

**16**

**STANDING COMMITTEE  
ON ENERGY  
(2005-2006)**

**FOURTEENTH LOK SABHA**

**MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES**

*(Action Taken on the recommendations contained in the Eighth Report (14<sup>th</sup> Lok Sabha) on the subject "Biomass Power/Co-Generation Programme – An Evaluation")*

**SIXTEENTH REPORT**



**LOK SABHA SECRETARIAT  
NEW DELHI**

*July 2006/Sravana 1928 (Saka)*

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*Presented to Lok Sabha on -----*

*Laid in Rajya Sabha on -----*



**LOK SABHA SECRETARIAT  
NEW DELHI**

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

1. Shri Gurudas Kamat - Chairman

### MEMBERS

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2. Shri Gauri Shankar Chaturbhuj Bisen
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29. Shri Matilal Sarkar
30. Shri Motilal Vora
31. Shri Jesudasu Seelam

### SECRETARIAT

Shri P.K. Bhandari	-	Joint Secretary
Shri B.D. Swan	-	Deputy Secretary
Shri Shiv Kumar	-	Under Secretary
Smt. Juby Amar	-	Committee Officer
Shri Manoj Pahuja	-	Executive Assistant

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\* Expired on 14th April, 2006

\*\* Ceased to be Member of the Committee w.e.f 2<sup>nd</sup> April, 2006, consequent upon his retirement from Rajya Sabha

## INTRODUCTION

I, the Chairman, Standing Committee on Energy having been authorized by the Committee to present the Report on their behalf, present this Sixteenth Report (Fourteenth Lok Sabha) on the action taken by the Government on the recommendations contained in the 8<sup>th</sup> Report of the Standing Committee on Energy on the subject “Biomass Power/Co-Generation Programme – An Evaluation” of the Ministry of Non-Conventional Energy Sources.

2. The Eighth Report of the Standing Committee on Energy was presented to Lok Sabha on 25<sup>th</sup> August 2005. Replies of the Government to all the recommendations contained in the Report were received on 20<sup>th</sup> January, 2006.

3. The Standing Committee on Energy considered and adopted this Report at their sitting held on 31.7.2006.

4. An Analysis on the Action Taken by the Government on the recommendation contained in the Eighth 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;**  
**31 July, 2006**  
**Sravana 9, 1928 (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 Eighth Report (14<sup>th</sup> Lok Sabha) of the Standing Committee on Energy on the subject Biomass Power/Co-Generation Programme – An Evaluation” of the Ministry of Non-Conventional Energy Sources.

2. The Eighth Report was presented to Lok Sabha on 25.08.2005 and was laid on the Table of Rajya Sabha on the same day. It contained 22 Recommendations/Observations.

3. Action Taken Notes in respect of all the Recommendations/Observations contained in the Report have been received from the Government. These have been categorized as follows: -

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

Sl No.2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 16, 18, 20 and 21                      Total : 15  
Chapter – II

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

Sl No.14    Total : 1  
Chapter – III

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

Sl Nos.1, 11, 17 and 22    Total : 4  
Chapter – IV

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

Sl Nos.13 and 19    Total : 2  
Chapter – V

**4. The Committee desire that utmost importance should be given to the implementation of recommendations accepted by the Government. In cases, 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 along with reasons for their non-implementation.**

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

## **Effective Implementation Strategy for Biomass Power**

### **(Sl. No.1, Para 2.17)**

6. The Committee in their 8<sup>th</sup> Report observed that Biomass is renewable organic material derived from trees, plants, crops or from human, animal, municipal and industrial wastes. Woody Biomass is derived from forests, plantations forestry residues while other sources provide non-woody Biomass. The Committee noted that the total estimated Biomass power potential in India was above 1 lakh MW. This included 16,000 MW grid interactive power from surplus agro residues and wastes from forestry and plantations, 3500 MW through bagasse co-generation and 1 lakh MW from plantation of 60 million hectares of wasteland. The Ministry of Non-Conventional Energy Sources had been implementing Biomass Power and Cogeneration Programme since 1994. The Committee also noted that over these ten years, only 101 Biomass Power and Cogeneration projects aggregating to 750 MW had been installed in the country and 73 projects aggregating to 585 MW were under various stages of implementation. This included 58 Bagasse Cogeneration Projects aggregating to 450 MW and 34 Projects under implementation aggregating to 312 MW. The Committee were not satisfied with the present slow approach of the Government in tapping the huge Biomass potential available in the country. The Government had fixed a target that 10% of the additional grid interactive power generation capacity should come from renewable sources during the 10<sup>th</sup> and 11<sup>th</sup> Plan Periods, which is 5.5% at present. The Committee felt that renewable energy including Bio-energy should now be brought into mainstream for meeting/supplementing the energy demands in the urban and rural areas. The Committee recommended that the Government should now evolve an effective implementation strategy for Biomass Power Cogeneration Programme for maximum exploitation of Biomass resources of the country with an objective to make Biomass energy available at an affordable price to the common man.

7. The Ministry in its reply submitted:

“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% out of the overall aim for renewables of 10% of the additional power generation capacity to be set up in the country appears highly reasonable and satisfactory.

It is further submitted that potential for grid-interactive biomass power generation based captive plantations on wastelands is only theoretical as 40 m ha or so of wastelands can be put to multiple uses, including food grains, oil seeds production. If the available wastelands are to be utilized for energy plantation purposes, it would have to be a major inter-Ministerial/Departmental initiative with the participation of the Ministries of Environment and Forest, Agriculture, Rural Development, Panchayati Raj & Bio-technology. This Ministry can only facilitate provision of know-how for the conversion of biomass into energy/electricity. However, for conversion of agricultural waste, forest residues and biomass obtained from plantations on croplands to energy/electricity, this Ministry has taken the initiative to launch Test Projects on Village Energy Security, wherein the requirement of cooking, lighting and motive power in villages could be met through renewable energy, mostly biomass, distributed generation systems, wherever feasible and cost-effective. Depending upon the outcome of the test phase, a decision to extend the initiative would be taken. Meanwhile, a decision has been taken to electrify remote villages through distributed renewable generation systems, mostly biomass based, wherever feasible and cost-effective.

In so far as bagasse cogeneration is concerned, the barrier to its accelerated deployment has been identified as the inability of many sugar mills, especially in the cooperative sector, to generate bankable proposals for obtaining loans from financial institutions on account of their poor financial and liquidity positions. Further, bagasse cogeneration appears to be more viable in coastal areas where there is an elongated crushing season sometimes exceeding 180 days as compared to a normal crushing season of 150 days, for most sugar mills. Even then, the Commission for Additional Sources of Energy has desired that a Committee be set up comprising, among others, representative of the Ministry of Consumer Affairs and NCDC to suggest innovative ways and means for the accelerated growth of bagasse cogeneration, especially in the cooperative sector.”

- 8. The Committee note with concern that though Bio-Power has the potential to compete with conventional power without incentives/preferential tariffs, yet it has**

**some barriers for accelerating the growth of Bio-Power. The Committee, therefore, desire that strategy should be worked out by the Ministry to address these barriers in a reasonable and meaningful manner with all the concerned sections/quarters and reiterate their earlier recommendations that the Government must evolve an effective implementation strategy for Biomass Power Cogeneration Programme for maximum exploitation of Biomass resources of the country with an objective to make Biomass energy available at an affordable rate. The Committee feel that remote villages can be electrified at a lower cost through biomass system and would like to know the details of the cases where such test projects have been taken up.**

### **Setting up Biomass Projects by Private Developers**

**(Sl. No.2, Para 2.18)**

9. The Committee had noted in their earlier Report that the private developers were facing a number of problems in setting up Biomass projects like firm assessments on availability of Biomass and ensuring its supply to the project, uncertainty on tariff to be fixed by SERCs and evolving technology of Biomass gasification systems, etc. The Committee desired that these problems should be resolved on priority and in a time bound manner.

10. The Ministry in its reply submitted:

“A project for assessing the availability of surplus biomass in different parts of the country for conversion to energy / electricity has been initiated. Under this project, a ‘Biomass Resource Atlas for India’ is likely to be completed by March 2007 and the same would be placed on the website of this Ministry for use of prospective project developers.....  
The subject of tariff fixation and related issues are of a quasi-judicial nature in the implementation of which this Ministry has no direct role. Even then, this Ministry has been taking up such matters with the state governments from time to time, depending upon the facts and circumstances of the cases.”

**11. The Committee feel that the problems being faced by the private developers in setting up biomass projects need to be sorted out and resolved at the highest level and also in an institutional framework. The Committee appreciate that a project for assessing the ability of surplus biomass in different parts of the country has been**

**initiated, under which, a Biomass Resource Atlas for India is likely to be completed by March, 2007 and the same would be placed on the website for use of prospective project developers. Therefore, the Committee urge upon the Ministry to ensure timely completion of Biomass Atlas. However, there appears to be a need to further improve the gasification technology and make the same available to private developers. The Committee desire that this should be done in a systematic manner throughout the country.**

### **State-wise Biomass potential and Targets**

#### **(Sl. No.4, Para 2.20)**

12. During the examination of the subject, the Committee were not convinced with the reasoning given by the Ministry that State-wise targets were not fixed under the Biomass Power Programme as this activity was driven by the private investment, which depends on a host of factors including entrepreneurial activity in that State, surplus Biomass potential and the price of electricity fixed by the State regulators. The Committee in their 31<sup>st</sup> Report (13<sup>th</sup> Lok Sabha) on the Electricity Bill, 2001 had recommended that the States should be encouraged to procure at least 5% of their energy demands from renewable sources and the limit of the same should be raised to 10% by the end of 11<sup>th</sup> Plan. The Committee had desired that the Ministry should assess State-wise potential of Biomass and also fix the targets accordingly for every year for a balanced exploitation of Biomass potential available in each State. The Committee also desired that the Government should also collect full data of power generation through Biomass co-generation mode by private developers in various States and for this purpose there was a need to develop a better coordination with the State level nodal agencies engaged in the field of non-conventional energy sources for promotion and development of private sector projects. The Committee felt that fixation of national targets for procurement of energy demands from renewable sources would help in better exploitation of non-conventional resources.

13. In its reply, the Ministry responded:

“The assessment of state-wise potential of biomass is being addressed under the project for preparation of Biomass Resource Atlas for India..... The aim of the Ministry is to add 10% of the power generation capacity to be set up in the country during the 10th and 11th plan periods through renewables, of which 3% is envisaged through biomass power. However, under the Electricity Act 2003, the SERCs are required to fix a percentage for purchase of power from non-conventional sources taking into account availability of such resources in the region and its impact on consumer tariffs. Consequently, the need for fixation of national targets has ceased.”

**14. The Committee are happy to note that assessment of State-wise potential of Biomass Resource is being addressed under the Project Biomass Resource Atlas. The Committee feel that the target of the Ministry to add 10% of the power capacity to be setup in the country during the 10<sup>th</sup> and 11<sup>th</sup> Plan periods through renewables can only be better achieved, if the Ministry plays the role of an effective coordinator with a holistic vision. Though, under the Electricity Act, 2003, the SERCs are required to fix percentage for purchase of power produced from the non-conventional sources, yet the Ministry cannot absolve itself of its responsibilities in giving overall perspective and directions to the programme. The Committee, therefore, would like the Ministry to collect full data of power generation through biomass co-generation mode by private developers in various States and for this purpose they feel that there was a greater need to develop a better coordination with the State level nodal agencies engaged in the field of non-conventional energy sources for promotion and development of private sector projects.**

#### **Financial Incentives for Biomass/Cogeneration Projects**

**(Sl. No.8, Para 3.14)**

15. The Committee noted that the Ministry of Non-Conventional Energy Sources were encouraging the setting up of grid interactive Biomass based power projects through the non-government investment. The Committee were happy to note that leading Financial Institutions like PFC, HUDCO, NCDC, IDBI and scheduled banks had started providing loans to Biomass Power Cogeneration Projects. The Department of Food and

Public Distribution had also agreed for giving funds from Sugar Development Fund for Bagasse based cogeneration projects at lower rates. The Committee desired that Government should take initiatives to convince the Financial Institutions and banks about the importance and viability of Biomass based power projects by showing their determination in developing the latest technology. R&D efforts for cost reduction, future planning policy and tariffs etc. The Committee also urged the Government to take up the matter with Financial Institutions and banks to evolve simplified procedures for quick disposal of loan application for Biomass based power projects.

16. In its reply, the Ministry has stated:

“The financial institutions and banks are currently employing more and more modern appraisal techniques like credit ratings of borrowers to arrive at decisions to give loan, the quantum of loan, the interest rate to be charged and also the terms& conditions governing the loan. Consequently, financial institutions have become more professional in their approach and in an environment like this, would be unwilling to accept outside interference in absence of sound credit rating and financial viability of the project. Nonetheless, every effort is being made to create greater awareness about the robustness of some renewable technologies. As regards R&D efforts for cost reduction, it is submitted that combustion technology is already mature for applications of this type. However, in case of gasification systems, R&D support is being provided.”

**17. The Committee are not at all convinced with the logic extended by the Ministry, as they are fully aware of the appraisal techniques in vogue in the financial institutions and banks that have been brought to their notice by the Ministry as an alibi for their reluctance to intervene on behalf of the Bio-mass based power projects. It is true that the financial institutions and the banks are bound by their rules/regulations/procedures. It is also equally true that the non-conventional energy projects are at present in a nascent stage and hence require suitable initiatives, incentives as also interventions from the Government side. Rather than taking refuge behind the appraisal procedures of the financial institutions and banks, the Ministry should actively work out some incentive schemes or guarantees from its side for the Bio-mass based power projects so that it becomes a bit easier for the financial institutions and banks to give due priority to the loan applications**

**in relation to these projects. The Committee strongly feel that a pro-active intervention by the Ministry at this juncture would go a long way in providing the non-conventional energy sector with the much needed toe-hold for establishing itself.**

#### **R&D for Biomass/Cogeneration Projects**

##### **(Sl. No.11, Para 4.21)**

18. The Committee noted that a lot of work had been done in developing small capacity Biogas production units and Biomass gasifiers and industrial scale Biomass furnaces, boilers, dual fuel engines, etc. With the increase in the use of natural gas, now industry had started manufacturing gas compressors and producer gas engines. The Committee desired that the R&D efforts should now be concentrated to develop and implement selected co-coordinated projects with target to develop demonstrable technology packages having potential for wider adaptation. The Committee also desired that Government should prepare a detailed programme for the setting up of pilot and first of a kind commercial scale units to demonstrate indigenously developed technology packages and develop confidence of industries concerned. The Committee further desired that in preparation of such programme/ project the participation of users stakeholders should also be ensured.

19. In its Action Taken Reply, the Ministry has submitted:

“Biomass combustion technologies are already mature. However, biomass gasification technologies, which are still in the development phase, will be supported at the National Institute of Renewable Energy (NIRE) at Jalandhar, when established, which will focus on bio-energy technologies and will be the technical focal point of this Ministry for all matters relating to biomass conversion technologies.”

**20. The Committee are dismayed with the response of the Ministry to their recommendation as it is not at all indicative of any concrete action but reflects extreme inertia on its part. NIRE and its setting up should have been conveyed to the Committee in specific terms particularly when the Ministry thinks it to be the last word for all matters relating to the Bio-mass conversion technologies. The**

**Committee are of the view that unless and until R&D efforts and infrastructure are at par with the expectations and requirements of the user industries, if not ahead, they are going to be of no use to them. Be it Bio-mass combustion technologies or Bio-mass gasification technologies, the R&D infrastructure ought to be not only at par with the similar technologies available globally but also at the cutting edge. The Committee, therefore, desire that they must not only be informed in concrete terms about the efforts being made at present for the development of biomass gasification technologies by the Ministry but should also be given complete details in regard to the establishment of the National Institute of Renewable Energy at Jalandhar. The details should include the efforts made by the Ministry till date in giving priority consideration to the establishment of NIRE and financial allocations made for the purpose and the specific date by which the Institute will be set up. Pending the setting up of this Institute, the Government should explore the possibility of handing over this project to other Scientific Institutions like IIT and IIS.**

#### **Biofuels**

**(Sl. No.13, Para 4.23)**

21. The Committee noted that bio-fuels are considered as most preferred alternative to petrol and diesel particularly in the transport sector. MNES had initiated a programme on bio-fuels for transportation since 2002-03. The focus of the programme was to develop the technology for converting vegetable oils, mainly non-edible oils, to bio-fuel and promote the use of these bio-fuels in automobile sector after taking care of different aspects of the conventional diesel/petrol engines. The Committee recommended that the ministry should first of all undertake detailed non-edible seed resource assessment study to know the potential of such seed production in each agro-climatic zone. After that, the Ministry must prepare a time-bound programme for extending similar bio-fuel demonstration projects covering more and more villages in all States of the Country. The Committee also recommended that as large number of activities were to be taken up under bio-fuel programme the Ministry should also prepare a National Policy on bio-fuels with the participation of the concerned stakeholders and institutions working in the field of bio-fuels as this programme involved major R&D efforts at this stage. The

Government should provide separate budget as per requirement of the projects to be undertaken during the coming years.

22. In response, the Ministry has stated:

“It has been suggested to the Committee of Secretaries that this Ministry should focus on policy and development of bio-fuel systems/devices for stationary, portable and transport applications, while issues relating to production of bio-fuel crops could be handled by the Ministry of Agriculture with support from the Ministries of Rural Development, Panchayati Raj and Bio-Technology. Bio-fuel refining and distribution / retailing could be handled by the Ministry of Petroleum & Natural Gas and standards for biofuels by the Ministry of Consumer Affairs.”

**23. The Committee note that it has been suggested to the Committee of Secretaries that this Ministry should focus on policy and development of bio-fuel systems/devices for stationary, portable and transport applications, while issues relating to production of bio-fuel crops could be handled by the Ministry of Agriculture with support from the Ministries of Rural Development, Panchayati Raj and Bio-Technology. Bio-fuel refining and distribution/retailing could be handled by the Ministry of Petroleum & Natural Gas and standards for biofuels by the Ministry of Consumer Affairs.**

The Committee would like to be apprised of the final decision taken in the matter and if not taken as yet, the reasons therefor. The Committee would also like to know whether the task of preparation of a National Policy on bio-fuels with the participation of the concerned stakeholder and the institutions working in the field of bio-fuels – which in their considered opinion was very much imperative – has been undertaken or not. In addition, the Committee would also like to know as to whether separate budget provisions as per requirements of the bio-fuel demonstration projects to be undertaken during the coming years, have been made by the Government.



## Village Energy Security Programme

### (Sl. No.16 Para 5.17)

24. The Committee observed that Test Projects would be undertaken by a Village Energy Committee formed by the Gram Sabha and notified by the Panchayats and facilitated by implementing agencies such as District Rural Development Agencies (DRDAs), forestry departments and NGOs with technical inputs overall coordination and monitoring by the State Nodal Agencies. It was proposed to take up about two lakh villages. The Committee wanted that role of NGOs in such projects should be well defined & monitored closely to check the misuse of the huge funds released under this programme for the benefits of poor villagers and the Government should issue strict guidelines in this regard. The Committee also desired that Forest departments should certainly be associated in selection of forest fringe villages and plantation of fast growing oil seed bearing trees for getting better results.

25. The Ministry in its reply submitted:

“A decision whether to launch a full-fledged Village Energy Security Programme would be taken up depending upon the outcome of the test projects. Meanwhile, the task of electrification of remote villages is being continued under the Remote Village Electrification Programme of the Ministry which is expected to cover about 10,000 remote census villages as against an initial estimate of 25,000 remote census villages as per the updated data on remote census villages furnished by the Rural Electrification Corporation. In addition, however, remote hamlets of electrified census villages would need to be taken up. The number of such remote hamlets is not yet firmed up.

The implementation of the test projects is being done by the Forest Department, Zila Parishad or NGOs selected by the states. To prevent misuse of funds, the same are being released to government agencies/ SNAs who are required to deposit the funds in a Village Energy Fund operated by the Village Energy Committee. The accounts of a Village Energy Committee are to be duly audited as per the procedure being followed by the Gram Panchayats or the Joint Forestry Management Committees. The State Nodal Agencies have been assigned the responsibility for monitoring and coordination of the implementation of the test projects.

Since test projects involve plantation activity, states have been advised to suitably associate the Forest Department in the implementation of these projects, including those being implemented by NGOs.”

**26. The Committee have noted the reply of the Ministry. They find that though the Village Energy Security Programme (VESP) is still at test stages but finally it is**

going to be the bedrock of energy source for about two lakh villages in the country. The Programme if implemented with due care and alacrity has the potential of changing the face of rural India. The test projects of VESP have been lingering on for quite some time now. The Committee would appreciate that a firm time table be drawn up to conclude them at the earliest and based on the results thereof, implementation of VESP is initiated in the right earnest. The Committee would like to be kept abreast in these matters at regular intervals.

### **Training for Operation Biomass/Cogeneration Equipment**

**(Sl. No.17, Para 5.18)**

27. The Committee felt that if the projects of Biomass Co-generation were to be taken up on a large scale at the village/district level, proper training of the people, who will handle the equipment of Biomass Co-generation, is required. The Committee desired that Diploma level courses should be started in the polytechnics in the various states covered under the programme with the help of Ministry of HRD & State Governments.

28. In its reply, the Ministry responded:

“It is submitted that the existing trades in ITIs would be sufficient to ensure the necessary skills required for the upkeep of village level renewable energy systems. In addition, manufacturers would be utilized in imparting special training wherever necessary.”

29. The Committee note that the Ministry has contended that the existing trades in ITIs would be sufficient to ensure the necessary skills required for the upkeep of village level renewable energy systems and the specialised training needs will be taken care of by the manufacturers wherever necessary. The Committee would like to have a detailed note in regard to the exercise done by the Ministry while arriving to this conclusion. The Committee would also like to know as to what linkages/mechanisms the Ministry envisages for ensuring that the specialised training requirement are met by the manufacturers as also the experience of the cases where these systems are working after the manufacturer’s warranty period is over.

## **Awareness Programmes for Biomass/Cogeneration**

**(Sl. No.18, Para 5.19)**

30. The Committee noted that Village Energy Security through Biomass Programme relates to villagers and there was lack of awareness about such an important scheme amongst them. The Committee desired that Government should take up extensive awareness generation and training programme in prospect villages for local communities who will run the Biomass Power generating equipment. The Committee also desired that similar programmes should be arranged for Government functionaries, local NGOs, entrepreneurs, etc. to prepare a good team of facilitators.

31. The Ministry in its Action Taken Reply has stated:

“Awareness generation and training programmes are important components of the test projects. As per the terms and conditions of the test projects local youth are to be trained as operators by equipment suppliers for operation and maintenance purposes. This has been reiterated through communications to the implementing agencies. Workshops and meetings are being organized for generating awareness among Government functionaries, local NGOs, entrepreneurs and members of the local communities in different States. Visits to various project sites are being organized for the implementing agencies and members of the Villages Energy Committees.”

**32. The Committee have noted the efforts being made by the Ministry in the direction of awareness generation and training wherever Test Projects of Biomass – Cogeneration are under implementation. As has been previously commented by the Committee in this Report (Para No.25), the lingering on of the test projects is definitely a cause for great concern. The Committee expect that in the light of their aforesaid recommendation, the Ministry will draw a firm time table for completion of these Test Projects and based on their conclusions, start the implementation of Village Energy Security Programme (VESP) without any further delay. With these expectations, the Committee hope that the awareness and training components of VESP will now not be restricted to test projects areas only but extended to all prospective beneficiary villages so that the gestation period for the implementation is reduced to the best possible extent.**

## Waste to Energy Projects

### (Sl. No.20, Para 5.29)

33. The Committee found that the most important step was firming up of potential for urban, industrial and commercial wastes for specific urban centers and industrial units. For this purpose, the Ministry should prepare a time-bound programme in consultation with State Governments, major municipal bodies, government institutions and private developers to know the quantity and quality of urban wastes in all the major cities. The Committee desired that States should be persuaded to implement Municipal Solid Waste (Management and Handling) Rules 2000 at the earliest as this will facilitate setting up of projects based on Municipal Solid Waste (MSW). The Committee also noted that only the States of Andhra Pradesh, Karnataka, Kerala, Haryana, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu and Uttar Pradesh have announced policies for promotion of waste-to-energy projects in their States. The Committee further desired that other States should be asked to formulate and announce similar policies for supply of waste of desired quality and quantity at project site and facilities for evacuation and purchase of power generated from such projects in their States.

34. The Ministry in its reply has contended as under:

“State Nodal Agencies have been advised to take further action on the following activities for:

- (i) Estimation of potential for energy recovery
- (ii) Implementation of MSW Rules by Municipal Corporations/Urban Local Bodies
- (iii) Announcement of policies for supply of waste of desired quantity and quality at project sites and for providing facilities for evacuation and purchase of power generated from such projects, and
- (iv) Extensive awareness creation and publicity for attracting private investment

The policies announced by some of the states for development of waste-to-energy projects are being circulated to other states for introduction of similar conducive promotion policies in their respective states.

Municipal Corporations have also been separately requested to expedite the implementation of MSW (Management & Handling) Rules 2000.”

**35. The Committee are happy to note that the State Nodal Agencies have already been advised to take further action on the activities viz, (i) Estimation of potential for energy recovery; (ii) Implementation of MSW Rules by Municipal**

**Corporations/Urban Local Bodies; (iii) Announcement of policies for supply of waste of desired quantity and quality at project sites and for providing facilities for evacuation and purchase of power generated from such projects; and (iv) Extensive awareness creation and publicity for attracting private investment.**

**However, in view of the tremendous potential of urban waste as an alternative source of energy, the Committee feel that the Ministry's efforts need to be vigorously pursued and followed up. It should not be forgotten that the utilisation of urban waste will not only pave way for having a viable alternative source of energy another more significant fall out will be that our rivers and other water bodies will be spared of the copious amounts of urban waste being spewed into them daily by our municipalities. The Committee, therefore, would like the Ministry to take urgent steps in a time bound manner to firm up the potential for urban, industrial and commercial wastes for specific urban centers and industrial units and prepare a time-bound programme in consultation with State Governments, major municipal bodies, Government institutions and private developers to know the quantity and quality of urban wastes in all the major cities. The Committee expects a concrete reply from the Ministry in the matter.**

### **Bio Energy in the Islands**

**(Sl. No.22, Para 5.35)**

36. The Committee noted that there was a huge potential of Bio-energy in the Islands where coconut trees residues were available abundantly. The Committee further noted that at the initiative of the Ministry, a project report had been prepared by the Anna University for utilizing Biomass from coconut residues for power generation in different Islands of Lakshadweep. The Andaman & Nicobar administration had been advised to conduct a fresh study in the light of the post Tsunami changes situation. The Committee hoped that such studies would be completed in a short span of time so that the projects of Biomass could be taken up expeditiously in these Islands. The Committee desired that there should be an integrated approach to power generation in the Islands exploring Biomass, tidal, solar and other forms of renewable energy. The committee further

desired that a time bound programme to implement these projects should be drawn up and sufficient funds should be earmarked in advance by union/state governments to avoid time & costs over-runs.

37. The Ministry in its reply has submitted:

“The feasibility Report for taking up biomass power project in Lakshadweep is under consideration of the Islands Administration/ Central Electricity Authority for taking up biomass power projects of appropriate capacity in different Islands. A detailed survey is being initiated to assess the potential of setting up sustainable biomass power projects using wood/residues in A&N Islands.”

**38. The Committee have taken note of the initiatives taken by the Ministry in case of Lakshadweep and A&N Islands. In view of the unprecedented trail of devastation left by the Tsunami in A&N Islands, the Committee desire that the survey to assess the potential of setting up sustainable biomass power projects using wood/residues in A&N Islands be conducted and completed by the Ministry without any delay so that the reconstruction efforts in the A&N Islands are further boosted and the Bio energy plays its significant role in the energy scenario of the Islands for which there is a huge potential. Similarly the DPRs submitted by IISC, Bangalore in respect of the Andamans and the Project Report prepared by the Anna University in respect of Lakshadweep should also be studied and finalized at the earliest. The Committee trust that the implementation of this very crucial component in the rebuilding of A&N Islands will not suffer for want of funds. The Committee would again stress that there should be an integrated approach to power generation in the Islands exploring Biomass, tidal, solar and other forms of renewable energy.**

## **Chapter – II**

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

The Committee note that the private developers face a number of problems in setting up Biomass projects like firm assessment on availability of Biomass and ensuring its supply to the project, uncertainty on tariff to be fixed by SERCs and evolving technology of biomass gasification systems etc. The Committee desire that these problems should be resolved on priority and in a time bound manner.

### **Reply of the Government**

A project for assessing the availability of surplus biomass in different parts of the country for conversion to energy/electricity has been initiated. Under this project, a 'Biomass Resource Atlas for India' is likely to be completed by March 2007 and the same would be placed on the website of this Ministry for use of prospective project developers.

Regarding tariffs, as already submitted in reply to Recommendation Serial No.15 of the 6<sup>th</sup> Report of the Standing Committee on Demand for Grants (2005-06) of MNES, the subject of tariff fixation and related issues is of a quasi-judicial nature in the implementation of which this Ministry has no direct role. Even then, this Ministry has been taking up such matters with the state governments from time to time, depending upon the facts and circumstances of the cases.

[Ministry's OM No.8/5/2005-P&C dated: 20.01.2006]

### **Comments of the Committee (Please see Para 11 of Chapter I of the Report)**

### **Recommendation (Sl. No.3 Para No.2.19)**

The Committee specifically note that India has very good Bagasse cogeneration potential which can generate 3500 MW power. Out of this, only 450 MW projects have been installed and 312 MW projects are in pipeline. The Committee are surprised to note that in the State of Maharashtra out of the potential of 1000 MW, Bagasse co-generation projects of 32.5 MW only have been commissioned so far and projects of 6 MW are under implementation. Similarly the Bagasse potential of other States like U.P., Tamil Nadu, Karnataka, Andhra Pradesh, Bihar, Gujarat and Punjab has also been poorly

utilized. The Committee are concerned to note that the main hurdles in the programme exist in the fact that in some states particularly in Maharashtra, the sugar mills are in the cooperative sector and they face difficulties in limited access to funds and also in raising equity component of the investment in the programme. Also, there is heavy management risk in the projects as the cooperative sector is subject to frequent changes in the management and perception of risk in the Biomass Cogeneration Projects is high. The Committee feel that industrial Co-generation has in the past not received adequate attention, as cheap power and fuel were abundantly available. However, with increasing tariffs and unreliable supply of grid power, there is considerable opportunity for the industrial sector needs to tap the potential for producing electricity and thermal energy in the co-generation mode. In this direction the Bagasse Co-generation programme can play a pivotal role. The Committee welcome the initiative taken by the government by requesting the Maharashtra Energy Development Agency (MEDA) to constitute a high level Committee for identifying and suggesting measures for rapid implementation of Co-generation projects in cooperative sugar mills in the State and desire that they should persuade MEDA to prepare a Report in the shortest possible time. The Committee also desire that after examining the Report the Government should prepare a specific package of incentives containing capital as well as operative subsidies for cooperative sugar mills in Maharashtra and other States. The Committee may be apprised of the time-frame fixed in this regard.

### **Reply of the Government**

As mentioned in reply to recommendation no.1, a committee is being set up by the Ministry to suggest innovative ways and means for the accelerated growth of bagasse co-generation.

[Ministry's OM No.8/5/2005-P&C dated: 20.01.2006]

### **Recommendation (Sl. No.4 Para No. 2.20)**

The Committee also find that the capacity under implementation in the various Biomass projects in the various states is relatively lower than the capacity commissioned. Although the Ministry have sufficient information on the potential available in the states for Biomass Power and Co-generation programme, the capacity under utilization is quite low. The Committee are constrained to note that state wise physical and financial targets are not fixed and therefore, comparative data on the targets and achievements are not available. The committee are not convinced with the reasoning given by the Ministry that state-wise targets are not fixed under the Biomass Power Programme as this activity is driven by private investment, which depends on a host of factors including entrepreneurial activity in that State, surplus Biomass potential and the price of electricity fixed by the state regulators. The Committee in their 31<sup>st</sup> Report on the Electricity Bill, 2001 (Thirteenth Lok Sabha) had recommended that the States should be encouraged to procure at least 5% of their energy demands from renewable sources and the limit of the same should be raised to 10% by the end of 11<sup>th</sup> Plan in phases. Similar objectives/targets have been fixed by the Central Government also. The committee, therefore, desire that Ministry of Non-conventional Energy Sources should assess state-



wise potential of Biomass and also fix the targets accordingly for every year for a balanced exploitation of Biomass potential available in each State. The Committee desire that the Government should also collect full data of power generation through biomass/cogeneration mode by private developers in various states. For this purpose, there is a need to develop a better coordination with the State level Nodal agencies engaged in the field of Non-conventional energy Sources, responsible for promotion and development of private sector projects. The Committee feel that fixation of National targets for procurement of energy demands from renewable sources would help in better exploitation of our Non-conventional resources.

### **Reply of the Government**

The assessment of State-wise potential of biomass is being addressed under the project for preparation of Biomass Resource Atlas for India as mentioned in reply to the Recommendation No.2, Para 2.18. The aim of the Ministry is to add 10% of the power generation capacity to be set up in the country during the 10<sup>th</sup> and 11<sup>th</sup> plan periods through renewables, of which 3% is envisaged through biomass power. However, under the Electricity Act 2003, the SERCs are required to fix a percentage for purchase of power from non-conventional sources taking into account availability of such resources in the region and its impact on consumer tariffs. Consequently, the need for fixation of national targets has ceased.

[Ministry's OM No.8/5/2005-P&C dated: 20.01.2006]

### **Comments of the Committee (Please see Para 14 of Chapter I of the Report)**

#### **Recommendation (Sl. No. 5 Para No. 2.21)**

The Committee note that Ministry of Non-conventional Energy Sources have a goal to achieve renewable grid power of 10,000 MW including 3000 MW Biomass Grid Power by the year 2012. They have a target of 700 MW for the Tenth Plan i.e., by 2007 and rest 2300 MW will have to be achieved during 11<sup>th</sup> Plan period. Out of the target of 700 MW only 370 MW has been achieved during the first three years of the current plan. The committee feel that the target of energy from Biomass is very low under the situation when the country has such a huge Biomass potential. Now, that 100% producer gas run engines have become reality, it should be easy to obtain higher targets/exploitation from Biomass sources. Efforts should be made to make this engine cost effective and popularize the same for mass utilization. The Committee, therefore, desire that the Ministry should suitably enhance their targets of Biomass Power generation and also generate a suitable action plan for the same, for the remaining two years of the current Plan and 11<sup>th</sup> Plan to achieve the goal of 3000 MW Biomass grid power by the year 2012.

### **Reply of the Government**

The stated target of 3000MW for the 10<sup>th</sup> and 11<sup>th</sup> plan periods covers the entire spectrum of bio-power viz. biomass combustion / bagasse cogeneration, biomass

gasification and urban & industrial waste-to-energy. Out of this, as stated in the reply to Recommendation Serial No.14 of the Action Taken Report on the 6<sup>th</sup> Report of the Standing Committee for Demand for Grants (2005-06) of MNES, the target for the 10<sup>th</sup>

Plan is 830MW, which comprises of 700MW for biomass combustion/ bagasse cogeneration, 50 MW for biomass gasification and 80 MW for urban & industrial waste-to-energy.

Against the aforesaid targets, the actual achievement w.r.t. grid-interactive bio-power during the first 3 years and 9 months of the 10<sup>th</sup> Plan i.e. upto 31.12.2005 has been about 516 MW comprising 466 MW from biomass combustion/ bagasse cogeneration, 18 MW from biomass gasification and 32 MW from urban & industrial waste-to-energy.

In view of the aforesaid achievements and the fact that further projects of about 1000 MW are in the pipeline, the aim of 3000 MW for grid-interactive bio-power for the 10<sup>th</sup> and 11<sup>th</sup> plan period appears highly achievable.

[Ministry's OM No.8/5/2005-P&C dated: 20.01.2006]

### **Recommendation (Sl. No.6 Para No.2.22)**

The Committee are happy to note that the government have taken initiatives for preparation of 'Biomass Resource Atlas for India' - based on Biomass resource assessment studies in different regions of the country. Ministry have informed that first computer application package based on low resolution data will be available by the end of this financial year. It would be made available through state nodal agencies and some of the entrepreneur for testing and trial purposes. The second phase where the higher resolution data and survey data will be matched and project is proposed to be completed by March, 2007. The Committee feel that such an important data should be made available on website of the Ministry after the completion of first phase itself. The Committee however desire that the Ministry should ensure the total reliability of the data supplied.

### **Reply of the Government**

#### **Bio Energy Development Division**

Data of the first phase of the project is expected to be placed on the website of this Ministry by end March, 2006. IISc has already placed information for seven States on its website (<http://lab.cgpl.iisc.ernet.in>) for trial purposes.

So far as reliability of the data is concerned, it may be stated that several apex institutions have been involved in assessment studies at the micro-level. These include the Tata Energy Research Institute (TERI), New Delhi, Anna University, Chennai, Operation Research Group (ORG), Vadodara, Administrative Staff College of India (ASCI), Hyderabad, Jadavpur University, Kolkata. IISc. is testing the compiled data on a sample basis, which should help in further improving the overall reliability of the same.

[Ministry's OM No.8/5/2005-P&C dated: 20.01.2006]

### **Recommendation (Sl. No.7 Para No. 3.13)**

The Committee appreciate to note that with an objective to reduce interest burden of Biomass based Power projects, MNES has been providing subsidy for government as well as private projects at the same level. The earlier interest subsidy scheme for commercial projects is proposed to be modified to one time subsidy support to the commercial projects. The subsidy is for making repayment of term loan provided to the developers by the Financial Institution. The subsidy will be released after successful commissioning and commencement of commercial generation from the project, to the financial Institution. The Committee are however, surprised to note that no formal study has so far been made to evaluate the impact of earlier incentives given for Biomass Power and Cogeneration Programme since its inception. The committee feel that these incentives have not shown the desired results in attracting private sector and corporate sector in Biomass Power Projects. There is a need for an intensive evaluation of incentives being given for these programmes. The Committee therefore, recommend that the government should conduct formal study to analyze the impact of various incentives and subsidy schemes with a view to prepare separate incentive/subsidy proposals and policy measures for Biomass Power projects in government private and cooperative sectors. The Committee desire that SC/ST and other backward classes should be covered proportionately in the package. The Committee also desire that this exercise should be completed before the finalization of budget proposals for 2006-07.

### **Reply of the Government**

Subsequent to the position reported earlier in main reply placed before the Committee, the Ministry has conducted an in-house exercise to assess the impact of the incentives provided under its schemes including those relating to biomass power / co-generation projects. This exercise has revealed that with each Rs.1crore of subsidy provided by the Government, there has been a progressively increasing impact on the resulting biomass power/ cogeneration capacity addition, from 6.47 MW/crore in 1997-98 to 21.88 MW/crore in 2004-05, as reflected below: -

<b>Year</b>	<b>Impact (MW per crore)</b>
1997-1998	6.47
1998-1999	6.16
1999-2000	2.25
2000-2001	4.26
2001-2002	4.09
2002-2003	6.11
2003-2004	10.83
2004-2005	21.88

Accordingly, taking an average capital cost of such projects at Rs.3.5 crore/MW, the total private investment in these projects has increased from about Rs.22crore in 1997-98 to around Rs.75crore in 2004-05, for every Rs.1crore of subsidy provided.

Regarding proportionate coverage of SC/ST and OBCs, special financing schemes for these categories of entrepreneurs are already in place in nationalized financial institutions, including IREDA.

[Ministry's OM No.8/5/2005-P&C dated: 20.01.2006]

**Recommendation (Sl. No.8 Para No. 3.14)**

The Committee note that the Ministry of Non-conventional Energy Sources are encouraging the setting up of grid interactive Biomass based power projects through non-government investment. Now most capacity addition is being achieved through private investment. The State Nodal Agencies are responsible for promotion and development of private sector projects by way of providing necessary clearance, allotment of land and facilitating power purchase agreements etc. SERCs are determining tariffs by taking its account fee submissions of all stakeholders. The committee are happy to note that leading Financial Institutions like PFC, HUDCO, NCDC, IDBI and scheduled banks have started providing loans to biomass Power Cogeneration Projects. The Department of Food and Public Distribution has also agreed for giving funds from Sugar Development fund for Bagasse based cogeneration projects at lower rates. The committee, desire that government should take initiatives to convince the financial Institutions and banks about the importance and viability of Biomass based power projects by showing their determination in developing the latest technology. R&D efforts for cost reduction, future planning policy and tariffs etc. The Committee also urge the Government to take up the matter with financial Institutions and banks to evolve simplified procedure for quick disposal of loan application for Biomass based power projects.

The financial institutions and banks are currently employing more and more modern appraisal techniques like credit ratings of borrowers to arrive at decisions to give loan, the quantum of loan, the interest rate to be charged and also the terms& conditions governing the loan. Consequently, financial institutions have become more professional in their approach and in an environment like this, would be unwilling to accept outside interference in absence of sound credit rating and financial viability of the project. Nonetheless, every effort is being made to create greater awareness about the robustness of some renewable technologies. As regards R&D efforts for cost reduction, it is submitted that combustion technology is already mature for applications of this type. However, in case of gasification systems, R&D support is being provided.

[Ministry's OM No.8/5/2005-P&C dated: 20.01.2006]

**Comments of the Committee**  
**(Please see Para 17 of Chapter I of the Report)**

**Recommendation (Sl. No.9 Para No.3.15)**

The Committee also desire that the Ministry should stress upon the State Govts. to announce entrepreneur friendly schemes for buy-back, wheeling and third party sale etc.

so that more and more private investment can be attracted to the Biomass/Cogeneration Power. The Committee also feel that incentives like Sales Tax & excise exemptions, accelerated depreciation and Tax holidays etc. should continue for the present to encourage the private investment.

### **Reply of the Government**

Under the Electricity Act 2003, the SERCs are required to fix rates for wheeling, banking and third party sale etc. of power, including renewable power and the State government as owner of the ... purchasing electricity is only of the major stake holders in the process, the other two being the renewable energy developer and the consumer of electricity. In such a situation, the SERC has to balance the conflicting interests of the buyer and seller of electricity. Fiscal incentives such as accelerated depreciation, concessional import duty, tax holiday for 10 years etc. are being continued till the same are considered necessary. Biomass power projects can now avail the benefit of concessional excise duty on provision of certification by this Ministry, which was introduced only recently.

[Ministry's OM No.8/5/2005-P&C dated: 20.01.2006]

### **Recommendation (Sl. No.10 Para No. 4.20)**

The Committee note that modern Biomass conversion technologies provide us an opportunity to use Biomass feed stocks for production of all three kinds of fuel i.e., gaseous, liquid and solid. Established technologies for Biomass combustion, cogeneration and anaerobic digestion are available. Recent development in pyrolysis and gasification have further added advantages for using Biomass more effectively not only for heat and electricity generation but also for transport and chemicals production. The Committee, however, feel that there are various barriers in technology development. The main barriers include inadequate reliable regional data and availability of agricultural residues, lack of coordinated approach in finalizing technology i.e., of combustion/gasification/cogeneration for a given kind of feed stock, capacity and use, lack of standard specifications and inadequate testing facilities for biomass furnaces, boilers gasifiers and meager budget support for R&D to pilot to demonstration to first of a kind of; commercial scale plant. The committee, therefore, desire that Ministry of Non-conventional Energy should take time-bound initiatives for standardization of technology/systems for Biomass production, harvesting handling, storage and preprocessing, development and finalization of advance combustion/gasification/cogeneration technology for different kinds of feedstocks and development and demonstration of gas engines and micro-turbines for using Biogas and producer gas. The Committee also desire that Ministry should take concrete initiatives for development of standard specifications and testing protocol for selected technologies in collaboration with Bureau of India Standards. The Committee also recommend that testing and certification mechanism should be strengthened and the government should establish institutions for testing and certification.

### **Reply of the Government**

Equipment for biomass grid-interactive power projects is already covered by standards provided the same is obtained from reputed manufacturers. Since biomass gasifiers are still in the development phase, standards for these can be laid down once the technology parameters are firmed- up.

[Ministry's OM No.8/5/2005-P&C dated: 20.01.2006]

#### **Recommendation (Sl. No.12 Para No. 4.22)**

The Committee strongly feel that the budget support being given for R&D in Biomass sector is very small. The Committee note that during 2002-03 only an amount of Rs. 3.74 crores was spent which came down to Rs. 2.60 and Rs. 2.46 crore during 2003-04 and 2004-05 respectively and for the year 2005-06 an amount of Rs. 4 crore has been allocated. This all shows very poor attention of the Government towards the R&D projects responsible for very slow progress in development of Biogas and Biomass gasifier technology during last one decade. The Committee are surprised to not that as against American Budget of US \$ 80 million for R&D for the year 2005, India is spending very small amount of Rs. 4 crore on R&D projects. The Committee therefore, desire that Ministry of Non-conventional Energy Sources should undertake a detailed review of R&D projects and deployment of programme by involving industry stakeholders also for getting better results in future. The Committee also desire that R&D budget should be enhanced sufficiently so that R&D projects in development of bio-energy do not suffer due to non-availability of funds.

#### **Reply of the Government**

The recommendation of the Committee pertaining to enhancement of R&D budget of the Ministry and involvement of industry stakeholders has been noted for compliance.

[Ministry's OM No.8/5/2005-P&C dated: 20.01.2006]

#### **Recommendation (Sl. No.15 Para No.5.16)**

The Committee are happy to note that Ministry of Non-Conventional Energy Sources have evolved a concept of providing energy security in villages mainly through biomass. The objective of the Village Energy Security Projects is to go beyond mere electrification per se by meeting the total energy requirements of villages including cooking, lighting and motive power with full participation of the local communities including women. It will also create avenues for employment generation, full participation of local communities and environmental improvements leading to overall sustainable development. The programme has the potential to generate 15 million jobs in rural areas. The Committee note that Test Projects are being taken up in remote villages an hamlets that are not likely to be electrified through conventional means with emphasis on forest fringe and tribal villages. The energy production systems would comprise biogas plants based on dung and leafy biomass, biomass gasifiers coupled to 100%

producer gas engines and bio-fuel run pump sets. The Committee feel that projects based on poultry droppings, like the one working at Nammakal, Tamil Nadu, should also be encouraged in other states. The Committee note that 210 preliminary proposals for Test Projects on Village Energy Security have been received from 12 States. Out of this 92 proposals were short-listed for preparing detailed proposals. Ministry have received 55 detailed village energy plans from 8 States. Out of this, 24 projects have been sanctioned in three States i.e. Madhya Pradesh, Rajasthan and Uttar Pradesh. The Committee feel that these Test Projects should have been spread in all parts of the country for getting better experience and results. The Committee, therefore, desired that Government should sanction the projects in different states. They should also persuade the other States to submit such proposals so that Test Projects may be distributed evenly in all agro-climatic regions and results may come out in the proposed period of one year.

### **Reply of the Government**

The 24 test projects presently under implementation are in three States, namely, Madhya Pradesh (11 nos.), Rajasthan (6 nos.) and West Bengal (7 nos). These were sanctioned during 2004-05. During the current financial year 2005-06, 14 more test projects have been sanctioned in 5 states, namely, Andhra Pradesh (1 no.), Madhya Pradesh (2 nos.), Orissa (4 nos.), Uttaranchal (3 nos.) and Tamil Nadu (4 nos.) and another 23 test projects have been cleared in-principle in six states, namely, Andhra Pradesh (2 nos.), Chattisgarh (8 nos.), Maharashtra (5 nos.), Jharkhanda (2 nos.), Orissa (3 nos.) and Gujarat (3 nos.) It is expected that by March 2006, the total number of sanctioned test project should approach the 100 mark, spread over as many different states as possible covering different agro-climatic regions.

[Ministry's OM No.8/5/2005-P&C dated: 20.01.2006]

### **Recommendation (Sl. No.16 Para No 5.17)**

The Committee observe that Test Projects would be undertaken by a Village Energy Committee formed by the Gram Sabha and notified by the Panchayats and facilitated by implementing agencies such as District Rural Development Agencies (DRDAs), forestry departments and NGOs with technical inputs overall coordination and monitoring by the State Nodal Agencies. A high level Steering Group has been constituted to provide overall guidance for the implementation of Test Projects. It is proposed to take up about two lakh villages, consisting of 1.73 lakh forest fringe villages and about 25,000 remote unelectrified villages, total investment would be 40,000 crore. The Committee therefore, want that role of NGOs in such projects should be well defined & monitored closely to check the misuse of the huge funds released under this programme for the benefits of poor villagers. The Government should issue strict guidelines in this regard. The Committee also desire that Forest departments should certainly be associated in selection of forest fringe villages and plantation of fast growing oil seed bearing trees for getting better results.

### **Reply of the Government**

As submitted in reply to recommendation no.1, a decision whether to launch a full-fledged Village Energy Security Programme would be taken up depending upon the outcome of the test projects. Meanwhile, the task of electrification of remote villages is being continued under the Remote Village Electrification Programme of the Ministry which is expected to cover about 10,000 remote census villages as against an initial estimate of 25,000 remote census villages as per the updated data on remote census villages furnished by the Rural Electrification Corporation. In addition, however, remote hamlets of electrified census villages would need to be taken up. The number of such remote hamlets is not yet firmed up.

The implementation of the test projects is being done by the Forest Department, Zila Parishad or NGOs selected by the states. To prevent misuse of funds, the same are being released to government agencies /SNAs who are required to deposit the funds in a Village Energy Fund operated by the Village Energy Committee. The accounts of a Village Energy Committee are to be duly audited as per the procedure being followed by the Gram Panchayats or the Joint Forestry Management Committees. The State Nodal Agencies have been assigned the responsibility for monitoring and coordination of the implementation of the test projects.

Since test projects involve plantation activity, states have been advised to suitably associate the Forest Department in the implementation of these projects, including those being implemented by NGOs.

[Ministry's OM No.8/5/2005-P&C dated: 20.01.2006]

**Comments of the Committee**  
**(Please see Para 26 of Chapter I of the Report)**

**Recommendation (Sl. No.18 Para No. 5.19)**

The Committee note that Village Energy Security through Biomass Programme relates to villagers. There is a lack of awareness about such an important scheme. The committee, therefore, desire that Government should take up extensive awareness generation and training programme in prospect villages for local communities who will run the Biomass Power generating equipment. They also desire that similar programmes should be arranged for Government functionaries, local NGOs, entrepreneurs etc. to prepare a good team of facilitators.

**Reply of the Government**

Awareness generation and training programmes are important components of the test projects. As per the terms and conditions of the test projects local youth are to be trained as operators by equipment suppliers for operation and maintenance purposes. This has been reiterated through communications to the implementing agencies. Workshops and meetings are being organized for generating awareness among Government functionaries, local NGOs, entrepreneurs and members of the local communities in different States.



Visits to various project sites are being organized for the implementing agencies and members of the Villages Energy Committees.

[Ministry's OM No.8/5/2005-P&C dated: 20.01.2006]

**Comments of the Committee**  
**(Please see Para 32 of Chapter I of the Report)**

**Recommendation (Sl. No.20 Para No.5.29)**

The Committee are happy to note that as per the need of the hour and as desired by them in their 5<sup>th</sup> Report on Demands for Grants 2005-06, the Ministry have prepared an Accelerated Programme for promotion of projects for energy recovery from urban wastes and promotion is proposed to be done in fast track mode. The Committee are also satisfied with the proposed incentives in the form of capital subsidy up to Rs. 2 crore through Fis/ banks for making MSW, financially viable and remunerative. The Committee find that the most important step is firming up of potential for urban, industrial and commercial wastes for specific urban centers and industrial units. For this purpose, the Ministry should prepare a time-bound programme in consultation with State Governments, major municipal bodies, government institutions and private developers to know the quantity and quality of urban wastes in all the major cities. The Committee also desire that States should be persuaded to implement MSW (Management and Handling) Rules 2000 at the earliest as this will facilitate setting up of projects based on MSW. The Committee also note that only the States of Andhra Pradesh, Karnataka, Kerala, Haryana, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu and Uttar Pradesh have announced policies for promotion of waste-to-energy projects in their states. The Committee, therefore, desire that other States should be asked to formulate and announce similar policies for supply of waste of desired quality and quantity at project site and facilities for evacuation and purchase of power generated from such projects in their States.

**Reply of the Government**

State Nodal Agencies have been advised to take further action on the following activities for:

- (i) Estimation of potential for energy recovery
- (ii) Implementation of MSW Rules by Municipal Corporations / Urban Local Bodies
- (iii) Announcement of policies for supply of waste of desired quantity and quality at project sites and for providing facilities for evacuation and purchase of power generated from such projects, and
- (iv) Extensive awareness creation and publicity for attracting private investment

The policies announced by some of the states for development of waste-to-energy projects are being circulated to other states for introduction of similar conducive promotion policies in their respective states.

Municipal Corporations have also been separately requested to expedite the implementation of MSW (Management & Handling) Rules 2000.

[Ministry's OM No.8/5/2005-P&C dated: 20.01.2006]

**Comments of the Committee**  
**(Please see Para 35 of Chapter I of the Report)**

**Recommendation (Sl. No.21 Para No.5.30)**

The Committee observe that all the Waste-to-Energy projects are to be developed through public private partnership. The Committee find that lack of awareness may be one of the main hurdles in attracting private sector participation in the projects. The Committee, therefore, desire that government should undertake extensive awareness creation and wide publicity programme to attract private investment for this sector and to harness the potential in a time-bound manner. The Government should also take initiatives to convince FIs/Banks for getting projects developed and making easy financing available for Waste-to-Energy projects.

## **Reply of the Government**

### **Urban, Industrial and Commercial Applications**

Besides organizing meetings with various stakeholders, the Ministry is preparing information material for awareness creation for attracting private investment in this sector. State Nodal Agencies, IREDA, IL&FS, etc. have been requested to initiate efforts for development of projects for specified cities to attract FIs/Banks for providing finances for waste-to-energy projects. Project development activities have been started in 14 cities in Andhra Pradesh, Rajasthan and Maharashtra apart from Delhi.

[Ministry's OM No.8/5/2005-P&C dated: 20.01.2006]

## **Chapter – III**

### **RECOMMENDATIONS/OBSERVATIONS WHICH THE COMMITTEE DO NOT DESIRE TO PERSUE IN VIEW OF THE GOVERNMENT’S REPLIES**

#### **Recommendation (Sl. No.14 Para No.4.24)**

The Committee note that there is a mission to launch a Mission on Bio-diesel with a special focus on Jatropha Curcas to be planted on a large scale to produce bio-diesel from non-edible oils. The Committee desire that special incentives of Jatropha Curcas and maximum area should be covered. Villages Panchayats and Gram Sabha should be involved in the programme and should be monitored closely to make it a success.

#### **Reply of the Government**

At present, as per decision taken in a presentation by Planning Commission before the then Prime Minister, the Ministry of Rural Development was entrusted with the bio-diesel mission with focus on Jatropha curcas. The recommendations of the Standing Committee for providing special incentives for Jatropha curcas and coverage of maximum area including involvement of Villages Panchayats and Gram Sabha in the programme have been forwarded to Ministry of Rural Development for necessary action. In this regard please also refer to reply to Recommendation Serial No.13.

[Ministry’s OM No.8/5/2005-P&C dated: 20.01.2006]

## **Chapter – IV**

### **RECOMMENDATIONS/OBSERVATIONS IN RESPECT OF WHICH THE REPLIES OF THE GOVERNMENT HAVE NOT BEEN ACCEPTED BY THE COMMITTEE AND WHICH REQUIRE REITERATION**

#### **Recommendation (Sl. No. 1 Para No 2.17)**

The Committee observe that Biomass is renewable organic material derived from trees, plants, crops or from human, animal, municipal and industrial wastes. Woody Biomass is derived from forests, plantations forestry residues while other sources provide non-woody Biomass. Fortunately, India is blessed with a huge potential of Biomass. Moreover, Biomass resources are available locally within or around the villages and energy production, distribution and provision of energy can be managed by the village communities. The committee also note that the total estimated Biomass power potential in India is above 1 lakh MW. This includes 16,000 MW grid interactive power from surplus agro; residues and wastes from forestry and plantations, 3500 MW through bagasse co-generation and 1 lakh MW from plantation of 60 million hectares of wasteland. The Ministry of Non-conventional Energy source has been implementing Biomass Power and Co-generation Programme since 1994. The committee note that over these ten years, only 101 Biomass Power and cogeneration projects aggregating to 750 MW have been installed in the country and 73 projects aggregating to 585 MW are under various stages of implementation. This includes 58 Bagasse Cogeneration Projects aggregating to 450 MW and 34 projects under implementation aggregating to 312 MW. The committee are not at all satisfied with the present slow approach of the government in tapping the huge Biomass potential available in the country. The Government have fixed a target that 10% of the additional grid interactive power generation capacity should come from renewable sources during the 10<sup>th</sup> and 11<sup>th</sup> Plan periods, which is 5.5% at present. Bio-energy can make significant contribution in achieving this target. More efficient modern Biomass technologies have the potential to alleviate poverty, improve health, reduce drudgery of women and children, increase productivity, create employment and generate income in rural areas, thereby reducing rural to urban migration. The committee at this stage feel a need that renewable energy including Bio-energy should now be brought into mainstream for meeting/supplementing the energy demands in urban and rural areas. The Committee, therefore, strongly recommend that the government should now evolve an effective implementation strategy for Biomass Power Cogeneration Programme for maximum exploitation of Biomass resources of the country with an objective to make Biomass energy available at an affordable price to the common man.

#### **Reply of the Government**

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% out of the overall aim for renewables of 10% of the additional power generation capacity to be set up in the country appears highly reasonable and satisfactory.

It is further submitted that potential for grid-interactive biomass power generation based captive plantations on wastelands is only theoretical as 40 m ha or so of wastelands can be put to multiple uses, including food grains, oil seeds production. If the available wastelands are to be utilized for energy plantation purposes, it would have to be a major inter-Ministerial/Departmental initiative with the participation of the Ministries of Environment and Forest, Agriculture, Rural Development, Panchayati Raj & Biotechnology. This Ministry can only facilitate provision of know-how for the conversion of biomass into energy/ electricity. However, for conversion of agricultural waste, forest residues and biomass obtained from plantations on croplands to energy/electricity, this Ministry has taken the initiative to launch Test Projects on Village Energy Security, wherein the requirement of cooking, lighting and motive power in villages could be met through renewable energy, mostly biomass, distributed generation systems, wherever feasible and cost-effective. Depending upon the outcome of the test phase, a decision to extend the initiative would be taken. Meanwhile, a decision has been taken to electrify remote villages through distributed renewable generation systems, mostly biomass based, wherever feasible and cost-effective.

In so far as bagasse cogeneration is concerned, the barrier to its accelerated deployment has been identified as the inability of many sugar mills, especially in the cooperative sector, to generate bankable proposals for obtaining loans from financial institutions on account of their poor financial and liquidity positions. Further, bagasse cogeneration appears to be more viable in coastal areas where there is an elongated crushing season sometimes exceeding 180 days as compared to a normal crushing season of 150 days, for most sugar mills. Even then, the Commission for Additional Sources of Energy has desired that a Committee be set up comprising, among others, representative of the Ministry of Consumer Affairs and NCDC to suggest innovative ways and means for the accelerated growth of bagasse cogeneration, especially in the cooperative sector.

[Ministry's OM No.8/5/2005-P&C dated: 20.01.2006]

**Comments of the Committee**  
**(Please see Para 8 of Chapter I of the Report)**

**Recommendation (Sl. No.11 Para No.4.21)**

The Committee note that a lot of work has been done in developing small capacity Biogas production units and Biomass gasifiers and industrial scale Biomass furnaces, boilers, dual fuel engines etc. With the increase in the use of natural gas, now industry has started manufacturing gas compressors and producer gas engines. The committee

desire that the R&D efforts should now be concentrated to develop and implement selected co-coordinated projects with target to develop demonstrable technology packages having potential for wider adaptation. The committee also desire that government should prepare a detailed programme for setting up of pilot and first of a kind commercial scale units to demonstrate indigenously developed technology packages and develop confidence of industries concerned. The committee further desire that in preparation of such programme/project the participation of users stakeholders should also be ensured.

### **Reply of the Government**

Biomass combustion technologies are already mature. However, biomass gasification technologies, which are still in the development phase, will be supported at the National Institute of Renewable Energy (NIRE) at Jalandhar, when established, which will focus on bio-energy technologies and will be the technical focal point of this Ministry for all matters relating to biomass conversion technologies.

[Ministry's OM No.8/5/2005-P&C dated: 20.01.2006]

### **Comments of the Committee (Please see Para 20 of Chapter I of the Report)**

#### **Recommendation (Sl. No.17 Para No.5.18)**

The Committee also feel that if the projects of Biomass Co-generation are to be taken up on a large scale at the village/district level, proper training of the people, who will handle the equipment of Biomass Co-generation, is required. The committee, therefore, desire that Diploma level courses should be started in the polytechnics in the various states covered under the programme with the help of Ministry of HRD & State Governments.

### **Reply of the Government**

It is submitted that the existing trades in it is would be sufficient to ensure the necessary skills required for the upkeep of village level renewable energy systems. In addition, manufacturers would be utilized in imparting special training wherever necessary.

[Ministry's OM No.8/5/2005-P&C dated: 20.01.2006]

### **Comments of the Committee (Please see Para 29 of Chapter I of the Report)**

#### **Recommendation (Sl. No.22 Para No.5.35)**

The Committee note that there is a huge potential of Bio-Energy in the Islands where coconut tree residues are available abundantly. The DPRs submitted by IISC Bangalore for Biomass power systems at South Andaman, Little Andaman and Great

Andaman are to be approved. The committee further note that at the initiative of the Ministry a project report has been prepared by the Anna University for utilizing Biomass from coconut residues for power generation in different Islands of Lakshawadeep. The Andaman & Nicobar administration has been advised to conduct a fresh study in the light of the post Tsunami changes situation. The Committee hope that such studies would be completed in a short span of time so that the projects of Biomass could be taken up expeditiously in these Islands. The Committee desire that there should be an integrated approach to power generation in the Islands exploring Biomass, tidal, solar and other forms of renewable energy. The committee desire that a time bound programme to implement these projects should be drawn up and sufficient funds should be earmarked in advance by union/state governments to avoid time & costs over-runs.

### **Reply of the Government**

The feasibility Report for taking up biomass power project in Lakshadweep is under consideration of the Islands Administration/ Central Electricity Authority for taking up biomass power projects of appropriate capacity in different Islands. A detailed survey is being initiated to assess the potential of setting up sustainable biomass power projects using wood/residues in A&N Islands.

[Ministry's OM No.8/5/2005-P&C dated: 20.01.2006]

**Comments of the Committee**  
**(Please see Para 38 of Chapter I of the Report)**



## **Chapter – V**

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

#### **Recommendation (Sl. No.13 Para No 4.23)**

The Committee note that bio-fuels have been considered as most preferred alternative to petrol and diesel particularly in the transport sector. The MNES have initiated a programme on bio-fuels for transportation since 2002-03. The focus of the programme is to develop the technology for converting vegetable oils, mainly non-edible oils, to bio-fuel and promote the use of these bio-fuels in automobile sector after taking care of different aspects of the conventional diesel/petrol engines. The Committee are happy to note that Ministry have taken up a scheme on bio-fuel Demonstration Projects in rural areas for implementation initially in four villages to demonstrate the use of non-edible vegetable oils for meeting the entire energy needs of lighting, agricultural operations and other community based stationary application and to study various techno-economic parameters. The Committee recommend that the ministry should first of all undertake detailed non-edible seed resources assessment study to know the potential of such seed production in each agro-climate zone. After that, they must prepare a time-bound programme for extending similar bio-fuel demonstration projects covering more and more villages in all States of the Country. In Committee's view, a large number of activities are to be taken up under bio-fuel programme, therefore, the Ministry should also prepare a National Policy on bio-fuels with the participation of the concerned stakeholders and institutions working in the field of bio-fuels. Since this programme involves major R&D efforts at this stage, the government should provide separate budget as per requirement of the projects to be undertaken during the coming years.

#### **Reply of the Government**

It has been suggested to the Committee of Secretaries that this Ministry should focus on policy and development of bio-fuel systems / devices for stationary, portable and transport applications, while issues relating to production of bio-fuel crops could be handled by the Ministry of Agriculture with support from the Ministries of Rural Development, Panchayati Raj and Bio-Technology. Bio-fuel refining and distribution / retailing could be handled by the Ministry of Petroleum & Natural Gas and standards for biofuels by the Ministry of Consumer Affairs.

[Ministry's OM No.8/5/2005-P&C dated: 20.01.2006]

**Comments of the Committee**  
(Please see Para 23 of Chapter I of the Report)

#### **Recommendation (Sl. No.19 Para No.5.28)**

The Committee note that at present there is a potential for generation of over 1700 MW of power from urban wastes in the country. Out of this, only three projects with an

aggregate capacity of 17.6 MW have been set up at Hyderabad, Vijayawada and Lucknow. The Committee note that the project at Lucknow has come to a standstill due to it's the inability to get waste material and management related problems. The Committee desire that such issues should be resolved at the earliest to start the functioning of Lucknow Project. The Ministry should also try to resolve the objects of Hon'ble Supreme Court regarding other Waste to Energy projects so that the ambitious programme to establish many more such projects does not suffer.

### **Reply of the Government**

Efforts for the revival of the 5 MW MSW based project at Lucknow are being continued. M/s. Infrastructure Development Finance Co. Ltd., the Financial Institution which provided the loan for the project has been advised to explore possibilities for a change in management of the project promoter M/s Asia Bio-energy Ltd. for expeditious revival of the project. This apart, officials of the Lucknow Nagar Nigam have informed that efforts are being continued to improve the waste collection system through involvement of NGOs, establishing new and improved waste transfer stations, etc.

The Expert Committee set up on the directives of the Hon'ble Supreme Court has finalized its report on functioning of the project. In this report the Committee has recommended that the 'stay' on subsidies for projects for energy recovery from MSW may be removed, and has suggested certain guidelines for taking up waste-to-energy projects. The report has been filed before the Apex Court in the hearing held on 02 January 2006. The next hearing in the matter is to take place after five weeks.

[Ministry's OM No.8/5/2005-P&C dated: 20.01.2006]

**New Delhi;**  
**July 31, 2006**  
**Sravana 9, 1928 (Saka)**

**GURUDAS KAMAT,**  
**Chairman,**  
**Standing Committee on Energy**

## Appendix - I

### MINUTES OF THE TWENTIETH SITTING OF THE STANDING COMMITTEE ON ENERGY (2005-2006) HELD ON 31.7.2006 IN COMMITTEE ROOM NO 'B' PHA, NEW DELHI

The Committee met from 1500 hours to 1545 hrs.

#### PRESENT

1. **II. Shri Gurudas Kamat – Chairman**

#### MEMBERS LOK SABHA

2. Shri J. M. Aaron Raashid
3. Shri E. G. Sugavanam
4. Shri M. K. Subba
5. Shri Ajay Chakraborty
6. Shri Prashanta Pradhan
7. Shri Rabindra Kumar Rana

#### RAJYA SABHA

8. Shri Vedprakash P. Goyal
9. Dr. (Smt.) Najma A. Heptullah
10. Dr. K. Kasturirangan
11. Shri Motilal Vora
12. Shri Jesu Dasu Seelam

#### SECRETARIAT

1. Shri P.K.Bhandari - Joint Secretary
2. Shri B.D. Swan - Deputy Secretary
3. Shri Shiv Kumar - Under Secretary

At the outset, the Chairman welcomed Members to the sitting of the Committee.

2. The Committee then took up for consideration the following Draft Reports: -
  - (i) Action Taken Report on the recommendations contained in the 9<sup>th</sup> Report (14<sup>th</sup> Lok Sabha) on the subject “Implementation of Accelerated Power Development and Reforms Programme (APDRP)” of the Ministry of Power.
  - (ii) Action Taken Report on the recommendations contained in the 8<sup>th</sup> Report (14<sup>th</sup> Lok Sabha) on the subject “Biomass Power/ Co-generation Programme – An Evaluation” of the Ministry of Non-Conventional Energy Sources.
3. The Committee adopted the aforesaid draft Reports with some modifications.
4. The Committee also authorized the Chairman to finalise these Reports and to present/lay the same to both the Houses of Parliament.

*The Committee then adjourned.*

**Appendix – II**  
(Vide Introduction of Report)

ANALYSIS OF ACTION TAKEN BY GOVERNMENT ON THE EIGHTH REPORT  
OF STANDING COMMITTEE ON ENERGY (14<sup>TH</sup> LOK SABHA)

(i)	Total number of Recommendations	22
(ii)	Recommendations/Observations which have been accepted by the Government:	
	SI No.2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 16, 18, 20 and 21 Percentage	Total : 15 68.18%
(iii)	Recommendations/Observations which the Committee do not desire to pursue in view of the Government's replies:	
	SI No.14 Percentage	Total : 1 4.54%
(iv)	Recommendations/Observations in respect of which the replies of the Government have not been accepted by the Committee and which require reiteration:	
	SI Nos.1, 11, 17 and 22 Percentage	Total : 4 18.18%
(v)	Recommendations/Observations in respect of which the final replies of the Government are still awaited:	
	SI Nos.13 and 19 Percentage	Total : 2 9.10%