

17

**STANDING COMMITTEE
ON ENERGY
(1998-99)**

TWELFTH LOK SABHA

**MINISTRY OF NON-CONVENTIONAL
ENERGY SOURCES**

**DEMANDS FOR GRANTS
(1999-2000)**

SEVENTEENTH REPORT



**LOK SABHA SECRETARIAT
NEW DELHI**

8. 3657R April, 1999/Chaitra, 1921 (Saka)

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MINISTRY OF NON-CONVENTIONAL
ENERGY SOURCES

DEMANDS FOR GRANTS
(1999-2000)

Presented to Lok Sabha on 22.4.99

Laid in Rajya Sabha on 23.4.99



LOK SABHA SECRETARIAT
NEW DELHI

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COMPOSITION OF THE STANDING COMMITTEE ON ENERGY
(1998-99)

Shri K. Karunakaran — *Chairman*

MEMBERS

Lok Sabha

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- *3. Shri Tariq Anwar
4. Shri Parasram Bhardwaj
5. Smt. Rani Chitralekha Bhosle
6. Shri Bikash Chowdhury
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18. Shri Kanumuru Bapi Raju
19. Shri Braj Mohan Ram
20. Shri Anantha Venkatrami Reddy
21. Shri Nuthana Kalva Ramakrishna Reddy

*Ceased to be Member of the Committee *w.e.f.* 18.3.1999, consequent upon his nomination to Standing Committee on Urban and Rural Development.

(iv)

22. Dr. Jayanta Rongpi
23. Shri Larang Sai
24. Shri Francisco Sardinha
25. Shri Shailendra Kumar
26. Shri N.T. Shanmugam
27. Shri Th. Chaoba Singh
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43. Shri Nabam Robia

SECRETARIAT

- | | | |
|-----------------------|---|-----------------------------|
| 1. Dr. A.K. Pandey | — | <i>Additional Secretary</i> |
| 2. Shri John Joseph | — | <i>Joint Secretary</i> |
| 3. Shri P.K. Bhandari | — | <i>Deputy Secretary</i> |
| 4. Shri R.S. Kambo | — | <i>Under Secretary</i> |
| 5. Shri N.K. Jha | — | <i>Reporting Officer</i> |

INTRODUCTION

1. the Chairman, Standing Committee on Energy having been authorised by the Committee to present the Report on their behalf, present this Seventeenth Report (Twelfth Lok Sabha) on the Demands for Grants (1999-2000) relating to the Ministry of Non-Conventional Energy Sources.

2. The Committee took evidence of the representatives of Ministry of Non-Conventional Energy Sources on 5th April, 1999.

3. The Committee wish to thank the representatives of the Ministry of Non-Conventional Energy Sources who appeared before the Committee and placed their considered views. They also wish to thank the Ministry for furnishing the replies on the points raised by the Committee.

4. The Report was considered and adopted by the Committee at their sitting held on 16th April, 1999.

NEW DELHI;
April 17, 1999

Chaitra 27, 1921 (Saka)

K. KARUNAKARAN,
Chairman,
Standing Committee on Energy.

REPORT

PART - I

CHAPTER I

Introductory

Recognising the relevance of renewable energy sources, the Government of India set up in 1981 a Commission for Additional Sources of Energy (CASE), on the lines of the Space Commission and the Atomic Energy Commission in the Department of Science and Technology. A year later, a separate Department of Non-conventional Energy Sources was created in the Ministry of Energy. Ten years later, this was upgraded to the level of a Ministry. India has thus earned the distinction of being the only country in the world to have an exclusive Ministry for Non-Conventional Energy Sources (MENS) which has been implementing one of the world's largest programmes on renewable energy, like biogas, small Hydro Projects, Wind, Geothermal Energy, Solar Photovoltaic etc. spanning the entire spectrum of technologies targetted towards all sections of the society. As part of special initiative to develop the North-Eastern Region, the Ministry has earmarked 10% of its domestic budgetary support for the North-East States including Sikkim in its major programmes. It has also approved a scheme for providing central financial assistance to set up and strengthen the State nodal agencies. A women's Component Plan has been included in the Ministry's renewable energy programmes such as the National Programme on Improved Chulhas, National Project on Biogas Development, Renewable Energy Parks, Wind Mills Programmes, Solar Photovoltaic Programme and Information of Public Awareness Programme.

1.2 A four-fold strategy is being pursued by the Ministry to achieve its objectives :—

- (a) Providing budgetary support for the promotion of New and Renewable Sources of Energy (NRSE).
- (b) Promoting private investment in non-conventional energy through: fiscal incentives such as customs and excise duty reliefs, income tax holidays and accelerated depreciation; provision of facilities by SEBs for wheeling, banking, buy back and third party sale of energy from these projects at remunerative prices.
- (c) Mobilising internal resources through IREDA and other institutions for promotion of NRSE, involving private industries.

- (d) Mobilising resources from external agencies such as the World Bank, ADB, UNDP, GFE and bilateral agencies like KFW, DANIDA for use both by the Ministry directly and through IREDA.

1.3 The Ninth Plan proposals of the Ministry lay emphasis on meeting minimum energy needs for cooking, lighting and other decentralized village energy requirements. It proposes to consolidate and further accelerate the development and commercialization of technologies for grid quality power generation. The plan focuses on capability and capacity building in technical institutions, industry, SEBs, State Nodal Agencies, NGOs and on encouraging the development of entrepreneurship. It provides for suitable policy and institutional framework alongwith adequate resources mobilisation for wider diffusion of non-conventional energy in the country's energy scenario.

1.4 The Demands for Grants of the Ministry of Non-Conventional Energy Sources were laid on the table of Lok Sabha on 12th March, 1999. Demand for Grants No. 62 of the Ministry under which provision has been made for Plan and Non-Plan expenditure, consists of two parts viz. Revenue Section and Capital Section for the year 1999-2000. It contains the following figures :—

(Rs. in crore)

	Plan	Non-Plan	Total
Revenue Section	263.21	4.82	268.03
Capital Section	90.29	—	90.29
Total	353.50	4.82	358.32

A detailed statement showing the actual Revenue and Capital Expenditure for the year 1997-98, Budget Estimates, Revised Estimates for 1998-99 and Budget Estimates for 1999-2000 are given at Appendix.

1.5 Out of the total Demands for Rs. 358.32 crore the major Heads are M.H. 2810 relating to expenditure on non-conventional energy sources (Rs. 218.93 crore). M.H. 3601 and 3602 relating to grants for Centrally-Sponsored Plan Schemes to States/U.Ts (Rs. 37.63 crore), M.H. 4810 relating to capital outlay on Non-Conventional Energy Sources (Rs. 44.10 crore). and M.H. 6810 relating to loans and advances (Rs. 46. 19 crore).

1.6 The observations of the Committee on the basis of the scrutiny of Demands for Grants of the Ministry for the year 1999-2000 are brought out in succeeding Chapter.

CHAPTER II

A. Budgetary Allocation

The Ministry of Non-Conventional Energy Sources have presented Demands for Grants of Rs. 358.32 crore for the year 1999-2000 as against Rs. 228.68 crore (actual) in 1997-98 and Rs. 407.62 crore (BE) in 1998-99. The total budget allocation for the last three years has been as under : —

(Rs. in crore)

1997-98			1998-99		1999-2000
BE	RE	Actual	BE	RE	BE
341.88	194.15	228.68	407.62	304.42	358.32

2.2 When asked about the reasons for such wide gap between BEs and REs during the year 1997-98 and 1998-99, the MNES in a written reply furnished the details of Domestic Budgetary Support (DBS), Externally Aided Project (EAP), Gross Budgetary Support (GBS), Plan and Non-Plan-wise which is as given below :

(Rs. in crore)

	1997-98		
	BE	RE	Actual
DBS (Plan)	259.00	129.87	178.37
EAP (Plan)	80.13	60.13	46.00
Sub-Total-GBS (Plan)	339.13	190.00	224.37
Non-Plan	2.75	4.15	4.31
Grand Total	341.88	194.15	228.68

(Rs. in crore)

	1998-99	
	BE	RE
DBS (Plan)	254.50	219.08
EAP (Plan)	148.52	80.72
Sub-Total-GBS (Plan)	403.02	299.80
Non-Plan	4.60	4.62
Grand Total	407.62	304.42

	(Rs. in crore)
	1999-2000
	BE
DBS (Plan)	298.50
EAP (Plan)	55.00
Sub-Total-GBS (Plan)	353.50
Non-Plan	4.82
Grand Total	358.32

2.3 As may be seen from the above Table, during 1997-98 the BE of Rs. 341.88 crores (GBS), which included DBS of Rs. 259.00 crores, was reduced at the RE stage to Rs. 194.15 crores, placing Rs. 129.87 crores, as DBS.

2.4 Explaining the budgetary allocations and its utilisation in the previous years, the Secretary, MNES during evidence stated as under :—

".....This year, we have been asked to reduce our requirement from Rs. 407.62 crore to about Rs. 304.42 crore. We have been able to stick to that. We have a domestic budgetary support for the year 1999-2000 of Rs. 298.50 crore allocated by the Ministry of Finance whereas in the R.E. of this year, it is only Rs. 219.08 crore. So, there is a step up of around Rs. 79.82 crore. The expenditure pegged on Rs. 228.68 crore during 1997-98 is unusually low and in fact it was equal to the allocation level of 1994-95. One reason which is attributed for reduction of the outlay in the last year was that the pace of expenditure in the first half year was not good and that it was very marginal or minimal. This year, we will try to see that the sanction of schemes and the expenditure is uniformly spread throughout the year so that at the time of mid-year review which the Ministry of Finance takes for R.E. purposes, we are in a position to show them that we are in a position to spend the amount and that we have spend what proportionally ought to be spent in the first half year. With this approach, we are confident that we would not face much of a difficulty in regard to the allocation of funds. But then for programmes like small hydro of 3 to 25 MW which has been transferred to us, we should get additional budget. Then only we would be able to meet the targets and the goals which we have set. The allocation of budgetary support is only one part of the total financial package. The point which I would like to submit is that the fiscal concessions which the Ministry of Finance provides by way of income-tax concessions like accelerated depreciation, income-tax holiday, the facilities provided to infrastructural sector, power generating units and things of that nature, we would hope that the Ministry of Finance would continue. Accelerated depreciation facilities should be extended to small hydro. That is submission. The second part of the fiscal help would relate to Central Excise and customs. In the case of, for example solar wafers which are imported and highly power intensive we should be able to import it

cheap. We have enough capacity established for solar cells and modules. We do not require their help. We can make cells and modules here. So, if a sympathetic policy of Central Excise and Customs is also available to us, it would help our programme better."

2.5 When Committee enquired about the steps taken or proposed to be taken by the Government to ensure that the Budget Estimates are projected on realistic basis and also the rationale of allocating Rs. 358.32 crore during 1999-2000 when the actual expenditure during 1997-98 was much less the MNES in a written reply stated :

"The budget estimates are projected on a realistic basis within the overall five year plan outlay based on the allocation for the previous years, the actual expenditure thereon and the balance 9th Plan outlay. The budget estimates for this Ministry have gone up from Rs. 128.95 crore in the year 1992-93 to Rs. 407.62 crore in 1998-99."

2.6 The sector-wise details of IEBR for the MNES for the last three years, year-wise and the proposed allocation for 1999-2000 are given as under :—

Particulars	(Rs. in crore)						
	1996-97		1997-98		1998-99		1999-2000
	BE	RE	BE	RE	BE	RE	BE
External Aid received Direct	30.87	33.81	50.00	33.90	39.50	0.00	72.70
(i) ADB Loan	0.00	33.81	50.00	33.90	39.50	0.00	57.00
(ii) GEF Grant	30.87	0.00	0.00	0.00	0.00	0.00	15.70
Other IEBR	204.87	229.93	243.54	239.98	287.66	294.12	338.41
(i) Internal Accruals	10.09	10.60	13.50	13.00	49.88	49.88	63.81
(ii) Tax Free Bonds	100.00	100.00	100.00	100.00	100.00	50.00	100.00
(iii) Carry Forward Surplus	36.96	0.00	70.04	66.98	76.33	59.24	67.60
(iv) Repayment of Loan	32.82	0.00	60.00	60.00	61.45	60.00	82.00
(v) Banks FIs Loans	25.00	0.00	0.00	0.00	0.00	75.00	25.00
(vi) Others	0.00	119.33	0.00	0.00	0.00	0.00	0.00
Total IEBR	235.74	263.74	293.54	273.88	327.16	294.12	411.11

2.7 When asked about the reasons for increase in IEBR component during the last two years and in the year 1999-2000, the Ministry in a note stated as under :—

“The IEBR component is increasing during the last two years and in 1999-2000 and the reasons are given below :

- (a) During 1997-98 the increase in IEBR as compared to 1996-97 is on account of increase in internal accrual and carry forward surplus.
- (b) During 1998-99 the increase in IEBR as compared to 1997-98 is on account of additional Bank Loan proposed.
- (c) During 1999-2000 the projected increase is due to provision for ADB loan, an increase in projections for internal accruals, tax-free bonds, carry forward surplus and repayments of loans. Increase in internal accruals is due to the higher provisions made for Non Performing Assets (NPA) as per Reserves Bank of India (RBI) guidelines and provision for Forex risk for Asian Development Bank (ADB) loan. Carry forward surplus is expected to increase due to the GEF grant being availed and increase in equity received during in the year 1998-99.”

2.8 Giving the reasons for variation between BEs and REs during the last three years, the Ministry in a note stated as under :—

“(a) During 1996-97 the increase in RE from BE was mainly on account of the provisions made towards expected ADB loan and increase in other IEBR. (b) During 1997-98 the reduction in RE from BE was on account of the reduced ADB loan, which became effective only from July 1997 and reduced carry forward surplus due to reduction in actual mobilisation of tax free bonds. (c) During 1998-99 the reduction of RE from BE was on account of the reduction in ADB loan since sufficient balance amount is available from the previous year’s drawal.”

2.9 The Committee note that the Budgetary allocation for the year 1999-2000 has been placed at Rs. 358.32 crore against revised estimates of Rs. 304.42 crore for the year 1998-99 and BE of Rs. 407.06 crore. The Committee note that last year the cut was imposed by the Ministry of Finance due to slow pace of expenditure by MNES. The Committee hope & trust that this year the Ministry will make all out efforts to spread evenly its budgetary expenditure through out the year so that there is no need for Ministry of Finance to impose any cut at RE stage for this reason.

2.10 The Committee observe that a target of Rs. 411.11 crore out of total outlay Rs. 769.43 crore has been fixed for realisation of Internal and Extra Budgetary Resources (IEBR) during the year 1999-2000. Considering continued increase in the gap between BEs and REs of IEBR from Rs. 19.66 crore to Rs. 33.04 crore during the year 1997-98 and 1998-99,

respectively and noting the continued increase in the BEs from Rs. 293.54 crore during 1997-98, to Rs. 327.16 crore and Rs. 411.11 crore during 1998-99 and 1999-2000, respectively, the Committee are at a loss to understand the rationale behind fixation of such unachievable IEBR targets year after year. This amply prove that due care and caution was not exercised while formulating budgetary proposals resulting in slippage in the performance of plan activities for different schemes. The Committee, therefore, recommend that Ministry should take corrective actions in this regard and formulate realistic IEBR targets and then make all out efforts to achieve those targets.

B. Wind Power Programme

2.11 Wind energy is one of the clean and renewable energy sources which hold out the promise of meeting a significant portion of energy demand in the direct grid-connected modes - stand-alone and remote 'niche' applications (e.g. water pumping, desalination and telecommunications), in developing countries like India.

2.12. Out of the total 90,000 MW grid power generation capacity in the country, the share of renewable energy sources is 1378 MW only. Of this 992 MW (upto December 1998) has been contributed by wind power projects alone, 95% of which is commercial and the rest is from demonstration projects. Infact, India is the fourth largest wind power producer in the world.

2.13 During 1999-2000, a target of 100 MW through wind power projects, including private sector projects is envisaged out of the overall target of 1000 MW set for the Ninth Five Year Plan.

Supplementing further, an official of MNES during evidence stated : —

"We have a potential of 20,000 MW in the country. Out of this, the technical potential as per the grid capacity is 9000 MW. But as the overall grid capacity in the country would increase, the technical potential also for wind would increase. So, out of 24000 MW, as the secretary mentioned, by 2012, we are expecting about 10000 MW or so to come from wind. Primarily this capacity will be established. Tamil Nadu more or less reached the saturation point of about 7000 MW. They can add about 400 to 500 MW more because of the limiting factor being their overall grid size, we cannot penetrate more than 20 per cent in a State as per its established grid capacity. Tamil Nadu has grid capacity about 7000 MW. About 20 per cent of that is about 1400 MW. We have done about 750 MW. So, another about 600 MW or so can be undertaken in Tamil Nadu. But there is substantial potential emerging in Karnataka, Maharashtra, Andhra Pradesh, Kerala and Gujarat. We have dealt with Andhra Pradesh, Karnataka and Maharashtra and we expect these States to be the major wind belt in future. So, the bulk of their 10,000 MW or so of new capacity that we expect to be added in the next 12 years or so will be in that region.

Simultaneously we are also looking at the potentials in the hilly regions and the mountainous areas in the North and the North-East. But there the installations will be more of 'stand alone' nature because grid do not exists there. So, grid connected equipment will not be able to come there. So, there will be 'stand alone' project based on wind or hybrid project.

Financial allocations

2.14 The Financial outlays for wind power programme 1997-98 onwards is given below :—

Year	PLAN		(Rs. in crore)
	Budget Estimate	Revised Estimate	Actual Expenditure
1997-1998	4.85	2.50	3.08 (provisional)
1998-1999	4.82	4.10	—
1999-2000	8.00	—	—

From above it is clear that the BE for the year 1999-2000 is almost double *i.e.* Rs. 8 crore, as compared to the year 1998-99. When asked to state the new activities/schemes, proposed to be taken up during the current year, the Ministry in a written reply stated:

“An enhanced allocation of Rs. 8 crores has been provided in the Budget Estimate for 1999-2000 in order to compensate for the low allocations during the previous two years and to meet the committed liabilities for on-going projects/activities including R&D, C-WET, Wind Resource Assessment and Demonstration Programme.”

2.15 The year-wise targets and achievements of generating capacity from 1997-98 onwards are given below:

Year	Target (MW)	Achievements (MW)
1997-98	150	67
1998-99	150	23 (1st six months)
1999-2000	100	-

2.16 Explaining the targets fixed, the Ministry of Non-Conventional Energy Sources in a note explained :—

“The target of 150 MW for 1997-98 was set according to the general trend of annual installation of commercial projects during the Eighth Plan. During 1996-97, a capacity of about 170 MW was installed. However, despite the low achievement during 1997-98, it was expected that economic recovery would take place and private investments would increase during

1998-99. Therefore, the same target was retained for the current year after consultation with the wind industry. However, installation have not picked up as anticipated. While 23 MW was added during the first six months, the total installations during the year are expected to reach about 75 MW”.

2.17 It would be seen from the above table that the achievements were dismal considering the targets set forth for the purpose. Explaining the reasons for shortfall in achieving the targets fixed during the year 1997-98 and 1998-99 the Ministry, *inter-alia*, stated :

“Almost the entire wind power capacity is being added through commercial projects installed by the private sector, particularly by already established companies for captive consumption. Accelerated depreciation has been a major incentive for investments by such companies in wind power generation. The slow pace of installations since 1997-98 can mainly be attributed to the following factors - slow down of general economic and industrial activities which has curbed private investments; impact of the introduction of Minimum Alternative Tax (MAT) and reduction of Corporate Tax Rate on the extent of benefit from accelerated depreciation; inadequate power evacuation facilities and delays therein in major potential areas; delays in land allotment, forestry clearance and State-level approvals; and impact of the damage to wind turbines in Gujarat due to severe cyclonic storm in June, 1998”.

2.18 Informing about the problems being faced by the private developers, the Ministry in a note stated:—

“Some problems that are generally faced relate to infrastructure development and support facilities, absence of which detracts intending projects developers and delays implementation of wind power projects in the State. The following infrastructure and support facilities are required for undertaking wind farm projects:—

1. Access roads to the project site(s); (2) Extension of grid, upgradation of sub-stations and creation of adequate power evacuation facilities; and (3) Development of land, making land available by allotment or on long term lease at nominal rates, and allowing mortgage to Financial Institutions.

Other problems relate to delays in clearance and approval of the projects by the State Agencies and State Electricity Boards.”

2.19 Asked about the steps taken to remove such problems, the Ministry further stated:

“The Ministry is constantly in touch with the concerned authorities in different States to set up suitable institutional arrangements for timely clearance/approval of the projects and take steps for adequate development of infrastructure and support facilities. It has been suggested that a separate

Division be created in each State Electricity Board, headed by a Chief Engineer to deal with non-conventional energy power projects and an empowered Committee be set up to finalise land allotment. It has been further suggested that a time-bound Plan be prepared for upgradation and where necessary construction of new power evacuation facilities, including sub-stations and grid extensions”.

2.20 Explaining about the measures Government propose to encourage private developers in setting up wind power projects, the Government in a written note stated as under :

“Measures that have been taken to encourage private developers include periodic advice to the State Agencies and SEBs towards faster clearance of projects; timely forestry clearance; advance development of infrastructure at potential windy sites. Other steps include reduction in IREDA’s interest rates to 13% (taking into account various concessions available in their lending norms, interest rates for wind power projects would in certain conditions be as low as 8%). Other financial institutions; such as DFIs, REC PFC, etc. are also being motivated to finance wind power projects. Various lines of credit from multi-lateral and bilateral sources are being finalised to facilitate higher lending by IREDA to the wind power sector.All the potential States are being encouraged to either announce Policy Guidelines or remove deviations from MNES Guidelines. As a result of close follow-up by the Ministry, attractive policies have been announced during the year by Maharashtra and Rajasthan Governments, which are likely to induce investments in these States. Special emphasis is being given to the development of new areas in the States of Andhra Pradesh, Karnataka and Maharashtra. Interaction Meets/Seminars are regularly organised by MNES and IREDA with Public Sector Undertakings, Navratnas and Miniratnas, leading private corporate houses to encourage them in establishment of wind power projects to meet their power requirements and also as a business proposition by availing fiscal and financial concessions. States are also being persuaded to set up joint sector companies for establishment of Wind Energy Estates for small (investors in Karnataka, Maharashtra and Andhra Pradesh on the lines of the joint sector company setup in Madhya Pradesh.....”

2.21 It has been brought to the notice of Committee that some private developers are acquiring/alienating land far in excess of the requirement for the development of wind power projects. Asked how the MNES propose to curb such activities on the part of private developers, the Government in a written reply stated :

“Wind Farm Planning Guidelines which includes land use requirements for Wind Power Projects have been prepared and widely circulated to assist in optimal planning of these projects and avoid excessive land use. However, there is no direct control of Government over acquisition/alienation of

private land for wind power projects by private developers. In the case of Government land, it is being allotted by the States generally to serious developers after due scrutiny and appraisal of their applications, Detailed Project Reports, etc. The State Governments could cancel the allotment of a project if its implementation by a developer is not taken up within a stipulated timeframe.”

2.22 Out of the total 90,000 MW grid power generating capacity in the country, the share of renewable energy sources is 1378 MW only. Of this 992 MW has been contributed by Wind Power Projects alone. While India has wind power potential of 20,000 MW which have been scaled up recently to 45,000 MW. At the present rate of achievement, it will take decades to fully exploit the potentials of wind energy. The budgetary allocations for the programme have been very less. During 1999-2000 it is placed at Rs. 8.00 crore as against the year 1997-98 *i.e.* Rs. 4.85 crore, but the targets have been reduced from 150 MW to 100 MW during the same period and the achievements during the last two years were 67 MW and 23 MW as against the targets of 150 MW each for both the years. The Committee are unhappy to note that whatever little allocations were made, the Ministry could not utilise, even those fully. The Committee desire that all out efforts be made by the Ministry to fully utilise the increased allocations for the year 1999-2000 and fulfil the targets laid down by it under various schemes.

2.23 As regards to the various steps taken by the Ministry to remove the problems faced by the private developers, the Committee desire that the Government should impress upon the State Governments/SEBs the imperative need to develop wind potential, earnestly. The Committee also recommend that Government should prepare a ‘shelf of wind projects’ with all statutory clearances, so that private sector and other ‘Navratnas’ and ‘Miniratnas’ can develop these projects expeditiously. SEBs should take steps to extend grid and upgrade Sub-Stations and create power evacuation facilities. The Committee would also like to emphasise the need to operate and maintain the existing wind projects. The Committee have noted that the concessional duty import is permitted for setting up new wind farms. However, the spares required for the maintenance of existing units are not allowed concessional duties. The Committee recommend that Government should levy the same import duty, on the spares required for maintenance of existing units, as imposed on new machines for electric generations at wind farms.

2.24 The Committee note that to have investment in wind programmes, 100% accelerated depreciation has been allowed to private companies, whereby cent per cent investment in wind energy is permitted to be depreciated in the first year of installation. However, the impetus of wind energy was affected to a large extent by introduction of Minimum Alternative Tax (MAT). As all the companies will be required to pay 10% minimum tax, the Committee are of the view that as the success of wind power programme depends entirely on the level of private sector participation, such a tax will

impede the development of wind power. The Committee, while recommending that 100% depreciation be allowed to continue in the entire period of 9th Plan, also desire that investments made in wind power projects, be exempted from MAT, if it is in force.

2.25 The Committee have noted with concern the growing tendency on the part of private sector entrepreneurs in appropriating prime land, far in excess of their requirement for setting up wind farms. The Committee desire that such practices need to be curbed immediately. The Committee, therefore, recommend that suitable guidelines, in this regard should be framed and communicated to the State Governments for compliance. At the same time, the Committee emphasize that institutional mechanism be strengthened for timely clearance and approval of projects.

C. Solar Photovoltaic Programme

The Solar Photovoltaic Programme aims at developing cost effective SPV technology and its manufacturing base in the country for a large scale application of SPV system in different sectors of our economy. The components of programme include R&D, demonstration and utilisation and efforts for testing and standardization, commercialization and promotion of manufacturing activities of the state-of-the art SPV devices and systems in the country.

2.26 The actual for demonstration during 97-98 was Rs. 15.28 crores as against B.E. of Rs. 30.40 crores. The Budget Estimates and Revised Estimates for 1998-99 was Rs. 32 crore and Rs. 31.9 crore, respectively. The Budget Estimates for 1999-2000 has earmarked Rs. 40 crore. Giving reasons for variation amongst Actuals, BE & RE, the MNES in a written reply stated :

“The main reasons for variation amongst the actual expenditure during 1997-98 and BE/RE for 1998-99 is the restrictions imposed by Finance for release of funds to the programme implementing agencies under the 1997-98 Programmes. As a result only an amount of about Rs. 15.28 crore could be released to States during 1997-98. This also resulted in carrying forward a liability of about Rs. 13 crore to the next financial year.”

2.27 The following are new activities proposed for the year 1999-2000 :—

“The ongoing programmes of the Ministry are proposed to be continued in the coming year with greater emphasis on High Focus Areas. The emphasis is proposed on (a) The thrust of the programme will be on village electrification, with emphasis on solar home lighting systems and grid quality supply of electricity with pooling of resources from MNES and State Governments for rural electrification. (b) The Ministry would support a survey in conjunction with Rural Electrification Corporation to prepare a comprehensive and authentic list of the 18,000 villages which are believed to be in remote and isolated areas where grid supply is not feasible. (c) MNES would evolve a system of rating of manufacturers to ensure that only those products which meet the prescribed specifications are supplied under the programme. (d) In order to reduce the burden of the initial

payment for the solar systems, the State agencies have been advised to mobilize additional resources from other departments. Tribal Sub-Plan and Special Component Plan and Allocations available under MPLAD Schemes. (e) Niche applications and new uses such as solar water purification for drinking purposes in saline villages, traffic signalling, etc. would be encouraged. (f) Efforts for commercialization of solar applications such as installation of solar street lights and traffic police booths carrying advertisement in urban areas will be encouraged.

Functioning of SPV Systems

2.28 As regards the assessment of the functioning of different SPV systems which were installed earlier and the steps taken or proposed to be taken to renovate non-functioning units, the Ministry in a written reply stated :

"In the course of implementation of the solar photovoltaic programme, the Ministry got the functioning of SPV systems evaluated by independent professional and technical organizations such as National Productivity Council, Administrative Staff College of India and the Jadavpur University. Among the systems evaluated in these studies are solar street lights, home lighting systems, water pumps and solar lanterns. Among the States covered by the serves are Tamil Nadu, Andhra Pradesh, Maharashtra, Madhya Pradesh, Uttar Pradesh, Bihar, West Bengal and Orissa. Feedback is also obtained on a continuous basis from the Regional Offices of MNES as well as the State Nodal Agencies. Among the major conclusions that could be drawn from these studies were : (i) Where the systems have been maintained with reasonable care, they functioned quite well. In other cases the functionality dropped after a year or two. This was particularly true for solar street lights installed in unelectrified villages by State Electricity Boards which did not make any arrangements for the maintenance of batteries. (ii) Technical improvements were required in the systems to improve both their efficiency and reliability. (iii) After sales arrangements by manufacturers also needed to be strengthened.

2.29 Explaining the reasons for low functionalities of the system, a witness during evidence stated :—

"The solar street lights, which were installed mostly by State Electricity Boards at that time, were found to be non-functional in many cases. The percentage of failure ranged between 50 to 70. In fact, in one district of Andhra Pradesh, it was more than 90 per cent. When we went into the causes, we found that the Electricity Boards took up this street lighting mainly as a means of quick electrification of a village and claim credit for having electrified that village by putting one or two street lights there. But they never bothered to deploy staff or even organise routine maintenance once or twice in a month. Thereafter, we discontinued that programme with the Electricity Boards. Today, solar street lighting programme is done mostly through the State Renewable Energy Agencies after ascertaining that

they have organised proper maintenance of these systems. We have ourselves drawn up stringent specifications for these and all systems have to be procured according to the specifications. Another thing is that manufacturer themselves, at our instance, have carried out improvements. So, the failure rates today have appreciably come down because of these measures. Then, there is the important point about the annual maintenance contract which the Secretary has mentioned. For a minimum period of five years, the user agencies or the State Agencies must organise proper maintenance contracts.”

2.30 On the basis of the field experiences gained, the following actions were taken by the Ministry in a bid to improve the efficiency of SPV Systems:—

- (i) Technical improvements have been carried out in systems such as street lights, water pumps and solar lanterns. This was done by manufacturers at the instance of the Ministry. As an example the timer devices in street lights were dispensed with and the systems were designed to function from dusk to dawn. The light sensing mechanism was also changed. Larger DC pumps were introduced on the basis of response from farmers.
- (ii) The Ministry also worked out detailed specifications for the major products supported under the subsidy programme viz. solar lantern, home lighting system, street light and water pumping system. All implementing agencies are required to procure systems which conform to these specifications.
- (iii) Test facilities have been created during the last three to four years at the Solar Energy Centre as well as at other institutions in Calcutta, Bangalore and Trivandrum. These facilities are being used by manufacturers to get their products tested according to the specifications stipulated by the Ministry.
- (iv) To facilitate proper use and maintenance, every system is required to be supplied with a users manual.
- (v) The specifications laid down by MNES also require all products to carry a warranty by the manufacturers for a period of at least one year. In respect for PV modules this warranty extend to a period of 10 years.
- (vi) A system of annual maintenance contracts has been introduced in the guidelines of the programmes. Procurement is to be made only from those manufacturers who are prepared to take responsibility for maintenance under such contracts. The contracts also covered supply of the spares.
- (vii) Manufacturers and state agencies have been encouraged to organize training programmes for technicians who can repair systems in the field. Some training programme have also been organized through IREDA.

- (viii) The Ministry has supported the establishment of 'Aditya' solar shop through state renewable energy agencies and a few NGOs. Twelve such shops are presently functioning. The shops offer repair facilities for solar products.

2.31 When asked to explain the response of the State Government & Private agencies in the implementation of SPV System, the Secretary, MNES replied during evidence :—

“Mostly we rely on the States for the purposes of individual beneficiary oriented schemes. In this area, we require substantial help from the State Nodal Agencies and the State Governments and their concerned Departments. In different states, different implementing agencies are there. We have been trying to bring them more or less under one umbrella but there are historical factors which we have to live with. But we are getting supports except in very stray cases. One such area is the North East where there are various factors. Firstly, the administrative machinery is not geared up to this, Secondly, corresponding funds available in their budget itself is very poor. Last year, we sanctioned a scheme for setting up State nodal agencies in the North-East. We are glad to say that we have sanctioned nodal agencies for all the North-Eastern States except where they are already in existence like that of Arunachal Pradesh. That is one of the administrative measure which we have taken in order to strengthen the implementing machinery. In so far as grid connected power is concerned, mostly, we want to approach it on the basis of fiscal concessions and financial incentives which are provided. Reliance on the State machinery would be in the case of stand alone rural beneficiary oriented social programmes of the Ministry. But in the case of grid connected power, we require mostly the help of the State Electricity Boards. As a step in this direction, we have made a model non-conventional energy policy regarding banking, wheeling, buy back etc. and other things. The State Electricity Boards are being requested in this regard. We have suggested a rate of Rs. 2.25 per unit as of 1994-95 with 5 per cent escalation. This is indicative range which we have shown to the Electricity Boards. Many States have been agreeing to this and except in the case of small hydro, some States said that they cannot give five per cent escalation every year because there is no material involved. They are true in that respect. Otherwise, most of the States have come forward for this. But we require the help of the electricity Boards and progressively, we also require the help of regulatory agencies which are being set up in the country”.

2.32 As regards the high cost of silicon wafers, one of the important raw materials used in the production of solar cells, the Secretary, MNES informed as under :

“.....in the case of silicon wafers, the customs duty is around 31 per cent. It is a highly power intensive material. We should be able to get it at a

cheaper rate from outside. Unless that is done, we would not be able to reduce the cost. At a megawatt range, a solar photovoltaic power plant would cost almost Rs. 35 to Rs. 38 crores. It is a very costly proposition and they are proceeding internationally on the assumption that large volumes can be created and the cost of wafers can be brought down. We should be able to substantially reduce cost. But as of now, it is economical in remote areas like Ladakh, we find that it involves tremendous cost. Subject to fiscal concession being available cost can come down.

2.33 Elaborating the matter another witness added during evidence :

“As far as the grid connected power is concerned, I think, we are still a long way today to claim that solar power will be economical. There are many applications in unelectrified places, in villages and thousands of other locations where there is no electricity or reliable source of electricity where solar power is economical especially for small load. That is why, today for telecommunications, for railways, for para military forces and for number of other users, we find that solar power is economical and today in the country about 65 per cent of the market is in fact accounted for entirely by these commercial type of market in the sense that the user agencies prefer solar in spite of its high cost because it still works out to be cheaper than diesel or other alternatives in that particular location”.

“Sir, on silicon wafer, today approximately 80 to 85 per cent of our requirement of silicon wafers is imported. The Indian production is accounting for only the balance 15% or so.....”

2.34 It has been brought to the notice of the Committee that one of the reasons for the failure of SPV programme is lack of after sale service. Clarifying the position, the MNES in a note furnished to the Committee stated as under :

“Under the programme, manufacturers are required to provide a warranty for the SPV systems for a minimum period of one year for the complete system (including the battery) and minimum ten years for the PV module(s) from the date of supply. For ensuring the after sales service, the ministry has been advising the programme implementing agencies to enter into Annual Maintenance Contracts (AMC) with the manufacturers/suppliers for the SPV systems for period of four years after the one year warranty period. The Ministry has also been encouraging state agencies to organize training programmes and manufacturers to expand their after - sale service facilities. The proposed concentration of the programme in High Focus Areas will help in developing the service facilities in these areas”.

2.35 During course of evidence, Secretary (MNES) stated :

“For maintenance, we are now insisting that any such system when it is put up, should invariably have one-year warranty and also a five-year maintenance contract. We are insisting upon the State Nodal Agency that

the company which is supplying, should be required to give a maintenance contract for five year and pay for that. This is one thing which we have started insisting on. Of course, with regard to module, we insist that it should have a guarantee for a period of ten year.”

High Focus Areas

2.36 For giving thrust to the SPV programme. Certain high focus areas were identified in the country for implementation of 1998-99 SPV Programme. These areas are eminently suitable for large scale deployment of SPV systems. The programme implementing state organisations were requested to implement atleast 50% of the targets allocated to them in the high focus areas identified to their States. The high focus areas identified are :—

1. All the 7 States in the North Eastern Region (including Sikkim)
2. Andaman & Nicobar Islands
3. Lakshadweep Islands
4. Entire State of Jammu & Kashmir
5. Hill Districts of Uttar Pradesh
6. Chhota Nagpur Region in Bihar
7. Sundarban & Sagar Island Region in West Bengal
8. KBK Region in Orissa
9. Jaisalmer & Barmer Districts in Rajasthan
10. Bastar District in Madhya Pradesh

2.37 The high focus areas were identified under the programme for the first time in the year 1997-98. The targets and achievements of the States which have been declared fully as high focus areas during 1997-98 and 1998-99 are given below.

(SL - Solar Lanterns, HLS-Home Lighting Systems, SLS-Street Lighting Systems and PPs-Power Plants and other systems)

1997-98

Sl. No.	State / UT	SL (Nos.) T	SL (Nos.) A	HLS (Nos.) T	HLS (Nos.) A	SLS (Nos.) T	SLS (Nos.) A	PPs (Kwp) T	PPs (Kwp) A
1	2	3	4	5	6	7	8	9	10
1.	Aruncahal Pradesh	1,000	919	200	205	-	18	-	-
2.	Assam	100	-	200	200	-	-	4.5	-
3.	Jammu & Kashmir	2,500	-	5000	185	-	-	83.70	-

1	2	3	4	5	6	7	8	9	10
4. Manipur		1,000	2,133	150	-	-	19	-	-
5. Meghalaya		300	50	300	40	-	5	3.0	3.00
6. Mizoram		350	714	-	641	-	-	-	-
7. Nagaland		-	-	-	-	-	-	-	-
8. Sikkim		50	74	-	75	-	34	-	-
9. Tripura		1,000	1,368	500	525	-	87	-	-
10. A&N Islands		-	132	-	-	-	-	-	-
11. Lakshadweep		-	600	-	-	-	74	-	-

1998-99*

Sl. No.	State / UT	SL (Nos.) T	SL (Nos.) A	HLS (Nos.) T	HLS (Nos.) A	SLS (Nos.) T	SLS (Nos.) A	PPS (Nos.) T	PPS (Nos.) A
1.	Arunachal Pradesh	1,000	1,028	400	152	-	-	-	-
2.	Assam	100	100	400	300	-	-	-	-
3.	Jammu & Kashmir	2,000	1,800	4,000	2,484	-	-	20	-
4.	Manipur	1,000	500	200	50	-	-	-	-
5.	Meghalaya	600	500	50	-	-	-	-	-
6.	Mizoram	850	838	100	235	-	-	-	-
7.	Nagaland	-	-	50	-	20	-	-	-
8.	Sikkim	50	-	50	4	-	-	-	-
9.	Tripura	2,500	1,224	100	55	30	5	-	-
10.	A&N Islands	-	13	-	-	-	-	-	-
11.	Lakshadweep	3,000	1,000	-	-	-	55	-	-

*Based on partial information.

2.38 When asked to explain the reasons for low achievement of targets in High Focus Areas, one representative of the Ministry during evidence stated as under :—

“I would like to submit that this concept was introduced only two years ago. At the moment, we cannot say that as far as achievement is concerned, it is good or not. I would admit that there have been shortfalls, particularly in

States like Jammu & Kashmir where the implementation itself came to a standstill due to various reasons. It requires a lot of encouragement to be given to the State Agencies and to mobilise them to actually do as much as possible in these high focus areas. The areas are selected on the basis of remoteness and having regard to the level of electrification. That means, they are really in the interiors where the electricity lines cannot go. Therefore, there is a little difficulty and reluctance on the part of the State agencies to work in those areas. But we are doing our best in the new financial year, the thrust is going to be increased further in such areas."

SPV Water Pumping System for Agriculture and Related uses.

2.39 The programme supports the deployment of photovoltaic pumping systems for agriculture and related uses such as irrigation, horticulture, drinking water supply etc.

2.40 The objectives of the programme include gradual introduction of SPV water pumping systems, developing of marketing infrastructure for SPV water pumping systems and obtaining direct feedback on the performance and utilisation of SPV water pumping systems for meeting the specific needs of the users in different agro-climatic conditions for different categories of uses and various end uses.

2.41 The Indian Renewable Energy Development Agency (IREDA) and Rural Electrification Corporation (REC) and State Nodal Agencies are implementing the programmes.

Budgetary allocations

2.42 The BE & RE for the year 1997-98, 1998-99 and the BE for the year 1999-2000 relating to SPV Water Pumping System for Agriculture and related works is given below :—

(Rs. in crores)

1997-98			1998-99		1999-2000
BE	RE	Actual	BE	RE	BE
13.00	0.40	0.05	7.50	7.50	9.00

The physical targets and achievements set for the year 1997-98, 1998-99 and the target for the year 1999-2000 is given below :—

1997-98		1998-99		1999-2000	
Target	Achievement	Target	Achievement	Target	Achievement
1000	528	1000	306*	500	—

*Upto 30.12.98

2.43 Asked about the reasons for variation in BEs during the year 1997-98, 1998-99 and 1999-2000, the Ministry in a written reply informed as under :—

“During 1997-98, an amount of Rs. 13 crores was proposed in the BE; however, due to slow progress of implementation the amount was not spent. Therefore, during 1998-99 a provision of Rs. 7.5 crore is made on the basis of likely requirement of funds to be released to the implementing agencies even though no fresh targets were allocated to IREDA. For the year 1999-2000, an amount of Rs. 9 crores is proposed on the basis of requirement of funds for new targets and commitment of funds for the earlier targets allocated to the implementing agencies.”

2.44 The reasons for shortfall in achieving targets in the year 1997-98 and 1998-99, are as under :—

“(a) In view of high initial cost of the solar PV water pumping systems and subsidised electricity tariffs for agriculture, small farmers are reluctant to purchase these systems. (b) The financial intermediaries participating in the scheme are providing solar PV water pumping systems to end users on lease finance basis, taking benefit of 100% depreciation. However, due to overall reduction in the income tax rates and lower demand for “high interest” goods the leasing companies are not able to expand the operations relating to PV pumps. This has resulted in lower achievements during 1997-98 and 1998-99.”

2.45 When asked about the percentage of non-functional SPV water pumps as on 31.12.98, the Ministry in a written note stated as under :—

“In the pre-monsoon season 353 systems were evaluated for technical performance and 77% of the systems were found to be functional. In the post-monsoon season 365 systems were technically evaluated and 81% systems were found to be functional.”

2.46 The following steps have been taken for improving the implementation of the scheme :—

“To overcome some of the difficulties in implementation of the scheme Ministry has introduced certain changes in the scheme : (a) The financial limits on maximum amount of subsidy to users and soft loan have been enhanced, which is expected to reduce the initial cost burden of the users (b) The State Nodal agencies and REC are being encouraged to install PV water pumping systems in addition to the direct marketing efforts of the manufacturers and financial intermediaries (c) With a view to increase general awareness about solar pumps and promote the marketing efforts by the manufacturers, MNES is providing partial financial support to manufacturers for their publicity related expenses. Further, IREDA is continuing their promotional efforts through publication of brochures on solar pumps, newspaper advertisements etc. It is proposed to encourage

- (i) use of solar pumps alongwith drip irrigation systems which is expected to improve the viability of systems due to irrigation of larger land holdings
- (ii) installation of solar pumps of IREP blocks.”

2.47 Supplementing further, Secretary (MNES) during the evidence stated:—

“.....That is one of the programmes that we have in the Ministry. The typical 900 watt pump costs about Rs. 2.5 lakh. The Ministry has a scheme in which subsidy is provided to the farmers and also a soft loan. This programme has certain difficulties in terms of actually being able to convince farmers to put investment in this; in spite of the subsidy it is still a burden on the user. Therefore, at the moment the programme has covered about 2,900 pumps in the country and in Madhya Pradesh, about 56 pumps have been installed. A wider spread of this technology will be possible only when the cost comes down. There is also a lot more farmer education that needs to be done about the type of crops that can be irrigated.”

2.48 The Committee are concerned to note that Solar Photovoltaic Programme, which have laudable schemes for use as heat and light, has not picked-up, inspite of the subsidies offered by the Government owing to high and prohibitive capital cost. For instance, power generated through SPV power plant, cost anything between Rs. 35-38 crore per MW. Similarly, 900 Watt irrigation pumps costs Rs. 2.5 lakh. As a result, their use has been restricted to a large extent. The present cost of production of solar cell in the country is very high. Eighty per cent of the requirement of silicon wafer required for the manufacture of solar cells is met through imports. The high incidence of custom and excise duty, make the manufacture of silicon wafer an expensive proposition. The Committee recommend that for the sustenance of SPV programme, steps should be taken to reduce the production cost of silicon wafer. It is in this context, the Committee recommend that Government should not only reduce import duty on silicon wafer from present level of 30% to 4-5%, the excise duty leviable, may also be abolished or reduced considerably.

2.49 The Committee have learnt that Government had in May 1997 decided to undertake survey of unelectrified villages and prepare a comprehensive list of 18,000 villages believed to be in remote and isolated areas where grid supply is not feasible [vide 9th Report (1998-99) Twelfth Lok Sabha of Standing Committee on Energy]. The Committee have noted that the only hope of these villages for electrification through SPV system has been belied as the proposal has not moved beyond planning stage, even after a lapse of 2 years. The Committee view this with serious concern and recommend that MNES in conjunction with REC should take up the task of electrification of these villages, without any further delay in a time-bound manner and apprise the Committee about the progress made within 3 months of presentation of this Report.

2.50 The Committee have observed that in the absence of maintenance and after sale services, completed projects and Systems/Programmes are not yielding desired results. The Committee are of the view that the projects or programmes once completed ought to be continuously monitored to ensure their operations with optimum efficiency. The Committee, therefore, desire that a separate Cell should be constituted in the Ministry for the purpose. It should carry out spot visits and ensure running of the systems unhindered.

2.51 Solar Photovoltaic Water Pumping System for Agriculture and Related uses is one of important programme in ameliorating the quality of life particularly the farmers living in rural areas. But, the Committee note with serious concern that the programmes relating to SPV Water Pumping System for Agriculture and Related uses are languishing. During 1997-98, the actual expenditure was as low as Rs. 50 lakh out of Rs. 13 crore (RE) earmarked. The Committee feel that the Government should take steps for effective implementation of the scheme.

2.52 The Committee note that out of the Nine States and two U.Ts. that have been fully treated as high focus areas under the photovoltaic programme, four North Eastern States have no Nodal Agencies and some others have been suffering from sever law and order problems for the last many years. This resulted in either no or very low achievements during the last two years particularly in power projects and street lighting systems. The Committee therefore, would like to suggest that the states/which have high Focus Areas are given encouragements to ensure the fulfillment of the targets in their areas. The Government should also ensure that the funds earmarked for these projects are not diverted for any other purpose.

D. Energy from Waste

2.53 The rapid urbanisation and industrialisation have led to the piling up of waste materials of diverse nature generated from human activities, not only in big cities but also in smaller towns. This, in turn had led to increasing pollution and environmental degradation posing considerable hazards to public health.

2.54 In recent years, technologies have been developed which not only help reduce the quantity of wastes and improve their quality to meet the required pollution control standards but also generate substantial quantity of decentralized energy. According to conservative estimates, about 27 million tonnes of solid waste and about 4400 million cubic metres of liquid waste is generated every year by urban and municipal sector in the country in addition to a large quantity of waste in the industrial sector which translates into a potential of generating about 1000 MW of power from urban and municipal wastes and about 700 MW from industrial wastes in the country.

2.55 The Ministry of Non-Conventional Energy Sources (MNES) started promoting these technologies through the National Programme on Energy

Recovery from Urban, Municipal and Industrial Wastes and the UNDP/GEF assisted project on Development of High-Rate Biomethanation processes as a means of Reducing Green House Gases Emission during the year 1995.

2.56 The actual of 1997-98, BE & RE for the year 1998-99 and BE for 1999-2000 and Physical targets and achievements during the years is given below :—

(Rs. in crore)

Financial (Rupees in crore)				Physical (MWe)	
Year	BE	RE	Actual Expenditure	Targets	Achievements
1997-98	8.00	1.50	0.62	5	1
1998-99	6.00	4.10	3.55	5	3
1999-2000	12.00				

2.57 When asked to explain the reason for variation in BE and RE during the year 1998-99 and the reasons for variation in BEs for the year 1998-99 and 1999-2000 the Government in their reply stated :

“The Budget Estimates for the year 1998-99 were formulated by taking into account the proposals for setting up of a few projects under both the National Programme on Energy Recovery from Urban, Municipal and Industrial Wastes and the UNDP/GEF assisted project on Development of High Rate Biomethanation Processes as Means of Reducing Green House Gases Emission.”

2.58 The downward revision in BE for the year 1998-99 had been proposed due to the reasons given below :—

“The proposals for setting up projects for recovery of energy from urban and industrial waste, which formed the basis for the Budget Estimates, could not mature due to delays in finalisation by the entrepreneurs of various tie-ups for finances, technology, supply of garbage and evacuation of power, etc. The delays have also occurred due to involvement of a number of agencies like State Governments, Financial Institutions, Municipal Corporations, States Electricity Boards, etc. for specific approvals and agreements thus delaying the commencement of the projects and thereby reducing the requirement of funds during the year. The delays in execution of demonstration Sub-projects under UNDP/GEF assisted project on ‘Development of High Rate Biomethanation Processes’ are mainly due to the failure of nine of the originally identified beneficiary organisations to meet their commitments for meeting 50% cost of the demonstration Sub-projects. This necessitated identification of fresh sites and restarting the whole process of selection of technology, preparation of detailed project reports, selection of turn-key execution agency, etc.”

2.59 Explaining the higher allocations for the year 1999-2000, the Ministry further stated :—

“A higher BE has been proposed for the year 1999-2000 as compared to that of 1998-99 due to the fact that the proposals which have been in the process of development under both the National programme on Energy Recovery from Urban, Municipal and Industrial Waste as well as the UNDP/GEF assisted project on ‘Development of High Rate Biomethanation processes’ are expected to mature during the year and the execution of work on these sub-projects is expected to commence during the year 1999-2000. This will increase the requirement of funds as compared to last year. Moreover, the Budget Estimates for the year 1999-2000 also include liabilities on account of the projects, which have already started during the year 1998-99.”

2.60 The Committee were informed that the Government is providing a number of fiscal incentives apart from loan assistance from IREDA. Explaining the various steps which MNES have taken to enthruse Urban Local Bodies and Industries, to opt for such schemes, the Government in their written reply stated:

“Besides providing Central Financial Assistance for setting up of projects for recovery of energy from waste, MNES has made provisions for financial incentives to Urban Local Bodies for providing land at nominal lease rent on a long-term basis and supply of garbage free from debris and rubble at the project site free of cost. Provision has also been made for financial incentives to the State Electricity Board for providing the facilities of evacuation, wheeling and banking, purchase or third party sale of power generated from such projects. MNES has also been organising Seminars, Workshops, Training Programmes and disseminating information through print and electronic media for creating awareness among all concerned.

Ministry of Non-Conventional Energy Sources has issued guidelines to State Govts. for providing land at nominal lease rent on long term basis, supplying garbage free of cost at project site and for providing facilities for evacuation of power generated from waste to energy projects, with facilities for wheeling, banking, third-party sale and purchase of power by State Electricity Boards at Rs. 2.25/Kwh (Base year 1994-95 with 5% annual escalation).

In accordance with the Ministry’s guidelines, some State Governments namely Andhra Pradesh, Harayana, Karnataka, Madhya Pradesh, Maharashtra, Tamil Nadu and Uttar Pradesh have also announced policy measures to encourage setting up of Waste - to Energy Projects. The measures announced by the States of Madhya Pradesh and Maharashtra also include Sales Tax benefit for the promoters of projects for generation of power from renewable sources of energy including Waste-to-Energy Projects”.

Loan Assistance from IREDA

2.61 Apart from these incentives the India Renewable Energy Development Agency (IRDEA), which is the financing arm of the Ministry of Non-Conventional Energy Sources also provides concessional finance for Waste-to-Energy Projects. IREDA's financing norms for the year 1998-99 for waste-to-energy projects are as follows :—

Sector	Interest Rate (exclusive of inst. tax (5 pa)	Repayment Period including Moratorium (Maximum)	Moratorium (Maximum) (Years)	Minimum Promoters Contribution (%)	Terms Long/ lending Norms of IREDA
Industrial Wastes	15.00	10 years	2 years	25	Upto 75% of the project cost
Municipal Wastes	10.00	10 years	2 years	25	Upto 75% of the project cost

2.62 Explaining the utility of demonstration projects, the Government in a written note stated :

“The projects with an aggregate capacity of about 7.00 Mwe, which are first of their kind in the country, on their own strength are not expected to have any sizable impact on the energy scenario of the country, however, these projects were meant to demonstrate the techno-economic viability of technologies and processes for recovery of energy from wastes and to create awareness among all user groups. The success of these projects will therefore facilitate accelerated development of this sector, which is estimated to have a potential of about 1700 MW of power”.

2.63 The Committee have observed that energy from waste is yet another programme for improving the quality of life in rural areas. It makes available a valuable energy source which can be used for generation of heat or electricity. In the rural sector this will have additional positive impact on the quality of life, deforestation etc. Additionally, this can also generate valuable sludge which can be used as manure. The Committee are distressed to note the slow progress made in utilising the funds and realising the given targets fully. As against the actual expenditure of Rs. 62 lakh during 1997-98 and anticipated expenditure of Rs. 6.00 crore during 1998-99, the Ministry have been given Rs. 12.00 crore for the year 1999-2000. The administrative slackness appear to be instrumental in neither meeting the physical targets nor achieving the financial goals. The Committee would like to emphasise the development of a comprehensive plan so that the amount asked for is utilised fully. The Committee suggest that results achieved/data collected at the demonstration projects should be widely publicised amongst entrepreneurs so that private investment can be attracted in this field.

E. Biomass Power Programme

2.64 The National Programme on Biomass Power Generation includes: Biomass based Power Generation : Biomass/Bagasse based Power Generation: Taluka Level Biomass based project and Taluka Level Biomass Assessment Studies.

2.65 The Programme are aimed at establishing techno-commercial feasibility and viability of power generation from biomass materials which are either waste or sub-optimally utilised.

2.66 The technology of biomass combustion based power generation is similar to coal thermal power projects wherein the biomass is burnt in boiler to generate steam which is used to drive a turbine to generate electricity. The gasifier based power generation involves conversion of solid biomass into a combustible gas through thermo-chemical combustion which is used in dual-fuel or gas engine/turbine to generate electricity.

2.67 During 1999-2000 a target of 40 MW through Biomass combustion and cogeneration is envisaged out of the overall target of 400 MW set for the Ninth Five Year Plan Rs. 18 crore is allocated for the year 1999-2000.

2.68 The BE, RE and actual expenditure for the years 1997-98, 1998-99 and 1999-2000 are given below :—

(Rs in crores)

Year	BE	RE	Expenditure
1997-98	7.00	2.05	6.56
1998-99	7.50	7.00	—
1999-2000	18.00	—	—

Year-wise targets and achievements of generating capacity since 1997-98 is given below :—

Year (MW)	Targets (MW)	Achievements
1997-98	45	41.5
1998-99	40	20.5 (31.12.98)
1999-2000	40	—

2.69 When asked about the reasons for variation in BEs and REs during the years 1997-98 and 1998-99; the MNES stated :—

“RE for 1997-98 which was brought down from BE of Rs. 7.00 crores to Rs. 1.00 crore was restored to the original BE level i.e. Rs. 7.00 crores later

in the year against which an expenditure of Rs. 6.56 crores was incurred. The difference between BE and RE in the year 1998-99 is on account of general budget cut. Expenditure during the year 1998-99 is likely to be fully utilized.”

2.70 When the Committee pointed out that the Budget Estimates for the year 1999-2000 is more than double of the year 1998-99 and desired to know new schemes proposed to be taken up during the year, the MNES in a written note stated :—

“The Budget Estimates for the year 1999-2000 has been kept at Rs. 18 crore in anticipation of considerable higher out-go commencing next year on projects which have now reached finalisation, after project preparation and other preparatory work during the preceding years. The out-go will be in the nature of capital subsidy-cum-interest subsidy for a limited number of demonstration bagasse co-generation projects in cooperatives/public sector sugar mills and interest subsidy for commercial bagasse co-generation projects, as per the approved schemes for the Ministry. In addition interest subsidy is also likely to be provided for other commercial biomass power projects, which are near finalisation. The Biomass Assessment Studies are proposed to be extended to cover 100 additional talukas during the next year. Funds will also be utilised for meeting the committed liabilities of on-going projects, comprising capital subsidy for a biomass power project; interest subsidy for five bagasse co-generation projects; and further grants for 63 Biomass Assessment Studies taken up during the current year. The BE for 1999-2000 is accordingly based on realistic estimates covering committed liabilities of on-going projects as well as new projects to be taken up during the year.”

2.71 Explaining the correlation between targets and allocations, the MNES in a note stated :

“.....The completion of biomass and bagasse co-generation projects from concept to commissioning normally spreads over 18-24 months. There is no direct correlation, therefore, on an annual basis between budgetary allocations and physical targets. The budget provisions are made on the basis of phased release of funds depending upon the progress of project implementation. The physical target set for a particularly year relates to the anticipated additional capacity likely to be actually commissioned during 1999-2000, therefore, a further capacity of 40 MW is likely to be added.”

2.72 The actual achievement against the target of 40 MW for the current year is 43.5 MW as on 15th March, 1999. The target has therefore, been exceeded.

2.73 The Committee note that financial & physical targets of Biomass Power Programme have not been met during the years 1997-98 and 1998-99. But a higher budgetary allocations which is more than double of the last year allocations has been sought for the year 1999-2000. The Committee doubt

whether the Ministry would be able to utilise the budgeted amount fully. The Committee have observed that biomass can constitute 14% of the world energy resources and 38% of the energy consumed in the developing countries. The power projects based on biomass also offer new avenues for employment through collection, storage, handling and efficient utilization of biomass material. There exists 19,500 MW of Biomass power potential consisting of 16,000 from surplus biomass and 35,00 MW from bagasse (co-generation) in the existing sugar mills. The Committee are constrained to note that only 141 MW capacity has been harnessed and another 180 MW is under construction. The Committee are of the opinion that in spite of incentives offered, promotional activities undertaken and technology base provided the results are not encouraging. The Committee are of the view that this new frontier, offer environment benign technology which has immense potential and recommend that Government should renew their efforts and tap the potential.

2.74 The Committee note that during the year 1998-99 budgetary allocations was Rs.7.50 crore which was reduced to Rs.7 crore at RE. But so far achievement of targets is concerned, against the target of 40 MW only 20.5 MV could be achieved upto 31.12.98. The Ministry's argument that there is no direct correlation on annual basis between budgetary allocations and physical targets is difficult to accept. Without any correlation between these two parameters, it would be difficult to judge as to how far the investment made from the public fund is desirable and should continue to be made. The Committee, therefore, desire that the Government should ensure that investment made should yield the desired results.

NEW DELHI;
April 17, 1999

Chaitra 27, 1921 (Saka)

K. KARUNAKARAN,
Chairman,
Standing Committee on Energy.

**STATEMENT OF CONCLUSIONS / RECOMMENDATIONS OF THE STANDING
COMMITTEE ON ENERGY CONTAINED IN THE REPORT**

Sl. No.	Reference Para No. of the Report	Conclusions/Recommendations
1	2	3
1.	2.9	<p>The Committee note that the Budgetary allocation for the year 1999-2000 has been placed at Rs.358.32 crore against revised estimates of Rs.304.42 crore for the year 1998-99 and BE of Rs.407.06 crore. The Committee note that last year the cut was imposed by the Ministry of Finance due to slow pace of expenditure by MNES. The Committee hope & trust that this year the Ministry will make all out efforts to spread evenly its budgetary expenditure through out the year so that there is no need for Ministry of Finance to impose any cut at RE stage for this reason.</p>
2.	2.10	<p>The Committee observe that a target of Rs.411.11 crore out of total outlay Rs.769.43 crore has been fixed for realisation of Internal and Extra Budgetary Resources (IEBR) during the year 1999-2000. Considering continued increase in the gap between BEs and REs of IEBR from Rs.19.66 crore to Rs.33.04 crore during the years 1997-98 and 1998-99 respectively and noting the continued increase in the BEs from Rs. 293.54 crore during 1997-98, to Rs.327.16 crore and Rs.411.11 crore during 1998-99 and 1999-2000 respectively, the Committee are at a loss to understand the rationale behind fixation of such unachievable IEBR targets year after year. This amply prove that due care and caution was not exercised while formulating budgetary proposals resulting in slippage in the performance of plan activities for different schemes. The Committee, therefore, recommend that Ministry should take corrective actions in this regard and make realistic IEBR targets and formulate all out efforts to achieve those targets.</p>

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3.	2.22	<p>Out of the total 90,000 MW grid power generating capacity in the country, the share of renewable energy sources is 1378 MW only. Of this 992 MW has been contributed by Wind power projects alone. While India has wind power potential of 20,000 MW which have been scaled up recently to 45,000 MW. At the present rate of achievement, it will take decades to fully exploit the potentials of wind energy. The budgetary allocations for the programme have been very less. During 1999-2000 it is placed at Rs. 8.00 crore as against the year 1997-98 i.e. Rs. 4.85 crore, but the targets have been reduced from 150 MW to 100 MW during the same period and the achievements during the last two years were 67 MW and 23 MW as against the targets of 150 MW each for both the years. The Committee are unhappy to note that whatever little allocations were made, the Ministry could not utilise even those fully. The Committee desire that all out efforts be made by the Ministry to fully utilise the increased allocations for the year 1999-2000 and fulfil the targets laid down by it under various schemes.</p>
4.	2.23	<p>As regards to the the various steps taken by the Ministry to remove the problems faced by the private developers, the Committee, desire that Government should impress upon the State Governments/SEBs, the imperative need to develop wind potential, earnestly. The Committee also recommend that Government should prepare a 'shelf of wind projects' with all statutory clearances, so that private sector and other 'Navratnas' and 'Miniratnas' can develop these projects expeditiously SEBs should take steps to extend grid and upgrade Sub-Stations and create power evacuation facilities. The Committee would also like to emphasise the need to operate and maintain the existing wind projects. The Committee have noted that the Concessional-duty import is permitted for setting up new wind farms. However, the spares required for the</p>

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- maintenance of existing units are not allowed concessional duties. The Committee recommend that Government should levy the same import duty, on the spares required for maintenance of existing units, as imposed on new machines for electric generations at wind farms.
5. 2.24 The Committee note that to have investment in wind programme, 100% accelerated depreciation has been allowed to private companies, whereby cent per cent investment in wind energy is permitted to be depreciated in the first year of installation. However, the impetus of wind energy was affected to a large extent by introduction of Minimum Alternative Tax (MAT). As all the companies will be required to pay 10% minimum tax, the Committee are of the view that as the success of wind power programme depends entirely on the level of private sector participation, such a tax will impede the development of wind power. The Committee, while recommending that 100% depreciation be allowed to continue in the entire period of 9th Plan, also desire that investments made in wind power projects, be exempted from MAT, if it is in force.
6. 2.25 The Committee have noted with concern the growing tendency on the part of private sector entrepreneurs in appropriating prime land, far in excess of their requirement for setting up wind farms. The Committee, desire that such practices need to be curbed immediately. The Committee, therefore, recommend that suitable guidelines, in this regard should be framed and communicated to the State Governments for compliance. At the same time, the Committee emphasis that institutional machanism be strengthen for timely clearance and approval of projects.
7. 2.48 The Committee are concerned to note that Solar Photovoltaic Programme, which have laudable schemes for use as heat and light, has not picked-up, inspite of the subsidies offered by the Government owing to high and prohibitive capital
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cost. For instance, power generated through SPV power plant, cost anything between Rs. 35.38 crore per MW. Similarly, 900 Watt irrigation pumps cost Rs. 2.5 lakh. As a result, their use has been restricted to a large extent. The present cost of production of solar cell in the country is very high. Eighty per cent of the requirement of silican wafer required for the manufacture of solar cells is met through imports. The high incidence of custom and excise duty, make the manufacture of silicon wafer an expensive proposition. The Committee recommend that for the sustenance of SPV, programme steps should be taken to reduce the production cost of silicon wafer. It is in this context, the Committee recommend that Government should not only reduce import duty on silicon wafer from present level of 30% to 4-5%, the excise duty leviable, may also be abolished or reduced considerably.

8. 2.49

The Committee have learnt that Government had in May, 1997 decided to undertake survey of unelectrified villages and prepare a comprehensive list of 18,000 villages believed to be in remote and isolated areas where grid supply is not feasible [vide 9th Report (1998-99) Twelfth Lok Sabha of Standing Committee on Energy]. The Committee have noted that the only hope of these villages for electrification through SPV system has been belied as the proposal has not moved beyond planning stage, even after a lapse of 2 years. The Committee view this with serious concern and recommend that MNES in conjunction with REC should take up the task of electrification of these villages, without any further delay in a time-bound manner and apprise the Committee about the progress made within 3 months of presentation of this Report.

9. 2.50

The Committee have observed that in the absence of maintenance and after sale services, completed projects and systems/programmes are not yielding desired results. The Committee are of the view

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		<p>that the projects or programmes once completed ought to be continuously monitored to ensure their operations with optimum efficiency. The Committee, therefore, desire that a separate cell should be constituted in the Ministry for the purpose. It should carry out spot visits and ensure running of the systems unhindered.</p>
10.	2.51	<p>Solar Photovoltaic Water Pumping System for Agriculture and Related uses is one of important programme in ameliorating the quality of life particularly the farmers living in rural areas. But, the Committee note with serious concern that the Programmes relating to SPV Water Pumping System for Agriculture and Related uses are languishing. During 1997-98, the actual expenditure was as low as Rs. 50 lakh out of Rs. 13 crore (RE) earmarked. The Committee feel that the Government should take steps for effective implementation of the scheme.</p>
11.	2.52	<p>The Committee note that out of the Nine States and two U.Ts. that have been fully treated as high focus areas the photovoltaic programme, four North Eastern States have no Nodal Agencies and some others have been suffering from severe law and order problems for the last many years. This resulted in either no or very low achievements during the last two years particularly in power projects and street lighting systems. The Committee therefore, would like to suggest that the States which have High Focus Areas are given encouragements to ensure the fulfilment of the targets in their areas. The Government should also ensure that the funds earmarked for these projects are not diverted for any other purpose.</p>
12.	2.63	<p>The Committee have observed that energy from waste is yet another programme for improving the quality of life in rural areas. It makes available a valuable energy source which can be used for generation of heat or electricity. In the rural sector this will have additional positive impact on the quality of life, deforestation etc.</p>

Additionally, this can also generate valuable sludge which can be used as manure. The Committee are distressed to note the slow progress made in utilising the funds and realising the given targets fully. As against the actual expenditure of Rs. 62 lakh during 1997-98 and anticipated expenditure of Rs. 6.00 crore during 1998-99, the Ministry have been given Rs. 12.00 crore for the year 1999-2000. The administrative slackness appear to be instrumental in neither meeting the physical targets nor achieving the financial goals. The Committee would like to emphasise the development of a comprehensive plan so that the amount asked for is utilised fully. The Committee suggest that results achieved/data collected at the demonstration projects should be widely publicised amongst entrepreneurs so that private investment can be attracted in this field.

13. 2.73

The Committee note that financial & physical targets of Biomass Power Programme have not been met during the years 1997-98 and 1998-99. But a higher budgetary allocations which is more than double of the last years allocations has been sought for the year 1999-2000. The Committee doubt whether the Ministry would be able to utilise the budgeted amount fully. The Committee have observed that biomass can constitute 14% of the world energy resources and 38% of the energy consumed in the developing countries. The Power Projects based on biomass also offer new avenues for employment through collection storage, handling and efficient utilization of biomass material. There exists 19,500 MW of Biomass Power Potential consisting of 16,000 from surplus biomass and 35,00 MW from bagasse (cogeneration) in the existing sugarmills. The Committee are constrained to note that only 141 MW capacity has been harnessed and another 180 MW is under construction. The Committee are of the opinion that in spite of incentives offered, promotional activities undertaken and technology base provided, the results are not encouraging. The Committee are of the view that this new frontier, offer

1	2	3
14.	2.74	<p>environment benign technology which has immense potential and recommend that Government should renew their efforts and tap the potential.</p> <p>The Committee note that during the year 1998-99 budgetary allocations was Rs. 7.50 crore which was reduced to Rs. 7 crore at RE. But so far achievement of targets is concerned, against the target of 40 MW, only 20.5 MW could be achieved upto 31.12.98. The Ministry's argument that there is no direct correlation on annual basis between budgetary allocations and physical targets is difficult to accept. Without any correlation between these two parameters, it would be difficult to judge as to how far the investment made from the public fund is desirable and should continue to be made. The Committee, therefore, desire that the Government should ensure that the investment made should yield the desire results.</p>

PART II
APPENDIX

STATEMENT SHOWING THE DEMANDS FOR GRANTS OF THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (DEMAND NO. 62)

(See Para 1.4 of the Report)

(In crore of rupees)

Sl. Major No. Heads	Programme/ Scheme	Revenue Section										Remarks		
		1997-98					1998-99						1999-2000	
		Actuals		B.E.		R.E.		B.E.		B.E.				
1	2	3	4	5	6	7	8	9	10	11	12			
1	3451	Secretariat Economic Service	2.89	4.31	4.04*	4.60	3.82	4.62	4.40	4.82			This Head Comprise Wages, O.T.A., Domestic & Foreign Travel Expenses, Office Expenses, Rent Rates & taxes. Publication, Other Administrative Expenses. Advertising Publicity, Professional Services, Commission for Additional Sources of Energy, Regional Offices.	

(*Includes Rs. 1.04 for Solar Energy Centre.)

	1	2	3	4	5	6	7	8	9	10	11	12
2. 2501	Special Programmes for Rural Development	0.07	--	4.30	--	0.12	--	2.25	--			This Programme includes IREP Programme, Grants-in-aid for National & Regional Training Centre.
3. 2810	Non-Conventional Sources of Energy	116.93	-	172.63	-	151.96	-	218.93	-			This Head Comprises R&D in Non-Conventional Energy Sources, Bio-Energy, Assistance to Biomass Programme, National Programme for Biogas Development, Advertising & Publicity Community and Institutional Biogas Development, Biomass, Briquetting Energy Plantation, Biomass, Biomass Gasifier for Stand Alone Application, National Bio-Energy Board, Biomass Co-generation and Combustion, Grid connected Gasifier, Animal Energy Programme, Solar Passive Architecture, Regional Technical Back-up Units & Training

1 2 3 4 5 6 7 8 9 10 11 12

Programme, Solar Energy Centre, Institutions/ Interactive Research with other Institution/ Organisations, Professional Service. Photovoltaic, Amorphous Silicon Programme, SPV Pump Programme, Solar Thermal Power Generation, Grid connected SPV Power Project, Assistance to wind Power Generation Programme, Assistance to Wind Pump Programme, Wind Energy Centre, Wind Resource Assessment. National Programme on Improved Choolah, Energy from Urban and Agricultural Waste, Energy from Industrial Waste, Small Hydro Power Development, SHP Promotion Programme UNDP/GEF Hilly Hydro Projects, Chemical Sources of Energy, Surface

Transportation, Hydrogen Energy, Geothermal Energy, Ocean Energy, National Institute of Renewable Energy, Special Area Demonstration Project, Energy Conservation, TIFAC/Data Management System Information and Publicity Programme, International Cooperation.

4. 3601 Grants-in-aid to State Government 34.41 - 31.24 - 31.92 - 35.34 --

This head includes Grants, Grants-in-aid to State Government for small Hydro Power Programme, Wind Energy, Grants for Centrally Sponsored Plan Schemes for Bio-Energy, National Programme for Biogas Development, Community and Institutional Biogas Development, Solar-Solar Thermal Energy Programme, National Programme on Improved Chulhas, Energy from Urban & Agriculture

1	2	3	4	5	6	7	8	9	10	11	12
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Wastes, Integrated Rural Energy Planning Programme-Monitoring.

5. 3602	Grants-in-aid to Union Territory Govt.	0.04	1.19	-	1.18	-	2.29	-			
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This Head includes Grants for Central Plan Schemes for Wind Demonstration, Grants for Centrally Sponsored Plan Scheme for NPBD, Community and Institutional Biogas Development, Solar Thermal Energy Programme. National Programme on Improved Chulha, Integrated Rural Energy Planning Programme Monitoring.

Total Revenue Section		154.37	4.31	213.40	4.60	189.00	4.62	263.21	4.82		
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Capital Outlay

6. 4810	Capital Outlay on Conventional Sources of Energy	24.00	-	41.10	-	40.10	-	44.10	-		
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This Head includes capital investment for minor works in the Solar Energy Centre and investment in the Equity of Indian Renewable Energy Agencies Ltd. (IREDA).

	1	2	3	4	5	6	7	8	9	10	11	12
7. 6810 Loans for Non- Conventional Energy Sources				46.00	-	148.52	-	70.70	-	46.19	-	

This Head includes counterpart loan to IREDA for the International Development Association (IDA) and Danish Export Finance Corporation (DEFEC) components of credit under the Indian Renewable Resources Development Project of the Ministry implemented through IREDA.

Total				70.00	-	189.62	-	110.80	-	90.29	-	
Total				224.37	4.31	403.02	4.60	299.80	4.62	353.50	4.82	

MINUTES OF THE SIXTEENTH SITTING OF STANDING COMMITTEE ON
ENERGY (1998-99) HELD ON 5TH APRIL, 1999 IN COMMITTEE ROOM 'D',
PARLIAMENT HOUSE ANNEXE, NEW DELHI.

The Committee sat from 15.30 hours to 18.30 hours.

PRESENT

Shri K. Karunakaran — *Chairman*

MEMBERS

2. Shri Basudeb Acharia
3. Shri Bikash Chowdhury
4. Shri Rajbanshi Mahto
5. Shri Ravindra Kumar Pandey
6. Shri Naresh Kumar Chunnalal Puglia
7. Shri Kanumuru Bapi Raju
8. Shri Shailendra Kumar
9. Prof. (Smt.) Rita Verma
10. Shri Sushil Chandra Verma
11. Shri Sushil Barongpa
12. Shri Bangaru Laxman
13. Shri Nabam Rebia
14. Shri Ramashanker Kaushik

SECRETARIAT

1. Shri P.K. Bhandari — *Deputy Secretary*
2. Shri R.S. Kambo — *Under Secretary*

WITNESSES

- | | | |
|---------------------------|---|--|
| 1. Shri C.R. Kamalanathan | – | <i>Secretary</i> |
| 2. Dr. E.V.R. Sastry | – | <i>Adviser</i> |
| 3. Dr. K.C. Khandelwal | – | <i>Adviser</i> |
| 4. Shri Ajit K.Gupta | – | <i>Adviser</i> |
| 5. Dr. Ved Mitra | – | <i>Adviser</i> |
| 6. Dr. T.C.Tripathi | – | <i>Adviser</i> |
| 7. Shri A.K. Mangotra | – | <i>Jt. Secretary</i> |
| 8. Shri Rahul Sarin | – | <i>Jt. Sect. & Financial Adviser</i> |
| 9. Dr. V. Bakthavatsalam | – | <i>M.D. (IREDA)</i> |

2. At the outset Chairman, Standing Committee on Energy welcomed the representatives of the Ministry of Non-Conventional Energy Sources in connection with the examination of the Demands for Grants (1999-2000). The Secretary, MNES then made a visual presentation of the activities and achievements of different Renewable Energy Programmes.

3. The following points then were discussed with the representatives of the Ministry :—

- (i) Additional Budgetary support to the Ministry for 1999-2000.
- (ii) Status of on-going Externally Aided Projects.
- (iii) Solar Photovoltaic Programme
- (iv) Wind Power Programme
- (v) Small Hydro Power Programme
- (vi) Private Sector Participation in different Renewable Energy Schemes

4. A copy of the verbatim proceedings of the sitting of the Committee has been kept on record.

The Committee then adjourned.

EXTRACTS OF MINUTES OF THE NINETEENTH SITTING OF
STANDING COMMITTEE ON ENERGY (1998-99) HELD ON
16th APRIL, 1999 IN COMMITTEE ROOM
'D', PARLIAMENT HOUSE ANNEXE,
NEW DELHI

The Committee sat from 15.30 hours to 16.30 hours.

PRESENT

Shri K. Karunakaran — *Chairman*

MEMBERS

2. Shri Basudeb Acharia
3. Shri Bikash Chowdhury
4. Shri K.C. Kondaiah
5. Shri Rajbanshi Mahto
6. Smt. Sukhda Mishra
7. Shri Kanumuru Bapi Raju
8. Shri Anantha Venkatrami Reddy
9. Shri Francisco Sardinha
10. Shri N.T. Shanmugam
11. Shri Th. Chaoba Singh
12. Prof. (Smt.) Rita Verma
13. Shri Sushil Chandra Verma
14. Shri Gandhi Azad
15. Shri Ghulam Nabi Azad
16. Shri Brahmakumar Bhatt
17. Shri Bangaru Laxman

SECRETARIAT

1. Shri P.K. Bhandari – *Deputy Secretary*
 2. Shri R.S. Kambo – *Under Secretary*

2. The Committee took up for consideration the following draft Reports :

- (i) ** ** ** **
 (ii) ** ** ** **

(iii) Draft Report on Demands for Grants (1999-2000) relating to the Ministry of Non-Conventional Energy Sources.

- (iv) ** ** ** **

3. The Members suggested certain additions / modifications / amendments to the draft Reports on Demands for Grants (1999-2000) relating to the Ministries of Power & Coal and desired that those be suitably incorporated in the Reports. These Reports were then adopted. The draft Reports on Demands for Grants (1999-2000) relating to the Ministry of Non-Conventional Energy Sources and the Department of Atomic Energy were adopted by the Committee without any amendments.

4. The Committee authorised the Chairman to finalise the Reports after making consequential changes arising out of factual verification by the concerned Ministry/Department and to present the same to the Parliament / Speaker as the case may be.

The Committee then adjourned

**Para 2 (i), (ii) and (iv) relating to consideration and adoption of three other Reports of the Committee are not included.