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**STANDING COMMITTEE ON
ENERGY**

(2005-06)

FOURTEENTH LOK SABHA

**MINISTRY OF NON-CONVENTIONAL
ENERGY SOURCES**

**DEMANDS FOR GRANTS
(2005-06)**

[Action Taken by the Government on the recommendation contained in the Sixth Report
of the Standing Committee on Energy (Fourteenth Lok Sabha)]

ELEVENTH REPORT

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**LOK SABHA SECRETARIAT
NEW DELHI**

March, 2006/ Phalguna, 1927 (Saka)

ELEVENTH REPORT
STANDING COMMITTEE ON ENERGY
(2005-06)

(FOURTEENTH LOK SABHA)

MINISTRY OF NON-CONVENTIONAL ENERGY
SOURCES

Presented to Lok Sabha on 10.03.2006

Laid in Rajya Sabha on 10.03.2006

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**LOK SABHA SECRETARIAT
NEW DELHI**

March, 2006/ Phalguna, 1927 (Saka)

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COMPOSITION OF THE STANDING COMMITTEE ON ENERGY (2005-06)

1. Shri Gurudas Kamat - Chairman

MEMBERS

LOK SABHA

2. Shri Gauri Shankar Chaturbhuj Bisen
3. Shri Ajay Chakraborty
4. Shri Nandkumar Singh Chauhan
5. Shri A.B.A Ghani Khan Choudhary
6. Shri B. Vinod Kumar
7. Shri Chander Kumar
8. Shri Subodh Mohite
9. Shri Dharmendra Pradhan
10. Shri Prashanta Pradhan
11. Dr. Rabindra Kumar Rana
12. Shri J.M. Aaron Rashid
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14. Shri Nandkumar Sai
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20. Shri G. Venkataswamy
21. Shri Chandrapal Singh Yadav

RAJYA SABHA

22. Shri Dara Singh Chauhan
23. Shri Sudarshan Akarapu
24. Shri Vedprakash P. Goyal
25. Dr. (Smt.) Najma A. Heptullah
26. Shri Bimal Jalan
27. Dr. K. Kasturirangan
28. Shri V. Hanumantha Rao
29. Shri Matilal Sarkar
30. Shri Motilal Vora
31. Shri Jesudasu Seelam

SECRETARIAT

1. Shri John Joseph - Secretary
2. Shri P.K.Bhandari - Joint Secretary
3. Shri Surender Singh - Deputy Secretary
4. Shri Shiv Kumar - Under Secretary
5. Smt. Neena Juneja - Senior Executive Assistant

INTRODUCTION

I, the Chairman, Standing Committee on Energy having been authorized by the Committee to present the Report on their behalf, present this Eleventh Report (Fourteenth Lok Sabha) on the action taken by the Government on the recommendations contained in the 6th Report of the Standing Committee on Energy on Demands for Grants (2005-2006) of the Ministry of Non-Conventional Energy Sources.

2. The Sixth Report of the Standing Committee on Energy was presented to Lok Sabha on 21st April 2005. Replies of the Government to all the recommendations contained in the Report were received on 12th August, 2005.

3. The Standing Committee on Energy considered and adopted this Report at their sitting held on 28th February, 2006.

4. An Analysis on the Action Taken by the Government on the recommendation contained in the Sixth Report of the Committee is given at Annexure-II.

5. For facility of reference and convenience, the observations and recommendations of the Committee have been printed in bold letters in the body of the Report.

NEW DELHI;
February , 2006
Phalguna , 1927 (Saka)

GURUDAS KAMAT,
Chairman,
Standing Committee on Energy

Chapter-I

Report

This Report of the Committee deals with the Action Taken by the Government on the recommendations contained in the Sixth Report (14th Lok Sabha) of the Standing Committee on Energy on the Demands for Grants (2005-06) of the Ministry of Non-Conventional Energy Sources which was presented to the Lok Sabha on 21st April, 2005.

2. Action taken notes have been received from the Government in respect of all the recommendations contained in the Report. These have been categorized as follows: -

- (i) Recommendations/Observations which have been accepted by the Government:

SI No. 1,5,6,7,9, 12, 16, and 17

- (ii) Recommendations/Observations which the Committee do not desire to pursue in view of the Government's replies:

SI No. 8, 13, 15

- (iii) Recommendations/Observations in respect of which the replies of the Government have not been accepted by the Committee:

SI Nos. 3, 4 and 14

- (iv) Recommendations/Observations in respect of which the final replies of the Government are still awaited:

SI No. 2, 10, 11

3. The Committee also desire that utmost importance should be given to the implementation of recommendations accepted by the Government. In case, where it is not possible for the Government to implement the recommendations in letter and spirit for any reasons, the matter should be reported to the Committee in time with reasons for non-implementation.

4. The Committee will now deal with action taken by the Government on some of their recommendations:

A. Uneven utilisation of Budgetary Allocation

Recommendation Serial No. 1 (Para No 2.9)

5. The Committee had noted that as against the Budget Estimates of Rs.605.27 crore and Revised Estimates of Rs.405.47 crore, the actual expenditure of the Ministry of Non-Conventional Energy Sources was about 235 crore during the year 2004-2005. Although the Committee had approved the enhanced Budgetary allocation of Rs.605.27 crore for the year 2005-06 and strongly recommended that the Ministry should take initiatives to prepare and implement all their schemes and programmes in advance and prepare a uniform expenditure schedule spread over all quarters of the current financial year so that the Ministry of Finance may not get a chance to impose any restriction at RE stage. The Committee had also desired that the Ministry of Non-Conventional Energy Sources should also issue instructions to all concerned agencies responsible for implementation of schemes/programmes to prepare a time-bound programme for their implementation so that the expenditure may be uniform in all quarters. The Committee had also recommended a higher allocation at RE stage considering the fact that the Ministry have been given the task to provide electricity in rural households not connected with grid by 2010 and also considering the fact that the Ministry have outstanding liabilities to the tune of Rs.150 to 160 crore.

6. The Ministry in its action taken reply has merely stated that the observations of the Committee have been noted and the same have been duly conveyed to the Ministry of Finance.

7. The Committee had desired in their recommendation that the Ministry of Non-Conventional Energy Sources should issue instructions to all concerned agencies responsible for implementation of schemes and programmes in a time bound manner so that the budget is uniformly in all the quarters. The Committee had also desired that the allocation to the Ministry should be suitably enhanced and there should not be any reason to make a cut at R.E. stage by the Ministry of Finance.

8. The Ministry has, however, not touched on these aspects in its action taken reply but have merely stated that the recommendation has been conveyed to the Ministry of Finance.

9. The Committee once again reiterate their earlier recommendation and desire that all agencies responsible for the implementation of the schemes of the Ministry of Non-Conventional Energy Sources carry out works in a time bound manner so that the finances allocated are utilized justifiably. The Committee are upset to note that expenditure of the MNES was curtailed at R.E. stage. As the programmes of the MNES are located in the States & rural areas, it requires substantial amount of time for implementation and hence the utilization of funds is also slow at times. This, therefore, does not necessarily imply that expenditure should be curtailed by the Ministry of Finance at R.E. stage.

B. Integrated Rural Energy Programme (IREP) of the Ministry of Non-Conventional Energy Sources

Recommendation Sl. No. 2 (Para No. 2.18)

10. The Committee in its recommendation were surprised to note that Planning Commission had unilaterally decided to transfer Integrated Rural Energy Programme (IREP), a Centrally Sponsored Scheme to the States without consulting the Ministry of Non-conventional Energy sources. This had been done at the stage when the Centre's committed liabilities under IREP were of the order of Rs. 28 crore pertaining to years 2003-04 and 2004-05 and the Scheme had been recast recently raising Central assistance from 20% to 50%. The Committee had felt that the Scheme should have been thoroughly examined at that point of time instead of taking piece-meal decisions. The Committee had also come to know that States had represented to the Planning Commission and the Ministry to continue this scheme in the same form, the Committee had, therefore, desired that the Scheme should be reviewed in its entirety to decide all the matters and to ensure that the Scheme achieves its desired goals.

11. The Ministry in its Action Taken Reply has merely stated that the observations of the Committee have been noted and conveyed to the Planning Commission.

12. The Committee would like the Ministry to pursue the matter regarding continuation of the IREP Scheme in the same form vigorously with the Planning Commission and let the Committee know final outcome of the deliberations to this effect stating clearly as to what prompted the Planning Commission to shift the Schemes to the States. In the meantime, the Ministry should review the working of that Scheme and remove deficiencies, if any.

C. SPV Power Plants, SPV Irrigation Pumps and Battery Operated Vehicles

Recommendation Serial No. 3 (Para No. 2.19)

13. The Committee had noted that the Ministry had decided to discontinue SPV Power Plants, SPV Irrigation Pumps for individual and Battery Operated Vehicles during the year 2005-06 on account of relatively high capital costs when compared to conventional power systems. The Committee had shown concern about the fate of operation maintenance and upkeeping of these installed/deployed systems and also about fulfilling the financial liabilities towards the ongoing projects under these programmes. The Committee had, therefore, recommended that the Ministry should make specific arrangements for the operation, management and upkeeping of the installed and deployed systems so that they complete their designed life and achieve the targets set for them. The Committee had pointed out that the low performance levels of these schemes were on account of failure of the Ministry in reducing the cost of SPV module and their new experiment in the field of Battery Operated Vehicles. The Committee had also recommended that the R&D efforts of the Ministry should be focused on the reduction of SPV module cost to at least one-half of the present level. The Committee had also desired that intensive efforts be made to see that equipment related to solar energy e.g. SPV system based on silicon etc. are manufactured indigenously and that R&D efforts should be towards development of non-silicon solar voltaic systems on the pattern of similar systems developed in other parts of the world.

14. The Ministry in its action taken reply has informed that it has been supporting R&D in non-silicon thin film solar cell technologies. However, thin film solar cell technologies still require further development to be reliable and cost-competitive. The Ministry has also informed that the Prices of indigenous solar cells were competitive with respect to international prices as a major share of domestic production was currently being exported.

15. In its reply, the Ministry has further informed that renewable energy system/devices are so designed so that long-term maintenance contract costs are included into initial system. The systems and devices are generally owned by individuals, legal

entities or state governments who as beneficiaries are expected to take care of repairs and maintenance after the initial contract period is over.

16. The Committee are surprised to note that all grants to SPV systems have been done away with and individuals/beneficiaries are required to take care of maintenance and other costs on their own account. The Committee note in particular that all the solar based programmes of the Ministry of Non-Conventional Energy Sources (MNES) are ambitious programmes and all out efforts should be made to maintain them as also steps should be taken to bring down the cost of SPV module. R&D efforts should be towards development of non-silicon solar voltaic systems and bringing down the costs. The Committee again reiterate that the Ministry should make specific arrangements for operation, management and upkeeping of the installed and deployed systems so that they complete their designed life and achieve the targets set for them and all efforts should be made to utilize one of most reliable sources of renewable energy i.e. solar energy for which there is an ample scope in our country.

D Promotion of Technologies of Renewable Energy

Recommendation Serial No. 4 (Para No. 2.20)

17. The Committee had noted that India had been implementing one of the largest renewable energy programmes in the world. A large number of renewable energy technologies such as wind, solar, biogas, biomass, small hydro and many new technologies such as hydrogen energy, chemical sources of energy including fuel cell energy, bio-fuels, etc. had been used in the field.

18. The Committee also noted that some important renewable technologies like wind power, bio-mass gasifiers, small hydro power are having high potentials of 45000 MW, 16000 MW and 15000 MW respectively. As against these figures only 2980 MW of wind energy, 62 MW of biomass gasifier and 1693 MW of small hydro power were available at the end of year 2004.

19. The Committee had, therefore, recommended that commercialization and private sector's involvement were required for technological mature and proven sources which had reached the commercialization phase like small hydro, wind power, solar water heating system, biomass gasifier, etc. The committee also desired that various renewable energy resources pertaining to various programmes should be prioritized in the light of the technological advancement and their potentialities and allocate the higher budget for their advancement accordingly. Massive campaign was also required to increase public awareness which alone would be helpful in increasing the demand for renewable energy systems and devices. The Committee also desired that the Ministry should persuade all the State Government to amend their building bye-laws and municipal laws to make it compulsory to install solar water heating systems in all the high rise buildings as has been done in the States of Maharashtra and Karnataka.

20. The Ministry in its action taken reply has stated that emphasis on mass awareness on renewable energy through the launch of different media campaigns has been carried out. Also a publicity campaign to create awareness on the benefits of solar water heating systems is being initiated throughout the country through the electronic and print medias. As recommended by the Committee, the Ministry's endeavor would be to persuade state

governments / local bodies to amend bye-laws for compulsory use of solar water heating systems, wherever such systems are considered feasible and cost effective.

21. The Committee note that huge potential to the tune of 45000 MW lies in the case of wind power, 16000 MW in biomass power and 15000 MW in the small hydro projects. A very small amount of these resources i.e. 2980 MW of wind energy, 62 MW of biomass gasifier energy and 1693 MW from small hydro power had been tapped by the year 2004. The Committee once again reiterate that private sector participation and commercialization of these technologies was the need of the hour and steps taken in this direction should be intimated to the committee. Massive campaigns were required to increase the use of renewable energy devices such as solar water heaters on the high rise buildings & committee again desire that the other State Governments should follow the example of Maharashtra & Karnataka by making in their building bye-laws it mandatory to install solar water heating systems on high rise buildings. The Committee further desire that the Ministry of Non-Conventional Energy Sources should make all out efforts to increase the use of solar, wind, bio-mass as well as hydro power so as to exploit from the renewable energy reserves in the country to the maximum. R&D efforts on other forms of energy such as hydrogen energy and chemical energy should also be pursued vigorously to generate additional capacities from the renewable energy sources.

E. Persuasion of State Government to take up renewable technologies.

Recommendation Serial No. 5 (Para No. 2.21)

22. The Committee had recommended that data on all renewable systems established by private initiatives should be taken note of by the Ministry of Non-Conventional Energy Sources and vital information relating to the production of power from new and renewable energy sources by independent agencies should also be incorporated and the data may be considered in preparation of present and future planning relating to Non-Conventional Energy Sector in the country. The help of Non-Conventional Energy Sources officers in the States and nodal agencies concerned needs be taken up in the matter.

23. The Ministry has replied that all possible steps were being taken to maintain a robust data-base on new and renewable energy deployment and the observations of the Committee in this regard have been noted for appropriate action.

24. The Committee once again desire that the Ministry of Non-Conventional Energy Sources should depute nodal officers in the States and districts to collect vital information on the availability of renewable sources in these areas. The Committee also desire that the availability of Energy Sources which are renewable, needs to be surveyed in detail and release of the data on the web site of the Ministry of Non-Conventional Energy Sources needs to be expeditiously done. The web site should give details of all the major renewable sources of energy available in India, with mapping and the programmes initiated by the Ministry for exploitation of the resources, the route to be followed to get capital and other subsidies for the setting up of projects for power generation from these renewable sources.

F. Waste to Energy Programme of the Ministry

Recommendation Serial No. 10 & 11 (Para No. 3.26 & 3.27)

25. The Committee had noted that there was poor utilization of funds in the Urban and Industrial Waste Programme of the Ministry. The reasons cited by the Ministry like delay in signing various agreements for supply of wastes, land lease, power purchase obtaining statutory clearances and delay in project development etc., for delay in implementing of programme simply showed the lack of proper efforts on the part of the Ministry. The Committee had, therefore, recommended that the Ministry should adopt a multiprong approach to achieve the financial and physical targets of Tenth Plan. The Committee had also desired that single window clearance system for the project of MSW should be implemented. The Committee had also desired that the Ministry should finalize the National Master Plan for development of waste to energy.

26. The Committee had also pointed out that as per the database prepared - 299 class-I cities and 36 Class-II cities had been estimated to have 30 million tones of solid waste and 4400 million cubic meters of liquid waste. This had a potential of about 1700 MW of power. The Ministry of Non-Conventional Energy Sources had launched the National Programme of Energy Recovery from Urban and Industrial waste during the year 1995-96. But the Committee were sorry to note that no significant progress had been made that far in the programme. The Committee had further noted that Municipal bodies of metro cities of Delhi and Mumbai were willing to establish similar Waste-to-Energy projects/plants. As an initial step, segregation of waste had already started. The Committee had desired that required technologies and expertise to all the interested promoters in consultation with State Government authorities and experts should be provided and that all possible subsidies/incentives to the interested promoters. The Committee had also desired that state-of-art technologies should be indigenously available.

27. The Ministry has stated in their action taken reply that a programme has been formulated for the accelerated promotion of projects for Energy Recovery from Urban Solid Waste. The following strategies have also been adopted:

- (i) Development of projects through public-private partnership for specific cities.

- (ii) Assistance for fast track project activities that include identification of project site, assessment of quality and quantity of waste, preparation of waste collection and transportation plan, finalization of power purchase agreement, development of a bankable project with Feasibility Report and Detailed Project Report; obtaining all statutory clearances for the project, firming up of means of project finance , preparation of bid document, and supervision during implementation and commissioning.
- (iii) Provision of central financial assistance for making such projects financially viable. A higher level of assistance for the state-of-the-art (to be defined) demonstration projects.
- (iv) Financial support for R&D under the R&D policy of the Ministry.

28. Review of the draft National Master Plan for the development of waste to energy had been completed and the final document was under preparation. A detailed Information Package was also being prepared for providing necessary information to all stakeholders.

29. The Committee note that although the National Programme of Energy Recovery from Urban and Industrial Waste was launched in the year 1995-96, no major headway had been made in the programme. Only three projects could be commissioned so far only in three cities. Although the Ministry had formulated a programme for the accelerated promotion of projects for Energy Recovery from Urban Solid Waste and also prepared a draft National Master Plan for the development of waste to energy, the programme has so far not been taken up in major cities of India despite the fact that Municipal bodies of metro cities of Delhi and Mumbai etc. were willing to establish such programmes. The Committee further note that there is a huge potential of 1700 MW of power from Urban/Municipal Waste. The Committee again reiterate that all out efforts should be made to tap this huge potential and various technologies and expertise should be made readily available to the private/public parties interested in these programmes. The Committee desire that National Master Plan should be finalized and implemented at the earliest. Information Package also should be widely distributed so that people can take advantage of the Scheme.

G. Hydrogen as a source of Energy

Recommendation Serial No. 12 (Para No. 3.34)

30. The Committee had observed that Hydrogen was one of the most important environmentally benign renewable sources of energy having the higher energy content and was abundantly available. The Ministry of Non-Conventional Energy Sources had been supporting R&D efforts for over a decade on various aspects of hydrogen energy which includes, inter-alia, its production mainly through non-hydrocarbon methods, storage in solid state materials and its utilization as fuel. Furthermore the Ministry had also set up a National hydrogen Energy Board (NHEB) which was to prepare Energy Road MAP to integrate and co-ordinate the national efforts on different aspects of hydrogen and fuel cell technologies. The Committee had also noted that the budget for the programme had not been utilized for the last 3 years. The Committee had recommended that in order to achieve the objectives laid by the National Hydrogen Energy Board, the Ministry should expedite the process of preparation of National Hydrogen Energy Road Map and also desired that the Government should make sincere efforts for international tie-ups in the field of Hydrogen Energy.

31. The Ministry in its Action Taken Reply has stated that observations of the Committee have been noted for appropriate action.

32. The Committee note that Hydrogen is a new and environmentally benign renewable source of energy having a very high energy content and being abundantly available. The Committee note that despite a decade of research work in the field, more R&D efforts are required for proving technologies for identification and use of this fuel. The Committee, therefore, once again reiterate that more R&D funding and utilization thereof should be made by the Ministry to achieve the required break through in the field. The Committee further desire that international technologies should be utilized through cooperation in this field. The Committee once again reiterate that the National Hydrogen Energy Board should expedite the process of preparation of National Hydrogen Energy Road Map in a time bound manner and the progress so far achieved in this direction should also be reported to the Committee.

H. Incentive to Village Panchayats interested in Biomass Gasifier Programme

Recommendation Sl. No. 14 (Para No. 3.40)

33. The Committee had noted that during the last several years, the Ministry had not been able to utilize the amount allocated for the Biomass Gasifier Programme. The Committee were of the view that the Ministry of Non-conventional Energy Sources should be more specific in identifying the reasons for under achievements in the physical and financial field and then pursue their case on sound footing with the Ministry of Finance so that they may not be able to impose financial cut on the Biomass Gasifier Programme during the current financial year. The Committee had, therefore, recommended that the Ministry should fix higher targets and allocate more budget for the Biomass Gasifier Programme from the next financial year so that the abundantly available biomass resources may be harnessed expeditiously in a time bound manner. To get better results, the Committee had also desired that the Government should provide more incentives to Villages Panchayats interested in Biomass Gasifier Programme.

34. The Ministry in its Action Taken Reply have stated that the gross potential of bio-energy was estimated at 22,200MW which included: (i) 16,000 MW from agro residues and forestry wastes (ii) 3,500 MW surplus power from bagasse co-generation and (iii) 2700 MW from urban and industrial wastes apart from 50000-100000 MW from biomass that can be obtained from plantations on wastelands.

35. The Ministry has further stated that the target for bio-power during the 10th and 11th Plan periods is 3000MW (corresponding to 3% of the additional power generation capacity to be set up during the 10 year period) of which the target for the 10th Plan is 830MW. During the first three years of 10th Plan, 398MW of bio-power i.e., 300MW from biomass combustion, 68MW from bagasse cogeneration, 15 MW from biomass gasification, and 30MW from urban & industrial waste-to-energy had been installed, which was 3% of the additional power generation capacity set up during the said period.

36. The Ministry has further informed that the barriers to accelerating the growth of bio-power were (i) raw material availability in requisite quantity and quality (ii) plant capacity limitations on account of nature of raw materials and difficulties associated with

its collection and transportation to the plant site (iii) requirement of fiscal and financial incentives and (iv) requirement of preferential tariffs.

37. The Committee note that in spite of huge potential in Biomass Gasifier Programme, the targets fixed for Tenth Five Year Plan are very low. The Committee are not convinced with the arguments of the Ministry that the target for bio-power is 3% of the additional generation capacity to be set up during these two plans. As this is a comparatively easier source to tap, the targets should be suitably enhanced. The Committee should be kept informed of the decision taken in the matter.

CHAPTER-II

RECOMMENDATIONS/OBSERVATIONS WHICH HAVE BEEN ACCEPTED BY THE GOVERNMENT

Recommendation Serial No.1 (Para No 2.9)

The Committee note that as against the Budget estimates of Rs. 605.27 crore and Revised Estimates of Rs. 405.47 crore, the actual expenditure of the Ministry of Non-conventional Energy Sources will be about Rs. 235 crore during the year 2004-05. The Committee are not convinced with the justification given by the Ministry that the reasons for variation between BE and RE is on account of Gross Budgetary Support being reduced by the Ministry of finance at the RE stage and delay in Budget approval. The other reason that they had to recast the existing programmes and schemes as per the National Common Minimum Programme of the new Government is also not convincing. The Committee understand that maximum Budget (2004-05) was allocated for on-going schemes and Vote on Account does not impose any restrictions on incurring expenditure on that. The Committee strongly feel that the Ministry of Non-conventional Energy Sources are not utilizing the funds equally in all the quarters due to which the Ministry of finance reduced their allocation at RE stage from 605.27 crore to Rs. 405.47 crore and further reduced it to 235 crore since Ministry was not permitted to spend more than one third of RE during the last three months. The committee however, do not approve the approach of the Ministry of finance also that they curtailed the allocation without consulting the Ministry of Non-conventional energy sources. The committee feel that instead of making a cut at RE stage based on the utilization of funds during the first two quarters of the financial year it should be the actual utilization during the last financial year. This would enable the Ministry of finance to assess the real position and provide the required budget at RE Stage to the Ministry. The committee approve the enhanced Budgetary allocation of Rs. 605.27 crore for the year 2005-06 and strongly recommend that Ministry should take initiatives to prepare and implement all their schemes and programmes in advance and prepare a uniform expenditure schedule spread over all quarters of the current financial year so that Ministry of finance may not get a chance to impose any restriction at R.E. Stage. The Committee also desire that the Ministry of

Non-conventional energy Sources should convey the feelings of the Committee that Ministry of Finance must consider the views of Ministry of Non-conventional Energy sources before curtailing the Budget Estimates of the Ministry at R.E. so that implementation of important schemes do not suffer. The Committee also desire that the Ministry of Non-conventional Energy Sources should also issue instructions to all concerned agencies responsible for implementation of schemes/programmes to prepare a time-bound programme for their implementation so that the expenditure may be uniform in all quarters. The committee also note that the budget of the Ministry for the year 2005-06 has reduced as compared to BE in the year 2003-04. Considering the fact that the Ministry has been given the task of providing electricity to all the village households, which are not grid connected, by 2010, the allocations to the Ministry should have been suitable enhanced, where it has gone down. Otherwise also, if we consider the fact that the Ministry have outstanding liabilities to the tune of Rs. 150-160 crore the left over budget with the Ministry may not be sufficient to achieve the set targets for the year 2005-06. The Committee, therefore strongly recommend that higher allocations be made at RE Stage.

Reply of the Government

The observations of the Committee have been noted and the same have been duly conveyed to the Ministry of Finance.

[Ministry of Non-Conventional Energy Sources OM No. 8/2/2005-P&C Dated:
12.08.2005]

Comments of the Committee

(Please see para 7, 8 and 9 of Chapter-I of the Report)

Recommendation Serial No. 5 (Para No. 2.21)

The Committee note that in addition to efforts being made by the Government agencies, renewable energy systems/devices are also being installed and run through the private initiatives in different parts of the country. For example 40 MW equivalent of biomass power for thermal use has already been installed in ceramic industry in Gujarat without taking any assistance from the Government bodies. The Committee hope that similar other renewable systems have been established. The Committee are surprised to

note that the Ministry of Non-conventional Energy Sources have not tried to collect vital information about the contribution of such independent initiatives being made in various parts of the country in renewable energy sector. It will be vital input for future planning. The Committee have a view that inclusion of energy produced out of such important initiatives may add significant quantity while compiling achievements in renewable energy sector. The Committee, therefore, desire that Ministry of Non-Conventional Energy Sources should take all initiatives to collect vital information relating to the production of power from new and renewable energy sources by independent agencies and also incorporate and consider this data in preparation of present and future planning relating to Non-Conventional Energy sector in the country. The Committee desire that for this purpose they must take the help of Non-conventional Energy Sources officers in the States and nodal agencies concerned with this sector.

Reply of the Government

All possible steps are being taken to maintain a robust data-base on new and renewable energy deployment and the observations of the Committee in this regard have been noted for appropriate action.

[Ministry of Non-Conventional Energy Sources OM No. 8/2/2005-P&C Dated:
12.08.2005]

Comments of the Committee

(Please see para 24 of Chapter-I of the Report)

Recommendation Serial No. 6 (Para No. 2.31)

The Committee note that the country is implementing diverse renewable energy technologies like wind, solar and biomass energy. However, there is a lack of awareness amongst the public at large about the utility of these sources and hence their proper utilization. The Ministry have informed that they have been providing financial assistance to a number of Government and Non-Government Organisations to disseminate knowledge for effective development and promotion of renewable energy programmes. The Ministry further informed the Committee that they are also constituting District Advisory Committees to ensure the participation of district level

functionaries in the popularization and use of renewables. A number of functions have been assigned to DACs for the purpose.

The Committee feel that apart from the various steps taken by the Ministry for popularization of the renewable, there is a need to bring awareness amongst students also by introducing the subject in their curriculum. The Committee feel that apart from providing awareness amongst the students it can also provide technical manpower to install, operate and maintain the various systems of renewables energy. The Committee therefore recommend that the Ministry should take up the matter with AITEC and various Education Boards to do the needful.

Reply of the Government

State/district-level energy parks are being established for mass awareness creation, education of children in particular and the public in general regarding benefits of the use of renewable energy systems/devices. Renewable energy as a subject has also been introduced in the school curriculum through NCERT publications.

[Ministry of Non-Conventional Energy Sources OM No. 8/2/2005-P&C Dated:
12.08.2005]

Recommendation Serial No. 7 (Para No. 2.32)

The Committee welcome the recently taken initiatives by the Government to form “District Advisory Committees DACs on Renewable Energy” for the popularization of renewable systems/devices amongst the rural masses. The Committee, however, note that DACs have been established in 400 districts of the country but actually only 315 are functioning. The Committee desire DACs should also be established in all the remaining districts of the country during the shortest possible time. The Committee desire that the government should take the help of Public representatives, if necessary, for timely formation of these committees in the districts where they have not been formed. The Committee also recommend that the Central Government should issue broad guidelines for these committees and provide each State an adequately trained staff for periodic updating of the data and continuous review of performance of various renewable energy programmes at district levels. The Committee specifically desire that the Government

should develop a better mechanism for closer coordination with States and district level agencies for implementation of schemes relating to development of Non-conventional Energy Sources.

Reply of the Government

The formation of District Advisory Committees in districts where such committees have not already been constituted is being pursued vigorously. Guidelines regarding functioning of the Committees have been issued and such Committees, wherever formed, are being involved in the work allocated to them.

[Ministry of Non-Conventional Energy Sources OM No. 8/2/2005-P&C Dated:
12.08.2005]

Recommendation Serial No. 9 (Para No. 3.10)

The Committee are happy to note that Village Energy Security Programme is being launched by the Ministry of Non-conventional Energy Sources to meet the total energy requirements of all the villages, including cooking, lighting and motive power with full participation of the local communities including women. The Government have decided to set up 200 projects in the test phase. This programme is mainly based on the use of biomass. The test projects would be undertaken mainly through the biomass which is abundantly available even in remote villages and hamlets, where grid connection is either impossible or not cost-effective, with an emphasis on forest fringe and tribal villages on 90:10 cost sharing basis between Centre and Community/implementing agencies/State Nodal Agencies. During the year 2005-06, it is proposed to allocate an amount of Rs. 20 crore under the budget provision for Remote Village Electricity Programme. The Committee feel that to make this programme a success, it is necessary to assess all the needs of the villages selected and resources available and then develop a suitable technology package to meet the total energy needs in sustainable and financially viable way. There is a need to evolve strategy for village level planning and implementation also. The Committee, therefore, desire that simultaneous initiatives be taken in these directions. Another point which needs to be considered is that feedstock needs to be grown to ensure sustainable supply. There are land tenural problems also

which should be taken on priority basis. Tribal and the residents of forest fringe areas are difficult to reach and converse because of difficult to reach and converse because of difficult topography and also languages. They are also averse to outsiders and also to new technologies. The Ministry, therefore, should take cautious steps while approaching them. Absence of community institutions will be major problems for this programme because this programme depends heavily on Village Energy Committee for their operations and management. The village energy committee may also be the victims of groupism and internal bickering. The Committee desire that the Ministry should also take this very important point into account before entrusting accountability on any committees or organizations. The Committee hope and trust that the Ministry will be able to overcome all the problems associated with the scheme through their Research and Development (R&D), field demonstration and capacity building programme.

Reply of the Government

Development of proposals for the Test Projects entails preparation of detailed Village Energy Plans (VEPs) that includes assessment of the energy needs and availability of renewable resources on the basis of which an optimal fuel-mix is arrived at to meet village and household energy needs in a cost-effective and sustainable manner.

Planning and implementation of projects is required to be carried out by the Village Energy Committee (VECs), set up by the Gram Panchayat through a Gram Sabha Resolution. The Forest Departments, Rural Development Departments and NGOs are being involved as facilitators to assist VECs in resolving issues regarding identification of suitable land for sustainable supply of wood and oilseeds. In order that solidarity is maintainable and untoward consequences of groupism and internal bickering are avoided, selection of a village under the test projects is being made on the basis of social cohesiveness and a conducive environment in the village. NGOs will help in mobilizing the local community in areas having difficult access and language related issues. Capacity building / training will be provided for operation and maintenance of the projects.

The test projects would be closely monitored by the concerned State Nodal Agency (SNA) and depending upon the feedback on technology, operation and maintenance, financing and institutional issues a larger programme might be developed.

[Ministry of Non-Conventional Energy Sources OM No. 8/2/2005-P&C Dated: 12.08.2005]

Recommendation Serial No. 12 (Para No 3.34)

The Committee observe that Hydrogen is one of the most important environmentally benign renewable sources of energy having the higher energy content and is abundantly available. It is also observed that the Ministry of Non-Conventional Energy Sources have been supporting a broad based programme on Research and Development (R&D) and demonstration for over a decade on various aspects of hydrogen energy which includes, inter-alia, its production mainly through non-hydrocarbon methods, storage in solid state materials and its utilization as fuel. Institutions like IITs, CSIR laboratories and industrial and governmental organizations are actively involved in the promotion, development and utilization of hydro-energy through these programmes with much enthusiasm. Furthermore, the Ministry have set-up a National Hydrogen Energy Board (NHEB) to prepare Energy Road MAP to integrate and co-ordinate the national efforts on different aspects of hydrogen and fuel cell technologies. The Committee note that during the last three financial years, the budget had not been utilized . However, considering the fact that this is a new and emerging technology, the Committee feel that there is a need to show progress in R&D sector. In view of the above mentioned efforts, the Committee hope and support the enhanced budgetary allocation of Rs. 7.00 crore and Rs. 8.00 crore during the year 2005-06 for the hydrogen and chemical sources of energy respectively. The Committee, however, feel that this budget should be used for further research to develop clean and low cost hydrogen generation techniques from renewable sources, to make storage methods, especially solid-state methods more efficient, compact and its safe transport and delivery at different places keeping in view of the different need and requirement and difficult terrain of the country. Research should also incorporate the development of standards. Codes and regulations to address our concerns about safety and security. To achieve all these objectives expeditiously in a time-bound manner, the Committee recommend that National Hydrogen Energy Board should expedite the process of preparation of National

Hydrogen Energy Road Map by identifying thrust areas strengthening the various national level Research and Development efforts and by defining the goals and preparing the action plans accordingly. The Committee also desire that the Government should make sincere efforts for international tie-ups in the field of Hydrogen energy to take advantage of R&D work being undertaken in other parts of the world in this field.

Reply of the Government

The observations of the Committee have been noted for appropriate action.

[Ministry of Non-Conventional Energy Sources OM No. 8/2/2005-P&C Dated: 12.08.2005]

Comments of the Committee

(Please see para 32 of Chapter_I of the Report)

Recommendation Serial No. 16 (Para No. 3.48)

The Committee have noted that the Biomass power/Co-generation programme are being implemented by the Ministry of Non-conventional Energy Sources to exploit the estimated potential of 19,500 MW including 3,500 MW of exportable surplus power from bagasse-based Co-generation in sugar mills. As on 31.12.2004, 727.53 MW which includes 437.03 MW from bagasse Co-generation and 290.50 MW from biomass combustion projects have been set up in the country. This accounts for only 3.7 per cent of the total assessed potential of 19,500 MW. The Committee feel that the Ministry are not making much headway in harnessing the huge potential of biomass. Analyzing the various problems associated with the programme, the Committee further noted that Co-generation projects are unable to obtain loans from the various financial institutions on accounts of poor financial position of most sugar mills especially Co-operative. Inadequate availability of biomass for the power projects are the other major problems. Sometimes, the project promoters are not paid in time for the electricity supplied by them in some States. The Committee, therefore, recommend that the Government should make all out efforts to rectify all these problems by convincing the various financial institutions to provide loans on softer terms to sugar mills, especially the Co-operatives; promoting energy plantation having fast growing and high energy density biomass, giving directions

to all potential states to issue attractive preferential tariff, wheeling and banking rates and third party sales and to pay in for their outstanding dues for the electricity supplied by them. The Government should consider a single Window Clearance System for sugar factories intending to start co-generation projects. The Committee may be apprised of the various efforts made and resultant outcome thereof.

Reply of the Government

There are several barriers to the tapping of potential for bagasse cogeneration in cooperative and public sector sugar mills. These include inability of such mills to develop bankable projects on account of their financial and liquidity problems which can be addressed only through appropriate management action at the mill level and/or through appropriate policies at the state level. However, some state governments are considering permitting joint ventures in cooperative and public sector mills whereby the joint venture partner would bring in a bulk of additional funds for setting up cogeneration facilities. It may also be stated that generally cogeneration is viable in mills having a longer crushing season unless other parameters are highly favourable that support cogeneration in mills having a relatively shorter crushing season. Thus, it is possible that cogeneration may not be viable in every sugar mill. Further, sugar mills of less than 2500 tpd capacity are not considered economically viable and find it difficult to access bank loans. Quite many cooperative sugar mills fall in this category. It would be appreciated that this Ministry, on its part, can assist in introducing more advanced technologies and provide financial incentives or make a case for fiscal incentives but the bulk of the work has to be done by mill owners and state governments.

[Ministry of Non-Conventional Energy Sources OM No. 8/2/2005-P&C Dated:
12.08.2005]

Recommendation Serial No. 17 (Para No . 3.49)

The Committee observe that as against the estimated potential of 120 lakh Biogas plants only 36.70 lakh plants have been set up in the country. The Ministry has not been able to achieve the targets set during the year 2003-04 and 2004-05. The Committee note that in some States, Village Panchayats and Local Bodies are being associated with such activities. The Committee desire that Government should ensure more and more

participation of these bodies in setting up of biogas plants to spread public awareness in the region. The Committee also desire that suitable tie-ups should be done with Dairy Organizations to harness the full potential.

Reply of the Government

The Biogas programme is being implemented through state nodal departments / agencies, the Khadi and Village Industries Commission (KVIC) and some non-governmental organizations (NGOs) which are given targets directly. These organizations in turn involve grass-roots level voluntary agencies and self-employed trained workers for promoting and constructing biogas plants apart from providing maintenance services. Village panchayats and local bodies such as Mahila Mandals and Yuvak Kendras are also being associated for organization of awareness camps, selection of villages and beneficiaries in many states. Some states have also linked the implementation of the National Biogas Programme with other rural development schemes such as the Rural Sanitation Programme in Maharashtra and Himachal Pradesh and the Watershed Development and Integrated Tribal Development Programme in Andhra Pradesh and Rajasthan. Other states have been advised to take similar measures for delivering a comprehensive package of rural related services.

Emphasis is also being placed on rural cattle dung based power plants for which an allocation of Rs.2.00crore has been made during 2005-06. In addition, cattle dung based power plants in urban dairies/dairy complexes is also being supported under the Urban, Industrial and Commercial Applications programme.

[Ministry of Non-Conventional Energy Sources OM No. 8/2/2005-P&C Dated:
12.08.2005]

CHAPTER III

RECOMMENDATIONS/OBSERVATIONS WHICH THE COMMITTEE DO NOT DESIRE TO PERSUE IN VIEW OF THE GOVERNMENT'S REPLIES:

Recommendation Serial No. 8

Paragraph No. 2.35

The Committee find that the energy from Small Hydro power is the most reliable of all renewable energy sources which can provide electricity for the rural, remote areas and hilly terrain in our country in a cost effective and environmentally benign manner. Small Hydro upto 3 MW was transferred to the Ministry of Non-conventional Energy Sources during 1989. Ten years later, with effect from 29th November, 1999, the small hydro power between 3-25 MW were also brought under the purview of this Ministry. Within this short span of time, the Ministry have been able to achieve 1693.94 MW out of the total hydropower potential of 15000 MW in our country. Now, the Ministry have set a target of 600 MW to achieved by the end of the Tenth Five Year Plan i.e., by the year 2007 A.D. and 2000 MW by the year 2012 A.D. During the first three years of the Tenth Five year Plan, the Ministry could achieve 254 MW with an expenditure of Rs. 69.53 crore, achieving cent-per-cent utilization. This shows that the Ministry of Non-conventional energy Sources have now got the requisite skill, strength and capabilities to install, operate and maintain even the Mega Hydro Projects. Considering the fact that hydro power in itself is the most important renewable source of energy, the Committee strongly recommend that all the projects, including mega hydro power projects, should be brought under the control of the Ministry of Non-conventional Energy Sources. The Committee desire that this matter should be taken up at the highest level in consultation with the Ministry of Power and the outcome of the discussions should be conveyed to the Committee within three months of the presentation of the Report.

Reply of the Government

The recommendation of the Committee has been taken due note of and necessary action in the matter is being taken in consultation with various agencies, including the Planning Commission and the Ministry of Power. It would be appreciated decision-making of this nature is highly complex and time consuming.

Ministry of Non-Conventional Energy Sources

OM No. 8/2/2005-P&C **Dated: 12.08.2005**

Recommendation Serial No. 13

Paragraph No.3.35

The Committee observe that the Programme on Alternate Fuel for Surface Transportation which includes research and development and demonstration of Battery Operated Vehicles (BOVs) using alternate fuels was launched during 1994-95. Till now, the Ministry have been successful in deployment of 161 BOVs (buses/minibuses, three-wheelers and passenger-cars) in 15 States and three Union Territories at the cumulative expenditure of Rs. 14.88 crore. Now during the year 2005-06, it has been decided by the Ministry to replace this programme by hybrid electric vehicles programme. Rs. 2.50 crore has been allocated for this programme during the year 2005-06. The committee welcome this step of improvement. However, they are of the view that one of the major limitations of the existing vehicles using lead-acid batteries is the limited driving range of the vehicle per charge of the battery. The Committee, therefore, recommend that the government should make all efforts to develop and deploy newer types of rechargeable batteries having higher capacity at lower costs through focused R&D efforts.

Reply of the Government

The existing Programme on Alternative Fuels for Surface Transportation includes Research and Development in, among other things, high energy density batteries.

Ministry of Non-Conventional Energy Sources

OM No. 8/2/2005-P&C Dated: 12.08.2005

Recommendation Serial No. 15 (Para No . 3.47)

The Committee observe that the Ministry of Non-conventional Energy Sources was able to utilize Rs. 11.95 crore only out of the Budget Estimates of Rs. 18 crore and Revised Estimates of Rs. 16.50 crore the Biomass Power/Co-generation programme during the year 2003-04. Similarly, during the year 2004-05 only, Rs. 5.78 crore could be utilized (upto February 2005) out of Rs. 14.54 crore of B.E. and Rs. 12.54 crore. One of the reasons as extended by the Ministry, for the difference in actual expenditure and Revised Estimates during the year 2003-04, was that the financial assistance was withheld at the end of the financial year due to cancellation of the signed Power Purchase Agreements by the State Government of Kanataka. Unfortunately, the issue was not resolved immediately and the actual utilization during the year 2004-05 also got affected. As a result of which, the difference between RE and actuals increased from Rs. 4.55 crore during the year 2003-04 to 6.76 crore during the year 2004-05. The Committee, therefore, recommend that the Government should go into the details of the reasons for the cancellation of PPAs signed by the State Government of Karnataka and settle the problem once for all. The Committee also desire that preventive measures should be taken to stop such cancellations in future so that the actual utilization of the allocated fund in not affected.

Reply of the Government

The Karnataka Power Transmission Corporation Limited (KPTCL) has informed that the Power Purchase Agreements were terminated for reasons such as non-fulfillment of conditions like: (i) achievement of financial closure within the stipulated period, (ii) obtaining permits and clearances, (iii) commencement of project construction work within the scheduled date, and (iv) completion of project within stipulated date, etc. The promoters approached the High Court of Karnataka against the orders of termination of the Power Purchase Agreements. It has also been informed that KPTCL is negotiating with a few developers who have agreed for negotiated tariffs and terms and conditions. Necessary supplementary Power Purchase Agreements have been sent to the Karnataka Electricity Regulatory Commission for their clearance. In the case of other developers,

action will be taken as per the orders of the High Court, where matter is currently pending. Although the matter was taken up with the concerned authorities in the State Government at the appropriate level, it would be appreciated that the subject of tariff fixation is of a quasi judicial nature in the implementation of which the Central Government has no direct role.

[Ministry of Non-Conventional Energy Sources OM No. 8/2/2005-P&C Dated:
12.08.2005]

CHAPTER-IV
RECOMMENDATIONS/OBSERVATIONS IN RESPECT OF WHICH THE
REPLIES OF THE GOVERNMENT HAVE NOT BEEN ACCEPTED BY THE
COMMITTEE

Recommendation Serial No. 3 (Para No. 2.19)

The Committee further note that Ministry have also decided to discontinue SPV power plants. SPV irrigation pumps for individual and Battery Operated Vehicles during the year 2005-06 on account of relatively high capital costs when compared to conventional power systems. The Committee note that 2.80 MW capacity SPV Power Plants, 6452 Nos. of SPV irrigation pumps for individuals and 161 BOVs have already been installed/deployed at present. The Committee are, therefore, concerned about the fate of operation, maintenance and up-keeping of these installed/deployed systems and also about fulfilling the financial liabilities towards the ongoing projects under these programmes. The Committee, therefore, recommend that the Ministry should make specific arrangements for the operation, management and up-keeping of the installed and deployed systems so that they complete their designed life and achieve the targets set for them and also recommend that the Ministry should meet the financial liabilities of ongoing projects under the above-said programmes. The Committee feel that the performance of these schemes and programmes could not give desired results due to failure of the Ministry in reducing the cost of SPV module and their new experiment in the field of Battery Operated Vehicles. The Committee, therefore, recommend that R&D efforts of the Ministry should now be focused on the reduction of SPV module cost to at least one-half of current level. The Committee also desire that the Ministry should make intensive efforts to see to it that the equipment related to solar energy e.g., SPV system based on silicon etc. are manufactured indigenously. The Committee specifically desire that the Government should orient their R&D efforts towards development of non-silicon solar voltaic system on the pattern of development of similar system in other parts of the world. At the same time, R&D efforts should also be re-oriented towards hybrid vehicles in place of Battery Operated Vehicles.

Reply of the Government

The Ministry has been supporting research and development in non-silicon thin film solar cell technologies. However, thin film solar cell technologies still require further development to be reliable and cost-competitive. As a matter of fact over 90% of the world production of solar cells in 2004 was based on crystalline silicon which is at present considered more reliable and cost-efficient. Prices of indigenous solar cells appear to be competitive with respect to international prices as a major share of domestic production is currently being exported.

As regards maintenance of renewable energy systems/ devices, the endeavor has been to build in long-term maintenance contract costs into initial system cost. Systems /devices are generally owned by individuals, legal entities or state governments who as beneficiaries are expected to take care of repairs and maintenance after the initial contract period for repair and maintenance is over.

The Committee's recommendation to reorient R&D focus on the development of *IC engine electric motor hybrid vehicle* has been duly noted although development work on BOVs needs to proceed on a parallel track.

[Ministry of Non-Conventional Energy Sources OM No. 8/2/2005-P&C Dated:
12.08.2005]

(Please see para 16 of Chapter-I of the Report)

Recommendation Serial No. 4 (Para No. 2.20)

The Committee note that India has been implanting one of the largest renewable energy programmes in the world. It has formulated and implemented a large diversity of renewable energy technologies such as wind, solar, biogas, biomass, small hydro and many new technologies such as hydrogen energy, chemical sources of energy including fuel cell energy, bio-fuels, etc. However, the penetration of renewables is far less as compared to the potential despite several innovative policies and measures used to promote them. The reason is not beyond the comprehension of the Committee. There are some renewable sources of energy like solar energy which is abundantly available but

the technology has not yet achieved maturity. On the other hand, there are some renewable technologies like wind power, biomass gasifiers, small hydro power having high potentials of 45000 MW, 16000 MW and 15000 MW respectively and are matured and proven and have reached commercialization stage. Yet these are unable to make any remarkable impact in the field of renewable energy sector. As by the end of the year 2004, it is possible to achieve only 2980 MW of wind energy, 62 MW of biomass gasifier and 1693 MW of small hydro power. The Committee feel that now it is the high time to analyse and understand the significance of renewables and the impact of policies and measure on their penetration and performance. It is the opinion of the Committee that technologies at different stages of development need different sets of policies and programmes. Research, development and demonstration are required for new emerging technologies which are in the demonstration phase like SPV, hydrogen energy, fuel cell energy, biofuels, etc. for cost reduction and high performance. On the other hand, commercialization and private sector's involvement are required for technological mature and proven sources which have reached the commercialization phase like small hydro, wind power, solar water heating system, biomass gasifier, etc. The committee, therefore, recommend that various renewable energy resources_pertaining to various programmes should be prioritized in the light of the technological advancement and their potentialities and allocate the higher budget for their advancement accordingly. Massive campaign are also required for these types of technologies to increase public awareness which alone would be helpful in increasing the demand for renewable energy systems and devices. The Committee also desire that Ministry of Non-conventional Energy Sources should persuade all the State Governments to amend their building bye-laws and municipal laws to make it compulsory to install solar water heating systems in all the high rise buildings as has been done in the States of Maharashtra and Karnataka.

Reply of the Government

The Ministry has been laying emphasis on mass awareness on renewable energy through the launch of different media campaigns. The 20th August, the birth anniversary of the late Prime Minister, Shri Rajiv Gandhi has been declared as 'Renewable Energy Day' [Akshay Urja Diwas] for the purpose of creating awareness on renewable energy. A publicity campaign to create awareness on the benefits of solar water heating systems is being initiated throughout the country through electronic and print medias.

As recommended by the Committee, the Ministry's endeavor will be to persuade state governments/ local bodies to amend bye-laws for compulsory use of solar water heating systems, wherever such systems are considered desirable and cost-effective.

[Ministry of Non-Conventional Energy Sources OM No. 8/2/2005-P&C

Dated:12.08.2005]

Comments of the Committee

(Please see para 21 of Chapter-I of the Report)

Recommendation Serial No. 14 (Para No. 3.40)

The Committee note that during the last several years, the Ministry has not been able to utilize the amount allocated for the Biomass gasifier programme. This shows the lack of proper attention by the Government on such an important programme. The Committee are of the view that the Ministry of Non-conventional Energy Sources should be more specific in identifying the reasons for under achievements in the physical and financial field and then pursue their case on sound footing with the Ministry of Finance so that they may not be able to impose financial cut on the Biomass Gasifier Programme during the current financial year. The Committee, however, find that the target fixed for the programme is quite low particularly when the biomass generation potential is of the order of 19,500 MW and the technology to harness them is quite mature. The Committee, therefore, recommend that the Ministry should fix higher targets and allocate more budget for the Biomass gasifier programme from the next financial year so that the abundantly available biomass resources may be harnessed expeditiously in a time bound manner. To get better results, the Committee desire that the Government should provide more incentives to Villages Panchayats interested in Biomass Gasifier Programme.

Reply of the Government

The gross potential of bio-energy is estimated at 22,200MW that includes: (i) 16,000 MW from agro residues and forestry wastes (ii) 3,500 MW surplus power from bagasse co-generation and (iii) 2700 MW from urban and industrial wastes apart from 50000-100000 MW from biomass that can be obtained from plantations on wastelands.

The target for bio-power during the 10th and 11th Plan periods is 3000MW (corresponding to 3% of the additional power generation capacity to be set up during the 10 year period) of which the target for the 10th Plan is 830MW. During the first three years of 10th Plan, 398MW of bio-power i.e., 300MW from biomass combustion, 68MW from bagasse cogeneration, 15 MW from biomass gasification, and 30MW from urban & industrial waste-to-energy has been installed, which is 3% of the additional power generation capacity set up during the said period.

The barriers to accelerating the growth of bio-power are (i) raw material availability in requisite quantity and quality (ii) plant capacity limitations on account of nature of raw materials and difficulties associated with its collection and transportation to the plant site (iii) requirement of fiscal and financial incentives and (iv) requirement of preferential tariffs. Until such time as the aforesaid four barriers can be addressed in a reasonable and meaningful manner and bio-power can compete with conventional power without incentives/ preferential tariffs, the current aim for bio-power of 3% of the additional power generation capacity to be set up in the country appears highly reasonable and satisfactory.

[Ministry of Non-Conventional Energy Sources OM No. 8/2/2005-P&C Dated:
12.08.2005]

Comments of the Committee

(Please see para 37 of Chapter-I of the Report)

CHAPTER-V

RECOMMENDATIONS/OBSERVATIONS IN RESPECT OF WHICH THE FINAL REPLIES OF THE GOVERNMENT ARE STILL AWAITED

Recommendation Serial No. 2

Paragraph No. 2.18

The Committee find that the Ministry of Non-conventional Energy Sources/ Planning Commission have decided to transfer IREP to State Governments and discontinue some of the other programmes like SPV pumping systems for individuals, SPV power plants and Battery Operated Vehicles (BOVs) due to various reasons. The Committee are surprised to note that Planning Commission has unilaterally decided to transfer IREP, a Centrally Sponsored Scheme to the States without consulting the Ministry of Non-conventional Energy sources. This has been done at the stage when the Centre's committed liabilities under IREP are of the order of Rs. 28 crore pertaining to years 2003-04 and 2004-05 and the Scheme had been recast recently raising Central assistance from 20% to 50%. The Committee feel that the Scheme should have been thoroughly examined at that point of time instead of taking piece-meal decisions. Now that the States have represented to the Planning Commission and the Ministry to continue this scheme in the same form, the Committee desire that the Scheme should be reviewed in its entirety to decide all the matters and to ensure that the Scheme shall achieve its desired goal.

Reply of the Government

The observations of the Committee have been noted and conveyed to the Planning Commission.

Ministry of Non-Conventional Energy Sources

OM No. 8/2/2005-P&C **Dated: 12.08.2005**

Comments of the Committee

(Please see para 12 of Chapter-I of the Report)

Recommendation Serial No. 10 (Para No. 3.26)

The Committee note that as against the projected target of 80 MW under the Urban and Industrial Waste Programme during the Tenth Five year Plan, the Ministry has been able to achieve 23.25 MW during the first three years of the Plan period with an expenditure of 19.67 crore. After analyzing the utilization of funds under this programme, the Committee find that there are major slippages during 2003-04 and 2004-05. During 2003-04 they could spent only Rs. 4.34 crore against R.E. of 7.04 crore and during 2004-05 they have spent Rs. 4.42 crore only upto 15.03.2005 against R.E. of Rs. 10 crore. The Committee are not satisfied with the justification given by the Ministry about the poor utilization of fund allocated for this project. The Committee find that the factors mentioned by the Ministry like delay in signing various agreements for supply of wastes, land lease, power purchase obtaining statutory clearances and delay in project development etc. for delay in implementing of programme simply show that lack of proper efforts on the part of the Ministry. With this type of casual approach, it does not seem possible to achieve the targets set for the Tenth Five Year Plan. The Committee, therefore recommend that the Ministry should adopt a multiprong approach to achieve the financial and physical targets of Tenth Plan. The Committee desire that single window clearance systems should be developed to obtain clearances in a time-bound manner. The Committee specifically desire that the Ministry should finalise the National Master Plan for development of waste to energy. They also desire that R&D efforts should be expedited for reduction in cost of power production from Municipal waste. The Committee would also like time-bound initiatives to modify financial support scheme which is under review to give a major fillip to this programme. The Committee may be apprised of the efforts undertaken by the Ministry, and outcome thereof.

Reply of the Government

A consolidated reply to Recommendations Nos.10 and 11 is given under Recommendation No.11.

[Ministry of Non-Conventional Energy Sources OM No. 8/2/2005-P&C Dated:
12.08.2005]

Recommendation Serial No. 11 (Para No. 3.27)

The Committee note that as per database prepared for 299 class-I cities and 36 Class-II cities, it is estimated that more than 30 million tones of solid waste and 4400 million cubic meters of liquid waste are generated every year in the urban areas of the country. There is a potential for generating about 1700 MW of power from urban/Municipal wastes. The Ministry of Non-Conventional Energy Sources has launched the National Programme on Energy Recovery from Urban and Industrial waste during the year 1995-96. But the Committee are sorry to note that no significant progress has been made so far particularly in the field of energy from Municipal solid Wastes. Only three projects have been commissioned in the field of power production from Municipal Solid Waste. These projects are situated at Lucknow (5 MW), Vijaywada (6MW) and Hyderabad (6MW). The Committee had an opportunity to visit one of such projects situated at Hyderabad . The Committee are impressed and appreciate the initiative taken by M/s SELCO International in treating the Municipal Solid Waste of Hyderabad City by installation of 6MW capacity MSW based power plant and RDF preparation plant based on MSW. The Committee also have an information that in the metro cities of Delhi and Mumbai and some other cities like Vijaywada. Municipal bodies are willing to establish similar Waste-to-Energy projects/plants. As an initial steps, segregation of wastes has already started. The Committee desire for similar promising projects from all the major cities where huge quantity of solid waste is generated. For this purpose, they should provide the required technologies and expertise to all the interested promoters in consultation with State Government authorities and experts. The Committee strongly recommend that the Government should give all possible subsidies/ incentives to the promoters interested in such projects. The Committee also note that the state-of-art technologies for energy projects for Municipal waste in general are not available in the country. The committee, therefore, strongly recommend that the Government should take all the initiatives to make the state-of-art technologies for such projects indigenously available.

Reply of the Government

[Consolidated reply to Recommendations at serial nos. 10 and 11]

The Ministry has formulated a Programme for the accelerated promotion of projects for Energy Recovery from Urban Solid Waste. Following the commissioning of RDF-combustion route projects at Hyderabad and Vijayawada, it is proposed to promote power generation from MSW through a similar route. The proposed strategy under the new programme might feature:

- Development of projects through public-private partnership for specific cities.
- Assistance for fast track project activities that include identification of project site, assessment of quality and quantity of waste, preparation of waste collection and transportation plan, finalization of power purchase agreement, development of a bankable project with Feasibility Report and Detailed Project Report; obtaining all statutory clearances for the project, firming up of means of project finance, preparation of bid document, and supervision during implementation and commissioning.
- Provision of central financial assistance for making such projects financially viable. A higher level of assistance for state-of-the-art (to be defined) demonstration projects.
- Financial support for R&D under the R&D policy of the Ministry.

Review of the draft National Master Plan for the development of waste to energy has been completed and the final document is under preparation. A detailed Information Package is also being prepared for providing necessary information to all stakeholders.

After notification of the proposed scheme, all municipal corporations, particularly those in major cities having substantial quantity of MSW, will be encouraged to take advantage of the incentives being offered by developing and implementing MSW to Energy projects for their cities.

[Ministry of Non-Conventional Energy Sources OM No. 8/2/2005-P&C Dated:
12.08.2005]

Comments of the Committee

(Please see para 29 of Chapter-I of the Report)

NEW DELHI;
February 28, 2006
Megha 9,1927 (Saka)

GURUDAS KAMAT
Chairman,
Standing Committee on Energy

ANNEXURE – I

MINUTES OF THE FOURTEENTH SITTING OF THE STANDING COMMITTEE
ON ENERGY (2005-2006) HELD ON 28.02.2006 IN COMMITTEE ROOM
NO 'C' PHA, NEW DELHI

The Committee met from 1500 hours to 16.30 hrs.

PRESENT

1. Shri Vijayendra Pal Singh - In the Chair

MEMBERS

2. Shri Gauri Shankar Chaturbhuji Bisen
3. Shri Ajay Chakraborty
4. Shri Chander Kumar
5. Shri Dharmendra Pradhan
6. Shri Prashanta Pradhan
7. Shri Kiren Rijju
8. Shri M.K. Subba
9. Shri Tarit Baran Topdar
10. Shri Vedprakash P. Goyal
11. Shri Matilal sarkar
12. Shri Motilal Vora
13. Shri Jesu Dasu Seelam

SECRETARIAT

1. Shri P.K.Bhandari - Joint Secretary
2. Shri Surender Singh - Deputy Secretary
3. Shri Shiv Kumar - Under Secretary

WITNESSES

XX	XX	XX
XX	XX	XX

As the Chairman was not present, the Committee chose another member, Shri Vijendra Pal Singh, M.P. under Rule 258 to act as Chairman for that sitting. The Chairman, welcomed the Members of the Committee to the sitting.

2. The Committee then took up for consideration the following draft Reports: -
 - (i). Action Taken Report on the recommendations contained in the 5th Report (14th Lok Sabha) on Demands for Grants (2005-2006) of the Ministry of Power.
 - (ii). Action Taken Report on the recommendations contained in the 6th Report (14th Lok Sabha) on Demands for Grants (2005-2006) of the Ministry of Non-Conventional-Energy Sources.
3. The Committee adopted the aforesaid draft Reports with slight modifications.
4. The Committee also authorized the Chairman to finalise these Reports and to present/lay the same to the Houses of Parliament.

- | | | | |
|----|----|----|----|
| 5. | XX | XX | XX |
| 6. | XX | XX | XX |

(The witnesses then withdrew)

7. A verbatim record of the proceedings of the sitting of the Committee was kept on record.

The Committee then adjourned

Annexure-II

(Vide para 4 of the Introduction)

**ANALYSIS OF ACTION TAKEN BY THE GOVERNMENT ON THE
RECOMMENDATION CONTAINED IN THE SIXTH REPORT OF THE
STANDING COMMITTEE ON ENERGY**

I.	Total No. of Recommendations	17
II.	Recommendations that have been accepted by the Government (vide recommendation at Sl.Nos.1,5,6,7,9,12,16 & 17)	8
	Percentage of total	47%
III.	Recommendations which the Committee do not desire to pursue in view of the Government's replies (vide recommendation at Sl.No.8,13 & 15)	3
	Percentage of total	17.6%
IV.	Recommendations in respect of which reply of the Government has not been accepted by the Committee (vide recommendation at Sl.Nos.3,4 & 14)	3
	Percentage of total	17.6%
V.	Recommendation in respect of which final reply of the Government are still awaited (vide recommendation at Sl.No.2, 10 and 11)	3
	Percentage of total	17.6%