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**STANDING COMMITTEE ON  
PETROLEUM & NATURAL GAS  
(2014-15)**

**SIXTEENTH LOK SABHA**

**MINISTRY OF PETROLEUM & NATURAL GAS**

**NATIONAL AUTO FUEL POLICY**

**FIFTH REPORT**



**LOK SABHA SECRETARIAT  
NEW DELHI**

*May, 2015/ Vaisakha, 1937 (Saka)*

## **FIFTH REPORT**

**STANDING COMMITTEE ON  
PETROLEUM & NATURAL GAS  
(2014-15)**

**(SIXTEENTH LOK SABHA)**

**MINISTRY OF PETROLEUM & NATURAL GAS**

**NATIONAL AUTO FUEL POLICY**

*Presented to Lok Sabha on 07.05.2015*

*Laid in Rajya Sabha on 07.05.2015*



**LOK SABHA SECRETARIAT  
NEW DELHI**

*May, 2015/ Vaisakha, 1937 (Saka)*

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(ii)  
**COMPOSITION OF THE STANDING COMMITTEE ON PETROLEUM &  
 NATURAL GAS (2014-15)**

Sl. No.	Name of Members
	<b>LOK SABHA</b> <b>Shri Pralhad Joshi - Chairman</b>
2	Dr. Ravindra Babu
3	Shri P. K. Biju
4	Shri Kalikesh N. Singh Deo
5	Shrimati Rama Devi
6	Shri Elumalai V.
7	Shri Naranbhai Kachhadiya
8	Dr. Thokchom Meinya
9	Shrimati Pratima Mondal
10	Shri Ashok Mahadeorao Nete
11	Shrimati Jayshreeben Patel
12	Shrimati Anupriya Patel
13	Shri Arvind Sawant
14	Shri Raju Shetty
15	Dr. Bholu Singh (Begusarai)
16	Shri Ravneet Singh
17	Shri Kamakhya Prasad Tasa
18	Shri Rajesh Verma
19	Shri Om Prakash Yadav
20	Shri Laxmi Narayan Yadav
#21	Shri A.T. Nana Patil
	<b>RAJYA SABHA</b>
22	Shri Mani Shankar Aiyar
23	Shri Ishwarlal Shankarlal Jain
24	Shri Prabhat Jha
25	Shri Bhubaneshwar Kalita
26	Shri Mansukh L. Mandaviya
27	Shri Ahmed Patel
28	Shrimati Gundu Sudharani
29	Prof. Ram Gopal Yadav
30	Shri Sharad Yadav
*31	Shri Praful Patel

**SECRETARIAT**

1. Shri A.K.Singh – Joint Secretary
2. Shri S.C.Chaudhary – Director
3. Shri H. Ram Prakash – Additional Director

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 \*Nominated to the Committee w.e.f. 2<sup>nd</sup> March, 2015.

#Nominated to the Committee w.e.f. 25<sup>th</sup> March, 2015.

(iii)

**COMPOSITION OF THE STANDING COMMITTEE ON PETROLEUM & NATURAL GAS  
(2010-11)****Shri Aruna Kumar Vundavalli - Chairman**  
**Members****Lok Sabha**

- 2 Shri Anandrao Adsul
- 3 Shri Ramesh Bais
- 4 Shri Sameer Bhujbal
- 5 Smt. Santosh Chowdhary
- 6 Dr. Ratna De (Nag)
- 7 Shri Mukeshkumar Bheravdanji Gadhvi
- 8 Shri Dilipkumar Mansukhlal Gandhi
- 9 Shri Maheshwar Hazari
- 10 Shri Gorakh Prasad Jaiswal
- 11 Shri Sudarshan Bhagat
- 12 Shri Ahir Vikrambhai Arjanbhai Maadam
- 13 Dr. Thokchom Meinya
- 14 Shri Mahabal Mishra
- 15 Shri Danve Raosaheb Patil
- 16 Shri Kabindra Purkayastha
- 17 Shri Konakalla Narayan Rao
- 18 Shri C.L. Ruala
- 19 Shri Uday Pratap Singh (Hoshangabad)
- 20 Shri A.K.S. Vijayan
- 21 Shri Om Prakash Yadav

**Rajya Sabha**

- 22 Shri Sabir Ali
- 23 Shri Silvius Condpan
- 24 Dr. Akhilesh Das Gupta
- 25 Shri Kalraj Mishra
- 26 Shri Ahmed Patel
- 27 Shri Vijaykumar Rupani
- 28 Shri Tapan Kumar Sen
- 29 Smt. Gundu Sudharani
- 30 Prof. Ram Gopal Yadav
- 31 Dr. Prabha Thakur

(iv)  
**COMPOSITION OF THE STANDING COMMITTEE ON PETROLEUM & NATURAL  
 GAS  
 (2009-10)**

**Shri Aruna Kumar Vundavalli** - **Chairman**  
**Members**

**Lok Sabha**

- 2 Shri Anandrao Adsul
- 3 Shri Ramesh Bais
- 4 Shri Sameer Bhujbal
- 5 Smt. Santosh Chowdhary
- 6 Dr. Ratna De
- 7 Shri Mukesh B. Gadhvi
- 8 Shri Dilipkumar Mansukhlal Gandhi
- 9 Shri Maheshwar Hazari
- 10 Shri Gorakh Prasad Jaiswal
- 11 Shri Virendra Kumar
- 12 Shri Vikrambhai A. Madam
- 13 Dr. Thokchom Meinya
- 14 Shri Mahabal Mishra
- 15 Shri Danve Raosaheb Patil
- 16 Shri Kabindra Purkayastha
- 17 Shri K. Narayan Rao
- 18 Shri C.L. Ruala
- 19 Shri Uday Pratap Singh (Hoshangabad)
- 20 Shri A.K.S. Vijayan
- 21 Shri Om Prakash Yadav

**Rajya Sabha**

- 22 Dr. Prabha Thakur
- 23 Shri Ahmed Patel
- 24 Shri B.K. Hariprasad
- 25 Shri Kalraj Mishra
- 26 Shri Tapan Kumar Sen
- 27 Shri Kamal Akhtar
- 28 Shri Satish Chandra Misra
- 29 Shri Subhash Prasad Yadav
- 30 Shri Sabir Ali
- \*31 Shri Su. Thirunavukkarasar

.....  
 \*Ceased to be a member of the Committee consequent upon his resignation from the membership of Rajya Sabha w.e.f. 09<sup>th</sup> November, 2009.

(v)

## **INTRODUCTION**

I, the Chairman, Standing Committee on Petroleum & Natural Gas (2014-15) having been authorised by the Committee to submit the Report on their behalf, present this Fifth Report on 'National Auto Fuel Policy'.

2. The previous Committee on Petroleum and Natural Gas during the 15<sup>th</sup> Lok Sabha had selected the subject and took evidence of the representatives of the Ministry of Petroleum & Natural Gas at their sittings held on 04.02.2010 and 20.06.2011.

3. The Committee considered and adopted the Report at their sitting held on 06.05.2015.

4. The Committee wish to express their thanks to the representatives of the Ministry of Petroleum and Natural Gas and the Public Sector Undertakings/Organisations concerned for placing their views before them and furnishing the information desired in connection with examination of the subject.

5. The Committee also place on record their appreciation for the invaluable assistance rendered to them by the officials of the Lok Sabha Secretariat attached to the Committee.

**New Delhi;**  
**6 May, 2015**  
**16 Vaisakha, 1937 (Saka)**

**PRALHAD JOSHI,**  
**Chairman,**  
**Standing Committee on**  
**Petroleum and Natural Gas.**

## **REPORT**

### **CHAPTER-I**

#### **Introductory**

Greenhouse gases induced global warming and subsequent climate change are some of the perils threatening the survival of present day generation. The process of industrialization and development has caused innumerable changes in global climate. These climatic changes, which have occurred principally through the burning of fossil fuels such as gasoline and diesel in the transportation sector and automobile industry have led to an increase in the concentration of green house gases such as Carbon Dioxide, Methane, Nitrous Oxide and Hydro Fluoro Carbons in the atmosphere, thus disrupting the ecological and social systems across the globe.

1.2 The rapid growth in automobile industry and the increasing number of vehicular population have become one of the major causes in the phenomenal rise of air pollution in India. Though air pollution is caused by several factors, the dramatic rise in the vehicular emissions has compounded the problem.

1.3 Against this backdrop of growing environmental concerns, the Government of India constituted a Committee of Experts on 13th September, 2001 under the chairmanship of Dr. R.A. Mashelkar, Director General, Council of Scientific and Industrial Research (CSIR) to formulate an Auto Fuel Policy for the entire country including major polluted cities. Accordingly, National Auto Fuel Policy was laid down in 2003 to comprehensively address the issues of vehicular emissions and norms, automobile technologies, and also auto fuel quality in a cost efficient manner.

#### **Objectives of Auto Fuel Policy, 2003**

(1) The Policy aims to holistically address the issues of vehicular emissions, vehicular technologies and auto fuel quality in a cost efficient manner, while ensuring the security of fuel supply.

(2) Ensuring sustainable, safe, affordable and uninterrupted supplies of auto fuels of right quality to support social and economic development through diversification of sources and reducing dependence on any single source of supply.



- (3) Optimal utilization of the infrastructure for the import of crude and crude products, their processing and production and storage and transportation that has been created in the country over the years.
- (4) Assessing the future trends in emissions and air quality requirements from the view point of public health and establishing a consistent framework with which different policy options to reduce emissions can be addressed.
- (5) Adopting vehicular emission standards along with other measures to make a decisive impact on air quality without placing an undue burden on the people.
- (6) Ensuring vehicular emission standards and fuel quality in offering choice to citizens and automobile manufacturers in matters of technology selection. Widening the choice and promoting competition amongst automobile technologies within the limits imposed by the availability of auto fuels and security of their supplies.
- (7) The requirement of investments to reach vehicular technology and fuel quality of *Euro III* equivalent levels throughout the country is estimated in the range of Rs. 50,000- Rs. 60,000 crore. In addition, achieving air quality targets by gradually improving emission standards and a phased up-gradation of fuel quality and vehicular technology taking note of financial, technical and institutional considerations along with the absorptive capacity of the same.
- (8) Auto Fuel Policy opine that administered fuel prices, carrying subsidies and cross-subsidies lead to distortions in fuel usage pattern. Determination of fuel prices on the principles of import parity and putting in place a medium term fiscal regime at the earliest for the sustainability of fuel usage pattern.
- (9) In order to remain relevant, the Auto Fuel Policy envisages that the policy must undergo periodic revisions, preferably at an interval of five years to ensure adjustments in the Policy that may become necessary on account of the technological and other changes that are inevitable in the country and the world. It would also afford an opportunity to different stakeholders to express their views in the light of the changes that take place with time.

### **Recommendations of Auto Fuel Policy, 2003**

- Road map for fuel standards/emission norms for 4/more wheeled new vehicles.
- Bharat Stage-II fuel/emission norms from 1st April 2005 was envisaged for the entire country.
- Euro III equivalent fuel/emission norms from 1st April 2010 was envisaged for the entire country.
- Euro III equivalent fuel/emission norms for all private vehicles, city public service vehicles and city commercial vehicles from 1st April 2005 was envisaged in 11 major cities – Delhi/NCR, Mumbai, Kolkata, Chennai, Bangalore, Hyderabad, Ahmedabad, Pune, Surat, Kanpur and Agra.
- Euro IV equivalent fuel/emission norms for all private vehicles, city public service vehicles and city commercial vehicles from 1st April 2010 was envisaged in 11 major cities – Delhi/NCR, Mumbai, Kolkata, Chennai, Bangalore, Hyderabad, Ahmedabad, Pune, Surat, Kanpur and Agra.
- Road map for emission norms for new 2 and 3 wheelers.
- Bharat Stage-II emission norms from 1st April 2005 was envisaged for the entire country.
- Euro III equivalent emission norms preferably from 1st April 2008 but not later than 1st April 2010 in any case was envisaged for the entire country.
- Use of CNG/LPG in cities that are affected by higher vehicular population.
- Comprehensive programme for encouraging zero emission vehicles to accelerate development of alternative fuel vehicles (battery powered, hydrogen and fuel cell).
- Technologies for producing ethanol/bio-fuels from renewable energy sources and vehicles to utilise these bio fuels.
- Replacement of the existing PUC system to a more reliable computerised system.
- Inspection & Maintenance (I&M) system in 11 major cities and further extension throughout the country.
- On-Board Diagnostics (OBD) system for new vehicles in lieu of I&M system.
- Performance checking of catalytic converters and conversion kits.
- Promoting public transport to improve urban road traffic.
- Linking of vehicle insurance with Inspection and Certification.

- Retrofitting old vehicles with new engines or emission control devices. Developing incentives for replacement of old polluting vehicles.
- System to check emission warranty of new vehicles.
- Random checking of CNG/LPG kits, any other emission control devices or retrofit engines for emission performance.
- Levying higher motor vehicle tax on old vehicles.
- Extending tank lorry locking system for movement of products.
- Setting up of consumer pumps by transport companies operating public transport.
- Use of markers on commercial basis to detect and prevent adulteration.
- Making oil companies responsible and accountable for quality of fuels dispensed from their retail outlets.
- Reporting of conversion of vehicles to CNG/LPG to registering authority.

### **Expert Committee Report under Shri Saumitra Chaudhuri- Auto Fuel Vision & Policy 2025:**

1.4 The Committee observe that although considerable efforts have been made in realizing the objectives of National Auto Fuel Policy since its formulation in 2003, there are still some areas where the progress has not been up to the mark. Further, the Auto Fuel Policy, 2003 envisages periodic revisions in the policy to allow adjustments that may become inevitable in the light of technological changes at regular intervals. It was in this context, the Government of India constituted an expert committee under the chairmanship of Shri Saumitra Chaudhury, Member, Planning Commission on 19 December, 2012 to review the Auto Fuel Policy of 2003. Accordingly, the Expert Committee drafted the report on Auto Fuel Vision and Policy, 2025 and submitted the same on 2 May, 2014 with the following terms of reference.

#### **Terms of Reference of the Expert Committee:**

- (i) Recommending road map for auto fuel quality till 2025 for the country, taking into account achievement under the last Auto Fuel Policy, emission reduction of in-use vehicles, growth of vehicles and supply and availability of fuels.

(ii) Recommending suitable mix of auto fuels including gas and its specifications, considering the availability of infrastructure and logistics of fuel supplies, the processing economics of fuel supplies, and improvement in quality of fuels vis-a-vis improvement in vehicle engine technology.

(iii) Recommending vehicular emission norms for various categories of vehicles and road map for their implementation.

(iv) Recommending use of alternate fuels to minimize impact on environment.

(v) Recommending fiscal measures for funding requisite up-gradation of oil refineries, logistics and removal of inter-fuel pricing distortions.

### **Issues Examined by the Expert Committee:**

- Reviewing the initiatives taken by the Government and the Oil Industry for upgrading Auto Fuel Quality.
- Learning from the experience of implementation of the previous auto fuel policy initiatives and the status of various recommendations of the previous Expert Committee on Auto Fuel Policy.
- Health related issues of emissions and review of outcome of the Source Apportionment Studies in six Indian cities carried out by CPCB, February 2011.
- Global experience and developments on Auto Fuel standards.
- Reviewing current fuel specifications, including investigating possibility of further tightening of the existing BS IV fuel specification in respect of sulphur content.
- Reviewing auto fuel quality parameters in Europe, USA, Japan, Republic of Korea & China vis-à-vis India.
- Simplifications in diesel specification.
- Major differences between BS IV and Euro V & VI fuel standards.
- Bottlenecks in North East India in meeting future fuel quality.
- Review of refineries capability of producing superior fuels viz. BS IV and BS V gasoline and diesel.
- Change in refinery configuration/complexity needed to meet BS IV and Euro V similar BS V fuels, including limitations if any, capital expenditure requirement, timeline etc.
- Euro V equivalent BS V fuels specifications.
- Fuel supply logistics.
- Roll out plan for BS IV gasoline and diesel nationwide.

- Public policy: Fuel prices, taxes, standards and regulatory regime in the context of broader energy policy.
- Fuel standards and roadmap for BS V & BS VI to 2025.

### **Status and Progress of Implementation of Auto Fuel Policy, 2003**

1.5 The Committee observe that it has been more than a decade since Auto Fuel Policy was formulated in 2003. And, there have been numerous changes in technological and automobile industry since the roadmap was drawn by the policy for the up-gradation of fuel quality and vehicular performance.

1.6 In view of the above, when asked to explain the success of Auto Fuel Policy of 2003 in achieving its desired objectives since its inception, the Ministry has submitted the following information:

"The Expert Committee under the Chairmanship of Dr.R.A.Mashelkar was constituted by MOP&NG to recommend an Auto Fuel Policy for the country including major cities; to devise a road map for its implementation; to recommend suitable auto fuels and their specifications considering the availability and logistics of fuel supplies, the processing economics of automotive fuels, and the possibilities of multi-fuel use in different categories of vehicles; to recommend attributes of automobile technologies, fiscal measures for ensuring minimisation of social cost of meeting a given level of environmental quality and institutional mechanisms for certification of vehicles and fuels, as also the monitoring and enforcement measures.

While several of the recommendations of the Auto Fuel Policy (2003) have been implemented, some have not and some are in the process of being implemented. As far as fuel quality is concerned, Coverage achieved is greater than recommended.

In line with the Auto Fuel Policy (2003), starting from 2005, fuel conforming to Bharat Stage-III norms was introduced in 13 major cities, while Bharat Stage-II fuel was made available elsewhere in the country. From April 2010, Bharat Stage-IV petrol and diesel (50 ppm sulphur) was implemented in 13 major cities and Bharat Stage-III petrol (150 ppm sulphur) and diesel (350 ppm sulphur) was made available in rest of the country from September 2010.

Further to the implementation of Bharat Stage-IV fuels in 13 major cities from April 2010, expansion of Bharat Stage-IV fuels to 50 additional cities by 2015 has been taken up by MOP&NG. Out of these additional 50 cities, Bharat Stage-IV fuel has already been expanded to 26 cities.

Status of various recommendations of Auto Fuel Policy 2003 is given in the Table below:

<b>Sl. No.</b>	<b>Recommendations</b>	<b>Status</b>
1	BS-III/ BS-IV Auto Fuels	Coverage achieved is greater than recommended
2	Use of CNG/ LPG in cities affected by high vehicular population	CNG extended to 60 cities; Auto LPG expanded to ~ 350 cities having ~ 900 dispensing stations
3	Comprehensive programme for zero emission vehicles to accelerate development of alternative fuel vehicles (battery powered, hydrogen and fuel cell)	Initiatives have been taken by MNRE, with limited progress, while some initiatives have also been taken by Department of Heavy Industry
4	Technologies for producing ethanol/bio fuels from renewable energy sources and vehicles to utilise these bio fuels	Minimum 5% ethanol blending has been made mandatory, subject to availability of ethanol
5	Replacement of existing PUC system to more reliable computerised system	Computerized system may not have been widely introduced across the country
6	Inspection & Maintenance (I&M) system in 11 major cities and further extension throughout the country	<ul style="list-style-type: none"> <li>- MORT&amp;H and ARAI is looking into issues of PUC and I&amp;M</li> <li>- I&amp;M model Centres to come on PPP mode</li> <li>- End of life for vehicles is being worked out</li> </ul>
7	OBD system for new vehicles in lieu of I&M system	OBD-II implemented in BS-IV vehicles from April 2013
8	Performance checking of catalytic converters and conversion kits	Not given effect to
9	Promoting public transport to improve urban road traffic	Some progress
10	Linking of vehicle insurance with Inspection and Certification	Not in place
11	Retrofitting old vehicles with new engines or emission control devices. Developing incentives for replacement of old polluting vehicle	Irregular
12	System to check emission warranty of new vehicles	Not ensured
13	Random checking of CNG/ LPG kits, any other emission control devices or retrofit engines for emission performance	Irregular
14	Notification of Fuel Economy Standards	CO <sub>2</sub> emission, fuel economy standards for vehicles < 3500 kg

Sl. No.	Recommendations	Status
		has been notified.
15	Levying higher motor vehicle tax on old vehicles	Not in place
16	Extending tank lorry locking system for movement of products	Has been fully implemented
17	Setting up of consumer pumps by transport companies operating public transport	Limited implementation through oil companies
18	Use of markers on commercial basis to detect and prevent adulteration	Implemented but discontinued due to circumvention. New markers under development
19	Making oil companies accountable for quality of fuels dispensed from their retail outlets	Implemented
20	Reporting of conversion of vehicles to CNG/ LPG to registering authority	Not ensured

### **Review of Auto Fuel Policy, 2003 by the Expert Committee:**

1.7 The Committee have learnt that the Expert Committee on Auto Fuel Vision & Policy 2025 headed by Shri Saumitra Chaudhuri submitted its report on 2 May 2014.

1.8 In this regard, when asked to spell out the salient features and priority areas of the newly submitted report of the Expert Committee on Auto Fuel Policy and how it was different from the Auto Fuel Policy of 2003, the Ministry has explained as under:

"As a follow-up to the Auto Fuel Policy 2003, Ministry of Petroleum & Natural Gas vide Office Memorandum dated 19th December 2012 had constituted an Expert Committee under the Chairmanship of Shri Saumitra Chaudhuri, Member, Planning Commission, Government of India to prepare a "Draft Auto Fuel Vision & Policy 2025". The Expert Committee has since submitted its report in May 2014.

The Expert Committee on Auto Fuel Vision & Policy 2025 has taken a different approach as far as roadmap for auto fuel quality/ emission norms implementation is concerned. As against the city based fuel quality / emission norms implementation approach adopted by Dr.R.A.Mashelkar Committee for 2003 report, the present Committee has considered region-wise approach so that in a particular region, same quality of fuel/ new vehicles are made available.

The Expert Committee has considered that it should be 'one fuel one country' for which implementation gap for BS-V has been minimised to one year only. The Committee in its report has recommended expansion of Bharat Stage-IV fuel/

emission norms in the entire country by 1<sup>st</sup> April 2017 and introduction of Bharat Stage-V fuel/ emission norms across the country by 1<sup>st</sup> April 2020 and BS-VI norms by 1<sup>st</sup> April 2024. The roadmap proposed for fuel quality implementation is as under:

**Bharat Stage-IV petrol and diesel (50 ppm sulphur):**

**1 April 2015:**The whole of Northern India covering J&K, Punjab, Haryana, Himachal Pradesh, Uttarakhand, Delhi and parts of Rajasthan and Western UP

**1 April 2016:**All of Goa, Kerala, Karnataka, Telangana (formerly part of Andhra Pradesh), Odisha, and Union Territories of Daman & Diu, Dadra-Nagar-Haveli and Andaman & Nicobar. Parts of Maharashtra and Gujarat besides corridor spanning the highway through Gujarat and Rajasthan linking Northern India to the ports on the West Coast will also be covered.

**1 April 2017:**Rest of the country

**Bharat Stage-V petrol and diesel (10 ppm sulphur):**

**1 April 2019:**The whole of Northern India covering J&K, Punjab, Haryana, Himachal Pradesh, Uttarakhand, Delhi, Rajasthan, Gujarat and Western UP

**1 April 2020:**The rest of the country.

**Bharat Stage-VI Emission Norms (10 ppm sulphur):**

**1 April 2024:**The entire country, as there is no change in fuel quality from Bharat Stage-V to Bharat Stage-VI

**Emission Norms:**

A road map for vehicular emission norms for new vehicles has also been recommended as follows:

Sl. No.	Vehicle Type	Bharat Stage-IV	Bharat Stage-V
1.	2-wheelers	1 <sup>st</sup> April 2016	1 <sup>st</sup> April 2020 for new models and for continuing models within one year thereafter.
2.	3-wheelers	1 <sup>st</sup> April 2016	-do-
3.	4-wheelers	The emission norms for all classes of four wheelers will	-do-



Sl. No.	Vehicle Type	Bharat Stage-IV	Bharat Stage-V
		be as per extant notification. However, the applicability of Bharat Stage-IV will be rolled in as the fuel becomes progressively available across the country and nationwide by April 2017.	
4.	Heavy duty vehicles	-do-	-do-

1.9 When the Committee enquired about the omissions and the additions/modifications if any, made in the Auto Fuel Vision & Policy, 2025 in comparison to the Auto Fuel Policy of 2003 under various heads, the Ministry has submitted the following information:

"The Auto Fuel Vision & Policy 2025 report has considered almost all the issues including fuel quality, fuel supply and demand, capex and time frame for fuel quality related projects implementation, alternative fuels, vehicular technologies, emission norms, health issues, ambient air quality, reduction of pollution from in-use vehicles, fiscal issues etc as these were considered by the Auto Fuel Policy report of 2003.

The present Expert Committee also reviewed the Source Apportionment Study report 2011 of CPCB and vehicular pollution effect on ambient air quality. The Committee has considered various fiscal support issues and has given clear cut recommendations for imposing "**High Sulphur Cess**" of 75 paise per litre on BS-III automotive fuels (about Rs.10,000 crores) as also "**Special fuel up-gradation cess**" of 75 paise per litre on all gasoline and diesel sold in India (about Rs.64,000 crores) to mop up the funds required for upgrading the fuel quality, which is about Rs.80,000 crores".

1.10 Further, on being enquired about the implementation mechanism in the light of the new report, the Ministry has stated as under:

"MOP&NG has taken a decision to implement BS-IV fuel as per the roadmap given in the report (by 1<sup>st</sup> April 2017 in the entire country) and to go from BS-IV to BS-VI directly (by 1<sup>st</sup> April 2019 to 2020)".

**Inter-Ministerial Coordination for implementation of Auto Fuel Policy:**

1.11 The Committee observe that the absence of coordination amongst various stakeholders i.e. Ministries of P&NG, Road Transport, Heavy Industries, Environment &

Forests and Urban Development, Automobile industry and State Governments in the Auto Fuel Policy 2003 has resulted in piecemeal approach towards its implementation. The Committee have noted that the implementation of some of the recommendations of Auto Fuel Policy 2003 by other Ministries have been remained unfulfilled till date.

1.12 In this regard, when asked about setting up of coordinating mechanism to synchronize efforts of various stakeholders to achieve desired objectives of Auto Fuel Vision & Policy 2025, the Ministry has stated as under:

"While the emission norms are notified by MORT&H, the corresponding fuels and vehicles are ensured by MOP&NG and MOHI respectively".

1.13 Further, during the evidence held on the subject on 20 June, 2011, on the issue of setting up of inter-ministerial Committee for monitoring various issues related to the implementation of Auto Fuel Policy, the representatives of the Ministry had stated as under:

"The Secretary of the Ministry emphasised an adequate enforcement of the prescriptions of Auto Fuel Policy related to various sectors. In the same sitting, the representatives of the Ministry stated that an inter-ministerial Committee called Standing Committee on Emission Legislation was set up consisting of all the important Ministries and experts in the emission field. The Committee deliberates on the emission related issues periodically. This Committee is headed by Joint Secretary (Transport) and it includes representatives of Ministry of Industry, Ministry of Environment & Forests, ARAI, VRDE Ahmednagar, Testing Agency at Budhni, Society of Automobile Manufacturers, Indian Institute of Petroleum, Dehradun. All the stakeholders concerned are represented in this Committee". (Verbatim Proceedings dated 20th June, 2011, p.3&27).

### **Implementation Timeline of Auto Fuels:**

1.14 When asked about the time frame for implementing BS-V and BS-VI auto fuels in the country, the Ministry has submitted as under:

"The Expert committee on Auto Fuel Vision and Policy-2025 has given a road map for introduction of BS-IV , BS-V and BS-VI Auto fuels in the country as under:-

- BS-IV** - by 1.4.2017 in the entire country.
- BS-V** - by 1.4.2020 in the entire country.
- BS-VI** - by 1.4.2024 in the entire country.

Ministry has considered the road map and decided to implement the recommendations in respect of extension of supply of BS-IV in the entire country by 01.04.2017 in a phased manner. Order in this regard has been issued on 19.01.2015. The Ministry is also considering a proposal to switch over directly

from BS-IV to BS-VI Auto fuels by 01.04.2020 instead of step wise upgradation from BS-IV to BS-V and then BS-V to BS-VI".

1.15 Further, on being enquired as to whether the Ministry is contemplating to skip BS-V fuel in lieu of BS-VI fuel, the Ministry has stated as under:

"The Ministry is considering a proposal to switch over directly from BS-IV to BS-VI Auto fuels by 01.04.2020 instead of step wise upgradation from BS-IV to BS-V and then BS-V to BS-VI".

### **Uniform Quality of Auto Fuels:**

1.16 The Committee observe that the presence of dual quality of fuel hampers the effective implementation of mandatory fuel efficiency norms in the country. Further, it also creates confusion among consumers with regard to the availability of right usage of fuel in the market.

1.17 On being enquired about the number of states where BS-IV quality auto fuel has been introduced, the Ministry has stated as under:

"BS-IV auto fuels were introduced in 13 cities as per the Auto Fuel Policy 2003. It is being expanded to 50 additional cities, out of which 26 cities have already been covered and balance 24 cities to be covered by March 2015".

1.18 Further, asked about the reasons for the delay in the implementation of BS-IV quality auto fuel across the country, the Ministry has furnished the following information:

"As per the present Auto Fuel Policy 2003, BS-IV fuels were to be implemented in 13 major cities. However, now BS-IV is being expanded in more cities subject to its availability.

To meet the BS-IV fuel quality, sulphur content in the fuel is to be brought down from 150 ppm to 50 ppm in gasoline and 350 ppm to 50 ppm in diesel. In order to meet this requirement, new process units for sulphur reduction besides hydrogen generation and sulphur recovery units as well as revamp/ expansion of the existing units is required. In order to put up new facilities as well as to revamp the existing units, 4-5 years' time period as well as huge capex is required for implementation.

The Expert Committee has considered all these aspects and has recommended the implementation of BS-IV fuel in the entire country by 1<sup>st</sup> April 2017 in phases".

1.19 Also, asked about the measures initiated to implement the uniform fuel quality across the country, the Ministry has submitted the following information:

"MOP&NG has initiated following measures to expand BS-IV coverage in the entire country:

Further to the implementation of Bharat Stage-IV fuels in 13 major cities in line with Auto Fuel Policy 2003 from April 2010, expansion of Bharat Stage-IV fuels to 50 additional cities by 2015 has been taken up by MOP&NG. Out of these 50 cities, Bharat Stage-IV fuel has already been expanded to 26 cities and another 24 cities will be covered by March 2015.

In order to implement uniform fuel quality across the entire country, the Expert Committee on Auto Fuel Vision & Policy 2025 has recommended coverage of BS-IV fuel in the entire country in 2 years in phased manner (2015 to 2017) to minimise the time for implementation. Whereas in case of BS-V, the same has been reduced to 1 year i.e. 2019 to 2020".

1.20 Further, being asked about any timeline and roadmap for introduction of BS-V/VI in Auto Fuel Vision & Policy 2025, the Ministry has stated the following:

"As recommended by the Expert Committee on Auto Fuel Vision & Policy 2025, coverage of BS-V fuel in the entire country in 1 year (2019 to 2020) to minimise the time for implementation.

As regards BS-VI fuel quality/ emission norms, the Expert Committee in its report has suggested a roadmap of 1st April 2024. However, implementation of BS-VI fuel quality/ emission norms by 1st April 2020 is under consideration of MOP&NG as there is no change in fuel quality from BS-V to BS-VI".

### **Fuel Up-gradation Projects by Oil Refineries:**

1.21 The Committee observe that the up-gradation of infrastructure by OMCs and automobile industry are indispensable for the implementation of uniform fuel quality across the country.

1.22 When enquired as to whether oil companies have made any major investments for technological up-gradation and other changes in the manufacture of gasoline and diesel in tandem with the auto fuel specifications, the Ministry has submitted the following:

"In order to meet the fuel quality in line with the Auto Fuel Policy 2003, the oil refineries had upgraded its technology and invested over Rs.35,000 crore for production and supply of BS-III/ IV gasoline and diesel fuels.

As regards BS-IV implementation in the entire country, projects worth Rs.20,000 crore has already been approved for implementation. The total investment for upgrading to BS-IV/ BS-V will be around Rs.80,000 crore"

1.23 When asked to provide the current status of oil refineries i.e. IOCL, HPCL and BPCL regarding the production of different categories of auto fuels in the country, the Ministry has submitted the following information:

"The details of production capacity of BS-III and BS-IV Gasoline and Diesel by IOCL, HPCL and BPCL refineries are given hereunder:-

Name of the Company	Gasoline in MMTPA		Diesel in MMTPA	
	BS-III	BS-IV	BS-III	BS-IV
IOCL	3.06	2.86	14.16	8.92
HPCL	1.87	1.06	4.93	1.06
BPCL	2.50	1.40	9.10	1.90
Total	9.09	3.75	33.29	7.23

1.24 Report of the Expert Committee (Auto Fuel Vision and Policy, 2025) provides following information on the current potential output of BS III and BS IV fuels in respect of individual refineries (p.120).

Unit: million metric tonnes (MMT) per annum

Sl. No.	Refinery	Gasoline			Diesel		
		BS III	BS IV	Total	BS III	BS IV	Total
1.	IOC Digboi	0.10		0.10	0.34		0.34
2.	IOC Guwahati	0.15		0.15	0.60		0.60
3.	IOC Barauni	1.05	0.08	1.12	3.08		3.08
4.	IOC Gujarat	1.21	0.28	1.49	5.45	0.39	5.83
5.	IOC Haldia	0.46	0.09	0.55	2.53	0.49	3.02
6.	IOC Mathura	0.57	0.38	0.96	1.33	1.33	2.65
7.	IOC Panipat	0.97	0.46	1.43	4.59	2.06	6.65
8.	IOC Bongaigaon	0.21		0.21	1.34		1.34
9.	IOC Paradip						
10.	CPCL Chennai	0.71	0.27	0.98	3.00	0.90	3.90
11.	CPCL - CBR				0.22		0.22

12.	BPCL Mumbai	1.05	0.37	1.42	4.43	0.78	5.20
13.	BPCL Kochi	1.27	0.25	1.53	3.79	0.43	4.21
14.	HPCL Mumbai	0.54	0.45	1.00	1.64		1.64
15.	HPCL Vizag	0.79	0.17	0.96	2.17		2.17
16.	NRL	0.26	0.06	0.32	1.65	0.30	1.95
17.	MRPL	0.78	0.12	0.90	4.97	1.20	6.17
18.	HMEL, Bhatinda	0.63	0.27	0.90	2.45	0.55	3.00
19.	BORL	0.39	0.40	0.79		2.80	2.80
20.	RIL DTA	0.70	0.60	1.30		11.15	11.15
21.	RIL SEZ		11.30	11.30		16.00	16.00
22.	Essar Oil		1.44	1.44		9.54	9.54
	Total availability	11.87	16.97	28.84	43.56	47.91	91.46
	Total excl. RIL-SEZ	11.87	5.67	17.54	43.56	31.91	75.46
	Domestic Demand (2013-14)			17.00			69.00
	BS IV availability vs. total demand		33%			46%	

Source: Auto Fuel Vision and Policy, 2025.

1.25 Further, according to Report of the Expert Committee (Auto Fuel Vision and Policy, 2025), the Demand and Production Capacity of Motor Spirit and Diesel up to 2025 are provided in the following table.

### **Demand and Production Capacity of MS and Diesel upto 2025**

	2016	2017	2020	2025
<b>Motor Spirit or Gasoline</b>				
Domestic Demand	21.2	22.7	28.4	41.1
Indian refineries excl. RIL SEZ	18.8	24.3	29.5	29.5
Indian refineries incl. RIL SEZ	28.0	33.6	38.8	38.8
<b>Diesel</b>				
Domestic Demand	85.5	90.6	106.7	140.1

Indian refineries excl. RIL SEZ	65.8	79.3	103.5	103.0
Indian refineries incl. RIL SEZ	81.8	95.3	119.3	119.0

Source: Auto Fuel Vision and Policy, 2025.

### **Mobilization of Resources for Upgradation of Refineries**

1.26 Regarding the steps initiated by the Ministry to mobilize funds for the upgradation of fuel quality, the Ministry provided the information as under:

"Expert Committee in its Report on Auto Fuel Vision and Policy, 2025 has projected an amount of Rs.80000 crore for upgrading the fuel quality to BS-IV and then to BS-V. OMCs have sought the support of Government to mobilise the fund. In this context, it is stated that the Ministry is considering a proposal to switch over directly to BS-VI Auto fuel from BS-IV instead of step wise switching from BS-IV to BS-V and then BS-V to BS-VI. Accordingly, the Ministry has asked OMCs to project their fund requirement to upgrade the fuel quality as per above".

1.27 Further, When asked about the action plan proposed by the Ministry to implement the recommendations of the Expert Committee headed by Shri Saumitra Chaudhuri regarding levy of High Sulphur Cess of 75 paise per litre on BS-III automotive fuels to the tune of Rs.10,000 crores and also Special Fuel upgradation Cess of 75 paise per litre on all gasoline and diesel sold in India to the tune of Rs.64000 crores, the Ministry has noted as under:

"No decision about levying of Cess has been taken so far".

### **Promotion of Alternative Fuels - CNG:**

1.28 The Committee observe that Compressed Natural Gas (CNG) is an efficient and safe alternative fuel. When enquired about the current use of CNG percentage as an alternative fuel in the country, the Ministry has submitted the following information:

"CNG is being supplied as an automotive fuel in about 44 Geographical Areas (GAs) and by GSPC Gas at 47 locations outside these GAs in different parts of Gujarat. As on 1.12.2014, there are 969 CNG stations in 13 States of India (Telangana, Andhra Pradesh, Assam, Delh/NCR, Gujarat, Haryana, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tripura, Chandigarh (UT), UP serving more than 2.26 million vehicles".

1.29 Further, when asked about the list of details w.r.t. the cities and towns where CNG is being used currently in the country, the Ministry has provided the following information:

CNG Stations in the country as on 1st December 2014					
Sr. No.	Name of Entity	Name of Geographical Area	State	No. of CNG Stations	Total No. of registered CNG Vehicles in GA
1	Bhagyanagar Gas Limited	Hyderabad	Telangana	18	20298
2		Vijayawada	Andhra Pradesh	8	9756
3		Kakinada		3	922
4	Indraprastha Gas Limited	Delhi	Delhi	279	768193
5	Adani Gas Ltd.	Ahmedabad	Gujarat	45	150000
6		Vadodara		6	55000
7	Vadodara Gas Ltd (A JV of GAIL Gas & VMSS)	Vadodara		9	35000
8	GSPC Gas Company	Hazira		1	1197
9		Jamnagar		3	911
10		Nadiad		9	6328
11		Navsari		10	5723
12		Rajkot		30	19914
13		Surendernagar		13	5391
14		Valsad		19	11344
15		Khambhat		5	2877
16		Halol		5	3428
17		Gandhinagar		9	7607
18		Palej		2	1463
	Out of GA	47		21745	
19	Gujarat Gas Company Ltd	Bhavnagar		6	5800
20		Surat-Bharuch-Anklashwer		60	211000
21	HPCL	Ahmedabad		22	169167
22	Sabarmati Gas Ltd.	Gandhinagar		12	23860
23		Mehsana		17	15109
24		Sabarkantha	7	21434	
25	Adani Gas Ltd.	Faridabad	Haryana	9	25000
26	GAIL Gas	Sonipat		1	1159
27	Haryana City Gas	Gurgaon		7	80000
28	Avantika Gas Ltd	Gwallior	Madhya Pradesh	2	2500
29		Indore (including Ujjain)		13	11300



30	GAIL Gas	Dewas		1	587	
31	Mahanagar Gas Limited	Mumbai & Greater Mumbai, Thane City & Adjoining Contiguous area	Maharashtra	174	405478	
32	Maharashtra Natural Gas Ltd	Pune		29	73487	
33	GAIL Gas	Kota	Rajasthan	3	970	
34	TNGCL	AGARTALA	Tripura	5	7476	
35	Central UP Gas Ltd	Kanpur		12	36148	
36		Bareilly		2	8593	
37	GAIL Gas	Firozabad (TTZ)		1	254	
38		Meerut		3	2150	
39	Green Gas Ltd	Lucknow		8	18227	
40		Agra		6	13175	
41	Indraprastha Gas Limited	Gautam Budh Nagar		21		
42		Ghaziabad		22		
43	Sanwariya Gas (earlier Saumya DSM)	Mathura		3	2050	
44	Siti Energy Limited	Moradabad		2	2250	
<b>Total</b>				<b>969</b>	<b>2264271</b>	

1.30 Also, enquired as to whether the Government has come out with any perspective plan to promote CNG across the country, the Ministry has submitted the following information:

"The Ministry is in the process of formulating guidelines relating to grant of rights to entities for sale of CNG as transportation fuel through their CNG stations. In the meanwhile, it has been decided that no entity except those:

- (i) who are authorized by PNGRB under PNGRB Act, 2006 to establish a city or local gas distribution network in their respective Geographical Area, or
- (ii) who are deemed to have authorization under PNGRB Act, 2006 for establishing a city or local gas distribution network in their respective Geographical Area".

1.31 Further, when asked by the Committee about the plan of the Ministry to expand the CGD network in the country, the Ministry furnished the following information:

**Status note on rolling out of CGD networks**

"Ministry of Petroleum and Natural Gas has framed policy guidelines to supply domestic gas through GAIL (India) Ltd to the CGD entities. The domestic gas is supplied to meet 100% requirement of CNG (transport) and domestic PNG segments based on last six monthly consumption data by the respective CGD

network. Further, this Ministry has allowed GAIL to meet 10% additional demand of CGD sector (CNG & domestic PNG) by supply of domestic gas. The domestic gas is supplied at uniform base price to all CGD entities.

2. PNGRB has informed that they have taken the following initiatives in 2014 to expand the CGD networks-

A. Based on the request made by various State Governments, PNGRB considers the entire district as a GA for development of CGD network so that PNG is made available to rural population also. Hence cities having population more than 5 lakh in the district will automatically get covered in the GA.

B. In the 4<sup>th</sup> CGD bidding round, PNGRB has invited bids for development of CGD networks in 14 new Geographical Areas. PNGRB has received total 44 bids from 15 interested entities for 09 GAs and no bids, for 05 GAs. PNGRB is making efforts to complete the bid evaluation process and grant of authorization to successful bidders by December 2014/ January 2015.

C. Apart from the above GAs, PNGRB is in the process of development of GA maps and bid documents for bidding under the 5<sup>th</sup>/6<sup>th</sup> rounds of CGD bidding. The 5<sup>th</sup> round is expected to be initiated in motion by January/February 2015, followed by the 6<sup>th</sup> round. List of GAs covered/ to be covered for developing PNG network under 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> round of CGD bidding and beyond is given below:-

**I. Cities covered under 04<sup>th</sup> Round of CGD Bidding**

Sl. No	Geographical Area	Sl. No	Geographical Area
1.	Ernakulum District	8.	Thane District
2.	Rangareddy&Medak Districts *	9.	UT of Daman
3.	Nalgonda District*	10.	UT of Dadar & Nagar Haveli
4.	Khammam District*	11.	Shahjahanpur District*
5.	Bengaluru Rural and Urban Districts	12.	Guna District*
6.	Raigarh District	13.	Panipat District
7.	Pune District	14.	Amritsar District

\*Bids not received.

**II. List of GAs(Districts) having natural gas pipeline connectivity at present identified for covering in 5<sup>th</sup> & 6<sup>th</sup> bidding rounds**

Sl. No.	GAs (District)	State	Sl. No.	GAs (District)	State
1	East Godavari	Andhra Pradesh	22	Bhiwani	Haryana
2	Belgaum	Karnataka	23	Ratnagiri	Maharashtra
3	Ahmadnagar	Maharashtra	24	Amreli	Gujarat
4	Krishna	Andhra Pradesh	25	Bhatinda	Punjab
5	Muzaffarnagar	Uttar Pradesh	26	Auraiya	Uttar Pradesh
6	West Godavari	Andhra Pradesh	27	Patan	Gujarat
7	Badaun	Uttar Pradesh	28	Baghpat	Uttar Pradesh
8	Aligarh	Uttar Pradesh	29	Etawah	Uttar Pradesh
9	Bulandshahr	Uttar Pradesh	30	Yamunanagar	Haryana
10	Saharanpur	Uttar Pradesh	31	Shahdol	Madhya Pradesh

11	Raibarielly	Uttar Pradesh	32	Gadag	Karnataka
12	Banaskantha	Gujarat	33	Jhabua	Madhya Pradesh
13	Latur	Maharashtra	34	Nainital	Uttarakhand
14	Dhar	Madhya Pradesh	35	Rewari	Haryana
15	Dahod	Gujarat	36	North Goa	Goa
16	Haridwar	Uttarakhand	37	Datia	Madhya Pradesh
17	Mainpuri	Uttar Pradesh	38	Rupnagar	Punjab
18	Shivpuri	Madhya Pradesh	39	Fatehgarh Sahib	Punjab
19	Bidar	Karnataka	40	Amethi	Uttar Pradesh
20	Osmanabad	Maharashtra	41	Hapur	Uttar Pradesh
21	Udham Singh Nagar	Uttarakhand			

**III. List of GAs (Districts) which could have natural gas pipeline connectivity and could be covered in subsequent bidding rounds**

Sl. No.	GAs (District)	State/Union Territory	Sl. No.	GAs (District)	State/Union Territory
1	Guntur	Andhra Pradesh	16	Ramanagaram	Karnataka
2	Warangal	Andhra Pradesh	17	Nagpur	Maharashtra
3	Hissar	Haryana	18	Solapur	Maharashtra
4	Karnal	Haryana	09	Kolhapur	Maharashtra
5	Jind	Haryana	20	Satara	Maharashtra
6	Ambala	Haryana	21	Chandrapur	Maharashtra
7	Rohtak	Haryana	22	Gadchiroli	Maharashtra
8	Kurukshetra	Haryana	23	Wardha	Maharashtra
9	Tumkur	Karnataka	24	Patiala	Punjab
10	Gulbarga	Karnataka	25	Sangrur	Punjab
11	Bellary	Karnataka	26	Yanam UT	Puducherry
12	Davangere	Karnataka	27	Hardoi	Uttar Pradesh
13	Dharwad	Karnataka	28	Rampur	Uttar Pradesh
14	Shimoga	Karnataka	29	Hathras	Uttar Pradesh
15	Chitradurga	Karnataka	30	Dehradun	Uttarakhand

1.32 In regard to the '**status on Hydrogen fuel**', the Expert Committee on Auto Fuel Vision & Policy, 2025 provides the following information:

"The Ministry of New and Renewable Energy (MNRE) had set up the National Hydrogen Energy Road Map with the objective to identify the paths, which will lead to gradual introduction of Hydrogen Energy in the country, accelerate commercialisation efforts and facilitate creation of Hydrogen Energy

Infrastructure in the country. It provides a comprehensive approach to the development of components of hydrogen energy system, ranging from production, storage, transport, delivery, applications, safety & standards, education & awareness among others".

### **Fuel Economy Standards for New Vehicles:**

1.33 The Committee observe that mandatory declaration of fuel economy standards was one of the objectives of the earlier auto fuel policy. The Committee have learnt that Bureau of Energy Efficiency in cooperation with the Petroleum Conservation and Research Association have taken up the task of developing methodology for fuel economy standards and labeling programme i.e. star rating system for new vehicles.

1.34 When asked about the progress in this regard, the Ministry has stated as under:

"With regard to fuel efficiency, the Government of India has issued Gazette Notification dated 30 January 2014. This requires average fleet fuel efficiency improvement to 18.2 km/l by 2016-17 and further to 21 km/l by 2021-22. These targets imply annualised improvement of 1.7% and 3.0% respectively going forward.

1.35 Further, in regard to Fuel Economy Standards the Ministry vide written replies dated 27.01.2010 have submitted the following information:

"Ministry of Road Transport and Highways (MoRT&H) is the nodal agency in the country for issuing notification related to Safety and emission. Standing Committee on implementation of emission legislation (SCOE) constituted by MoRT&H is responsible for drafting such legislation. SCOE constituted a sub-committee for formulating CO<sub>2</sub> standards for transport vehicles. The Committee submitted its Report on 'Proposal for Fuel efficiency standards for new Passenger vehicles (M1 Category), two wheelers and three wheelers in India' to MoRT&H.

MoRT&H has informed that action is being taken to mandate fuel efficiency norms for M1 category vehicles unladen weight equal to or less than 3500 kg. and labelling of vehicles on fuel economy standards under CMVRs in consultation with Ministry of Energy.

The Bureau of Energy Efficiency (BEE) in co-operation with the Petroleum Conservation Research Association (PCRA) has also taken up the task of developing the methodology and process for fuel economy standards and labeling programme for passenger cars under the Energy Conservation Act 2001. BEE is advocating of establishing fuel economy standards based on 'Front runner method'. They are also proposing labeling programme (Star Rating) to provide consumers with comparative information about fuel economy of all cars in the market. This programme will divide the fuel economy range of cars into

five categories - one star to five stars. Star rating indicates the fuel economy range of the vehicle model without giving the exact value of fuel economy".

### **Pollution Under Check System**

1.36 In regard to the status pertaining to replacement of pollution under control system with a more reliable computerized system in all cities/towns across the country as envisaged in the auto fuel policy for identifying polluting vehicles, the Ministry has submitted the following information:

"As per information furnished by Ministry of Road Transport & Highways (MoRT&H), there is proposal under consideration in Government of India for replacement of pollution under control system Vahan platform is available to all states and their agencies to computerised the PUC certification system. However, the State Governments have been upgrading their pollution checking system to the Computerised system based on their own initiatives. Some of the States like Delhi and Karnataka, not only have a computerised system, but the system is also networked to access the data of all the vehicles tested in the State".

1.37 Further, with regard to the establishment of centralized data analysis centre to collect information from all PUC Centres regarding polluting vehicles along with the expenditure incurred for the same and also the success of this centre in the analysis and interpretation of polluting vehicles, the Ministry has submitted the following information:

"MoRT&H has informed that some of the States like Delhi, Karnataka and Andhra Pradesh, have a system for collecting information from all pollution checking centres in the State. Apart from an estimated Annual expenditure of several lakhs of rupees for maintaining the networked Computerised Emission database controlling system, there is limited manpower in the respective State Government to manage a computerised Emission Control checking system. However the states are doing their best to monitor such systems with their resources".

### **Inspection & Maintenance System:**

1.38 The Committee observed that vehicle inspection and certification system are crucial to enhance the overall safety and emission performance of the vehicles plying on the roads and also for better fuel efficiency of vehicles. The Auto Fuel Policy, 2003 envisaged introduction of I&M system in eleven major cities i.e. Delhi, Mumbai, Chennai, Kolkata, Hyderabad, Bangalore, Ahmedabad, Pune, Surat, Kanpur and Agra on an urgent basis.

1.39 On being asked as to whether the Ministry is contemplating to set up inspection and certification (I&C) centres throughout the country for overall safety and emission performance of vehicles, the Ministry has submitted the following information:

"MoRTH has informed that it has provided in the Central Motor Vehicle Rules, 1989 (CMVRs) Rule 63 for "Regulation and control of authorized testing station." This power vests with the registering authority of the State Governments under the CMVRs.

Rule 115 (7) of CMVRs mandates that after the expiry of a period of one year from the date on which a motor vehicle was first registered, every such vehicle shall carry a valid "Pollution Under Control Certificate "issued by an agency authorized for this purpose by the State Government. The validity of the certificate shall be 12 months for the vehicle manufactured as per Bharat Stage IV norms.

With regard to the setting up of Inspection and Certification Centres, during the 11th Plan, the Central Government sanctioned 10 model automated I&C Centres for setting up one each in the States of Andhra Pradesh (now in Telangana), Karnataka, Gujarat, Maharashtra, Rajasthan, Himachal Pradesh, Haryana, Madhya Pradesh, Uttar Pradesh and Delhi. It is expected that some of the centres may be operational by 31.03.2015. It would be mandatory for the concerned States to authorize the model centres as "authorized testing station" under Section 56 of the Act. The Government wants to present these centres as a viable business proposition for replication by the private sector.

Ministry of Road Transport & Highways has decided to sanction 10 I&C Centres during the 12<sup>th</sup> Plan for which proposals were sought from the State Governments. The Ministry has so far sanctioned I&C Centre to be set up one each at Cuttack, Odisha and Kolkata, West Bengal".

1.40 Further, in regard to in-use vehicle management/inspection & maintenance programme, the Expert Committee Report on Auto Fuel Vision & Policy, 2025 stated as under:

"There is a great need to ensure that in-use vehicles – that is the stock of motor vehicles – are subject to regular inspection & maintenance for emission performance. There is thus an urgent need to institute an effective system for Inspection & Maintenance (I&M) regime for in-use vehicles in India. There should be a policy for the phasing out of older commercial vehicles. While, vehicles serving as personal transport cover less and less distance with age that is not the case with commercial vehicles. It is therefore necessary to have a clear process through which older vehicles, especially those which are clearly unable to meet extant emission norms are phased out of service".

### **Vehicular Retirement Policy:**

1.41 Apart from the reduction of in-use vehicular pollution, phasing out of old vehicles is also required as the pollution level emitting from such vehicles is high in spite of their using improved quality of fuel. In this regard, when asked to provide brief note on vehicle retirement policy in the country, the Ministry has submitted the following information:

"The regulations for "End of Life" of vehicles is stated in the Motor Vehicle Act, 1988 and the CMVR, 1989. The basic requirement is that every Transport vehicle is to get a fitness test check for allowing it to move on the roads. When the vehicles can no longer be declared as to clear in the fitness test the vehicle cannot move on the road. For private and other vehicles the duration of fitness test is different. In order to check the fitness of the vehicles and certify its road worthiness, the I&C Centres are being setup. During 11<sup>th</sup> Plan, the Central Government sanctioned 10 model automated I&C Centre for setting up one each in the States of Andhra Pradesh, (now in Telangana), Karnataka, Gujarat, Maharashtra, Rajasthan, Himachal Pradesh, Haryana, Madhya Pradesh, Uttar Pradesh and Delhi. Under the scheme, the land is made available by the concerned States. Cost towards equipments, construction of building and establishment of utilities as well as actual cost of operation for the first year would be borne by the Central Government.

The civil construction of I&C Centre sanctioned during 11<sup>th</sup> Plan is in progress.

Ministry of Road Transport & Highways has decided to sanction 10 I&C Centres during 12<sup>th</sup> Plan for which proposals were sought from the State. The Ministry has sanctioned I&C Centres to be set up one each at Cuttack, Odisha and Kolkata, West Bengal.

However this program needs to be augmented substantially to cover all transport vehicles in all States of the country which would need more than 150 such Inspection Centres.

In addition to setting up the above Centres, the Government felt the need for finalising the standards for safe disposal of end of life vehicles and reduction of heavy metals in the vehicles. However, the Government realise the need to minimise the impact of End-of-Life Vehicles (ELV) on environment, thus contributing to the protection, preservation and improvement of the quality of the environment and energy conservation. SIAM is in the process of formulating the standard (AIS-129) for regulation for the safe disposal of ELVs and reduction of heavy metals in the vehicles.

At present the Ministry do not propose to mandate age limit of private vehicles because this is a short cut approach and fitness testing of the vehicles will prove whether the vehicles has reached its end of life or not. However, Sub-rule 1- 4 of

Rule 88 of Central Motor Vehicles Rules, 1989 (CMVRs) provides that, no national permit shall be granted in respect of goods carriage, other than multi axle vehicle, which is more than 12 years old; for multi axle goods carriage vehicle which is more than 15 years old and in respect of multi axle trailer approved to carry Gross Vehicle Weight of more than 50 tons which is more than 25 years old. Rule 82 of CMVRs also provides that tourist permit shall be deemed to be invalid from the date on which the motor vehicle covered by the permit completes 9 years in the case of motor cabs and 8 years where the motor vehicle is other than a motor cab, unless the motor vehicle is replaced. Section 41(7) of Motor Vehicles Act, 1988 provides that the certificate of registration in respect of motor vehicle other than transport vehicle shall be valid for a period of 15 years".

1.42 Further, on the same issue, the Ministry of P&NG have stated as under:

"As per the Expert Committee report on Auto Fuel Vision & Policy 2025, there should be a policy for phasing out of older commercial vehicles (15 years subject to MORT&H judgement). Vehicles that are used as personal transport cover progressively less and less distance with age. The NGT has recommended to ban all type of vehicles that are 15 year or more old in the NCR.

However, MORT&H may be able to provide the desired information and the current status".

1.43 In regard to the Government's plan to derive the intended benefits of air quality in the absence of retirement policy of vehicles, the Ministry has stated as under:

"In the absence of implementation of I&M, PUC and retirement policy recommended by the Auto Fuel Policy 2003 for in-use vehicles, the intended benefits may not be available to the extent desired"

1.44 Further, when asked about the steps initiated for the reduction of periodicity of inspection and certification of private/commercial vehicles from the existing 15 years, the Ministry has submitted as under:

"It has been informed by MoRT&H that the Commercial vehicles & Transport Vehicles are required to undertake fitness test annually registration after 2 years for new registered vehicle. The fitness for private vehicle is after 15 years from the first registration, with a frequency of 5 year".

1.45 Also, enquired as to what extent prevailing socio-economic conditions in the country are hindering the process of reducing the time limit fixation of I&C of vehicles, the Ministry has provided the following information:



"MoRT&H has stated that the existing Motor Vehicles Act, 1988 and the Central Motor Vehicles Rules, 1989 provides as under:

**Sub-rule 1 to 4 of Rule 88 of CMVRs-** No national permit shall be granted in respect of a goods carriage, other than multi axle vehicle, which is more than 12 years old at any point of time. ; for multi axle goods carriage vehicle which is more than 15 years old and in respect of multi axle trailer approved carry GVW of more than 50 tons which is more than 25 years old.

**Rule 82-** Tourist permit shall be deemed to be invalid from the date on which the motor vehicle covered by the permit completes 9 years in the case of a motor cab and 8 years where motor vehicle is other than a motor cab.

- For transport vehicles, annual fitness of vehicles are to be carried out to renew the registration of such vehicles. The end of life vehicle is declared where such vehicle cannot be declared as road worthy even after repair.
- For private vehicles fitness is after 15 years of registration of new vehicles. Next fitness test is once every 5 years till the vehicle can no longer be repaired/maintained to pass fitness tests".

1.46 The Committee have noted that as per Sunder Committee Report on Motor Vehicles Act, 1988, the Central Government has powers to fix the age limit to motor vehicles as mentioned in the following:

"Power to fix the age limit of motor vehicle.—(1) The Central Government may, having regard to the public safety, convenience and objects of this Act, by notification in the Official Gazette, specify the life of a motor vehicle reckoned from the date of its manufacture, after the expiry of which the motor vehicle shall not be deemed to comply with the requirements of this Act and the Rules made thereunder: Provided that the Central Government may specify different ages for different classes or different types of motor vehicles. (2) Notwithstanding anything contained in sub-section (1), the Central Government may, having regard to the purpose of a motor vehicle, such as, display or use for the purposes of a demonstration in any exhibition, use for the purposes of technical research or taking part in a vintage car rally, by notification in the Official Gazette, exempt, by a general or special order, subject to such conditions as may be specified in such notification, any class or type of motor vehicle from the operation of sub-section (1) for the purpose to be stated in the notification. (3) Notwithstanding anything contained in section 40, no prescribed authority or authorized testing station shall grant a certificate of fitness to a motor vehicle in contravention of the provisions of any notification issued under sub-section (1). (4) The Central Government may, have regard to the public safety, convenience and objects of this Act, may frame rules for recycling of such vehicles and parts thereof ".

1.47 Further, when enquired about the vehicle retirement policy, the Ministry has provided the following:

"As regards the Vehicle Retirement Policy, it is mentioned that under Section 59 of the Motor Vehicles Act, 1988 the Central Government has the power to fix the age limit of motor vehicles. However, this power has not yet been invoked,

keeping in view the socio-economic condition of our country. As such, the stress has been on establishment of a strict fitness regime for motor vehicles. The transport vehicles have to undergo fitness test every year after two years of initial registration. Private vehicles are required to undergo fitness test after 15 years before the validity of the registration certificate is extended. The Sundar Committee set up by MoRT&H to review the Motor Vehicles Act, 1988 has recommended that the periodicity of Inspection and Certification of private vehicles be reduced from 15 years. The report has been circulated to all the States for feedback and MoRTH proposed to move another round of amendments in the Act on the basis of the feedback received. The issue of bringing private vehicles under strict fitness regime may be considered at that stage".

### **Implementation Schedule of Vehicular Emission Norms:**

1.48 Regarding the current vehicular emission norms notified by the Government, the Ministry of Road & Transport have provided the following information,

- (1) For 2-wheeler vehicles, Bharat Stage IV notification no. G.S.R. 431 (E) dated 4<sup>th</sup> July 2014 will be effective w.e.f. 01-04-2016 for new vehicle models & w.e.f. April 2017 for existing vehicle modes.
- (2) For 3-wheeler vehicles, Bharat Stage IV Draft notification no. G.S.R. 878 (E) dated 8<sup>th</sup> Dec. 2014 exists and the same is now under finalization which is proposed to be effective 01-04-2016 for new vehicle models & w.e.f. April 2017 for existing vehicle modes.
- (3) For all 4 wheeler vehicles, Draft Bharat Stage IV notification is under finalization which will be applicable nation-wide and the same is proposed to be effective from 01-04-2017.

1.49 For four wheeled vehicles, BS IV Emission norms have been presently notified for implementation in 33 major cities across the country. In the rest of the country, BS III Emission norms are applicable. MoRTH has also decided to notify extension of BS IV Emission norms in most of the Northern part of the country from October 2015, as per the regions identified by Ministry of Petroleum and Natural Gas. Thereafter, BS IV will be extended to most of the Southern parts of the country in April 2016 and finally BS IV will be extended across the country by April 2017, aligning with the timelines of fuel availability communicated to MoRTH by MoPNG.

1.50 For Two Wheelers, BS-IV Emission norms have been notified for new models manufactured from the year April 2016 onwards, while BS IV Emission norms for Three Wheelers for new models manufactured from the year April 2016 onwards will be notified very soon.

1.51 The Expert Committee on Auto Fuel Vision and Policy 2025, formed by MoPNG, has finalised a roadmap for implementation of BS V Emission norms across the country from the year 2020 onwards and BS VI Emission norms across the country from the year 2024 onwards. It is suggested that the roadmap for future emission norms is

approved and announced at the earliest to enable MoRTH issue necessary notification for introducing BS V and BS VI emission norms in the country.

1.52 Further, on the prevailing vehicular emission norms in the country, the Ministry has submitted the following:

"Presently BS-III and BS-IV emission norms are in vogue in respect of 4-wheeler passenger cars, light commercial vehicles and heavy duty vehicles. In respect of 2 & 3-wheelers, BS-III norms are in force in the entire country. While, BS-IV emission norms for 2 & 3-wheelers will be applicable for vehicles manufactured from 1 April 2016. The proposed BS-IV emission norms for 2 & 3-wheelers are stringent than Euro norms".

### **Up-gradation of Vehicular Engine Technologies:**

1.53 Further, asked about the efforts being made by the automobile industry to upgrade vehicular engine technologies in conformity with the future uniform fuel norms in the country, the Ministry has submitted the following details:

"The automobile industry has to upgrade their engine and after treatment technologies in line with the Auto Fuel Policy 2003 for meeting BS-III and BS-IV emission norms. Similarly, they have agreed to upgrade the vehicle technology to meet the recommended emission norms given in the roadmap. MORT&H will be able to provide detailed information in respect of new vehicles meeting BS-V/ BS-VI emission norms".

1.54 Further, in regard to the role of vehicle manufacturers in the technological up-gradation, the Ministry has furnished the following details:

"Various technology changes to meet BS-IV to BS-VI emission norms are given below:

<b>Vehicle type</b>	<b>Fuel</b>	<b>Technology changes</b>
2-wheeler	Gasoline	Fuel injection, 3-way catalytic converter, close loop engine, OBD
3-wheeler	Gasoline	Fuel Injection
	CNG	Three Way Catalytic
	Diesel	With new similar to common rail (CRS) fuel injection system, electrical cooled EGR & higher loading DOC with DPF

<b>Category</b>	<b>BS-IV to BS-V</b>	<b>BS-V to BS-VI</b>
4-wheeler < 3.5 T - Petrol/ CNG	<ul style="list-style-type: none"> <li>▪ MPFI, 2V/4V per Cylinder</li> <li>▪ Close coupled catalyst - higher PGM (dual/ zone</li> </ul>	<ul style="list-style-type: none"> <li>▪ MPFI, 4V per Cylinder</li> <li>▪ Close coupled catalyst - higher PGM (dual/ zone</li> </ul>

	coating) <ul style="list-style-type: none"> <li>▪ Electronic Throttle Control (Drive by wire)</li> <li>▪ New EMS with additional sensors and actuators.</li> <li>▪ VVT, dual VVT (optional)</li> <li>▪ Vehicle weight reduction</li> <li>▪ Vehicle aerodynamic improvement, low resistance tyres etc.</li> </ul>	coating) <ul style="list-style-type: none"> <li>▪ Electronic Throttle Control (Drive by wire)</li> <li>▪ New EMS with additional sensors and actuators.</li> <li>▪ VVT, dual VVT (optional)</li> <li>▪ GDI optional</li> <li>▪ Vehicle weight reduction</li> <li>▪ Vehicle aerodynamic improvement, low resistance tyres etc.</li> </ul>
4-wheeler < 3.5 T - Diesel	<ul style="list-style-type: none"> <li>▪ DI engines with lower CR and 4V</li> <li>▪ Electronic FIE (CR/ UI)</li> <li>▪ New EMS with additional sensors and actuators</li> <li>▪ Turbo chargers (VGT or WG) with intercooler</li> <li>▪ Cooled EGR, DOC-higher PGM</li> <li>▪ DPF</li> <li>▪ Vehicle weight reduction</li> <li>▪ Vehicle aerodynamic improvement, low resistance tyres etc.</li> </ul>	<ul style="list-style-type: none"> <li>▪ DI engines with lower CR and 4V</li> <li>▪ Electronic FIE (CR/ UI)</li> <li>▪ New EMS with additional sensors and actuators</li> <li>▪ Turbo chargers (VGT or WG) with intercooler</li> <li>▪ Cooled EGR, DOC-higher PGM</li> <li>▪ DPF &amp; SCR/ LNT</li> <li>▪ Vehicle weight reduction</li> <li>▪ Vehicle aerodynamic improvement, low resistance tyres etc.</li> </ul>

<b>Category</b>	<b>BS-IV to BS-V</b>	<b>BS-V to BS-VI</b>
4-wheeler > 3.5 T - Diesel	<ul style="list-style-type: none"> <li>▪ DI engine with 4V and lower CR</li> <li>▪ Electronic fuel injection system (CR/ UI)</li> <li>▪ EMS with additional sensors and actuators</li> <li>▪ TC (VGT or WG) with intercoolers</li> <li>▪ Cooled EGR</li> <li>▪ DOC + DPF/ SCR</li> <li>▪ Vehicles weight reduction</li> <li>▪ Vehicles aerodynamic improvement, low resistance tyres etc.</li> </ul>	<ul style="list-style-type: none"> <li>▪ DI engine with 4V and lower CR</li> <li>▪ Electronic fuel injection system (CR/ UI)</li> <li>▪ EMS with additional sensors and actuators</li> <li>▪ TC (VGT or WG) with intercooler</li> <li>▪ Two stage cooled EGR</li> <li>▪ DOC + DPF + SCR</li> <li>▪ Vehicles weight reduction</li> <li>▪ Vehicles aerodynamic improvement, low resistance tyres etc.</li> </ul>

Cost increase in meeting BS-IV to BS-VI emission norms:

<b>Vehicle type</b>	<b>Fuel</b>	<b>Approx. cost increase/ unit, Rs.</b>		
		<b>BS-IV to BS-V</b>	<b>BS-V to</b>	<b>BS-IV to</b>

			<b>BS-VI</b>	<b>BS-VI</b>
2-wheeler	Gasoline	1000-6300	No BS-VI spec	
3-wheeler	Gasoline	6800-7500	No BS-VI spec	
	CNG	7500-9500	No BS-VI spec	
	Diesel	20,000	No BS-VI spec	
4-wheeler	Gasoline	3,000–5,000	4,000–6,000	7000-11,000
	Diesel	30,000–50,000	20,000-40,000	50,000-90,000
	CNG	3,000–5,000	4,000–6,000	7000-11,000
Heavy duty vehicle	Diesel	80,000–100,000	80,000–100,000	1,60,000-2,00,000
	CNG	30,000–40,000	40,000–50,000	70,000-90,000

However, MORT&H may be able to provide additional information".

1.55 When asked about the efforts made by the automobile industry to upgrade vehicular engine technologies in conformity with the future uniform fuel norms as envisaged in the National Auto Fuel Policy in the country, the Ministry of Road & Transport have provided the following information:

"Vehicle manufacturers have to develop and invest in technology for meeting the stringent emission regulations specified in the Auto Fuel Policy. In case of Gasoline engines the targets for NO<sub>x</sub> will become more stringent. Along with this higher durability requirements for emission control are needed along with more stringent Deterioration factors. The gasoline engines will have to employ more durable emission control from engine out along with a more durable emission after treatment system. The A/F ratio control will have to be more precise with high pressure injection, wide range A/F sensors along with better control system for precision injection. In some engines, still higher injection pressures may be employed for better atomization and pre-mixing of fuel. After treatment systems need to have better technology for longer durability requirements. For Direct injection gasoline, particulate filters will also become a standard feature.

In case of Diesel engine, major technology changes will be required to meet the stringent Euro V and Euro VI requirements. For meeting Euro V, engines will have to become more durable from emission point of view and DPF and/or SCR technologies are necessary for light duty vehicles. The manufacturer will employ any of the above technologies depending on the cost & packaging possibilities.

In case of DPF, firstly more Precise control of EGR and higher EGR rates will be employed for reduction of NOx at engine out level. To control EGR rates accurately at low load conditions a throttle body may also need to be added. The after-treatment system in this case will be a particulate filter possibly in a closed coupled position. This will be required for control of Particulate matter and also Particulate Numbers. For regenerating the particulate filter engine will also require modifications for measurement of Pressure drop across the filter and also exhaust temperatures. This will be required for implementing control strategies for filter regeneration and temperature control during regeneration.

In case of a SCR, the strategy would be to reduce NOx using SCR and reduce Particulate emissions using DPF.

Category	BS 3 to BS 4	BS 4 to BS 5	BS 5 to BS 6
4W < 3.5T - Petrol/ CNG	<ul style="list-style-type: none"> <li>• MPFI, 2V/4V per Cylinder</li> <li>• Close coupled catalyst - higher PGM loading</li> <li>• Electronic Throttle Control (Drive by wire) – Optional</li> <li>• New EMS with additional sensors &amp; actuators</li> <li>• VVT, Dual VVT (Optional)</li> <li>• Turbocharger (Optional)</li> </ul>	<ul style="list-style-type: none"> <li>• MPFI, 2V/4V per Cylinder</li> <li>• Close coupled catalyst - higher PGM (dual/zone coating)</li> <li>• Electronic Throttle Control (Drive by wire)</li> <li>• New EMS with additional sensors &amp; actuators</li> <li>• VVT, Dual VVT (Optional)</li> <li>• Vehicle weight reduction</li> <li>• Vehicle aero dynamic improvement, low resistance tyres etc.</li> </ul>	<ul style="list-style-type: none"> <li>• MPFI, 4V per Cylinder</li> <li>• Close coupled catalyst -higher PGM (dual/zone coating)</li> <li>• Electronic Throttle Control (Drive by wire)</li> <li>• New EMS with additional sensors &amp; actuators</li> <li>• VVT, Dual VVT (Optional)</li> <li>• GDI (optional)</li> <li>• Vehicle weight reduction</li> <li>• Vehicle aero dynamic improvement, low resistance tyres etc.</li> </ul>
4W < 3.5T - Diesel	<ul style="list-style-type: none"> <li>• DI / DI Engines with 2/4 V</li> <li>• High pressure mechanical / electronic FIE</li> <li>• Base EMS with sensors &amp; actuators</li> <li>• Turbochargers (VGT or WG) with intercooler</li> <li>• cooled EGR, DOC - higher PGM</li> </ul>	<ul style="list-style-type: none"> <li>• DI Engines with lower CR &amp; 4V</li> <li>• Electronic FIE(CR / UI)</li> <li>• New EMS with additional sensors &amp; actuators</li> <li>• Turbochargers (VGT or WG) with intercooler</li> <li>• Cooled EGR, DOC - higher PGM</li> <li>• DPF</li> <li>• Vehicle weight reduction</li> <li>• Vehicle aero dynamic improvement, low resistance tyres etc.</li> </ul>	<ul style="list-style-type: none"> <li>• DI Engines with lower CR &amp; 4V</li> <li>• Electronic FIE(CR / UI)</li> <li>• New EMS with additional sensors &amp; actuators</li> <li>• Turbochargers (VGT or WG) with intercooler</li> <li>• Cooled EGR, DOC - higher PGM</li> <li>• DPF &amp; SCR / LNT</li> <li>• Vehicle weight reduction</li> <li>• Vehicle aero dynamic improvement, low resistance tyres etc.</li> </ul>

For diesel vehicle more than 3.5ton GVW, DI engines are used with common rail or unit injector fuel injection system with either 2 valves or 4 valves per cylinder technology. Turbo-charging with intercooler, cooled EGR and Diesel Oxidation catalyst (DOC) with Partial filter or Selective Catalytic Reduction (SCR) are used as additional exhaust gas after treatment technologies.

For BS 5 up-gradation, 4 valves DI technology will become mandatory with reduction in compression ratio and all BS 4 technologies. DPF with active regeneration will replace Partial filter technology. To meet BS 6 norms, DOC with DPF and SCR will be used. Up-gradation to BS 5 and BS 6 will also need major changes at vehicle level including low resistance rolling technologies, aero dynamic improvements, weight reduction etc.

The below table provides generic technology changes needed for various emission regimes:

Category	BS 3 to BS 4	BS 4 to BS 5	BS 5 to BS 6
4W>3.5T - Diesel	<ul style="list-style-type: none"> <li>• DI Engines with 2 / 4 V</li> <li>• Electronic fuel injection system (CR/ UI)</li> <li>• EMS with additional sensors &amp; actuators</li> <li>• TC (VGT or WG) with intercooler &amp; cooled EGR.</li> <li>• DOC + Partial Filter/ SCR</li> </ul>	<ul style="list-style-type: none"> <li>• DI Engines with 4 V &amp; lower CR</li> <li>• Electronic fuel injection system (CR/ UI)</li> <li>• EMS with additional sensors &amp; actuators</li> <li>• TC (VGT or WG) with intercooler &amp; cooled EGR</li> <li>• DOC + DPF/ SCR</li> <li>• Vehicle weight reduction</li> <li>• Vehicle aero dynamic improvement, low resistance tyres etc.</li> </ul>	<ul style="list-style-type: none"> <li>• DI Engines with 4 V &amp; lower CR</li> <li>• Electronic fuel injection system (CR/ UI)</li> <li>• EMS with additional sensors &amp; actuators</li> <li>• TC (VGT or WG) with intercooler &amp; two stage cooled EGR</li> <li>• DOC + DPF + SCR</li> <li>• Vehicle weight reduction</li> <li>• Vehicle aero dynamic improvement, low resistance tyres etc.</li> </ul>

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**PART-II****OBSERVATIONS / RECOMMENDATIONS****Recommendation No.1****Implementation of Expert Committee Report on Auto Fuel Vision & Policy, 2025**

The Committee note that the Government constituted an Expert Committee on 13 September 2001 under the chairmanship of Shri R.A. Mashelkar to recommend an Auto Fuel Policy (AFP) for the country and also devise a roadmap for its implementation. The expert committee submitted their report in August, 2002 to the Government and based on the recommendations, Ministry of Petroleum and Natural Gas formulated an Auto Fuel Policy in October 2003 which covered various issues like vehicular emissions, automobile technologies, auto fuel quality and air quality data etc. Further, the Policy while laying the road map for fuel standards and emission norms, progressively envisaged introduction of upgraded auto fuels in various cities to make a decisive impact on ambient air quality in the country. It also recommended periodic revisions in the policy framework to allow adjustments that become inevitable in the light of technological and other changes.

The Committee observe that as a follow up to the Auto Fuel Policy, 2003, the Government constituted another Expert Committee in December 2012 under the chairmanship of Shri Saumitra Chaudhury, the then Member of Planning Commission, to prepare a draft Auto Fuel Vision & Policy of 2025. Accordingly, the Expert Committee drafted 'Auto Fuel Vision & Policy, 2025' and submitted the same in May 2014. The Committee note that the Expert Committee have recommended a detailed road map for auto fuel quality till 2025 for the country. The Committee appreciate the comprehensive coverage of various issues by the Expert Committee in its Report such as fuel quality, demand and supply of fuel, infrastructure and logistics of fuel quality related projects, promotion of alternate fuels, vehicular technologies, emission norms, health issues, ambient air quality, reduction of pollution from in-use vehicles and fiscal measures for funding requisite up-gradation of oil refineries.



In view of the above, the Committee consider that the Auto Fuel Policy of 2003 and the Expert Committee Report on Auto Fuel Vision and Policy, 2025 are vital public policy instruments at the disposal of the Government to address growing vehicular pollution in the country. The Committee, therefore, recommend the Ministry to chalk out an action plan for the implementation of Expert Committee recommendations as per the time line suggested or wherever possible earlier and adhere to the policy in letter and spirit. The Committee would also expect the Ministry to review the implementation of the policy with the organizations concerned under its charge at regular intervals.

### **Recommendation No.2**

#### **Setting up of Inter-Ministerial Mechanism at the Highest Level**

The Committee observe that implementation of Auto Fuel Vision and Policy 2025 requires concerted efforts on the part of several stake holders i.e. Ministry of Petroleum & Natural Gas, Ministry of Road Transport and Highways, Ministry of Heavy Industries, Ministry of Environment & Forests, Ministry of Urban Development, Automobile Industry and State Governments. In this regard, the Committee have been informed that Ministry of Road Transport & Highways (MoRT&H) has constituted Standing Committee on Emissions under the chairmanship of Joint Secretary (Transport) which is an Inter-Ministerial Committee with the representatives from Ministry of Petroleum and Natural Gas (MoP&NG), Ministry of Environment & Forests (MoEF), Central Pollution Control Board (CPCB) and Department of Heavy Industry (DHI) to deal with various pollution reducing measures. The Committee consider that the above Standing Committee on Emissions headed by JS (Transport) appears to be a low level Committee dealing only with the emission issue and as such it may not be effective in dealing with larger and complex issues on important aspects which require active involvement and coordination with other Ministries at the highest level.

The Committee feel that the implementation of Auto Fuel Policy requires multisectoral approach due to the involvement of multiple agencies. The Committee, therefore expect the Ministry of Petroleum & Natural Gas to be

proactive to play a leading role in coordinating the implementation of various measures initiated by different stakeholders. Therefore, the Committee, recommend that being the Nodal Ministry for Auto Fuel Vision and Policy 2025, the Ministry of Petroleum & Natural Gas should work out modalities at the earliest for constituting an inter-ministerial committee comprising of Secretaries of the Ministries concerned to deal with various policy issues relating to transport, environment and heavy industry sectors. The Committee further, desire that a study may be conducted to assess the benefits that arise out of the implementation of Auto Fuel Vision and Policy 2025 vis-a-vis the expenditure that would be incurred to implement the entire gamut of issues dealt in the policy.

### Recommendation No.3

#### One Country - One Fuel Norm

The Committee note that National Auto Fuel Policy envisages phase-wise introduction of upgraded quality of fuels to reduce vehicular emissions in the country. According to Auto Fuel Policy 2003, it is observed that BS-III quality of fuels i.e. Motor Spirit (MS) and High Speed Diesel (HSD) were proposed to be extended to entire country by 1 April, 2010 and BS-IV quality fuels to 11 major cities by 1 April, 2010. Subsequently, the Government has taken decision to extend BS-IV quality fuel to 50 additional cities by March, 2015. However, BS-IV quality fuels have so far been introduced only in 26 highly polluted cities and remaining 24 cities are in the process of being covered by the aforementioned deadline. The Committee feel that given the successful implementation of BS-IV quality fuels for four wheelers in 50 cities by the end of March, 2015, a road map now needs to be drawn and notified for implementation of BS-IV fuel for not just in 50 cities but across the country so as to achieve 'One Country - One Fuel Norm' in the shortest possible time. Further, the Committee observe that various existing logistical constraints for meeting the requirements of upgraded quality of fuels may be taken into consideration to realize this objective.

In this regard, the Committee note the recommendation contained in the Auto Fuel Policy & Vision, 2025 on the implementation of BS-IV fuel in the entire country by April, 2017 in phases. The Committee, further note that the Expert

Committee have also recommended for further introduction of BS-V fuel by 2020 and BS-VI fuel by 2024. The Committee have been informed that there is no change between BS-V and BS-VI fuel quality as both envisage sulphur content at less than 10 ppm. The Government have informed the committee that it would like to introduce BS-VI quality fuel in the entire country by 2020. In regard to the implementation of uniform quality of fuels, the Committee observe that the presence of dual quality of fuel hampers the effective implementation of mandatory fuel efficiency norms in the country. Further, it may also create confusion as there is low awareness among public about the availability and usage of right quality of fuel in the market.

In view of the above, as the required infrastructure for production of BS-IV and BS-V/VI fuels are being developed in oil refineries, the Committee recommend the Ministry to strictly adhere to the implementation schedule of BS-IV quality of fuel for the entire country by April, 2017 and further BS-VI by 2020 so that 'One Country - One Fuel Norm' will become a reality.

#### Recommendation No.4

##### Up-gradation of Oil Refineries

The Committee observe that the up-gradation of infrastructure by OMCs is indispensable for the implementation of uniform fuel quality in the country. The Committee have been informed that in order to meet the required fuel quality in line with the Auto Fuel Policy, 2003, the oil refineries have till now invested over Rs. 35,000 crore for production and supply of BS-III and BS-IV gasoline and diesel fuels by upgrading their existing technologies. The Committee note that expansion of BS-IV quality of auto fuels throughout the country requires massive logistics exercise on the part of oil refineries. The Committee have also been informed that the Ministry is considering a proposal to switch over directly to BS-VI auto fuel from BS-IV by 2020 instead of step wise switching from BS-IV to BS-V by 2020 and then BS-V to BS-VI by April, 2024 as there is no change in fuel quality from BS-V to BS-VI.

The Committee note that at present some of the refineries in the public sector do not produce BS-IV quality fuel. For achieving the key objective of 'one country - one fuel', it is imperative that all oil refineries in the country should be upgraded in phase-wise manner for production of BS-IV quality of fuel in a time bound manner in tune with the rollout plan in the country by 2017.

In this regard, the Committee feel that the acceleration of up-gradation process of fuels by refineries at the earliest would certainly pave way for the realization of 'One Country- One Fuel' norm in the country. The Committee, therefore, recommend the Ministry to monitor the projects of oil refineries to upgrade the fuel quality from their current potential to the next higher level for meeting the production requirements of higher quality fuels and also ensure the rolling out of BS-VI quality fuel by all refineries in the country by 2020.

#### **Recommendation No.5**

#### **Mobilization of Funds for Up-gradation of Oil Refineries**

The Committee observe that up-gradation of oil refineries for the production of BS-IV & BS-V/VI quality of auto fuels is one of the key components of the implementation of Auto Fuel Vision and Policy, 2025. The Committee have been given to understand that to meet the BS-IV quality of fuel, sulphur content in the fuel is to be brought down from 150ppm to 50ppm in Motor Spirit and 350 ppm to 50 ppm in High Speed Diesel (HSD). The Committee have also been informed that to meet this requirement, new process units for sulphur reduction, hydrogen generation and sulphur recovery units as well as revamp/expansion of existing units are required to be installed in the refineries. Further, the Committee have learnt that up-gradation of refineries for the production of BS-IV & BS-V/VI quality of auto fuels requires huge capital expenditure to the tune of Rs.80,000 crore. In this regard, mobilization of funds has been projected as a matter of concern for oil refineries.

The Committee observe that due to the declining trend in the prices of international crude oil and the minimal under-recoveries, the mobilization of the projected capital expenditure of Rs. 80,000 crore for up-gradation of refineries

may not be an insurmountable task for OMCs/Government. Further, the Committee also note that the Ministry has not decided about levying of High Sulphur Cess of 75 paisa per litre on BS-III fuel to raise Rs. 10,000 crore and special fuel upgradation cess of 75 paisa per litre on all gasoline and diesel sold in India to mobilise approx. Rs. 64,000 crore to fund fuel upgradation projects of refineries as envisaged in the Auto Fuel Vision and Policy, 2025. The Committee, therefore, recommend the Ministry to take a decision at the earliest on the levying of cess for ensuring required funds for fuel up-gradation projects of OMCs.

#### **Recommendation No.6**

##### **Promotion of Alternate Fuels**

The Committee note that the Auto Fuel Policy, 2003 has envisaged the promotion of Research and Development (R&D) technologies for producing various alternative fuels like ethanol and bio-fuels from different energy sources. In this regard, the Committee are aware of the efforts initiated by the Government to promote various alternate fuels. Further, the Committee note that as per the Auto Fuel Vision & Policy, 2025 the Ministry of New and Renewable Energy (MNRE) has devised National Hydrogen Energy Road Map with the objectives to identify the paths leading to gradual introduction of hydrogen energy, accelerating commercialization efforts and facilitating creation of hydrogen energy infrastructure in the country.

The Committee further observe that given the depleting pool of hydrocarbon reserves, it is imperative on the part of the Government to explore the commercial viability of various non conventional fuels like bio-fuels and hydrogen fuel. The Committee also feel that the use of alternate fuels should be promoted for the sake of energy security and the reduction of vehicular emissions.

The Committee urge the Government to earnestly monitor the progress of 5% mandatory blending of ethanol with petrol in the entire country and also ensure its availability. The Committee also expect the Government to make sincere efforts to expedite the commercial viability of non-conventional fuels like

bio-diesel fuel. Further, Research and Development (R&D) activities must be stepped up to explore the commercial viability of hydrogen fuel. The Committee also recommend the Ministry of P&NG to coordinate with the Ministry of New and Renewable Energy for exploring the feasibility of vehicles run with solar powered batteries for overall energy security of the country. The Ministry is also urged to explore various other forms of non-conventional fuels being used in advanced countries.

#### **Recommendation No.7**

##### **Promotion of CNG**

The Committee observe that the Auto Fuel Vision and Policy 2025 has also laid emphasis on the use of Compressed Natural Gas (CNG) as viable fuel and it needs to be developed as a national mission. CNG being sulphur-free is an efficient and safe alternative fuel and vehicles running on it produce very less pollution and particulate matter (PM) in comparison to petrol and diesel vehicles. Moreover, CNG is much cheaper and India has also more natural gas reserves than petroleum reserves. However, the Committee are displeased to find that though CNG has been in use in India as an alternative auto fuel for more than a decade, its share is low. It is being supplied as an automotive fuel only in 44 geographical Area (GAs)/Districts in 13 states in addition to 47 locations in Gujarat comprising total 969 CNG stations in the whole country. The Committee further observe that only 2.26 million vehicles are served by these CNG Stations throughout the country which is a meagre number in comparison to approximate 15 crore total vehicles registered in the country.

The Committee note that in pursuance to its recommendation, the Petroleum and Natural Gas Regulatory Board (PNGRB) has begun the process of inviting bids for the Fourth, Fifth and Sixth rounds of City Gas Distribution network covering about 85 Geographical Areas/Districts in different States. The Committee while considering the environmental and economic benefits, express its dissatisfaction over the slow pace of expansion of CNG use in vehicles, particularly in metropolitan and semi-metropolitan cities including Delhi where air pollution has reached alarming levels. The Committee, therefore, recommend that

**the Ministry must give high priority for covering more and more areas under CNG so that ambient air quality could be ensured in the country.**

#### **Recommendation No.8**

##### **Fuel Economy Standards**

**The Committee note that one of the policy objectives of Auto Fuel Policy was the mandatory declaration of fuel economy standards by the automobile manufacturers. In this regard, a sub-committee of the Standing Committee on Implementation of Emission Legislation (SCOE) constituted by the Ministry of Road Transport & Highways had submitted its Report on 'Proposal for Fuel Efficiency Standards for New Passenger Vehicles' (M1 Category, two wheelers and three wheelers in India). Accordingly, Ministry of Road Transport & Highways has initiated action to mandate fuel efficiency norms for M1 category vehicles of unladen weight equal to or less than 3500 kg and labeling of vehicles on fuel economy standards under CMVRs in consultation with Ministry of Energy.**

**Further, the Committee note that the Bureau of Energy Efficiency (BEE) in cooperation with the Petroleum Conservation and Research Association (PCRA) has also taken up the task of developing methodology for fuel economy standards and labeling programme for passenger cars i.e. Star Rating System. Further, it has been noted that this programme provides consumers with comparative information about the division of fuel economy range of cars in the market into five categories i.e. one star to five stars.**

**The Committee note that declaration of fuel economy standards of new vehicles by automobile manufacturers will go a long-way in helping consumers to know about the fuel efficiency of their vehicles. In this regard, the Committee expect the Ministry of Heavy Industries to accord equal priority to vehicular emission norms along with the declaration of fuel economy standards of vehicles. Further, the Committee hope that given the rising cost of fuel, the star rating of fuel economy for new vehicles will not only help consumers in their decision making but also spur competitiveness among automobile manufacturers to produce more fuel efficient vehicles. The Committee, therefore, recommend the**

**Ministry of Petroleum and Natural Gas to coordinate the efforts of PCRA with BEE of the Ministry of Power for expeditious implementation of labeling programme.**

#### **Recommendation No.9**

##### **Pollution Under Check System**

**The Committee note that one of the policy objectives of Auto Fuel Policy, 2003 was reduction of pollution in in-use vehicles. The Policy envisaged that the existing PUC system should be replaced and upgraded to a more reliable computerized system by 1 April, 2005 for all categories of vehicles for ensuring better compliance, help to identify polluting vehicles and transfer data to a centralized location for further analysis and interpretation.**

**In this regard, the Committee have been informed that computerised PUC system for vehicles along with data collection are being undertaken by some states like Delhi, Karnataka and Andhra Pradesh and in rest of the States, it has not taken off well so far. The Committee have also learnt that the State Governments have been facing manpower and resource constraints for the maintenance of computerized emission control checking systems.**

**In view of the above, the Committee would like to emphasize that an efficient mechanism for checking pollution from in-use vehicles is vital to bring down pollution levels due to vehicular emissions. With the alarming rise of pollution levels becoming a major public health hazard in Indian cities, the Committee recommend that PUC centres should be set up in all the states of the country. Further, centralized national data centre should also be established at the earliest for collecting information from all PUC centres regarding polluting vehicles. The Committee also desire that if required, a Plan Scheme may be formulated and specific funds may be allocated for the purpose. In this regard, the Committee expect Ministry of P&NG to play proactive role to coordinate with Ministry of Road Transport & Highways and the State Governments so as to ensure an ambient air quality in the country.**



## **Recommendation No.10**

### **Inspection and Maintenance System**

The Committee observe that robust vehicle inspection and certification system would enhance overall safety and emission performance of vehicles plying on the roads and also would ensure better fuel efficiency of vehicles. The Committee observe that as per Auto Fuel Policy, 2003 inspection and maintenance system was initially scheduled to be introduced in 11 major cities on an urgent basis and subsequently throughout the country. Further, the Policy required Inspection and Maintenance (I&M) system for all categories of vehicles to be put in place by 1 April, 2005 in National Capital Territory of Delhi, by 1 April, 2006 in other 10 major cities and by 1 April, 2010 in the entire country.

The Committee, however, have learnt that there has been an inordinate delay in setting up of I&M system in the country. The Committee have been informed that Ministry of Road Transport & Highways (MORTH) has sanctioned 10 model automated inspection and certification (I&C) centers one each in 10 States during the 11<sup>th</sup> Five Year Plan on pilot basis. Further, the MORTH has decided to sanction 10 more I&C Centres during the 12th Plan for which proposals are being sought from State Governments.

The Committee are constrained to note that one of the important objectives of Auto Fuel Policy like the Inspection and Maintenance system has not taken off at all. The Committee have learnt that proper maintenance of existing vehicles would contribute towards reduction of exhaust emission as well as improvement in fuel economy. The Committee, therefore, recommend the MoP&NG to impress upon Ministry of Road Transport and Highways to set up I&C centres in all important cities and towns so as to facilitate for the successful implementation of Auto Fuel Policy.

The Committee also note that under the existing provisions of Motor Vehicles Act, 1988 mandatory checks are presently required for commercial vehicles only. Private vehicles are required to undergo fitness test after 15 years before the validity of registration certificate is renewed. Further, the Committee

observe that Sundar Committee which was set up in 2009 by the Ministry of Road, Transport and Highways to review Motor Vehicles Act has recommended for reduction of periodicity of inspection and certification of private vehicles from the existing 15 years, however, there is no such proposal as yet in this regard. The Committee have also learnt that the report of Sundar Committee has been circulated to all States to elicit feedback for further coordination on this matter.

The Committee, therefore, expect the Central Government to prevail upon State Governments to provide feedback on Sundar Committee Report at the earliest. Further, in order to ensure 'strict fitness regime' the Sundar Committee's recommendation to reduce the periodicity of inspections and maintenance and certification of private vehicles from the existing 15 years must be accorded top priority.

While acknowledging the importance of Auto Fuel Policy document and its recommendation in regard to the mandatory operationalization of Inspection and Maintenance System by 1 April 2010 in the entire country, the Committee observe that the MoRTH has displayed lackadaisical attitude in implementing the same by sanctioning only 10 centres each in 11th and 12th Five Year Plans respectively, thereby frittering away the objectives of the Policy. The Committee, therefore, would expect MoRTH to seriously review its role in initiating important measures to achieve the policy objectives of Auto Fuel Policy.

**Recommendation No.11**

#### **Vehicular Retirement Policy**

The Committee have learnt that under Section 59 of the Motor Vehicles Act of 1988, the Central Government is entrusted with powers to fix the age limit for retirement of motor vehicles. However, no age limit has been prescribed till date for retirement of motor vehicles by the Central Government given the socio economic conditions of the country. The Committee observe that in the absence of retirement policy, it may not be possible to derive the intended benefits of air quality improvement. Further, phasing out of old vehicles is an important requirement as the pollution levels from such vehicles is high in spite of using

improved quality fuels. The Committee feel that the formulation of vehicle retirement policy will certainly go a long way in ensuring ambient air quality in the country. The Committee, therefore, recommend the Ministry to invoke the powers under Motor Vehicles Act of 1988 to fix an age limit for retirement of vehicles without any delay by taking into consideration various parameters like mileage clock, emission levels, age of vehicles or other suitable criteria as may be decided by the Government.

#### **Recommendation No.12**

#### **Road Engineering and Mass Transport Systems**

The Committee note that one of the objectives of Auto Fuel Vision & Policy 2025 is to bring down emission reduction by making improvement in the quality of auto fuel as well as by upgradation for refineries by substantial improvement of automobile technologies.

While noting that the Policy has important objectives, the Committee would like to highlight some issues which need to be factored in by all Ministries concerned to enhance the benefits of the Policy. The Committee would also like to point out that application of road engineering in design and condition of roads, location of signals, design of speed breakers, type of quality of road, road gradient, etc. can play a very significant role in improving the fuel efficiency as well as emission levels of motor vehicles and can also reduce vehicle operation costs.

The Committee are also concerned with the growing use of personal vehicles, particularly automobiles for travel and transportation purposes in many parts of the country, especially in metropolitan cities which indicates the failure of public transport to cater to the needs of common man. This could also be partly attributed to inadequacy of public transport, lack of comfort, proper connectivity, etc. The Committee believe that a planned mass public transport system can bring a lot of benefits like lower pollution levels, decongestion of roads, less consumption of fossil fuels, lower accidents, etc. Hence, the Committee feel that the Government should seriously review the urban

transportation systems and adopt a holistic approach for ensuring last mile connectivity so that there will be enthusiasm and willingness among general public to use public transport systems. There will be additional incentive to use mass public transport systems as these are cheaper than personal vehicles.

The Committee, therefore, desire that Ministry of Petroleum & Natural Gas should bring these issues to the notice of Ministries concerned like the Ministry of Road Transport & Highways and Ministry of Urban Development to take appropriate measures and action with regard to road engineering and mass public transport systems in the country so as to derive maximum benefits from the Auto Fuel Vision & Policy 2025.

New Delhi;  
6 May, 2015  
16 Vaisakha, 1937 (Saka)

*PRALHAD JOSHI,*  
*Chairman,*  
*Standing Committee on*  
*Petroleum & Natural Gas.*

**MINUTES**  
**STANDING COMMITTEE ON PETROLEUM AND NATURAL GAS**  
**(2014-15)**

**FOURTEENTH SITTING**  
**(06.05.2015)**

The Committee sat on Wednesday, the 6<sup>th</sup> May, 2015 from 1000 hrs. to 1055 hrs. in Committee Room 'C', Parliament House Annexe, New Delhi.

**PRESENT**

Sh. Pralhad Joshi - Chairperson

**MEMBERS**

**LOK SABHA**

- 2 Dr. Ravindra Babu
- 3 Shri Kalikesh N. Singh Deo
- 4 Shrimati Rama Devi
- 5 Shri Elumalai V.
- 6 Dr. Thokchom Meinya
- 7 Shrimati Pratima Mondal
- 8 Shrimati Jayshreeben Patel
- 9 Shri Arvind Sawant
- 10 Shri Raju Shetty
- 11 Shri Kamakhya Prasad Tasa
- 12 Shri Rajesh Verma
- 13 Shri Laxmi Narayan Yadav

**RAJYA SABHA**

- 14 Shri Bhubaneshwar Kalita
- 15 Shri Mansukh L. Mandaviya
- 16 Shrimati Gundu Sudharani

**SECRETARIAT**

1. Shri A.K.Singh - Joint Secretary
2. Shri S.C. Chaudhary - Director
3. Shri H.Ram Prakash - Additional Director

2. At the outset, Hon'ble Chairman welcomed the Members to the sitting of the Committee held to consider and adopt Draft Report on the subject 'National Auto Fuel Policy'.
3. The Committee, thereafter, considered and adopted the draft Report on the subject 'National Auto Fuel Policy' with minor modifications.
4. The Committee authorised the Chairman to finalize the report and present/lay in both the Houses of Parliament.

**The Committee then adjourned.**

**MINUTES****STANDING COMMITTEE ON PETROLEUM & NATURAL GAS  
(2010-11)****ELEVENTH SITTING  
(20.6.2011)**

The Committee sat on Monday, the 20<sup>th</sup> June, 2011 from 1100 hrs. to 1430 hrs. in Committee Room "D", Parliament House Annexe, New Delhi.

**PRESENT**

**Shri Aruna Kumar Vundavalli - Chairman**

**MEMBERS  
Lok Sabha**

- 2 Shri Anandrao Adsul
- 3 Shri Ramesh Bais
- 4 Dr. Ratna De
- 5 Shri Mukesh B. Gadhvi
- 6 Shri Dilipkumar Mansukhlal Gandhi
- 7 Shri Maheshwar Hazari
- 8 Shri Gorakh Prasad Jaiswal
- 9 Shri Sudarshan Bhagat
- 10 Shri Vikrambhai A. Madam
- 11 Dr. Thokchom Meinya
- 12 Shri Mahabal Mishra
- 13 Shri Danve Raosaheb Patil
- 14 Shri C.L. Ruala
- 15 Shir A.K.S. Vijayan
- 16 Shri Om Prakash Yadav

**Rajya Sabha**

- 17 Shri Sillvius Condpan
- 18 Shri Vijay Kumar Rupani
- 19 Shri Tapan Kumar Sen
- 20 Prof. Ram Gopal Yadav
- 21 Dr. Prabha Thakur
- 22 Shri Sabir Ali

**Secretariat**

1. Shri A.K. Singh - Joint Secretary
2. Smt. Anita Jain - Director
3. Shri Arvind Sharma - Deputy Secretary

**Representatives of the Ministry of Petroleum & Natural Gas**

1. Shri G.C.Chaturvedi - Secretary
2. Shri Sudhir Bhargava - Additional Secretary
3. Shri L.N.Gupta - Joint Secretary
4. Shri Apurva Chandra - Joint Secretary

**Ministry of Road Transport and Highways**

1. Shri Anand Prakash - Director

**Ministry of Heavy Industries and Public Enterprises**

1. Shri Sushil Lakra - Industrial Advisor

**Ministry of Environment and Forests**

1. Shri R.K.Suri - Director

**Representatives of Public Sector Undertakings and other organizations**

1. Shri S. Roy Chowdhury - C&MD, HPCL
2. Shri R.K. Singh - C&MD, BPCL
3. Shri B. Mohanty - Director, PPAC
4. Shri B.N.Bankapur - Director (Refineries), IOCL
5. Shri G.C.Daga - Director (Mkt), IOCL
6. Shri R.K.Malhotra - Director (R&D), IOCL
7. Shri K. Murali - Director (Refineries), HPCL

2. At the outset, Hon'ble Chairman congratulated the Secretary, Ministry of Petroleum and Natural Gas on his appointment to this post and then welcomed the accompanying officials of the Ministries and PSUs to the sitting of the Committee.



3. Thereafter, the Ministry of Petroleum and Natural Gas made a power point presentation on implementation of National Auto Fuel Policy. The Committee then heard the representatives of Ministries of (i) Petroleum and Natural Gas (ii) Road Transport and Highways (iii) Ministry of Heavy Industries and Public Enterprises and (iv) Ministry of Environment and Forests on the subject 'National Auto Fuel Policy'.

4. During the course of evidence the main issues which came up for discussion included steps taken to make available quality auto fuel in the entire country, technological upgradation of new and old vehicles, steps taken to promote alternative source of fuel for automobiles including prospects of using hydrogen as an auto fuel, demand and availability of CNG and auto LPG in the country, setting up of inspection and certification system for vehicles to control pollution, augmentation of city public transport and constitution of an inter ministerial Committee in the Ministry of Road, Transport and Highways for a coordinated approach.

5. \* \* \* \* \*

6. \* \* \* \* \*

7. \* \* \* \* \*

8. \* \* \* \* \*

9. The Committee authorised the Chairman to finalise the Report in the light of consequential changes, if any, arising out of the factual verification of the Report by the Ministry and present the same to both Houses of Parliament.

***The Committee then adjourned.***

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\* Matter not related to this Report.

**MINUTES**  
**STANDING COMMITTEE ON PETROLEUM & NATURAL GAS**  
**(2009-10)**

**FIFTH SITTING**  
**(4.2.2010)**

The Committee sat on Thursday, the 4<sup>th</sup> February, 2010 from 1100 hrs. to 1300 hrs. in Committee Room 'B', Ground Floor, Parliament House Annexe, New Delhi.

**PRESENT**

**Shri Aruna Kumar Vundavalli - Chairman**

**MEMBERS**

**Lok Sabha**

- 2 Shri Anandrao Adsul
- 3 Shri Ramesh Bais
- 4 Dr. Ratna De
- 5 Shri Mukesh B. Gadhvi
- 6 Shri Dilipkumar Mansukhlal Gandhi
- 7 Shri Maheshwar Hazari
- 8 Shri Gorakh Prasad Jaiswal
- 9 Shri Vikrambhai A. Madam
- 10 Dr. Thokchom Meinya
- 11 Shri Mahabal Mishra
- 12 Shri Danve Raosaheb Patil
- 13 Shri Kabindra Purkayastha
- 14 Shri K. Narayan Rao
- 15 Shri C.L. Ruala
- 16 Shri Uday Pratap Singh (Hoshangabad)
- 17 Shri Om Prakash Yadav

**Rajya Sabha**

- 18 Dr. Prabha Tahkur
- 19 Shri B.K. Hariprasad

- 20 Shri Kalraj Mishra
- 21 Shri Kamal Akhtar
- 22 Shri Satish Chandra Misra
- 23 Shri Subhash Prasad Yadav
- 24 Shri Sabir Ali

#### **Secretariat**

- 1. Shri J.P. Sharma - Joint Secretary
- 2. Smt. Anita Jain - Director
- 3. Shri J.V.G. Reddy - Additional Director
- 4. Shri Arvind Sharma - Deputy Secretary

#### **Representatives of the Ministry of Petroleum & Natural Gas and Ministry of Road Transport and Highways**

- 1. Shri S.Sundareshan - Secretary
- 2. Shri L.N. Gupta - Joint Secretary (R)
- 3. Shri Apurva Chandra - Joint Secretary (M)
- 4. Shri S.K. Dash - Joint Secretary (T)

#### **Representatives of Public Sector Undertakings and other organisations**

- 1. Shri S. Behuria - Chairman, IOCL
- 2. Shri Ashok Sinha - CMD, BPCL
- 3. Shri K. Balachandran - MD, Chennai Petroleum Corporation Ltd.
- 4. Shri U.K. Basu - MD, Mangalore Ref. & Petro. Chemical
- 5. Shri B.K. Das - MD, Numaligarh Refineries Ltd
- 6. Shri B.D. Ghosh - ED, Centre of High Technology
- 7. Shri K. Murali - Director(Refineries), HPCL
- 8. Dr. B. Mohanty - Director, Petroleum Planning & Analysis Cell
- 9. Shri S.V. Narshimhan - Coordinator, EIL

2. At the outset, the Hon'ble Chairman welcomed and congratulated the new Secretary for taking charge of the Ministry of Petroleum and Natural Gas and then

explained the purpose of holding the sitting, i.e. briefing by the representatives of the Ministry and PSUs on the subject 'National Auto Fuel Policy'.

3. Then, a power-point presentation was made by the representatives of the Ministry, highlighting the various aspects relating to the subject.

4. Thereafter, the Members raised a number of queries on various issues relating to the subject. Some of the queries raised by the Members were responded to by the representatives of the Ministry/PSUs. The Ministry were asked to furnish written replies to the queries on which information was not readily available with them.

5. A verbatim record of the proceedings of the sitting has been kept.

***The Committee then adjourned.***