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STANDING COMMITTEE ON PETROLEUM & NATURAL GAS (2008-09)

FOURTEENTH LOK SABHA

MINISTRY OF PETROLEUM & NATURAL GAS

STRATEGY FOR DEVELOPMENT OF ALTERNATIVE SOURCES OF OIL AND GAS

[Action Taken by the Government on the recommendations contained in the Seventeenth Report (Fourteenth Lok Sabha) of the Standing Committee on Petroleum & Natural Gas (2007-08) on 'Strategy for Development of Alternative Sources of Oil and Gas']

TWENTY-FIRST REPORT

LOK SABHA SECRETARIAT
NEW DELHI

October, 2008/Kartika, 1930 (Saka)

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Presented to Lok Sabha on 24.10.2008

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INTRODUCTION

I, the Chairman, Standing Committee on Petroleum & Natural Gas having been authorised by the Committee to submit the Report on their behalf, present this Twenty-First Report on Action Taken by the Government on the recommendations contained in the Seventeenth Report (Fourteenth Lok Sabha) of the Standing Committee on Petroleum & Natural Gas on 'Strategy for Development of Alternative Sources of Oil and Gas'.

2. The Seventeenth Report of the Standing Committee on Petroleum & Natural Gas was presented to Hon'ble Speaker on 21 October, 2007 and to Lok Sabha on 19 November, 2007. The Action Taken Replies of the Government to the recommendations contained in the Seventeenth Report were received on 16 July, 2008 and 21 August, 2008.

3. The Standing Committee on Petroleum & Natural Gas (2008-09) considered and adopted the Twenty-First Report at their sitting held on 23 October, 2008.

4. An analysis of the action taken by the Government on the recommendations contained in the Seventeenth Report (Fourteenth Lok Sabha) of the Standing Committee on Petroleum & Natural Gas is given in 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.

6. The Committee place on record their appreciation for the valuable assistance rendered to them by the officers of the Lok Sabha Secretariat attached to the Committee.

New Delhi;
23 October, 2008
1 Kartika, 1930 (Saka)

N. JANARDHANA REDDY,
Chairman,
Standing Committee on
Petroleum & Natural Gas.

CHAPTER I

REPORT

This Report of the Standing Committee on Petroleum & Natural Gas deals with the action taken by the Government on the Recommendations contained in the Seventeenth Report (Fourteenth Lok Sabha) of the Standing Committee on Petroleum & Natural Gas (2007-2008) on 'Strategy for Development of Alternative Sources of Oil and Gas' which was presented to Hon'ble Speaker on 21.10.2007 and to Lok Sabha on 19.11.2007.

2. Action Taken Notes have been received from the Government in respect of all the 33 Recommendations /Observations contained in the Report. These have been categorised as follows:-

(i) Recommendations/Observations that have been accepted by the Government:- SI.Nos. 1,4,6,14,15,18,20,21,24,25,26 and 33.

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

(iii) Recommendations/Observations in respect of which replies of the Government have not been accepted by the Committee:- SI.Nos. 5,9,13,16,17,31 and 32.

(iv) Recommendations/Observations in respect of which final replies of the Government are still awaited:- SI.Nos. 2,3,7,8,10,11,12,19,22, 23,27,28,29 and 30.

3. The Committee desire that the Action Taken Notes on the Recommendations/Observations contained in Chapter-I of this Report and Final Replies in respect of the recommendations for which interim replies have been furnished by the Government (included in Chapter-V), should be furnished expeditiously.

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

A. Assessment of indigenous availability of ethanol

Recommendation (Sl. No. 2, Para No.3.2)

5. The Government introduced the scheme of mandatory supply of 5% ethanol blended petrol in 9 major sugar producing States and 4 contiguous Union Territories w.e.f. 1.1.2003 which was extended to the whole country w.e.f. 1.11.2006 except in the North –Eastern States, J&K, Andaman & Nicobar Islands and Lakshadweep. The Committee had been informed that the implementation of 5% EBP in the notified areas would require 0.56 million KL of ethanol per annum. They had, however, noted with displeasure that there was no reliable assessment of the total availability of ethanol in the country. Various industrial associations dealing with alcohol/ethanol, viz. Indian Sugar Mills Association (ISMA), All India Distillers' Association (AIDA), Indian Chemicals Manufacturers Association (ICMA), etc. had been making varying projections about the availability of ethanol in the country. Since proper assessment was essential so as to firm up the future policy and planning on the issue, the Committee had recommended that the Government should make its own independent assessment of the indigenous availability of ethanol in the country on a priority basis and complete this exercise in a time bound manner.

6. In response, the Ministry of Petroleum & Natural Gas has submitted as below:-

> "As regards the assessment of indigenous availability of ethanol in the country it may be mentioned that on an average production of molasses by sugar factories is taken as about 45% of the sugar production. At p present ethanol is manufactured in India primarily from molasses generated by the sugar industry. Considering the production of sugar during the sugar season 2006-07 of 280 lakh tons, the molasses production would be about 12.6 millions tons (at 45% of the sugar production). As per the sugar industry standards, an average of about 250 litres of ethanol are produced from 1 ton of molasses. Considering a production of 12.6 million tons of molasses it is estimated that ethanol to the tune of over 3150 million litres could have been produced by the sugar industry alone. However, the molasses from the sugar industry is used to produce rectified spirit and alcohol which are used as raw material for production of not only ethanol but also potable alcohol and for the chemical industry. As per the estimates of Planning Commission made in

2003-04, the consumption of alcohol by the three sectors in 2006-07 was projected as follows:-

Potable Alcohol	765 million litres
Industrial (Chemical)	711 million litres
Ethanol blending at 5%	593 million litres
Total	2069 million litres

Sugarcane and sugar production during 2007-08 sugar season are estimated to be at the same level as that of 2006-07 and, therefore, the availability of alcohol and ethanol would be as mentioned above. Since about 3000 million litres of alcohol/ethanol would be available and the demand from potable alcohol sector and chemical industry is to the tune of 1476 million litres, it is expected that there will be adequate availability of ethanol for blending 10% of ethanol with petrol.

Further, in order to ensure that adequate quantities of ethanol are supplied by the sugar industry, the Central government has approved conversion of sugarcane juice directly into ethanol. Therefore, in addition to the traditionally used raw material, viz molasses for production of ethanol, the country can now produce ethanol directly from sugarcane juice also, if the market conditions are favorable for such conversion. It is expected that with this permission to convert sugarcane juice directly to ethanol, there is an alternative raw material which can be used to supplement the production of ethanol, traditionally produced from molasses.

It has also been decided to reduce the customs duty on denatured alcohol from 7.5% to 5% and on molasses from 10% to 5%, once the 5% mandatory ethanol blending is implemented, to ensure adequate availability of alcohol/ethanol in case of any shortage from domestic supplies.

The above statistics and estimates have been given for production of alcohol and ethanol by the sugar industry alone from sugarcane or its products. There are other producers like Khandsari which also use sugarcane, whose molasses will give additional alcohol/ethanol. Estimates regarding alternative source of production of ethanol are not available with this Department. However, this recommendation is sent to Department of Chemicals & Petrochemicals for action".

7. The Committee, in their report on the subject, had recommended that the Government should make its own independent assessment of the indigenous availability of ethanol in the country on a priority basis and complete this exercise in a time bound manner. They note from the Action

Taken Reply that the Government has given a projected/estimated figure of 3,150 million litres of ethanol production in the country from sugarcane molasses during 2006-07. However, the data regarding the quantum of ethanol produced from other sources have not been furnished to the Committee. The Committee also note from the reply that to supplement the production of ethanol, the Central Government has approved conversion of sugarcane juice directly into ethanol. It has also decided to reduce the customs duty on denatured alcohol from 7.5% to 5% and on molasses from 10% to 5% to ensure adequate availability of ethanol in case of any shortage from domestic supplies. While appreciating these measures, which would considerably improve the availability of ethanol, the Committee feel that a reliable data of indigenous production of ethanol from all sources would greatly help in firming up future policy and planning on the issue. The Committee, therefore, reiterate that the Government should make a realistic assessment of ethanol produced in the country from sugarcane molasses and other sources, the extent and manner of utilisation of such ethanol and furnish the details at the earliest.

B. <u>Introduction of EBP Programme in far-off areas</u>

Recommendation (Sl. No. 5, Para No.3.5)

8. EBP programme has not been extended to the North – East, Jammu & Kashmir, Andaman & Nicobar Islands and Lakshadweep on the ground that these areas are geographically far-off and that procurement and transportation of ethanol to these places is not cost-effective. Keeping in view the sensitivity of these areas, geographical or otherwise, the Committee had desired that the Government should consider the feasibility of introducing a freight subsidy scheme for these areas and kick-start the programme at these places at the earliest.

9. The Ministry of Petroleum & Natural Gas has submitted the following reply in this regard:-

> "The implementation of Ethanol Blended Petrol (EBP) programme in North – East, Jammu & Kashmir, Andaman & Nicobar Islands and Lakshadweep is not feasible due to certain logistics problems at present. In future ones the programme is well established, it can be extended to all parts of the country. It is not feasible to introduce freight subsidy scheme. The EBP programme is dependent on commercial viability of procuring ethanol".

10. During the examination of the subject, the Committee had been informed that the Ethanol Blended Petrol (EBP) Programme was not extended to the North-East, Jammu & Kashmir, Andaman & Nicobar Islands and Lakshadweep on the ground that these areas were geographically far-off and that procurement/transportation of ethanol to these places was not cost-effective. The committee had recommended that the Government should consider the feasibility of introducing a freight subsidy scheme for these areas and kick-start the programme at these places at the earliest. In its Action Taken Reply, the Ministry has stated that it is not feasible to introduce freight subsidy scheme and that in future, once the programme is well established, it can be extended to all parts of the country. The Committee would like to know the basis on which the Government has taken the view that it is not feasible to introduce a freight subsidy scheme. They would further like to be apprised of the manner in which the Government propose to introduce the EBP Programme at these places without some subsidy scheme.

C. Concerns voiced by petroleum dealers relating to EBP

Recommendation (Sl. No. 8, Para No.3.8)

11. Some of the Petroleum Dealers Associations like the Gujarat Petrol and Diesel Dealers Association, Punjab Petroleum Dealers Association, Haryana Petroleum Dealers Association and Federation of All India Petroleum Traders had expressed their concerns associated with the EBP such as starting trouble, excessive moisture in the tanks, corrosion of pipes, improper mixing of ethanol with petrol, etc. The Ministry had admitted before the Committee that there were issues and problems with EBP scheme which were being sorted out. The Committee had desired that an in-depth analysis of the problems voiced by dealers should be made and remedial measures taken at the earliest so that EBP gains the confidence and acceptability of customers. The Committee had further desired that Customer Satisfaction Surveys should be regularly undertaken by Oil PSUs to obtain the much needed customer feedback/satisfaction on the EBP.

The Government should also take steps to give enough publicity to educate people about the benefits of EBP.

12. In response to the recommendation, the Ministry of Petroleum & Natural Gas has submitted as under:-

> "Initially, representations were received from few Dealers Association like 'Gujarat Petrol and Diesel Dealers Association', Punjab Petroleum Dealers Association, Haryana Petroleum Dealers Association & FAIPT regarding quality issues. The complaints were restricted to few pockets only and were regarding malfunctioning of their vehicles (mainly 2 – Wheelers). The findings indicated that the problem was connected to carburetor float pin in certain market in 2 – wheelers, which was due to incompatible rubber parts used in the vehicles. Industry had advised the automobile manufacturers to use spares coming in contact with fuel must be compatible with EBP.
>
> The problem was also noticed in certain cases due to presence of water traces in the petrol tank of the vehicles. It was observed that if the fuel tank lid is not tight enough or defective the moisture may enter and absorbed by the fuel (Ethanol Blended Petrol) due to hygroscopic nature. When the concentration of moisture absorbed by EBP exceeds a critical limit, water can be separated out at the bottom of fuel tank in extreme cases. However, the presence of water will not cause seizure of the engine but stop the engine temporarily.
>
> Blending of petrol with ethanol is carried out through online blending facility installed at out locations so as to ensure uniform blending of petrol with ethanol and to ensure correct ethanol quantity, metering units have been provided at the locations.
>
> Ethanol is completely miscible in petrol. Layer separation in EBP is possible only in the presence of excess water. If the retails outlet tank is well maintained in terms of avoiding ingress of water, ethanol will not separate from EBP".

13. With regard to EBP Programme, the Committee had been informed about the concerns expressed by some Petroleum Dealers Associations relating to issues like starting trouble, excessive moisture in the tanks, corrosion of pipes, improper mixing of ethanol with petrol, etc. They had desired that an in-depth analysis of the problems voiced by the dealers should be made and remedial measures taken at the earliest. In its Action Taken Reply, The Government has attempted to explain the underlying reasons behind the problems/concerns voiced by the dealers. The Government has stated that above problems are due to incompatible rubber parts or loose/defective tank lids in the vehicles. The Committee

desire the Ministry of Petroleum and Natural Gas to approach the Ministry of Industry for making it mandatory for automobile manufacturers to use only EBP compatible rubber parts in the vehicles. The Committee also desire that these and other related precautionary measures should be properly explained to the retail outlet dealers and vehicle owners which will eliminate the problems associated with the EBP and gain the confidence and acceptability of consumers. They further reiterate that the response of the consumers to the EBP Programme should be ascertained by oil companies through regular Customer Satisfaction Surveys so as to evaluate the extent of success/efficacy of the programme.

D. Marketing of EBP by private companies

Recommendation (Sl. No. 9, Para No.3.9)

14. The Committee were concerned to note that the private companies, engaged in the sale of petroleum products, were not marketing EBP as the same had not been made obligatory on their part. They were of the opinion that since the EBP programme had been launched by the Government to reduce dependence on imported oil by encouraging the use of indigenous sources of energy, it should be made mandatory for the private companies also to implement the scheme.

15. The Ministry of Petroleum & Natural Gas has responded as below:-

> "MoP&NG vide Gazette Notification No. GSR 644 (E) dated 12.09.2002 mandated marketing of 5% Ethanol Blended Petrol (EBP) w.e.f. 01.01.2003 in 9 States viz, Maharashtra, Gujarat, Goa, Uttar Pradesh, Haryana, Punjab, Karnataka, Andhra Pradesh & Tamil Nadu, and in 4 Union Territories, viz. Daman Diu, Dadra and Nagar Haveli, Chandigarh & Pondicherry.
>
> Further MoP&NG Vide Gazette Notification No. G.S.R. 580 (E) dated 20.9.2006 directed that subject to commercial viability oil marketing

companies w.e.f. 01.11.2006 shall sell 5% EBP in 20 States and 4 Union Territories i.e. the EBP programme was extended, in addition to the existing 10 States & 4 Union Territories, in 10 more States, viz. Delhi, Himachal Pradesh, Rajasthan, Bihar, Jharkhand, West Bengal, Orissa, Madhya Pradesh, Chhattisgarh & Kerala. The proposal to make EBP mandatory for the private companies would be considered after the present programme gets stabilised".

16. In the report on the subject, the Committee had desired that it should be made mandatory for the private companies also to implement the Ethanol Blended Petrol Programme as the same would help reduce our dependence on imported oil. The Government, in its Action Taken Reply, has stated that the proposal to make the EBP Programme mandatory for the private companies would be considered after the present programme gets stabilised. In this connection, the committee would like to point out that the EBP Programme was launched in the beginning of 2003 in some parts of the country and subsequently extended to the whole of the country, except some far-off locations, nearly two years ago. Thus, in the opinion of the Committee, the programme is supposed to be stabilised within a period of five years. The Committee, therefore, reiterate their earlier recommendation that the EBP Programme should be made mandatory for the private companies.

E. Establishment of market linkage for bio-diesel

Recommendation (Sl. No. 13, Para No.3.13)

17. The Ministry of Petroleum & Natural Gas had formulated a Bio-diesel Purchase Policy in October 2005, effective 1.1.2006 which is a statement of intent of purchase of bio-diesel by the oil marketing companies. This policy had identified 20 purchase centres of the public sector oil marketing companies (OMCs) all over the country where these companies would purchase bio-diesel which met the standards prescribed by the Bureau of Indian Standards (BIS), from those bio-diesel manufacturers who registered with them after satisfying the technical specifications. The Committee were unhappy to note that no party had registered in any of the 20 purchase centres of bio-diesel so far. As a result, marketing of blended diesel had not yet commenced. The Committee had

desired the Government to attach utmost importance to the programme and establish a more effective market linkage. They had also desired that the bio-diesel industry should be given infrastructure status for the faster growth of this industry. Besides, the Committee had further desired that adequate financial incentives, including tax incentives should be extended to biofuels, especially during the initial phase so as to ensure their optimum growth in the country. The Committee had also desired that in addition to other incentives, low interest rate loans from nationalised banks should also be made available to farmers which would encourage them to go in for bio-diesel plantation.

18. In its Action Taken Reply, the Ministry of Petroleum & Natural Gas has submitted as under:-

> "No bio-diesel supplier has expressed interest to supply bio-diesel to oil PSU's at any of the 20 collection centres across the country. However HPCL is ready to buy the product as and when available at the Government announced price at any of its 5 collection centres as per Bio-diesel Purchase Policy".

19. In their 17th report (14th Lok Sabha), the Committee had noted that after the formulation of the Bio-diesel Purchase Policy in October 2005, 20 purchase centres were identified in various parts of the country for purchase of bio-diesel. However, not a single party had registered in any of these centres. The Committee had desired the Government to establish a more effective market linkage. In its Action Taken Reply, the Ministry has furnished the same reply that no bio-diesel supplier has expressed interest to supply bio-diesel to oil PSUs at any of the 20 collection centres. The Committee have not been informed of the efforts made by he Government/oil PSUs in this direction. In the opinion of the Committee, non-registration of even a single bio-diesel supplier in nearly 3 years is something which needs to be given a serious thought. They, therefore, desire that an in-depth analysis should be made by the Government/oil PSUs to ascertain the reasons for the reluctance of bio-diesel producers/suppliers to register themselves at the identified purchase centres. The Committee also find that the reply of the Government is silent on their other recommendations like infrastructure status to the bio-diesel industry, financial incentives to bio-fuels and low interest loans to farmers. They view it as a lapse on the part of the Government. The

Committee desire that replies to these issues may be furnished to them at the earliest.

F. Release of land for Jatropha/Pongamia plantation

Recommendation (Sl No.16, Para No. 3.16)

20. As per the projection of National Oilseeds and Vegetable Oils Development Board (NOVOD), the total area in the country under Jatropha Plantation upto 2008-09 would go up to 31,17,000 hectare from 5,60,000 hectare in 2006-07. In the opinion of the Committee, to convert the projection into reality, a simplified procedure should be followed for the release of the Government land for the purpose of Jatropha/Pongamia plantation. The Committee had, therefore, desired the Government to ask State Governments to make the release of land hassle-free for the purpose of Jatropha/Pongamia plantation.

21. The Ministry of Petroleum and Natural Gas has submitted the following reply in this regard:

> "Regarding the release of Government land for the purpose of Jathropa/Pongamia plantation, consultations were held with State Governments on 10.8.2005 by M/o Rural Development and State governments identified an area of 17.17 lakh hectares of waste land for the purpose of Jathropa/Pongamia plantations. State-wise details are given in the table below.

Table: STATE-WISE AREA IDENTIFIED FOR JATROPHA PLANTATIONS
(As emerged in the meeting of the State Forest and Panchayati Raj Secretaries in August 2005)

Sl. NO.	STATE	FOREST AREA	PANCHYAT AREA	TOTAL
1	Andhra Pradesh	15000	160000	175000
2	Assam	25000	-	25000
3	Bihar	50000	-	50000
4	Chhattisgarh	50000	51400	101400
5	Gujarat	49800	-	49800
6	Haryana	50000	-	50000
7.	Jharkhand	6600	65400	72000
8.	Karnataka	-	500000	500000
9	Madhya Pradesh	-	53000	53000
10	Mizoram	14000	12000	26000

11	Rajasthan	60000	-	60000
12	Sikkim	5000	-	5000
13	Tamil Nadu	50000	-	50000
14	Uttrakhand	500000	-	500000
	Total	875400	841800	1717200"

22. The Committee, in their 17th Report (14th Lok Sabha), had desired that a simplified procedure should be followed for the release of Government land for Jatropha/Pongamia plantation and that the Central Government should ask the State Governments to make the release of land hassle-free for this purpose. They have been informed through the Action Taken Reply that consultations were held with the State Governments on 10.08.2005 by the Ministry of Rural Development and that the State Governments had identified an area of 17.17 lakh hectares of waste land for the purpose of Jatropha/Pongamia plantation. The Committee find that this is at variance with the projection of the National Oilseeds and Vegetable Oils Development Board (NOVOD) which had estimated that the total area in the country under Jatropha plantation would go up to 31.17 lakh hectares by 2008-09. The total identified land of 17.17 lakh hectares fall short of the projected figure of NOVOD by 14 lakh hectares. The Committee would like to be apprised of the details of land released by the State Governments for Jatropha/Pongamia plantation and the extent of land under such plantation at present. Besides, the Committee also find that the reply of the Government is silent on the procedure adopted for release of such land and whether the Government has asked the State Governments to make the release of land hassle-free for such purpose. The Committee desire the Government to apprise them of these details at the earliest.

G. Expenditure on R&D in the area of alternative fuels

Recommendation (Sl. No. 17, Para No.3.17)

23. The Committee had been informed that IOCL, HPCL and BPCL were undertaking R&D studies on alternative sources of energy. They had desired that

certain percentage of their expenditure on R&D should be earmarked to cover the scientific and technical research in the area of alternative fuels. They had further recommended that an exclusive cell should also be created in the Ministry to continuously review and monitor the R&D activities of the companies/agencies in the field of alternative fuels.

24. The Ministry of Petroleum and Natural Gas has submitted the following reply in this regard:

> "HPCL has installed a Pilot Plant at R&D centre, Vashi for evaluating feed stocks for bio-diesel & optimization of process parameters & catalysts.
>
> HPCL has taken various R&D initiatives to establish Bio-diesel and the first step in this direction was the extensive field trail of Bio-diesel (B5, B 10 & B20 blends) on 25 buses of Brihanmumbai Electric Supply & Transport (BEST) at Mumbai. Followed by his another joint field trial with MICO, Bangalore to evaluate the Fuel Injection System with B 10 blend. The trial is in progress.
>
> HPCL along with DST, Energy companies, Oil/Gas companies, CSIR & Research Institutions is also a member of the ongoing Hydrogen program (NHEB) of MNES".

25. In their 17th Report (14th Lok Sabha), the Committee had desired that the Oil Marketing Companies viz. IOCL, HPCL and BPCL should earmark a certain percentage of their expenditure on R&D to cover scientific and technical research in the area of alternative fuels. They had also desired that an exclusive cell should be created in the Ministry to continuously review and monitor the R&D activities of the companies/agencies in the field of alternative fuels. In the Action Taken Reply, the Ministry has only mentioned about certain initiatives taken by HPCL in the area of R&D. However, the specific recommendations made by the Committee have not been dealt with by the Ministry in its reply. The Committee, while disapproving of the casual approach of the Government, reiterate their recommendations that IOCL, HPCL and BPCL should earmark a certain percentage of their R&D expenditure to cover scientific and technical research in the area of alternative fuels and that an exclusive cell

should be created in the Ministry to continuously review and monitor the R&D activities of the companies/agencies in the field of alternative fuels.

H. R&D work on hydrogen

Recommendation (Sl. No. 31, Para No. 3.31)

26. The Ministry of New and Renewable Energy had informed that it had been supporting a broad based research, development and demonstration programme on different aspects of hydrogen and fuel cell technologies, including production, storage and utilisation of hydrogen as a fuel. The Committee had noted that the Ministry of Petroleum and Natural Gas had set up a Hydrogen Corpus Fund with a corpus of Rs. 100 crore for supporting research and development in various aspects of hydrogen. Besides, a roadmap had been set up by IOC (R&D) for the hydrogen research project, for hydrogen production, dispensing, storage, application and its utilisation in scooters, three-wheelers and buses. The Committee had reasoned that clean fuels like hydrogen would greatly help in reducing carbon emissions. Therefore, they had recommended that concerted efforts should be put into such research which would lead to development of path-breaking technologies in the field. The Committee had further recommended that sincere efforts should be made to coordinate and bring together the agencies engaged in studying the various aspects of hydrogen which could lead to important breakthroughs. They had also desired the Ministry of Petroleum & Natural Gas to be made the nodal Ministry for various aspects of hydrogen including coordination and monitoring of activities of the agencies involved. The Committee had further recommended that the Government should keep a track of the developments made in other countries like USA, UK, Germany, Japan, etc. where several demonstration projects on hydrogen had been taken up. Besides, they had also desired that as and when international standards and codes for hydrogen systems were developed, the national standards should be synchronised with the same.

27. The Ministry of Petroleum and Natural Gas has submitted the following reply in this connection:

"GAIL is in discussion with M/s Eden Energy and Mahanagar Gas Limited (MGL), Mumbai for Hythane Pilot project which is proposed to be implemented by MGL. Finalization of MoU between GAIL, MGL and Eden Energy is under progress".

28. The Committee, in their 17th report (14th Lok Sabha), had emphasised on putting concerted efforts into R&D work relating to different aspects of hydrogen and bringing together the agencies engaged in such activities. Besides, the Committee had also recommended for nominating the Ministry of Petroleum and Natural Gas as the nodal Ministry for different aspects of hydrogen, keeping a track of developments taking place in other countries on this front and synchronising national standards and codes on hydrogen system with international codes, as and when the same are developed. In its Action Taken Reply, the Government has stated that GAIL is in discussion with M/s Eden Energy and Mahanagar Gas Limited (MGL), Mumbai for Hythane Pilot Project which is proposed to be implemented by MGL and that finalisation of MoU between GAIL, MGL and Eden Energy is under progress. The Committee appreciate the initiative taken by GAIL on the Hythane Pilot Project and would like to be apprised of the salient features and other details of the project. At the same time, the Committee are constrained to note that the other specific issues raised by them have not been addressed to by the Government in the Action Taken Reply. They desire the Government to intimate them the details of action taken on each of the issues raised in this recommendation.

I. Use of hydrogen-CNG blends in vehicles

Recommendation (Sl. No. 32, Para No. 3.32)

29. The Committee had been informed that the production of hydrogen based on renewable or nuclear energy, though suitable, was not cost – effective. However, its production through steam reforming of natural gas/naphtha was cost-effective. They had also been informed that IOC had set up a hydrogen – CNG dispensing station at its R&D Centre at Faridabad and that trials were being conducted on a passenger car and three wheelers using upto 10% hydrogen blended in CNG without doing any engine modification. The Committee had also

been informed that no operational problem had since been encountered during the trials, though there had been some power loss with hydrogen-CNG blends which could be compensated by modifications in the engine. The Committee had desired the Government/IOC to conduct trials on other types of vehicles using 10% hydrogen- CNG blend. The Committee had further desired that in the initial years, the Government should give incentives/subsidy on hydrogen for its use for the transportation purpose.

30. The Ministry of Petroleum and Natural Gas has submitted the following reply in this connection:

> "GAIL is in discussion with M/s Eden Energy and Mahanagar Gas Limited (MGL), Mumbai for Hythane Pilot project which is proposed to be implemented by MGL. Finalization of MoU between GAIL, MGL and Eden Energy is under progress".

31. During the examination of the subject, the Committee had been informed that IOC had set up a hydrogen – CNG dispensing station at its R&D Centre at Faridabad and that trials were being conducted on a passenger car and three-wheelers using upto 10% hydrogen blended in CNG without doing any engine modification. The Committee had desired the Government/IOC to conduct trials on other types of vehicles using 10% hydrogen – CNG blend. The Committee had further desired that in the initial years, the Government should give incentives/subsidy on hydrogen for its use for the transportation purpose. The Government, in its Action Taken Reply, has stated that GAIL is in discussion with M/s Eden Energy and Mahanagar Gas Limited (MGL), Mumbai for Hythane Pilot Project which is supposed to be implemented by MGL and that finalisation of MoU between GAIL, MGL and Eden Energy is under progress. The Committee are unhappy to note that the Government has furnished identical replies to different recommendations made by the Committee which indicates total callousness on the part of the Ministry. The Committee desire that a pointed reply may be furnished at the earliest.

CHAPTER II

RECOMMENDATIONS WHICH HAVE BEEN
ACCEPTED BY THE GOVERNMENT

Recommendation (Sl. No. 1, Para No.3.1)

Alternative fuels like ethanol and bio-diesel have a number of advantages over the conventional fuels. Besides being renewable, such fuels significantly reduce emission of greenhouse gases. They can also lessen our dependence on import of crude oil and substantially decrease the net oil import bill. Inspite of having so many advantages, the Committee are unhappy to find that the large scale promotion and production of such fuels has not received the desired attention. As a result, we are lagging much behind other countries like Brazil, USA, Australia, Sweden, etc. in the field of development of alternative sources of oil and gas. The Committee desire the Government to take up the issue with all seriousness without further loss of time and make all out efforts to promote the various alternatives sources of oil and gas.

REPLY OF THE GOVERNMENT

The Government of India has given top priority for promotion and use of bio-fuel, which includes bio-diesel and bio-ethanol. Considering the importance of promotion and use of bio-fuels for transportation, stationary and other applications, the Government of India has issued a Notification in July, 2006 giving specific responsibilities to various Union Ministries and Departments. The Government emphasises use of non-edible oils such as Jatropha curcas, Pongamia pinnata oils, etc. for production of bio-diesel and use of forest & non-forest wastelands for plantation of non-edible oil seed bearing plants.

The Ministry of New & Renewable Energy has sponsored R&D projects on bio-fuels to some leading R&D Institutions. Process parameters for production of bio-diesel from Jatropha curcas (Ratanjot) and Pongamia pinnata (Karanja) have been optimized. Field trials on diesel car have been carried out with different levels of blend of bio-diesel produced from Jatropha and Pongamia with diesel. The vehicle response has been found to be comparable with diesel vehicles. A 200 litre

capacity per batch bio-diesel reactor has been designed, fabricated and developed. The MNRE has prepared a Draft National Policy on Bio-fuels, which is under consideration of Government of India.

The Ministry of Rural Development (MoRD) has provided financial support to nine States in 2005-06 for raising of about 18 crore seedlings of Jatropha and Pongamia and to 18 States in 2006-07 for raising of another about 18 crore seedlings of these plants. The proposal of the MoRD for establishment of the National Mission on Bio-diesel and launch of its demonstration phase (Phase – I) is under consideration of Government of India.

Department of Bio-Technology, has initiated a Micro-mission programme on production and demonstration of superior quality planting material of Jatropha based on oil content of 30-35% and seed yield of 3-5 tonnes per hectare. They have raised 22.48 lakh plants under nursery at different places and have initiated R&D projects for improvement of oil quality and seed yield and identification of superior varieties.

The Ministry of Agriculture through the National Oil Seeds and Vegetable Oils Development (NOVOD) Board is promoting Jatropha and Pongamia under the Scheme of integrated Development of Tree borne oil seeds. The NOVOD Board has undertaken model plantation of Jatropha in about 10,000 hectare area and Karanja in about 1400 hectare area for producing parent material for undertaking large scale plantation. NOVOD Board have identified elite planting material of Jatropha and pongamia under their R&D programme and have preserved the germ plasm. Besides, NOVOD Board has sanctioned model plantation of Jatropha in 1445 hectare and Karanja in 55 hectare during 2007-08.

Indian Council of Agriculture Research (ICAR), under All India Coordinated Research Project (AICRP) on agro-forestry, have initiated efforts in respect of Jatropha for collection of germ plasm, evaluation trials for growth, seed yield oil content, hybridization, reproductive biology, agri-silvicultural trials, molecular characterization, biochemical activities and farmers training. ICAR has identified a Jatropha variety for commercial cultivation. Presently, the activities initiated by the

Government are concentrating on research & development for development of superior quality planting materials and bio-diesel production technologies, testing of diesel engines using bio-diesel and their demonstration, etc.

[M/o Petroleum & Natural Gas
O.M. No. P-39018/2/2007-CC (Part) dated 16-07-2008]

Recommendation (Sl. No. 4, Para No.3.4)

The Committee note with displeasure that tenders in three States, viz. Madhya Pradesh, Chhattisgarh and Orissa could not be finalised due to high rates of taxes levied on ethanol by the concerned State Governments. They also note with concern that the Government of West Bengal has not issued the notification on applicable taxes/duties on ethanol meant for blending with petrol while in the State of Tamil Nadu, the programme has been kept in abeyance as ethanol could not be spared for the EBP programme due to shortage of spirit. The Committee are constrained to observe that the EBP Programme has not received due importance which can be gauged from the fact that even after four years of its introduction, the scheme could not be fully implemented in the whole of the country. They desire the Government to analyse the issues which are approving roadblocks in the implementation of the programme and sort or the same quickly with the concerned State Governments. The action taken in the matter and the success achieved may be conveyed to the Committee within three months.

REPLY OF THE GOVERNMENT

A meeting of Committee of Secretaries was held on 21.11.2007, wherein Secretary (Petroleum), Secretary (DIPP), Secretary (F&PD) and Secretary (Consumer Affairs) were also present. (Minutes were circulated vide letter No. 491/2/3/2007- Cab. III, dated 26.11.2007). It was decided in the meeting that Secretary (DIPP) should conduct a meeting of the Excise Departments of the States along with Secretary, Ministry of Petroleum and Natural Gas to analyse the issues which are proving roadblocks in the implementation of EBP to sort out the same with the State Governments. Thereafter, two meetings in this regard were held by DIPP on 20th December, 2007 and 30th January, 2008. During the meeting

most of the States agreed to abolish the taxes/ duties levied on ethanol for its easy inter-State movement.

[M/o Petroleum & Natural Gas
O.M. No. P-39018/2/2007-CC (Part) dated 16-07-2008]

Recommendation (Sl. No. 6, Para No.3.6)

The Committee note that limited field trials on select vehicles carried out by IOC (R&D) have found the use of 10% ethanol blended petrol to be feasible. The Department of Agriculture Research & Education (Ministry of Agriculture) has informed the Committee that 1,4000 million litre of ethanol per annum would be required to switch over to 10% blending for which alternate substrate (other than molasses) shall be needed. The Committee have further been informed that the technology for converting such alternate sources to ethanol can be adopted by industries, if encouraged. In view of the above the Committee desire that the feasibility of extension of 5% to 10% blending of ethanol should be seriously considered by the Government without further delay. They further desire the Government to consult all the stakeholders, prior to taking a decision on extension of the EBP programme to 10% blend. In order to encourage higher production of ethanol, the Committee view that suitable incentives should be given to ethanol producers, especially during the initial phases. The Committee would also like the Government to encourage R&D activities to find out the feasibility of using sugar beet, sweet sorghum, cassava (tapioca), maize, etc. as raw material for ethanol production in the country. Besides, the Government should develop technologies for ethanol production from alternate feedstock like agriculture municipal and forestry wastes.

REPLY OF THE GOVERNMENT

As already pointed out in the information given under Para 3.2, the requirement of 10% blending can be adequately met from the molasses produced by the sugar industry during 2007-08 also. As pointed out, the Government has permitted the sugar industry to convert sugarcane juice directly into ethanol to supplement availability of ethanol produced from molasses. It is, therefore, felt that demand of ethanol of 10% blending can be met by the sugar industry alone. However, in order to ensure sufficient availability of ethanol for future increases,

there is a necessity to explore alternative sources of production from other raw materials as well as provide suitable incentive to encourage higher production of ethanol.

The Department of Food & Public Distribution, Ministry of Consumer Affairs, Food & Public Distribution have recently mooted the proposal for making 5% blending of ethanol with petrol mandatory across the country, except in Jammu & Kashmir, North Eastern States and Island territories immediately and mandatory blending of 10% ethanol with petrol from October, 2008. Since the automobile manufacturers association has some reservation about the compatibility of the present engines of 2 wheelers & 4 wheelers for using 10% blends ethanol with petrol. The issue is being sorted out with all the stakeholders. As regards, encouraging R&D activities to find out the feasibility of using other feed-stocks for production of ethanol, it is stated that sugarbeet, sweet sorghum and cassava have been identified as potential feed-stocks for promotion for production of ethanol. Research and development work for developing technology for ethanol production from ligno-cellulosic material such as agricultural and forestry wastes is extensively being undertaken particularly in USA, Canada, Japan and some other European Countries. The commercial viability of the technology for production of ethanol from agricultural and forestry wastes are yet to be established. The recommendation of the Standing Committee to explore feedstocks other than molasses for production of ethanol is noted.

[M/o Petroleum & Natural Gas
O.M. No. P-39018/2/2007-CC (Part) dated 16-07-2008]

Recommendation (Sl. No. 14, Para No.3.14)

The Committee have noted that IOCL has planted 1,55,000 Jatropha plants in 62 hectares of Railways land in Surendranagar district of Gujarat in 2004. These plants are expected to bear seeds in 2007 which would initially yield 18 MT and subsequently 50 MT of bio-diesel. The company has also approached Chhattisgarh and Madhya Pradesh Governments for allotment of revenue wasteland of large-scale Jatropha plantation, While appreciating the initiative taken by IOCL in promoting bio-diesel, the Committee desire that other oil PSUs/ organizations under the administrative control of the Ministry should also take

initiatives to go in for such plantations and approach the State Governments for allotment of wasteland of this purpose. They may be apprised of the factual position regarding steps taken by the oil PSUs.

REPLY OF THE GOVERNMENT

HPCL has signed MOU with G B Pant University in Uttrakhand for cultivation of Jatropha & allied activities. The project work is in progress with the following objectives:

Collection of germplasm of elite trees from different parts of the country.

Standardization of the micropropogation protocol for large scale production of Jatropha.

Propagation of best varieties of Jatropha for higher yields of seeds.

Establishment of best cultivation practices for Jatropha.

HPCL has also made feasibility report of Jatropha cultivation in Chhattisgarh & Rajasthan and based on this it is exploring possibilities with these Governments to sign MOU for undertaking mass scale Jatropha cultivation in the revenue wasteland and the degraded forests.

[M/o Petroleum & Natural Gas
O.M. No. P-39018/2/2007-CC (Part) dated 16-07-2008]

Recommendation (Sl. No. 15, Para No.3.15)

The Committee note that IOC (R&D) organized a Bio-diesel conclave from enabling the public-private partnership in promoting Bio-diesel in India. In the conclave, emphasis was laid on involvement of Panchayati Raj Institutions in Jatropha plantation and continuation of research on bio-diesel for blending at higher concentrations. While appreciating the initiatve of IOC (R&D), the Committee advised the Government/IOC to take appropriate action on these issues. They further desire that Public-Private Partnership in Jatropha plantation activities should be encouraged by the Government. Besides, a mechanism should be developed to monitor their plantation and related activities.

The Committee have also been informed that some private companies have approached HPCL for supplies of bio-diesel and Jatropha cultivation. These proposals are stated to be under scrutiny. The Committee desire the Government/HPCL to take early decision on these proposals.

REPLY OF THE GOVERNMENT

The Ministry of Rural Development is in agreement with the advice of the Committee relating to the involvement of Panchyati Raj Institutions in Jatropha plantation and encouraging public-private partnership. To this end, the Demonstration Phase under the proposed National Mission on Bio-diesel provides for Jatropha plantations on panchyat lands in a big way. The National Mission also aims at encouraging public-private partnership not only in plantation activity but also in oil processing, marketing and R&D activities.

HPCL undertook feasibility study of Jatropha cultivation in Rajasthan & Chhattisgarh and based on the findings from this study, it is exploring for the signing of MOU shortly with the Government of Chhattisgarh for mass scale Jatropha cultivation.

[M/o Petroleum & Natural Gas
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Recommendation (Sl. No. 18, Para No.3.18)

The Committee note with concern that no agency/Ministry has been assigned the job of imparting training on Jatropha cultivation and bio-diesel extraction. They feel that training should be given to farmers and other stakeholders in these fields. In this regard, NGOs, Self-Help Groups, village panchayats, etc. may be involved for imparting the training. The Committee also desire that better crop management and modern processing techniques should be introduced in order to reduce the cost of production of bio-diesel.

REPLY OF THE GOVERNMENT

The NOVOD Board has been imparting training on Tree Brone Oilseeds (TBOs) including Jatropha to the field functionaries as well as farmers since 10th

Five Year Plan under its programme with limited resources. The provision of training is also made in the DPR of National Mission on Bio-diesel, which is being implemented by Ministry of Rural Development. The Board has got expertise and has infrastructural facilities in organizing farmers training as well as trainers training. The NOVOD Board can be assigned the responsibility for organizing training on Jatropha cultivation and bio-diesel extraction under National Mission on Bio-diesel.

[M/o Petroleum & Natural Gas
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Recommendation (Sl. No. 20, Para No.3.20)

The Committee have been informed that two particular varieties of Jatropha have been identified which is a combination of disease resistant, drought resistant and also high yielding. They have been further informed that the Government is in the process of tissue culture and cloning in different parts of the country. The Committee desire that the process of tissue culture and cloning may be expedited and the identified saplings with desired specifications distributed for cultivation in different States. The Committee further desire that State Governments may be consulted in regard to identifying their wastelands for cultivation of the plants.

REPLY OF THE GOVERNMENT

The NOVOD Board has initiated a R&D programme namely National network on integrated development of Jatropha and Karanja by involving by involving 37 R&D institutions of ICAR, CSIR, ICFRE, SAUs and IIT to address the various researchable issues such as survey and identification of superior planting material; conducting progeny, zonal & national trails; standardization of mass propagation techniques including in –vitro techniques; standardization of hybridization programme, package & practices; germ-plasm accessioning & cryo-preservation etc. So far, no variety of Jatropha and Karnja has been developed under the above network. The significant achievements of above network programme including tissue culture are at Annexure – I.

[M/o Petroleum & Natural Gas
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ANNEXURE I

Salient achievements under R&D Network Programme on Tree-Borne Oilseeds

In order to address various researchable issues for integrated development of tree borne oilseeds, two National Networks namely, 'National Network on Jatropha and Karanja' and 'National Network on Wild apricot and Cheura' were constituted by involving state agricultural universities, institutions of CSIR, ICFRE, ICAR, CFTRI, TERI and IIT, New Delhi and is in operation since November, 2004.

The objectives of the networks are as under:

- Survey and collection of superior planting material (seeds & cutting)
- Progeny trial of superior planting material and Multi-locational trial at National/Zonal level
- Hybridization in Jatropha curcas
- Agri-silvicultural trial
- Standardization of propagation techniques
- Development of package of practices
- Awareness programme

1.1 Survey and collection of superior planting material (seeds & cuttings)

The number of superior planting material (CPTs) identified in respect of various TBOs are hereunder:-

Sl. No.	Name of TBOs	No. of CPTs
1.	Jatropha	2092
2.	Karanja	574

1.2 Progeny/provenance trial of superior planting material

After collection of seeds from CPT's/potential seed sources, progeny trials were established by different centres of various genotypes received from other centres. The germination percentage & other growth parameters i.e. collar diameter & plant heights are being recorded.

1.3 Zonal and National Trial

The purpose of this trial is to evaluate and screening of best CPTs having outstanding performance under different agro-climatic conditions of the country by exchanging the germplasm from all the participating institutes.

1.4 Agri-silvicultural Trials

The very purpose for conducting these trials to evaluate the economic feasibility of TBOs with suitable and potential intercrops particularly with legumes and pulses. The leguminous crops i.e. sunhemp, mothbean, moong, urd and cowpea etc are found more suitable for intercropping. Other intercrops like sunflower, maize, jowar, green gram and groundnut are also suitable for intercropping. It has been observed that about Rs. 15,000-17,000 additional income may be obtained per ha.

1.5 Standardization of propagation techniques through cuttings and seeds

To develop quality planting material for mass-propagation, the standardization of efficient propagation techniques are required to be developed. The participating institutions have been assigned to develop technique for mass multiplication of superior quality planting material. Various methodologies are being applied for mass multiplication.

Propagation through Jatropha cuttings:-

- The diameter of cuttings should be 2-2.5 cm.
- Optimum length: 6"-9" (15cm x 23 cm) long
- Cuttings should be of semi hard wood & hard wood. Aptical cuttings are poor in success.
- Soaking of cuttings in 100 ppm IBA & NAA showed the best results in sprouting and best season for planting of cuttings-February to March.

Jatropha Seeds:-

- Hot water treatment showed best results in comparison to all treatments. Soaking of seeds in 20 ppm IBA and 20 ppm GA_3 and 30 seconds in H_2SO_4 (Conc.) showed best results on germination percentage of seeds.
- Soakings of seeds in 20 ppm GA_3 showed best results on germination percentage of seeds.
- The seeds treated and sown in the field, but none of the seeds planted during December and January germinated.
- Highest germination was obtained by soaking the seeds for 12 hrs. in the cow dung.
- Germination of seed is recorded in GA_3 solution and water. After soaking in water, 10 ppm GA_3 solution and 20 ppm GA_3 solution for 24 hrs., germination is found to be 12 days, 8 days and 5 days respectively

Karanja cuttings

- Cutting size was taken as 20-25 cm and soaked in 800ppm IBA and 800 ppm NAA have shown best results in root initiation and sprouting.
- Cutting size of 1-1.5 cm diameter shown the best results in root initiation and sprouting in 6 days and 1005 survival.

Karanja Seeds

- A nursery mixture of 2:1:1 (black soil : black sand : FYM) is found to be economical and the seedlings produced are of higher quality.
- Hot water treatment showed best result in compared to all treatments. Soaking of seeds in 20 ppm IBA and GA3 has shown best results on germination, which is recorded as 80-90%.

1.6 Seed viability

Jatropha:- Upto one year and best time for nursery raising is from February to March.

Karanja:- Upto five months.

1.7 Cryo-preservation of germplasm in National Gene Bank at NBPGR

Sl..No.	Name of TBO	No. of germplasm
1	Jatropha	505
2	Karanja	147

1.8 Oil analysis of TBOs at TERI

Sl..No.	Name of TBO	No. of seed samples analyzed
1	Jatropha	1345
2	Karanja	438

1.9 Standardization of package of practices:

A standard package of practices for Jatropha & Karanja cultivation are being developed including field preparation, nutrient management, water requirements, weed management, plant protection measures and post harvest management for getting optimum yield. The package of practices for different agroclimatic regions for rainfed, irrigated and saline and alkaline soils are under progress in most of the centers and final results are yet to be obtained.

1.10 Development of an efficient protocol for 'multiplication through Tissue Culture

Partial success has been reported in tissue culture of Jatropha. Multiple shoots for explants shoot tip and auxiliary bud were obtained on MS medium supplemented with NAA and BAP. Organogenesis from callus have been achieved. However, a commercially viable tissue culture protocols are not yet available.

1.11 Hybridization in Jatropha curcas

- The hybridization programme between J.curcas x J.multifida and J.curcas x J.integerima has successfully been initiated and two inter specific hybrids have been developed. TNAU has collected 10 species of Jatropha and developed about 2500 inter specific hybrids of above combinations. J.curcas x J.integerima has more number of hybrids as compared to J.curcas x J.multifida. Good yield in hybrids having 45 days interval between fruiting and maturity, photo-insensitive, non-synchronization etc. have been observed in the trial. The first generation hybrids of J.curcas x J.integerima have undergone two generations of back crossing to produce BC_1F_1 and BC_2F_1 which have already been planted in the field. A wide variation in morphological characteristic i.e leaf shape, leaf base and leaf margin etc. have been recorded. The centre is also developing, dwarf hybrids of Jatropha for convenient harvesting. He informed that 30% poly-embryony (2 seedlings from each seed) has also been observed in case of Jatropha.

- The inter and intra-specific crosses were attempted. All the five species of Jatropha were crossed in all possible combinations. The preliminary results of this study showed that four species viz. Jatropha curcas, J.gossyifolia, J.multifida and J.podagrica were found cross incompatible to each other. However, the crosses ere successful when J.multifida was used as male (♂) and J.Curcas as female (♀) parent. A strong reciprocal compatibility was also found between J.curcas and J.integerrima and successful hybrid plants were raised.

1.12. Awareness programmes:-

- Trainers Trainings:-32
- Farmers Trainings:-74

1.13. Publications published by research institutions:-

Jatropha

Regional Languages	: 6 (Gujrati, Punjabi, Tamil, Telugu, Marathi, Oriya)
Hindi	: 15
English	: 6

Karanja

Regional Languages	: 2 (Tamil and Kannada)
Hindi	: 1
English	: 1

Other findings

Jatropha

- Jatropha is highly sensitive to frost and could not tolerate – 3^0C temperature for survival. However, potential plants sprouted again with the increase of temperature during February.
- The economical yield is being obtained in the areas having annual rainfall between 500 to 1200 mm.
  The sub-culturing interval was attempted for once in every 13 days irrespective of the culture conditions. Among various media tested, the MS media containing 3 mg/l IBA coupled with 5 g activated charcoal gave early rooting. The studies related to mass multiplication and hardening are in progress.

MPUA&T, Udaipur The experiments carried out on various issues i.e. Regeneration through leaf discs of two years old plant, Induction of shooting through bud culture (MS media), Induction of shooting through bud culture (Wood media), Induction of shooting through shoot tip culture, Induction of shooting through apical bud, Regenerating through hypocotyls & Induction of somatic embryogenesis but success could be achieved.

Recommendation (Sl. No. 21, Para No.3.21)

The Committee note that the Government of Andhra Pradesh is implementing the bio-diesel programme through Public-Private Partnership (PPP) Model with the involvement of entrepreneurs. Through the said programme, the State Government is facilitating identification and allotment of areas, providing assistance for raising plantations and post-harvest activities, making a buy back arrangement for entrepreneurs and giving certain other incentives/assistance to farmers and entrepreneurs. The Committee appreciate the efforts made by the Government of Andhra Pradesh. They desire that the Government should encourage other State Governments to launch similar projects in their respective States.

The Committee also note that the bio-diesel programme in the State of Andhra Pradesh has been integrated into the National Rural Employment Guarantee Programme (NREGP). They desire the Government to impress upon other State Governments to explore the possibility of integrating the bio-diesel programme in their States with the NREGP as the same can take care of the constraints of funds required for the programme.

REPLY OF THE GOVERNMENT

Under the National Mission on Bio-diesel, it is envisaged that all State Governments will be encouraged to set up autonomous nodal agencies to facilitate large-scale Jatropha plantations and related activities. These nodal agencies would be encouraged to promote public-private partnership in bio-diesel production on the lines of efforts made by the government of Andhra Pradesh. In fact, such PPP models are also in vogue in States like Chhattisgarh, Uttrakhand, Madhya Pradesh, Rajasthan Assam and Tripura.

Regarding dovetailing NREGA support for Jatropha plantation, Several States have already been utilizing NREGA funds for meeting the labour component of Jatropha cultivation. The Department of Land Resources, on its part, is encouraging State Governments to dovetail Jatropha cultivation in the

afforestation component of the area development programmes like the IWDP, DPAP and DDP.

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Recommendation (Sl. No. 24, Para No.3.24)

The Committee find that out of 13 CBM blocks awarded in the first two rounds and 3 clocks on nomination bases, ONGC was awarded 9 blocks, either exclusively or in consortium with other companies. However, in the third round of bidding in which 10 blocks were awarded ONGC could not be awarded a single block. Almost all the blocks have been awarded to private companies. The Committee desire the PSU companies, particularly ONGC, to make an in-depth analysis of the reasons for their failure to obtain CBM block and improve their performance in future.

REPLY OF THE GOVERNMENT

ONGC was asked to submit a report/in-depth analysis on this recommendation. The comments of ONGC are as follows:

"In the third round of bidding, out of 10 Blocks on offer, ONGC submitted bid for 5 blocks only based on the techno economic evaluations. As ONGC did not get any of the Blocks for which bids were submitted, analysis carried out revealed-

1. Shortfall of score on account of no CBM production in the last three years, except test flow. It has been found that Indian companies having CBM acreage have reported flaring of gas as 'production'. With the same analogy, ONGC is producing CBM gas since 1997.

2. Shortfall of score on account of work programme due to rational optimization of time.

3. All of the companies have saturated the physical work programme score as was also done by ONGC. However, unlike ONGC they have aggressively reduced time to obtain full score.

4. The fiscal packages offered by majority of the Companies have been exceptionally aggressive.

5. It may not be out of place to mention that the fiscal packages offered by RIL and ONGC were comparable of which the ONGC's packages were marginally superior in all common Blocks.

6. Although new Indian players in the field lack Technical capability, the same was compensated by forming strategic alliances with foreign operators with minor PI.

7. As per classification of coalfields, the present Blocks fall in low rank Category for which such aggressive bidding was totally unexpected, and defies logic.

However, based upon the lessons learnt by ONGC from this round, ONGC shall be adapting its bidding strategy in the forthcoming rounds."

In the second CBM bidding round (CBM –II), GAIL has participated by submitting bids in 2 blocks. However GAIL's bid was not successful.

In the third CBM exploration round (CBM-III), GAIL's consortia had submitted bids against seven CBM blocks out of which three blocks were awarded to them.

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Recommendation (Sl. No.25, Para No.3.25)

The Committee have learnt from Press reports that the plans of ONGC to start production this year from its CBM block in Jharkhand have suffered a delay of two years because of problems relating to land acquisition. The Committee would like to know the factual position in this regard. The Committee would also like to know the progress made in the production of CBM in the various CBM blocks awarded so far.

REPLY OF THE GOVERNMENT

M/s. Arrow led consortium, in which GAIL is one of the partners, was awarded two CBM blocks in Chhattisgarh and one CBM block in Jharkhand under the third CBM bidding round. CBM contracts were signed on the 7th November, 2006 and applications for PEL submitted to the respective State Government in June, 2007. However, PEL in respect of these blocks are yet to be received from the Concerned State Governments. In the meantime, the consortium has started geological mapping to identify the core hole locations in all the three blocks. The consortium has plans for core hole drilling immediately after grant of PEL for the respective blocks.

The factual position relating to land acquisition in respect of blocks awarded to ONGC are as under:

"With similar analogy of flowing CBM gas can be construed as producing CBM gas, ONGC has been producing CBM gas since the first "Technology Demonstration" of CBM gas production in first well of Jharia Block, Jharia#1 in 1997. ONGC is still producing restricted amount of CBM gas which is being used for Captive Power Generation and stopped flaring of this invaluable & non-renewable energy resource.

Further, to avoid FLARING of produced CBM gas during production testing / de-watering phase, ONGC has recently made a unique effort to sale such a low quantity of gas about 5000 SCMD to about 20,000 SCMD depending on the well(s) potential – this would eliminate flaring & earn revenue while generating all essentially required production data to assess potentials.

It is expected that this effort, considering ground realities in & around the area of Parbatpur, Jharia Block, would fructify within financial year 2008-09.

2. In order to commence trial commercial production of CBM from the awarded Blocks, ONGC planned a Pilot Development CBM Project in the Central Part of Parbatpur area in Jharia Block through drilling of 14 hi-tech horizontal wells and for its execution awarded an Integrated Turnkey Contract to a consortium led by M/s Express Drilling Systems of USA. The contract was awarded on 19.5.2006.

However due to non-availability of land for requisite drill sites as well as for Gas collecting Station (GCS) drilling work and erection of GCS could not commence. After a lot of efforts, ONGC, either through District Administration or through direct outright purchase, could acquire the requisite land including that for GCS, and hand over to the contractor.

Problems of acquiring land were further compounded due to award of the same area to M/s Electrosteel Casting Limited (ECL) by Ministry of Coal for coal mining. On raising this issue at the Ministry Level, both ONGC and ECL were advised to work in harmonious manner for simultaneous exploitation of CBM and Coal. During this period, District Administration did not take any action on requests of ONGC for acquisition of land.

Drilling operations having commenced on 28.11.2007 and land for GCS being available, commercial production of CBM from this area is now envisaged within financial year 2008-09.

Further, based on the encouraging results from 2 exploratory wells in this Block from the area outside Parbatpur, development schemes are under preparation to bring entire prospective area of Jharia Block under commercial production.

3. In Bokaro and North Karanpura Blocks, Exploration Phase is over and the Blocks are presently under Pilot phase (Phase-II). A total of 14 pilot wells will be drilled in these two Blocks during 2008-09 and 2009-10. Actions have already been initiated for preparing Development Schemes of these two Blocks.

4. Three Blocks- Raniganj, South Karanpura and North Karanpura (West) are under advanced stage of Exploration Phase activities. The available results are under processing to establish prospectivity.

5. Initial production testing results in Barmer-Sanchor CBM Block in Gujarat have indicated marginal prospectivity. The testing is in progress. A final view will be taken shortly based on conclusive production testing data.

6. Two Blocks, Wardha in Maharashtra and Satpura in M.P. have been relinquished by ONGC due to assessment of very poor prospectivity from drilling of boreholes during Exploration Phase.

Ministry of Petroleum & Natural Gas has also taken up matter with the State Government of Jharkhand for expeditious allocation of land.

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Recommendation (Sl. No. 26, Para No.3.26)

A number of plants using Shell Gasification Process are under execution in China. It appears that China has taken advantage of its vast coal reserves by taking timely action, while India has not been able to rise to the occasion in spite of having huge coal resources. The Committee have been informed that coal data from various sites in the States of Maharashtra, West Bengal, Jharkhand, Andhra Pradesh, Gujarat, Rajasthan and Tamil Nadu have been studied. On the basis of these studies, one site viz. Vastan Mine block in Surat, Gujarat has been found most suitable for Underground Coal Gasification (UCG) where further data generation for the design and execution of UCG pilot experimentation is in progress. The Committee have been informed that there are 5 other sites in West Bengal, Jharkhand, Andhra Pradesh, Gujarat and Rajasthan which can also have potential for setting up the plant. They desire that additional data from these sites may be gathered and gasification projects installed at different locations simultaneously.

REPLY OF THE GOVERNMENT

UCG is a potential economic means for extracting gas from deep seated and/or isolated coal deposits/ lignite resources, which may not be amenable to conventional physical extraction economically. As per the estimates of ONGC, the recoverable energy from Mehsana-Ahmedabad block with coal reserves of 63 billion tonnes in the form of gas is estimated to be equivalent to 15, 000 Billion Cubic Meters (BCM) of natural gas (which is many times the conventional gas resources of the country at present). Even if a fraction of this is realized, it will go a long way to meet our energy needs. That is why UCG needs more attention as it has tremendous potential and high rewards.

ONGC has studied the coal data of Yellandu coal mines from Singareni Collieries Company Limited for blending with Pet coke. The studies were carried

out by M/s Shell. It was found suitable in the first run. At Vastan coal block, after collecting additional data, the site is chosen for first UCG station. A pilot plant is ready. The pilot design is being commissioned from an institute by SIM, Russia. Parallel action is on for environmental clearance, mining lease, land acquisition, drilling contract with specialized rig (Inclined) etc. The pilot will commence in June 2009. Two more sites have been studied and found suitable one each in Gujarat and Rajasthan.

GAIL is in the process of signing a License Agreement on In-situ Lignite Gasification Technology with M/s Ergo Exergy Technologies Inc., Canada. The In-situ Lignite gasification project in Barmer, Rajasthan will be jointly evaluated with the Government of Rajasthan with whom GAIL has signed an MoU. The synthesis gas generated will be utilized to run a pilot Integrated Gasification Combined Cycle (IGCC) plant of 5 MW power capacities. The General Licence Agreement and Site selection and Pre-Feasibility of the project with Ergo Exergy is under finalization by GAIL.

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Recommendation (Sl. No. 33, Para No.3.33)

Solar energy is emerging as one of the new forms of energy. In the opinion of the Committee, large scale use of solar energy can go long way in meeting the rapidly increasing demand for energy. They, therefore, desire that the Government should consider setting up of an exclusive agency such as Solar Energy Commission/Authority on the lines of ISRO with a clearly defined mandate so that the programme can get the desired thrust. The Committee also desire that research and developmental activities in this area should be intensified to develop this vital source of sustainable and clean energy. For his purpose, specialized R&D centres in various States with the requisite infrastructure should be set up and adequate funds released to State Governments/educational institutions.

REPLY OF THE GOVERNMENT

The Ministry of New & Renewable Energy has been implementing research & development, demonstration, commercialization and utilization programmes on

solar energy. The solar energy technologies are being used for various application such as water heating, cooking, drying, lighting, pumping and power generation etc. The demonstration and commercial projects in the States are either being taken up through the State Nodal Agencies set up by the State Governments for promotion of renewable energy in their respective States or through financial institutions, for which financial incentives are provided by the Ministry. Since the initial cost of solar energy technologies is high, there is a special emphasis on research and development for improving the efficiency and reducing the cost of these technologies. The Ministry had identified the thrust areas of research for solar technologies/which have been posted on the web site of the Ministry. Research projects received from IITs and other academic institutions, research institution and industry in those areas, are considered by the Ministry for support. In view of above, it is felt that setting up of specialized R&D centres in various States is not required at this stage. The suggestion of the Committee for setting up Solar Energy Commission/ Authority on lines of ISRO is noted.

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CHAPTER III

RECOMMENDATIONS WHICH THE COMMITTEE DO NOT DESIRE TO PURSUE IN VIEW OF THE GOVERNMENT'S REPLIES

NIL

CHAPTER IV

RECOMMENDATIONS IN RESPECT OF WHICH REPLIES OF THE GOVERNMENT HAVE NOT BEEN ACCEPTED BY THE COMMITTEE

Recommendation (Sl. No. 5, Para No.3.5)

EBP programme has not been extended to the North – East, Jammu & Kashmir, Andaman & Nicobar Islands and Lakshadweep on the ground that these areas are geographically far off and that procurement and transportation of ethanol to these places is not cost-effective. Keeping in view the sensitivity of these areas, geographical or other wise, the Committee desire that the Government should consider the feasibility of introducing a freight subsidy scheme for these areas and kick-start the programme at these places at the earliest.

REPLY OF THE GOVERNMENT

The implementation of Ethanol Blended Petrol (EBP) programme in North – East, Jammu & Kashmir, Andaman & Nicobar Islands and Lakshadweep is not feasible due to certain logistics problems at present. In future ones the programme is well established, it can be extended to all parts of the country. It is not feasible to introduce freight subsidy scheme. The EBP programme is dependent on commercial viability of procuring ethanol.

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Comments of the Committee

(Please see para 10 of Chapter-I of the Report)

Recommendation (Sl. No. 9, Para No.3.9)

The Committee are concerned to note that private companies, engaged in the sale of petroleum products, are not marketing EBP as the same has not been made obligatory on their part. They are of the opinion that since the EBP programme has been launched by the Government to reduce dependence on imported oil by encouraging the use of indigenous sources of energy, it should be made mandatory for the private companies also to implement the scheme.

REPLY OF THE GOVERNMENT

MoP&NG vide Gazette Notification No. GSR 644 (E) dated 12.09.2002 mandated marketing of 5% Ethanol Blended Petrol (EBP) w.e.f. 01.01.2003 in 9 States viz, Maharashtra, Gujarat, Goa, Uttar Pradesh, Haryana, Punjab, Karnataka, Andhra Pradesh & Tamil Nadu, and in 4 Union Territories, viz. Daman Diu, Dadra and Nagar Haveli, Chandigarh & Pondicherry.

Further MoP&NG Vide Gazette Notification No. G.S.R. 580 (E) dated 20.9.2006 directed that subject to commercial viability oil marketing companies w.e.f. 01.11.2006 shall sell 5% EBP in 20 States and 4 Union Territories i.e. the EBP programme was extended, in addition to the existing 10 States & 4 Union Territories, in 10 more States, viz. Delhi, Himachal Pradesh, Rajasthan, Bihar, Jharkhand, West Bengal, Orissa, Madhya Pradesh, Chhattisgarh & Kerala. The proposal to make EBP mandatory for the private companies would be considered after the present programme gets stabilized.

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Comments of the Committee

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

Recommendation (Sl. No. 13, Para No.3.13)

The Ministry of Petroleum & Natural Gas had formulated a Bio-diesel Purchase Policy in October 2005, effective 1.1.2006 which is a statement of intent of purhase of bio-diesel by the oil marketing companies. This policy identifies 20 purchase centres of the public sector oil marketing companies (OMCs) all over the country where these companies would purchse bio-diesel which meets the standards prescribed by the Bureau of Indian Standards (BIS), from those bio-diesel manufacturers who register with them after satisfying the technical specifications. The Committee are unhappy to note that no party has registered in any of the 20 purchase centres of bio-diesel so far. As a result, marketing of blended diesel has not yet commenced. The Committee desire the Government to attach utmost importance to the programme and establish a more effective market linkage. They also desire the bio-diesel industry should be given infrastructure

status for the faster growth of this industry. Besides, the Committee further desire that adequate financial incentives, including tax incentives should be extended to biofuels, especially during the initial phase so as to ensure their optimum growth in the country. The Committee also desire that in addition to other incentives, low interest rate loans from nationalised banks should also be made available to farmers which would encourage them to go in for bio-diesel plantation.

REPLY OF THE GOVERNMENT

No bio-diesel supplier has expressed interest to supply bio-diesel to oil PSU's at any of the 20 collection centres across the country. However HPCL is ready to buy the product as and when available at the Government announced price at any of its 5 collection centres as per Bio-diesel Purchase Policy.

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Comments of the Committee

(Please see para 19 of Chapter-I of the Report)

Recommendation (Sl. No. 16, Para No.3.16)

As per the projection of National Oil seeds and Vegetable Oils Development Board (NOVOD), the total area in the country under Jatropha Plantation upto 2008-09 would go up to 31,17,000 hectare from 5,60,000 hectare in 2006-07. In the opinion of the Committee to convert the projection into reality a simplified procedure should be followed for the release of the Government land for the purpose of Jatropha/Pongamia plantation. The Committee, therefore, desire the Government to ask State Governments to make the release of land hassle-free for the purpose of Jatropha/Pongamia plantation.

REPLY OF THE GOVERNMENT

Regarding the release of Government land for the purpose of Jathropa/Pongamia plantation, consultations were held with State Governments on 10.8.2005 by M/o Rural Development and State governments identified an area

of 17.17 lakh hectares of waste land for the purpose of Jathropa/Pongamia plantations. State-wise details are given in the table below.

Table: STATE-WISE AREA IDENTIFIED FOR JATROPHA PLANTATIONS

(As emerged in the meeting of the State Forest and Panchayati Raj Secretaries in August 2005)

Sl. NO.	STATE	FOREST AREA	PANCHYAT AREA	TOTAL
1	Andhra Pradesh	15000	160000	175000
2	Assam	25000	-	25000
3	Bihar	50000	-	50000
4	Chhattisgarh	50000	51400	101400
5	Gujarat	49800	-	49800
6	Haryana	50000	-	50000
7.	Jharkhand	6600	65400	72000
8.	Karnataka	-	500000	500000
9	Madhya Pradesh	-	53000	53000
10	Mizoram	14000	12000	26000
11	Rajasthan	60000	-	60000
12	Sikkim	5000	-	5000
13	Tamil Nadu	50000	-	50000
14	Uttrakhand	500000	-	500000
	Total	875400	841800	1717200

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Comments of the Committee

(Please see para 22 of Chapter-I of the Report)

Recommendation (Sl. No. 17, Para No.3.17)

The Committee have been informed that IOCL, HPCL and BPCL are undertaking R&D studies on alternative sources of energy. They desire that certain percentage of their expenditure on R&D should be earmarked to cover the scientific and technical research in the area of alternative fuels. They further

recommend that an exclusive cell should also be created in the Ministry to continuously review and monitor the R&D activities of the companies/agencies in the field of alternative fuels.

REPLY OF THE GOVERNMENT

HPCL has installed a Pilot Plant at R&D centre, Vashi for evaluating feed stocks for bio-diesel & optimization of process parameters & catalysts.

HPCL has taken various R&D initiatives to establish Bio-diesel and the first step in this direction was the extensive field trail of Bio-diesel (B5, B 10 & B20 blends) on 25 buses of Brihanmumbai Electric Supply & Transport (BEST) at Mumbai. Followed by his another joint field trial with MICO, Bangalore to evaluate the Fuel Injection System with B 10 blend. The trial is in progress.

HPCL along with DST, Energy companies, Oil/Gas companies, CSIR & Research Institutions is also a member of the ongoing Hydrogen program (NHEB) of MNES.

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Comments of the Committee

(Please see para 25 of Chapter-I of the Report)

Recommendation (Sl. No. 31, Para No.3.31)

The Ministry of New and Renewable Energy has informed that it has been supporting a broad based research, development and demonstration programme on different aspects of hydrogen and fuel cell technologies, including production, storage and utilization of hydrogen as a fuel. The Committee have noted that the Ministry of Petroleum and Natural Gas has set up a Hydrogen Corpus Fund with a corpus of Rs. 100 crore for supporting research and development in various aspects of hydrogen. Besides, a roadmap has been set up by IOC (R&D) for the hydrogen research project, for hydrogen production, dispensing, storage application and its utilization in scooters, three-wheelers and buses. The Committee feel that clean fuels like hydrogen would greatly help in reducing carbon emissions. Therefore, they recommend that concerted efforts should be

put into such research which would lead to development of path-breaking technologies in the field. The Committee further recommend that sincere efforts should be made to coordinate and bring together the agencies engaged in studying the various aspects of hydrogen which can lead to important breakthroughs. They also desire the Ministry of Petroleum & Natural Gas to be made the nodal Ministry for various aspects of hydrogen including coordination and monitoring of activities of the agencies involved. The Committee further recommend that the Government should keep a track of the developments made in other countries like USA, UK, Germany, Japan, etc. where several demonstration projects on hydrogen have been taken up. Besides, they also desire that as and when international standers and cods for hydrogen systems are developed, the national standards should by synchronized with the same.

REPLY OF THE GOVERNMENT

GAIL is in discussion with M/s Eden Energy and Mahanagar Gas Limited (MGL), Mumbai for Hythane Pilot project which is proposed to be implemented by MGL. Finalization of MoU between GAIL, MGL and Eden Energy is under progress.

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Comments of the Committee

(Please see para 28 of Chapter-I of the Report)

Recommendation (Sl. No. 32, Para No.3.32)

The Committee have been informed that the production of hydrogen based on renewable or nuclear energy, though suitable, is not cost – effective. However, its production through steam reforming of natural gas/naptha is cost-effective. They have also been informed that IOC has set up a hydrogen – CNG dispensing station at its R&D Centre at Faridabad and that trials are being conducted on a passenger car and three wheelers using upto 10% hydrogen blended in CNG without doing any engine modification. The Committee have also been informed that no operational problem has since been encountered during the trials, though there has been some power loss with hydrogen-CNG lends which can be compensated by modifications in the engine. The Committee desire the Government/IOC to conduct trials on other types of vehicles using 10% hydrogen-

CNG blend. The Committee further desire that in the initial year, the Government should give incentives/subsidy on hydrogen for its use of the transportation purpose.

REPLY OF THE GOVERNMENT

GAIL is in discussion with M/s Eden Energy and Mahanagar Gas Limited (MGL), Mumbai for Hythane Pilot project which is proposed to be implemented by MGL. Finalization of MoU between GAIL, MGL and Eden Energy is under progress.

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Comments of the Committee

(Please see para 31 of Chapter-I of the Report)

CHAPTER V

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

Recommendation (Sl. No. 2, Para No.3.2)

The Government introduced the scheme of mandatory supply of 5% ethanol blended petrol in 9 major sugar producing States and 4 contiguous Union Territories w.e.f. 1.1.2003 which was extended to the whole country w.e.f. 1.11.2006 except in the North –Eastern States, J&K, Andaman & Nicobar Islands and Lakshadweep. The Committee have been informed that the implementation of 5% EBP in the notified areas would require 0.56 million KL of ethanol per annum. They, however, note with displeasure that there is no reliable assessment of the total availability of ethanol in the country, various industrial associations dealing with alcohol/ethanol, viz. Indian Sugar Mills Association (ISMA), All India Distillers Association (AIDA), Indian Chemicals Manufacturers Association (ICMA), etc. have been making varying projections about the availability of ethanol in the country. Since proper assessment is essential so as to firm up the future policy and planning on the issue, the Committee recommend that the Government should make its own independent assessment of the indigenous availability of ethanol in the country on a priority basis and complete this exercise in a time bound manner.

REPLY OF THE GOVERNMENT

As regards the assessment of indigenous availability of ethanol in the country it may be mentioned that on an average production of molasses by sugar factories is taken as about 45% of the sugar production. At Present ethanol is manufactured in India primarily from molasses generated by the sugar industry. Considering the production of sugar during the sugar season 2006-07 of 280 lakh tons, the molasses production would be about 12.6 millions tons (at 45% of the sugar production). As per the sugar industry standards, an average of about 250 litres of ethanol are produced from 1 ton of molasses. Considering a production of 12.6 million tons of molasses it is estimated that ethanol to the tune of over 3150

million litres could have been produced by the sugar industry alone. However, the molasses from the sugar industry is used to produce rectified spirit and alcohol which are used as raw material for production of not only ethanol but also potable alcohol and for the chemical industry. As per the estimates of Planning Commission made in 2003-04, the consumption of alcohol by the three sectors in 2006-07 was projected as follows:-

Potable Alcohol	765 million litres
Industrial (Chemical)	711 million litres
Ethanol blending at 5%	593 million litres
Total	2069 million litres

Sugarcane and sugar production during 2007-08 sugar season are estimated to be at the same level as that of 2006-07 and, therefore, the availability of alcohol and ethanol would be as mentioned above. Since about 3000 million litres of alcohol/ethanol would be available and the demand from potable alcohol sector and chemical industry is to the tune of 1476 million litres, it is expected that there will be adequate availability of ethanol for blending 10% of ethanol with petrol.

Further, in order to ensure that adequate quantities of ethaol are supplied by the sugar industry, the Central government has approved conversion of sugarcane juice directly into ethanol. Therefore, in addition to the traditionally used raw material, viz molasses for production of ethanol, the country can now produce ethanol directly from sugarcane juice also, if the market conditions are favorable for such conversion. It is expected that with this permission to convert sugarcane juice directly to ethanol, there is an alternative raw material which can be used to supplement the production of ethanol, traditionally produced from molasses.

It has also been decided to reduce the customs duty on denatured alcohol from 7.5% to 5% and on molasses from 10% to 5%, once the 5% mandatory

ethanol blending is implemented, to ensure adequate availability of alcohol/ethanol in case of any shortage from domestic supplies.

The above statistics and estimates have been given for production of alcohol and ethanol by the sugar industry alone from sugarcane or its products. There are other producers like Khandsari which also use sugarcane, whose molasses will give additional alcohol/ethanol. Estimates regarding alternative source of production of ethanol are not available with this Department. However, this recommendation is sent to Department of Chemicals & Petrochemicals for action.

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Comments of the Committee

(Please see para 7 of Chapter-I of the Report)

Recommendation (Sl. No. 3, Para No.3.3)

The Committee are unhappy to note that the state taxation issue is proving to be one of the major roadblocks in the successful implementation of the Ethanol Blended Petrol Programme. The State Governments have been imposing a lot of licensing and procedural requirements on the units producing industrial alcohol, besides, levying a plethora of taxes and restricting inter-State movement of the product. Besides, there is no uniformity in the nature of licensing requirement and taxes imposed by the States. The Committee find that the procurement cost payable by OMCs increase phenomenally because of imposition of these taxes by the State Governments. Similarly, restriction on inter-State movement of ethanol becomes detrimental to the EBP programme. The Committee, therefore, strongly feel that there is an urgent need to effect a substantial reduction in the number and amount of taxes/duties levied on ethanol. They also desire that the 'the Central Government should seriously take up the matter with the State Governments so that these taxes/duties are rationalized and made uniform throughout the country. The Committee also feel that hassle-free inter-State movement of ethanol should be allowed so that surplus stocks in some States can be fed to the deficient States which would ultimately obviate the need to go in for import of ethanol.

REPLY OF THE GOVERNMENT

In order to ensure unrestricted movement of ethanol amongst States as well as within the State and at the same time also ensure that the State Governments do not impose unreasonable taxes and duties on ethanol, a proposal is under consideration with the Government to include “denatured alcohol of minimum 99% strength” in the “List of goods of special importance” in the Central Sales Tax Act. Discussions in this regard have been held with Ministry of Law and Ministry of Finance who have agreed that as per the Schedule VII of the Indian Constitution ethanol as a commodity does not fall under the purview of the States and, therefore, imposition of taxes and duties and powers to regulate movement of denatured ethanol would not be under the jurisdiction of the State laws. However, this step of inclusion of ‘denatured alcohol of minimum 99% strength ‘ in the ‘list of goods of special importance” in the CST Act would affect the revenues of the State Government.

The Department of Food & Public Distribution made a proposal to the Ministry of Finance relating to the formulation of policy for promotion of ethanol as a bio-fuel on their part and to include ethanol in the list of "declared goods" (or) "goods of special importance" which would serve the objective of levy of Sales Tax / VAT by States at a rate not exceeding 4%. An Empowered Committee of State Finance Ministers had been constituted to deliberate on matters relating to Sales Tax systems in the States, including the switchover to Value Added Taxation based system in place of the earlier sales tax systems. As inclusion of ethanol in the list of declared goods would have revenue implications for the States, the proposal was forwarded to the Empowered Committee of State Finance Ministers for consideration. Ministry of Finance has indicated that it may not be feasible to carry out any amendment in the Central Sales Tax Act 1956, if the same is opposed by the States.

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Recommendation (Sl. No. 7, Para No.3.7)

The Committee are distressed to note that through the Government had signed an MOU with Brazil in 2002 for sharing of the technology for blending ethanol with petrol and provide related aspects of technology, no major head way seems to have been made in this regard in five years except appointment of a Consultant whose findings are stated to be under examination. In the opinion of Committee, this is indicative of lack of willingness and inaction on the part of the Government in the matter. They desire the Government to pull up its socks and act in the mater with all seriousness without further loss of time, The Committee also desire that Oil PSUs should evaluate the possibility of acquiring sugarcane acreages in Brazil and putting up ethanol manufacturing units for bringing ethanol to India. The further desire the technology being adopted in the countries where EBP is being successfully used should be studied. Alliance with these countries may also be forged for investment and technology adoption.

REPLY OF THE GOVERNMENT

A team of BPCL visited Brazil in September 2006 to explore the possibilities of acquiring sugarcane acreage and putting up ethanol manufacturing units in Brazil. The team's report was discussed during the meeting of Monitoring Committee of Ethanol on 15.11.2006 chaired by Secretary, P&NG, when it was decided that following action be taken by the Industry with BPCL as the coordinator:

i. Feasibility study for Ethanol operations in/from Brazil: the experience of private companies including Reliance Industries may be shared.

ii. Industry task force comprising of all three Oil PSUs VIZ BPC/IOC/HPC to be constituted to finalize the various related modalities.

iii. The Ethanol project in Brazil may be implemented by forming a joint venture with public sector oil marketing companies, viz, IOC, BPCL and HPCL (with equal shares) and a local partner engaged in the sugar/ethanol industry.

Based on the above, an industry task force comprising of the three PSU OMCs i.e. BPC, IOC & HPC was formed in December, 2006 and a feasibility study for ethanol investment in Brazil was commissioned in January 2007 for which report was finalized in May 2007. The consultant concluded in their feasibility report that Ethanol investments in Brazil are feasible, attractive, and highly strategic for Indian Oil Industry. The major findings of the Feasibility Study interalia are as under:

i. Brazil is highly suited for ethanol investments due to its leadership in ethanol production driven by structural advantages like ideal weather, soil & water conditions for sugar cane growing, abundant availability of arable land, improved productivity & technology in ethanol/sugar industry and also the high domestic demand for fuel ethanol.

ii. The recommended investment strategy comprising of a mix of Greenfield & Acquisition investments delivers most attractive financial pay offs.

A presentation on the “finalization of Feasibility Study for Ethanol Investments in Brazil” was made to MOP&NG on 17.7.2007. MOP&NG directed that the Oil Industry should prospect in ethanol acreage in Brazil like oil & gas, but the oil industry should not look at it with a view to import ethanol into India, keeping in view the interest of Indian farmers. Hence, the oil industry should look at ethanol investments only from the point of view of sale in Brazil and exports to third countries.

Oil Industry team subsequently carried out a Partner Search Study in November 2007 to identify suitable local partners in Brazil. Following the discussions held with top partnership candidates as identified in the study, broad MOUs were signed subject to due diligence, valuation and definite agreements to be agreed later.

Oil Industry is presently considering investments in ethanol capacity in Brazil with an initial capacity of 500 million liters with an estimated initial investment of about US $600 million subject to price negotiations by PSU OMCs viz. BPC, IOC& HPC, entailing ownership/leasing of land acreages, production units and related infrastructure along with suitable partner (s) having local operations in Brazil. However, there investments will be subject to Government approval.

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Recommendation (Sl. No. 8, Para No.3.8)

Some of the Petroleum Dealers Associations like the Gujarat Petrol and Diesel Dealers Association, Punjab Petroleum Dealers Association, Haryana Petroleum Dealers Association and Federation of All India Petroleum Traders have expressed their concerns associated with the EBP such as starting trouble, excessive moisture in the tanks, corrosion of pipes, improper mixing of ethanol with petrol, etc. The Ministry admitted before the Committee that there are issues and problems with EBP scheme which are being sorted out. The Committee desire that an in-depth analysis of the problems voiced by dealers should be made and remedial measures taken at the earliest so that EBP gains the confidence and acceptability of customers. The Committee further desire that Customer Satisfaction Surveys should be regularly undertaken by Oil PSUs to obtain the much needed customer feedback/satisfaction on the EBP. The Government should also take steps to give enough publicity to educate people about the benefits of EBP.

REPLY OF THE GOVERNMENT

Initially, representations were received from few Dealers Association like 'Gujarat Petrol and Diesel Dealers Association', Punjab Petroleum Dealers Association, Haryana Petroleum Dealers Association & FAIPT regarding quality issues. The complaints were restricted to few pockets only and were regarding malfunctioning of their vehicles (mainly 2 – Wheelers). The findings indicated that the problem was connected to carburetor float pin in certain market in 2 –

wheelers, which was due to incompatible rubber parts used in the vehicles. Industry had advised the automobile manufacturers to use spares coming in contract with fuel must be compatible with EBP.

The problem was also noticed in certain cases due to presence of water traces in the petrol tank of the vehicles. It was observed that if the fuel tank lid is not tight enough or defective the moisture may enter and absorbed by the fuel (Ethanol Blended Petrol) due to hygroscopic nature. When the concentration of moisture absorbed by EBP exceeds a critical limit, water can be separated out at the bottom of fuel tank in extreme cases. However, the presence of water will not cause seizure of the engine but stop the engine temporarily.

Blending of petrol with ethanol is carried out through online blending facility installed at out locations so as to ensure uniform blending of petrol with ethanol and to ensure correct ethanol quantity, metering units have been provided at the locations.

Ethanol is completely miscible in petrol. Layer separation in EBP is possible only in the presence of excess water. If the retails outlet tank is well maintained in terms of avoiding ingress of water, ethanol will not separate from EBP.

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Comments of the Committee

(Please see para 13 of Chapter-I of the Report)

Recommendation (Sl. No. 10, Para No.3.10)

The Committee note that the Planning Commission has set up a Committee on Development of Biofuel which submitted its Report in April, 2003. The main recommendations in the Report inter alia include launching of a National Mission on Bio-diesel with special focus on plantation of Jatropha curcas. They regret to note that even after a lapse of more than four years, clearance from CCEA for starting the Mission has not yet been obtained. The Committee recommend that the National Mission on Bio-diesel should be launched within a definite time frame so that vast wastelands are Utilised for cultivation of Jatropha curcas in a

systematic and time bound manner. They also desire that the National Biofuel Policy should be formulated at the earliest. The Committee may be apprised of the progress made in this regard at regular intervals.

REPLY OF THE GOVERNMENT

The proposal for launching the Demonstration Phase of the National Mission on Bio-Diesel was processed through the Expenditure Finance Committee (EFC) at its meeting held on 9th October 2006. Subsequently, the proposal was referred to the Group of Ministers (GOM) for further examination and recommendation. Efforts are being made to launch the Demonstration phase of the National Mission on Bio-diesel immediately after obtaining the recommendations of the GoM and the CCEA clearance. This proposal is being dealt with by the Ministry of Rural Development.

[M/o Petroleum & Natural Gas
O.M. No. P-39018/2/2007-CC (Part) dated 16-07-2008]

Recommendation (Sl. No. 11, Para No.3.11)

The Committee learn that some States like Chhattisgarh, Uttranchal and Rajasthan have set up boards for development of bio-fuels in their States. They desire the Government to impress upon other States to set up such boards which would give a fillip to the development of bio-fuels in the country. The Committee also desire that the Government should expeditiously set up the National Board for Development of Bio-fuels.

REPLY OF THE GOVERNMENT

Presently, the promotion of bio-fuels particularly, bio-diesel in India is in nascent stage, Many State Governments have taken initiatives for production of bio-fuels particularly, bio-diesel. The Ministry of New & Renewable Energy have requested the States in November, 2007 to designate one specific agency by each State for promoting the production and utilization of Bio-fuels and also the States have been requested to nominate a senior officer to hold Review Meetings at periodic intervals. The States have also been requested to send a complete status paper on the steps taken in the area of Bio-fuels. The suggestion of the Standing

committee for setting up boards by the States is noted. The proposal of the Ministry of New & Renewable Energy for setting up of National Bio-fuel Development Board is under consideration of the Government of India.

[M/o Petroleum & Natural Gas
O.M. No. P-39018/2/2007-CC (Part) dated 16-07-2008]

Recommendation (Sl. No. 12, Para No.3.12)

The Committee note that a number of Ministries/Departments have been assigned different aspects pertaining to bio-diesel production such as development of elite plant material, Jatropha cultivation, seed collection, oil extraction, trans-esterification, standardization , marketing, etc. These Ministries/Departments include the Ministry of Rural Development, Department of Agriculture and Cooperation, Department of Agriculture Research and Education, Ministry of New & Renewable Energy and Ministry of Petroleum & Natural Gas. The Ministry of Rural Development has been made the nodal Ministry. In the opinion of the Committee, the diverse activities involved in the Bio-diesel programme need proper consideration and monitoring. They, therefore, recommend that an exclusive cell should be set up within the Prime Minister's Office (PMO) to monitor the activities of the concerned Ministries. This cell should be assigned mandate of ensuring the successful and large scale implementation of the programme, adequate/optimum utilization of allocations for the programme, regular review of progress of R&D, progress of plantations in States, etc.

Further, the Committee feel that work allocation to the Ministries/Departments need to be re-examined. They desire that the Ministry of Petroleum & Natural Gas should be assigned additional responsibility like facilitating cultivation of Jatropha/Pongamia since this Ministry, with several navartna PSUs under its administrative control, would be better equipped to handle the job.

REPLY OF THE GOVERNMENT

The Cabinet Note of Ministry of New & Renewable Energy on Bio-fuel and its implementation and setting up of 'National Bio-fuel Development Board' and Cabinet Note of Ministry of Rural Development on 'National Mission' on Bio-diesel' are under consideration of the Cabinet. Regarding allocation of additional responsibilities with MoP&NG like facilitating cultivation of Jatropha/Pongamia, it is submitted that Oil PSUs have no expertise. Some PSUs have tie up with stakeholders and they are making efforts in this direction.

[M/o Petroleum & Natural Gas
O.M. No. P-39018/2/2007-CC (Part) dated 16-07-2008]

Recommendation (Sl. No. 19, Para No.3.19)

The Committee are unhappy to note that studies have not been carried out to find out the environmental impact of large-scale cultivation of Jatropha curcas, Pongamia, etc. The Secretary, Ministry of Petroleum & Natural Gas had stated during evidence that extensive cultivation of bio-diesel might lead to the danger of mono cropping which cannot be overlooked. This might have serious environmental implications apart from the ramifications of soil fertility, etc. The committee recommend that scientific research should be carried out to find out the environmental impact, if any, of large-scale plantation of such trees. Besides, the Government should also endeavor to obtain the environmental feedback from countries where large-scale Jatropha cultivation has been done.

REPLY OF THE GOVERNMENT

The Ministry of New & Renewable Entry has taken note of the concern expressed by the Hon'ble Committee regarding possible environmental impact and danger of monocropping from large-scale cultivation of trees bearing non-edible oil seeds such as Jatropha curcas, Pongamia etc. The Ministry will bring this to the attention of concerned Ministries engaged in scientific research relating to these aspects of bio-fuels.

[M/o Petroleum & Natural Gas
O.M. No. P-39018/2/2007-CC (Part) dated 16-07-2008]

Recommendation (Sl. No. 22, Para No.3.22)

The Committee feel that the information about Bio-fuel technologies, improved seed varieties, oil production, usages, etc. should be made available to the public. However, they are unhappy to note that there is no proposal to set up an Information Centre for Bio-fuels in the Ministry of New & Renewable Energy. The Committee desire that booklets/broachers containing detailed information about Bio-fuels technologies, improved seed varieties, oil production, usages, etc. should be prepared at the earliest and made available free of cost to the public.

REPLY OF THE GOVERNMENT

The Government of India has given responsibilities to different concerned Ministries to deal with various aspects of the subject of bio-fules. The National Bio-fuel Development Board proposed to be set up would be providing overall coordination, effective end to end implementation and monitoring of the bio-fuels programme on a regular and continuing basis. Many activities including National Information Network are proposed to be supported by the National Bio-fuel Development board, once it is approved by the Government of India and after it is set up by Ministry of New & Renewable Energy.

[M/o Petroleum & Natural Gas
O.M. No. P-39018/2/2007-CC (Part) dated 16-07-2008]

Recommendation (Sl. No. 23, Para No.3.23)

India has an estimated 2600-3300 BCM of Coal Bed Methane (CBM) resources. The Committee are concerned to note that the total CBM reserves in the awarded blokes are estimated to be 1400 BCM with the production potential of merely 38 MMSCMD which shows that maximum CBM resources still remain to be tapped. The Committee, therefore, desire that the number of blocks awarded under bidding rounds should be substantially increased. They urge the Government to make an earnest effort to award more number of blocks at one go, instead of awarding just 5/10 blocks in a round.

REPLY OF THE GOVERNMENT

The Ministry of Petroleum & Natural Gas intends to offer maximum number of blocks in the next round of CBM i.e. CBM-IV. The Ministry has taken up the matter with Ministry of Coal for offering blocks under fourth round of CBM. As soon as the clearance is received from Ministry of Coal, the blocks will be offered under International Bidding Process.

[M/o Petroleum & Natural Gas
O.M. No. P-39018/2/2007-CC (Part) dated 16-07-2008]

Recommendation (Sl. No. 27, Para No.3.27)

GAIL had commissioned M/s Uhde India Ltd. to carry out a Detailed Feasibility Report on coal gasification project in eastern India based on Shell Coal Gasification process. The said DFR has been completed. The Committee have been informed that the plant will generate 7.76 MMSCMD of synthesis gas. The Committee desire the GAIL to prepare a road map for execution of various activities relating to the project. The committee would also like to know the likely date of commissioning of the project. They further recommend that similar projects in other coal bearing areas may be launched.

REPLY OF THE GOVERNMENT

GAIL (India) Ltd. has carried out a feasibility study on coal gasification project at Talcher in Orissa, which is based on Shell coal gasification process.

Coal consumption for production of 7.76 MMSCMD of synthesis gas will be around 5200 tonnes/day.

GAIL is in process of entering into an MoC with Coal India Limited for sourcing of coal. GAIL has also simultaneously started discussions with various fertilizer companies and other consumers for market tie-up of synthesis gas which will be produced by the proposal coal gasification plant.

GAIL has applied for coal linkage to Ministry of Coal in December, 2006. GAIL will be in a position to prepare a road map including commissioning schedule of the project after receiving coal linkage from the Coal Linkage Committee.

Possibility of taking up similar projects in other Coal bearing areas will be examined by GAIL after signing of MoC with Coal India Limited for sourcing of coal.

[M/o Petroleum & Natural Gas
O.M. No. P-39018/2/2007-CC (Part) dated 16-07-2008]

Recommendation (Sl. No. 28, Para No.3.28)

The Committee have been informed that GAIL is in the process of singing a License Agreement on Insitu Lignite Gasification Technology with M/s Exergy Technologies Inc. Canada. They have been further informed that GAIL has signed an MOU with the Government of Rajasthan for joint evaluation of the Insitu Lignite Gas Project in Barmer, Rajasthan. The Salient features of the agreement as well as the subsequent developments that have taken place may be conveyed to the Committee. The Committee further desire that the feasibility of setting up similar projects in other Lignite Bearing areas may be considered.

REPLY OF THE GOVERNMENT

GAIL is in process of finalizing License Agreement with technology provider for Insitu lignite Gasification. The technology provider will be awarded the consultancy job for Site selection and Pre-Feasibility (SS&PF) study for the pilot project. If the SS&PF study indicates favorable viability, then site characterization study will be conducted followed by construction of pilot UCG plant and power plant.

Salient features of License Agreement are still under negotiation with the technology provider. However, they will broadly be in line with the following:

1. Validity – 10 years.
2. Non-exclusive basis.
3. GAIL to commission at least one revenue generating commercial project within 6 years.
4. Separate license for commercial project.

An MOU was signed with the Government of Rajasthan on 26th September, 2005, which got expired on 25th September, 2007. Extension of MOU with the Government of Rajasthan is being pursued, under which the Government of Rajasthan will provide Barmer lignite block to GAIL for carrying out the said pilot project.

[M/o Petroleum & Natural Gas
O.M. No. P-39018/2/2007-CC (Part) dated 16-07-2008]

Recommendation (Sl. No. 29, Para No.3.29)

The Committee note that CIL held a meeting with a South African company M/s Sasol for setting up of a Coal Gasification-cum-Liquefaction Plant in March 2006. The feasibility study for the project would cost 300 million US dollar which would be equally shared between M/s Sasol and CIL. In the opinion of the Committee, it would be a wise move to go in for such projects in or country considering out vast coal resources and ever-increasing energy demands. The Committee desire that oil sector PSUs like ONGC and OIL should take an active interest in the project and hold discussions with the authorities of M/s Sasol on the various issues relating to the project.

REPLY OF THE GOVERNMENT

CTL (with SASOL process) requires large scale operations, 80,000 bopd as well as high up front investment. ONGC is studying the possibility. A seminar on gasification was organized by LKMT (Lovraj Kumar memorial Trust) and ONGC was active participant and organizer.

[M/o Petroleum & Natural Gas
O.M. No. P-39018/2/2007-CC (Part) dated 16-07-2008]

Recommendation (Sl. No. 30, Para No.3.30)

The National Gas Hydrate programme was initially started in 1997 by the Ministry of Petroleum and Natural Gas with participating agencies, viz. ONGC, GAIL, DGH, OIL, NGRI, NIO, and DOD. The programme was conceived for exploration of gas hydrates in the Indian deep waters. The Committee have been informed that the R&D drilling/coring campaign carried out under the programme during May-August 2006 has established the presence of gas hydrates in a few

deep water Indian offshore areas, i.e. K.G., Mananadi basins and Andaman Sea and that presently scientific studies on the data collected are being carried out which are likely to be completed by the end of 2007. The Committee desire that the requisite scientific studies are completed within the stipulated time and the outcome of the studies intimated to them. They also desire that other offshore areas in the country should also be explored for gas hydrates. Besides, R&D activities should be intensified in the direction of finding the appropriate production technology for commercial exploitation of gas from gas hydrates.

REPLY OF THE GOVERNMENT

GAIL had actively participated in NGHP coring/drilling programme in the West Coast, East Coast and Andaman offshore areas which was completed during May-August, 2006. Around 100 high quality gas hydrate bearing cores were sent to world's leading gas hydrate laboratories for post-cruise studies. Post-cruise studies of recovered gas hydrate samples are in progress.

GAIL had also participated in the deliberations of National Research Council (NRC), Canada during 15th November to 22nd December, 2006 in connection with carrying out gas hydrate characterization studied under NGHP. 34 hydrate bearing core samples from Indian offshore were studies at NRC during above period and report submitted to DGH.

Future Hydrate Research Activities under NGHP

1. Initial assessment of the gas hydrate resources in India based on the results of Coring/Drilling of NGHP Expedition- 01.
2. Acquire high quality seismic data in areas drilled/cored under NGHP Expedition-o1, for accurately mapping reservoir facies and modeling.
3. Re-assessment of gas hydrate resources based on reservoir facies and modeling and also amount of technically recoverable natural gas hydrates in drilled/cored areas.
4. Conduct further coring/exploratory drilling for establishing the extent of the gas hydrate bearing reservoir and to confirm the resource estimates.

5. Work with industry and international community for research on production technology.
6. Pilot production testing operations.

Exploration of Gas hydrates is at R&D stage world over. India is participating in the Gas Hydrates Programmes carried out by other countries. A road map was prepared for National gas Hydrates Programme (NGHP). As per the road map, detailed geoscientific investigations were carried out in the KG Basin and Kerala-Konkan basin by NGHP through National Institute of Oceanography (NIO). Based on the results of seismic data studies and geoscientific investigations, ten sites in Mahanadi, KG & Kerala-Konkan basins and Andaman sea have been short listed for drilling/ coring of gas hydrates in the deepwaters. The drilling/ coring for gas hydrates is a very specialized activity and India is only the third country in the world to do so, after USA and Japan. The services for such specialized activity are not available commercially in the world. With sustained efforts by DGH, with IODP & USA, the drillship JOIDES Resolution along with all the scientific equipment and scientists onboard collected samples in Indian offshore from April, 2006 to August, 2006, under an agreement between DGH and a “US Consortium” of companies.

After obtaining the gas hydrates cores, several scientific studies are being carried out onboard the ship and will also be carried out in several laboratories in India, USA and Canada, for which separate agreements have been signed by DGH and corresponding agencies. Recently, DGH organized an international Gas Hydrate Conference at Noida (UP) from 6-8 February 2008 to discuss in detail the results of the analysis done so far in this field. After the conference, a science meeting was also organized to discuss future course of action. The issue will be discussed in the next Technical Cimmittee meeting of NGHP for firming up various research projects to be taken up to meet the desired goals.

The studies will lead to understand gas hydrates characterization in Indian offshore areas and also in carrying out resource estimates, as well as R&D in this field. During drilling/coring by drillship, presence of huge quantities of Gas Hydrates has been detected in one of the wells in KG Basin. A specialized core repository has been established in Panvel, Mumbai and inaugurated on 7th

January, 2008 for storing all the valuable gas hydrates cores for future studies. Overall, good progress has been made in exploration for gas hydrates in the country, under NGHP.

The main focus of NGHP is now on production technology for producing methane gas from gas hydrates. To initiate research on production technology for producing methane from gas hydrate, a collaborative research project submitted by KDMIPE, ONGC with IIT, Kharagpur was approved by the Steering Committee of NGHP in its 12th meeting on 7th January, 2008 at Mumbai. Work on the project will start from April, 2008.

[M/o Petroleum & Natural Gas
O.M. No. P-39018/2/2007-CC (Part) dated-16-07-2008]

New Delhi;
23 October, 2008
1 Kartika, 1930 (Saka)

N. JANARDHANA REDDY,
Chairman,
Standing Committee on
Petroleum & Natural Gas.

ANNEXURE I

EXTRACTS OF MINUTES

STANDING COMMITTEE ON PETROLEUM & NATURAL GAS

(2008-09)

THIRD SITTING

(23.10.2008)

The Committee sat on Thursday, the 23rd October, 2008 from 1030 hrs. to 1100 hrs. in Committee Room 'E', Parliament House Annexe, New Delhi.

PRESENT

Dr. N. Janardhana Reddy - Chairman

MEMBERS

Lok Sabha

2 Shri M.Appadurai
3 Shri Kirip Chaliha
4 Adv. Suresh Kurup
5 Shri Sukdeo Paswan
6 Lt. Gen. (Retd) Tej Pal Singh Rawat (PVSM, VSM)
7 Shir Lakshman Singh
8 Shri Ramjilal Suman
9 Shri Ratilal Kalidas Varma
10 Shri Ram Kripal Yadav

Rajya Sabha

11 Shri Tapan Kumar Sen
12 Shri Sabir Ali

Secretariat

1. Shri J.P.Sharma - Joint Secretary
2. Smt. Anita Jain - Director
3. Shri P.C.Tripathy - Deputy Secretary

2. At the outset, the Hon'ble Chairman welcomed the Members to the sitting of the Committee.

3. The Committee then took up for consideration the following draft Reports:-

(i) Twenty-First Report on Action Taken by the Government on the Recommendations contained in the Seventeenth Report (14th Lok Sabha) of the Standing Committee on Petroleum and Natural Gas (2007-08) on 'Strategy for Development of Alternative Sources of Oil and Gas'.

(ii) ** ** ** ** **

4. After some discussion, the Committee adopted the Reports without any modification.

5. The Committee authorised the Chairman to finalise the Reports after making consequential changes, if any, arising out of the factual verification of the Reports by the Ministry and present the same to both Houses of Parliament.

The Committee then adjourned

**Matters not related to this Report.

ANNEXURE II

(*Vide* Para 4 of the Introduction)

ANALYSIS OF THE ACTION TAKEN BY THE GOVERNMENT ON THE RECOMMENDATIONS CONTAINED IN THE SEVENTEENTH REPORT (FOURTEENTH LOK SABHA) OF THE STANDING COMMITTEE ON PETROLEUM AND NATURAL GAS (2007-08) ON 'STRATEGY FOR DEVELOPMENT OF ALTERNATIVE SOURCES OF OIL AND GAS'.

I	Total No. of Recommendations	33
II	Recommendations/Observations which have been accepted by the Government (*Vide* Recommendations at Sl. Nos. 1,4,6,14,15,18,20, 21,24,25,26 and 33)	12
	Percentage to Total	36.36%
III	Recommendations/Observations which the Committee do not desire to pursue in view of Government's Reply	Nil
	Percentage of Total	-
IV	Recommendations/Observations in respect of which replies of the Government have not been accepted by the Committee (*Vide* Recommendations at Sl. Nos. 5,9,13,16,17,31 and 32)	7
	Percentage of Total	21.21%
V	Recommendations/Observations in respect of which final replies of the Government are still awaited (*Vide* Recommendations at Sl. Nos. 2,3,7,8,10,11,12,19, 22, 23,27,28,29 and 30)	14
	Percentage of Total	42.43%