

**MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES**

## DEMAND NO. 59

**Ministry of Non-Conventional Energy Sources**

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

(In crores of Rupees)

Major Head	Budget 2000-2001			Revised 2000-2001			Budget 2001-2002			
	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	
Revenue	325.45	5.30	330.75	241.97	5.15	247.12	414.80	5.32	420.12	
Capital	113.55	...	113.55	111.55	...	111.55	167.45	...	167.45	
<b>Total</b>	<b>439.00</b>	<b>5.30</b>	<b>444.30</b>	<b>353.52</b>	<b>5.15</b>	<b>358.67</b>	<b>582.25</b>	<b>5.32</b>	<b>587.57</b>	
1. Secretariat-Economic Services	3451	4.96	5.30	10.26	4.97	5.15	10.12	5.35	5.32	10.67
<b>Non-Conventional Energy Sources</b>										
2. Solar Energy Programme	2810	69.10	...	69.10	46.35	...	46.35	169.70	...	169.70
	3601	0.05	...	0.05	0.05	...	0.05	0.05	...	0.05
	3602	4.30	...	4.30	3.00	...	3.00	4.45	...	4.45
	4810	0.05	...	0.05	0.05	...	0.05	0.05	...	0.05
	<i>Total</i>	<i>73.50</i>	...	<i>73.50</i>	<i>49.45</i>	...	<i>49.45</i>	<i>174.25</i>	...	<i>174.25</i>
3. Biogas Programme & NBB	2810	48.60	...	48.60	50.50	...	50.50	48.85	...	48.85
	3601	17.90	...	17.90	12.00	...	12.00	16.10	...	16.10
	3602	...	...	...	...	...	...	...	...	...
	<i>Total</i>	<i>66.50</i>	...	<i>66.50</i>	<i>62.50</i>	...	<i>62.50</i>	<i>64.95</i>	...	<i>64.95</i>
4. Wind Energy Programme	2810	13.05	...	13.05	8.75	...	8.75	7.85	...	7.85
	3601	0.01	...	0.01	0.01	...	0.01	...	...	...
	3602	0.04	...	0.04	0.04	...	0.04	...	...	...
	<i>Total</i>	<i>13.10</i>	...	<i>13.10</i>	<i>8.80</i>	...	<i>8.80</i>	<i>7.85</i>	...	<i>7.85</i>
5. Bio-mass Programme	2810	37.70	...	37.70	18.50	...	18.50	18.80	...	18.80
6. Integrated Rural Energy Programme	2501	1.00	...	1.00	0.40	...	0.40	0.75	...	0.75
	2810	...	...	...	...	...	...	...	...	...
	3601	6.90	...	6.90	4.50	...	4.50	5.70	...	5.70
	3602	0.10	...	0.10	0.10	...	0.10	0.20	...	0.20
	<i>Total</i>	<i>8.00</i>	...	<i>8.00</i>	<i>5.00</i>	...	<i>5.00</i>	<i>6.65</i>	...	<i>6.65</i>
7. Other Sources of Energy	2810	26.79	...	26.79	20.75	...	20.75	30.90	...	30.90
	3601	0.35	...	0.35	0.15	...	0.15	0.50	...	0.50
	3602	0.15	...	0.15	0.10	...	0.10	0.10	...	0.10
	<i>Total</i>	<i>27.29</i>	...	<i>27.29</i>	<i>21.00</i>	...	<i>21.00</i>	<i>31.50</i>	...	<i>31.50</i>
8. Improved Chulhas	2810	14.99	...	14.99	9.49	...	9.49	10.24	...	10.24
	3601	4.00	...	4.00	7.00	...	7.00	5.80	...	5.80
	3602	0.01	...	0.01	0.01	...	0.01	0.01	...	0.01
	<i>Total</i>	<i>19.00</i>	...	<i>19.00</i>	<i>16.50</i>	...	<i>16.50</i>	<i>16.05</i>	...	<i>16.05</i>
9. Energy from Urban and Agricultural Wastes	2810	15.00	...	15.00	5.00	...	5.00	10.00	...	10.00
10. Investment in Public Enterprises	4810	29.00	...	29.00	27.00	...	27.00	27.00	...	27.00
	6810	84.50	...	84.50	84.50	...	84.50	140.40	...	140.40
	<i>Total</i>	<i>113.50</i>	...	<i>113.50</i>	<i>111.50</i>	...	<i>111.50</i>	<i>167.40</i>	...	<i>167.40</i>
11. National Institute of Renewable Energy	2810	1.00	...	1.00	0.05	...	0.05	1.00	...	1.00
12. Other Items	2810	15.45	...	15.45	15.25	...	15.25	44.45	...	44.45
13. Lumpsum provision for N.E. Region & Sikkim	2810	36.00	...	36.00	29.00	...	29.00	32.20	...	32.20
	3601	8.00	...	8.00	6.00	...	6.00	1.80	...	1.80
	<i>Total</i>	<i>44.00</i>	...	<i>44.00</i>	<i>35.00</i>	...	<i>35.00</i>	<i>34.00</i>	...	<i>34.00</i>
<b>Grand Total</b>		<b>439.00</b>	<b>5.30</b>	<b>444.30</b>	<b>353.52</b>	<b>5.15</b>	<b>358.67</b>	<b>582.25</b>	<b>5.32</b>	<b>587.57</b>
<b>B. Investment in Public enterprises</b>	Head of Budget Dev Support	I.E.B.R	Total	Budget Support	I.E.B.R	Total	Budget Support	I.E.B.R	Total	
12.01 Indian Renewable Energy Development Agency	12810	113.50	505.24	618.74	111.50	505.24	616.74	167.40	456.71	624.11
	<i>Total</i>	<i>113.50</i>	<i>505.24</i>	<i>618.74</i>	<i>111.50</i>	<i>505.24</i>	<i>616.74</i>	<i>167.40</i>	<i>456.71</i>	<i>624.11</i>
<b>C. Plan Outlay*</b>										
1. Non Conventional Sources of Energy	12810	439.00	505.24	944.24	353.22	505.24	858.46	582.25	456.71	1038.96
2. Special Programmes for Rural Development	12501	1.00	...	1.00	0.40	...	0.40	0.75	...	0.75
<b>Total</b>		<b>440.00</b>	<b>505.24</b>	<b>945.24</b>	<b>353.62</b>	<b>505.24</b>	<b>858.86</b>	<b>583.00</b>	<b>456.71</b>	<b>1039.71</b>

\* Inclusive of works outlay provided in the Demands of Ministry of Urban Development.

Demand No.80	12810	0.80	...	0.80	...	...	...	0.50	...	0.50
Demand No.81	12810	0.20	...	0.20	0.10	...	0.10	0.25	...	0.25
<b>Total</b>		<b>1.00</b>	...	<b>1.00</b>	<b>0.10</b>	...	<b>0.10</b>	<b>0.75</b>	...	<b>0.75</b>

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, Solar Photovoltaic Energy Programme includes 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 Programme covers R&amp;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 WB/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 both family type and bigger sized Community/Institutional/Night Soil Biogas Plants and also research and development on biogas. The National Project on Biogas Development (NPBD) inter-alia provided subsidy to farmers for setting up biogas plants and fees for Trunk job worker and rural energy Technicians for quality construction and repair and maintenance service for Biogas plants for a period of first three years. For Community, Institutional and Night soil Biogas Plants also, Government provides financial assistance.

**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 tubrines.

**5. Bio-mass/Bio-Energy Programmes :** 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 capital subsidy and interest subsidy are being provided for installation of these projects.

**6. Integrated Rural Energy Programme:** The IREP aims at developing planning and institutional capabilities in the States/UTs at the State, District and Block levels for preparing and implementing are based Integrated Rural Energy Plans and project through which the optimum mix of all types of energy sources is provided for meeting energy needs for subsistence and productive purposes of the micro region taking block as a unit of implementation. The programme includes Central and State Sector components. The Central Sector component provided support for developing capabilities for preparing and implementing energy plans, technical infrastructure, etc. The State Sector component is utilised for implementation of the block level energy plans and 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, 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 water resources at canals/

dam based fall, 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 develop 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 conserve fuelwood and other biomass materials, 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. It provided financial support for construction of improved chulhas, support for training, publicity and awareness raising and payment to self employed workers for construction and maintenance of improved chulhas for the first one year. The programme is being implemented since 1985-86 through State Government Departments/Nodal Agencies, Central Organisations like KVIC and a Non Governmental Organisation viz. AIWC. Further, self-employed workers are involved in the construction and installation of chulhas.

**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. Indian Renewable Energy Development Agency (IREDA):** IREDA has been set up to support various new and renewable sources of energy projects and schemes on a large scale by way of extending soft loans. The agency is responsible for financing such projects through internal resources, equity and mobilisation of funds from external agencies.

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 programmes of biogas and improved chulhas systems and commercialisation and market orientation of various NRSE Programmes.

**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 renewal/non-conventional energy sources, human resource development at all levels and devoted to conduct of convergent allied, associated and related activities leading to commercialisation of various renewal 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 are being taken up including finalisation of architectural design and plan for the buildings and campus of the Institute, on Jallandhar, Kapurthala road in Punjab.

**12. Other Items:** Includes provision for Information & Publicity, International Cooperation Regional Offices (TIFAD), Women and Renewable Energy Development, Rural Energy Enterpreneurship and Institutional Development, Project preparation assistance and Marketing Development and 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.