

MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES

DEMAND NO. 61

Ministry of Non-Conventional Energy Sources

A. The Budget allocations, net of recoveries, are given below:

(In crores of Rupees)

Major Head	Budget 2001-2002			Revised 2001-2002			Budget 2002-2003			
	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	
Revenue	414.80	5.32	420.12	326.37	5.19	331.56	494.20	5.27	499.47	
Capital	167.45	...	167.45	167.55	...	167.55	130.05	...	130.05	
Total	582.25	5.32	587.57	493.92	5.19	499.11	624.25	5.27	629.52	
1. Secretariat-Economic Services	3451	5.35	5.32	10.67	5.35	5.19	10.54	6.00	5.27	11.27
Non-Conventional Energy Sources										
2. Solar Energy Programme	2810	169.70	...	169.70	71.80	...	71.80	155.40	...	155.40
	3601	0.05	...	0.05	0.05	...	0.05	0.03	...	0.03
	3602	4.45	...	4.45	6.45	...	6.45	5.92	...	5.92
	4810	0.05	...	0.05	0.15	...	0.15	0.05	...	0.05
	<i>Total</i>	<i>174.25</i>	...	<i>174.25</i>	<i>78.45</i>	...	<i>78.45</i>	<i>161.40</i>	...	<i>161.40</i>
3. Biogas Programme & NBB	2810	48.85	...	48.85	45.90	...	45.90	40.70	...	40.70
	3601	16.10	...	16.10	15.55	...	15.55	15.30	...	15.30
	3602	...	...	...	...	...	...	...	...	...
	<i>Total</i>	<i>64.95</i>	...	<i>64.95</i>	<i>61.45</i>	...	<i>61.45</i>	<i>56.00</i>	...	<i>56.00</i>
4. Wind Energy Programme	2810	7.85	...	7.85	10.40	...	10.40	21.06	...	21.06
	3601	...	...	...	...	...	...	...	...	...
	3602	...	...	...	...	...	...	...	...	...
	<i>Total</i>	<i>7.85</i>	...	<i>7.85</i>	<i>10.40</i>	...	<i>10.40</i>	<i>21.06</i>	...	<i>21.06</i>
5. Bio-mass Programme	2810	18.80	...	18.80	25.40	...	25.40	24.28	...	24.28
6. Integrated Rural Energy Programme	2501	0.75	...	0.75	0.75	...	0.75	0.22	...	0.22
	2810	...	...	...	...	...	...	...	...	...
	3601	5.70	...	5.70	4.47	...	4.47	4.30	...	4.30
	3602	0.20	...	0.20	0.10	...	0.10	0.10	...	0.10
	<i>Total</i>	<i>6.65</i>	...	<i>6.65</i>	<i>5.32</i>	...	<i>5.32</i>	<i>4.62</i>	...	<i>4.62</i>
7. Other Sources of Energy	2810	30.90	...	30.90	30.90	...	30.90	45.90	...	45.90
	3601	0.50	...	0.50	0.50	...	0.50	2.00	...	2.00
	3602	0.10	...	0.10	0.10	...	0.10	0.10	...	0.10
	<i>Total</i>	<i>31.50</i>	...	<i>31.50</i>	<i>31.50</i>	...	<i>31.50</i>	<i>48.00</i>	...	<i>48.00</i>
8. Improved Chulhas	2810	10.24	...	10.24	10.24	...	10.24	0.04	...	0.04
	3601	5.80	...	5.80	5.80	...	5.80	0.05	...	0.05
	3602	0.01	...	0.01	0.01	...	0.01	0.01	...	0.01
	<i>Total</i>	<i>16.05</i>	...	<i>16.05</i>	<i>16.05</i>	...	<i>16.05</i>	<i>0.10</i>	...	<i>0.10</i>
9. Energy from Urban and Agricultural Wastes	2810	10.00	...	10.00	10.00	...	10.00	19.00	...	19.00
10. Investement in Public Enterprises	4810	27.00	...	27.00	27.00	...	27.00	35.00	...	35.00
	6810	140.40	...	140.40	140.40	...	140.40	95.00	...	95.00
	<i>Total</i>	<i>167.40</i>	...	<i>167.40</i>	<i>167.40</i>	...	<i>167.40</i>	<i>130.00</i>	...	<i>130.00</i>
11. National Institute of Renewable Energy	2810	1.00	...	1.00	1.00	...	1.00	10.00	...	10.00
12. Other Items	2810	44.45	...	44.45	47.60	...	47.60	96.34	...	96.34
	3601	...	...	...	...	...	...	0.40	...	0.40
	3602	...	...	...	...	...	...	0.05	...	0.05
	<i>Total</i>	<i>44.45</i>	...	<i>44.45</i>	<i>47.60</i>	...	<i>47.60</i>	<i>96.79</i>	...	<i>96.79</i>
13. Lumpsum provision for N.E.Region & Sikkim	2810	32.20	...	32.20	32.20	...	32.20	45.00	...	45.00
	3601	1.80	...	1.80	1.80	...	1.80	2.00	...	2.00
	<i>Total</i>	<i>34.00</i>	...	<i>34.00</i>	<i>34.00</i>	...	<i>34.00</i>	<i>47.00</i>	...	<i>47.00</i>
Grand Total		582.25	5.32	587.57	493.92	5.19	499.11	624.25	5.27	629.52
B. Investement in Public enterprises	Head of Dev	Budget Support	I.E.B.R	Total	Budget Support	I.E.B.R	Total	Budget Support	I.E.B.R	Total
Indian Renewable Energy Development Agency	12810	167.40	456.71	624.11	167.40	362.37	529.77	130.00	476.48	606.48
C. Plan Outlay*										
1. Non Conventional Sources of Energy	12810	582.25	456.71	1038.96	493.41	362.37	855.78	624.78	476.48	1101.26
2. Special Programmes for Rural Development	12501	0.75	...	0.75	0.75	...	0.75	0.22	...	0.22
Total		583.00	456.71	1039.71	494.16	362.37	856.53	625.00	476.48	1101.48

* Inclusive of works outlay provided in the Demands of Ministry of Urban Development and Poverty Alleviation.

Demand No.82	12810	0.50	...	0.50	...	...	...	0.50	...	0.50
Demand No.83	12810	0.25	...	0.25	0.24	...	0.24	0.25	...	0.25
<i>Total</i>		<i>0.75</i>	...	<i>0.75</i>	<i>0.24</i>	...	<i>0.24</i>	<i>0.75</i>	...	<i>0.75</i>

1. **Secretariat** : Provides for secretariat expenditure of the Ministry of Non-Conventional Energy Sources.2. **Solar Energy Programme**: Includes provision for Solar Thermal Energy Programme and Solar Photovoltaic Energy

Programme including research and development, demonstration and extension of solar thermal energy technologies and inter-alia envisages support in the form of Soft loans for Solar Thermal Systems and promotional measures for Solar Cookers. The Solar Photovoltaic Programmes covers R&D, utilisation and demonstration of various Photovoltaic systems and devices. Subsidy is provided on Solar lanterns, home lighting systems, street lights and solar pumps. The preparatory activities for setting up of a 140 MW ISCC Power Plant at Mathania in Rajasthan with WF/KFW assistance are being continued and necessary approval of Government of India has now been accorded to the project. The pilot scheme to augment and supplement grid power by installing 25-100 KW SPV Power Systems is being continued. The Solar Energy Centre has been established with the objective of research and development, testing and standardisation, prototype development, technology, transfer, demonstration and field testing, consultancy and advisory service and development of man power in the area of Solar energy.

3. **Biogas Programme** : Biogas programme aims at providing clean gas for cooking, lighting and electricity generation and enriched manure from cattle dung and night soil. Besides, the programme helps in conservation of fuel wood, improve kitchen environment and sanitation and employment generation in rural areas. The Programme includes popularisation of family type plants and also research and development on Biogas Development (NPBD) which inter-alia provides subsidy to farmers for setting up biogas plants and fees for Trunkey job worker and Rural Energy Technicians for quality construction and repair and maintenance service for Biogas Plants for a period of first three years. The programme on community, institution and Night soil Biogas Plants stands transferred to State sector during Tenth Plan.

4. **Wind Energy Programme** : This includes wind power generation, strengthening of wind data base, research and development, including setting up of Center for Wind Energy Technology (C-Wet) demonstration and field testing of various wind turbines.

5. **Bio-mass Programme** : Provision for this programme relates to R&D on biomass production and promotion of conversion and utilisation of various technologies. Biomass Based Co-generation Programme has been taken up for generation of power in Sugar Industry. Programme on Biomass Gasification and Biomass Combustion based power has been further strengthened. Under this Programme financial incentives viz capital and interest subsidy are being provided for installation of these projects.

6. **Integrated Rural Energy Programme (IREP)**: The Programme, amongst others, aims at to provide for minimum domestic energy needs for cooking, heating, lighting and to meet energy requirements of sustainable agricultural and rural development with due environmental considerations. The provision under the Centrally Sponsored scheme of IREP provides for Central financial Assistance for capacity building, R&D and transfer of technology, maintenance of energy systems and devices, extension, training and publicity & awareness. Under the State sector component, state outlay would be utilized for implementation of micro level IREP projects.

7. **Other Sources of Energy** : Includes provision for research and development and demonstration projects and activities for promoting the use of environmentally clean new energy technologies such as fuel cell technology, hydrogen energy, bio-fuels for surface transport, non-polluting fuels and vehicles for surface transportation, geothermal energy for power generation and direct heat applications and ocean energy for power generation. Subsidy is provided to beneficiaries through the State Governments for battery powered electric vehicles. Projects are taken up at several research, scientific, academic institutions, national laboratories, universities, industry, etc. in the country. The widespread use of these innovative and advanced technologies can play an important role in providing energy needs in an efficient and environmentally acceptable way in the foreseeable future.

Small Hydel Programme: Small Hydel Project (SHP) programme is aimed at utilisation of the run of rivers and natural falls. Decentralised power generation through such systems either being connected to grid or directly supplied to the local inhabitants in remote and hilly areas. Financial support is also being provided for feasibility studies, detailed project reports preparation and towards interest subsidy for installation of these projects. A project with partial assistance for GEF/UNDP on "Optimising development of Small Hydel Resources in the Himalayan and Sub-Himalayan Regions" is under implementation.

8. **National Programme on Improved Chulhas** : The programme aims to promote improved chulhas to fuelwood and other biomass material reduction in drudgery and health hazards to women and girl children in collection of fuelwood and exposure to smoke while cooking on traditional chulhas and providing employment opportunities in rural areas. The programmes stand transferred to State sector during Tenth Plan.

9. **Energy from Urban and Agricultural Wastes** : With a view to recover energy in the forms of fuel and power from urban and Industrial Wastes a "National Programme on Energy Recovery from Urban, Municipal and Industrial wastes" has been launched. The scheme provided fiscal and financial incentives for waste to energy projects. Besides, a UNDP/GEF assisted project on "Development of high Rate Biomethanation Process as Means of Reducing Green House Gas Emission" is under implementation.

10. **Investment in Public Enterprises : Indian Renewable Energy Development Agency (IREDA)** - IREDA has been set up to support various new and renewable sources of energy projects and schemes. The agency is responsible for financing such projects through internal resources, equity and mobilisation of funds from external agencies.

11. **National Institute of Renewable Energy (NIRE)** : The need for a separate Institute at the National Level was felt as there is no separate Institution responsible for conducting state-of-the art research and development activities in all the areas relating to renewable non-conventional energy sources, human resources development at all levels and devoted to conduct of convergent allied, associated and related activities leading to commercialisation of various renewable energy technologies. With this in view Sardar Swaran Singh National Institute of Renewable Energy has been established as a registered society under the Society's Registration Act xxi of 1860. During the current year various preparatory activities and constructions of the buildings and campus of the Institute, on Jallandhar Kapurthala road in Punjab, have been taken up.

12. **Other Items**: Includes provision for Information & Publicity, International Cooperation Regional Offices Technology information Forecasting Assessment and Databank (TIFAD). Women and Renewable Energy Development, National Project on Clean Energy Services for Rural Areas, Rural Energy Entrepreneurship and institutional Development. Project preparation assistance and Marketing Development. Export Promotion and for Special Demonstration Project. It also includes provision of Central financial assistance for setting up of State Nodal Agencies in the North East States including Sikkim for planning implementing and monitoring the Non-Conventional Energy Programmes in these states and human resource development.

The Ministry has been reorganised on the basis of end users applications of renewable energy systems and devices during the year 1993-94, in order to lay emphasis on generation of power, generation of energy from urban/municipal and industrial wastes and universalisation of rural energy programme of biogas and improved chulhas systems and commercialisation and market orientation of various NRSE Programmes.