping & Benchmarking.

- Identify gaps in research, design and development effort so as to bridge them in the shortest possible time.

Research, Design, Development & Demonstration

- Alternate fuels (hydrogen, bio & synthetic fuels) production, transport, storage, delivery and systems / devices for transport, portable and stationary applications. Characteristics and cost of bio-fuels to match those of petroleum fuels.

Indigenous Design, Development & Manufacture

- Multi MW wind electric generator.
- Upto MW scale Solar Thermal (High Temperature) for power generation.
- SPV for power applications.
- Advanced biomass gasification systems for combined heat & power applications.
- Simulators for grid interactive renewable power stations.

Standards, specifications and performance parameters to be at par with international levels and costs that are lower.

Cost Reduction

- Grid interactive renewable electricity to become cost-competitive through indigenous design, development & manufacture of low cost, high quality & high performance systems apart from raising capacity utilization factor through better siting and improved performance of systems.

Annexure-I

Annexure-I referred to in reply to part (a) of Lok Sabha Starred Question No.591 for 06.05.2005 regarding Development of NCES Programme.

The details of schemes and programmes and central financial assistance (CFA) provided under various non-convention energy programmes

Sl.No. Programmes/Sector CFA

1. Wind Power Only for Demonstration Projects: upto 60% of the equipment cost subject to certain benchmark costs.
2. Aero-Generators and Hybrid Systems Rs. 2.00 lakhs per kW or 50-75% of ex-works cost, whichever is less

Rs. 2.40 lakhs per kW or 90% of ex-works cost, whichever is less- in unelectrified islands.

3. Family Type Biogas Plants Rs.2100- Rs.11,700 per plant depending upon the capacity of the plant, category of the beneficiaries/areas.
4. Biomass Gasifiers For Thermal Applications (upto 3MWe)
Rs.1.25 lakh / 300 kWth

For electrical / mechanical applications (upto 1MWe):
Rs.15.00 lakh /100 kWth

20% higher CFA of the above for Special Category States and Islands

5. Bagasse Co-generation Projects Interest subsidy

- i. Projects by cooperative/public/ Joint sector Sugar Mills. 3-6% depending upon configuration.
- ii. Projects in IPP Mode in Cooperative/ Public/Joint Sector Sugar Mills 2-4% depending upon configuration.
- iii. Projects by Private Sector Sugar Mills 1-3% depending upon configuration.

Biomass Power Projects Interest subsidy

Projects with MW-scale 100% Producer Gas Engines / Advanced Biomass Gasification projects. 2-3% depending upon technology /configuration.

6. Industrial Waste-to-Energy Interest subsidy to reduce the interest rate Interest subsidy upto 4% in special category states and upto 6 % in other states, to be paid through Financial Institutions. Subject to certain limits based on type of projects.

7. Small Hydro Power Govt sector: Private sector:

Capital Subsidy

N E Region and Sikkim Up to Rs.6.00 crores/ MW Upto Rs.3.00 crores/ MW
Middle Himalayas, Ladakh, A&N Up to Rs.4.00 crores/ MW Up to Rs.2.00 crores/ MW

Other Hilly areas Up to Rs.2.00 crores/ MW Up to Rs.1.00 crores/ MW

Water mills- mechanical Upto Rs.30,000/ watermill (mechanical)
Water mills- electrical+mechanical Upto Rs.1.00lakh/ watermill
(electrical or electrical cum mechanical)

8. Solar Photovoltaic Systems/devices From Rs.2400/-Rs.9100/- for SPV lighting systems depending upon system.

Rs.4300/-Rs.16390/- for Special Category States.

9. PV water pumping systems Rs. 100/Wp of PV array used subject to a maximum of Rs. 1,80,000 per system for community purposes.

90% of approved ex-works cost of the system for Special Category States.

10. Power Plants & Other systems Rs. 1,19,000/kWp of PV array Capacity or 50 % of ex-works cost, whichever is less.

Rs.2,14,200/ kWp of PV array capacity or 90 % of ex-works cost, which ever is less for Special Category States.

11. Solar Water Heating Systems (SWHS) / For Solar Water Heating systems: Through Banks/FTIs other Solar Thermal systems (including housing financing org.):

Interest subsidy to reduce the interest to 5% to end-user.

For solar water heating/air heating systems/desalination system, steam cooking systems, etc.: through IREDA:

Interest subsidy of 5% for non-profit organizations and of 7% for profit-making organizations.

For dish/community type solar cookers:

50% of cost limited to Rs.2500/- for dish type cookers;
Rs.25,000/- for Scheffler /community type cooker.

For steam cooking systems:
50% of actual system cost.

Annexure-II

State-wise and programme-wise grid-interactive renewable electricity installed capacity during 2002-03 to 2004-05 and Estimated generation during 2004-05.

Sl.No. State/UT Small Hydro Power Wind Power Biomas Power

(MW) (MW) (MW)
2002-03 2003-04 2004-05 2002-03 2003-04 2004-05 2002-03 2003-04 2004-05

1	Andhra Pradesh	4.90	8.65	14.55	0.00	6.20	21.80	58.85	37.70	69.50
2	Arunanchal Pr.	0.27	0.13	1.20	0.00	0.00	0.00	0.00	0.00	0.00
3	Assam	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Bihar	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Chhattisgarh	0.80	5.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Goa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Gujarat	0.00	0.00	0.00	6.20	28.93	51.53	0.00	0.00	0.00
8	Haryana	0.00	14.40	0.00	0.00	0.00	0.00	0.00	0.00	2.00
9	Himachal Pr.	1.40	8.80	6.04	0.00	0.00	0.00	0.00	0.00	0.00
10	Jammu & Kashmir	9.00	0.00	7.50	0.00	0.00	0.00	0.00	0.00	0.00
11	Jharkhand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Karnataka	31.53	24.50	61.50	55.70	84.88	201.50	33.78	26.00	16.60
13	Kerala	2.50	12.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	Madhya Pradesh	0.00	0.00	2.20	0.00	0.00	6.25	0.00	1.00	0.00
15	Maharashtra	3.75	0.00	0.00	2.00	6.25	48.75	0.00	0.00	11.50
16	Manipur	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	Meghalaya	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	Mizoram	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	Nagaland	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	Orissa	6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	Punjab	4.20	1.00	3.00	0.00	0.00	0.00	10.00	0.00	0.00
22	Rajasthan	0.00	0.00	0.00	44.60	117.78	106.26	0.00	7.80	0.00
23	Sikkim	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	Tamil Nadu	2.50	0.00	1.30	132.80	371.22	675.46	0.00	44.50	22.50
25	Tripura	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Uttar Pradesh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.50	14.00
27	Uttranchal	6.45	7.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	West Bengal	3.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
29	A & Nicobar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Chandigarh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	D & N Haveli	0.00	0.00	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	0.00	0.00
33	Delhi	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Lakshwadeep	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	Pondicherry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Total 80.68 84.04 102.31 241.30 615.25 1111.55 102.63 129.50 136.10

(Annexure-II Table continued....)

Sl. State/UT Biomass gasifier Energy from Waste Solar Power Total Estimated
No. Generation

(kW) (MW) (kWp) (MW) (Million kWh)
2002-03 2003-04 2004-05 2002-03 2003-04 2004-05 2002-03 2003-04 2004-05

1	Andhra Pradesh	0.00	0.00	0.00	0.00	10.15	3.00	0.00	0.00	0.00	235.30	2670.20
2	Arunanchal Pr.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.60	67.80
3	Assam	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	4.52	
4	Bihar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	91.84	
5	Chhattisgarh	500.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	11.31	89.00	
6	Goa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14		
7	Gujarat	0.00	1560.00	1240.00	0.00	0.50	0.00	0.00	0.00	89.96	1362.03	
8	Haryana	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	16.70	151.30	
9	Himachal Pr.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.24	216.18	
10	Jammu & Kashmir	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	16.90	219.68	
11	Jharkhand	0.00	0.00	80.00	0.00	0.00	0.00	0.00	0.00	0.08	8.10	
12	Karnataka	0.00	0.00	107.00	0.00	0.00	0.00	0.00	0.00	536.10	2335.75	
13	Kerala	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.11	186.50	
14	Madhya Pradesh	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	9.65	271.00	
15	Maharashtra	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	72.25	3083.83	
16	Manipur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	10.90	
17	Meghalaya	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	61.42	

17	Meghalaya	0.00	1.35	3.05	0.02	0.03	0.00	0.06	0.00	0.00
18	Mizoram	0.06	0.00	2.70	0.00	0.00	0.00	0.30	0.37	0.00
19	Nagaland	0.03	1.93	1.63	0.00	0.00	0.00	0.17	0.00	0.00
20	Orissa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03
21	Punjab	1.74	1.26	0.13	1.03	0.00	0.01	0.00	0.00	0.00
22	Rajasthan	0.00	0.00	0.00	0.34	0.32	0.00	0.00	0.01	0.32
23	Sikkim	6.72	8.17	0.00	0.00	0.02	0.00	0.00	0.00	0.00
24	Tamil Nadu	0.08	0.00	0.00	0.09	0.38	0.38	0.54	0.90	1.94
25	Tripura	0.00	0.00	0.00	0.01	0.00	0.00	1.05	0.00	0.00
26	Uttar Pradesh	0.03	0.01	0.01	0.33	0.03	0.00	0.07	0.13	0.32
27	Uttranchal	1.82	1.44	0.11	0.00	0.00	0.00	0.07	0.03	0.00
28	West Bengal	2.79	0.89	0.52	0.06	0.05	0.51	0.53	0.61	0.56
29	A & Nicobar	3.00	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Chandigarh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	D & N Haveli	0.00	0.00	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	0.00	0.00
33	Delhi	0.00	0.00	0.00	0.34	0.00	0.00	0.05	0.19	
34	Lakshwadeep	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	Pondicherry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	Others	0.13	1.00	0.00	1.88	0.73	4.03	1.44	0.00	0.00

Total 39.49 31.73 36.11 16.78 11.95 6.22 5.55 2.65 4.67

(Annexure-III Table continued....)

Sl.No. STATES/UT Energy from Waste Wind Power Solar Power

2002-03 2003-04 2004-05 2002-03 2003-04 2004-05 2002-03 2003-04 2004-05

1	Andhra Pradesh	1.67	0.84	0.78	0.04	1.05	3.08	0.48	0.17	0.00
2	Arunachal Pr.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64
3	Assam	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4	Bihar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5	Chhattisgarh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Goa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7	Gujarat	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Haryana	0.00	0.00	0.00	0.02	0.00	0.00	0.05	0.00	0.00
9	Himachal Pr.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	Jammu & Kashmir	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Jharkhand	0.03	0.05	0.03	0.00	0.00	0.00	0.00	0.00	0.00
12	Karnataka	0.00	0.00	0.00	1.04	4.17	2.73	0.00	0.00	0.00
13	Kerala	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	Madhya Pradesh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	Maharashtra	0.00	0.00	0.00	2.50	0.35	0.00	0.00	0.00	0.00
16	Manipur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	Meghalaya	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	Mizoram	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	Nagaland	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	Orissa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	Punjab	0.00	0.00	0.00	0.00	0.00	1.49	0.00	0.36	
22	Rajasthan	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.86
23	Sikkim	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	Tamil Nadu	0.00	0.56	3.41	0.00	0.00	0.00	0.00	0.00	0.00
25	Tripura	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Uttar Pradesh	8.28	0.01	0.00	0.00	0.00	0.00	0.05	0.26	0.00
27	Uttranchal	0.00	0.00	0.00	0.00	0.00	0.10	0.51	0.00	
28	West Bengal	0.00	0.00	0.00	1.56	0.00	0.48	0.09	0.15	0.00
29	A & Nicobar	0.00	0.00	0.00	0.00	0.00	0.89	0.00	0.00	
30	Chandigarh	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	
31	D & N Haveli	0.00	0.00	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	0.00	0.00
33	Delhi	0.00	2.84	0.21	0.00	0.00	0.00	0.00	0.00	
34	Lakshwadeep	0.00	0.00	0.00	0.00	0.00	3.92	1.52	0.00	
35	Pondicherry	0.00	0.00	0.00	0.00	0.00	0.10	0.28	0.00	
36	Others	0.00	0.00	0.01	4.60	5.05	7.40	0.11	0.00	0.00

Total 10.00 4.35 4.44 9.76 10.62 13.69 7.58 2.90 1.86

Annexure-III

Annexure-III referred to in reply to part (c) of Lok Sabha Starred Question No.591 for 06.05.2005 regarding Development of NCES Programme.

State-wise Central Financial Assistance provided under various renewable energy programmes including programmes for grid interactive renewable electricity generation during the last three years, ie, 2002-03 to 2004-05.

(Rs. in crore)

Sl.No. STATES/UT Biogas Plants Wind Pump & Solar Photovoltaic
Small Aero. Pumps

	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05
1 Andhra Pradesh	4.28	5.75	2.41	0.01	0.00	0.00	0.00	0.09	0.00
2 Arunachal Pr.	0.13	0.13	0.51	0.00	0.00	0.00	0.00	0.00	0.00
3 Assam	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4 Bihar	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00
5 Chhattisgarh	2.52	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00
6 Goa	0.00	0.00	0.00	0.58	0.00	0.00	0.00	0.00	0.00
7 Gujarat	2.47	2.32	1.19	0.43	0.00	0.11	0.92	0.00	0.00
8 Haryana	0.16	0.47	0.21	0.00	0.00	0.00	2.45	2.45	0.00
9 Himachal Pr.	0.22	0.15	0.07	0.00	0.00	0.00	0.00	0.00	0.00
10 Jammu & Kashmir	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11 Jharkhand	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12 Karnataka	5.73	2.36	0.00	0.00	0.01	0.00	0.00	0.87	0.00
13 Kerala	0.09	0.93	0.80	0.00	0.00	0.00	0.00	0.00	0.00
14 Madhya Pradesh	3.98	1.86	1.47	0.00	0.00	0.00	0.00	0.00	0.01
15 Maharastra	2.80	1.24	2.66	1.68	0.22	1.59	0.00	0.00	0.00
16 Manipur	0.19	0.11	0.27	0.00	0.00	0.00	0.00	0.00	0.00
17 Meghalaya	0.25	0.38	0.12	0.00	0.00	0.00	0.11	0.00	0.11
18 Mizoram	0.35	0.24	0.28	0.00	0.00	0.00	0.00	0.00	0.00
19 Nagaland	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20 Orissa	2.55	4.73	1.68	0.00	0.00	0.00	0.00	0.00	0.00
21 Punjab	0.00	0.00	0.22	0.00	0.00	0.00	8.38	11.95	0.00
22 Rajasthan	0.07	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00
23 Sikkim	0.25	0.25	0.62	0.00	0.00	0.00	0.00	0.00	0.00
24 Tamil Nadu	0.27	0.63	0.31	0.00	0.00	0.00	0.00	0.00	1.37
25 Tripura	0.15	0.71	0.00	0.00	0.00	0.00	0.21	0.00	0.00
26 Uttar Pradesh	0.00	1.55	1.47	0.01	0.00	0.00	0.00	0.00	3.64
27 Uttranchal	0.15	0.08	0.00	0.00	0.00	0.00	0.15	0.00	0.00
28 West Bengal	4.14	6.06	2.41	0.11	0.00	0.00	0.00	0.00	0.09
29 A & Nicobar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30 Chandigarh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31 D & N Haveli	0.00	0.00	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	0.00	0.00
33 Delhi	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34 Lakshwadeep	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35 Pondicherry	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00
36 Others	14.00	7.04	4.80	0.00	0.00	1.79	0.00	3.03	0.00
Total	44.78	37.23	21.91	2.26	0.90	3.48	12.23	19.84	3.76

(Annexure-III Table continued....)

Sl.No. STATES/UT Solar Thermal Solar Photovoltaic Remote Village Electrification

2002-03 2003-04 2004-05 2002-03 2003-04 2004-05 2002-03 2003-04 2004-05

1 Andhra Pradesh	0.48	0.05	0.22	1.67	0.34	0.00	1.09	0.00	0.00
2 Arunachal Pr.	0.00	0.11	0.00	0.39	0.36	0.00	0.93	4.84	0.66
3 Assam	0.00	0.00	0.00	0.00	3.37	0.20	0.46	0.00	0.23
4 Bihar	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5 Chhattisgarh	0.00	0.07	0.00	0.33	0.79	0.71	5.68	3.32	0.08
6 Goa	0.00	0.00	0.00	0.00	0.19	0.08	0.00	0.00	0.00
7 Gujarat	0.00	0.38	0.37	2.05	0.40	0.00	0.00	0.09	0.00
8 Haryana	0.05	0.05	0.20	2.68	1.87	0.00	0.00	0.84	0.00
9 Himachal Pr.	0.00	0.11	0.00	1.20	1.03	0.88	0.00	0.12	0.15
10 Jammu & Kashmir	0.00	0.06	0.00	1.09	1.31	1.73	0.00	5.12	0.00
11 Jharkhand	0.10	0.00	0.00	0.25	2.21	0.00	1.06	8.37	0.00
12 Karnataka	0.00	0.15	0.00	1.21	1.46	1.43	0.00	0.00	0.00
13 Kerala	0.00	0.00	0.00	0.38	0.35	0.00	0.00	0.00	0.00
14 Madhya Pradesh	0.00	0.14	0.03	0.00	0.03	0.65	1.09	0.00	0.00
15 Maharastra	0.00	0.18	0.27	0.23	0.00	0.38	0.00	3.14	0.00
16 Manipur	0.00	0.00	0.00	0.08	1.84	0.00	7.30	0.33	0.79
17 Meghalaya	0.00	0.00	0.00	0.07	0.43	0.00	3.23	0.00	1.76
18 Mizoram	0.00	0.02	0.15	0.57	1.62	0.28	0.00	1.45	0.00
19 Nagaland	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20 Orissa	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.43
21 Punjab	1.49	0.00	0.04	0.57	0.24	0.00	0.00	0.00	0.00
22 Rajasthan	0.27	0.01	0.05	6.34	3.75	0.00	0.00	1.85	1.76
23 Sikkim	0.00	0.00	0.00	0.21	0.32	0.26	0.00	0.09	0.00
24 Tamil Nadu	0.00	0.17	0.04	0.74	1.68	0.00	0.00	3.67	0.00
25 Tripura	0.00	0.00	0.00	3.78	1.93	0.00	0.00	7.42	10.62
26 Uttar Pradesh	0.05	0.08	0.22	7.34	2.30	1.54	0.00	13.43	0.01
27 Uttranchal	0.10	0.05	0.03	2.17	3.50	0.00	1.88	7.20	0.51
28 West Bengal	0.09	0.06	0.04	3.22	3.67	0.37	2.20	23.89	0.72
29 A & Nicobar	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30 Chandigarh	0.05	0.01	0.00	0.08	0.16	0.00	0.00	0.00	0.00
31 D & N Haveli	0.00	0.00	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	0.00	0.00
33 Delhi	0.00	0.03	0.06	0.18	0.00	0.00	0.00	0.00	0.00
34 Lakshwadeep	3.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35 Pondicherry	0.10	0.00	0.00	0.05	0.04	0.02	0.00	0.00	0.00
36 Others	0.11	8.15	5.15	3.98	1.40	2.62	0.00	0.64	10.40

Total 7.69 9.90 6.91 40.86 36.56 11.16 24.92 85.79 28.12

Annexure-IV

Annexure-IV referred to in reply to parts (d) & (e) of Lok Sabha Starred Question No.591 for 06.05.2005 regarding Development of NCES Programme.

Details of target set for the 10th Plan for grid interactive renewable electricity and achievement made during 2002-03 to 2004-05

Name of the Schemes/Programmes	10th Plan	2002-03	2003-04	2004-05	Total
Target					

Target Ach. Target Ach. Target Ach. Ach.

- | | | | | | | | | |
|---------------------------------|------|-----|--------|--------|--------|--------|---------|---------|
| i. Wind power | 1500 | 200 | 241.30 | 250.00 | 615.25 | 300.00 | 1111.55 | 1968.10 |
| ii. Small Hydro (upto 25 MW) | 600 | 80 | 80.68 | 80.00 | 84.04 | 100.00 | 102.31 | 267.03 |
| iii. Biomass Power/Cogeneration | 700 | 100 | 102.63 | 125.00 | 129.50 | 125.00 | 136.10 | 368.23 |

iv. Biomass Gasifier 50 10 2.07 5.00 4.85 10.00 8.25 15.17
v. Solar Photovoltaic Power# 145 0.75 0.50 0.75 0.05 0.10 0.18 0.73
vi. Waste to Energy 80 10 3.75 10.00 15.65 10.00 4.00 23.40

Total (Power from Renewables) 3075 400.75 430.93 470.75 849.34 545.10 1362.39 2642.66

Programme discontinued since grid-interactive SPV electricity is not economically viable at this juncture.