



सत्यमेव जयते

**Report
of
The Expert Group
to
Advise on
Pricing Methodology of
Diesel, Domestic LPG and PDS Kerosene**



**Government of India
New Delhi
October 2013**

CONTENTS

Foreword	2
Chapters	
1 Terms of Reference of the Expert Group	4
2 Context for Revisiting the Current Pricing Mechanism	5
3 Need for a robust refining sector in India	11
4 Terms of Reference : 1	17
- The Logic of Trade Parity Pricing	17
- Current Pricing Methodology	20
- Alternative Pricing methodology	20
- Diesel Price	28
- PDS Kerosene Price	35
- Domestic LPG Price	39
5 Terms of Reference : 2	44
6 Terms of Reference : 3	54
7 Summary of Recommendations	56
Note of Dissent	
Note of Dissent by Dr. Saurabh Garg	59
Rejoinder by Chairman to the Note of Dissent	63
Annexures	
1 MoP&NG letters on constitution of the Expert Group	65
2 Background of Petroleum Product Pricing in India	68
3 Import – Export of Crude and Petroleum Products	79
4 Price Buildup of major Petroleum Products	80
5.1 Diesel (0.05% S) at Singapore & Arab Gulf	86
5.2 Diesel Trade Premium at Arab Gulf	87
6 Pricing Mechanism of Petroleum Products in various Countries	88
7 Increasing LPG Price without Burdening Consumers	93
8 Calculation Of The Investment Multiple For Production Sharing Purposes	95
Abbreviations	96
Addendum	
Rejoinder by Prof. S.K. Barua to the Note of Dissent	98

Foreword

Petroleum subsidies have become a major component of Government expenditure in the recent past. During the year 2012-13, the total under-recovery on Petroleum products reached a level of Rs. 161,029 crore. Even though the Government has taken various measures such as capping of subsidized domestic LPG cylinders to 9 per annum, deregulation of Diesel price for bulk consumers and small monthly increases in retail price of Diesel, the under-recoveries during the current year are projected to again reach unsustainable levels.

With significant increase in refining capacity in India in the recent years, the country's dependence on imported petroleum products has come down significantly and the country has gradually become a net exporter of petroleum products including exports of Petrol and Diesel mainly by private and standalone refineries. Nonetheless, the country's dependence on imports continues to grow as almost 77% of crude oil in India, on consumption basis, is imported. It is in this context that the rationale for continuing to fix refinery gate price (RGP) of sensitive petroleum products on Import Parity Price (IPP)/ Trade Parity Price (TPP) basis, which assumes that the product is imported, needed a review.

This Expert Group was set up by the Ministry of Petroleum & Natural Gas on 12th June 2013. The group has studied the current pricing mechanism for regulated petroleum products, explored various other alternatives for pricing including Export Parity Price (EPP) and made recommendations for a suitable pricing mechanism. The group has also analyzed the current system of under-recovery sharing mechanism and made recommendations regarding a suitable system for sharing the under-recoveries. The Group has also recommended that the public sector oil marketing companies (PSU OMCs) should be given freedom to import crude oil from all available sources by working out a suitable mechanism.

The group records its special appreciation to the Management of the PSUs and Private Oil Companies, Centre for High Technology (CHT) & Petrofed, for their presentations on relevant aspects of the oil industry and for providing necessary data which were useful in analyzing various aspects related to the Terms of Reference.

We are thankful to Petroleum Planning & Analysis Cell (PPAC) for providing commendable secretarial assistance to the Expert Group. We would in particular like to thank Mr. S. P. Gupta, Director (Finance), PPAC for his valuable contributions with many ideas and analysis of data, enthusiastic help in preparations of the report and in ensuring consistency and clarity. The Expert Group would also like to acknowledge the efforts put in by Mr. Sanjay Varghese, Additional Director (Finance), Mr. Gaurav Tiwari, Joint Director (Finance) and Mr. Anivesh Prasad, Deputy Director (Finance) in PPAC for providing excellent support in preparation and analysis of data for report.

While there is general consensus among all members of the expert group, Dr. Saurabh Garg has submitted a note of dissent on some points. The note of dissent and response by the Chairman on the same is enclosed immediately after Chapter 7.

The report is submitted for consideration by the Government.



Dr. Kirit S. Parikh

Chairman of the Expert group
Former Member, Planning Commission
Chairman, Integrated Research and Action for Development (IRADe)



P. K. Singh,

Member
Joint Secretary (IC&GP),
Ministry of Petroleum & Natural Gas
Government of India



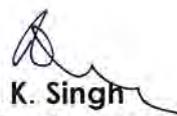
Dr. Saurabh Garg

Member
Joint Secretary (PF-II)
Ministry of Finance
Government of India



Prof. S.K. Barua

Member
Professor and Former Director IIM,
Ahmedabad



R. K. Singh

Member Secretary
Joint Secretary (Refineries)
Ministry of Petroleum & Natural Gas
Government of India

Chapter 1

Terms of Reference of the Expert Group

- 1.1 The Ministry of Petroleum and Natural Gas, vide letter ref. F.No. P-20012/2/2013-PP dated 12th June 2013 & 5th July 2013 (Annexure1) constituted an Expert Group to advice on Pricing Methodology for Diesel, Domestic LPG and PDS Kerosene with the following composition:

Sr. No.	Name	Designation
1	Dr. Kirit S. Parikh Former Member, Planning Commission	Chairman
2	Mr. P.K. Singh Joint Secretary (IC&GP), MoP&NG	Member
3	Dr. Saurabh Garg Joint Secretary (PF-II), MoF	Member
4	Prof. S.K. Barua Professor and Former Director - IIM, Ahmedabad	Member
5	Mr. R.K. Singh Joint Secretary (Refineries), MoP&NG	Member Secretary

- 1.2 The terms of reference (ToR) of the expert group were as under:
- (i) To revisit the current pricing methodology of petroleum products, and suggest a pricing mechanism benchmarked to Export Parity Pricing, which is also relatable to the actual FOB export realization of the petroleum products exported from India by private refiners;
 - (ii) To suggest a formula for compensation of under-recoveries which is fair and does not over compensate either the domestic suppliers of petroleum products or the Oil Marketing companies;
 - (iii) To examine the operational and procurement efficiencies of the oil marketing companies and suggest improvements in the same.
- 1.3 The Expert group met on July 8 & 30, August 14, September 12 & 28 and October 19, 2013. The expert group met with all the major oil companies namely IOCL, BPCL, HPCL, ONGC, OIL, GAIL in the public sector; and RIL & EOL in the private sector. CHT also made a presentation on 'Performance of Indian PSU Refineries'. The group also reviewed the written submissions made by these companies, other standalone refineries and Petrofed.

Chapter 2

The Present Context

- 2.1 Fossil fuels, especially petroleum products, occupy a pre-eminent position in all economies of the world. As a key primary source of energy, they necessitate involvement of the Government in pricing, production and distribution. Energy security continues to be of concern to India as the country faces huge challenges in meeting its energy needs. The country depends on imports of crude oil to meet more than 77% of its petroleum products requirement. It is therefore subject to the vagaries of a volatile international market for crude and petroleum products.
- 2.2 Subsidies on petroleum products have become a major component of Government's expenditure in the recent past. During the year 2012-13 this subsidy at Rs. 96,880 crore accounted for 38% of the aggregate Government subsidies of Rs. 2,57,654 crore. This did not include the contribution of Rs. 60,000 crore for the same period provided to the oil marketing companies (OMCs) by the upstream oil companies. The overall energy subsidy was therefore even larger.
- 2.3 With the objective of moving towards market determined prices for petroleum products, government announced dis-mantling of APM effective 01.04.2002 (except for providing a fixed subsidy on PDS Kerosene and domestic LPG during the next 3 – 5 years). However, the same could not be implemented and post May 2004, the Government re-started controlling the prices of major petroleum products i.e. Petrol, Diesel, PDS Kerosene and Domestic LPG.
- 2.4 High levels of under-recoveries of OMCs in the face of unprecedented, sharp increases in international oil prices coupled with ad-hoc and inadequate increases in the domestic prices of Petrol (decontrolled with effect from 26.6.10), Diesel, PDS Kerosene and Domestic LPG have put considerable pressure on the finances of the OMCs, the upstream oil companies and the Government. Product wise under-recoveries incurred by the OMCs since 2002-03 onwards are given in Table 1:

Table 1: Product wise Under Recoveries of OMCs since 2002-03*(Rs. crore)*

Year	Petrol	Diesel	PDS Kerosene	Domestic LPG	Total
2002-03	-	-	2,067	3,363	5,430
2003-04	-	-	3,751	5,523	9,274
2004-05	150	2,154	9,480	8,362	20,146
2005-06	2,723	12,647	14,384	10,246	40,000
2006-07	2,027	18,776	17,883	10,701	49,387
2007-08	7,332	35,166	19,102	15,523	77,123
2008-09	5,181	52,286	28,225	17,600	103,292
2009-10	5,151	9,279	17,364	14,257	46,051
2010-11	2,228*	34,706	19,484	21,772	78,190
2011-12	-	81,192	27,352	29,997	138,541
2012-13	-	92,061	29,410	39,558	1,61,029
Total	24,792	3,38,267	1,88,502	1,76,902	7,28,463

* Under-recovery on petrol is only up to 25th Jun'10

Note - This does not include the subsidy on PDS kerosene and Domestic LPG given under the subsidy scheme, 2002.

Source: PPAC.

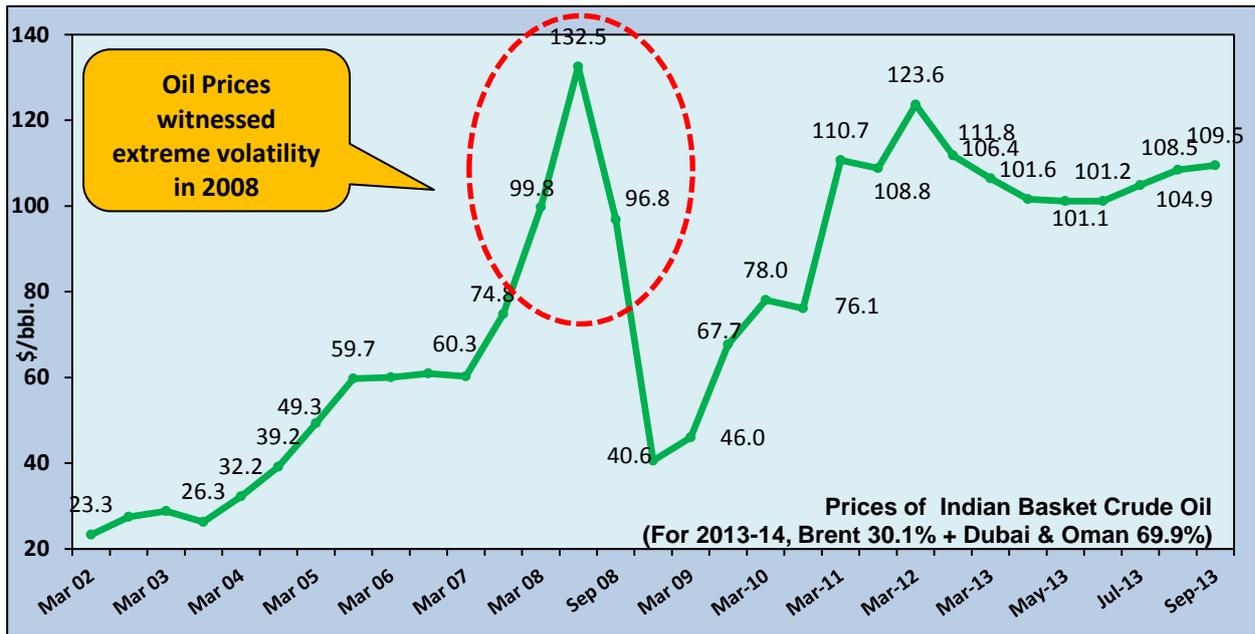
2.5 Currently, the retail selling prices of only 3 products i.e. Diesel (retail sales), PDS Kerosene and Subsidized Domestic LPG are regulated by the Government. The prices of all other petroleum products including Petrol, are market determined. It was decided 'in principle' to deregulate the price of Diesel also in June 2010 which could not be implemented except that effective 18th January 2013, the government has allowed the OMCs to (i) increase the retail selling price of Diesel by 40-50 paise per litre per month, & (ii) sale Diesel to bulk consumers at non-subsidized market determined price. However, due to high crude oil prices prevailing in the international market (Chart 1) and sharp depreciation of the Indian rupee (Chart 2), the current under-recoveries on these products have become very high (as shown in Table 2).

Table 2: Under-recovery on Petroleum Products

Diesel (Retail)	PDS Kerosene	Domestic LPG (Subsidized)
<i>(Rs./Litre)</i>	<i>(Rs./Litre)</i>	<i>(Rs./Cylinder)</i>
10.51	38.32	532.86

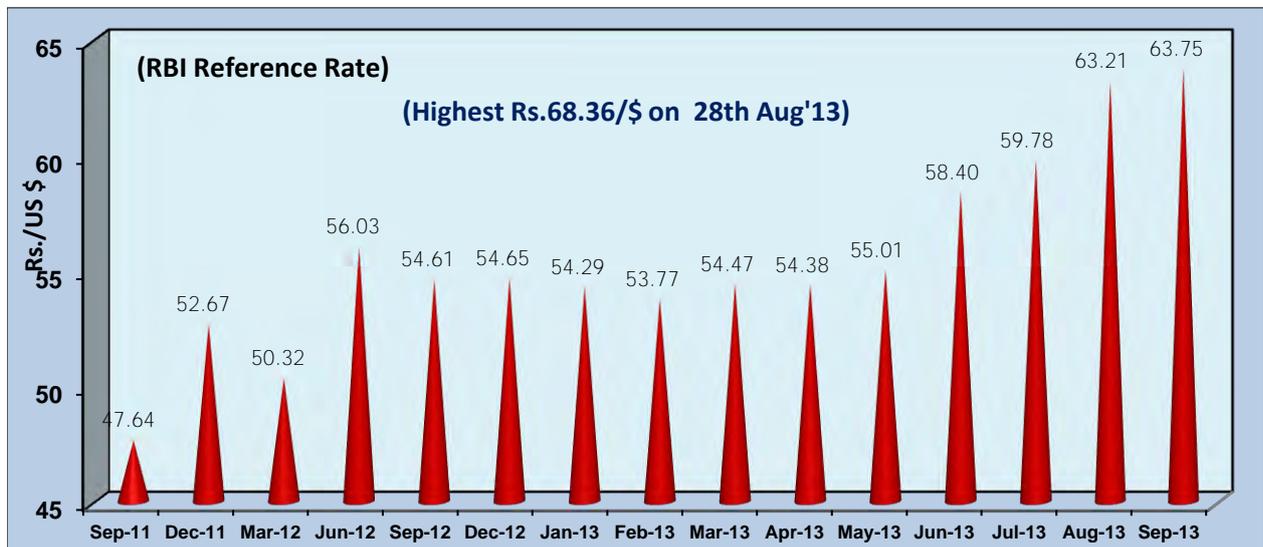
Note - Under-recoveries as per Refinery gate price (RGP) effective on 1st Oct. 2013.

Chart 1: Price Trend of Indian Basket of Crude oil



Every \$1/bbl. increase in the Indian basket of Crude Oil raises the under-recovery of OMCs by around Rs. 4,500 crore (estimates based on RGP as of 1st Oct 2013).

Chart 2: Depreciation of Rupee Against US\$



Every Rs. 1 depreciation in the Rupee-Dollar Exchange Rate, the under-recovery of OMCs increases by around Rs. 8,000 crore (estimates based on RGP as of 1st Oct 2013).

2.6 In this scenario, even after the measures taken by the Government (such as capping of Subsidized Domestic LPG cylinders to 9 per annum, deregulation of Diesel price for bulk consumers and small monthly increases in retail price of Diesel), the under-recoveries may again reach very high levels as projected in table 3:

Table 3: Estimated Under-recoveries for 2013-14 & 2014-15

(Rs. Crore)

Product	Actual UR 2012-13	2013-14*			2014-15		
		\$100/bbl.	\$110/bbl.	\$120/bbl.	\$100/bbl.	\$110/bbl.	\$120/bbl.
Crude Price		\$100/bbl.	\$110/bbl.	\$120/bbl.	\$100/bbl.	\$110/bbl.	\$120/bbl.
At Exchange Rate		Rs.60/US\$			Rs.60/US\$		
Diesel (Retail)	92,061	50,504	67,776	85,047	44,600	79,238	113,876
PDS Kerosene	29,410	27,833	29,657	31,481	26,803	30,352	33,900
Domestic LPG(Subsidized)	39,558	38,194	41,002	43,810	43,506	49,736	55,966
Total	161,029	116,531	138,435	160,338	114,909	159,326	203,742
At Exchange Rate		Rs.65/US\$			Rs.65/US\$		
Diesel (Retail)		65,637	84,348	103,058	74,948	112,472	149,997
PDS Kerosene		29,436	31,412	33,388	29,920	33,764	37,609
Domestic LPG(Subsidized)		40,791	43,834	46,875	49,268	56,018	62,766
Total		135,864	159,594	183,321	154,136	202,254	250,372

*Actual under-recovery for April-Sep 2013 has been considered & under-recovery for Oct'13-Mar'14 has been estimated at different crude price level based on regression analysis.

Note:

- The following estimated sales volume of PSU OMCs has been considered:

(MMT)

Year	Diesel (Retail)	Domestic LPG (Subsidized)	PDS Kerosene
2013-14	63.81	12.91	6.91
2014-15	66.69	14.00	6.63

- While estimating the under-recoveries for 2013-14, the actual under-recoveries for the period April-Sep 2013 have been considered and for the period Oct'13 – Mar'14 the under-recoveries have been estimated based on regression analysis of crude price & product price (FOB + Premium or Discount) relationship during Oct'08 - Sep'13. The under-recoveries for 2014-15 have been estimated based on regression analysis of crude price & product price (FOB + Premium or Discount) relationship during Oct'08 to Sep'13.
- Other elements considered are based on RTP of 1-Oct-2013 and current prevailing retail selling price.
- While estimating the under-recovery on Diesel (Retail), the monthly expected forthcoming increase in retail selling price has not been taken into account.

- 2.7 Efficient pricing and, by corollary, taxation / subsidization of goods in general, and petroleum product in particular, is generally analyzed in relation to the prevalent international prices that are axiomatically assumed to be competitively determined.

Economic Survey 2012-13:

Box 11.1 Energy Pricing

The government appreciates the economic role of rational energy pricing. Rational energy prices provide the right signals to both the producers and consumers and lead to a demand-supply match, providing incentives for reducing consumption on the one hand and stimulating production on the other. Aligning domestic energy prices with the global prices, especially when large imports are involved, may be ideal option as misalignment could pose both micro- and macro-economic problems. At microeconomic level, underpricing of energy to the consumer not only reduces the incentive for being energy efficient, it also creates fiscal imbalances. Leakages and inappropriate use may be the other implications. Underpricing to the producer reduces both his incentive and ability to invest in the sector and increases reliance on imports.

Over the years, India's energy prices have become misaligned and are now much lower than global prices for many products. The extent of misalignment is substantial, leading to large untargeted subsidies.

.....
.....

- 2.8 Under the current pricing mechanism in India, the Refinery Gate price (RGP) is the price at which product is transferred/sold from refinery to marketing division of OMCs. The RGP of Diesel is currently based on Trade Parity Price (TPP) consisting 80% of Import Parity Price (IPP) and 20% of Export Parity Price (EPP). The RGP of PDS kerosene and Domestic LPG is based on IPP as provided in the 'PDS Kerosene and Domestic LPG Subsidy Scheme, 2002'. A brief background note on petroleum product pricing in India and recommendations of various earlier pricing committees is contained in Annexure 2.
- 2.9 With the increase in refining capacity of the country from 62 MMTPA (April, 1998) to 215 MMTPA (including 100% export oriented (SEZ) refinery in the private sector) as of 1.4.2013, the dependence on import of finished products has come down significantly (except for LPG imports to meet the shortfall in production).

In fact, the country has emerged as a major exporter of POL products, though these are largely exported by SEZ refineries that have an obligation

to export. During the year 2012-13, 63400 TMT of POL products were exported whereas only 15952 TMT of products were imported. The export of POL products also includes exports of Petrol and Diesel mainly by private and standalone refineries. The details of export/ import of POL products in the country during the last 5 years are given in Annexure 3.

2.10 This does not mean that India has become self-sufficient in meeting its petroleum product requirement from indigenous sources, since the country is largely dependent on import of crude oil. Indian refineries processed 186 MMT of imported crude which is almost 85% of total crude quantity of 219 MMT processed in the country during 2012-13. The country's dependence on imports continues to grow as almost 77% of crude oil in India, on consumption basis, is imported. Domestic crude oil production in the country has remained in the range of 33 to 38 MMT in the last 5 years.

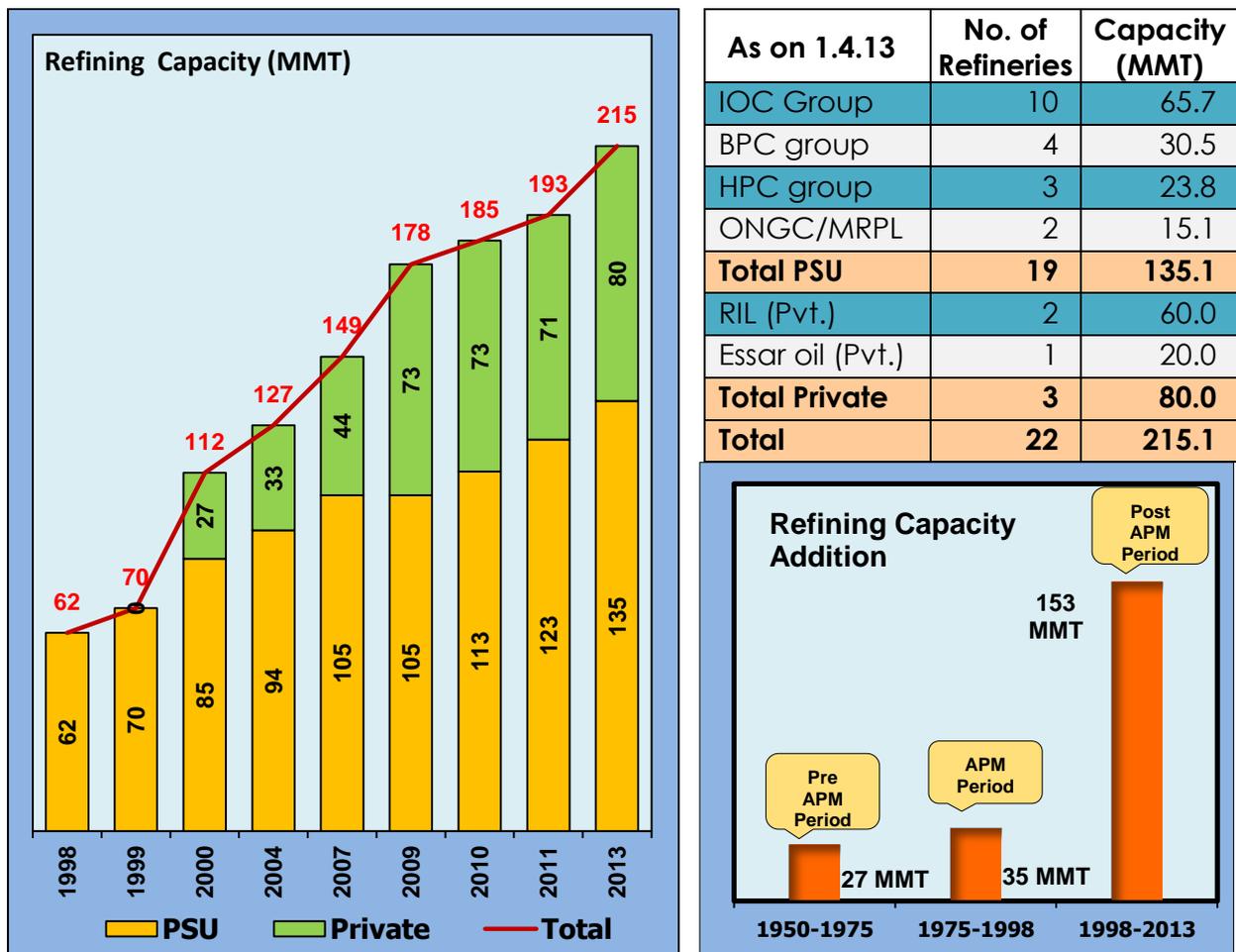
2.11 The issues referred to the Expert Group as per terms of reference have been examined in detail in the following chapters along with their implications for all the stakeholders in the Indian petroleum sector.

Chapter 3

Need for a Robust Refining Sector in India

3.1 At present, there are 22 refineries in the country operating in both the public and the private sector, with a combined refining capacity of 215 MMTPA. Of these, 19 refineries with a combined capacity of 135 MMTPA are in the public sector (including JVs) and 3 with combined capacity of 80 MMTPA in the private sector. The growth of the refining capacity since 1998 (when refining sector was decontrolled) is presented in chart 3:

Chart 3: Number of Refineries & Refining Capacity in India



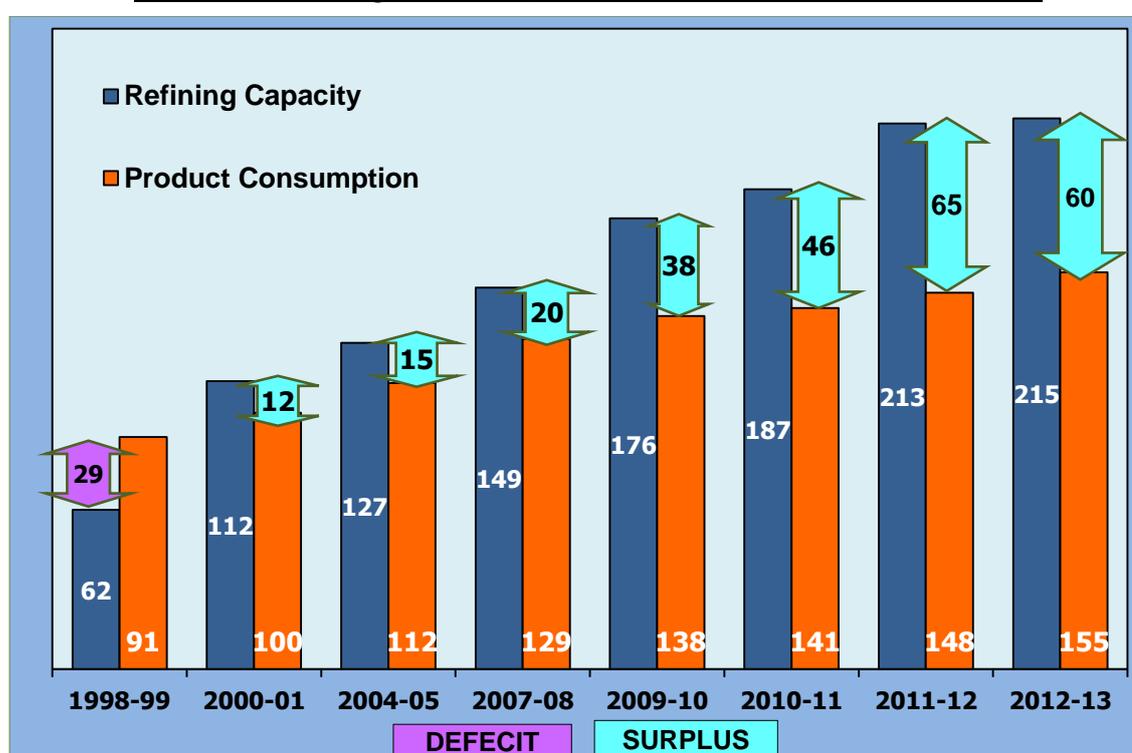
Refining Sector has grown by 3.4 times since deregulation of the sector in 1998.

3.2 The strategy followed for meeting country's demand by processing imported crude oil in the refineries rather than depending on import of products, has, apart from generation of employment, made diversification of supply sources possible. Many refineries have been set up in inland locations to meet the demand of POL products throughout the country avoiding elaborate linkages that would have had to be put in place in case the products had to be imported. The capacity additions were the result of the policy of allowing RGP to be determined by import parity prices

of petroleum products. The opening up of the refining sector has enabled the country to:

- (a) increase its refining capacity 3.4 times from 62 MMTPA in April 1998 to 215 MMTPA at present with future expansions in the pipeline;
- (b) make the transition from a (petroleum) product deficit nation to a product surplus country (chart 4);
- (c) upgrade the fuel quality standards to cleaner BS III & IV auto fuel grades in line with the Auto fuel policy, 2003 with an investment of more than Rs. 28000 crore; and
- (d) ensure uninterrupted supply of petroleum products across the length and breadth of the country.

Chart 4: Refining Capacity & Product Consumption in India



Note: Refining capacity as at the end of each financial year; Source: PPAC

3.3 Indian PSU refineries, except Mangalore and Panipat, were built during the period from 1901 to 1985. As submitted by oil companies, significant new investments have been made in these refineries in the last 5 years for expansion and up-gradation, including incorporation of the state of the art technologies to enhance refining capacity, to increase high sulphur and heavy crude processing capability and to improve distillate yield. Nonetheless, due to legacy assets, it would not be possible for these refineries to achieve the GRM levels achieved by the green-field, modern and highly complex refineries set up in the private sector / Joint sector after 1998. These modern private sector refineries enjoy economies of scale and being located in the coastal areas, also receive considerable benefits in terms of flexibility to either export their products or supply it to domestic

markets. Being in the private sector also gives them much greater flexibility in negotiating supply of crude. They are thereby able to benefit from lower price of crude through opportunistic purchase of crude. In contrast to the private refineries, the PSU refineries, having commissioned their capacities in several phases over decades, lack economies of scale. Besides, being inland refineries that were often set up in remote locations on the basis of non-economic considerations, they lack the flexibility to access export markets even if they were permitted to do so

While they are close to the demand centres and incur less cost of transportation for products, given that 85% of crude is imported, they incur additional cost on transportation of crude. The various taxes imposed on movement of crude and products also create uneven and often uncertain environment for the profitability of PSU refineries.

- 3.4 A comparative statement on GRMs of Indian PSU & Private refineries and Singapore refinery margins is given in table 4 below:

Table 4: GRMs of Indian Refineries

						(\$/bbl.)
Company	Refinery	2009-10	2010-11	2011-12	2012-13	
IOC	Barauni	3.57	3.91	0.39	0.94	
	Gujarat	3.91	6.42	5.07	4.75	
	Haldia	5.42	4.03	2.38	-0.56	
	Mathura	5.62	7.40	0.59	-0.67	
	Panipat	3.35	5.68	4.39	2.31	
	Guwahati*	-2.47	-1.11	3.73	2.31	
	Digboi*	10.32	6.54	6.41	11.91	
	Bongaigaon*	-1.00	-2.29	0.56	-1.00	
BPC	Kochi	4.87	4.83	3.20	5.36	
	Mumbai	1.78	4.23	3.12	4.67	
HPC	Mumbai	2.80	4.65	1.74	2.08	
	Visakh	2.59	5.81	2.95	2.08	
CPCL	Chennai	4.75	5.02	4.16	0.99	
MRPL	Mangalore	5.51	5.96	5.60	2.45	
NRL	Numaligarh*	4.31	6.67	5.80	4.83	
RIL	Jamnagar	6.60	8.40	8.60	9.20	
Essar	Vadinar	2.29	4.53	4.23	7.96	
Singapore		3.53	5.20	8.27	7.74	
*Excluding excise duty benefit for North East Refineries.						
Including Excise duty benefit for North east refineries**						
IOC	Guwahati	7.44	10.04	11.94	8.41	
	Digboi	18.61	16.98	14.85	19.47	
	Bongaigaon	5.23	5.23	6.25	3.99	
NRL	Numaligarh	11.19	15.39	12.45	10.52	
**North East (NE) refineries are entitled to retain 50% of the Excise Duty collected on sale of POL products.						

Source: Published results of oil companies.

3.5 Even with the existing IPP/TPP pricing mechanism, the GRMs achieved by the PSU refineries are generally lower than the benchmark Singapore GRMs. The Singapore GRMs quoted by Reuters is a benchmark margin model used to primarily capture the trends in the refining margins based upon (a) a particular type of crude, (b) a given refinery configuration and (c) a pre-determined product slate. Therefore, the margins published by Reuters are based upon standard crude/product pattern and the periodical changes correspond only to the price fluctuations of crude / products whereas the GRMs achieved by the Public Sector refineries are actual figures based on costs incurred and revenues realized. The GRMs achieved by PSU refineries are impacted by several limitations that include the following:

- Limited secondary processing capacity for producing value added products.
- Limited flexibility to process any mix of crude; this capability is also impacted by absence of flexibility to procure varying mix of crude based on prevailing crude prices.
- In land location with constraints on capacity to export; in any case PSU refineries are mandated to first supply products to the domestic market and do not have excess capacity to produce for export.
- Higher energy costs due to non-availability of gas.
- Irrecoverable Taxes such as Entry Tax /Octroi, etc. applicable to some refineries.

The GRMs cannot be easily compared across the various Indian refineries since they are of varying vintage. Since an old refinery would be operating with depreciated assets, even with a lower GRM, an old refinery may achieve reasonable rate of return on capital. Of course, if the GRM is negative, the question of profitability would not arise.

3.6 Due to the limitations mentioned above, PSU refineries are not able to achieve GRMs comparable to the benchmark Singapore GRMs. The oil companies have submitted that any further reduction in their GRMs (which have already reduced due to shift from IPP to TPP and reduction of duty protection) would make them entirely unviable should there be further shift to the use of EPP for determining RGP. Of course, so far they have not faced the pressure of competition and lower price may encourage them to increase their efficiency. It is however necessary to consider the impact on PSU refineries of any change in prices.

- 3.7 *Dr. Rangarajan Committee (2006) had stated that “There is a case for allowing some effective protection to domestic refineries for several reasons. First, refining is a cyclical industry characterized by very volatile prices. The spread between crude and product prices fluctuates widely. There have been instances in the past, for example, when the spread between international prices of diesel and the Indian basket of crude was less than a dollar per barrel, and on occasion even turned negative. Second, providing some level of protection and thereby adequate refining margins is necessary for encouraging investment in expansion, and more importantly in modernization of our refineries. Failure on this front can impede our quest for energy security.” Hence there is a need to provide adequate refining margins for encouraging investments in expansion and modernization of the existing refineries.*
- 3.8 As per McKinsey & Company report, August 2013, commissioned by Petrofed and submitted to the expert group, “Globally the crude markets are much deeper than the product markets. Hence importing crude oil and processing in the country provides better product supply security and greater flexibility to the energy policy of the country instead of depending on import of finished products”. It has also been highlighted that refining is a low margin business globally, which has already resulted in substantial refining capacity being shut down in many countries in the world (70+ refinery with capacity of around 265 MTPA) during last 3 years putting further pressure on the depth of the products markets.
- 3.9 It will also be pertinent to note that while a reduction of GRM by a mere \$1.5/bbl. due to switch over from IPP/TPP to EPP may appear small in relation to the product prices, such reduction would mean that based on the GRMs for 2012-13, 5 out of the 15 (33%) PSU refineries listed in Table 4 will experience negative GRMs and would therefore be unviable. For the remaining 10 refineries, the average percentage reduction in GRM based on simple average would be about 30 - 40%. The impact is underestimated as it is not an average weighted by capacity or throughput. The impact on refineries varies widely with the larger refineries suffering much larger percentage drop in margins. It is clear that any reduction in GRM due to change in pricing policy of diesel will make refining in PSU refineries unviable.
- 3.10 It will also be pertinent to note that in view of the significant volatility of GRMs, the average GRMs over several years has to be higher than what would be needed had there been less volatility to justify investment in refining capacity and also to justify continued operation of refineries.

3.11 In such a scenario, India, which is one of the largest energy consuming countries, needs to ensure that the country maintains self-sufficiency in the refining sector in future. The pricing policies, therefore, should also be geared to ensure sufficient returns to the refineries in the country for long-term sustainability of the petroleum sector and to ensure energy security of the country.

Chapter 4

Terms of Reference : 1

To revisit the current pricing methodology for Diesel, Domestic LPG and PDS Kerosene and suggest a pricing mechanism benchmarked to Export Parity Pricing (EPP), which is also relatable to the actual FOB export realization of the petroleum products exported from India by private refiners.

The expert group's approach with regards to the above was as follows:

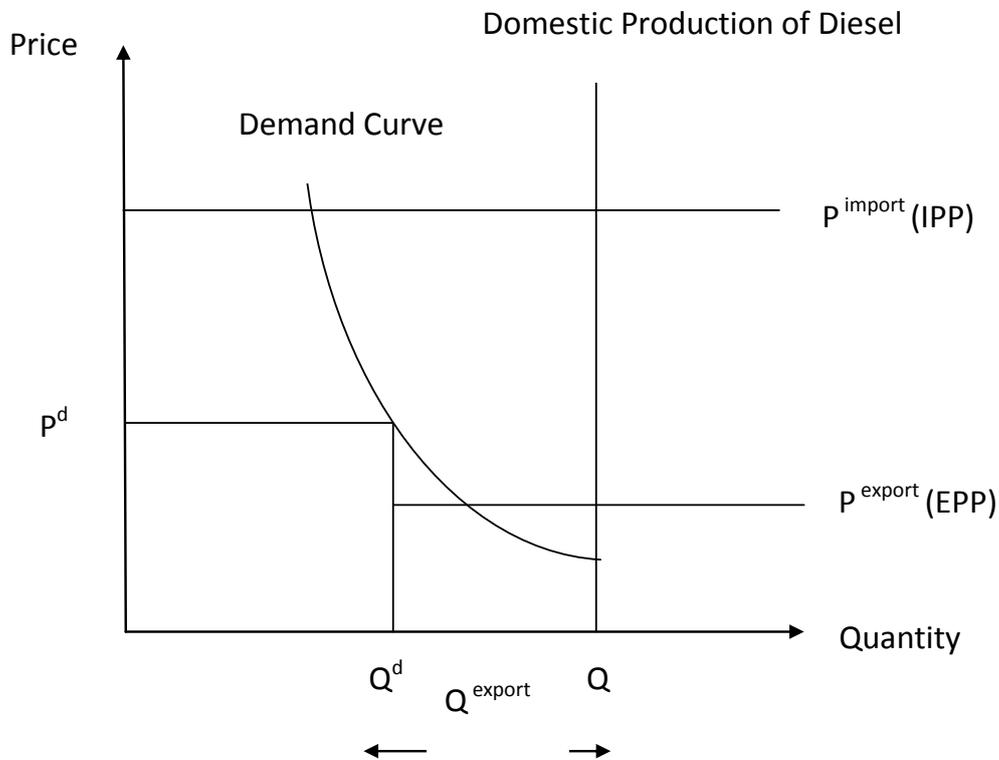
- Examine the logic of EPP, IPP & TPP
- Explore alternative pricing methodology
- Examine the volume and direction of trade of diesel, LPG and Kerosene to see if the price is to be EPP or IPP
- Give Recommendations on pricing of products

4.1 The Logic of EPP, IPP and TPP

4.1.1 Where the price of a product is set by the Government, the objective should be to consider what price a competitive market would set for the product. This would minimize the distortions in the economy arising from administered pricing.

In a market where import and export of a product are freely permitted, the domestic price of the product would be set by the domestic demand and supply situation. If supply exceeds demand then the net realization by producers in the domestic market will have to be at least equal to the net realization through exports. If the demand exceeds supply then the net realization by the producers in the domestic market would be capped by the price consumers have to pay if the product were to be imported. Loosely, one can say that if supply exceeds demand, the domestic price would be governed by EPP (FOB price) and if the demand exceeds supply, the domestic price would be governed by IPP (CIF price).

Box: Selling Price for Diesel



If there is a monopolist producer, he can set the domestic price between IPP and EPP. His revenue would be equal to

$$\text{Revenue} = (P^{\text{domestic}} \cdot Q^{\text{domestic}}) + (P^{\text{export}} \cdot Q^{\text{export}})$$

Where $Q^{\text{export}} = Q - Q^{\text{domestic}}$

He would try to maximize revenue by an appropriate selection of domestic price.

4.1.2 The trade parity price (TPP) depends upon the elasticity of demand and would be the weighted average of domestic price and IPP (see figure above). It may be approximated as the weighted average of IPP and EPP with the weights being the proportion (of supply) being consumed in the domestic market and the proportion being exported respectively. This may be regarded as the governing price for the domestic market when the demand and supply are nearly equal (since sometimes there is surplus

and sometimes there is shortage of products). However, since for a large country like India, markets are fragmented not only in terms of geography but also in terms of information and the ability to engage freely in export and import of products, the notion of a uniform EPP, IPP or TPP actually determining the domestic prices is somewhat simplistic. Besides, exports and imports of products typically require some long term arrangements with the counter parties in foreign countries. If the trading is done opportunistically then the prices realized are unlikely to be the prices prevailing in the global markets.

4.1.3 It will be useful to take note of the exact manner in which IPP, EPP and TPP are calculated:

- (a) **Import Parity Price (IPP)** – IPP represents the price that importers would pay in case of actual import of product at the respective Indian ports and includes the elements of:
{FOB price + Ocean Freight + Insurance + Custom Duties + Port Dues, etc.}
- (b) **Export Parity Price (EPP)** – EPP represents the price which oil companies would realize on export of petroleum products at Indian ports.
{FOB price + Advance License benefit (for duty free import of crude oil pursuant to export of refined products)}
- (c) **Trade Parity Price (TPP)** - TPP is a weighted average price derived from IPP and EPP. Currently the weight assigned to IPP is 80% and that to EPP is 20% for computing the TPP for diesel.

4.1.4 The market for Diesel in India, however, is not a competitive market. There are a handful of domestic producers (refiners) in the public and the private sector. The PSU refiners have the obligation to first meet the domestic demand. The PSU refiners are also required to supply diesel to remote parts of the country. The production of Diesel from the non-SEZ refineries exceeds the demand marginally. In the year 2012-13, out of the total production by non-SEZ refineries about 7.9% was exported. However, the export by refineries in the private sector was about 19% of their production. As discussed in the preceding chapter, this situation has been created by deliberate strategy of the government to encourage investment in refining to make the country self-sufficient in petroleum products. Any pricing policy for diesel must take into account these factors, including the need to sustain the refinery sector's financial viability.

4.2 Current Pricing Methodology

- 4.2.1 As mentioned earlier, currently the retail selling prices of only 3 products i.e. Diesel (retail sales), PDS Kerosene and Subsidized Domestic LPG are regulated by the Government. The prices of all other petroleum products including Petrol have been made market determined.
- 4.2.2 The RGP of Diesel since 2006 is based on Trade Parity Pricing (TPP) computed as weighted average price of IPP and EPP. The weight assigned to IPP is 80% and the weight assigned to EPP is 20% for computing TPP. The RGP of PDS kerosene and Domestic LPG are based on IPP as provided for in the policy enunciated in 'PDS Kerosene and Domestic LPG Subsidy Scheme, 2002'.
- 4.2.3 The prices of the three products are currently worked out on the basis of the daily FOB quotes of Arab Gulf (AG) prices as published by Platts & Argus. The detailed price build-up of Diesel, PDS Kerosene and Subsidized Domestic LPG effective 1stOctober 2013, at Delhi, is given in Annexure 4.
- 4.2.4 As reflected in the RSP buildup (Annexure 4), the prices charged to the consumers are well below the prices as worked out in line with the IPP/TPP pricing mechanism. Since 2004, the consumer prices of Petrol (decontrolled effective 26.6.2010), Diesel, PDS Kerosene and Domestic LPG have been revised in ad-hoc manner and the impact of the sharp and consistent increase in the world crude oil and product prices have not been passed on fully to the consumers.

4.3 Alternative Pricing Methodology

- 4.3.1 In a free market, the prices of petroleum products would be determined by the market forces, i.e., the forces of demand and supply. In such a scenario, there would be no need for Government to prescribe any pricing formula for fixing the refinery gate price for POL products. This would be the best policy as not only would the prices be determined by the economic value of the products but such pricing would also eliminate profligacy and inefficiencies in use of these products.
- 4.3.2 In November 1997, Government made its intention clear to completely deregulate the pricing of POL products. Thereafter, APM was dismantled in April 2002 and finally after another eight years an 'in principle' decision was taken to decontrol Diesel prices in June 2010. However, the decision has not been implemented so far. Given the significant difference between the likely free market price and the administered price of the

three products, it may not be possible to change over to free pricing overnight. Hence, a second best solution would be to use product pricing formula in the interim till the pricing can be made entirely market determined. The alternate pricing mechanisms are explored with this in view.

4.3.3 While the current pricing is based on IPP/ TPP pricing mechanism, following alternative approaches to pricing were examined:

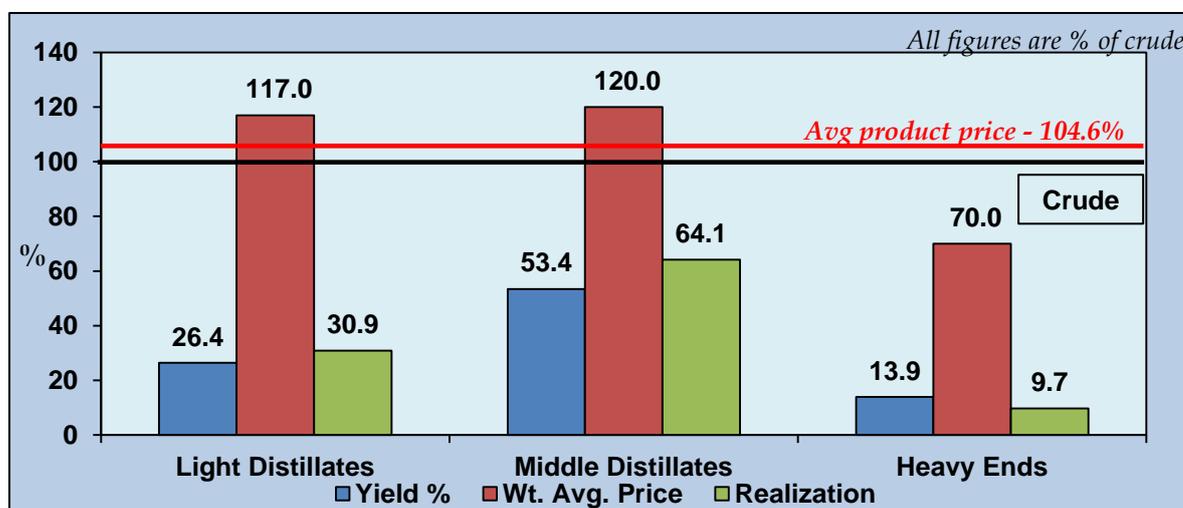
- i. Pricing on cost plus basis
- ii. Pricing Linked to Crude Oil Price + Product Crack
- iii. Pricing Linked to Singapore Prices
- iv. Relatable to Actual export realization by Indian private refiners.
- v. Pricing Mechanism in other countries

4.4 Pricing on Cost Plus Basis

4.4.1 Refining is a complex process wherein crude oil is processed through a series of primary and secondary processing units to produce various petroleum products. Some products are directly produced, while other result from the blending of two or more streams coming out of primary or secondary units. The process results into conversion of a single input to multiple finished products with different market value and chemical properties.

4.4.2 Globally, while the price of light and middle distillates like MS, HSD, ATF are above the crude prices, heavy end products like FO, LSHS, etc. are sold below cost of crude. Chart 5 shows the total realization per metric ton vis-à-vis the realization of respective products as compared to the crude price for one of the Mumbai refineries during 2012-13.

Chart 5: Economies of Mumbai Refinery during 2012-13



Source: PPAC (based on OMC's presentation of July 2013).

- 4.4.3 In case the refinery gate prices are fixed on cost plus basis, it will involve examination of actual costs of each refinery, be it in PSU, joint sector or private sector, based on some predetermined specifications of cost of raw material, processing cost and return on investment etc. This will be a retrograde step as it would imply moving back to system that prevailed not only in oil but several other industries. This is a discredited system not only because of the heavy regulatory oversight needed but also because of possible gold plating of costs and discouragement of innovations to reduce cost of production.
- 4.4.4 Even if one were to disregard the antiquity of such a process, arriving at individual product prices would still be challenging given that most of the costs are joint costs and cannot be traced back directly to specific products. If any method that is adopted results in serious misalignment of administered price with the free market price (determined in the global markets) there could be serious consequences for demand of that product from the consumers. The implications for implementation of such a process in an already volatile situation could be very serious.
- 4.4.5 The expert group was informed that efforts have been made in the past to compare the under-recoveries as per existing TPP/IPP methodology with under-recoveries estimated on allocated cost basis (as per the studies by Cost Accounts Branch (CAB), Office of Chief Advisor Costs (OCAC), Ministry of Finance (MoF)). The comparative figures for the years 2007-08, 2008-09, April-Sept. 2010 and 2011-12 are given in Table 5.

Table 5: Comparison of Under-recovery under IPP/ TPP and Actual Cost Basis

(Rs. Crore)

Basis	2007-08	2008-09	2010 (Apr-Sep)	2011-12
As per TPP/ IPP method	77,123	1,03,292	31,367	1,38,541
Cost Allocated on Sale Value of Products	70,579	1,05,653	31,891	1,37,623
Cost Allocated on the basis of Quantity Produced*				1,24,721
Export Parity Price (EPP)				1,24,800

*Allocation of Joint Costs Based on Quantity Produced: Allocation of joint cost in proportion to the quantity of product produced when prices across these products are very different, would introduce serious distortions due to significant differences between international and administered prices.

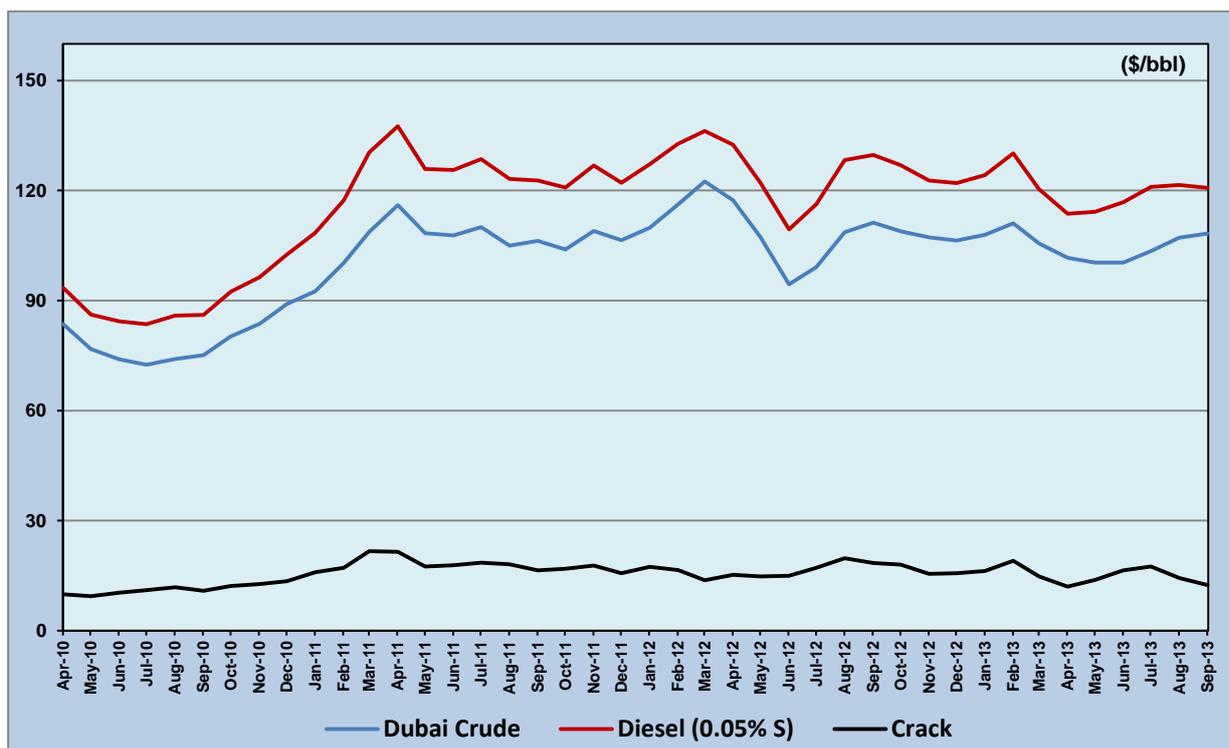
The table shows that, the under-recovery estimated based on allocated costs using the Sale Value of Products methodology is very close to the under-recovery amount based on existing TPP/ IPP mechanism. However, sale value implies a price and using that to allocate costs is circular.

4.5 Pricing Linked to Crude Oil Price + Product Crack

4.5.1 'Product Crack' is the difference between the price of the product and the price of crude oil i.e. the gross margin that the product delivers, without taking into account either the yield or the costs of producing the product. The word 'crack' is derived from the fact that petroleum products are produced by 'cracking' of crude oil in distillation columns.

4.5.2 As more than 90% of the cost of the production is the cost of crude oil, the relation between the prices crude oil and product prices in the international market over the last 3 years were studied to assess whether the crack on Diesel can be used in relation to the price of benchmark crude oil in international market for fixing the refinery gate price for Diesel in India. The trend of actual cracks is given in Chart 6.

Chart 6: Price of Dubai Crude & Diesel



The Chart shows that the 'crack' varied over time as well as over seasons within a year. The value of crack for Diesel ranged between \$ 9.39/bbl. and \$ 21.67/bbl. for the 3 year period. The average spread during 2012-13 was around \$ 16.62 /bbl. The average annual product cracks during last 5 years are also given in Table 6.

Table 6: Diesel Cracks (Diesel-vs-Dubai Crude)

Year	Dubai Crude Price (\$/bbl)	Diesel (0.05% S)		
		FOB (\$/bbl)	Crack (\$/bbl)	Crack % over Crude Price
2008-09	82.77	105.38	22.61	27.32
2009-10	69.57	76.00	6.43	9.24
2010-11	84.14	97.19	13.05	15.51
2011-12	110.14	127.45	17.31	15.72
2012-13	106.97	123.59	16.62	15.54
Average	90.72	105.92	15.20	16.76
2013-14	103.52	117.98	14.46	13.97
Avg. for Sep 13	108.28	120.76	12.48	11.53

Note: - FOB quote is Platt's Assessment. - Price of HSD (0.05% Sulphur) is for Arab Gulf Market.
- 2013-14 prices are up to 30th Sep 2013.

It can be seen that there is huge variation in average crack of Diesel across the years, both in terms of absolute value of the crack as well as a percentage of the crude price.

4.5.3 Regression analysis was used to assess whether the crack for Diesel could be sensibly predicted using the prices of crude oil of the Indian basket of crude. The data used for the estimate was from September 1, 2008 to August 31, 2013. The forecast of the crack for different values of crude price using the regression model are presented in Table 7.

Table 7: Diesel Crack based on Regression Analysis

Dubai Crude Price	Diesel		Crack as % to Crude price
	FOB	Crack	
100	113.68	13.68	13.68
105	119.22	14.22	13.54
110	124.76	14.76	13.42
115	130.30	15.30	13.30
120	135.84	15.84	13.20
103.52 (Avg. for Apr-Sep 2013)	117.58	14.06	13.58
108.28 (Avg. for Sep 2013)	122.85	14.57	13.46

Note:

- The product FOB of Diesel has been derived through regression equation ($Y = a + bX$) based on crude (X) and product (Y) FOB prices in international market during Oct '08 to Sep'13. The coefficients as per the regression analysis are as under:

Coefficients	Diesel
a	2.8825
b	1.1080

- This analysis is done on excel spreadsheet.

The model predicts crack on an average at a fairly stable percentage of crude price. However, as is clear from Table 6, the actual percentage figures are far more volatile. Hence using the average product crack based on regression model for pricing Diesel is not practical.

4.6 Pricing Linked to Singapore Prices

4.6.1 For the purpose of working out refinery gate prices of Diesel / PDS Kerosene, the daily Arab Gulf (AG) FOB quotes of these products as published by Platts & Argus are considered by the Industry. When India was net deficit in petroleum products, AG was the primary source for imports to the country and the region. The AG market was considered as benchmark for pricing of all the three products under consideration.

4.6.2 The Expert group examined whether AG quotes should continue to be the benchmarks for the pricing or should quotes from Singapore market be used for arriving at international benchmark prices. A comparison of AG FOB and Singapore FOB for Diesel for last 5 years along with the Diesel Trade Premium quoted at AG is contained in Annexure 5.1. Since, AG FOB prices are derived from net backing from Singapore FOB prices¹, Platts separately captures the Diesel Trade Premium quoted at AG² (Annexure 5.2) which is also considered while working out the refinery gate price for Indian refineries.

4.6.3 In case Singapore prices are considered, the FOB price for Indian Port can be computed using the following two approaches:

Option (i): Singapore Quote - Freight from Singapore to AG + Trade Premium quoted at AG + Freight from AG to Indian Ports.

As mentioned in Para 4.6.3, Platts is also back freighting the Singapore quote to arrive at AG price. Therefore, deriving the price from Singapore to AG again will give the same result as at present (since AG prices put out by Platts is being used currently) for RGP.

¹**As per the methodology explained by Platts for assessing price of Diesel (0.05% S) at AG,** "FOB Arab Gulf gasoil reflects gasoil with a maximum of 500 ppm sulfur, and is assessed as a netback to the Singapore Gasoil assessment, using 55,000mt and 80,000mt (LR2) freight rates. Freight rates reported in the Platts clean tanker reports are used for this netback".

²**As per the methodology explained by Platts for assessing Premium / Discount of Diesel at AG,** "Platts assesses spot premiums for gasoil at AG, which reflects prevailing premiums applied in the spot market for gasoil bought and sold in reference to the benchmark FOB Arab Gulf netback value. The FOB Arab Gulf 0.25% sulfur, 0.05% sulfur and 0.005% sulfur assessments are derived by applying assessed spot premiums for those grades to the primary Gasoil assessment, plus the differential for standard 500ppm gasoil itself. FOB Arab Gulf gasoil premium/discount assessments reflect cargoes for loading 15 to 30 days from date of publication."

Option (ii): Singapore Quote -Freight from Singapore to Indian Ports.

This methodology is presently adopted by Platts in assessing the quote for Diesel at West Coast³ of India. Platts however, informed that although West India has a growing surplus of oil products for export, there is only a sporadic flow of cargoes and insufficient local price formation to support independent spot prices on FOB West India basis. It is also observed that due to lack of local price information at West Coast, Platts is not assessing trade premium at West Coast. These quotes are not backed by any actual traded volume. Hence in absence of independent assessment of trade premium at west coast based on traded volumes, the Indian west coasts quotes, which are based on Singapore ocean freight, cannot be considered directly for RGP.

4.6.4 In View of the above factors, since Singapore prices are already considered by Platts to derive AG prices (Singapore - freight to AG), it is advisable to continue to adopt the quotes of AG instead of taking Singapore quotes directly to India as the basis for RGP.

4.7 Relatable to Actual Export Realization by Indian Private Refiners

4.7.1 From an analysis of actual realization from export of Diesel by private refineries during the year 2012-13, it is observed that even though their export realizations are broadly in line with the prices worked out as per EPP, as given in the Table 8, they do not incur any additional expenditure on such exports like CST and Coastal expenses etc. which they have to incur on sale of POL products to the OMCs as per the existing pricing mechanism of IPP / TPP.

³**As per the methodology explained by Platts for assessing price of Diesel (0.05% S) at Indian West Coast,** "Platts launched its Mean of Platts West India Netbacks on June 1, 2009. The MOPWIN assessments for 10ppm, 500ppm and 0.25% sulfur gasoil are derived by deducting freight costs from the assessments for the same product in Singapore. Although West India has a growing surplus of oil products for export, there remains only a sporadic flow of cargoes and insufficient local price formation to support independent spot prices on FOB West India basis. Platts therefore launched direct freight netbacks from the active trading hubs of Singapore and Japan, where daily prices are established from transparent and firm bids, offers and transactions between many active buyers and sellers. MOPWIN assessments appear on Platts Global Alert page 2021 and in the Arab Gulf/Asia Pacific Market scan. Platts' FOB Singapore oil products assessments can be found on PGA page 6, and the West Coast India – Singapore clean freight assessments used for generating the netback values can be found on PGA page 904."

**Table 8: Export Realization of Private Refineries on Diesel
vis-à-vis EPP during 2012-13**

Company	Export realization provided by private oil companies	Average EPP during the period of export
RIL	126.78	126.56
EOL	125.60	125.80

(\$/bbl)

4.7.2 In case private refineries are paid EPP based price, CST & coastal freight will have to be borne by the purchasing OMCs. In addition, private refineries have demanded \$1/bbl. to account for more stringent specifications for BS III and BS IV Diesel applicable to India as compared to international quotes (i.e. superior cetane number, distillation recovery and density etc.). Such a refinery gate price for public sector OMCs will give the private refineries the same amount as they earn from export. At the same time this will give OMC refineries, which do not have to bear these costs, protection that we need to give to the refinery sector.

4.7.3 The average difference between the cost of Diesel to OMCs on existing TPP basis and EPP + CST + Coastal expenses and quality adjustment at Jamnagar during 2012-13 is presented in Table 9:

**Table 9: TPP vis-à-vis "EPP + CST + Coastal freight + Quality adjustment"
of BS III Diesel at Jamnagar during 2012-13**

Average TPP	Average EPP	CST @ 2%	Coastal Freight	Quality Adjustment	EPP + CST + Coastal freight + Quality adj.	Difference
(i)	(ii)	(iii)	(iv)	(v)	(vi=ii+iii+iv+v)	(vii = i - vi)
44603	42845	916	393	341	44495	108

(Rs./KL)

As can be seen from the above table, in case EPP pricing is implemented the total cost including CST, Coastal freight and quality adjustments etc. will be almost equal to current pricing based on TPP for Diesel with only minor difference between the two.

4.7.4 The EPP price is very close to the TPP price. The difference is around 0.25% for 2012-13 and has been as low as 0.15 % in the past. Given this very small difference, which can even be justified as needed incentive to private refineries to sell to domestic OMCs in preference to exporting diesel, and given that government has agreed to let diesel price be market determined, there seems little point in changing the status quo at this

stage and the group recommends that we continue with TPP as per current policy.

4.8 Pricing Mechanism in Other Countries

4.8.1 Many developed countries such as Canada (except for 5 provinces), USA, UK, Netherland, France, Italy and Germany (as well as an emerging economy such as Philippines) do not have any specific formula / mechanism for pricing of petroleum products. The prices are market determined in these countries.

4.8.2 Other countries with crude and product deficit such as Australia, South Africa, New Zealand, Pakistan, Thailand, Ireland, Mauritius and Nigeria use pricing methodology based on IPP linked to international benchmark prices.

A brief note on "Pricing Mechanism of Petroleum Product in various Countries across the World" prepared by PPAC is given in Annexure 6.

4.9 From its examination of various alternative pricing mechanisms, the expert group noted that there is no single or unique formula which can be said to represent the correct method for domestic prices in India that would not be distortionary with attendant ill-effects for the economy from the distortions. Therefore, the best course of action is to free the market from price controls at the earliest. However, in view of the significant gap between the present administered prices and the international prices, the committee has spelt out the arrangements that may prevail in the interim till the best course of action is implemented.

4.10 Diesel Price

4.10.1 Diesel constitutes about 44% of the total consumption of Petroleum products in quantity terms in the country. The consumption of Diesel in the country has almost doubled from 36,645 TMT in 2002-03 to 69,164 TMT in 2012-13.

4.10.2 Diesel is consumed largely as an intermediate product and any price increase in Diesel has a cascading effect on the prices of other products and services. To protect the consumers from the impact of high international oil prices and contain inflationary trends, the increase in domestic selling prices of Diesel has not been passed on fully to the consumers since 2004. As a result, the subsidy provided to consumers on

Diesel has increased significantly from Rs. 2,154 crore in 2004-05 to its highest level of Rs. 92,061 crore in 2012-13 i.e. 57% of the total under-recovery for the year.

4.10.3 Although, Government had decided in principle to make the price of Diesel market determined, both at the refinery gate and at retail level in June 2010, this was not implemented. The Govt. has now authorized the OMCs effective 18th January 2013 to:

- (a) Increase the retail selling price of Diesel in the range of 40 paisa to 50 paisa per litre per month (excluding VAT as applicable in different State/Union Territories) until further orders; and
- (b) Sell Diesel to all consumers taking bulk supplies directly from the installations of the OMCs at the non-subsidized market determined price.

OMCs are revising the prices of diesel sold through retail outlets on a monthly basis since January 2013 and have also implemented the decision to sell Diesel to bulk consumers at non-subsidized market determined price. The current price of Retail diesel is Rs. 52.54/ litre (whereas the price of Bulk diesel is Rs. 63.50/litre) at Delhi effective 1.10.2013 which is Rs. 10.51/litre below the desired price based on international benchmark price.

4.10.4 The entire production of major petroleum products, including HSD by PSU Oil marketing companies is meant for consumption within the country and they only export small quantities of diesel mainly to Bhutan and Nepal under bilateral agreements between governments of India and the two countries. The exports to Nepal & Bhutan vis-a-vis total exports of diesel by PSU OMCs are given in Table 10.

Table 10: Export of HSD by PSU OMCs to Nepal & Bhutan vis-à-vis their Total Exports

Year	Nepal	Bhutan	Total	Total PSU OMCs Exports	% age to Total export by PSU Refineries
	TMT				(%)
(1)	(2)	(3)	(4=2+3)	(5)	(6=4/5)
2010-11	548	42	590	590	100%
2011-12	540	52	592	775	76%
2012-13*	572	60	632	695	91%

*Provisional

4.10.5 Similarly, production from standalone PSU refineries including new Joint Sector refineries and private refineries i.e. RIL – DTA refinery and EOL

refinery (except for production from RIL SEZ refinery, which by virtue of the very concept of SEZ, is required to export its products) is mainly meant for domestic consumption and only a small surplus quantity, which is not consumed domestically, is exported. The details of production and export of HSD by (i) PSU oil companies, and (ii) Private refineries (excluding RIL SEZ refinery) during last 3 years are contained in Table 11.

Table 11: Export of HSD as % of Production by PSU & Private Refineries

Year	PSU Refineries including standalone Refineries			Private (excluding SEZ) Refineries			Total Production (excluding SEZ)	Total Exports (other than SEZ refineries)	% age of Exports to Total Production
	Production	Export	% export to Production	Production	Export	% export to Production			
	TMT		%	TMT		%			
2010-11	45967	1380	3.00	15870	3043	19.17	61837	4423	7.15
2011-12	50911	1806	3.55	15625	1955	12.51	66536	3761	5.65
2012-13*	55020	2198	3.99	19467	3732	19.17	74487	5930	7.96^

*Provisional

4.10.6 OMCs have submitted that the EPP based pricing would be highly detrimental to the Domestic Refining sector due to the following reasons:

- (a) Buying crude at IPP and selling products at EPP will result in significant losses and would not be suitable for the existing refineries.
- (b) FOB product quotes of Arab Gulf do not reflect the full cost for crude importing nations like India which have to actually incur other charges also such as ocean freight, insurance, port charges, ocean loss, LC charges, wharfage etc.
- (c) In case a decision is taken to stop operations at these refineries to cut down the losses, the product availability in the country would get severely affected resulting in increase in import dependency at much higher cost since product imports are likely to be much costlier than crude imports.
- (d) Shifting to EPP with reduced/ no margins will make the current and upcoming capital investments projects in this sector unviable.
- (e) Low profits would also affect investment sentiment in the sector and downgrade the ratings of OMCs which, in turn, will increase the cost of borrowings and consequently impact their profitability.

4.10.7 Standalone refineries have submitted that the conversion of domestic realization from TPP/ IPP to EPP would reduce the refinery margins by over

\$1.5/bbl., which is already very low due to lower / nil tariff protection available on the products. Additionally, they are also bearing CST, irrecoverable taxes etc. The new refineries which have come up in the joint sectors with significant amount of investment, have stated that their projects were conceived assuming the stability of the pricing regime in the country and therefore changing the pricing structure midway will affect the viability and sustainability of the new investments which have been made for growth of the refining sector in the country.

4.10.8 While making presentation to the expert group, private refineries have stated that till full deregulation is achieved, a pricing formula linked with international benchmark prices is required. While EPP represents sellers alternative price if there is no domestic market for refinery output, IPP is the alternate option for buyers if they cannot buy from domestic suppliers. Hence, EPP and IPP are the floor and ceiling price respectively. A fair pricing formula should be within this range depending on supply-demand. It is also submitted that small export of products out of 100% imported crude cannot be construed as India having exportable surplus of petroleum products. They further stated that if EPP is implemented capacity utilization will come down leading to shortage of major petroleum products.

4.10.9 OMCs during submission to expert group expressed that in case EPP based pricing is implemented it is very likely that private oil companies which have the advantage of coastal refineries may decide to export their entire products and hence their products will not be available for sale in the domestic market, which will necessitate imports by OMCs at a much higher cost. The details of procurement of HSD, SKO & LPG by the PSU OMCs from the private refineries are given in Table 12.

Table 12: Product Purchase by OMCs from Private Refineries

(TMT)

Product	2007-08	2008-09	2009-10	2010-11	2011-12
Diesel	531	5,598	10,803	12,857	14,500
SKO	241	620	859	690	615
LPG	2,865	3,384	4,006	3,272	2,666

Source: Oil companies

4.10.10 As submitted by OMCs, while they procure sensitive products from Indian refineries on IPP/TPP basis, the landed cost of product, whenever imported by OMCs has been higher than the RGP of the product. In case they have to meet the shortfall through imports instead of procuring from private/ stand-alone refineries, they would have incurred an additional import cost, as shown in table 13, which would have further deteriorated their financial situation.

Table 13: Additional cost on Import vis-à-vis TPP/ IPP

(Rs. crore)

Products	2010-11	2011-12
HSD	609	3,145
SKO	161	18
LPG	366	824
Total	1,137	3,986

Source: OMCs

4.10.11 Taking into account the submissions made by various stakeholders, the expert group noted that:

- (a) FOB product quotes of Arab Gulf (which are net backed from Singapore Price - ocean freight) do not reflect the full cost for crude importing nations like India which have to actually incur ocean freight and other costs pertaining to import of crude oil/ POL products.
- (b) entire production of diesel by Indian refineries (excluding SEZ refinery) is meant for domestic consumption and export is done only of minor quantities/ surplus production and to meet government to government obligations to neighbouring countries;
- (c) significant fall in GRMs may lead to closing down of many old refineries leading to supply disruptions and increased import dependency at much higher cost;
- (d) In case EPP pricing is implemented, the total cost including CST, Coastal freight and quality adjustments etc. for procurement from private refineries will almost be equal to current pricing based on TPP for Diesel with only minor difference between the two. With these elements, the refinery gate price will be near the current TPP price.

4.11 Addressing the Issue of Under-recovery in Diesel

4.11.1 With monthly revisions in Diesel retail prices and decontrol of pricing of bulk diesel from January 2013 onwards, it was expected that under-recoveries would be significantly reduced. In fact as of 1st May 2013 the under-recovery on Diesel had reduced to Rs. 3/litre which would have come down further due to monthly increase in the RSP of Diesel. But the depreciation of Indian rupee against the US Dollar from an average of Rs.54.45/\$ in 2012-13 to Rs. 63.75/\$ in September 2013 increased the under-recovery on diesel to Rs.10.51/litre as of 1st October 2013. Thus,

immediate steps are needed to contain under-recovery on Diesel in future.

4.11.2 As per the study of sectorial Demand of HSD undertaken by PPAC through AC Nielsen ORG MARG covering the period from January 2012 to June 2013, the sector wise consumption of HSD is as under:

Table 14: Sectorial Consumption of Diesel

End Use segments		% Share in total Diesel Sales
Cars/ SUVs	Commercial	8.46
	Private	12.43
	3 Wheelers	6.05
Commercial Vehicles	Trucks: HCV/ LCV	26.75
	Buses/ STUs	10.74
	Aviation/ Shipping	0.84
	Railways	3.75
Sub-total Transport		69.01
Agriculture	Tractors/ Agri implements	9.91
	Agri pump sets	2.74
Sub-total Agriculture		12.65
Power Generation	Gensets	3.83
Industry	Industry	6.10
Mobile towers	Mobile towers	1.45
Others	Crushers/ Construction/ Boring/ Drilling/ Pvt. imports	6.95
Sub-total		18.34
Grand total		100.00

Source: based on retail survey by A C Nielsen – ORG MARG & Direct Sales as per OMCs data

- a. As per this study, almost 69% of the diesel is consumed by the transport sector out of which Cars/ SUVs/ three wheelers account for 27%. The usage of diesel passenger cars has increased in the recent past due to shift from the petrol cars on account of increase in price gap between petrol and diesel (presently Rs. 19.86/ litre at Delhi). This is encouraging further dieselization with adverse environmental impact and increased under-recovery. There is no economic or social reason to provide subsidy on diesel to these consumers.
- b. Buses/ STUs account for 11% of total diesel consumption. After implementation of dual pricing of diesel effective 18th January 2013, STUs are required to purchase diesel at full price whereas private buses continue to purchase at subsidized rate from retail outlets. There need

to be parity for all public transport buses, whether run by private companies or by State Transport Undertakings.

The expert group is informed that most of the State Transport Undertakings (STUs) have started procuring diesel from the OMCs retail outlets to take advantage of significant gap between the price of bulk and retail diesel (presently Rs. 10.96/litre at Delhi), thereby negating the benefit of dual pricing. The total bulk sale of Diesel which was about 18% in 2011-12 has declined to around 10% in August 2013.

- c. As regards trucks and LCVs, which account for 27% of Diesel consumption, demand of goods movement in the short run is inelastic and truckers can pass on the increase in the cost to the consumers. In fact, instead of small monthly increases in diesel price, truckers prefer one time increase in the price of diesel which they can pass on to their consumers as a fuel cost escalation factor. While diesel price increase leads to small increase in inflation, not doing so involves a much higher inflation rate in the long run.
- d. The agriculture sector accounts for 13% of diesel consumption mainly for tractors, threshers, tillers, harvesters, and pump sets etc. The impact on farmers of increasing diesel price is an area of concern. However, the cost of diesel in agriculture would be accounted for by the Government while fixing the minimum support price (MSP) for major crops.

As mentioned in the report of Expert group of February 2010, the cost of diesel would be accounted for by the Government while fixing the Minimum support price (MSP) for major crops. Therefore, any increase in the cost of diesel will be reflected in the price and will not adversely affect farmers. However, those who use diesel relatively more may not get fully compensated by MSP. Higher diesel price will induce them to use less diesel which may reduce over-use of ground water prevalent in many parts of the country. This would be beneficial for the nation in the long run.

- e. The price of Diesel for bulk consumers like Industry, railways, defense etc. has already been made non-subsidized and therefore, there is no logic and justification to continue to extend the subsidy on diesel to gensets for power generation, mobile towers and other non-transport consumers who are currently able to purchase subsidized diesel from retail outlets.

- 4.11.3 The group therefore recommends that since the government has already decided to eventually free diesel price, there is no need to tinker with the existing pricing formula, which, even if modified, will not solve the problem of mounting under-recoveries incurred on sales of controlled products, mainly due to high international crude prices and depreciation of Indian rupee.
- 4.11.4 Instead, the group recommends that the Government should take steps to pass on the impact of rise in price of Diesel to consumers and move rapidly towards making the price of diesel market determined.
- 4.11.5 Specifically, the Expert Group recommends that in view of high under-recovery on Diesel (Rs. 10.51/ litre as of 1.10.2013), diesel price be raised by Rs. 5.00/ litre with immediate effect. The balance under-recovery should be made up through a subsidy of Rs. 6/litre to PSU OMCs. The subsidy on diesel should be capped at Rs. 6/ litre. This would imply freeing of price of Diesel beyond this cap.
- 4.11.6 Any rise in the gap between domestic and international prices beyond Rs. 6/litre should be made up by corresponding increase in the price of Diesel in the domestic market by the OMCs. If the gap falls below Rs. 6/litre, either the prices should be reduced or the subsidy to be provided should be reduced. The second option is recommended by the Expert Group as that would lead to decline in subsidy over time. In the future, oil companies should be permitted to revise the prices above the subsidy cap (in line with the changes in the international prices and other costs elements) on their own.
- 4.11.7 The expert group further recommends that the fixed subsidy of Rs. 6/litre be reduced gradually and finally removed through regular monthly downward revisions in the cap on subsidy and corresponding increase in the price of diesel over the next one year.

4.12 PDS Kerosene Price

- 4.12.1 SKO allocation has been rationalized in the last 3-4 years broadly based on the factors such as increase in Domestic LPG & PNG connections, non-lifting of PDS Kerosene quota by the concerned States / UTs and a cap on the per capita PDS Kerosene allocation for non-LPG and PNG population. Rationalization of PDS Kerosene allocation has resulted in reduction in allocation of Kerosene to various States /UTs since 2010-11 as shown in Table 15.

Table 15: PDS Kerosene Allocation

Year	Allocation (TMT)	Reduction (%)
2009-10	9123	
2010-11	8761	-3.97
2011-12	8067	-7.92
2012-13	7385	-8.45
2013-14 (Apr-Dec)	5283	-4.62

4.12.2 With the reduction in the consumption of Kerosene, presently the SKO demand is fully met out of the indigenous production of kerosene by the refineries and the imports of kerosene, which continued till 2011-12, has reduced to Nil. At the same time, there are no exports of kerosene.

4.12.3 The basic selling price of PDS Kerosene has been increased only by Rs. 5/litre (Rs. 3/litre on 26.6.2010 & Rs. 2/litre on 25.5.2011) since March 2002. The retail selling price of PDS Kerosene, which was Rs. 8.98/Litre (at Delhi) as on 1.4.2002, is only Rs. 14.96/litre today. As a result, the total subsidy (including under-recovery) on kerosene has grown from Rs. 4,165 crore in 2002-03 to Rs. 30,151 crore in 2012-13, in spite of continuous reduction in the consumption of Kerosene. The price of PDS Kerosene in India is the lowest in comparison with neighboring countries and probably the lowest in the world. A comparison of Prices in India and the neighboring countries is shown in the table 16.

Table 16: Comparative Prices of Kerosene

(Rs. per litre)				
Delhi	Pakistan	Bangladesh	Sri Lanka	Nepal
14.96	60.27	52.97	51.14	62.10

Source: PPAC (Prices of neighboring countries as on 01.8.2013)

4.12.4 The price differential between Diesel and PDS Kerosene which used to be around Rs. 7.61/litre in April 2002 has steadily increased more than 5 times to Rs. 37.58/litre currently. A comparison of price differentials existing since 2002 between PDS Kerosene and Diesel is shown in the chart 7.

4.12.5 A large price differential between PDS Kerosene and Diesel is an incentive to divert Kerosene to adulterate Diesel. Estimates suggest that nearly 1/3rd of the PDS Kerosene is diverted for unauthorized usage including adulteration. Oil companies, in order to implement Auto Fuel Policy for greener environment, have made significant investments for production of Euro III & Euro IV grade Diesel. These efforts get negated to a large extent due to Diesel being adulterated with Kerosene.

Chart 7: Price Differentials between PDS Kerosene and Diesel



4.12.6 Consequent to the recommendations of the task force constituted by the Government under the Chairmanship of the Chairman, UIDAI on the issue of Direct Benefit Transfer of Kerosene (DBTK), Government has already piloted the DBTK scheme for Kerosene in select districts. The success of DBTK Scheme can be achieved only if the same is rolled out in all the States with restricting the Subsidy only to BPL families. The participating States should also put in place an institutional mechanism to undertake cash transfer of Kerosene subsidy to the bank account of ration card holders in an efficient and transparent manner.

4.12.7 It is heartening to note that Delhi has become a “Kerosene Free State” where no PDS Kerosene will be allocated effective 1st October 2013, after converting the eligible households into LPG consumers under Free LPG connection scheme for AAY/ BPL/(APL) JRC Kerosene user card holder.

4.12.8 The Expert Group on “A Viable and Sustainable system of Pricing of Petroleum Product”, in its report in Feb 2010 had recommended that based on the trend of growth in per capita GDP of agriculture sector (including forestry and fishery) where the per capita agriculture GDP at current prices increased by around 60% between 2002-03 to 2008-09, the price of PDS Kerosene has to be increased at least by Rs.6/litre so that the share of expenditure on kerosene in the total consumption expenditure

of rural households remains at the same level as in 2002 without putting undue burden on the poor. Thereafter, price of PDS Kerosene be increased every year in step with the growth in per capita agriculture GDP at nominal price.

- 4.12.9 Since, selling price of PDS Kerosene has been kept artificially low resulting in waste, leakage, adulteration, inefficiency of use and huge subsidy burden on the Government (current subsidy of Rs. 39.14/litre on PDS Kerosene is at the highest level), there is a need to increase the price of PDS Kerosene at least in line with the growth in the per capita agriculture GDP as recommended by the Expert Group of 2010. Dr. Vijay Kelkar Committee report on "Roadmap for Fiscal Consolidation", in September 2012 also recommended an increase in the price of PDS Kerosene by Rs. 2/litre immediately and to reduce to 1/3 of the total Subsidy on PDS Kerosene by 2014-15.
- 4.12.10 **The expert group recommends that PDS Kerosene price should be comparable to Diesel price to prevent diversion and adulteration. This can be accomplished if PDS kerosene is priced at full market price and the benefit of the subsidy to the deserving consumers i.e. BPL families, is given through direct cash transfer mechanism. For this purpose, the DBTK scheme for Direct Transfer of Subsidy to BPL families throughout the country should be fast-tracked and completed within the next two years.**
- 4.12.11 **Till this is implemented, the expert group recommends that the price of PDS Kerosene be increased by Rs. 4/Litre immediately and thereafter the price of PDS Kerosene be revised from time to time at least in line with growth in the per capita agriculture GDP.**
- 4.12.12 **Allocation of PDS Kerosene should be reduced with spread of rural electrification and increased use of LPG and PNG for cooking.**
- 4.12.13 **Since Kerosene is neither exported nor imported and also since there is no custom duty on PDS Kerosene, it's pricing may continue to be based on IPP.**

4.13 Domestic LPG Price

4.13.1 The 'Vision-2015' adopted for the LPG sector inter alia focuses on raising the LPG population coverage in rural areas and areas where LPG coverage is low. The Rajiv Gandhi Gramin LPG Vitaran Yojana (RGGLVY) for small-size LPG distribution agencies has been launched in 2009. Under this scheme 75 per cent rural population is to be covered by 2015 through 5.5 crore new LPG connections.

4.13.2 The consumption of LPG in the country has increased from 8351 TMT in 2002-03 to 15603 TMT in 2012-13. The sale of domestic LPG cylinders constitutes around 87% of the total LPG sales.

4.13.3 With LPG consumption growing due to expansion of LPG coverage in urban as well as in rural areas, and the indigenous production of LPG remaining at around the same level during last 5 years, the country is heavily dependent on the import of LPG as detailed in table 17.

Table 17: Production, Consumption, Import & Export of LPG in India

(TMT)

Year	Production	Consumption	Import	Export*
2008-09	9335	12191	2360	109
2009-10	10345	13135	2718	131
2010-11	9624	14331	4484	154
2011-12	9554	15350	5084	174
2012-13	9830	15603	6293	200

*The Export of LPG is only to the neighboring countries of Bhutan and Nepal under bilateral agreements

During the year 2012-13, almost 40% of the requirement of LPG was met through import of 6293 TMT LPG.

4.13.4 The Refinery Gate Price (RGP) of Domestic LPG is based on Import Parity Price (IPP) as provided in the "PDS Kerosene & Domestic LPG Subsidy Scheme 2002". Although the RGP of LPG is based on IPP, OMCs have reported that they are incurring losses on actual import of LPG (total claim of Rs. 529 crore during 2012-13) since the cost of imports is more than the IPP price as per the pricing structure which does not get compensated. OMCs have requested that the amount of losses incurred on importing LPG should also be allowed to be included in their under-recovery claims for LPG for compensation. However, as the total quantity of LPG (whether produced in Indian refineries or imported) is treated at par, there is no

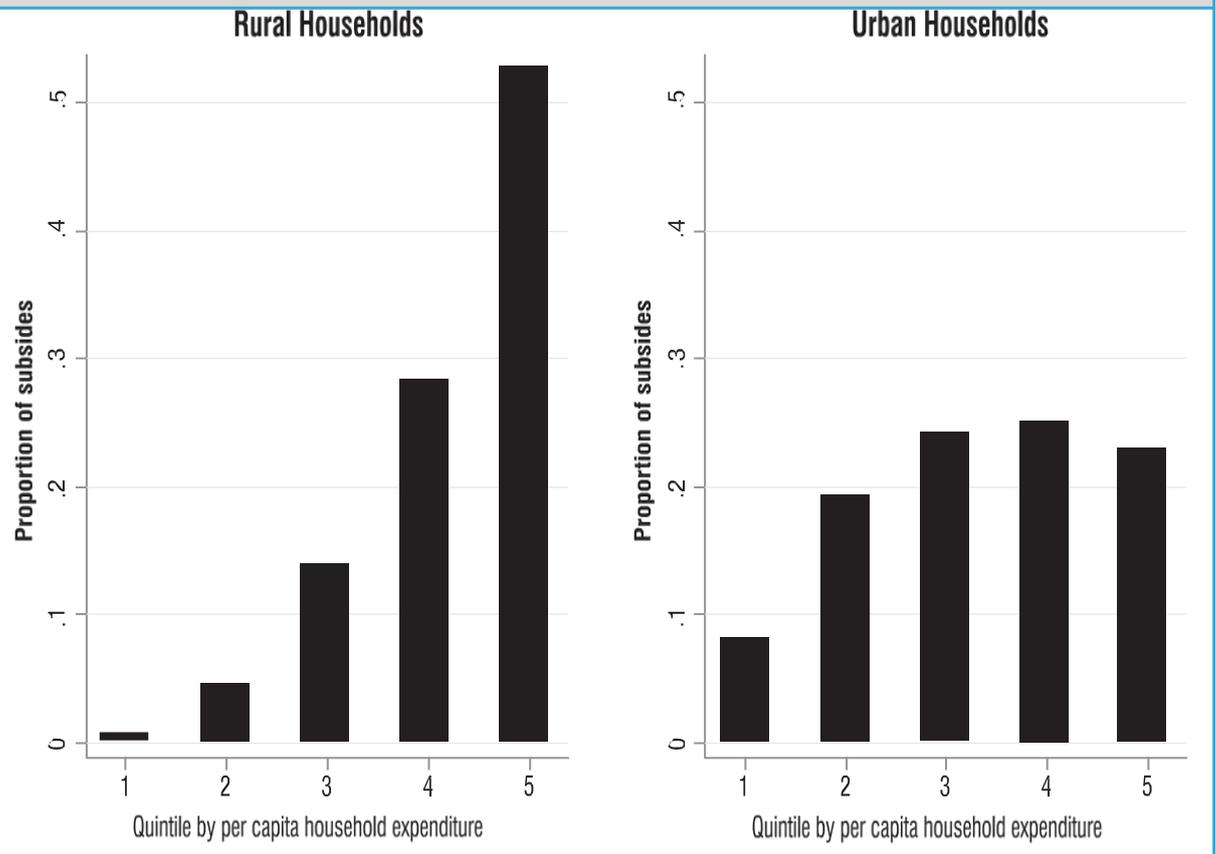
logic for considering any gain/ loss on actual imports for the purpose of under-recovery calculations.

4.13.5 As a step forward for reducing the subsidy on Domestic LPG, the Government restricted the supply of subsidized LPG cylinders to each consumer to 6 cylinders (of 14.2 Kg) per annum w.e.f. 13th September 2012 (The cap has since been increased to 9 cylinders per annum for each consumer from 18th January 2013). The consumers are free to purchase any number of Domestic LPG cylinders beyond the cap at non-subsidized price fixed by OMCs on monthly basis. It is estimated that only around 5-6% of the total Domestic LPG quantity will be covered at non-subsidized price.

4.13.6 The Government has also launched Aadhar based Direct Benefit Transfer Scheme (DBTL) for Domestic LPG which has been launched in 18 districts from 1st June 2013 and by 1st Jan 2014, it is planned to cover 289 numbers of district. The scheme covers transfer of subsidy to Aadhar based consumers without making any distinction for deserving consumers. As per Economic Survey 2012-13, efforts will have to be made to contain subsidies through better targeting. Box 1.3 of the Economic Survey 2012-13 on the rationale for capping gas cylinders is reproduced below:

“Box 1.3: Who Gets LPG Subsidies?*

Subsidies should be well targeted at the poor. The reach of subsidies on LPG is highly unequal amongst the poor and rich in rural and urban areas. While there is a significant inequality in the proportion of subsidies received by the poorest and richest households in rural areas, the distribution is more equitable across urban households. However, in both cases, the proportion of subsidies that go to the poor is low.



The proportion of LPG subsidies received by each quintile across rural and urban households.

To calculate the distribution of subsidies across households, we use the 64th Round of NSS data and categorize all rural (and urban) households into quintiles based on their per capita household expenditure. Furthermore, we use the reported household expenditure on LPG to calculate the share of each quintile in the total expenditure on LPG. The share in expenditure on LPG for any quintile therefore reflects the proportion of subsidies received by that quintile.

From the above graph, we see a highly unequal distribution of subsidies across rural households. The proportion of subsidies that go to the poorest quintile is only 0.07 per cent as compared to 52.6 per cent for the richest quintile. In urban areas, though the proportion of subsidies that go to the poor is still low (around 8.2 per cent), there is a more equitable distribution across the remaining quintiles (19 per cent, 24 per cent, 25 per cent and 23 per cent respectively).

*Prepared by Abhijit Banerjee and Gaurav Chiplunkar

Source – Economic Survey 2012-13

4.13.7 To achieve the desired goal of providing Subsidy only to deserving category of consumers, government should restrict direct benefit transfer of LPG subsidy to identified households after implementing a robust framework for identifying such segment of customers. While capping of LPG cylinders and implementation of Aadhar based direct transfer of benefit to consumers in select districts will have positive impact in reducing the under-recoveries, the full benefit will accrue only when the subsidy on LPG is restricted to deserving families through DBTL scheme throughout the country as soon as possible.

4.13.8 Domestic Piped natural Gas (PNG) is also used as substitute to LPG for cooking purposes. It is also widely used by Hospitals, Nursing Homes, Hotels, Flight kitchens, restaurants, palaces of worship etc. PNG satisfies most of the requirements for fuel across all segments being efficient, non-polluting and relatively economical. PNG is being adopted at a large scale as an attractive alternate to LPG. While, PNG supplies have been introduced in some of the states and approx. 22.36 lakhs (as on 31.03.2013) PNG connections have been released, there is a need to encourage widespread use of PNG over LPG, especially in urban areas.

4.13.9 The retail selling price of Subsidized Domestic LPG, which was Rs. 240.75 / Cylinder as on 1.4.2002, has increased to Rs. 410.50/Cylinder (at Delhi) as against the desired retail selling price of Rs. 943.36/Cylinder at current international prices of LPG. The current total subsidy provided on each 14.2 kg subsidized Domestic LPG cylinder is Rs. 555.44. The total subsidy (including under-recovery) on Domestic LPG has grown from Rs. 5,761 crore in 2002-03 to Rs. 41,547 crore in 2012-13. The price of Domestic LPG in India is the lowest in comparison with neighboring countries as shown as table 18:

Table 18: Comparative Prices of Domestic LPG

(Indian Rupees /Cylinder)

Delhi	Pakistan	Bangladesh	Sri Lanka	Nepal
410.50	996.95	624.18	1274.36	910.26

Source: PPAC (Prices of neighboring countries as on 01.8.2013)

4.13.10 The earlier Expert Group, February 2010 had stated that “the price of domestic LPG should be periodically revised based on increase in paying capacity as reflected in the rising per capita income. The subsidy on domestic should be discontinued for all others except the BPL households once an effective targeting system is in place”. Dr. Vijay Kelkar Committee report on “Roadmap for Fiscal Consolidation”, in September 2012 have also recommended increase in the price of Domestic LPG by

Rs.50/Cylinder and smaller & more frequent price revisions in future to eliminate the LPG subsidy by 2014-15.

- 4.13.11 As per a paper prepared by Chairman, Integrated Research & Action for Development (IRADe) on "Increasing LPG Price without Burdening Consumers" (Annexure 7), higher price of LPG will incentivize people to use it more effectively. There are many ways in which gas use can be reduced: a lower flame, a wide bottomed vessel, covering the pot and lighting it after the pot is in place, all can help reduce gas consumption.

Much of the cooking energy is lost due to radiation and convection. This can be prevented by covering the pot with another inverted pot. Also stacking pots utilizes the heat that transfers upwards due to hot gases or vapors rising from the lower pots. With these principles, a set of cooking pots called "EcoCooker" that saves 50 to 70 percent of gas in cooking using gas flame size appropriate to the size of the cooking vessel has been developed in the country. The EcoCooker has a 6-litre food capacity, sufficient for a family of 5 or 6 members. It can be used for bulk cooking, of dal, rice, vegetables, meat, and all items that can be cooked by steaming or boiling. For these items, the EcoCooker will save three-quarters of the fuel one would otherwise consume, as well as half the time one would otherwise spend standing at the stove.

Thus, if the price of LPG is raised from Rs 400 to Rs 600 per cylinder and if households start using the Eco-Cooker, their overall expenditure on LPG would not increase.

- 4.13.12 **Keeping in view the total subsidy of Rs. 555.44 per cylinder presently (as on October 1, 2013) given on subsidized domestic LPG cylinders, the Group recommends that:**

- i. The limit for subsidized cylinders be reduced from the present 9 to 6 cylinders per annum to each household and the DBTL scheme be restricted to identified families based on an exclusion criteria.**
- ii. The DBTL scheme be implemented throughout the country for Direct Transfer of Subsidy to identified families within next one year.**
- iii. The price of subsidized domestic LPG be raised by Rs. 250/cylinder immediately and the balance subsidy be phased out over the next 2 years through gradual price increase.**
- iv. Piped natural gas to homes be actively promoted in urban areas.**
- v. As the country continues to be heavily dependent on imports of LPG, the methodology of fixing refinery gate price of Domestic LPG should continue on IPP basis.**

Chapter 5

Terms of Reference: 2

To suggest a formula for compensation of under-recoveries which is fair and does not over compensate either the domestic suppliers of petroleum products or the Oil Marketing Companies.

5.1 As per the current burden sharing mechanism, the under-recoveries incurred by OMCs on sale of regulated products are compensated partly by Government through cash assistance and partly by PSU upstream companies i.e. ONGC, OIL & GAIL through price discounts. The balance under-recovery is absorbed by OMCs. There is, however, no transparent formula to implement this mechanism leading to uncertainty till the final settlement is approved by Government. The details of under-recovery compensations during the last 5 years are given in Table 19.

Table 19: Under-recovery Compensation

(Rs. crore)

Year	Total U/R	Government		Upstream Oil companies		OMCs	
		Amount	%	Amount	%	Amount	%
2008-09	103292	71292*	69%	32000	31%	Nil	Nil
2009-10	46051	26000	57%	14430	31%	5621	12%
2010-11	78190	41000	52%	30297	39%	6893	9%
2011-12	138541	83500	60%	55000	40%	41	0.3%
2012-13	161029	100000	62%	60000	37%	1029	1%

*Government has given oil bonds to OMCs against their under-recovery up to 2008-09. After that, government is issuing cash assistance to the OMCs.

5.2 In line with increase in under-recovery, the contribution from the upstream companies has increased to Rs. 60000 crore in 2012-13. The contribution made by the upstream companies and net crude price realized by them are given in Table 20 & 21.

Table 20: Upstream Contribution During Last 5 years

(Rs. crore)

Year	Total Under-recovery	Contribution by Upstream Companies			
		ONGC	GAIL	OIL	Total
2008-09	103292	27374	1694	2932	32000
2009-10	46051	11554	1327	1549	14430
2010-11	78190	24893	2111	3293	30297
2011-12	138541	44465	3183	7352	55000
2012-13	161029	49421	2687	7892	60000

Table 21: Price of Crude Oil Realized by ONGC & OIL

Year	Gross Price	Discount	Net Price	Gross Price	Discount	Net Price	Discount by ONGC & OIL
	\$/bbl.			Rs./bbl.			Rs. Crore
2008-09	85.57	36.94	48.63	3929	1696	2233	30306
2009-10	71.18	15.29	55.89	3377	725	2651	13103
2010-11	89.02	34.61	54.40	4057	1578	2480	28186
2011-12*	117.13	56.00	61.13	5616	2685	2931	51817
2012-13*	110.79	56.00	54.79	6032	3049	2983	57313

*since 2011-12, upstream discount from ONGC & OIL is computed at \$56/bbl. on Crude Oil Production quantity.

5.3 ONGC & OIL have submitted that:

- (i) Since 2011-12, as per Government directive, ONGC and OIL are providing discount at the rate of \$56/bbl. of crude oil produced (including condensate) by them as a part of compensation towards meeting the under-recovery of the OMCs. While the price of Indian crude oil basket in 2012-13 came down from the levels in 2011-12, there was no reduction in the discount provided by them. This resulted in lower price realization for the upstream companies in 2012-13 vis-à-vis 2011-12 by over 10%. This is affecting their ability to invest in exploration.
- (ii) While determining the share of ONGC and OIL in the under-recoveries at US\$ 56/bbl. on crude oil production, quantity of gas condensate is also being included in the calculation. This results in significant increase in their share of under-recoveries. The actual contribution is more than US\$ 63/bbl. on crude oil sold against the envisaged discount of US\$ 56/bbl.
- (iii) When the subsidy contribution at US\$ 56/bbl. was decided by the Government, the Oil Industry Development (OID) cess on crude oil was Rs. 2500/MT. Effective 17.03.2012, the Government increased the OID cess from Rs. 2500/MT to Rs 4500/MT. Due to this increase in the OID cess on crude oil, there has been an increase in recovery from the upstream companies by more than US\$ 5/bbl.

- (iv) As a result of increased subsidy burden sharing and the impact of OIL cess and rise in cost of E&P activities, there is a significant reduction in internal resource generation of the upstream companies which in turn has seriously affected their capex plans and future investments in E&P. This has also given rise to concerns by investors on issues pertaining to profitability of these companies and governance of these companies. As a result the market valuations of these companies have remained subdued and even declined despite significant improvement in the market sentiments as reflected in the rise of the market indices.
- (v) ONGC and OIL have suggested a slab-wise burden sharing formula based on crude oil prices which is given in Table 22.

Table 22: Burden Sharing Mechanism Proposed by ONGC & OIL

Crude Oil Price (US\$/bbl.)	Discount to be provided on crude oil	Price to be retained by Upstream companies (ONGC/ OIL)
Up to 65	Nil	100%
65 – 100	85% of Incremental Price	15% of Incremental Price
Above 100	90% of Incremental Price	10% of Incremental Price

5.4 It has been submitted by GAIL that they are a midstream company mainly in transmission business, with regulated returns. GAIL was required to share subsidy burden in FY 2003-04 on the premise that it is producing LPG based on the then concessional APM gas. However, the current price paid for Natural Gas used for production of LPG by GAIL is close to the price under PSC being realized by the consortium for the gas produced from Panna-Mukta fields and sold to Power & Fertilizers plants. Thus, GAIL is paying arms-length gas price for the raw material for producing LPG and there is no incremental revenue to GAIL from its core transmission business due to increase in Crude/Natural Gas prices. GAIL has stated that they should not be required to share any subsidy burden.

5.5 Approach to Subsidy Sharing by Upstream Companies

5.5.1 Under the current arrangement, the government recovers a fixed amount per barrel of oil as contribution towards energy subsidy from the upstream companies. This implies that the recovery remains the same, irrespective of the price of crude or the size of the subsidy burden. Logically, their share should rise with rise in under-recovery with a view to helping the Government in balancing the budget and vice-versa and should decline

with decrease in the price of crude as the under-recovery reduces. The contributions of the upstream companies should be based on some principle. The current practice as well as the scheme suggested by the upstream companies is ad hoc. The logic of requiring upstream companies to share under recoveries is that they were given blocks on nomination basis unlike later allocations under NELP rounds, which required profit/production sharing. Thus applying a mechanism similar to the NELP mechanism to production from nominated blocks will be justifiable.

5.5.2 With the above in view, the following alternatives were examined in order to suggest a more logical basis for computation of contribution by upstream oil companies.

- a) A variant of the proposal from ONGC and OIL;
- b) A mechanism similar to that used for blocks allocated under NELP.

These alternatives are analyzed below:

5.5.3 **Upstream companies allowed to retain a fixed price of crude oil and provide slab wise contribution over the fixed price**

As indicated in Table 22, ONGC & OIL have suggested crude oil price linked burden sharing formula which allows them to retain the entire realization on crude oil up to \$65/bbl. and beyond that their contribution to under-recovery increases in slabs based on crude oil prices. However, this would imply that at a crude price of \$110/bbl., the upstream companies will provide a discount of only \$38.75/bbl. as against the existing discount of \$56/bbl. resulting in much lower upstream contribution. Three alternatives arising from the method suggested by the upstream companies with no sharing up to crude oil price levels of \$55/bbl., \$60/bbl. and \$65/bbl were worked out. The share of upstream companies resulting from these computations against sharing based on fixed rate of US\$ 56/bbl. are presented in Table 23.

Table 23: Upstream Contribution at Varying Crude Prices

Crude Price	(\$/bbl.)	100	110	120	130	140
As per Existing System						
Discount (ONGC & OIL)	(\$/bbl)	56	56	56	56	56
Net Price to ONGC & OIL	(\$/bbl)	44	54	64	74	84
Total Discount by ONGC,OIL	(Rs. Crore)	57604	57,604	57604	57604	57604
Option 1: Nil Discount up to \$55/bbl						
Discount (ONGC & OIL)	(\$/bbl)	38.25	47.25	56.25	65.25	74.25
Net Price to ONGC & OIL	(\$/bbl)	61.75	62.75	63.75	64.75	65.75
Total Discount by ONGC,OIL	(Rs. Crore)	39,345	48,603	57,861	67,119	76,377
Option 2: Nil Discount up to \$60/bbl						
Discount (ONGC & OIL)	(\$/bbl)	34	43	52	61	70
Net Price to ONGC & OIL	(\$/bbl)	66	67	68	69	70
Total Discount by ONGC,OIL	(Rs. Crore)	34,974	44,232	53,489	62,747	72,005
Option 3: Nil Discount up to \$65/bbl						
Discount (ONGC & OIL)	(\$/bbl.)	29.75	38.75	47.75	56.75	65.75
Net Price to ONGC & OIL	(\$/bbl)	70.25	71.25	72.25	73.25	74.25
Total Discount by ONGC,OIL	(Rs. Crore)	30,602	39,860	49,118	58,375	67,633

Note:

1. Crude production quantity of ONGC & OIL has been considered at 23.02 MMT.
2. Exchange rate @ RS. 60/ \$ has been considered.
3. Options for Slab:

Crude Oil Price (\$/bbl.)			Discount to be provided on crude oil
Option 1:	Option 2:	Option 3:	
Up to 55	Up to 60	Up to 65	Nil
55 – 100	60 – 100	65 – 100	85% of Incremental Price
Above 100	Above 100	Above 100	90% of Incremental Price

5.5.4 Upstream contribution for nominated blocks treating at par with NELP blocks

During the meeting with the Expert Group, upstream companies were asked to provide the amount / rate of contribution they would have made to the Government in case the PSC terms for NELP blocks (Annexure-8) were applied to the nominated blocks. Since, the nominated blocks are quite old, and therefore, most of the development and exploration costs have been already recovered, it is appropriate to adopt the Investment Multiple⁴ at the end of current year (and all subsequent years) as more than 3, which means the Government is entitled to receive 65 - 85% of the total profit depending on the investment profile as per NELP contracts. Based on the cost data provided by ONGC and OIL, an assessment of the contribution by the upstream companies, had these fields been under New Exploration and Licensing policy (NELP) rounds, is provided in Table 24.

⁴ Method of computation of Investment Multiple, as per model PSC for NELP-IX may be seen at Annexure-8.

Table 24:Upstream Share Based on NELP Terms for Nominated Blocks

(\$/bbl.)

Crude Price(\$/bbl)	100.00	110.00	120.00	130.00	140.00
ONGC					
Operating / Recoup Cost	22.78	22.78	22.78	22.78	22.78
Royalty @ 11.59%*	11.59	12.75	13.91	15.07	16.23
Cess	11.36	11.36	11.36	11.36	11.36
NCCD	0.12	0.12	0.12	0.12	0.12
Total Cost	45.85	47.01	48.17	49.33	50.49
Gross Margin	54.15	62.99	71.83	80.67	89.51
Government Share @ 85%	46.03	53.54	61.06	68.57	76.09
Rs. Crore	40,417	47,016	53,615	60,214	66,813
OIL					
Operating / Recoup Cost	16.10	16.10	16.10	16.10	16.10
Royalty @ 16.67%*	16.67	18.34	20.00	21.67	23.34
Cess	11.96	11.96	11.96	11.96	11.96
NCCD	0.13	0.13	0.13	0.13	0.13
Total Cost	44.86	46.53	48.19	49.86	51.53
Gross Margin	55.14	63.47	71.81	80.14	88.47
Government Share @ 85%	46.87	53.95	61.04	68.12	75.20
Rs. Crore	7,054	8,120	9,186	10,252	11,318
Total (Rs. Crore)	47,471	55,136	62,801	70,466	78,131

Notes: Crude production quantity of ONGC & OIL has been considered at 23.02 MMT.

Exchange rate @ Rs. 60/ \$ has been considered.

*Royalty has been computed at gross crude price although it is paid on net of discount price.

Government Share @ 65%

(\$/bbl.)

Crude Price(\$/bbl)	100	110	120	130	140
ONGC					
Gross Margin	54.15	62.99	71.83	80.67	89.51
Government Share @ 65%	35.20	40.94	46.69	52.44	58.18
Rs. Crore	30,907	35,954	41,000	46,046	51,092
OIL					
Gross Margin	55.14	63.473	71.806	80.139	88.472
Government Share @ 65%	35.841	41.25745	46.6739	52.09035	57.5068
Rs. Crore	5,394	6,209	7,025	7,840	8,655
Total (Rs. Crore)	36,302	42,163	48,025	53,886	59,747

5.5.5 The contribution by upstream companies based on the NELP methodology for nominated blocks requires that the investment multiples be worked out field by field. This would be contentious and be quite difficult to implement. In addition, the NELP conditionalities have not been found successful in attracting investments and expeditious development of hydrocarbon resources in the country. The method also is deficient since there is no incentive to keep costs down. The Rangarajan Committee has already recommended in December 2012 that a production sharing (revenue sharing) mechanism between the Government and the contractor should be used instead of the present arrangement under NELP.

- 5.5.6 Chart 8 shows the revenue share implied by the various alternatives at different crude prices assuming the production remains at 23.02 MMT.
- 5.5.7 Keeping in view the current level of under-recoveries and its impact on the government finances and the contributions implied by NELP mechanism, the group recommends a simple and easy to implement formula which appears more equitable.
- 5.5.8 **Taking into account the existing contribution, contribution worked out under NELP regime and slab based discounts, the following contribution formula for ONGC & OIL is suggested from the financial year 2014-15 onwards:**

Crude price	Contribution of Upstream Companies
Crude price < \$ 80/bbl.	40% of crude price
Crude price \$ 80 – 120/bbl.	40% + 0.25% for each \$1/bbl. increase beyond \$80/bbl.
Crude price > \$120/bbl.	50% of crude price

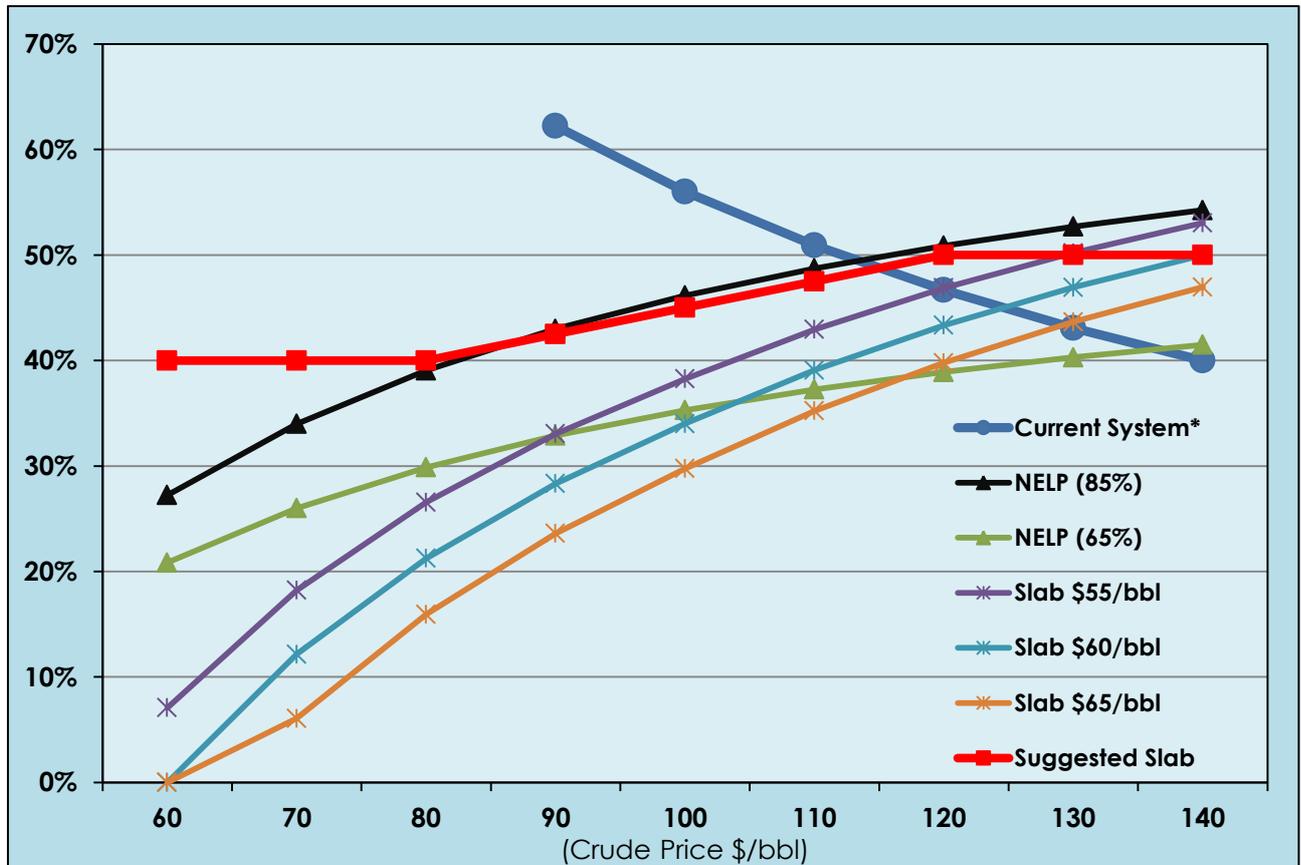
- 5.5.9 **Keeping in view the current high level of under-recoveries, the contribution from ONGC & OIL during the financial year 2013-14 may be retained at the existing level of \$56/bbl. of crude oil produced.**
- 5.5.10 The contribution by upstream companies i.e. ONGC & OIL on the estimated crude oil production of 23.02 MMT (excluding the quantity of Gas condensate) at crude prices ranging from US\$ 60 – 140/ bbl., and exchange rate of Rs. 60/US\$ under various alternatives is given in Table 25.

Table 25: Upstream Companies' Contributions and Their Implications Under Alternative Schemes

Upstream Contribution at different crude price level (Rs. crore)									
Crude Price	60	70	80	90	100	110	120	130	140
Current System	*	*	*	57,604	57,604	57,604	57,604	57,604	57,604
NELP (85%)	16,811	24,476	32,141	39,806	47,471	55,136	62,801	70,466	78,131
NELP (65%)	12,856	18,717	24,579	30,440	36,302	42,163	48,025	53,886	59,747
Slab \$55/bbl	4,372	13,115	21,859	30,602	39,345	48,603	57,861	67,119	76,377
Slab \$60/bbl	0	8,743	17,487	26,230	34,974	44,232	53,489	62,747	72,005
Slab \$65/bbl	0	4,372	13,115	21,859	30,602	39,860	49,118	58,375	67,633
Suggested Method	24,687	28,802	32,916	39,345	46,289	53,746	61,718	66,862	72,005
Upstream Contribution at different crude price level (\$/bbl)									
Current System	*	*	*	56.00	56.00	56.00	56.00	56.00	56.00
NELP (85%)	16.34	23.79	31.25	38.70	46.15	53.60	61.05	68.50	75.96
NELP (65%)	12.50	18.20	23.89	29.59	35.29	40.99	46.69	52.39	58.08
Slab \$55/bbl	4.25	12.75	21.25	29.75	38.25	47.25	56.25	65.25	74.25
Slab \$60/bbl	0.00	8.50	17.00	25.50	34.00	43.00	52.00	61.00	70.00
Slab \$65/bbl	0.00	4.25	12.75	21.25	29.75	38.75	47.75	56.75	65.75
Suggested Method	24.00	28.00	32.00	38.25	45.00	52.25	60.00	65.00	70.00
% of Contribution over Crude price									
Current System	*	*	*	62.22	56.00	50.91	46.67	43.08	40.00
NELP (85%)	27.23	33.99	39.06	43.00	46.15	48.73	50.88	52.69	54.26
NELP (65%)	20.83	26.00	29.86	32.88	35.29	37.26	38.91	40.30	41.49
Slab \$55/bbl	7.08	18.21	26.56	33.06	38.25	42.95	46.88	50.19	53.04
Slab \$60/bbl	-	12.14	21.25	28.33	34.00	39.09	43.33	46.92	50.00
Slab \$65/bbl	-	6.07	15.94	23.61	29.75	35.23	39.79	43.65	46.96
Suggested Method	40.00	40.00	40.00	42.50	45.00	47.50	50.00	50.00	50.00

*Current discount of \$56/bbl. will be unrealistic hence not considered.

Chart 8: Upstream Contributions as a % of Crude price



*Note - Current system is based on the assumption that the Government would not change it when the crude price changes. In reality, the government would adjust the contribution from upstream companies when the prices change.

5.6 As regards GAIL, with the reduction in availability of APM gas, it is recommended that GAIL's contribution should not exceed the gross profit made on sale of LPG (after allowing a reasonable profit amount to be retained by GAIL).

5.7 After adjusting the upstream contribution, the balance amount of under-recovery on Diesel, PDS Kerosene and Subsidized Domestic LPG should be fully compensated to OMCs by providing cash subsidy from the Government budget until the prices are fully deregulated and subsidy on these products is eliminated.

5.8 The estimated under-recoveries during the current year, 2013-14 & for the next year 2014-15 and the net Government assistance required after taking into account the proposed upstream contribution and suggested price revisions in earlier chapters are contained in Table 26.

Table 26: Financing of Under-recovery for 2013-14 & 2014-15

(Rs. Crore)

S.No.	Particulars	2013-14*			2014-15		
		100	110	120	100	110	120
(I)	Crude Oil Price Level (\$/bbl)						
(II)	Estimated Sales Volume of PSU OMCs (MMT)						
(a)	Diesel (Retail)		63.81			66.69	
(b)	PDS Kerosene		6.9			6.63	
(c)	Domestic LPG (Subsidized)		12.91			14.00	
(III)	Estimated Under-recovery at Exchange Rate Rs.60/\$						
(a)	Diesel (Retail)	50,504	67,776	85,047	44,600	79,238	113,876
(b)	PDS Kerosene	27,833	29,657	31,481	26,803	30,352	33,900
(c)	Domestic LPG (Subsidized)	38,194	41,002	43,810	43,506	49,736	55,966
(d)	Total	116,531	138,435	160,338	114,909	159,326	203,742
(IV)	Measures to reduce under-recovery						
(1)	Increase in Price of Diesel (Retail)						
	- One time increase by Rs. 5.00/Litre w.e.f 1.11.13	16,085	16,085	16,085	40,346	40,346	40,346
	- Monthly increase by Rs.0.50/Litre w.e.f 1.12.13 Last Revision as on 1 st	1,364 Dec'13	3,217 Sep'14	3,217 June'15	4,277 Dec'13	34,455 Sep'14	42,363 June'15
	Sub-Total	17,449	19,302	19,302	44,622	74,801	82,709
(2)	Increase in Price of PDS SKO						
	- One time increase by Rs.4/Litre w.e.f 1.11.13	1,480	1,480	1,480	3,408	3,408	3,408
	Sub-Total	1,480	1,480	1,480	3,408	3,408	3,408
(3)	Increase in Price of Dom. LPG						
	- One time increase by Rs.250/Cylinder w.e.f 1.11.13	9,468	9,468	9,468	24,655	24,655	24,655
	Sub-Total	9,468	9,468	9,468	24,655	24,655	24,655
4	Total (if all the measures adopted)	28,397	30,250	30,250	72,685	1,02,864	1,10,772
V	Balance Under-recoveries after measures	88,134	1,08,185	1,30,088	42,224	56,462	92,970
VI	Contribution by Upstream Oil Cos. at Exchange Rate Rs.60/\$						
a	- ONGC	49,176	49,176	49,176	39,516	45,883	52,688
b	- OIL	8,428	8,428	8,428	6,773	7,864	9,030
c	Sub-Total	57,604	57,604	57,604	46,289	53,747	61,718
d	- GAIL Estimated	1,400	1,400	1,400	1,400	1,400	1,400
e	Total	59,004	59,004	59,004	47,689	55,147	63,118
VII	Balance UR to be shared by Government	29,130	49,181	71,084	-5465 ** /Nil	1,315	29,852

Note:

*Actual under-recovery for April-Sep 2013 has been considered & under-recovery for Oct'13-Mar'14 has been estimated at different crude price level based on regression analysis.

** The excess upstream contribution may be reduced proportionately from ONGC/ OIL.

Chapter 6

Terms of Reference : 3

To examine the operational and procurement efficiencies of the oil marketing companies and suggest improvements in the same.

- 6.1** Centre for High Technology (CHT) in their submission to the expert group highlighted that refineries that have a higher complexity tend to be more profitable.
- 6.2** The group recommends that PSU refineries should use external benchmarks to evaluate possible actions and investments required to reduce raw material costs and increase product value through increasing refinery complexity.
- 6.3** In a challenging external environment it is important for the PSU oil companies, particularly refineries, to optimize the operating cost, achieve operational excellence through improved product/ crude slate and harness cross functional synergies to maximize the margins of the refineries. However, due to lack of availability of adequate data to the expert group and limited time period, it is not possible to examine the issue of operational efficiency of the OMCs further and make detailed recommendations.
- 6.4** The group recommends that changes are needed in the crude procurement process to make it more flexible and in line with the requirements of the manner in which international markets in crude operate.
- (i) OMCs procure crude oil as per MoP&NG guidelines. Over 80% crude oil is procured through term contracts with NOCs and Spot tenders can only be accepted from registered parties (NOCs/oil majors/international traders). This limits the sources for crude.
 - (ii) In international oil market, bulk of spot crude oil is traded over-the-counter through negotiations between buyers and sellers. Private refiners often procure crude based on negotiations. This brings down their cost of crude through opportunistic purchases.
 - (iii) The tendering process followed by PSU OMCs takes significantly longer time than over-the-counter procurements resulting in higher cost. Since negotiation is not allowed, purchase cannot be made at the most competitive price. Further, market opportunities like procurement of distress cargoes cannot be captured. Tendering for a commodity with such volatile market would always lead to higher purchase prices.

(iv) The Ministry of Shipping (MoS) prohibits PSUs OMCs from sourcing crude oil on CFR basis to support shipping industry. Hence PSUs have to necessarily procure cargoes on FOB basis resulting in higher freight cost. There is also difficulty in procurement of certain crude oil grades that are available only on CFR (e.g. Brazil, Ecuador, Canada etc.). Such restriction is however not applicable to private refiners. Further, private refineries have inherent advantages of geography, size & complexity such as ease of transportation of crude to coastal refineries, low inventory requirement and easy access to export markets, economies of scale etc.

The Standing Committee on Petroleum & Natural Gas in its 18th Report on “Long Term Purchase Policy and Strategic Storage of Crude oil” in May 2013 has also recommended that:

- *The existing guidelines with regard to import of crude oil which has been last visited in 2001, should be revisited to enable the OMCs to follow a transparent and efficient procedure to import crude oil and should not place any hurdle in availing any opportunity to buy required type of crude oil at lower price by simultaneously providing for necessary safeguards and monitoring mechanism to bring about transparency and accountability.*
- *OMCs should be allowed to procure certain percentage of their annual crude requirement through any opportunity to procure crude oil at lesser prices through distress sale route and review the experience after reasonable period.*
- *MoP&NG may seek the power to approve import of crude oil on CFR / CIF basis by OMCs to itself from Ministry of Shipping, so as to benefit from the opportunities in the market for procuring crude oil at considerably cheaper rates.*

6.5 The expert group recommends that OMCs be given the freedom to procure crude oil and petroleum products through a mix of long terms contracts and spot purchases from all available sources. This can be accomplished without compromising transparency and accountability by working out mechanisms in consultation with the CVC.

Chapter 7

Summary of Recommendations

7.1 Need for Robust refining sector in India

7.1.1 India, which is one of the largest energy consuming countries, needs to ensure that the country maintains self-sufficiency in the refining sector in future. The pricing policies, therefore, should also be geared to ensure sufficient returns to the refineries in the country for long-term sustainability of the petroleum sector and to ensure energy security of the country.

7.2 Pricing mechanism

7.2.1 From examination of various alternative pricing mechanisms, the expert group noted that there is no single or unique formula which can be said to represent the correct method for domestic prices in India that would not be distortionary with attendant ill-effects for the economy from the distortions. Therefore, the best course of action is to free the market from price controls at the earliest.

7.2.2 In view of the significant gap between the present administered prices and the international prices, the committee has spelt out the arrangements that may prevail in the interim till the best course of action is implemented.

7.3 Diesel

7.3.1 The Expert Group recommends that since the government has already decided to eventually free diesel price, there is no need to tinker with the existing pricing formula, which, even if modified, will not solve the problem of mounting under-recoveries incurred on sales of controlled products, mainly due to high international crude prices and depreciation of Indian rupee.

7.3.2 The group recommends that the Government should take steps to pass on the impact of rise in price of Diesel to consumers and move rapidly towards making the price of diesel market determined.

7.3.3 The Expert Group recommends that diesel price be raised by Rs. 5.00/ litre with immediate effect and the balance under-recovery should be made up through a subsidy of Rs. 6/litre to PSU OMCs. The subsidy on diesel should be capped at Rs. 6/ litre. This would imply freeing of price of Diesel beyond this cap.

7.3.4 Any rise in the gap between domestic and international prices beyond Rs. 6/litre should be made up by corresponding increase in the price of Diesel in the domestic market by the OMCs. If the gap falls below Rs. 6/litre, either the prices should be reduced or the subsidy to be provided should be reduced. The second option is recommended by the Expert Group as that would lead to decline in subsidy over time. In the future, oil companies should be permitted to revise the prices above the subsidy cap (in line with the changes in the international prices and other costs elements) on their own.

7.3.5 The expert group recommends that the fixed subsidy of Rs. 6/litre be reduced gradually and finally removed through regular monthly downward revisions in the cap on subsidy and corresponding increase in the price of diesel over the next one year.

7.4 PDS Kerosene

7.4.1 The expert group recommends that PDS kerosene is priced at full market price and the benefit of the subsidy to the deserving consumers i.e. BPL families, is given through direct cash transfer mechanism. For this purpose, the DBTK scheme for Direct Transfer of Subsidy to BPL families throughout the country should be fast-tracked and completed within the next two years.

7.4.2 Till this is implemented, the expert group recommends that the price of PDS Kerosene be increased by Rs. 4/Litre immediately and thereafter the price of PDS Kerosene be revised from time to time at least in line with growth in the per capita agriculture GDP.

7.4.3 Allocation of PDS Kerosene should be reduced with spread of rural electrification and increased use of LPG and PNG for cooking.

7.4.4 Since Kerosene is neither exported nor imported and also since there is no custom duty on PDS Kerosene, it's pricing may continue to be based on IPP.

7.5 Domestic LPG

7.5.1 The Expert Group recommends that the limit for subsidized cylinders be reduced from the present 9 to 6 cylinders per annum to each household and the DBTL scheme be restricted to identified families based on an exclusion criteria.

7.5.2 The DBTL scheme be implemented throughout the country for Direct Transfer of Subsidy to identified families within next one year.

7.5.3 The price of subsidized domestic LPG be raised by Rs. 250/cylinder immediately and the balance subsidy be phased out over the next 2 years through gradual price increase.

7.5.4 Piped natural gas to homes be actively promoted in urban areas.

7.5.5 As the country continues to be heavily dependent on imports of LPG, the methodology of fixing refinery gate price of Domestic LPG should continue on IPP basis.

7.6 Upstream Contribution

7.6.1 Taking into account the existing contribution, contribution worked out under NELP regime and slab based discounts, the Expert Group recommends following contribution formula for ONGC & OIL from the financial year 2014-15 onwards:

Crude price	% Contribution of Upstream companies
Crude price <\$ 80/bbl.	40% of crude price
Crude price \$ 80 – 120/bbl.	40% + 0.25% for each \$1/bbl. increase beyond \$80/bbl.
Crude price >\$120/bbl.	50% of crude price

7.6.2 Keeping in view the current high level of under-recoveries, the contribution from ONGC & OIL during the financial year 2013-14 may be retained at the existing level of \$56/bbl. of crude oil produced.

7.6.3 As regards GAIL, with the reduction in availability of APM gas it is recommended that GAIL's contribution should not exceed the gross profit made on sale of LPG (after allowing a reasonable profit amount to be retained by GAIL).

7.6.4 After adjusting the upstream contribution, the balance amount of under-recovery on Diesel, PDS Kerosene and Subsidized Domestic LPG should be fully compensated to OMCs by providing cash subsidy from the Government budget until the prices are fully deregulated and subsidy on these products is eliminated.

7.7 Operational and procurement efficiencies

The expert group recommends that OMCs be given the freedom to procure crude oil and petroleum products through a mix of long terms contracts and spot purchases from all available sources. This can be accomplished without compromising transparency and accountability by working out mechanisms in consultation with the CVC.

Note of Dissent

I hereby submit my views for incorporation in the Report of "The Expert Group to Advise on Pricing Methodology of Diesel, Domestic LPG and PDS Kerosene."

Pricing Policy

2. On the issue of the suggested Pricing Policy until complete deregulation of prices in diesel, kerosene and LPG, the following issues are highlighted:

Over-compensation due to use of Import Parity Prices (IPP).

2.1. As mentioned in Section 4.1.3 of the report.
"xxx Import Parity Price (IPP) – IPP represents the price that importers would pay in case of actual import of product at the respective Indian ports and includes the elements of:-
(FOB price + Ocean Freight + Insurance + Custom Duties + Port Dues, etc.)"

The customs duty is an element in IPP which at present is 2.58%. Any change in the customs duty would change the IPP. Given the fact that the OMCs or the private refiners are not actually paying the customs duty, there should be no reason that the Government should be paying these **notional** import duties on diesel to the OMCs or the private refiners.

2.2. The argument in favour of these custom duties is that they provide a protection to the OMCs to offset issues related to their old and less complex refineries, excess manpower, and siting of refineries on non-economic considerations. However in case any protection for these reasons needs to be provided, let it be so on an upfront and transparent basis rather than being subsumed through higher prices in the IPP mechanism. It may be mentioned that the refineries in the North East are being given excise duty concessions due to which their Gross Refining Margins (GRMs) are the highest. In any case the private refiners do not need such protection.

2.3. Further the IPP also includes elements like ocean loss, marine insurance and bank charges, which were fixed in the APM period on an *advolerem* basis. Some actual figures for the year 2011-12 and the comparison with notional built up in prices is as under:-

Element	Actual	Notional	Over compensation
Ocean loss as % of C & F (HSD)	0.20%	0.50%	0.30%
Marine Insurance as % of C & F (HSD)	0.004%	0.10%	0.096%

The ocean losses have reduced substantially due to technological upgradation and better monitoring. The insurance and banking sectors have been liberalized and due to global competition, the rates have fallen as depicted above. Since the banking sector now also has greater competition, the bank charges of 0.225% of CIF have also reduced. Thus continuance of the Administered Price Mechanism (APM) regime notionally fixed rates are leading to further over compensation by at least 0.5% in the prices based on IPP.

2.4. The IPP over compensates the OMCs and private refiners to the extent of about **3%** and is thus not acceptable.

2.5. The existing mechanism based on TPP (which has a weightage of 80% for IPP) has also been adversely commented by the Comptroller and Auditor General of India and Standing Committee of Parliament on Finance especially in the context of the over-compensation being given to the private refiners.

Reasonableness of Export Parity Price (EPP)

2.6. A reasonable basis for compensation would be to determine the alternative revenues that would be available to a refiner in comparison to domestic sales. Two private refiners already export diesel (and other products) from India, and the export realization would be the alternative available as the benchmark. This is also the opportunity cost to the refiner due to the domestic sales.

2.7. The actual prices realized by the private refineries on export of diesel are comparable to the Export Parity Price (EPP) as mentioned in the Table 8 of the report, which is reproduced below:-

Table 8: Export Realization of Private Refineries on Diesel vis-à-vis EPP during 2012-13

Company	(\$/bbl)	
	Export realization provided by private oil companies	Average EPP during the period of export
RIL	126.78	126.56
EOL	125.60	125.80

There is no reason that for domestic sales, the realization should be higher than what is being realized due to exports of diesel by the same manufacturers. The actual export realization of the private oil companies is further reduced due to the costs of transportation, port charges, L/c charges etc. Further since domestic sales provide long term assured stability of off-take, the realization from domestic sales should in fact be lower keeping in view the certainty of off-

take. Even then it would be possible to agree to the EPP as the price for diesel bought from local manufacturers to allow for a margin of profit.

2.8. The out of pocket expenses including the 2% Central Sales Tax; extra costs incurred due to the more stringent specifications for BS III and BS IV Diesel and coastal transportation costs can be given on actuals. Despite adding all these costs the same will be lower than the TPP (Table 9 of the report which is based on information provided by the private oil refiners to the MoPNG reproduced below):-

Table 9: TPP vis-à-vis “EPP + CST + Coastal expenses” of BS III Diesel at Jamnagar during 2012-13

(Rs./KL)

Average TPP	Average EPP	CST @ 2%	Coastal Freight	Quality Adjustment	EPP + CST + Coastal freight	Difference
(i)	(ii)	(iii)	(iv)	(v)	(vi=ii+iii+iv+v)	(vii = i – vi)
44603	42845	916	393	341	44495	108

Though the difference seems to be low, it may be noted that:

(i) the actual over compensation due to this difference can go up to Rs. 250/KL or more due to international price variations in diesel.

(ii) the coastal freight incurred would vary depending upon the port of delivery, further increasing the difference.

(iii) The CST of 2% would be only payable by the private refiners for sales outside the State, since the OMCs would do a stock transfer across their dumps in the various states and not need to pay this CST.

2.9. Thus pricing based on EPP has an in-built cushion and there is no reason to compensate beyond the EPP.

2.10. Keeping in view that in the production process diesel and kerosene are inter-changeable products from the same fraction (crack), the pricing methodology for kerosene should also be the same as per diesel, i.e. based on EPP.

2.11. The annual consumption of diesel in the country is about 8000 crore litres and that of kerosene about 990 crore litres, that is a total of about 9000 crore litres. The desired retail price of diesel (as calculated by the OMCs) is about `51 per litre based on the TPP mechanism. Given the large volumes, it may be seen that a 3% variation would result in an **over-compensation of about Rs.13,500**

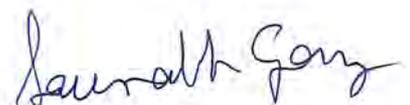
crores annually to the OMCs and private refiners. Even the 'minor difference' of Rs. 108/KL, which is highly conservative, would lead to an **over-compensation of about Rs. 1000 crores** annually to the OMCs and the private refiners. There is no reason to provide such unintended benefits to them by means of additional Government budgetary support.

Sharing Mechanism for Under-Recoveries.

3. Regarding the Under-Recovery Sharing Mechanism with the upstream companies, it is appreciated that a principle - based approach is more transparent and predictable. However due to various reasons mentioned in the report, the NELP cost-sharing principle is not being suggested. A quasi revenue sharing approach has been suggested which starts at 40% when the crude oil price is \$80 per barrel and ends at 50% when the crude oil prices are \$120 per barrel. Given the fact that this would result in a lower contribution by the upstream companies to the under-recoveries, the corresponding contribution by the Government would increase. While appreciating the concerns of the upstream companies for enhanced retention by them to fund their investments, the current fiscal situation of the Government cannot sustain such an increase in retention by the upstream companies. Therefore, the proposed revenue sharing mechanism could be modified to a 40% retention by the Government at the price of \$80 per barrel rising to a 60% retention at the price of \$120 per barrel. Further, as stated in the report, in fiscal year 2013-14, the existing system would need to continue due to the current fiscal stress.

Concluding Remarks

4. While it has been a pleasure to work with the Chairman, Dr. Kirit Parikh and the other members of the Committee, I am unable to support the draft recommendations of the Committee due to the reasons detailed above.



(Saurabh Garg)
October 28th, 2013

Rejoinder by Chairman to the Note of Dissent

Pricing Policy

The note of dissent argues that customs duty should not be included as it is not paid for by the OMCs. The customs duty of 2.5% is imposed to provide protection to domestic refineries for reasons that have been spelt out in the report. Such protection should be available to all domestic refiners whether they pay the duty or not. The Rangarajan committee had also recommended such protection.

The Note of dissent argues that if protection to OMC refineries has to be provided for various reasons, it should be provided up front and not through IPP.

Protection through IPP is uniform and transparent. Protection on the basis of various handicaps of PSU refineries will require refinery by refinery working out of the level of protection needed with significant scope for discretion and distortion. For example, the excise rebate given to North East refineries enables them to have the highest gross refinery margin (GRM), which suggests that they are being over compensated.

The note of dissent also argues that the ocean losses and bank charges have reduced and this should lower the IPP price by 0.5%. These could be discussed and factored in to the calculation of IPP.

How IPP is to be determined was not part of the TOR of the Expert Group. If the IPP price is to be lowered by 0.5%, with 80% weight for IPP, the TPP price would be 0.4% lower. It may even be lower than the EPP price (plus other elements) worked out in Table 9.

Sharing Mechanism for Under-Recoveries

The note of dissent in its para 2.8 argues that the EPP price could be lower due to fluctuations in international price of Diesel and difference in coastal freight to different refineries.

The points regarding international price variation and cost of coastal freight can work either way. The difference can go up as well as down.

The note of dissent further argues in para 2.8 that the OMCs can avoid payment of CST.

While the OMCs may be able to avoid paying the CST, if this is not included in refinery gate price and paid to private refineries, the private refiners would have

little incentive to sell Diesel to OMCs who will then have to import it at a higher cost.

Kerosene Price

The note of dissent argues in Para 2.10 that the same price mechanism should be applied to Kerosene as Diesel as they are substitutes in production.

In refining even petrol and Diesel can be substitutes on the margin. It is thus best to deal with the pricing issue product by product.

Over Compensation to Refiners

In its Para 2.11 the note of dissent argues that the small difference between EPP and TPP of Rs. 108/KL leads to an **over-compensation of about Rs.1000 crore** annually to the OMCs and the private refiners.

The major chunk of this amount (80%) accrues to public sector refineries and this is necessary for preserving their viability. The balance will go to private refineries. However, the OMCs should be able to negotiate a price lower than the EPP if the argument in the note of dissent is correct.

Sharing Mechanism for Under-Recoveries

The note of dissent argues for a higher share of contributions by the upstream companies when the price of crude exceeds \$120 per barrel.

The Expert Group has considered the NELP line as the benchmark. It has considered the need of the MOF under the current fiscal stress as also the need of upstream companies to have adequate resources for exploration and production, the cost of which rise with global crude price. Accepting the suggestion of the note of dissent would adversely affect the upstream companies' ability to explore and expand production when oil price rises and when such expansion would be particularly desirable.



(Kirit S. Parikh)

Chairman of the Expert Group

October 30th, 2013

F. No. P-20012/2/2013-PP
Government of India
Ministry of Petroleum and Natural Gas

Shastri Bhawan, New Delhi
Dated, the 12th June, 2013

Subject: Constitution of an Expert Group to advise on pricing methodology of Diesel, Domestic LPG and PDS Kerosene.

In supersession of this Ministry's Order of even number dated 17th May, 2013, the Government has decided to constitute an Expert Group to advise on pricing methodology for Diesel, Domestic LPG and PDS Kerosene, with the following composition:

- | | | |
|-------|---|------------------|
| (i) | Dr. Kirit S. Parikh,
Former Member, Planning Commission | Chairman |
| (ii) | Shri Vivek Rae, Secretary, MoPN&G | Member |
| (iii) | Dr. Saurabh Garg, Joint Secretary (PF.II),
Ministry of Finance | Member |
| (iv) | Prof. S.K. Barua, Director, IIM, Ahmedabad | Member |
| (v) | Any other member to be co-opted by the Chairman. | |
| (vi) | Shri P.K. Singh, Joint Secretary, MoP&NG | Member Secretary |

2. The Terms of Reference of the Expert Group are as follows:

- To revisit the current pricing methodology of petroleum products, and suggest a pricing mechanism benchmarked to Export Parity Pricing, which is also relatable to the actual f.o.b. export realization of the petroleum products exported from India by private refiners.
- To suggest a formula for compensation of under-recoveries which is fair, and does not over compensate either the domestic suppliers of petroleum products, or the Oil Marketing Companies.
- To examine the operational and procurement efficiencies of the Oil Marketing Companies and suggest improvements in the same.

3. Secretarial assistance including office space will be provided by the Petroleum Planning & Analysis Cell (PPAC). The Group will decide its own procedures and shall meet as and when necessary.

....contd./-

4. The Expert Group will submit its recommendations within a period of three months.



(J. K. Singh)

Under Secretary to Govt. of India

Tel. No. 23384376

To

1. All Members of the Expert Group.
2. Chairman/CMD of all Oil PSUs.
- ✓ 3. Director General, PPAC.
4. PS to Minister (P&NG).
5. PS to MOS (P&NG).
6. PPS to Secretary (P&NG).
7. PS to Additional Secretary & Financial Advisor, MoP&NG.
8. PS to Joint Secretary (Refinery), MoP&NG
9. PS to Joint Secretary (IC&GP), MoP&NG

F. No. P-20012/2/2013-PP
Government of India
Ministry of Petroleum and Natural Gas

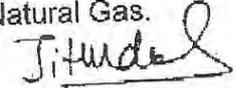
Shastri Bhawan, New Delhi
Dated, the 5th July, 2013.

Subject: Constitution of an Expert Group to advise on pricing methodology of Diesel, Domestic LPG and PDS Kerosene.

In partial modification of this Ministry's Order of even number dated 12th June, 2013, the Government has decided the following changes in the composition of the Expert Group:

Earlier	Now
(ii) Shri Vivek Rae, Secretary, MoP&NG - Member	(ii) Shri P.K. Singh, Joint Secretary (IC&GP), MoP&NG - Member
(vi) Shri P.K. Singh, Joint Secretary, MoP&NG - Member Secretary	(vi) Shri Rajesh Kumar Singh, Joint Secretary (Refinery), MoP&NG - Member Secretary

2. The other contents of the order dated 12th June, 2013 will remain same.
3. This issues with the approval of Minister for Petroleum & Natural Gas.



(J. K. Singh)

Under Secretary to Govt. of India
Tel. No. 23384376

To

1. All Members of the Expert Group.
2. Chairman/CMD of all Oil PSUs.
3. Director General, PPAC.
4. PS to Minister (P&NG).
5. PS to MOS (P&NG).
6. PPS to Secretary (P&NG).
7. Ps to Addl. Secretary (P&NG).
8. PS to Additional Secretary & Financial Advisor, MoP&NG.
9. PS to Joint Secretary (Refinery), MoP&NG.
10. PS to Joint Secretary (IC&GP), MoP&NG.
11. PS to Director (S&P), MoP&NG.

Background of Petroleum Product Pricing in India

(Prepared by PPAC)

1. The pricing of petroleum products was brought under Administered Price Mechanism (APM) effective July 1975 when it was shifted from import parity principles to cost plus principles. Under the APM regime, the pricing of petroleum products for the refining and marketing units was based on the retention concept where oil refineries, oil marketing companies (OMCs) and the pipelines were compensated operating cost and return @ 12% post tax on the net worth. During the APM period (from 1975 to March 2002) a number of oil pool accounts were maintained with the object to i) ensure stability in selling price; ii) insulate consumers from international price fluctuations; and, iii) subsidization of consumer prices of certain sensitive products like kerosene for public distribution and domestic LPG by cross subsidization from certain products like petrol, Aviation Turbine Fuel (ATF) etc.
2. The government constituted a strategic planning group on restructuring of oil industry (R Group) under the chairmanship of Dr. Vijay L. Kelkar to make policy recommendations so as to meet the strategic objectives of developing a financially sound and internationally competitive hydrocarbon sector. The committee outlined in its Report (Report of the Strategic planning Group on restructuring of Oil Industries) of September 1996 that APM was found to be increasingly unsuitable for the long term growth and efficiency of oil industry due to the following drawbacks

Quote

- i. APM cannot generate sufficient financial resources required for investments in the upstream and downstream sectors.
- ii. Private capital as well as foreign direct investment would not be forthcoming in view of inherent regulatory controls imposed by the government.
- iii. APM does not provide strong incentives for investments in technological up gradations or for cost minimization.
- iv. APM has not been completely successful in achieving the primary objective of ensuring a consumer-friendly and internationally competitive vibrant petroleum sector capable of a global presence to provide energy security to the country.

Unquote

Based on the R Group's report, the Government, in November 1997 decided to abolish APM in a phased manner from April 1998 onwards. Government resolution No. P-20012/29/97-PP dated 21.11.1997 on the phased dismantling of APM, states that the prices of all petroleum products would move towards Import Parity in phases. Accordingly, Import Parity Price (IPP) was introduced to calculate refinery gate prices (RGP) of major petroleum products w.e.f 01.04.1998 for their transfer to Marketing, which was still under APM based on the recommendations of Expert Technical Group.

3. With the dismantling of APM effective 1.4.2002, the retail selling prices of all products, except PDS Kerosene and Domestic LPG, were made market determined. The government decided to provide subsidy on PDS Kerosene and Domestic LPG under the 'PDS kerosene and Domestic LPG Subsidy Scheme, 2002'. The subsidy was planned to be phased out during the period of 3-5 years, However, the refinery gate price for all major petroleum products including PDS kerosene and Domestic LPG under the subsidy scheme continued under IPP principle as it was applicable effective 1st April 1998.

Calculation of Refinery Gate Price (RGP)

4. As mentioned earlier, refinery gate price for major petroleum products namely Petrol, Diesel, PDS kerosene and Domestic LPG continued under IPP principle as it was applicable effective 1st April 1998. Import Parity Price (IPP) represents the price that importers would pay in case of actual import of product at the respective Indian ports and includes the elements of:
{FOB price + Ocean Freight + Insurance + Custom Duties + Port Dues, etc.}.

Subsequently, based on the recommendations of the Rangarajan Committee in June 2006, the methodology for calculating refinery gate price of petrol and diesel was changed to Trade parity price (TPP) basis which is the weighted average of IPP and EPP is the ratio of 80:20. Export Parity Price (EPP) represents the price which oil companies would realize on export of petroleum products {FOB price + Advance License benefit (for duty free import of crude oil pursuant to export of refined products)*}.

(* Consequent to abolition of Customs Duty of Crude oil effective 25.06.2011, the ALB is currently NIL.)

5. Government approved Subsidy Schemes

- i. **PDS Kerosene and Domestic LPG Subsidy Scheme, 2002:** Effective 01.04.2002, the Government decided to provide subsidy on sale of PDS kerosene and domestic LPG at specified flat rates for each Depot/Bottling Plant based on the difference between the cost price and the issue price per selling unit. To administer these budgetary subsidies, the Government formulated a 'PDS kerosene and domestic LPG subsidy scheme' in 2002.

The average subsidy during 2002-03 on PDS Kerosene was Rs.2.45 per litre & on domestic LPG at Rs.67.75 per cylinder. Under this scheme it was decided these subsidies will be phased out in 3-5 years. Accordingly, the flat rates as calculated for the year 2002-03 were reduced by 1/3 of the original rate for the next two years. However, the scheme could not be phased out as planned earlier and since then the approved average subsidy rate for Domestic LPG and PDS Kerosene has been maintained at the 2004-05 level (i.e. 1/3rd of 2002-03 level), i.e. 82 paise per litre for PDS kerosene and Rs.22.58/cylinder for domestic LPG.

- ii. **Freight subsidy (For Far Flung areas) scheme, 2002:** Under the scheme, the Freight subsidy on supplies/sales of PDS-Kerosene and Domestic-LPG

in Far flung areas will cover a part of freight cost in the eligible areas up to the wholesaler dealer location in case of PDS-Kerosene and up to the LPG distributor's location, including the extension counters, in the case of Domestic LPG at the rates applicable as on 31st march 2002. Similar to the main subsidy scheme, the rates of freight subsidy for 2002-03 also have been reduced by 1/3 for next 2 years and the rates applicable for 2004-05 are continuing since then.

6. Post APM pricing mechanism was expected to respond to the changes in the world market prices of crude oil and its impact on the prices of refined petroleum products and revise the retail selling prices in the country accordingly. Between April 1, 2002 and January 1, 2004, there were a total of 23 revisions made to the prices of petrol and diesel of which 8 were reductions and 15 were increases. However, the retail selling prices of both PDS Kerosene and Domestic LPG remained virtually unchanged during this period, and even the reduction in the subsidy amount was not passed on to the consumers.
7. Since 2004, the Government has been setting consumer prices of Petrol (decontrolled effective 26.6.2010), Diesel, Domestic LPG and PDS Kerosene on ad-hoc basis so as to ensure petroleum price stability in the country in the face of extreme volatility in international oil markets. Thus, the sharp and continuous increase in the world price of crude oil and petroleum products, the impact of which was not passed on to the consumers, has caused significant increase in the under-recoveries incurred on these products by OMCs. These have been compensated to OMCs partly by Government through issuing bonds/ cash assistance and partly by PSU upstream companies i.e. ONGC, OIL & GAIL through price discounts on crude oil and petroleum products. The OMCs also absorbed a part of under-recovery themselves. The details of under-recoveries and their sharing among various stake holders is given as under:

Under-Recovery and Burden Sharing

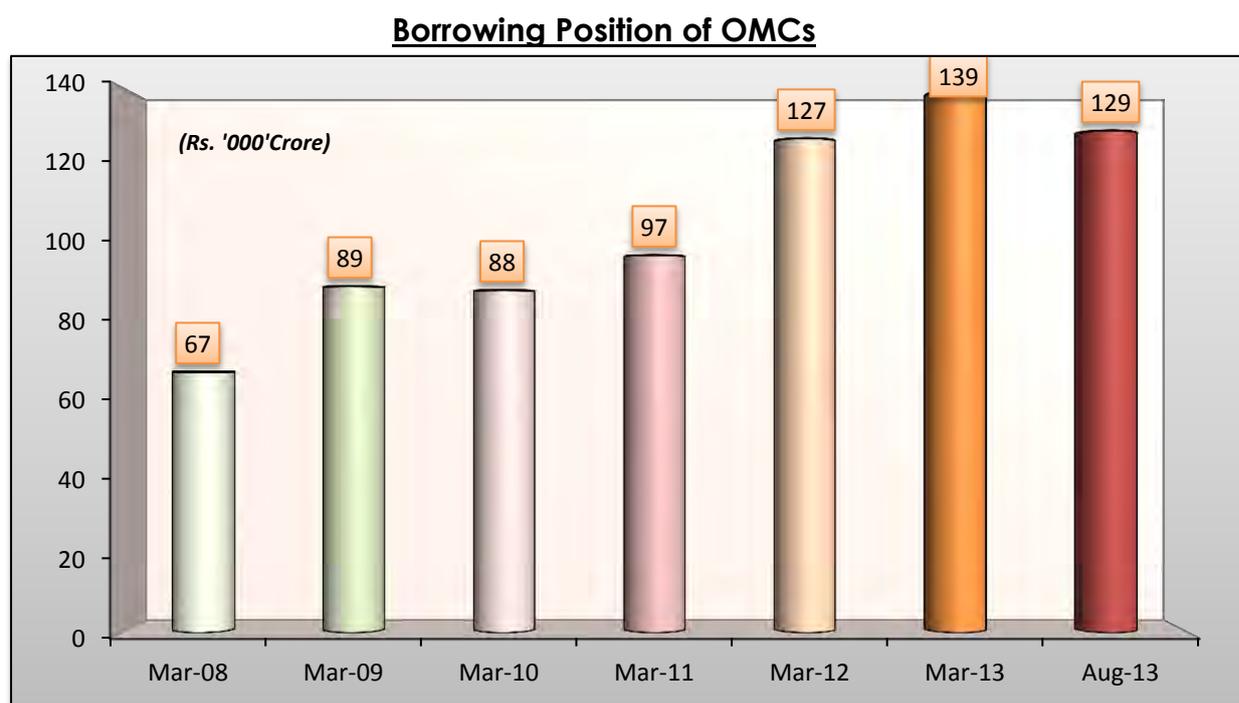
(Rs. Crore)

Year	Total Under recovery	Government		Upstream Oil companies		OMCs	
		Amount	%	Amount	%	Amount	%
2002-03	5430	-	-	-	-	5430	100
2003-04	9274	-	-	3123	34	6151	66
2004-05	20146	-	-	5947	30	14199	70
2005-06	40000	11500*	29	14000	35	14500	36
2006-07	49387	24121*	49	20507	41	4759	10
2007-08	77123	35290*	46	25708	33	16125	21
2008-09	103292	71292*	69	32000	31	-	-
2009-10	46051	26000	57	14430	31	5621	12
2010-11	78190	41000	52	30297	39	6893	9
2011-12	138541	83500	60	55000	40	41	0.3
2012-13	161029	100000	62	60000	37	1029	1
Total	728463	392703	54	261012	36	74748	10

*Government has given oil bonds to OMCs against their under-recovery up to 2008-09. After that, government is issuing cash assistance to the OMCs

Impact on Financial Position of OMCs

8. The continued incurrence of under-recoveries by OMCs is adversely affecting their financial and liquidity position. The OMCs' rising under-recoveries coupled with delay in timely compensation of the under-recoveries have worsened the cash flows of the OMCs compelling them to borrow heavily, to meet their cash flow and project-funding requirements, at high interest cost. The Rising borrowings have also resulted in deterioration of OMCs' Debt-Equity ratios. The steady increase in borrowing position of the OMCs can be explained through the following chart:



Impact on Financial Position of Upstream Companies:

9. The reduction in the cash surplus of PSU upstream companies due to the burden sharing arrangement has restricted their ability for investing in exploration of domestic field as well as acquisition of oil assets abroad. Since beginning of the burden sharing mechanism, ONGC and OIL have provided a total discount of Rs 2,44,491Crore up to 2012-13. Owing to the unprecedented increase in subsidy burden over the years, the endeavors of the upstream companies to grow domestic crude oil production and enhance India's energy security through international oil and gas equity have come under serious threat.
10. Historically Government has been the major contributor in the under-recovery burden sharing. In tandem with the increase in under-recoveries over the year, the assistance provided by the Government to the OMCs has also increased over the years and has increased to the highest ever level of Rs. 100000 Crore in 2012-13 which is apart from the planned subsidies. Such budgetary support

results in the widening of the fiscal deficit, increasing inflation, impacting the financial position of the government and leaves less funds to be allocated to the social sector schemes.

11. **Expert groups recommendations:** During the period from 2004 to 2010, government appointed various expert groups to examine the pricing policy of the petroleum products and make recommendations for a sustainable pricing policy and ensure financial health of the oil companies. The recommendations and implementation by the Government of (A) Rangrajan Committee, 2006; (B) Chaturvedi Committee, 2008 and (C) Kirit Parikh Committee, 2010 are as under:

A. Committee on Pricing and Taxation of Petroleum Products (Rangarajan Committee), 2006: A Committee on Pricing and Taxation of Petroleum Products was appointed under the chairmanship of Dr. C. Rangarajan, Chairman, PM's Economic Advisory Council in October 2005, to look into the various aspects of pricing and taxation of petroleum products with a view to stabilizing/rationalizing their prices, keeping in view the following:

- financial position of the oil companies,
- conserving petroleum products, and
- establishing a transparent mechanism for autonomous adjustment of prices by the oil companies

The Committee submitted its report in February 2006. The major recommendations are as follows:

Recommendations relating to pricing of petrol and diesel:

- i. Given the global context and our domestic refining capacity, wherein exports are of the order of 20% of production of these products, a more appropriate pricing model for diesel and petrol will be the trade parity price which would be a weighted average of the import parity and export parity prices in the ratio of 80:20. The relative weights being reviewed and updated every year;
- ii. Government to keep at arm's length from price determination and to allow flexibility to oil companies to fix the retail price under the proposed formula;
- iii. Reduce the effective protection to refineries by lowering the customs duty on petrol and diesel to 7.5%;
- iv. Terminate the principle of freight equalization, but since the price increase will be larger in remote and hilly areas, the Government may want to consider some other way of softening the impact of freight in these areas;

Recommendations relating to restructuring of tax structure on petrol and diesel:

- v. Committee has also recommended restructuring excise duties on petrol and diesel. The ad-valorem levies exacerbate the burden on the consumer, and also results in the Government benefiting through higher tax yields. There is, therefore, need for both softening and smoothing the impact on the consumers of international price variations and for the Government sacrificing 'windfall gains' in revenue;
- vi. This clearly suggests the need for shifting from the current mix of specific and ad-valorem levies to a pure specific levy and calibrating the levies at Rs. 5.00/litre of diesel and Rs. 14.75/litre of petrol;

Recommendations relating to pricing of domestic LPG and PDS kerosene:

- vii. Restrict subsidized kerosene to BPL families only. This will reduce the quantity of PDS kerosene going through the subsidized route by about 40% from the present level;
- viii. Raise the price of domestic LPG by Rs. 75/cylinder. Beyond this one-time increase, it is necessary to gradually increase the price of domestic LPG so that the retail price adjusts completely to the market level eliminating the subsidy altogether;
- ix. Discontinue the practice of asking ONGC/GAIL/OIL to provide upstream assistance, but instead collect their contribution by raising the OIBD cess from the present level of Rs. 1,800/MT level of cess enhanced to Rs 2500/MT effective 1.3.2006 to Rs. 4,800/MT; and
- x. Government will need to meet the entire cost of subsidy from the budget.

The committee suggested that the recommendations should be implemented as an integrated package as partial implementation will not yield sustainable results.

The Government accepted the following recommendations of Rangarajan Committee:

- i. The pricing of petrol and diesel on trade parity basis for refinery gate price, which shall be weighted average of import parity and export parity prices in the ratio of 80:20 effective June 2006.
- ii. The customs duty on petrol and diesel was reduced from 10% to 7.50% in June 2006 and to 2.5% in June 2008.

A summary of major recommendation of the Rangarajan committee and their implementation by the Government is as under:

Summary of Recommendation of Rangarajan Committee and Decisions taken by the Government

Recommendation	Decision
RGP for Petrol & Diesel should be based on Trade Parity pricing with weightage of 80% of IPP and 20% of EPP	RGP of Petrol and Diesel shifted to TPP effective 16.6.2006
Customs Duty on Petrol and Diesel should be reduced from 10% to 7.5%	Customs Duties reduced to 7.5% eff. 15.6.2006, currently duty is 2.5% eff.25.6.2011.
Restrict PDS SKO supplies to BPL families only.	Not Implemented
Adjust RSP of Domestic LPG to the market level and eliminate subsidy altogether.	Not Implemented
Increase OIBD cess from Rs.1800/MT to Rs.4800/MT to meet OMCs' under-recoveries	Cess was enhanced by the Government to Rs.2500/MT effective 01.03.2006. Effective 14.03.2012, Government has further enhanced it to Rs.4500/MT.
Government to meet the entire cost of subsidy from the fiscal budget.	Government's contribution towards OMCs' under-recoveries was 49% in 2006-07, 46% in 2007-08, 69% in 2008-09, 56% in 2009-10, 52% in 2010-11, 60% in 2011-12 and 62% in 2012-13.

B. High Powered Committee on Financial Position of Oil Companies (Chaturvedi Committee), 2008

- i. As international oil prices kept rising since June 2006, the Government did not increase the retail prices of petrol and diesel till June 2008. As a result, the under-recoveries of PSU oil marketing companies (OMCs) reached unsustainable levels in 2008. At that stage the Government appointed the Chaturvedi Committee to look into the financial conditions of the companies, review the concept of under-recoveries and examine the available options for burden sharing by all stakeholders.
- ii. The Chaturvedi Committee concluded that as long as there are price restraints there will have to be a formula. However, the formula for refinery gate prices of petrol, diesel, domestic LPG and PDS kerosene should be based on FOB export prices (and not on TPP). The full price adjustments should be made within a period of 9 months for petrol and

24 months for diesel. Once these price adjustments are completed the Government should disengage from the process of pricing of petroleum products and allow price to be an outcome of a competitive process.

- iii. The Chaturvedi Committee reiterated the views of the Rangarajan Committee that subsidies should be given to BPL family only. Such subsidies should be disbursed through Smart Cards or cash transfers and not through supply of products much below their market prices. The existing subsidy on LPG should be eliminated in a period of three years.
- iv. The pricing mechanism recommended by the Chaturvedi Committee was primarily meant to address the financial challenges associated with very high and unsustainable level of under-recoveries of oil marketing companies who were not permitted to pass the rise in oil prices on to the consumer prices.

However, once oil prices in the international market slumped in the second half of 2008, the magnitude of under-recovery burden came down significantly. Hence, the above recommendations were not implemented by the Government.

C. Expert Group on A Viable and Sustainable System of Pricing of Petroleum Products (Kirit Parikh Committee), 2010

The Finance Minister, in his Budget Speech on 06.07.2009, had announced the setting up of an Expert Group to advise on a viable and sustainable system of pricing petroleum products. Accordingly, the Government has constituted an Expert Group under the Chairmanship of Dr. Kirit S. Parikh, former member Planning Commission to examine the current pricing policy of the four sensitive petroleum products namely Petrol, Diesel, PDS Kerosene and Domestic LPG and make recommendations for a viable and sustainable pricing policy for these products. The Committee submitted its report on 3rd February 2010. The main recommendations of the expert group were as under:

- i. **Petrol and Diesel** - Prices of petrol and diesel should be market determined, both at the refinery gate and at the retail level.
- ii. **Better Targeting of subsidy on PDS Kerosene and Domestic LPG** - A transparent and effective distribution system for PDS kerosene and domestic LPG can be ensured through UID/Smartcards framework.
- iii. **Rationalization of allocation of PDS Kerosene** - PDS kerosene allocation across states should be rationalized, which will bring down all-India allocation by at least 20%. Further reduction in PDS kerosene allocation can be done on the basis of progress of rural electrification, LPG and piped gas availability which is expected to reflect much larger reductions in next NSSO surveys.

- iv. **Increase in RSP of Kerosene** - The price of PDS kerosene needs to be increased by at least Rs.6/litre. Thereafter, price can be raised every year in step with the growth in per capita agricultural Gross Domestic Product (GDP) at nominal price.
- v. **Increase in RSP of Dom. LPG** - Prices of domestic LPG to be increased by at least Rs.100 per cylinder. Thereafter, the price of domestic LPG to be periodically revised based on increase in paying capacity as reflected in the rising per capita income. The subsidy on domestic LPG should be discontinued for all others except the BPL households once an effective targeting system is in place.
- vi. **Methodology for calculation of the under-recoveries** - The extant methodology based on import parity pricing for Domestic LPG and PDS kerosene may be continued, as long as the country remains a net importer of Kerosene and LPG.
- vii. **Mechanism for financing under-recoveries on PDS kerosene and domestic LPG** - Until the time UID/smart cards become operational, the following measures needs to be taken to rationalize pricing and distribution of PDS kerosene and Domestic LPG:
- Periodic reduction in PDS kerosene allocation,
 - Increase in prices of PDS kerosene and domestic LPG from time to time,
 - Mopping up a portion of the incremental revenue accruing to ONGC/OIL from production in those blocks, which were given by the Government on nomination basis
 - Providing cash subsidy from the Budget to meet the remaining gap.

The OMCs marketing PDS kerosene and domestic LPG should be compensated fully for their under-recoveries based on this mechanism.

- viii. **Additional Excise Duty on diesel cars/ SUVs** - The high excise duty on petrol compared to diesel encourages use of diesel cars. Levy of an additional excise duty on diesel car owners to collect the same level of tax that petrol car users pay from those who use a diesel vehicle for passenger transport.
- ix. **Mopping up incremental incomes of ONGC and OIL** - MOPNG ought to have flexibility in mopping up incremental incomes of ONGC and Oil India for the purpose of meeting a part of the under-recoveries of OMCs on sale of domestic LPG and PDS kerosene.

ONGC made a presentation to the Committee, where it has suggested the following rates:

Price Range (\$/bbl.)	Rate of Tax (% of the incremental price)
60 – 70	20 %
70 – 80	40%
80 – 90	60%
Above 90	80%

- x. **Competition in the oil sector** - A market-determined pricing system for petrol and diesel can be sustained in the long run by providing level playing field and promoting competition among all players, public and private, in the oil and gas sector. Adequate regulatory oversight is critical to ensure effective competition.

Based on the recommendations of an expert group headed by Dr Kirit Parikh and decision taken by the EGoM, the Retail selling Price (RSP) of Petrol was made market-determined by Government with effect from 26.6.2010. Since then, public sector oil marketing companies decide the price of Petrol in line with the international oil prices and market conditions.

As regards Diesel, the Government took an 'in principle' decision on 25th June 2010 that its price would be made market-determined, both at Refinery Gate and Retail Level. However, the government continued to modulate the price of Diesel in view of high international prices and there were only three increases in the basic price of Diesel from 26th June 2010 to 17th January 2013.

The Government also increased the RSP of PDS Kerosene by Rs. 3/ litre and RSP of Domestic LPG by Rs. 35/ cylinder effective 26.6.2010.

A summary of major recommendation of the Rangarajan committee and their implementation by the Government is as under:

Summary of Recommendation of Kirit Parikh Committee and Decisions taken by the Government

Recommendation	Decision
Price of Petrol and Diesel should be market-determined, both at the refinery gate and at the retail level	Market-determined pricing for Petrol implemented. In principle decision to make Diesel price market-determined and an initial increase in RSP by Rs. 2 /litre.
Price of PDS Kerosene should be increased by Rs. 6/litre.	Increase in RSP of PDS Kerosene by Rs. 3/litre.
Price of Domestic LPG should be increased by at least Rs. 100/cylinder.	Increase in RSP of Domestic LPG by Rs. 35/ cylinder.

12. Steps taken by Government to Reduce Under-recovery

In order to reduce under-recovery of OMCs and consequential reduction in burden on Government to compensate these under-recoveries, the Government has already taken following steps:

- i. **Petrol:** The price of Petrol has already been deregulated and made market determined w.e.f 26.06.2010;
- ii. **Diesel:** OMCs have been authorized to increase the price of Diesel by 40-50 paisa per litre per month effective 18.01.2013. OMCs have also been allowed to sell Diesel to bulk consumers at non-subsidized market determined price effective 18.01.2013. Therefore, no under-recovery is incurred on sale of diesel to bulk consumers presently.
- iii. **Domestic LPG:** Effective 14th September 2012, the Government has decided to restrict the supply of subsidized domestic LPG cylinders to each consumer to 6 cylinders (of 14.2 KG) per annum. Subsequently, on 17th January 2013, the cap on subsidized domestic LPG cylinders was increased from 6 to 9 cylinders annually.
- iv. **PDS Kerosene:** As a result of continuous reduction in the yearly quota of PDS Kerosene, the consumption of Kerosene has come down gradually.
- v. **Direct Transfer:** Efforts are on for direct transfer of benefit to PDS Kerosene and Domestic LPG consumers in a phased manner.

Import – Export of Crude and Petroleum Products

(TMT)

	IMPORT/EXPORT	2008-09	2009-10	2010-11	2011-12	2012-13*
	IMPORTS					
A	CRUDE	132775	159259	163594	171729	184795
	PRODUCTS					
	LPG	2360	2718	4484	5084	6293
	NAPHTHA	5023	1734	2063	1974	1735
	PETROL	397	385	1682	654	325
	KEROSENE	1423	985	1366	564	0
	DIESEL	2774	2531	1996	1051	626
	LUBES	991	1418	1291	1546	1468
	FUEL OIL	2760	896	989	1128	1068
	BITUMEN	105	69	98	67	85
	OTHERS	2692	3925	3347	2928	4352
B	TOTAL PRODUCT IMPORT	18525	14662	17317	14,997	15952
C (A+B)	TOTAL IMPORTS	151300	173921	180911	186726	200747
	EXPORTS					
	LPG	109	131	154	174	200
	NAPHTHA	7601	9911	10667	10139	8647
	PETROL	5433	9762	13575	14524	16657
	ATF	3701	4588	4477	4561	4664
	KEROSENE	77	46	33	34	23
	DIESEL	14693	18419	20337	20407	22464
	LDO	0	41	126	84	9
	LUBES	140	24	8	27	59
	FUEL OIL	6201	5173	6704	7895	5922
	BITUMEN	45	39	21	5	87
	OTHERS	902	2839	2973	2988	4667
D	TOTAL PRODUCT EXPORT	38902	50974	59074	60,837	63400
E (C-D)	NET IMPORT	112398	122948	121837	125889	137347
F (D-B)	NET PRODUCT EXPORT	20377	36311	41757	45840	47448

*provisional

Price Buildup of Major Petroleum Product
Diesel price effective 1.10.2013, at Delhi

Sr. No.	Elements	Unit	Amount
1*	FOB Price at Arab Gulf of Gasoil (Diesel) BS III equivalent	\$/bbl	119.82
2*	Trade Premium AG Price for Gasoil 0.5% Sulphur	\$/bbl	2.61
3	Derived Quality Premium for BS-III Grade	\$/bbl	0.52
4*	Add: Ocean Freight from AG to Indian Ports	\$/bbl	1.75
5	C&F (Cost & Freight) Price	\$/bbl	124.70
	OR	Rs./Litre	48.64
6*	Import Charges (Insurance/Ocean Loss/ LC Charge/Port Dues)	Rs./Litre	0.45
7*	Customs Duty @2.58% (2.50% + 3% Education cess)	Rs./Litre	1.27
8*	Import Parity Price (at 29.5° C) (Sum of 5 to 7)	Rs./Litre	50.35
9*	Export Parity Price (at 29.5° C)	Rs./Litre	47.96
10*	Trade Parity Price (80% of (8)+20% of (9))	Rs./Litre	49.87
11*	Refinery Transfer Price (RTP) for BS-III Diesel (Price Paid by the Oil Marketing Companies to Refineries)	Rs./Litre	49.87
12	Add: Premium recovered for BS-IV Grade over BS-III	Rs./Litre	0.04
13*	Add : Inland Freight and Delivery Charges	Rs./Litre	1.00
14*	Add : Marketing Cost of OMCs	Rs./Litre	0.69
15*	Add : Marketing Margin of OMCs	Rs./Litre	0.71
16	Total Desired Price (Sum of 11 to 15) -Before Excise Duty, VAT and Dealer Commission	Rs./Litre	52.32
17*	Less: Under-recovery to Oil Marketing Companies	Rs./Litre	10.51
18	Price Charged to Dealers (Depot Price) (16-17) - Excluding Excise Duty & VAT	Rs./Litre	41.80
19*	Add : Specific Excise Duty @ Rs.3.56/Litre (Basic duty Rs.1.46/Litre + Additional excise duty Rs. 2.00/ litre + 3% Education Cess)	Rs./Litre	3.56
20*	Add : Dealer Commission	Rs./Litre	1.09
21*	Add : VAT (including VAT on Dealer Commission) applicable for Delhi @ 12.50% and Air Ambience Charges @ Rs.250/KL	Rs./Litre	6.09
22	Retail Selling Price at Delhi (Sum of 18 to 21)	Rs./Litre	52.54

Notes –

1. RTP is weighted average of all Indian pricing ports.
2. 1 barrel = 159 litres.*The explanatory notes are given on the next page

Element wise explanation of Price Build up of Diesel		
Sr. No.	Elements	Description
1 & 2	FOB Price & Trade Premium	FOB (Free on Board) daily quotes of Gasoil at Arab Gulf including premium /discount published by Platts and Argus publications are averaged for previous fortnight.
4	Ocean Freight	Ocean freight from Arab Gulf to destination Indian ports as per World Scale freight rate adjusted for AFRA.
6	Import Charges	Insurance charges, Ocean Loss, LC Charges & Port dues applicable on import of product.
7	Customs Duty	Customs duty on diesel is 2.50% + 3% Education cess.
8	Import Parity Price (IPP)	IPP represents the price that importers would pay in case of actual import of Diesel at the respective Indian ports.
9	Export Parity Price (EPP)	EPP represents the price which oil companies would realize on export of diesel i.e. FOB price of product (serial no.1) plus Advance License benefit (ALB) (for duty free import of crude oil pursuant to export of refined products). Consequent to abolition of Customs Duty of Crude oil effective 25.06.2011, the ALB is currently NIL.
10	Trade Parity Price (TPP)	Trade Parity Price is 80% of IPP & 20% of EPP effective 16.6.2006 as per recommendations of Rangarajan Committee Report.
11	Refinery Transfer Price (RTP)	RTP based on Trade Parity Price is the price paid by the Oil Marketing Companies to domestic refineries for purchase of diesel at refinery gate.
13	Inland Freight & Delivery charges	It comprises of average freight from ports to inland locations and delivery charges up to Retail Outlet.
14	Marketing Cost	Marketing Cost & Margin is as per Marketing Cost Study Report, Nov. 2006 by Cost Accounts Branch, MoF.
15	Marketing Margin	
17	Under recovery to OMCs	Difference between Desired Price and Actual selling price (excluding Excise Duty, VAT and dealer commission), represents under-recoveries to OMCs.
19	Excise Duty	Excise duty on diesel is Rs.3.46/ Litre + Education Cess @ 3%.
20	Dealer Commission	Dealer commission on diesel is Rs. 1089/KL (effective 27-Oct-2012) as fixed by MoP&NG.
21	VAT (Sales Tax)	VAT at applicable rate in respective State. It varies from state to state. Currently in Delhi, State Taxes on Diesel is VAT @ 12.50% + Air Ambience charges Rs.250/KL.

PDS Kerosene price effective 01.10.2013, at Delhi

Sr. No.	Elements	Unit	Amount
1*	FOB Price at Arab Gulf of Jet / Kero (Kerosene)	\$/bbl	123.73
2*	Add: Ocean Freight from AG to Indian Ports	\$/bbl	2.04
3	C&F (Cost & Freight) Price	\$/bbl	125.77
	OR	Rs./Litre	50.12
4*	Import Charges (Insurance/Ocean Loss/ LC Charge/Port Dues)	Rs./Litre	0.32
5*	Customs Duty	Rs./Litre	NIL
6*	Import Parity Price (at 29.5° C) (Sum of 3 to 5)	Rs./Litre	50.45
7*	Refinery Transfer Price (RTP) for PDS Kerosene (Price Paid by the Oil Marketing Companies to Refineries)	Rs./Litre	50.45
8*	Add : Inland Freight and Delivery Charges	Rs./Litre	0.85
9*	Add : Marketing Cost of OMCs	Rs./Litre	0.43
10*	Add : Marketing Margin of OMCs	Rs./Litre	0.36
11	Total Desired Price (Sum of 7 to 10) -Before Excise Duty, VAT and Wholesale & Retailer Commission	Rs./Litre	52.09
12*	Less : Subsidy by Central Government	Rs./Litre	0.82
13*	Less: Under-recovery to Oil Marketing Companies	Rs./Litre	38.32
14	Price Charged to Dealers (Depot Price) (11-12-13) - Excluding Excise Duty & VAT	Rs./Litre	12.95
15*	Add : Excise Duty (Including Education Cess)	Rs./Litre	0.00
16*	Add : Wholesale & Retailer Commission and Other charges fixed by State Government	Rs./Litre	1.29
17*	Add : VAT (including VAT on Wholesale & Retailer Commission) applicable for Delhi	Rs./Litre	0.71
18	Retail Selling Price at Delhi (Sum of 14 to 17)	Rs./Litre	14.96

Notes –

1. Monthly RTP is weighted average of all Indian pricing ports.
2. 1 barrel = 159litres

*The explanatory notes are given on the next page

Element wise explanation of Price Build up of PDS Kerosene		
Sr. No.	Elements	Description
1	FOB Price	FOB (Free on Board) daily quotes of Jet/Kerosene at Arab Gulf including premium / discount published by Platts and Argus publications are averaged for previous month.
2	Ocean Freight	Ocean freight from Arab Gulf to destination Indian ports as per world scale freight rates adjusted for AFRA.
4	Import Charges	Import charges comprises of Insurance, Ocean Loss, LC Charges & Port dues applicable on import of product.
5	Customs Duty	Customs duty on PDS kerosene is Nil.
6	Import Parity Price (IPP)	IPP represents the price that importers would pay in case of actual import of kerosene at the respective Indian ports. Import Parity Principle is as per the 'PDS Kerosene and LPG (Domestic) Subsidy Scheme, 2002'.
7	Refinery Transfer Price (RTP)	RTP based on Import Parity Price, the price paid by OMCs to refineries.
8	Inland Freight & Delivery charges	It comprises of average freight from ports to inland locations and delivery charges.
9	Marketing Cost	Marketing Cost & Margin are as fixed in the 'PDS Kerosene and LPG (Domestic) Subsidy Scheme, 2002'.
10	Marketing Margin	
12	Subsidy by Central Government	Average subsidy of Rs.0.82/Litre is provided from Government Budget as per the 'PDS Kerosene and LPG domestic subsidy scheme 2002'.
13	Under recovery to OMCs	Difference between desired price (based on Import Parity) and actual selling price (excluding Excise Duty, VAT, wholesale & retail dealer commission and other charges), represents under-recoveries to OMCs.
15	Excise Duty	Excise duty on PDS kerosene is Nil.
16	Wholesale & Retail Dealer Commission and Other charges fixed by State Government	Commission fixed for Wholesale & Retail Dealer and other charges like delivery charges by District authorities / State Government.
17	VAT (Sales Tax)	VAT at applicable rate in respective State. It varies from state to state. Currently in Delhi, VAT on PDS kerosene is 5.00%.

Subsidized Domestic LPG price effective 01.10.2013, at Delhi

Sr. No.	Elements	Unit	Amount
1*	FOB Price at Arab Gulf of LPG	\$/MT	859.76
2*	Add: Ocean Freight from AG to Indian Ports	\$/MT	45.72
3	C&F (Cost & Freight) Price	\$/MT	905.49
	OR	Rs./Cyl.	825.95
4*	Import Charges (Insurance/Ocean Loss/ LC Chg/Port Dues)	Rs./Cyl.	6.63
5*	Customs Duty	Rs./Cyl.	NIL
6*	Import Parity Price (Sum of 3 to 5)	Rs./Cyl.	832.58
7*	Refinery Transfer Price (RTP) for Domestic LPG (Price Paid by the Oil Marketing Companies to Refineries)	Rs./Cyl.	832.58
8*	Add : Inland Freight and Delivery Charges	Rs./Cyl.	40.18
9*	Add : Marketing Cost of OMCs	Rs./Cyl.	10.52
10*	Add : Marketing Margin of OMCs	Rs./Cyl.	6.89
11	Add : Bottling Charges (Filling and Cylinder Cost)	Rs./Cyl.	38.68
12	Total Desired Price (Sum of 7 to 10) -Before Excise Duty, VAT and Distributor Commission	Rs./Cyl.	928.85
13*	Less : Subsidy by Central Government	Rs./Cyl.	22.58
14*	Less: Under-recovery to Oil Marketing Companies	Rs./Cyl.	532.86
15	Price Charged to Distributor (Bottling Plant Price) - Excluding Excise Duty & VAT (12-13-14)	Rs./Cyl.	373.41
16*	Add : Excise Duty (Including Education Cess)	Rs./Cyl.	0.00
17*	Add : Distributor Commission	Rs./Cyl.	37.25
18*	Add : VAT(including VAT on Distributor Commission) applicable for Delhi	Rs./Cyl.	0.00
19*	Retail Selling Price (Sum of 15 to 18)	Rs./Cyl.	410.66
20	Retail Selling Price at Delhi (Rounded)	Rs./Cyl.	410.50

Notes –

1. Monthly RTP is weighted average of all Indian pricing ports.
2. US\$ per Metric Ton of LPG. 1 MT = 70.42 cylinders of 14.2 kg each

*The explanatory notes are given on the next page

Element wise explanation of Price Build up of Domestic LPG		
Sr. No.	Elements	Description
1	FOB Price	FOB (Free on Board) of LPG is weighted average of Saudi Aramco contract price (CP) for Butane (60%) & Propane (40%) for previous month and also includes daily quotes of premium / discount (published by PlattsGaswire) averaged for previous month.
2	Ocean Freight	Ocean freight from Arab Gulf to destination Indian ports based on charter hire rates obtained from Clarkson Shipping Intelligence weekly.
4	Import Charges	Import charges comprises of Insurance, Ocean Loss, LC Charges & Port dues applicable on import of LPG.
5	Customs Duty	Custom duty on domestic LPG is Nil.
6	Import Parity Price (IPP)	IPP represents the price that importers would pay in case of actual import of product at the respective Indian ports. Import Parity Principle is as envisaged in the 'PDS Kerosene and LPG (Domestic) Subsidy Scheme, 2002'.
7	Refinery Transfer Price (RTP)	RTP is based on Import Parity Price. This is the price paid by the Oil Marketing Companies to domestic refineries for purchase of finished petroleum products at refinery gate.
8	Inland Freight & Delivery charges	It comprises of average freight from port to inland locations and Local Delivery charges up to distributor.
9	Marketing Cost	Marketing Cost & Margin as fixed under notified 'PDS Kerosene and LPG (Domestic) Subsidy Scheme, 2002'.
10	Marketing Margin	
11	Bottling Charges (Filling & Cylinder Cost)	The cost incurred towards filling LPG in 14.2 Kg. cylinders as per notified 'PDS Kerosene and LPG (Domestic) Subsidy Scheme, 2002'.
13	Subsidy by Central Government	Average Subsidy of Rs.22.58/Cylinder is provided from Government Budget as per 'PDS kerosene and domestic LPG subsidy scheme, 2002'.
14	Under recovery to OMCs	Difference between Desired price and actual selling price (excluding Excise Duty, VAT and distributor commission), represents under-recoveries to OMCs.
16	Excise Duty	Excise duty on domestic LPG is Nil.
17	Distributor Commission	LPG distributor commission Rs.37.25/Cylinder (effective 07-Oct-2012) is as approved by MoP&NG.
18	VAT (Sales Tax)	VAT at applicable rate in respective States. It varies from state to state (up to a maximum of 5% as Domestic LPG is 'Declared Goods' under CST Act). Currently VAT at Delhi is Nil.

Annexure-5.1

Diesel (0.05% S) at Singapore & Arab Gulf

(\$/bbl)

Month	2008-09			2009-10			2010-11			2011-12			2012-13		
	Sing	AG	Diff	Sing	AG	Diff	Sing	AG	Diff	Sing	AG	Diff	Sing	AG	Diff
Apr	141.98	140.01	1.97	60.19	58.99	1.20	95.61	93.51	2.10	139.96	137.53	2.42	135.02	132.51	2.51
May	161.22	159.62	1.60	65.56	64.48	1.09	88.71	86.17	2.54	128.26	125.87	2.40	124.89	122.11	2.78
Jun	169.36	166.15	3.21	77.05	75.87	1.18	86.75	84.37	2.38	127.73	125.62	2.11	111.98	109.39	2.59
Jul	168.01	165.37	2.64	72.00	70.42	1.58	85.83	83.57	2.26	129.83	128.58	1.25	119.30	116.31	2.99
Aug	135.26	129.22	6.04	79.84	78.61	1.23	87.62	85.93	1.69	125.29	123.14	2.15	130.75	128.33	2.42
Sep	121.04	116.09	4.96	75.04	73.31	1.74	87.64	86.05	1.59	124.38	122.74	1.64	132.61	129.71	2.90
Oct	88.85	83.13	5.72	80.45	77.92	2.53	93.64	92.40	1.23	122.89	120.82	2.07	129.85	126.89	2.95
Nov	73.77	69.13	4.64	84.59	82.38	2.21	97.46	96.34	1.13	129.39	126.79	2.60	125.69	122.75	2.94
Dec	61.82	59.05	2.76	81.71	79.39	2.32	103.67	102.51	1.16	125.12	122.15	2.97	125.07	122.03	3.04
Jan	59.99	60.29	-0.30	85.13	82.91	2.23	109.48	108.43	1.06	129.98	127.19	2.80	127.01	124.21	2.81
Feb	52.40	49.87	2.53	82.79	81.26	1.53	118.93	117.36	1.57	134.55	132.71	1.84	132.75	130.14	2.62
Mar	54.49	52.99	1.51	88.26	86.71	1.55	132.29	130.38	1.91	138.08	136.23	1.85	123.64	120.35	3.29
Average	108.51	105.38	3.13	77.70	76.00	1.70	98.92	97.19	1.73	129.62	127.45	2.16	126.41	123.59	2.82

Notes: - Quote are Platt's Assessment.

Diesel Trade Premium at Arab Gulf

(\$/bbl)

Month	2008-09	2009-10	2010-11	2011-12	2012-13
Apr	2.63	1.86	0.99	1.54	1.69
May	1.97	1.69	1.28	0.83	1.78
Jun	2.14	1.57	1.40	0.35	1.82
Jul	2.79	1.31	1.78	0.43	2.24
Aug	3.36	1.56	1.23	0.40	3.01
Sep	4.13	1.78	0.50	0.58	3.18
Oct	2.38	1.00	0.23	1.45	2.60
Nov	2.42	0.55	-0.13	1.90	1.67
Dec	2.58	0.08	0.03	1.97	1.00
Jan	1.11	0.49	0.04	2.03	2.34
Feb	0.73	0.85	0.48	1.76	2.89
Mar	1.83	0.84	1.21	1.76	1.95
Average	2.36	1.13	0.77	1.24	2.18

Notes: - Quote are Platt's Assessment.

Pricing Mechanism of Petroleum Products in various Countries across the World

(Prepared by PPAC)

Based on the information available on the websites of the Government, Oil information / regulatory bodies, Petroleum Companies and other related organizations & reports published by the international energy information groups, pricing mechanism of petroleum products in 18 countries across the world has been compiled.

The pricing mechanism of petroleum products in these countries can be briefly divided in two parts:

- (i) Countries where pricing is based on import parity price; &
 - (ii) Countries where pricing is market determined.
- (i) Countries where pricing is based on import parity price: Out of 18, 8 countries namely Australia, South Africa, New Zealand, Pakistan, Thailand, Ireland, Mauritius & Nigeria are having IPP based pricing of petroleum products. In addition to the above countries, some part of Canada also has IPP based pricing. In these countries, prices of petroleum products are based on reference pricing in international markets such as Singapore, Arab Gulf, Saudi Aramco etc. and the other expenditures such as freight, insurance, ocean loss, margins & other import incidentals are added to arrive at IPP/ Wholesale / basic price.
- (ii) Countries where pricing is market determined: As per the information available for the other 10 countries namely Canada (except for 5 provinces), USA, UK, Netherland, France, Japan, Italy, Germany and Philippines does not have any specific formula/ mechanism and pricing for petroleum products is market determined in these countries. In market determined scenario, price of petroleum products is determined by oil companies based on broad range of factors including price of crude oil and petroleum products in international market, demand and supply balances, refining & other costs, prices of alternative products, competitive forces and market condition etc.
- (iii) From the pricing of various countries, it was observed that there is no "Export Parity Price" concept for pricing of POL products.

(iv) In addition to the above 18 countries, brief pricing information about other major oil consumer countries in the world have also been compiled from the information given in the PIRA special report dated September 2013. However, complete information on the pricing mechanism for these countries is not available.

Based on the information obtained from the above mentioned sources, the information on Pricing Mechanism of Petroleum Products in various Countries across the World is given below:

A. Import Parity Price (IPP) based pricing :

- 1. Australia:** Prices are based on IPP. The benchmark prices for Petrol and Diesel are Singapore prices & for LPG are Saudi CP Prices. To arrive at Wholesale price (Terminal gate price/ TGP), premium, freight, wharfage, insurance, loss etc. elements are added to the benchmark prices. However, the retail prices at stations are subject to local market conditions.
- 2. South Africa:** In South Africa, price of petroleum products is calculated as per Basic Fuel Price (BFP) formula which is based on IPP Principle benchmarked to prices in Singapore, AG & Mediterranean export oriented centers. As per the formula, the elements of FOB price, ocean freight, demurrage, ocean loss, insurance, storage etc. are added for calculation of BFP. To arrive at the final price in the different fuel pricing zones (magisterial district zones), domestic costs, import levies and margins are added to the Basic Fuel Price (BFP).
- 3. New Zealand** - Prices are based on IPP. The benchmark prices for Petrol and Diesel are Singapore prices & for LPG are Saudi CP Prices. To arrive at 'Importer cost', premium, freight, wharfage, insurance, loss etc. elements are added to the benchmark prices. The importer margin is the difference between the retail price less duties, taxes, levies, the New Zealand Emissions Trading Scheme (ETS) and the importer cost. That is, the margin available to the retailers to cover domestic transportation, distribution and retailing costs, and profit margins.
- 4. Pakistan** – In Pakistan, pricing of Petroleum Products is done as per Government prescribed formula based on import parity principle in two parts; (i) Ex-refinery & (ii) Ex-depot. FOB quotes of products at Arab Gulf (Petrol, Diesel & Kerosene) / Saudi CP (LPG) are the benchmark prices. The elements of Premium, freight, custom duty and other import incidental

are added to benchmark prices to calculate ex-refinery price. Further, Inland freight equalization margin, dealer commission, secondary delivery charges (if applicable) and taxes are added to arrive at Ex-Depot price/ Retail selling price. However, since petrol and diesel prices have been deregulated in Pakistan, the ex-refinery price of these products are being fixed by the oil companies.

- 5. Thailand** - Prices are based on IPP benchmarked to prices in Singapore for Petrol and Diesel & Saudi CP Prices for LPG. During the process of deregulating the fuel prices, a clear set of formulae was devised - essentially linking import prices to CIF price of Singapore spot market with a time lag of one week. CIF price of Singapore is Singapore price plus transportation costs and other expenses. Further, the retail prices are further determined by the adding the elements of Excise duty, Municipal taxes, Oil fund, marketing margin and VAT to the ex-refinery prices.
- 6. Ireland** - Pricing of refined product in Ireland is based on Import Parity Price on the basis of Platts prices. The refinery selling price or wholesale price is determined by adding the elements of Monthly average for Platts price, Premium, marine freight, insurance, port dues, storage and throughput, evaporation costs etc. & Govt. Levy and excise. The retail prices are further derived by adding retailer margin and adjusting discount to retailer, if any.
- 7. Mauritius** - Mauritius is a 100% importer of its petroleum products requirement through the State Trading Corporation (STC) in Mauritius. STC purchases petroleum product Mangalore Refineries and Petrochemicals Ltd (MRPL) under a 3 year contract with them. The contract specifies that the purchase price will be the price based on the Platts reference plus the premium which has been negotiated with the refinery. The estimated retail price will be based on the Platts price paid for the previous six months and the future prices for the following six months provided again by Platts. The pricing of petrol and diesel is based on IPP methodology consisting the elements of Benchmark price published by Platts, Premium, Ocean freight, Insurance, Custom duty. Further, Excise duty, other operational expenses, VAT and margin are added to arrive at the retail prices of petrol and diesel.
- 8. Nigeria** - In Nigeria, Petroleum Products Pricing Regulatory Agency (PPPRA) is an autonomous agency established by an Act to primarily determine the pricing policy of petroleum products and regulate their supply and distribution. The pricing template of PPPRA employs Import Parity Principle and includes the elements of Product cost (monthly moving average cost of products cost at North West Europe (NWE) as

quoted on Platts Oil gram), Freight, Lightering expenses, Nigeria Port Authority (NPA) Charge, Financing, Jetty Depot thru put and Storage charge. Further, for arriving at the open market price (OMP i.e. retail prices), distribution margin and taxes are added to the landed cost of petroleum products.

B. Market Determined Pricing

As per the information available for the some countries namely Canada (except for 5 provinces), USA, UK, Netherland, France, Japan, Italy, Germany and Philippines does not have any specific formula/ mechanism and pricing for petroleum products is market determined in these countries. In market determined scenario, price of petroleum products is determined by oil companies based on broad range of factors including price of crude oil and petroleum products in international market, demand and supply balances, refining & other costs, prices of alternative products, competitive forces and market condition etc. An example of details of pricing in Canada & Philippines appended below:

- 9. Canada:** In Canada (except 5 provinces), prices of petroleum products are market determined and are influenced by several international & domestic factors such as prices of crude oil and petroleum products, supply demand balance, refining and distribution costs, local market forces, competition etc.

However, in 5 provinces of Canada namely New Brunswick, Prince Edward Island, Quebec, Newfoundland and Labrador, and Nova Scotia (covering around 1/3 of the total area of Canada) the maximum wholesale price (MWP) and maximum retail price (MRP) of petroleum products are calculated by the provincial government using the formula. The MWP is calculated considering the elements of Benchmark prices in New York Harbour cargo (reported by Platts US Market Scan report) for Petrol, Diesel and Kerosene & Sarnia Reck in Ontario (Canada) reported by Bloomberg for propane, wholesale margin to cover transportation cost, insurance cost, storage costs etc. and applicable taxes. Further, retail margin, full service charge and delivery charge etc. are added to arrive at MRP.

- 10. Philippines** - In Philippines, Consistent with the regime of deregulation, the Oil Deregulation Law did not prescribe a specific formula for pricing of petroleum products and the market is expected to set the prices. However, to ensure that the price adjustment is reasonable, Department of Energy, Philippines actively monitors the oil price movement using the ERB formula developed by the Government based on Import Parity price. In this formula, the Department of Energy, Philippines compares the peso

landed cost of bringing in the finished oil products to the domestic market on a week-on-week basis using the price build-up. The ERB formula consist the elements of FOB price of Products at Singapore published by Platts, Freight, Ocean loss and applicable duty.

11.UK - In UK, Petro Filling Station (PFS) retailers purchase petrol and diesel either directly from the supply divisions of the oil companies or from independent fuel suppliers. The contract typically specifies the price to be paid on a 'Platts Plus' While 'Platts' refers to the international benchmark price of products published by the Platts, the 'Plus' part covers the cost of storage and distribution cost of products and wholesale margin. The 'plus' part can vary depending on the distance of the PFS relative bargaining positions of wholesalers and retailers.

USA, France, Japan, Italy, Netherlands, Germany & Korea: As per the information provided in the report by PIRA of September 2013, the pricing of petroleum products in these countries is market determined. There is no specific formula for pricing of petroleum products in these countries is available in public domain.

Increasing LPG Price without Burdening Consumers

Kirit S Parikh

Chairman, Integrated Research and Action for Development (IRADe)

Former Member, Planning Commission

kparikh@irade.org

Liquefied Petroleum Gas (LPG) is used for cooking in households and restaurants and hotels. Today LPG for domestic use is highly subsidized in India. The consumer price is Rs.399 per cylinder of 14.2 Kg in Delhi. It varies from state to state depending on state taxes. The cost of a cylinder is Rs. 630. The under recoveries on LPG account in the first quarter of 2012-13 was Rs. 11,500 crores. With higher international price and the under recovery will increase from Rs 231 to Rs 340 per cylinder from September 1, 2012, the total for the year will exceed Rs 50,000 crores.

The commercial users are charged the full cost. With taxes they pay Rs.964_ for 14.2 kg. The large price difference leads to diversion from domestic use gas to commercial use. It also encourages distributors to supply cylinders with less than 14.2 kg of gas. Thus a poor consumer pays effectively more for gas. If she insists on weighing the cylinder, the distributor creates problem while supplying the next cylinder.

Consumers in our neighbouring countries pay much more. The price in Indian Rs is Rs.526 in Bangladesh, Rs.889 in Nepal, Rs. 943 in Pakistan and Rs. 1105 in Sri Lanka. This leads to smuggling.

An LPG-using household used around 8 cylinders per year in rural areas and 10 cylinders in urban areas in 2009-10. 70 % of gas is consumed by urban households and only 30% by rural households though the number of households in rural areas is 2.4 times that in urban areas.

Higher price of LPG will incentivize people to use it more effectively. There are many ways in which gas use can be reduced, a lower flame, a wide bottomed vessel, covering the pot and lighting it after the pot is in place all can reduce gas consumption.

Much of the cooking energy is lost due to radiation and convection. This can be prevented by covering the pot with another inverted pot. Also stacking pots utilizes the heat that transfers upwards due to hot gases or vapours rising from the lower pots. This is a principle routinely used in chemical industry plants to save energy by using condensing steam or vapours multiple times.

With these principles, scientists from one of India's best chemical technology school, Institute of Chemical Technology (ICT, formerly Mumbai University Department of Chemical Technology, UDCT), and some top ranking engineers from an NGO, Land Research Institute, have developed a set of cooking pots called "EcoCooker" that saves 50 to 70 percent of gas in cooking using gas flame size appropriate to the size of the cooking vessel. The EcoCooker has a 6-litre food capacity, sufficient for a family of 5 or 6 members. It can be used for bulk cooking, of dal, rice, vegetables, meat, and all items that can be cooked by steaming or boiling. For these items, the EcoCooker will save three-quarters of the fuel one would otherwise consume, as well as half the time one would otherwise spend standing at the stove. Depending on gas use for cooking of chapatias and frying, a household can save between 30 and 50 percent of the gas used in the household for cooking.

EcoCookers have been in use in many canteens for many months. The canteen of ICT which used to need 15 cylinders a month for cooking, dal, vegetables, rice, etc now uses only 5 cylinders a month. It uses another 15 cylinders for cooking chapatias, frying and making tea. The canteen has reduced its gas use by 33%. In a household the use for frying etc is likely to be proportionately smaller. Thus the gas saving in a household would be more than in the UDCT canteen, and a saving of 40% can be expected and instead of eight cylinders a household will need only five cylinders a year. Thus, if the price of LPG is raised from Rs 400 to Rs 600 per cylinder and if the household starts using the EcoCooker, its expenditure on LPG would not increase. Of course, the cost of the EcoCooker has to be borne. A cooker suitable for a family of five costs Rs. 1,200. One way to offset this cost and incentivize consumers to buy it, is to sell the EcoCooker with four coupons of value Rs. 200 each, which gives a rebate of Rs.200 on purchase of LPG cylinder. These rebates can be financed from the subsidy we give today, which will liquidate itself in few months.

Another way to reduce under recovery on LPG is to promote piped gas. We should mount a time bound programme of changing all consumers in Metros from LPG to piped gas. Even without any explicit price subsidy, the current price of PNG in Delhi at Rs. 22 /SCM is at the same level as the highly subsidised current consumer price of Rs. 399/14.2 Kg Cylinder at Delhi. Most relatively well off consumers in the metros will switch over to piped gas when LPG is deregulated. The freed gas can be supplied to rural consumers with targeted subsidy to the poor using smart card.

Let not the rich hide behind the poor. Deregulate LPG price.

Calculation Of The Investment Multiple For Production Sharing Purposes

1. In accordance with the provisions of Article 16 as per model PSC for NELP-IX, the share of the Government and the Contractor respectively of Profit Petroleum from the Contract Area in any Year shall be determined by the Investment Multiple of the Contractor from the Petroleum Operations at the end of the preceding Year.
2. The "Net Income" of the Contractor from their Petroleum Operations in any particular Year is the aggregate value for the Year of the following:
 - (i) Cost Petroleum entitlement of the Contractor as provided in Article 15;
plus
 - (ii) Profit Petroleum entitlement of the Contractor as provided in Article 16;
plus
 - (iii) the Contractor's all incidental income (of the type specified in Section 3.4 of the Accounting Procedure) arising from Petroleum Operations;
less
 - (iv) the Contractor's Production Costs and royalty (Article 17) incurred on or in the Contract Area;
3. The "Investment" made by the Contractor in the Contract Area in any particular Year is the aggregate value for the Year of:
 - (i) the Contractor's Exploration Costs incurred on or in the Contract Area pursuant to Article 15
plus
 - (ii) the Contractor's Development Costs incurred on or in the Contract Area pursuant to Article 15.
4. For the purposes of the calculation of the Investment Multiple, costs or expenditures which are not allowable as provided in the Accounting Procedure shall be excluded from Contract Costs and be disregarded.
5. The Investment Multiple ratio of the Contractor as at the end of any Year shall be calculated by dividing the aggregate value of the addition of each of the annual Net Incomes (accumulated, without interest, up to and including that Year starting from the Year in which Production Costs were first incurred or Production first arose) by the aggregate value of the addition of each of the annual Investments (accumulated, without interest, up to and including that Year starting from the Year in which Exploration and Development Costs were first incurred).
6. Profit Petroleum from the Contract Area in any Year shall be shared between the Government and the Contractor in accordance with the value of the Investment Multiple of the Contractor as at the end of the previous Year pursuant to Articles 16.2.1 to 16.5.

Abbreviations

AAY	Antyodaya Anna Yojana
AG	Arab Gulf
APL	Above Poverty Line
APM	Administered Pricing Mechanism
ATF	Aviation Turbine fuel
Bbl	Barrel
BORL	Bharat Oman Refinery Limited
BPC/ BPCL	Bharat Petroleum Corporation Ltd
BPL	Below Poverty Line
CCPA	Cabinet Committee on Political Affairs
C&F	Cost and Freight
CHT	Centre for High Technology
CNG	Compressed Natural Gas
CPCL	Chennai Petroleum Corporation Ltd
CST	Central sales tax
DBTK	Direct Benefit Transfer of Kerosene
DBTL	Direct Benefit Transfer of LPG
DTA	Domestic Tariff Area
EGoM	Empowered Group of Ministers
E&P	Exploration and Production
EIL	Engineers India Ltd
EOL	Essar Oil limited
FO	Furnace oil
FOB	Free on Board
GAIL	GAIL (India) Ltd
HCV	Heavy Commercial Vehicle
HMEL	Hindustan Mittal Energy Limited
HPC / HPCL	Hindustan Petroleum Corporation Ltd
HSD	High Speed Diesel
IBP	Indo Burma Petroleum Ltd
IEA	International Energy Agency
IIM,Ahmedabad	Indian Institute of Management, Ahmedabad
IRADe	Integrated Research & Action for Development
IOC/ IOCL	Indian Oil Corporation Ltd
KL	Kilolitre
KRL	Kochi Refinery Ltd
LCV	Light Commercial Vehicle
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
LSHS	Low Sulphur Heavy Stock
MMSCMD	Million metric standard cubic meters per day
MMT	Million Metric Tonnes

MMTPA	Million Metric Tonnes per Annum
MoF	Ministry of Finance
MoP&NG	Ministry of Petroleum and Natural Gas
MoS	Ministry of Shipping
MRPL	Mangalore Refinery & Petrochemicals Ltd
MS	Motor Spirit (Petrol)
MSP	Minimum Support Price
MT	Metric Tonnes
NCAER	National Council of Applied Economic Research
NCCD	National Calamity Contingency Duty
NELP	New Exploration Licensing Policy
NOC	National Oil Companies
NRL	Numaligarh Refinery Ltd
OCRC	Oil Cost Review Committee, 1984
OIDB	Oil Industry Development Board
OIL	Oil India Ltd
OMCs	Oil Marketing Companies
ONGC	Oil & Natural Gas Corporation Ltd
OPC	Oil Prices Committee, 1976
PAT	Profit after tax
PDS	Public Distribution System
PNG	Piped Natural Gas
POL	Petroleum Oil and Lubricant
PPAC	Petroleum Planning and Analysis Cell
PSU	Public Sector Undertaking
R Group	Strategic Planning Group on Restructuring of Oil Industry
RBI	Reserve Bank of India
RGGLVY	Rajiv Gandhi Gramin LPG Vitarak Yojna
RGP	Refinery Gate Price
RIL	Reliance Industries Ltd
RSP	Retail selling price
RTP	Refinery Transfer Price
SEZ	Special Economic Zone
SKO	Superior Kerosene Oil
STU	State Transport Undertaking
SUV	Sports Utility Vehicle
TMT	Thousand Metric Tonnes
ToR	Terms of Reference
TPP	Trade Parity Price
VAT	Value Added Tax

Rejoinder by Prof. S.K. Barua to the Note of Dissent

Pricing Policy

1. In the note of dissent, it has been wrongly concluded that the inclusion of customs duty, ocean loss and marine insurance in the Import parity price (IPP) leads to over compensation of the OMCs and private refineries by about 3%.
2. In fact, as clearly highlighted in Para 3.7 of the report, even while reviewing the pricing policy for the first time after dismantling of APM in April 2002, Dr. Rangarajan committee in February 2006 had stated that due to several reasons, a reasonable duty protection for domestic refineries is necessary. Although the customs duty on diesel is 2.5%, effectively the rate comes down to 2% while working out the TPP (80% of IPP + 20% of EPP). Secondly, after taking into account (a) "Nil" Customs duty on PDS Kerosene, Domestic LPG, ATF, FO/ Naphtha (fertilizer use), (b) CST/ VAT incurred on indigenous crude oil, and (c) National Calamity Contingency Duty (NCCD) at Rs. 51.50/MT paid on crude oil, the net effective duty protection to refineries works out to less than 1%.
3. As regards the notional costs like ocean loss, marine insurance etc. taken into account for IPP/ TPP workings, it has been the experience of the OMCs that whenever the products have actually been imported, the total cost of import (of POL products) has been higher than the RGP of product. During the year 2011-12 itself, this difference was almost Rs. 2525 crore for the OMCs. In addition to this, inventory losses due to oil price volatility, exchange rate fluctuations, narrowing crude products cracks are not included in the RTP and have to be borne by the refineries themselves.
4. Further, due to delayed compensation of under-recoveries by the Government, OMCs have been incurring significant interest burden which was Rs. 5224 crore during 2011-12 and Rs. 6514 crore during 2012-13 which was not compensated to the OMCs.

Reasonableness of Export Parity Price (EPP)

5. The logic of working out refinery gate prices on EPP, IPP and TPP has been examined in detail in Para 4.1 of this report and it has been clearly established that in case EPP pricing is implemented, the total cost including CST, Coastal

freight and quality adjustments etc. will be almost equal to current pricing based on TPP for Diesel with only minor difference between the two. This difference is around 0.25 percent for 2012-13. This small difference can be justified as an incentive to private refineries to induce them to sell to domestic OMCs in preference to exporting diesel.

6. The note of dissent merely highlights the export price realized by private refineries without taking cognisance of the fact that in case the product is not made available by private refineries to the OMCs, they would have to incur significant additional cost on import of (deficit) products into the country. This has been the experience in the past for all products, including the present scenario where considerable additional cost is incurred on imports of LPG.
7. At para 2.7 of the note of dissent, it has been mentioned that the actual export realisation of the Private Oil Companies will be further reduced due to the cost of transportation, port charges, L/C charges, etc. However, these charges are to be borne by the importer and the export realisation shown in table 8 of the report is final. Private refineries during their submission to the Expert Group have clearly stated that in case EPP is implemented, they would prefer to export products rather than providing them for domestic use and as explained in Para 4.10.10 of this report, in case OMCs were forced to meet the shortfall through imports instead of procuring from the private/ stand-alone refineries, they would have incurred significant additional import costs, as shown in table 13 of the report.

Table 13: Additional cost on Import vis-à-vis TPP/ IPP

(Rs. in crore)

Products	2010-11	2011-12
HSD	609	3,145
SKO	161	18
LPG	366	824
Total	1,137	3,986

Source: OMCs

Over compensation to OMCs and Private refineries

8. In view of the above facts, the claim that the duty protection provided to the Indian refineries (which is absolutely essential for the survival of the refineries particularly PSU and standalone refineries and is presently even lower than 1%) and the small difference in some of the notional and actual cost elements is

resulting in over compensation of about Rs. 13500 crore to the OMCs and private refiners, is not substantiated. Further, it is added that in the dissent note, 3% benefit (2.5% Customs Duty; 0.5% Import costs) has been computed on PDS Kerosene also. It is mentioned that there is no Customs Duty protection available to refineries on PDS Kerosene.

Further, as has been amply clarified in the report, it is in the overall interest of the OMCs and the Government to procure maximum possible quantities from Indian refineries including those in the private sector as per the existing IPP/ TPP formula, in order to avoid significant losses that would be incurred in case the deficit (POL) products were to be imported.

Sharing Mechanism for Under-Recoveries

9. The expert group had examined various alternatives for upstream contribution and keeping in view the current level of under-recoveries and its impact on the government finances, the group has recommended a simple and easy to implement formula which appears more equitable as against the current system of upstream contribution. Hence, raising the level of contribution up to 60% at the price of \$120/bbl. and above as suggested in the note of dissent, will result in the contribution going even beyond the profit sharing of 85% under NELP mechanism and will not be sustainable and reasonable to the upstream companies and would be detrimental to India's long term energy security.

Conclusion

10. As mentioned in Para 4.9 of this report, after its examination of various alternative pricing mechanisms, the expert group noted that there is no single or unique formula which can be said to represent the correct method for fixing domestic refinery gate prices in India.

Therefore, instead of replacing the existing well established IPP/ TPP pricing mechanism by some other arbitrary and ad hoc pricing mechanism, the group has recommended that the best course of action is to free the market from price controls at the earliest. Secondly, in order to protect the outgo from the government revenue, it has also been specified that (a) the subsidy on Diesel may be capped at Rs. 6/litre and the price may be made market determined immediately and also recommend phasing out of the subsidy within the next

one year; (b) the price of PDS Kerosene be increased by Rs. 4/Litre immediately and thereafter the price of PDS Kerosene be revised from time to time at least in line with growth in the per capita agriculture GDP and (c) The limit for subsidized cylinders be reduced from the present 9 to 6 cylinders per annum to each household along with immediate increase in price of domestic LPG by RS. 250 per 14.2 kg cylinder.



(S.K. Barua)
October 30th, 2013