19

STANDING COMMITTEE ON PETROLEUM & NATURAL GAS

(2013-14)

FIFTEENTH LOK SABHA

MINISTRY OF PETROLEUM & NATURAL GAS

ALLOCATION AND PRICING OF GAS

NINTEENTH REPORT

LOK SABHA SECRETARIAT

NEW DELHI

October, 2013/ Asvina, 1935 (Saka)

CP&NG No. 19

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Presented to Hon'ble Speaker, Lok Sabha on 18.10.2013

Presented to Lok Sabha on 10.12.2013

Laid in Rajya Sabha on 10.12.2013

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COMPOSITION OF THE STANDING COMMITTEE ON PETROLEUM & NATURAL GAS (2013-14)

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2	Shri Ramesh Bais
3	Shri Subhash Bapurao Wankhede
4	Dr. Mehboob Beg
5	Shri Sudarshan Bhagat
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31 Prof. Ram Gopal Yadav

SECRETARIAT

1.	Shri A.K.Singh	Joint Secretary
2.	Smt. Anita Jain	Director
3.	Shri H.Ram Prakash	Deputy Secretary

INTRODUCTION

I, the acting Chairman, Standing Committee on Petroleum & Natural Gas having been authorised by the Committee to submit the Report on their behalf present this Nineteenth Report on 'Allocation and Pricing of Gas'.

2. The Committee took evidence of the representatives of the Ministry of Petroleum & Natural Gas at their sittings held on 24.7.2013 and 20.08.2013.

3. The Report was considered and adopted by the Standing Committee on Petroleum and Natural Gas on 17th October, 2013 with the undersigned in the Chair, having been elected under Rule 258(3) of the Rules of Procedure and Conduct of Business in Lok Sabha for that sitting. I was authorized by the Committee under proviso to Rule 277(3) of the Rules of Procedure and Conduct of Business in Lok Sabha to sign and present this Report on their behalf.

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

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

New Delhi;
17 October, 2013
25 Asvina, 1935 (Saka)

SOMABHAI GANDALAL KOLI PATEL,
Acting Chairman,
Standing Committee on
Petroleum & Natural Gas.

CHAPTER I
INTRODUCTORY

Efficient and reliable energy supplies are a requirement for accelerating the growth of any developing economy. Of the various available sources of energy Natural Gas has emerged as a principle source of energy in the world energy consumption., Natural Gas primarily composed of Methane is an environment friendly energy source. It is one of the cleanest conventional fuel producing very low levels of green House gas emissions in comparison to other conventional sources. Natural Gas has found increasing usage in different sectors like power, automobile etc. As per predictions of International Energy Agency, the demand for Natural Gas will grow by approximately 43% through the year 2035.

1.2 While the energy needs of the country are expected to increase at a rapid rate in view of the high economic growth planned in the coming years, the resources that are indigenously available to meet the demand are limited and may not be sufficient in the long run to sustain. The Ministry of Petroleum and Natural Gas is mandated to take measures for exploration and exploitation of petroleum resources including natural gas and coal bed methane, and also distribution, marketing and pricing of petroleum products in the country.

Natural Gas – World Scenario

1.3 As per BP Statistical Review 2013, the estimated worldwide proven gas reserves are to the tune of 187 TCM with India sharing only 0.7% of these reserves i.e. 1.3 TCM. The world natural gas production has been pegged at 9216 mmscmd only with domestic production contributing 110 mmscmd approximately. The top ten Gas producing and consuming countries in the world are as under:

Top ten Gas producing countries in the world

"Rank as per production	Country's Name	Production in 2012 (BCM)	Production in 2012 MMSCMD
1	US	681.39	1866.81
2	Russian Federation	592.27	1622.67
3	Iran	160.50	439.73
4	Qatar	157.05	430.27
5	Canada	156.55	428.89
6	Norway	114.92	314.84
7	China	107.22	293.75
8	Saudi Arabia	102.80	281.64
9	Algeria	81.50	223.29
10	Indonesia	71.07	194.70"

Top ten Gas consuming countries in the world

Rank as per consumption	Countries	Consumption in 2012 (BCM)	Consumption in 2012 (MMSCMD)
1	US	722.1	1978.48
2	Russian Federation	416.2	1140.38
3	Iran	156.1	427.64
4	China	143.8	394.09
5	Japan	116.7	319.83
6	Saudi Arabia	102.8	281.64
7	Canada	100.7	275.90
8	Mexico	83.7	229.20
9	United Kingdom	78.3	214.48
10	Germany	75.2	206.13

1.4 The domestic Natural gas production in 2012-13 was about 40.68 Billion Cubic Meter (BCM) as against 47.56 BCM in 2011-12. The domestic overall energy mix is given below:

Indian Energy Sector: An overview

	World	Asia Pacific	India
Energy Consumption (MTOE) (2012)	**12476.6**	**4992.2**	**563.5**
Energy Mix %			
Oil	**33.11%**	**27.83%**	**30.45%**
Natural Gas	**23.94%**	**11.27%**	**8.71%**
Coal	**29.90%**	**52.26%**	**52.94%**
Nuclear Energy	**4.49%**	**1.56%**	**1.33%**
Hydro Electricity	**6.66%**	**5.79%**	**4.65%**
Renewable	**1.90%**	**1.28%**	**1.93%**

Source: BP Statistical review - 2013

1.5 The current Domestic gas production scenario and projections in the ongoing 12th Five Year Plan as provided by MoP&NG are as follow:

MMSCMD

"Source	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14 (Projected)
ONGC	22.486	23.109	23.095	23.316	23.55	23.44
OIL	2.269	2.415	2.352	2.633	2.64	2.739
Pvt./JV	8.09	21.985	26.774	21.609	14.49	12.271
Total (BCM)	32.845	47.51	52.22	47.56	40.68	38.45
Total (MMSCMD)	90	130.2	143.1	130	111.5	105.3

Projection of Natural gas production in 12th Plan period

	2012-13	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**Total**
	Actual	**BE**	**Plan**	**Plan**	**Plan**	**12th Plan**
ONGC	23.55	23.44	26.67	28.22	38.68	143.91
OIL	2.642	2.74	4.00	4.10	4.20	19.02
Pvt./JV	14.49	12.27	16.50	18.50	21.00	85.88
Total (BCM)	**40.68**	**38.45**	**47.17**	**50.82**	**63.88**	**248.81**
Total MMSCMD	**111.5**	**105.3**	**129.2**	**139.2**	**175.0**"	

1.6 The details of projected availability of gas in the current and ensuing year as furnished by MoPNG are as follows:

MMSCMD

"Source	**13-14**	**14-15**
Pre NELP /CBM	13.72	16.32
KG-D6*	18.22	16.53
ONGC	55	58
OIL	6.12	10
Total availability from domestic source*	**93.06**	**100.85**
Availability of R-LNG considering 100% regasification capacity utilization	71	81
Total Domestic + R-LNG	**164.06**	**181.85"**

* Domestic availability is less than production as some quantity is used in the production process & some quantity is flared due to technical reasons.

CHAPTER II

ALLOCATION OF NATURAL GAS

The natural gas available in India can be broadly divided into two categories, namely Domestic natural Gas and Imported natural gas.The domestic gas can be divided further into following sub categories:

1. APM & Non-APM gas available from Nominated blocks of NOCs.
2. Pre-NELP gas
3. NELP gas

2.2 The domestic gas is allocated to various sectors based on guidelines issued by the government from time to time; whereas in case of imported gas, the marketers free to purchase/sell the same. A statement showing allocation and supplies of different category of domestic gas is given in table produced below.

(Figures are in MMSCMD)

Gas Type	**Allocation**	**Supply During-2012-13**
APM (Firm + Fall-back)	119.4	49.58
Non-APM (Firm + Fall-back)	7.81	7.02
KG-D6 (Firm + Fall-back) (NELP)	93.336	25.74
PMT (Firm + Fall-back) (Pre-NELP)	17.73	9.02
Total	**238.276**	**91.36**

In addition to above 2.84 MMSCMD of domestic gas is supplied from other domestic sources

Sector wise demand

Sector	2012-13	2013-14	2014-15	2015-16	2016-17
Power	135	153	171	189	207
Fertilizer	55	61	106	106	106
City Gas	15	19	24	39	46
Industrial	20	20	22	25	27
Petrochemicals/ refineries/ Internal Consumption	54	61	67	72	72
Sponge Iron/ Steel	7	8	8	8	8
Total	286	322	398	439	466

2.3 The following table gives the consumption of gas by various sectors during the year 2012-2013.

Sl No.	Sector	APM	Non-APM	PMT	KG-D6*	Other Domestic	Total Domestic	R-LNG	Total Supply	% of Total Supply
1	Fertilisers	12.95	1.94	1.88	14.43	0.29	31.50	8.68	**40.18**	29.92%
2	Gas Based LPG plants for LPG extraction	2.65	0.00	0.80	2.47	0.00	5.92	0.51	**6.43**	4.79%
3	Power	20.87	3.83	2.53	8.38	1.91	37.52	5.02	**42.53**	31.68%
4	CGD	5.36	0.01	1.21	0.00	0.30	6.89	8.71	**15.59**	11.61%
5	Court mandated customer other than CGD	0.98	0.00	0.00	0.00	0.00	0.98	0.07	**1.05**	0.78%
6	Small consumers having allocation less than 50,000 SCMD	2.25	0.15	0.00	0.00	0.05	2.45	2.99	**5.45**	4.06%
7	Steel	1.10	0.00	0.00	0.00	0.00	1.10	3.45	**4.54**	3.38%
8	Refineries	1.13	0.73	0.00	0.00	0.00	1.87	7.31	**9.18**	6.84%
9	Petrochemicals	1.10	0.09	1.74	0.00	0.00	2.94	1.96	**4.90**	3.65%
10	Others	0.21	0.25	0.86	0.00	0.29	1.61	1.38	**2.98**	2.22%
11	Internal consumption - pipeline system	0.98	0.00	0.00	0.46	0.00	1.44	0.00	**1.44**	1.07%
Total		**49.58**	**7.02**	**9.02**	**25.74**	**2.84**	**94.20**	**40.07**	**134.28**	

A. <u>Allocation of natural gas produced from different fields.</u>

1. a. *Allocation of APM Gas from Nominated Blocks*
Gas Linkage Committee

2.4 In 1990, Ministry of Petroleum and Natural Gas formulated “Natural gas use policy” considering natural gas as a premium source of fuel and feedstock with a variety of competing demands. The potential demand of natural gas, to be used as fuel or feedstock, from various sectors, such as Fertilizer, Power, Sponge Iron, LPG, Industrial use, Petrochemicals, etc. was considered. To rationalise the allocation of gas without any discrimination on the basis of sector/ region, Government of India constituted the

Gas Linkage Committee (Committees of Secretaries) in July, 1991.This Committee was represented by various user departments, namely, Power, Fertiliser, Steel, Chemical and Petrochemicals and representatives from Planning Commission, Department of Economic Affairs, Department of Expenditure (Ministry of Finance) and three national oil and gas companies, namely, GAIL, ONGC and Oil India Limited. Considering the demand, availability and imputed economic value of natural gas in various sectors,GLC decided to allocate natural gas to various sectors on 'firm basis' and "fall back basis".The concept of "Fallback allocations" has been made to optimally use the temporary surplus gas in the system. As there was no further APM gas available for allocation to new consumers, GLC was wounded up on 9.11.2005.

b. Allocation of Non-APM Gas from Nominated Blocks:

2.5 In 2010 cabinet has given freedom to NOCs Viz., ONGC and OIL to sell production from new fields in their nominated blocks at non-APM rate approved by the Government. Accordingly,MoPNG, on 28.10.2010, formulated a policy on pricing and commercial utilization of non-APM gas produced by NOCs. As per the policy, the Non-APM gas is to be allocated as per following priority:

i) Gas-based fertilizers plants
ii) LPG plants
iii) Power plants supplying to the grid
iv) City Gas Distribution systems for domestic &transport sectors
v) Steel, refineries & petrochemicals plants for feedstock purposes
vi) City Gas Distribution systems for industrial & commercial customers
vii) Any other customers for captive & merchant power, feedstock or fuel purposes.

While maintaining the sectoral priority as indicated above, preference in allocation is given to APM short fall before meeting new demand .Within a sector, priority is accorded to region where gas is produced. The policy of allocation of Non-APM gas is presently under review.

c. Allocation from Small & Isolated Fields of NOCs

2.6 Government had come out with guidelines for selection of customers for domestic gas available from small/ isolated fields on 16.01.2012 in line with policy on pricing and commercial utilization of non-APM gas produced by NOCs dated 28.10.2010.NOCs were given freedom to allocate gas from small discoveries whose peak production was less than 0.1 MMSCMD. This ensured that gas was allocated to customers expeditiously resulting in early monetization of gas. Based on the experience after issue of guidelines and the issues raised by various stakeholders as well as keeping intact the initial goal of the policy aimed at early monetization of gas, the guidelines dated 16.01.2012 have been reviewed and new guidelines for selection of customers for domestic gas available from small/ isolated fields have been issued on 08.07.2013.According to the revised guidelines, there is no sectoral priority and the existing as well as new customers are to be treated equally for allocation of gas. In case of additional availability of gas after providing for gas supplies to the existing customers, the additional gas has to be allocated through open competitive bidding to be carried out by National Oil Companies viz., ONGC & OIL. The bids have to be based on the price and have to be awarded to the highest bidder.

2. Pre NELP-Gas:

2.7 Pre NELP blocks are the blocks where discoveries were made by NOCs and were auctioned to private sector E&P companies to overcome funding constraints and lack of advanced technologies. In pre-NELP PSCs, there is a provision for government to appoint a nominee for purchasing the gas from the producers and marketing it. GAIL has been appointed the government nominee in PMT fields and Ravva fields. GAIL has been marketing this gas under the directions of the government. The producers, in rest of pre-NELP blocks, sell the gas as per the terms of PSCs.

3. NELP- Gas:
EGoM – Gas Utilization Policy

2.8 The Government under New Exploration Licensing Policy (NELP) auctioned blocks to private investors and NOCs to provide them level playing field by extending same fiscal and contract terms and accordingly several gas discoveries have been made under the IX rounds of NELP conducted so far. Under NELP contracts, freedom

has been given to the contractor to market gas subject to allocation made by the government under its policy on utilization of natural gas. The government has constituted an Empowered Group of Ministers (EGoM) to take decisions on utilization of gas produced under NELP blocks (including KG-D6).

2.9 The EGoM has decided the following principles for allotment of natural gas:-

i) As a matter of general policy, natural gas produced/imported in the country should be stripped of its higher fractions, subject to availability, to ensure maximum value addition before supply to consumers.

ii) The following guidelines for sale of natural gas by NELP contractors are approved:-

a) Contractors would sell gas from NELP to consumer in accordance with the marketing priorities determined by the Government. The sale would be on the basis of formula for determining the price as approved by the Government.
b) Consumers belonging to any of the priority sectors should be in a position to actually consume gas as and when it becomes available. So the marketing priority does not entail any 'reservation' of gas. It implies that in case consumers in a particular sector, which is higher in priority, are not in a position to take gas when it becomes available, it would go to the sector which is next in order of priority.
c) In case of default by a consumer under a particular priority sector and further in the event of alternative consumers not being available in the same sector, the gas will be offered by the contractor to other consumers in the next order of priority.
d) The priority for supply of gas from a particular source would be applicable only amongst those customers who are connected to existing pipeline network connected to the source. So, if there is a marginal or small field that is not connected to a big pipeline network, then the contractor would be allowed to sell the gas to consumers who are connected or can be connected to the field in a relatively short period (of say three to six months).

The E-GoM decided to allot gas in the following order of priority:-

i) Existing gas-based urea plants
ii) Existing gas-based LPG plants
iii) Existing grid-connected and gas-based power plants
iv) City Gas Distribution (CGD) network for domestic & transport sectors

v) Subsequently in view of the increased availability of gas, the EGoM also took a decision to supply gas to steel, petrochemicals & refineries for feedstock purposes, CGD networks for industrial & commercial customers, other gas-based fertilizers plants and to captive power plants.

2.10 On being asked about the guiding factors behind fixing priorities of different sectors in gas allocation, the Ministry in a reply stated as below:

The sectoral priority for allocation of domestic gas has been formulated to serve the larger public interest as explained below.

(i) India is the second largest consumer of fertilisers in the world, only after China. Department of Fertilizers has informed that we are almost completely dependent on import of supply of phosphatic and potassic fertilisers due to non-availability of resources within the country. Nitrogen is the only nutrient where the country can achieve near self-sufficiency. Out of our total requirement of about 30 million tonnes, 8 million tonne of urea is imported. Out of total domestic production of 22 million tonnes, only 14 million tonnes is produced using domestic gas, the balance being produced using imported LNG and naphtha. Fertilizer industry plays a vital role in the development of Indian agricultural sector. Agriculture provides a crucial link between, rural, industrial and service sectors of the economy.

The EGoM in its meeting held on 28.5.2008 decided that the existing gas-based urea plants getting gas below their full requirement, would be supplied gas so as to enable full capacity utilization. 1 (one) mmscmd of gas enables production of around 0.5 mmtpa of Urea. The alternative to production of urea using domestic gas is to import urea at a much higher cost or to produce the same using expensive RLNG. India is importing more than 26% of its urea requirement of about 30 million MT. The current average cost of imported urea is Rs. 22,935/ MT excluding customs duty, handling and bagging. The cost of production of urea using imported R-LNG is more than Rs.30,000/MT. The cost of production of urea using the current mix of domestic and imported gas is only about Rs. 11,110/ MT. Fertiliser subsidy according to revised budget estimate for 2011-12 was Rs. 70013 crore. As the end price of Urea is regulated, any increase in quantum of imports will lead to increase in subsidy and put extra burden on exchequer. The highest priority for Fertilizer sector in supply of domestic gas fulfils the twin objectives of self-sufficiency in fertilizers and a lower subsidy burden for the Government.

(ii) Domestic LPG is a subsidized product. The country is not self-sufficient and has to rely on imports for meeting the domestic demand. Any disruption in supplies of LPG could lead to a public outcry. Further, the EGoM has also decided that higher fractions should be extracted first and only the lean gas should thereafter be supplied to other sectors. Hence, the high priority for the LPG sector.

(iii) Production of additional power would lead to downstream benefits in terms of externalities that would be generated due to additional power being available to the economy. Gas based combined cycle power plants are not only more efficient, they also result in much lower emissions. Based on new gas discoveries many such gas based power plants were shortlisted. These power plants have been supplying their entire power generated using domestic gas to the Discoms at regulated tariff. Hence, the Power sector was given high priority, next only to fertilizer & LPG sectors.

At present, the installed capacity of gas based power plants in the country is 18,713 MW having a total requirement of 72 MMSCMD of gas to operate at 70% to 75% PLF (75% PLF for projects of Andhra Pradesh and 70% PLF for others, with projects in Rajasthan and North-East requiring more gas to operate due to low calorific value of gas available). Against this requirement, the actual supply to these power plants in March, 2013 was about 27 MMSCMD only, resulting in significant shortfall of gas. This is just sufficient to operate these power plants at an average PLF of about 29%. Moreover, gas based power plants of around 8,000 MW are at various stages of completion. However, these projects have not been allocated any gas due to the falling production of KGD6 field; resulting in additional stranded capacity, with an investment of Rs. 40,000 crore at the risk of becoming non-performing assets. The decline of gas based generation, besides affecting bank exposure, will also affect economic development, especially of the power starved Southern region.

(iv) Both Compressed Natural Gas (CNG) and Piped Natural Gas (PNG) are clean fuels and are safer & more convenient than the presently used fuels. Hence, priority was given to transport & domestic segments of City Gas Distribution (CGD) projects. This is in conformity with the judgment of Supreme Court in M.C. Mehta case which directed as under:-

"The Union of India will give priority to transport sector including private vehicles all over India with regard to the allocation of CNG. This means that first the transport sector in Delhi, and in the other air polluted cities of India, CNG will be allocated and made available and it is only thereafter if any CNG is available, that the same can be allocated to the industries, preference being shown to public sector undertakings and power projects."

While the above four sectors, taken together, are being considered as 'core sector', CGD (transport and domestic) has been accorded priority after Fertilizer, LPG and Power (to discoms) as any increase in final price of CNG and PNG due to increase in the input price of gas, can be passed on to the consumers and therefore, entails no subsidy burden.

(v) The other sectors such as Steel, Petrochemicals, refineries, Industrial & Commercial consumers etc., have been placed after CGD (CNG &Domestic PNG) sector as they are better placed to respond to the market price of inputs.

2.11 In this regard, the Secretary, MoP&NG during the briefing sitting on the subject apprised the Committee as stated under:

"In respect of gas allocation the real problem right now is that for power sector gas allocation is falling to zero. So, existing gas based power plants are stranded and some new capacity, which has been created, also is not getting any allocation. So, the Power Ministry wants some of the gas to be shifted from fertilizers to power plants. That is what EGOM is considering".

2.12 When enquired further as to whether any cost benefit analysis regarding the interfuel substitution i.e. from gas to coal and vice-versa in respect of the power plants has been done, the Secretary, MoP&NG deposed before the Committee as under:

> "There is no cost analysis. But these are gas based plants and they cannot apparently be switched to coal. It requires a lot of investment. It may not be such a simple operation but we may look into this".

2.13 As regards, the recent decisions taken by Government/MOP&NG pertaining to the allocation of gas, the following information has been submitted:

> "Government / MoP&NG have taken following decisions recently regarding allocation of natural gas:
>
> - New guidelines for selection of customers for domestic gas available from small/ isolated fields have been issued on 08.07.2013.According to the revised guidelines, there is no sectoral priority and the existing as well as new customers are to be treated equally for allocation of gas. In case of additional availability of gas after providing for gas supplies to the existing customers, the additional gas has to be allocated through open competitive bidding to be carried out by National Oil Companies viz., ONGC & OIL. The bids have to be based on the price and have to be awarded to the highest bidder.
> - Policy on pricing and commercial utilization of non-APM gas produced by NOCs dated 28.10.2010, is presently under review.
> - Due to consistent decline of KG-D6 gas, the supply to power sector has become zero from March-2013. In view of the above, Ministry of Power has requested Ministry of Petroleum & Natural Gas to accord equal priority to fertilizer &power sectors for allocation of domestic gas. Ministry of Petroleum & Natural gas has accordingly placed an agenda before EGoM to reconsider the change in inter-se priority amongst core sectors for allocation of NELP gas.
>
> The Government on 27th June, 2013 approved the natural gas pricing guidelines, 2013 on fixation of price of domestically produced natural gas for a period of five years with effect from 01.04.2014".

2.14 On being enquired as to why there are different allocation mechanisms for gas produced from different fields, the Ministry's reply informed as stated below:

> "The allocation mechanism has evolved over a period of time. The allocation guidelines, at different points in time, have been made pursuant to recommendations made by Committees/GoMs and Court directives. Further, while deciding the priorities for allocation of domestic gas, factors such as demand from various sectors, public good, infrastructure constraints, availability of gas and the ability of the sector to enable pass through of the gas price have been kept in mind.

Initially, gas was not a popular fuel when compared to other liquid fuels and at times was also being flared. APM gas allocations were decided by the Gas Linkage Committee (GLC). The GLC made allocations for different consumers based on the requests received, the recommendations of the concerned Ministries, availability of pipeline infrastructure and the supply level of gas. Power and fertilizer sectors were given priority for allocation of domestic gas. As there was no further APM gas available for allocation, the GLC was wound up on 9.11.2005. Thereafter, pro-rata cuts across sectors were imposed in view of declining supply of APM gas.

Contractors of pre-NELP blocks sell their gas as per the provisions of their Production Sharing Contracts.

Gas from NELP blocks is allocated by the Empowered Group of Minsters (EGoM) for "Pricing and commercial utilization of gas produced under NELP blocks". The sectoral priority for allocation of NELP gas has been decided by the EGoM. However, with declining availability of KGD6 gas the MoP&NG initially introduced pro-rata cuts across sectors between July 2010 and March 2011. Since the production continued to decline, MoP&NG enforced a priority cut in the following order-non-core sector, CGD, power, LPG and fertilizer. The reverse priority cut order was issued by MoP&NG on 30.3.2011 and implemented w.e.f. 9.5.2011. This was also brought to the notice of EGoM in its meeting held on 24.2.12. The reverse cut had been imposed to enable supply of NELP gas to the core sector, since any shortfall in the core sectors like fertilizer, power and LPG would have had a direct impact on the subsidy burden of the Government. Since output product prices of the non-core sector were market determined, it was possible for the non-core sector consumers to switch over to usage of RLNG and pass the impact of higher input costs to their customers. Further, since the KGD6 gas was a single supply source, connected to a network of high pressure pipelines, it was possible to enforce the reverse cut for the customers connected to these pipelines. Implementation of reverse cut in case of APM gas would have been difficult in view of multiple sources of gas, some of which were not connected to the main pipeline grid.

The sectoral priority for allocation of non APM gas, produced from nominated blocks of National Oil Companies, is broadly in line with the sectoral priority that has been approved by EGoM for NELP gas. However, in case of non APM gas there are problems when gas produced in certain areas is not at sufficient pressure. Such gas cannot be pumped in the trunk pipelines and is therefore necessarily required to be distributed locally".

(B) Production and Allocation of KG –D6 Gas

2.15 Under NELP block, major gas discovery was made in KG basin promising huge gas deposits underneath. When asked about the quantum of gas produced from KG-D6 block since the commencement of commercial production, the Ministry submitted the following details:

"The details of projection of natural gas production from the block KG-DWN-98/3 and actual production are as under:

Year	Natural Gas (D1, D3 & MA)	
	Planned Production as per approved FDP (MMSCMD)	Actual Production (MMSCMD)
2008-09	2.52	0.37
2009-10	33.83	41.38
2010-11	62.10	55.89
2011-12	70.38	42.655
2012-13	86.73	26.18

Note: Current natural gas production is about 14.73 MMSCMD"

2.16 Asked about the criteria being followed in distributing gas produced from KG-D6 block, the Ministry furnished following information:

"Empowered Group of Ministers (EGoM) for pricing and commercial utilization of gas under New Exploration Licensing Policy (NELP) in its meeting held on 28.5.2008 has approved the following guidelines for sale of natural gas by NELP contractors including KG-D6

i) Contractors would sell gas from NELP to consumers in accordance with the marketing priorities determined by the Government. The sale would be on the basis of formula for determining the price as approved by the Government.

ii) Consumers belonging to any of the priority sectors should be in a position to actually consume gas as and when it becomes available. So the marketing priority does not entail any 'reservation' of gas. It implies that in case consumers in a particular sector, which is higher in priority, are not in a position to take gas when it becomes available, it would go to the sector which is next in order of priority.

iii) In case of default by a consumer under a particular priority sector and further in the event of alternative consumers not being available in the same sector, the gas will be offered by Contractor to other consumers in the next order of priority.

iv) The priority for supply of gas from a particular source would be applicable only amongst those customers who are connected to existing and available pipeline

network connected to the source. So if there is a marginal or small field that is not connected to a big pipeline network, then the Contractor would be allowed to sell the gas to customers who are connected or can be connected to the field in a relatively short period (of say three to six months).

v) The priority would not impact the process of price discovery whenever it is undertaken, as all the customers would participate in the price discovery process and would be eligible for utilizing natural gas subject to priority.

vi) Since the supply situation is expected to increase substantially in the near future in view of increased availability from domestic sources and imported gas (LNG/ transnational pipelines), these guidelines would be applicable for the next 5 years after which they would be reviewed.

2.17 Due to consistent decline of KG-D6 gas, the supply to power sectorhas become zero from March-2013. In view of the above, Ministry of Power has requested Ministry of Petroleum & Natural Gas to accord equal priority to fertilizer &power sectors for allocation of domestic gas. Ministry of Petroleum & Natural gas has accordingly placed an agenda before EGoM to reconsider the change in inter-se priority amongst core sectors for allocation of NELP gas.

2.18 On being asked about the reasons for declining gas production from RILs KG-D6 block and action taken to mend the situation, the Ministry provided following information:

"The decline in gas production from KG-D6 block is due to the following reasons:

i. Out of a total 18 gas producer wells in D1 & D3 fields, 9 wells have ceased to produce gas due to water loading/sand ingress in wellbores.
ii. Out of a 6 oil/gas producer wells in MA field, 2 oil/gas producers have ceased to flow oil/gas due to water ingress in wellbores.
iii. Non drilling of the required number of gas producer wells in D1 & D3 fields by the Contractor in line with the Addendum to Initial Development Plan **(AIDP)** approved by the Management Committee **(MC).**

Further, the **Contractor has submitted the following reasons** for less gas production as compared to AIDP of D1 and D3 fields:

i. Substantial variance in reservoir behavior and character has been observed vis-à-vis the prediction, and there seem to be reservoir constraints in achieving the gas production rates.
ii. Pressure decline is several times higher than originally envisaged.
iii. Early water production in some of the wells was not predicted in initial reservoir simulations, though overall field water production is small.

The following **corrective measures have been taken to increase natural gas** production in KG-DWN-98/3 (KG-D6) block:

i. The Contractor has been asked to drill, complete and connect more producer wells and undertake appropriate remedial measures to revive the sick wells in D1, D3 and MA fields in this block.

ii. The Contractor's proposal to install compressor at Onshore Terminal to increase gas recovery from D1 & D3 fields has been approved by the Management Committee **(MC).**
iii. Revised Field Development Plan **(RFDP)** of MA field has been approved by the MC.
iv. The Optimized Field Development Plan **(OFDP)** of another 4 gas discoveries (D-2, 6, 19 & 22) has been approved by MC.
v. The Declaration of Commerciality (DoC) of gas discovery D-34 has also been reviewed by MC. The Field Development Plan (FDP) of D-34 gas discovery has been submitted, which is under examination.

Further, since the gas production from D1 & D3 fields were much less than the production rates approved in the Field Development Plan (FDP). The Contractor had set up production facilities (in a cost recoverable manner) for approved production of 80 MMSCMD, but he failed to adhere to the approved Field Development Plan both in terms of gas production rate as well as drilling and putting on stream the required number of wells, even after repeated reminders. The Government, in May, 2012, issued notice for proportionate disallowance of cost of production facilities amounting to US $ 1.005 Billion up to 2011-12. The issue is currently under arbitration".

2.19 Observing the consistent and considerable drop in gas production from KG-D6 block over last few years, the Committee enquired as to whether the contractor is committed under PSC for minimum work programme or PSC is silent on issues regarding fulfilling the committed targets. In its written submission, the Ministry provided following information:

"The assessment of reserves and projections of oil/gas production profile over a field life is the best possible estimates made by the Contractor based on geological, geophysical, reservoir and well test data etc. available at the time of preparing the Field Development Plan (FDP). Once the field commences commercial oil/gas production, the real-time reservoir and production data is gathered and analyzed to compare with the FDP projections. The reasons for drop in production in KG-D6 block have been furnished in para 2.18.

In general, depending on the geological and reservoir surprises, there may be deviations between the actual production and projected production rate, either upside or downside. Keeping in view this aspect, PSC has also provides for submission of revised FDP by the Contractor for approval by the Management Committee **(MC).**

The procedures and norms for approval of **(FDP)** Field Development Plan and Annual Work Programme and Budget are well defined in the PSCs. Further, it may be mentioned that the reservoir and production performance of a field is monitored regularly and Contractors are asked by the Management Committee **(MC)** to take suitable remedial measures, in case there is a fall in production.

In the instant case of falling gas production from D1 & D3 fields in KG-DWN-98/3 (KG-D6) block, the actual gas production is considerably less than the rate envisaged in the approved field development plan and the Contractor has been repeatedly asked to drill more wells and adopt other remedial measures such as well workovers etc. to increase the production rate to the level of approved FDP.

The PSC prohibits procurement of inventory (including production facilities) in excess of efficient and economic operation. Section 3.1.8 (i) of PSC of KG-D6 block states as follows:

> So far as is practicable and consistent with efficient and economical operation, only such material shall be purchased or furnished by the Contractor for use in the Petroleum Operations as may be required for use in the reasonably foreseeable future and the accumulation of surplus stocks shall be avoided. Material and equipment held in inventory shall only be charged to the accounts when such material is removed from inventory and used in Petroleum Operations. Costs shall be charged to the accounting records and books based on the "First –in-First-out method.

In KG-D6 block, the production facilities have been created in excess of actual production. Hence action has been taken for cost disallowance of such excess production facilities".

2.20 DGH is entrusted with certain responsibility concerning promotion of investment and monitoring of E&P activities including review of reservoir performance of major fields, when asked in this connection, as to whether DGH has enough technical man power to independently assess and verify the claims of operators / contractors, the Ministry in a written submission provided as under:

> "DGH is manned by persons on deputation from various oil PSUs, mainly from ONGC and OIL. A majority of these persons have more than 10 years of field experience in their respective organizations and are well versed in their respective domains like geology, geophysics, drilling, production, finance, materials management etc.
>
> In addition, DGH has the power to engage internationally renowned consultants on need basis who are appointed on the basis of their vast knowledge and experience in specific areas. These consultants offer advice on matters related to respective areas of specialization. DGH also solicits the services of reputed third party organizations, as per requirement, to assess the technical proposals of the contractors.
>
> DGH has most of the relevant software required to assess the oilfield parameters in terms of Geology and Geophysics (G&G) and Reservoir Engineering.
>
> Over the years, DGH has been reviewing, assessing and verifying several technical submissions of the contractors under Production Sharing Contract

(PSC) regime. Clarificatory technical meetings with the contractors are also held as and when required to clarify technical issues for evaluation of proposals".

2.21 Asked to elaborate the cost penalty imposed so far on the contractor for not being able to adhere to the committed gas production target, the Ministry stated as mentioned below:

"In case of KG-DWN-98/3 (KG-D6) block, operated by M/s Reliance Industries Ltd., the gas production from D1 & D3 fields was less than the production rates approved in the AIDP. The Contractor had set up production facilities (in a cost recoverable manner) for approved production of 80 MMSCMD, but he failed to adhere to the approved Field Development Plan both in terms of gas production rate as well as drilling and putting on stream the required number of wells, even after repeated reminders.

Government issued notice to RIL on 2nd May, 2012 informing that the cumulative cost of US$1.005 billion upto 2011-12 (which are provisional and subject to verification and finalization by the Government) is inadmissible. RIL has initiated Arbitration Proceedings disputing the contents of the above notice and appointed Justice Mr. S.P. Bharucha former Chief Justice of India as their Arbitrator. Government has appointed Justice Mr. V.N. Khare, former Chief Justice of India. The Arbitration Proceedings are yet to commence".

2.22 A representative of MoP&NG during the submission made before the Committee stated the following:

"Since the production started going down, DG (H) commissioned a study by one expert, Shri Gopalakrishnan. He has examined the data from the fields. He has concluded that the reserves as was estimated earlier, that is around 10 TFC, are still available, but because of certain reasons, certain development processes some of the wells have got damaged and as a result the wells have to be immediately rectified by taking remedial action as well as by drilling of more wells, he has concluded that, the production can go up. Based on that report and various other things, last year we have disallowed the cost recovery for the contractor".

2.23 Elaborating further , the official explained :

"It is not penalty as such. They said that there is so much of gas and they spent money to recover that gas for the development process but they did not do that. So, we proportionately disallowed the cost of development. So, now only when they produce they will be eligible for that. Default is punishable only by termination of the contract. There is no other remedy".

2.24 When enquired about the details of cost break up of the investments made by the operator in development of KG-D6 block and thereupon the total cost disallowed by MoP&NG as a penalty measure, the Ministry furnished following information:

"The details of the expenditure incurred by the operator for exploration, development and production in KG-DWN-98/3 (KG-D6) block are as under:

Year	Expenditure incurred in US$ Million
Upto 2001-02	11.44
2002-03	122.19
2003-04	59.65
2004-05	95.15
2005-06	183.42
2006-07	378.23
2007-08	3,145.37
2008-09	2,744.28
2009-10	1,929.29
2010-11	804.46
2011-12	532.27
2012-13*	458.40
Total	10,464.15

*Based on unaudited accounts

The details of the Cost Petroleum considered for recovery in KG-DWN-98/3 (KG-D6) block are as under:

Year	Cost Petroleum Considered for recovery in US$ Million
2008-09	53.88
2009-10	2,076.43
2010-11	3,279.16
2011-12	2,566.03
2012-13*	457.52
Total	8,433.02

*Based on unaudited accounts

Gas production from D1 & D3 fields was much less than the production rates approved in the AIDP. The Contractor had set up production facilities (in a cost recoverable manner) for approved production of 80 MMSCMD, but he failed to adhere to the approved Field Development Plan both in terms of gas production rate as well as drilling and putting on stream the required number of wells, even after repeated reminders. The Government, in May, 2012, issued notice for proportionate disallowance of cost of production facilities amounting to US $ 1.005 Billion up to 31.03.2012. The issue is currently under arbitration".

C. Statewise Gas production and allocation

2.25 Asked about the state-wise details regarding the quantity of natural gas produced in the country for the last 5 years, the following details were submitted:

The natural gas production in the country from 2008-09 to 2012-13 is as under: (2nd reply q.1(i))

Natural Gas Production

(Million Cubic Meters)

State/Source	2008-09	2009-10	2010-11	2011-12	2012-13
Onshore					
Gujarat	2605	2445	2261	2172	2032
Assam/Nagaland	2573	2703	2684	2904	2910
Andhra Pradesh	1524	1479	1384	1364	1248
Tamil Nadu	1242	1178	1119	1285	1206
Tripura	553	562	610	644	647
Rajasthan	216	238	432	590	685
Arunachal Pradesh	30	39	44	40	41
CBM-WB, MP, Jharkhand	20	38	41	84	107
Total Onshore	8763	8682	8575	9083	8876
Share of PSU	8021	8047	7856	8384	8085
Share of Private/JV	742	635	719	699	791
Offshore					
Share of PSU	16736	17476	17591	17565	18102
Share of Private/JV	7348	21350	26055	20910	13700
Total Offshore	24084	38826	43646	38475	31802
Grand Total	32847	47508	52221	47558	40678

2.26 The state wise allocation of natural gas furnished by MoP&NG from 2008-09 to 2012-13 is as follows:

20

Natural Gas Allocation

(MMSCMD)

State	2008-09	2009-10	2010-11	2011-12	2012-13
Andhra Pradesh	18.03	27.92	29.02	29.02	29.02
Assam	7.52	7.52	7.52	7.52	7.52
Delhi	8.52	10.47	12.28	12.28	12.18
Gujarat	35.01	60.02	61.37	61.37	61.37
Haryana	2.76	4.64	4.78	4.78	4.78
Madhya Pradesh	6.12	6.98	7.71	7.71	7.67
Maharashtra	23.57	32.10	35.14	35.14	35.14
Pudduchery	0.76	0.76	0.76	0.76	0.76
Rajasthan	8.08	8.44	8.58	8.58	8.58
Tamil Nadu	5.39	5.39	5.39	5.39	5.39
Tripura	10.18	10.18	10.18	10.18	10.18
Uttar Pradesh	28.25	31.23	32.14	32.14	32.14
I/C for Pipeline	1.55	1.55	1.55	1.55	1.55
Total	**155.73**	**207.19**	**216.41**	**216.41**	**216.27**

The above allocation doesn't include 12 MMSCMD & 10 MMSCMD KG-D6 gas allocated to power plants & captive power plants respectively on fallback basis, as plant specific allocations have not been done.

2.27 The Committee sought to be apprised of the State-wise break-up of gas allocated to different sectors , the Ministry provided following reply:

The current State and sector wise allocation of gas is as follows:

(Figures in mmscmd)

State	Power	Fertilizers	CGD	LPG	Court Mandated	Small Consumer	Steel	Refineries	Petro Chemicals	Others	I/C for Pipeline	Total
Andhra Pradesh	23.39	4.53	0.62	0.00	0.00	0.34	0.00	0.00	0.00	0.14	0.00	**29.02**
Assam	2.69	2.17	0.01	0.35	0.00	0.08	0.00	1.31	0.13	0.78	0.00	**7.52**
Delhi	6.05	0.00	2.61	0.00	0.00	0.00	0.00	0.00	3.52	0.00	0.00	**12.18**
Gujarat	20.74	11.25	3.99	1.23	0.00	3.13	6.31	8.98	4.77	0.98	0.00	**61.37**
Haryana	2.75	0.00	0.51	0.00	0.00	0.00	0.00	1.52	0.00	0.00	0.00	**4.78**
Madhya Pradesh	0.57	4.56	0.02	2.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**7.67**
Maharashtra	15.23	9.68	2.97	0.88	0.00	0.05	3.64	1.20	1.35	0.15	0.00	**35.13**
Pudduchery	0.50	0.00	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.00	**0.76**
Rajasthan	4.72	3.85	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**8.58**
Tamil Nadu	5.20	0.00	0.00	0.06	0.00	0.13	0.00	0.00	0.00	0.00	0.00	**5.39**
Tripura	7.65	2.40	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**10.18**
Uttar Pradesh	7.62	15.74	0.95	2.86	1.06	0.00	0.00	1.97	1.95	0.00	0.00	**32.14**
I/C for Pipeline	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.55	**1.55**
Total	**97.11**	**54.18**	**11.81**	**7.88**	**1.06**	**4.00**	**9.95**	**14.98**	**11.72**	**2.05**	**1.55**	**216.27**

The above allocation doesn't include 12 MMSCMD & 10 MMSCMD KG-D6 gas allocated to power plants & captive power plants respectively on fallback basis, as plant specific allocations have not been done.

2.28 As seen from above, most of the States have received increased quota of natural gas since 2009-10 viz., Andhra Pradesh, Gujarat, Haryana etc. However, the allocation has remained static for States like Assam, Pudduchery, Tamilnadu and Tripura when asked about the specific reasons for such variation, the Ministry submitted as under:

> "After 2009-10 additional domestic gas was only available from KG-D6 and Non-APM fields of ONGC in Western region. These fields don't have pipeline connectivity with the States of Assam, Pudduchery, Tamil Nadu and Tripura. Hence, additional gas could not be allocated to these States".

2.29 When asked as to whether the geographical location of any oil/gas producing asset influences the allocation criteria of Government, the Ministry apprised as under:

> "The geographical location of any oil/gas producing asset (onshore, offshore, deep water, and inland) does not influence the allocation criteria of Government. However, EGoM has allocated KG-D6 gas to power plants in Andhra Pradesh (gas was produced in offshore fields, off the Andhra Pradesh coast) at 75% Plant Load Factor (PLF) whereas power plants outside Andhra Pradesh have been allocated KG-D6 gas to operate at 70% PLF.No other regional preference is accorded in case of NELP gas (from KG-D6 currently) since the source is well connected to pipelines and can be distributed through a wide network of high pressure gas pipelines.
>
> However, in case of non APM gas produced from the nominated fields of NOCs, that becomes available in small quantities from time to time, gas is allocated in such a manner that while maintaining sectoral priority the demand for the region where gas is produced is met first before meeting the demand for the same sector in other regions".
>
> The non-APM gas allocation policy is currently under review.

2.30 When specifically asked as whether there is any policy or guidelines in formulation for allocating a definite share of offshore gas to producing States, the Secretary MoP&NG informed the Committee as under:

> "There is no such policy and there has been no such discussion also in the Government so far on this subject because the gas that we are talking about is all off-shore gas and off-shore gas belongs to the Government of India. So, the Government of India decides how to allocate it. On-shore and off-shore are different. There is some distinction".

D. Royalty Payments on Production of Oil and Gas

2.31 Asked about the rates of royalties paid on production of crude oil and natural gas on onland shallow water and sdeepwater producing assets ,the Ministry furnished following reply:

> "The royalty payment on production of crude oil and natural gas is governed by the Oilfields (Regulation & Development Act, 1948 and P&NG Rules, 1959 framed there under. As per the Legislative provisions, royalty on production from onland areas is payable to the concerned State from where the production is obtained and royalty on production from offshore areas is payable to the Central Government.

Royalty rates on crude oil production and natural gas production

Royalty rates vary in nomination and Production Sharing Contract (PSC) regime. PSC regime may further be sub divided into three regime viz., NELP regime, Discovered field regime and pre-NELP exploration PSCs. Royalty rates on crude oil production are as under:

	Nomination/ Pre NELP PSCs	**NELP PSCs**	**Discovered fields PSC**
Onland	20% of well head price on cum-royalty basis	12.5% of well head price on ex-royalty basis	The rates of royalty wereRs.481 per MT for first round and Rs.528 per MT for second round respectively in the discovered fields as stipulated under the PSCs. However, State Governments are taking royalty based on ORDA and P&NG Rules and the additional royalty (difference between the rates as per PSC and 20% of well head price on crude oil production) is being paid by OIDB.
Shallow water	10% of well head price on cum-royalty basis	10% of well head price on ex-royalty basis	
Deepwater	5% of well head price for 1st 7 years and 10% thereafter on cum-royalty basis	5% of well head price for 1st 7 years and 10% thereafter on ex- royalty basis	

Royalty rates on natural gas production are 10% of well head value for onland and shallow water areas applicable uniformly for all regimes i.e. nomination, pre-NELP, discovered fields and NELP regimes. In deepwater areas under NELP, royalty of 5% of well head price for first 7 years and 10% thereafter on ex-royalty basis is applicable."

2.32 On being queried about the reasons for different royalty rates for onshore and offshore production , a Ministry representative reasoned as under:

"Rates are different because the off-shore production involves much more development cost. Both the exploration and development in off-shore is a very costly business. For example, the difference can be almost ten times for drilling of an on-shore and off-shore well. So, in order to incentivise production from the off-shore area, the royalty rates have been kept at a lower level in the off-shore production."

(i) Royalty on Onshore Production

2.33 On being enquired about the royalties being paid to State Governments on production of gas from various onshore fields, the Ministry provided following details:

"The royalty paid by ONGC, Oil and Pvt./JV companies to the State government on crude oil & gas production:

ONGC

(Rs crore)

	2008-09	**2009-10**	**2010-11**	**2011-12**	**2012-13**
Gujarat	726.36	1,475.66	917.31	1,584.17	975.65
Assam	399.58	391.64	388.81	541.73	410.02
Tamil Nadu	127.59	139.78	183.42	255.77	261.03
Andhra Pradesh	92.09	127.41	126.87	187.19	100.68
Tripura	9.27	9.52	28.89	35.55	39.70
Rajasthan	0.19	120.88	1,843.54	3,560.08	5,082.62
Jharkhand	-	0.02	0.11	0.27	0.21
Total states	**1,355.07**	**2,264.91**	**3,488.95**	**6,164.76**	**6,869.90**

OIL

As far as Oil India Limited (OIL) is concerned, the details of state wise royalty paid in last five years for oil and gas are as under:

(Rs. crore)

	Assam	**Arunachal Pradesh**	**Rajasthan**
2008-09	986.53	3.77	3.15
2009-10	1071.08	7.57	3.19
2010-11	1137.76	3.75	3.88
2011-12	1338.11	1.13	6.35
2012-13	1316.48	7.56	6.16

Pvt/JV

The royalty payments in last five years on production of crude oil and natural gas byPvt/JV companies are as under:

(Rs crore)

State	Assam	Rajasthan	Arunachal	Gujarat	Total
2008-09	11.73	-	27.16	71.15	110.05
2009-10	6.36	121.62	33.95	70.5	232.42
2010-11	6.14	1833.02	38.08	60.94	1938.18
2011-12	-	3559.54	53.56	78.91	3692.01
2012-13	-	5078.03	64.49	83.39	5225.91

(2nd reply q.3(i)

(ii) Royalty on Offshore Production

2.34 When asked about the details of royalty paid to Central Government on production of oil and gas in respect of offshore production, the Ministry furnished following information:

ONGC

	2008-09	2009-10	2010-11	2011-12	2012-13
Total (Rs crore)	3,139.36	3,219.05	3,651.89	3,614.45	3,940.66

Pvt/JV

The royalty paid by Pvt/JV companies to the central government in 2012-13 was about Rs. 1063 crore. The details are as under:

(Rs. crore)

	2008-09	**2009-10**	**2010-11**	**2011-12**	**2012-13**
Panna-Mukta	236.62	242.45	189.71	248.46	263.05
Tapti	357.37	299.28	233.41	186.6	150.05
Ravva	152.29	109.2	97.76	99.92	86.60
Hazira	15.47	11.34	7.04	4.97	4.44
PY-3	28.11	4.6	23.14	19.24	-
CB-OS/2	115.84	65.12	102.91	103.84	79.42
KG-DWN-98/3	0.48	399.65	828.29	677.99	458.47
PY-1	-	4.73	17.46	7.35	20.96
	906.18	**1136.37**	**1499.72**	**1348.37**	**1062.991**

2.35 When asked about the reasons for not giving share of royalty from the production of offshore assets to State Governments, the Secretary, MoP&NG during the oral evidence submitted the following in this regard:

> "As far as royalty regime is concerned, in regard to off-shore assets, under article 297 of our Constitution, all the resources which are in the off-shore areas, in the EEZ or in the territorial waters or in the continental shelf, belong to the Union of India. They do not belong to the State Governments. Because of that, the royalty payments that are being made for off-shore would accrue to the Union of India and not to the State Governments. That is my understanding of the matter.
>
> As per the Constitution of India, all the resources in the off-shore economic zone belong to the Government of India. So, the royalty on these resources will come to the Government of India exchequer. The State Governments will get the royalty from the online production of crude oil and gas. For online production of crude oil they get 20 per cent of the value of the production. Under NELP they get 12.5 per cent on well head prices of crude oil. For off-shore it is 5 per cent for the first seven years and 10 per cent thereafter. For natural gas, it is 10 per cent uniformly, except for the deep water blocks where it is 5 per cent for the first seven years. This is the formula of distribution of the royalty on crude oil and gas".

2.36 When specifically asked as to whether there have been any demand from any of the State Governments seeking share in the revenues generated from royalty earned on offshore production, the Ministry informed that so far none such proposal has been received.

2.37 On being further queried about the difference if any in the rates of royalties being paid by PSUs and private joint operators, the Ministry furnish following reply:

> "There is no difference in the rates of royalty being paid by PSU or Pvt/JV companies to the State Governments in nomination and production sharing contract regime. The royalty rates vary for onland and offshore areas as indicated in the reply of Question 2 (i).
>
> Government, upstream public sector companies and downstream public sector companies are sharing the subsidy burden on account of sensitive petroleum products. From 2003-04 onwards, Government decided that under-recoveries of oil marketing companies (OMCs) in price sensitive petroleum products would be shared by upstream companies. To implement the decision, ONGC and OIL have been extending discount in the prices of crude oil, Domestic LPG and PDS Kerosene supplied to OMCs as per the rates advised by PPAC. The post-discount price is arrived at by considering entire share of under-recoveries on crude oil only. The royalty paid by ONGC and OIL is on the sale price realized after discounting the under recovery amount.
>
> The royalty is paid on the sale price realized by ONGC and OIL at the rate of 20% of well head price on cum royalty basis to the State Governments. Since, sale price realization on crude oil for oil PSUs after discount of under recovery is less than the private/JV companies, therefore, royalty payment by oil PSUs is also lower than the private companies".

E. DIVERSION OF GAS

2.38 When asked as to whether any instances of diversion of APM gas which is being supplied to fertilizer industries have been reported so far, the Secretary MoP&NG during the course of oral evidence depose before the Committee as under:

> I do not think any case of diversion has come to our notice so far. They have not reported anything to us. Otherwise we can always stop the supply of gas. Since this gas is being supplied at $ 4.2 so if they are diverting it to some other use, then the financial implications can be worked out and they will have to impose a penalty on the fertilizer companies.

2.39 When counter questioned whether it is not true that GAIL was entrusted with the responsibility of collecting details of such quantities which are used by fertilizer plants for manufacture of products other than fertilizer, a GAIL official further elaborated the issue as stated below:

> "Sir, this is a special case for three fertilizer plants in the country which are producing fertilizer and also some chemical that is Rashtriya Chemicals & Fertilizers, Gujarat Narmada Valley Fertilizers and Deepak Fertilizers. They are being given gas primarily to produce urea but since they have certain portion of the production of chemical which is being sold at the market price. So, this issue was raised last time and accordingly the Department of Fertilizer has instructed the concerned units.
>
> Accordingly they are giving the utilization of gas which is being charged for fertilizer production is being charged at $4.2 per MMBTU, and the part quantity which is being charged for chemical is being charged at a market price. This decision has been taken by the Department of Fertilizer under the Ministry of Fertilizer, and accordingly we are implementing it. This is exclusively for these three fertilizer plants. Otherwise, there is no diversion of gas which is being allocated to the fertilizer plants except these three plants.

F. ALLOCATION TO TAJ TRAPEZIUM ZONE (TTZ)

2.40 The Committee then enquired about the criteria being followed in allocating APM gas to various industries inhabited in the Taj Trapezium zone , the CMD, GAIL explained as under:

> "Sir, this is the case regarding the Taj Trapezium. The hon. Supreme Court directed at that time that no industry in and around Taj should be using any other fuel except the natural gas. That is why, a directive has been given that natural gas should be given to these industries. These industries are largely boundaries, bangle and glass. At that time there was no other gas except the APM gas. The gas was given to them. That is 1.1 million gas which is being given to all the industries around Taj, that is, in Agra and largely in Firozabad. Later on, as the demand increased, there was a sort of an issue that some people who want to start industry now were not able to get the APM gas. The APM gas, whatever was allocated in the Taj Trapezium was already distributed to all the consumers. Now, they were not in a position to expand. Later on, as we got the RLNG with us, we started supplying the RLNG. People raised an objection that some people who were there earlier got access to the APM gas, and those who came later were not having the APM gas. What we have decided is that now we are pooling the gas and everybody is getting it at a uniform price in the Taj Trapezium. The APM gas available to us today is 1.1 million. Over and above that, 0.6 million is the RLNG. So, put together, it is 1.6 million or 1.7 million gas which is available in the Taj Trapezium Zone and the gas is being supplied to all

these industries at a uniform price, whether they were existing earlier or whether they are now.

2.41 In this connection when the committee sought to know the status of the report proposed to review the policy relating to pricing & commercial utilization of non-APM gas , the Ministry informed that it will submit its report within three months.

2.42 On being further enquired as to whether any distinction is maintained between small and large scale industries while allocating gas to these industries, the CMD , GAIL during the course of oral evidence submitted following information:

> "We are giving them at the uniform prices. The issue of supplying gas to SMEs sectors is not only in Agra, Firozabad but also in Gujarat, KG basin and Kauveri basin".

CHAPTER III
PRICING OF NATURAL GAS

(A) GAS PRICING METHODOLOGIES IN INDIA

The methodologies currently in practice to price domestically produced gas consists broadly of two pricing regimes – one for gas priced under the Administered Pricing Mechanism (APM), and the other for the non-APM gas. The price of APM gas has been set by the Government principally on a cost-plus basis. As regards non-APM gas, this can be broadly divided into two categories, namely, (i) imported Liquefied Natural Gas (LNG), where prices are market determined and (ii) domesticallyproduced gas from New Exploration Licensing Policy (NELP) and pre-NELP fields. The details of different methodologies presently practiced , as provided by Mop&NG are mentioned hereunder:

"Administered Pricing Mechanism (APM)

Gas produced from existing fields of the nominated blocks of NOCs, viz.OIL& ONGC, is being supplied predominantly to fertilizer plants, power plants, court-mandated customers, and customers having a requirement of less than 50,000 standard cubic metres per day at APM rates. The Government fixed APM gas price in the country, with effect from 1.6.2010, is $ 4.2/mmbtu (inclusive of royalty), excepting in the Northeast, where the APM price is $ 2.52/mmbtu, which is 60% of the APM price elsewhere, the balance 40% being paid to NOCs as subsidy from the Government Budget. These gas-producing blocks were allotted to National Oil Companies on a nomination basis, under the tax-royalty regime.

Non-APM Gas produced by NOCs from Nominated Fields

National Oil Companies (NOCs), viz., ONGC & OIL, are in principle free to charge a market-determined price for gas produced from new fields in their existing nominated blocks. However, Government has issued a pricing schedule & guidelines for commercial utilization of non-APM gas produced by NOCs from their nominated blocks.

Pricing under Pre-NELP Discovered Fields

Certain blocks where discoveries were made by NOCs were auctioned to private sector E&P companies to overcome funding constraints and lack of advanced technologies. Under these PSCs, viz., Panna-Mukta, Tapti (PMT) and Ravva, the gas produced has to be sold to the GOI nominee (viz., GAIL), as per the price formula specified in the PSC. Hence, the entire gases produced from these fields are being purchased by GAIL. The PSCs for Panna-Mukta & Tapti were executed on December 12, 1994 and that of Ravva on October 28, 1994. In case of Panna-Mukta& Tapti PSCs, the price formula for gas is linked with an internationally traded fuel oil basket, with a specified floor and ceiling price of US$ 2.11/mmbtu and US$ 3.11/mmbtu respectively. These PSCs further have a

provision to revise the ceiling price after 7 years from the date of first supply, to 150% of 90% of the fuel oil basket (average of the preceding 18 months). With this revision, the revised ceiling price in case of Panna-Mukta gas is US$ 5.73/mmbtu and in case of Tapti, it is US$ 5.57/mmbtu. GAIL, as the Government nominee, is buying gas from the PMT JV at this rate. As regards Ravva&Ravva satellite fields, under the provisions of their PSC, on expiry of five years from the date of first delivery of gas, the JV and the Government are required to enter into good-faith negotiations to determine the basis for calculation of the purchase price, taking into account all reasonably relevant factors. The present price of the Ravva field is US$ 3.5/mmbtu and that of Ravva satellite is US$ 4.3/mmbtu.

Pricing under Small-sized Discovered Fields & Pre-NELP Exploratory Blocks 24 small-sized discovered fields and 28 pre-NELP exploratory blocks (of which 17 are in operation) have been signed with private E&P companies (viz.Hazira, RJ-ON-90/1 etc.). These provide for the sale of gas in the domestic market at prices obtained as per the arm's length principle, in case the gas is sold other than to the Government nominee. There is no price formula specified under the PSCs and the price formula does not require prior approval of the Government before sale of gas by the Contractor, unlike under NELP.

Pricing under NELP

The Production Sharing Contracts (PSC) signed under New Exploration Licensing Policy (NELP) provide for approval of the price formula / basis by the Government, before the sale of natural gas by the Contractor. Under Article 21 of the PSC, the Contractor is required to sell the gas in the domestic market in accordance with the Gas Utilization Policy of the Government. Further, Article 21.6 of the PSC provides for sale of gas at competitive, arm's length price, to the benefit of parties to the Contract and it also provides that the gas price formula/basis have approval of the Government prior to the sale of natural gas to consumers/buyers.

PSC Provision on Pricing

3.2 When asked about the price discovering mechanism under PSC in NELP, the Ministry stated

"The following provisions of the PSC are relevant in the context of sale of natural gas and the price to be adopted for valuation purposes to calculate cost petroleum, profit petroleum share and royalty:

Article 1.8 "Arms Length Sales" means sales made freely in the open market, in freely convertible currencies, between willing and unrelated sellers and buyers and in which such buyers and sellers have no contractual or other relationship, directly or indirectly, or any common or joint interest as is reasonably likely to influence selling prices and shall, inter alia, exclude sales (whether direct or indirect, through brokers or otherwise) involving Affiliates, sales between Companies which are Parties to this Contract, sales between governments and government-owned entities, counter trades, restricted or distress sales, sales

involving barter arrangements and generally any transactions motivated in whole or in part by considerations other than normal commercial practices.

Articles 21.6 Valuation of Natural Gas: The Contractor shall endeavor to sell all Natural Gas produced and saved from the Contract Area at arm's length prices to the benefits of Parties to the Contract.

Notwithstanding the provision of Article 21.6.1, Natural Gas produced from the Contract Area shall be valued for the purposes of this Contract as follows:

(a) Gas which is used as per Article 21.2 or flared with the approval of the Government or re-injected or sold to the Government pursuant to Article 21.4.5 shall be ascribed a zero value;

(b) Gas which is sold to the Government or any other Government nominee shall be valued at the prices actually obtained; and

(c) Gas which is sold or disposed of otherwise than in accordance with paragraph (a) or (b) shall be valued on the basis of competitive arm's length sales in the region for similar sales under similar conditions.

The formula or basis on which the prices shall be determined pursuant to Article 21.6.2 (b) or (c) shall be approved by the Government prior to the sale of Natural Gas to consumers/buyers. For granting this approval, Government shall take into account the prevailing policy, if any, on pricing of Natural Gas, including any linkages with traded liquid fuels, and it may delegate or assign this function to a regulatory authority as and when such an authority is in existence.

From NELP-VII onwards, Article 21.6.3 has been revised as:

21.6.3 So as to ensure that the gas is valued at arm's length price or where arms length price is impossible to arrive at the formula or basis on which the prices shall be determined pursuant to Articles 21.6.2 (c) shall be approved by the Government prior to invitation of price bids or other price discovery steps by Contractor for the sale of natural gas to the consumers / buyers… For granting this approval, Government shall take into account … and the linkages with traded liquid fuels …

(underlined portion is relevant only from NELP VII onwards)

3.3 In regard to gas pricing for KG-D6 basin, the Ministry apprised as under:

"Under NELP, gas pricing has formally been approved only in case of RIL's KG Basin discovery. A proposal of RIL in 2006 to approve the price of US$ 2.34/MMBTU, which was the contractual price with RNRL, was rejected by the Government on the ground that the price was not derived on the basis of competitive arm's length sales in the region for similar sales under similar conditions. Government of India set up a committee to arrive at valuation of natural gas when price discovery is not possible through market mechanism. Subsequently, in May 2007, the Contractor of KG-DWN-98/3 block, viz.RIL, submitted a revised proposal of price formula/basis for approval by the

Government. In the proposal, the price formula was benchmarked to international crude price, with a floor and a ceiling price, and also with a constant factor 'C' to take care of bidding. The price formula finally approved by the EGoM was as under:

SP (US$/mmbtu) = 2.5 + (CP-25)^$^{0.15}$

Where, SP is the sales price in $/mmbtu (on Net Heating Value /NHV basis) at the delivery point at Kakinada.

CP is the average price of Brent crude oil in US$/barrel for the previous financial year, based on the annual average of the daily high and low quotations of the FOB price of dated Brent quotations as published by Platts Crude Oil Market wire. CP is capped at US $60/bbl, with a floor of US$ 25/bbl. CP is fixed for each contract year and is based on the CP for the preceding financial year. FY means the financial year, which commences each year on 1st April and ends on the following 31st March.

The selling price comes to US$ 4.2/mmbtu for crude price greater than or equal to US$ 60/barrel. The price basis/formula is valid for five years from the date of commencement of supply, i.e., till March 2014".

B. RECOMMENDATIONS OF RANGARAJAN COMMITTEE

3.4 The Ministry have informed that Price revision for KG-DWN-98/3 was due in April 2014. Further gas price approval for GSPC Block KG-OSN-2001/3 is pending with the Government. ONGC/OIL have also been representing that gas price US$4.2/MMBTU is not viable for deepwater areas. Gas price approval under NELP needs to be done objectively and uniformly. The Government of India constituted a committee under the chairmanship of Dr C. Rangarajan, Chairman, Economic Advisory Council to the Prime Minister in May, 2012, to look into the Production Sharing Contract (PSC) mechanism in petroleum industry.

3.5 As regard the compulsion for gas price revision, the Ministry has furnished following explanation:

"It is very important to put on production already discovered reserves in deepwater and other marginal fields elsewhere areas as well as to establish the full potential of oil and gas resources in the country. This needs extensive exploration activities, which are capital intensive. Need to fund these activities by surplus from producing fields. Many fields in east cost are having gas under high temperature and high pressure. Developing these fields is high cost affair. At a price of US$ 4.2/MMBTU, many projects are not viable especially in highly potential basins, KG and Cauvery basins. Declaration of Commerciality in KG basin & Cauvery basin are held up due to non viability of gas production at US$ 4.2/MMBTU. Sticking to gas price of US$ 4.2/MMBTU will result in foregoing gas production from these blocks. The gas prices can be the incentive for higher

production in deepwater areas and production from marginal fields. For enhancing investment in E&P sector, it is to be ensured that producers in India get at least the average price of what producers elsewhere are getting".

3.6 The Rangarajan Committee has made following recommendations on PSC:

(i) "The committee has recommended a new contractual system and fiscal regime based on a post-royalty-payment revenue-sharing to overcome the difficulties in managing the existing model based on the Pre-Tax Investment Multiple (PTIM) methodology and the cost-recovery mechanism.

(ii) The committee has recommended that the proposed contractual model be based on a two-dimensional matrix. The proposed model envisages that the production or post-royalty value of the combined output of oil and gas be shared between the Government and the Contractor. Such a 'production sharing' will be linked to the average daily production and prevailing average of oil and gas prices in a well-defined period.

(iii) The production tranches will be different for various sectors (on land, shallow water and deep water), and price bands will be based on historical and prevailing price trends. Production and price bands will be suitably designed after due deliberation and considering available historical data for Indian geological basins.

(iv) The production share for each cell of the matrix will be biddable, and the winning bid will be determined on the basis of competitive bidding. The bid has to be progressive and incremental with respect to the Government take, *i.e.*, the Government take will be in an ascending order for increases in production and price. The NPV of Government's share in revenue, using the benchmarked production profile for the block, will be one of the deciding criteria for assessing a bid.

(v) The overall bidding parameters of the Minimum Work Programme (MWP) commitment and the fiscal package will remain the same as at present. Technical capability will also continue to have the same treatment as it obtains currently. Only the bid evaluation criteria for the fiscal package will change with the proposed changes in the fiscal model, although its weight in the overall bid may remain the same.

(vi) The model so proposed will be applicable for all future contracts, including Coal-Bed Methane (CBM) contracts. Only the production tranches will be changed, depending on historical data available at the time of award of CBM blocks.

(vii) All the PSCs signed by the Government up to the ninth round of NELP will continue with the existing fiscal model, ensuring the sanctity of these contracts. Moreover, in the forthcoming rounds as well the PSC structure will be retained, albeit with a different fiscal model.

(viii) As there will be no element of cost-recovery in the proposed system, the role of the MC or of the Government nominees on the MC will be largely related to monitoring and control of technical aspects. The functions pertaining to approval of annual budgets, audited accounts and auditors will not be required.

(ix) Other contractual bottlenecks for exploration and exploitation of hydrocarbons will be addressed with suitable amendments in the provisions for the exploration period, flexibility in carrying out the appraisal programme, development of discoveries in deep-water and frontier areas, *force majeure*, etc.

(x) The committee has recommended that the tax holiday can be extended to ten years from the date of first production in such ultra-deep water blocks.

(xi) Since the proposed fiscal regime would be new in the Indian context, the regime may be reviewed in the light of actual experience".

3.7 The recommendations of Rangarajan Committee as regards the gas price formation are as under:

" Gas-on-Gas competition for price discovery will become feasible once infrastructure is ramped up and domestic production and transportation infrastructure grow.

- Therefore, Government may consider reviewing the situation after five years to examine the feasibility of its introduction.

- A policy on pricing of domestic gas has been proposed by the Committee. Since, a competitive domestic price for gas does not currently exist and may not be expected to come about for several more years, the policy will be based on searching out from global trade transactions of gas the competitive price of gas at global level.

- As the global market is not fully integrated in terms of physical flows and it is also not everywhere liquid enough, it has been proposed to combine two methods of search for such prices.

- First, the netback price of Indian LNG import at the wellhead of the exporting countries should be estimated. Second method of pricing is to take average of pricing prevailing at trading points of transactions – i.e., the hubs or balancing points of the major markets of continents.

- Second method of pricing is to take average of pricing prevailing at trading points of transactions – i.e., the hubs or balancing points of the major markets of continents.

- For this, (a) the hub price in the US (for North America). (b) the price at the National Balancing Point of the UK (for Europe) and (c) the netback price at

the sources of supply for Japan [a big buyer treated in the Asia Pacific region as setting benchmark for the region] may be taken.

- Such a global average price may also be interpreted as an arm's length competitive price for India.
- Finally, the average of the prices arrived at through the aforementioned two methods may be taken.
- Since there may be several sources of gas imports, the average of such netback of import prices at the wellheads would represent the average global price for the Indian imports.
- Such a netback average price may be interpreted as the arm's length competitive price applicable for India and such price may be estimated on the basis of historical transactions"

C. NEW GAS PRICING GUIDELINES

3.8 In pursuant to Rangarajan Committee Report, the new gas pricing guidelines as formulated and approved by CCEA for fixing Gas prices from 1st April 2014 onwards are as follows:

"The highlights of gas pricing guidelines approved by CCEA are as under:

- Domestic natural gas pricing will be based on the methodology suggested by the Rangarajan Committee.
- These guidelines will be applicable to all natural gas produced domestically, irrespective of the source, whether conventional, shale, CBM etc. These guidelines shall apply from 1st April 2014 with the exemption of cases.
- These guidelines shall not be applicable where prices have been fixed contractually for a certain period of time, till the end of such period. These guidelines shall also not be applicable where the contract provides a specific formula for natural gas price indexation / fixation.
- The prices will be applicable to all consuming sectors uniformly.
- Applicable for natural gas produced by ONGC/OIL from their nominated fields.
- Gas price would be notified on quarterly basis.

These policy guidelines shall be applicable for five year period from April 2014."

3.9 When asked whether Rangarajan Committee have found any evidence of cost plus regime resulting in disincentivising of E&P activities, the Ministry furnished following reply:

> "In the signed PSCs, it would require consent of the Contractors. In E&P business, a company makes profit from commercial discoveries by putting them on production, and incurs losses on unsuccessful exploration efforts. The costs and revenues have to be seen in totality for a company (covering successful & failed operations). Hence cost plus regime result in disincentive to E&P companies to go for new exploration.
>
> Any cost plus regime incentivises gold plating of costs (i.e tendency to inflate the costs) and also does not offer any encouragement for efficiency, induction of new technology and global best practices. It may have impact on inflow of investments and technology in the country.

3.10 The proposed gas pricing formula by Rangarajan Committee takes the average of prices of three international hubs viz. NBP, HH and Japan, as reference for arriving at well-head price for domestically produced natural gas. When enquired about the rationale behind selecting these hubs and the respective weightage given to each of these hubs in deriving pricing formula, the Ministry provided following details:

> "The gas prices in Henry Hub are based on gas-on-gas competition. The weightage average of gas consumption taken for North America in 2012 was about 906.5 billion cubic metre (BCM).
>
> NBP gas prices are also on gas-on-gas competition, which is most liquid and mature gas market in Europe. The gas consumption of total Europe and Former Soviet Union is about 1083.3 BCM in 2012.
>
> Japan is the leading LNG importer. The import of LNG by Japan was about 118.8 BCM as against the total world LNG import of 327.9 having a share of about 36.3%.
>
> Thus the weightage in the formula for Henry Hub, NBP and Japan comes to 43.3%, 51.2% and 5.5% based on 2012 gas consumption respectively.
>
> The three markets consume 63.1% of total world consumption in 2012. Thus the average price paid by these markets to producers (excluding the shipping and other charges) will be a good indicator to what price will be E&P companies looking for investing.

	2011	2012
Trade movement by Pipeline (BCM)	694.6	705.5
Trade movement by LNG (BCM)	330.8	327.9
Total (BCM)	**1025.4**	**1033.4**

Source: BP statistics 2012 and 2013"

3.11 In this regard when enquired as to why Russia which is a major player in global gas market has not been taken into consideration while deriving domestic well head price of gas, the Ministry replied as under:

"The details of gas exported by Russia during 2011 and 2012 were as under:

Gas Export from Russia in BCM

Export to	Mode	2011	2012
Europe	Pipeline	140.6	130
Former Soviet Union	Pipeline	66.4	56
Asia Pacific (China, Japan, South Korea, Taiwan and Thailand	LNG	14.4	14.8
Total		221.4	200.8

Source: BP statistics 2012 and 2013

The most of Russian export contracts were linked to liquid fuels. However, now Russian export contracts are increasingly indexed to European hub prices. Gas markets are consistently evolving away from oil price indexation and towards gas-on-gas competition".

3.12 On a query regarding various hubs operating in Europe , the MoP&NG representative during the briefing on the subject stated as under :

"Hon. Member's point that all the gas does not pass through NBP is correct. The Committee also has clearly said in 22nd Chapter that there are several hubs. I also showed on the map several hubs which are in operation in Europe. Not only hubs but there is another major index which is being used in Europe. That is also discussed in the Committee report that is the German bought up Price. Germany imports from several countries. It is one of the largest consumer from Europe. They get a lot of gas from US, almost 30 Billion cubic meters every year. The price of this gas is linked to crude price. So, it will be much higher than the NBP price. Russia also exports to Italy, Turkey and several other countries. Out of 130 billion cubic meters more than 60-65 is sold on crude linked contracts. So, this will be higher than the NBP price. There are some new contracts which have been linked to NBP. The European countries which are

buying from Russia are revolting against the linkage to crude price and they are asking it to be linked to the NBP. So, the trend in Europe is to link the price to NBP. The other hubs in Europe are hovering around NBP price. The difference will be .5 dollars to 1 dollar. Every day you can check the hub prices. There will not be much difference. Difference can be basically due to liquidity or due to the transportation cost between them. NBP is the most liquid and it accounts for the largest number of transactions in Europe. So, the committee has clearly said NBP is a proxy for all the consumption in European and FSU countries. They did not say that the entire consumption in Europe is traded at the NBP price. So, to that extent what you said is correct. The Committee did not hide any fact in telling this outright and in a straightforward fashion.

3.13 Explaining the rationale for including Japnese LNG prices the representative stated as under

"The second important point raised by the hon. Member is the rationale for Japanese LNG price being included in this. I am only explaining the logic as I understood from the proceedings of the Committee and how the Members viewed the issue. India imports LNG. Japan also is mostly dependent on the LNG. They do not have any domestic production nor have the pipeline supply.

So the nearest possible thing India can have is kind of a market Japan is having. I agree with the hon. Member that almost the seamless convertibility between crude and gas prevails in Japan while replacement fuel in India is not really the crude. The gas is not replacing the crude. Gas in power sector replaces coal; gas in fertilizer sector is replacing naphtha. So, in India, the replacement formula does not work. It is also very clearly stated in the Committee report. So, no fact is hidden from the public by the Committee. They have come out openly. They have only said that Japan is a significant market which cannot be ignored in the global LNG trade and natural gas trade. So, it has to be factored into Indian formula, otherwise, production in India will have to be at the lowest possible producer's cost, say two dollars or three dollars, if you take entire production in the North America and Gulf and if you calculate on the basis of cost of production. It will give not more than 3.5 to 4 dollars. So, will that be incentivising the Indian production, that was one consideration as I explained before the Committee? The Committee felt that it will not be possible to incentivize domestic production. So, these are the considerations which went into determining this formula".

3.14 On being asked about the reason behind devising of pricing formula by Rangarajan Committee by completely ignoring domestic cost of gas production, the MoP&NG apprised as stated below:

"The Rangarajan Committee have analyzed the gas price scenarios in the country. The comments on regulated pricing system by the Committee are as under:

24.1.2 Public sector companies producing gas have a highly regulated pricing system in place. Gas prices in India can, in principle, incentivize investment in the Indian upstream sector, so that production in India reaches optimum levels and all exploitable reserves put to production expeditiously. India also needs to ensure that producers don't cartelise as there is a huge unmet demand. The twin objectives of expediting production and avoiding cartelisation can be achieved by ensuring that producers in India get at least the average price of what producers elsewhere are getting."

3.15 In this connection when asked to provide the production cost of natural gas as incurred by ONGC and OIL in offshore/on shore/inland areas, the Ministry provided as under:

"ONGC

The cost of production of natural gas by ONGC(excl JVs) is as under:

Year	**Onshore**		**Offshore**		**Total ONGC (Excl. JVs)**	
	Rs per MSCM	**USD per mmbtu**	**Rs per MSCM**	**USD per mmbtu**	**Rs per MSCM**	**USD per mmbtu**
2012-13*	7,542	3.77	6,899	3.57	7,041	3.63
2011-12	5,914	3.35	6,215	3.68	6,132	3.59
2010-11	5,590	3.32	5,874	3.64	5,799	3.55
2009-10	5,536	3.17	5,321	3.18	5,372	3.18
2008-09	4,308	2.56	4,661	2.88	4,559	2.78

*Provisional and subject to Cost Audit

Note: The cost of production includes operating cost, recouped cost (depreciation, depletion survey and dry wells) and statutory levies but excludes any return on capital employed"

OIL

OIL has its natural gas production only from onland areas. The Cost of the production of natural gas in last 5 years are as under:

Years	2012-13*	2011-12	2010-11	2009-10	2008-09
Production cost (USD /mmbtu)	3.21	3.05	3.08	2.47	2.40

* Figures for 2012-13 are provisional

3.16 The Ministry has informed that the cost of production of natural gas in Sakhalin-I project by OVL is in the range of US$ 1.44/mmbtu to US$1.54/mmbtu. The year-wise details as provided by MoP&NG are as under: 18(II)

Cost of Gas Production ($/MMBTU)			
	2010-11	**2011-12**	**2012-13**
Sakhalin-I, Russia	1.49	1.44	1.54

3.17 On being asked about the cost of production incurred by RIL in KG-D6 block and whether the Company had submitted any documentation in this regard, the Ministry stated as under:

> "RIL has not submitted the document to the Ministry about cost of production in the block KG-DWN-98/3.
>
> The cost of production for RIL in KG-D6 block in 2011-12 was US$ 2.48/MMBTU excluding levies and US$ 2.74/MMBTU including levies. Figures are computed from financial statements of 2011-12, based on projected levels of production".

3.18 When asked about the trading hubs operating in the middle east region and what is the current average price of gas in these hubs, the Ministry stated as below:

> The Middle East region is largely an insulated market in terms of gas consumption with very little gas being traded (excluding exports) across borders. Small quantities of gas are imported by Iran from Turkmenistan and Jordan from Egypt.

Middle East consumption at 297 bcm accounts for around 10% of total world consumption. The dominant price formation mechanism in the region is 80.3% regulation below Cost(RBC) in largely Iran, Saudi Arabia, Kuwait and Qatar. The 14.2% regulation social/political (RSP) category is accounted for by the UAE, where price is regulated by each emirate. About 3.4% Bilateral monopoly (BIM) category relates to Iranian imports from Turkmenistan and the trades from Egypt to Jordan and Oman to the UAE. 1.3% gas has no price.

3.19 When asked as to how does well head price for domestically produced natural gas is determined in other countries where exploration is carried out and crude oil is imported, the Ministry furnished the following reply:

"The well head price for domestically produced natural gas is the price arrived at the sale or trading point of the transaction less the transportation costs charged by the producer for natural gas.
In case of the LNG as quoted by the leading industry publications like Platts, the transportation costs of shipping, liquefaction and the local transportation costs from the field to the liquefaction plants are deducted to arrive at the wellhead price. In case of pipelines, Energy Information Administration (EIA) defines that all the costs prior to shipment from lease, including gathering and transportation cost through the pipeline is to be deducted to arrive at the wellhead price".

3.20 In this context, when asked about the methods followed for arriving at well head prices of natural gas by top five gas producing countries, the Ministry's reply apprised as stated below:

"The total gas production in the world was about 3363.9 billion cubic metre in 2012 as per BP statistics 2013. The top 5 gas producing countries are as under:

Sl. No.	Country	Gas Production (BCM) in 2012	% Share
1	USA	681.4	20.4 %
2	Russian Federation	592.3	17.6 %
3	Iran	160.5	4.8%
4	Qatar	157.0	4.7%
5	Canada	156.5	4.6%

Source: BP Statistics 2013

Well Head Gas Prices in USA

The well head gas prices in USA from 2005 to 2012 are as under:

U.S. Natural Gas Wellhead Price (US$ per MMBTU)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2005	5.80	5.73	5.95	6.57	6.25	6.09	6.71	6.48	8.95	10.33	9.89	9.08
2006	8.01	6.85	6.43	6.37	6.23	5.77	5.91	6.55	6.06	5.09	6.71	6.76
2007	5.70	6.80	6.65	6.26	6.75	6.62	6.21	5.76	5.30	5.78	6.46	6.87
2008	7.38	8.02	8.63	8.87	9.96	10.36	10.79	8.21	6.71	5.64	5.23	5.94
2009	4.60	3.70	3.38	3.18	3.23	3.38	3.45	3.37	2.98	3.83	4.20	4.66
2010	5.69	5.30	4.70	4.10	4.24	4.27	4.44	4.38	3.83	4.05	4.12	4.68
2011	4.37	4.34	3.95	4.05	4.12	4.20	4.27	4.20	3.82	3.62	3.35	3.14
2012	2.89	2.46	2.25	1.89	1.94	2.54	2.59	2.86	2.71	3.03	3.35	3.35

Source EIA, USA

Gas Price in Russia

The Russian gas market currently functions in two modes: regulated and non-regulated. Gazprom is the major natural gas supplier in the regulated sector, whereas independent gas producing and oil companies dominate supply in the non-regulated sector. On December 31, 2010, the Government of the Russian Federation adopted Regulation № 1205, which envisaged further improvement of the governmental regulation moving towards its step-by-step liberalization. The Regulation provided a transitional period from 2011 through 2014, during which the conditions will be created for practical application of market-based pricing mechanisms for natural gas produced by Gazprom Group based on equal yield of gas supplies to the domestic and foreign markets.(Source: International Gas Union)

Average gas sales price (net of VAT, excise tax and customs duties)

Year ended on December 31 (Source: Gazprom)

	2005	2006	2007	2008	2009	2010	2011
Russia							
RUB/1,000 m^3	1,009.7	1,125.4	1,301.1	1,652.8	1,885	2,345.5	2,725.4
USD*/1,000 m^3	35.1	42.7	53.0	56.3	62.3	77	92,9
EUR*/1,000 m^3	29.5	32.4	36.2	39.9	43.4	58,2	66,7
FSU states							
RUB/1,000 m^3	1,415.7	2,007.4	2,672.9	3,693.9	5,483.7	6,416.5	7,802.1
USD*/1,000 m^3	49.2	78.9	108.9	125.7	181.3	210.5	265.8
EUR*/1,000 m^3	41.4	59.9	74.4	89.1	126.4	159.1	190.9
Europe and other states							
RUB/1,000 m^3	3,964.8	5,238.5	5,181.9	7,521.5	7,216.6	7,420.7	9,186.6
USD*/1,000 m^3	137.8	199.0	211.1	256.0	238.6	243.5	313
EUR*/1,000 m^3	116.0	151.0	144.2	181.5	166.3	184	224.8

* The data is not derived from financial statements and is calculated using exchange rates as at the end of the relevant period. (Source: Gazprom)

In 2011, the gas price realized by Gazprom, for export to Europe comes to US$ 8.77/ MMBTU and the gas price for supply to FSU states is about

US$7.44/MMBTU. In the same period, the regulated gas supply price in Russia was about US$2.6/MMBTU.

Gas Prices in Qatar

As the world's leading LNG producer with 77 MTPA of installed liquefaction capacity, Qatar is now the largest exporter of natural gas in the Middle East and North-African region. Its initial export strategy was said to be aiming to sell a third of its volumes in Asia, a third in Europe and a third in the Americas. However, the development of shale gas in the US, and the impact of the recession on demand in Europe, led to the diversion of large volumes to Asia-Pacific markets.

Regionally, Qatar is also a significant supplier of pipeline gas, exporting from 2007 some 20 Bcm/yr to the UAE and Oman through the Dolphin line. This is done under long-term (25-year) agreements with heavily discounted prices ($1.3-1.5/MMBtu) resulting from the political importance accorded to the project in its early days. However, the expansion of the Dolphin pipeline to its design capacity of 33 Bcm/yr and, concomitantly, of supplies from Qatar has so far stalled mainly because of disagreement over prices and the moratorium imposed by Doha until 2014-15 on North-Field-based new gas export projects.

(Source: Paper on "Issues in the pricing of domestic and internationally-traded gas in MENA and sub-Saharan Africa" published by University of Oxford, UK, 2012)
A contract was signed with RasGas, Qatar for supply of 7.5 mmtpa LNG (equivalent to about 28 mmscmd) by Petronet LNG Limited (PLL). Supply of 5 mmtpa commenced from April 2004, while supply of the remaining 2.5 mmtpa commenced in January 2010. The price for LNG has been linked to JCC (Japanese Custom Cleared) crude oil under an agreed formula. The long-term RLNG price changes every month. The formula agreed between PLL & RasGas,

Qatar for import of term LNG is as follows:

$$FOB = P_o * JCC_t / \$15$$

Where:
Po = $ 1.90/mmbtu
JCCt is the 12 month's average of the JCC price
t is the month for which price is being calculated
JCCt shall have following floor and cap:
Cap = [(60 - N)*20 + (N*A60)]/60 + 4
Floor = [(60 - N)*20 + (N*A60)]/60 - 4
Where N = 1 for January 2009, and increases by 1 every month
Thereafter, till December 2013, after which it shall remain 60.
A60 = 60 month's average of the JCC price
The actual month-wise gas sale FOB prices based on above mentioned are given in the following Table.

Petronet LNG: Month-wise Gas sale FOB prices (US$/mmbtu)												
	Jan	**Feb**	**Mar**	**April**	**May**	**June**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**
2004	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53
2005	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53
2006	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53
2007	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53
2008	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53
2009	3.13	3.23	3.32	3.42	3.52	3.61	3.71	3.81	3.92	4.03	4.14	4.25
2010	4.36	4.48	4.61	4.73	4.86	4.99	5.12	5.25	5.38	5.51	5.64	5.77
2011	5.90	6.03	6.18	6.33	6.48	6.65	6.82	7.00	7.18	7.36	7.54	7.72
2012	7.91	8.11	8.32	8.52	8.75	8.98	9.23	9.46	9.68	9.88	10.08	10.30
2013	10.52	10.73	10.92									

Note: Netback prices may be computed by deducting US$3/ MMBTU from above mentioned FOB prices as per Rangarajan Committee recommendations.

The indexation of Qatar gas has been Brent crude oil and JCC, Henry Hub, National Balancing Point. The summary of Qatar LNG supply contracts is given in following table:

Table : Qatar's LNG supply contracts (as at May 2012)

Seller	Buyer (country)	Volume (mtpa)	End date	Indexation (Observations)
RasGas II	Distrigas (Belgium)	2.05	2027	Zeebrugge Hub
RasGas II	EDF Trading (Belgium)	3.4	2012	Zeebrugge Hub
Qatargas III	CNOOC (China)	2	2034	JCC
Qatargas IV	PetroChina (China)	3	2031	JCC
Qatargas IV	Shell (Dubai)	0.7	2021	Brent
Qatargas II	Total (France)	1.85	2033	Brent
RasGas II	Edison Gas (Italy)	4.6	2033	Oil products
RasGas II	Petronet (India)	5	2029	JCC
Qatargas I	Chubu Electric (Japan)	4	2021	JCC
Qatargas I	Japanese Consortium (Japan)	2	2021	JCC
Qatargas I	Chubu Electric and Shizuoka Gas (Japan)	0.2	2021	JCC (effective from 2016)
RasGas I	Kogas (Korea)	4.9	2024	JCC
RasGas III	Kogas (Korea)	2.1	2026	JCC
RasGas III	Kogas (Korea)	2	2033	JCC (effective from 2013)
Qatargas II	Total (Mexico)	0.7	2033	HH
Qatargas I	Gas Natural (Spain)	1.4	2012	Brent
Qatargas I	Gas Natural (Spain)	1.5	2025	Brent
Qatargas III	PGNiG (Poland)	1	2034	Brent (effective from 2014)
RasGas II	Endesa (Spain)	0.8	2025	Brent
RasGas III	CPC (Taiwan)	3	2032	JCC

RasGas III	CPC (Taiwan)	1.5	2033	JCC (effective from 2013)
Qatargas IV	Centrica (UK)	2.4	2014	NBP
Qatargas II	QP and ExxonMobil (UK)	9.2	2033	NBP
Qatargas II	Total (UK)	1.5	2033	NBP
Qatargas II	Total (US)	1.15	2033	HH
RasGas III	QP and ExxonMobil (US)	8	2034	HH
Qatargas III	QP and ConocoPhillips (US)	3.8	2034	HH
Qatargas IV	QP and Shell (US)	3.3	2035	HH
Total		**77.05**		

Note: Most of the Henry Hub indexed volumes are being diverted to other markets in Europe and Asia.

(Source: Paper on "Issues in the pricing of domestic and internationally-traded gas in MENA and sub-Saharan Africa", published by University of Oxford, UK, 2012)

From the above table, it can be seen that new LNG contracts are shifting from oil indexation to Henry Hub (HH) and National Balancing Point (NBP) indexation prices.

3.21 As may be noted from the tabulated data Petronet India has entered in to LNG long term contract with Ras Gas using Reference Price from JCC, instead of HH and NBP, when asked about the specific reasons about the same ,the Ministry furnished following reply:

> "Since there is no gas hub in the Asia Pacific Region, LNG contracts have traditionally been based on JCC. Hence, HH and NBP were not taken as reference at the time of finalizing the LNG contract with Qatar.
>
> The formula adopted in case of Qatar LNG contract is specific to JCC and can therefore not be applied to Henry Hub or National Balancing Point index."

3.22 When asked as to whether there is any provision in the contract document for reviewing the selling price of gas at some regular intervals and whether there has been any attempt to renegotiate the contract to change the reference price to HH or NBP indexation in place of JCC , the Ministry furnished following reply:

"The existing contract with RasGas does not provide any Price Review Mechanism. However, the supply from Rasgas, Qatar under this long term contract has been very competitive as compared to LNG prices prevailing in the International market for supply to Asia Pacific market. There is no proposal to re-negotiate the contract"

D. Consultation with other Ministries

3.23 On being asked whether the consumer sectors of gas had been consulted by MoP&NG before formulation of the gas price formula, the Ministry furnished following reply:

"The inter-ministerial consultation was taken on gas pricing issue. In this regard, gas price note was circulated to Ministry of Finance, Ministry of Law & Justice, Department of Fertilizer, Ministry of Power, Ministry of Steel, Ministry of Petrochemicals, Ministry of Small and Medium Enterprises, Ministry of Heavy Industries and Planning Commission for comments.

Comments on the note were received from the Ministry of Finance, Planning Commission, Ministry of Power, Department of Fertilizers and Department of Chemicals and Petrochemicals. The comments of these Ministries/ Departments, along with response of the Ministry of Petroleum and Natural Gas were submitted to the CCEA for approval. On the advice of PMO, again inter-ministerial consultation process was carried out.

Thus, due process of inter-ministerial consultation was followed for approval of gas price".

3.24 As regards the view of Ministry of Finance on the pricing formula suggested by Rangarajan Committee, the Committee have been informed as stated below:

During Inter ministerial consultation, gas pricing note was circulated twice – once as EGOM note and second time as CCEA note to the Ministry of Finance (MOF). The comments of MOF are as under:

Comments of MOF on EGOM note

i) Every formula is open to criticism. It must be remembered that, ultimately, a formula is only a way of discovering the correct price. Applicability of the new formula based price should be to unclear PSC contracts as well as to production by ONGC / OIL nominated fields.

ii) It may be noted that in the Production Sharing Contracts (PSC), the clause for determining the price to be paid to the producers states "*competitive arms length sales in the region for similar conditions*". For such determination, it is further mentioned in the PSC that the price would be taking into account "*domestic and international prices of comparable gas and the linkages with traded liquid fuels*."

iii) In the note, for determining the price payable to the producers in India, a simple average is sought of two methodologies. One talks of prices of imports into India of different suppliers, weighted by the total production of those international suppliers. For the second, the average of the prices prevailing of Henry Hub (USA), National Balancing Point (NBP – UK) and the Netback wellhead of price of suppliers into Japan have been taken. These are weighted with the consumption in USA, Europe and Japan. There does not appear to be any justification for the said determination of prices, particularly in the context of the specific provision in the production sharing contracts, which has led to the need for a price determination by EGoM.

iv) As regards the international hubs, obviously, there is no logic in inclusion therein of the consumption by Japan, which actually has a very high import price (after Fukushima disaster), artificially inflates the price. The total consumption in Europe artificially distorts the high NBP price also. Thus, this segment is neither a representative of the international producers, nor is relevant to India. The second leg of imports into India from different suppliers, is again distorted by the fact that the total international production of those producers is perhaps being taken as a weightage, which would imply that the even one small high price shipment from a supplier in Europe could distort the computation. In any case, when the provision of the PSC talks of competitive arms length sales in the region, taking into account any sales of far off regions, of a low price (like USA) would not be acceptable to the contractors of that PSC. On the other hand, taking the quantity of a high price gas in far off regions like Europe and Japan would only be detrimental to the Government of India.

v) Thus, if the intention is to find a solution to the unclear provision in the PSC regarding "competitive arms length sales in the region for similar sales under similar conditions", then the appropriate action is to consider the **netback wellhead prices** of suppliers in the region for long terms contracts. Prima facie, the relevant suppliers in the region would be from Qatar, Oman, Abu Dhabi and Malaysia, who have also supplied in the past few years to India.

vi) However, the proposal to include **spot contracts** while computing **PIAV** and **PJAV** does not appear reasonable. Nowhere in the world, has well head prices of natural gas been linked to **spot** LNG contract prices, which are highly volatile and tend to be on the higher side. As such, spot prices should be excluded and only long term contracts from the same supplier should be considered. The weightage of quantity should be only with reference to the quantum supplied to India by that supplier. The trailing 12 month prices could be considered as suggested in the note. To determine the netback wellhead prices, the standard transportation charges need to be reduced.

vii) Since, it is difficult to establish linkages with other traded liquid fuels, the appropriate methodology would be as mentioned above, of considering the trailing 12 months price of LNG imported into India against the long term contracts from suppliers in the neighbouring region / area vis. Qatar, Abu Dhabi and Malaysia; and to assign weightage to all the prices based on the quantum imported into India from the said contracts.

viii) It is requested that, along with the proposed formula, the alternative formula, based on well head prices of suppliers in the region for long term contracts (Qatar, Oman, Abu Dhabi and Malaysia), as suggested above, may be included in the note for EGoM, as well as any other formula that may be suggested by any other Ministry / Department. Ministry of Petroleum & Natural Gas may discuss the pros and cons of these formulae and place the matter before the EGoM for a final decision.

Comments of MOF on CCEA Note

a) Ministry of Finance (MOF) had made the suggestion for not considering the spot prices due to volatility, and exclusion of price prevailing in Henry hub (USA), National Balancing Point (NBP) (UK) and the well-head prices of supplies into Japan, keeping in view that the Production Sharing Contracts (PSCs) had the following clause in regard to the determination of prices to the producers:
"*competitive arms length sales in the region for similar conditions*."

Further, the PSCs also mention that the price would take into account "domestic and international prices of comparable gas and the linkages with traded liquid fuels."

b) The revised CCEA Note has not given the pricing based on suggestions of the Ministry of Finance correctly. The two prices mentioned as being based on MOF suggestions have the following flaws:

(i) In one suggestion the spot prices are included; and

(ii) In the other long term contract prices for Indian LNG imports have been taken into account without confirming that these long term contracts do not include the contracts related to Henry Hub or the NBP, UK.

c) The MOP&NG suggestion has been shown to be more conservative without giving the future projections in this case which have been given for the other comparative prices. It is reiterated that the computation based on the MOF suggestions may be correctly done as per earlier suggestion and the estimates of the expected prices from FY 2013-14 onwards, as per the MOPNG formula may also be given.

d) In our earlier comments, it had been mentioned that every formula would have its pros and cons and hence had suggested that the draft CCEA Note should include the different formulae that may have been suggested. The need to highlight the prices from the different formulae is reiterated especially the formula being used in China and South Africa which have been mentioned in the Rangarajan Committee Report (Annexure X of the CCEA Note).

e) It may be appreciated that there are two distinct issues involved in the price discovery exercise – one, fixing the price of gas and the other price escalation annually or at any other time interval. Ministry of Finance is of the view that while pricing of gas could be attempted based on various considerations, such as, development of exploration activities, inflow of investments, impact on downstream industries etc, the price so discovered must not be open to huge volatility over the period of its currency. The two issues need to be clearly delineated separately.

Ministry of Finance suggested the gas prices based on Rangarajan Methodology excluding hubs and Japanese imports and taking only long term contract prices for Indian LNG imports. However, after the approval of CCEA, Ministry of Finance vide letter dated 4th July 2013 based on the editorials has advised to examine the gas price issue. The main observations indicated in the letter were as under:

(i) There must be a ceiling under the formula. It cannot be that gas producers will reap unlimited gains in case of an upswing in global prices; any upside has to be capped:

(ii) The Government must also subject gas producers to closer regulation, especially on the aspects of cost recovery and technical parameters related to production.

(iii) The ongoing issues with Reliance – which will benefit the most from the higher prices now – over cost recovery and penalties for not meeting contracted output levels need to be taken to their logical conclusion;

(iv) Once Reliance overcomes the 'technical difficulty' of producing gas at the KG-D6 field, the government must ensure the company delivers the shortfall it still owes at old price of $4.2 rather than getting the benefit of the new price.

(v) The government should also consider the other important recommendation of the Rangarajan Committee – of moving to revenue sharing arrangement with gas producers;

(vi) As for the impact on electricity companies, if the impact is shared across all 900 billion units of power generated, the required tariff hike of 7-8 paisa/unit is easily absorbed."

3.25 The Natural Gas Pricing Guidelines, 2013 approved by the Government stipulate that the Gas price would be notified in advance on a quarterly basis using the data for four quarters, with a lag of one quarter. Accordingly, the gas price of $ 6.835 is an indicative gas price based on domestic import and international data for the calendar year 2012 and applicable for the quarter April – June, 2013.

3.26 When enquired about the factors that were considered before discovering the new price of natural gas i.e. $ 6.8 per mmbtu, the Ministry stated as under:

Rangarajan Committee did not discover the price of natural gas as $ 6.8 per mmbtu. It only recommended a policy perspective and methodology for pricing of domestically produced natural gas.

The Committee did not find feasible to introduce gas-on-gas competition at this juncture. Therefore, it proposed a policy for pricing natural gas, till such time when gas-on-gas competition becomes feasible.

Proposed policy on pricing of natural gas for India will have to be based on searching out from global trade transactions of gas the competitive price of gas at the global level. As the global market is not fully integrated in terms of physical flows and is also not everywhere liquid enough, it has proposed to combine two methods of search for such prices, as indicated above.

The Committee also considered that the gas prices in India can incentivize investment in the Indian upstream sector, so that production in India reaches optimum levels and all exploitable reserves put to production expeditiously. India also needs to ensure that producers don't cartelise as there is a huge unmet demand. The twin objectives of expediting production and avoiding cartelisation can be achieved by ensuring that producers in India get at least the average price of what producers elsewhere are getting.

. Thus, the Committee recommended that the First, the netback price of Indian LNG import at the wellhead of the exporting countries should be estimated. Second method of searching for a competitive price for India is to take the average of pricing prevailing at trading points of transactions – i.e., the hubs or balancing points of the major markets of continents. Finally, average of the two methods has been proposed to be taken.

3.27 When asked by the Committee about the views of ONGC on the natural gas pricing formula and whether he agrees the price of $6.8 per mmbtu, the CMD, ONGC during the course of oral evidence stated as under:

The cost of production of ONGC for the 2004-05 was 1.6 $. At that time, the APM price was about 1.7 $. From 2005 to till this date, we are not even recovering the cost of production. It is only that we were able to recover the cost because of our oil production. Of late, the subsidy burden of oil is increasing. There is no incentive for us to increase the cost of gas. Today, it is 3.63 US $ and CAGR for the last ten years is 11.38 per cent. We want to develop Vasista field which is producing about 4 million cubic metre, it is not becoming viable at 4.75 which is today's non-APM price. It is breaking even only 6.22 $. So, if we go to deeper waters like 98 B2 which is 1100 to 1500 of water depth, the requirement of costs is higher than that. So, this is the incentivisation which is required for both Oil India and ONGC to increase production.

Sir, there are 37 marginal fields which are being developed. They are going to add about 110 million ton of oil and oil equivalent. These projects have become

viable only after the gas prices were increased. Before that, when the oil prices were low and the gas prices were in APM, these were not viable.

3.28 On being further enquired as to how does the cost of production is arrived at by oil PSUs, the MoP&NG representative enlightened the Committee as stated below:

> The cost of production is on company basis. ONGC has got several fields in which they are producing the gas. Like in Krishna-Godavari online basin, in one of the basin, the cost is as high as 70 $ because of the smaller volumes and also high temperature, high pressure and environment. So, when you take company as a whole, it averages out. But as the Chairman has just now pointed out Sir, the KG DW 98/2 is not getting DOC and appraisal completed. Commerciality is not being proved only because the natural gas is being priced at 4.2 $. Once it reaches 6.5 $ or so, then it becomes viable. Similarly, there are other fields like in GSPC and in Krishna Godavari basin itself where commerciality will be possible only beyond 5.5 to 6 $. So, I am not saying that they will not be viable. They will be viable only at 10 or 12 $. But viability range has increased from 4.2 to 7 $. If we allow higher price in these fields, there is a possibility that the 27 tcf of gas which has already been identified can be produced in next five to ten years. This is one of the important factors before the Ministry while recommending for higher price for natural gas.

3.29 In response to a specific query as to whether the discovered gas price of $ 6.8 per mmbtu is globally comparable, the Ministry give following reply:

> It will be erroneous to assume that the prices so arrived will be highest in the world since the prices to be computed for India will be based on international trade transactions and account for 70 % of the gas consumed internationally. The monthly prices of Henry Hub, National Balancing Point (NBP) and Japanese weighted average for the year 2012 may be seen below:

(in $ / mmbtu)

Month	Henry Hub	NBP	Japan
Jan-12	**2.67**	**8.43**	**15.22**
Feb-12	**2.51**	**9.26**	**14.79**
Mar-12	**2.17**	**9.41**	**14.75**
Apr-12	**1.95**	**9.34**	**15.33**
May-12	**2.43**	**8.78**	**15.56**
Jun-12	**2.46**	**8.48**	**15.66**
Jul-12	**2.95**	**8.56**	**15.40**
Aug-12	**2.84**	**8.84**	**15.19**
Sep-12	**2.85**	**9.60**	**15.06**
Oct-12	**3.32**	**10.44**	**13.88**
Nov-12	**3.54**	**10.64**	**13.96**
Dec-12	**3.34**	**10.80**	**14.05**

i. The Henry Hub price is taken from Energy Information Administration (EIA) USA.
ii. NBP price is taken from Platts.
iii. Gas price in Japan is based on the Argus Global LNG FOB price.

E. Cascading Impact of Gas Price Revision

3.30 When desire to know the likely impact of the gas price revision as proposed by Rangarajan Committee on the general economy, the Ministry furnished following information:

> "The likely impact of gas price revision is to be assessed by the concerned ministries. However, comments on impact on gas pricing increase provided by Ministry of Power & Department of Fertilizers during inter-ministerial consultation on gas pricing matter are as under:

I. Impact on Fertilizer Sector (Source: Department of Fertilizers)

- Existing 21 gas based urea units consume 24.893 MMBTU gas per MT of urea.
- Increase of USD 1/MMBTU in price of gas translates to enhanced cost of urea production by USD 24.893 per MT. For 18 MMT urea production per annum, the enhanced cost is USD 448 million per annum i.e. Rs. 2465 crore per annum (Rs. 55 per USD).
- Additional 5 MMT urea capacity is being converted from Naptha/FO/LSHS to gas during 2013-14. This will result in additional cost of Rs 690 crore per annum in 2013-14.
- Overall impact of USD 1/MMBTU increase in gas price will therefore in Rs. 3155 crore per annum from 2013-14 onwards for 23 MMT urea production.
- New investment Policy 2012 encourages 9 MMT additional urea capacity by end of 12th Plan (2016-17). Every one USD/MMBTU increase in price of gas will enhance subsidy by USD 20 per MT i.e. USD 180 million per annum i.e. Rs 990 crore per annum (Rs 55 per USD).
- Overall impact of USD 1/MMBTU increase in gas price will therefore be Rs. 4144 crore per annum for 32 MMT urea production from 2017-18 onwards.

II. Impact on Power Sector (Source: Ministry of Power)

- 18000 MW commissioned gas based power plants - 30% stranded for want of gas.
- 10000 MW gas based power plants at advanced stage of commissioning/construction - stranded for want of gas.
- With the existing gas based capacity (18000 MW), generation at 70% PLF is about 1,10,376 MU(million units) per annum. With the cost of every dollar increase in gas price assuming that the delivered price increases to $1.3/MMBTU, the impact on power sector will be about Rs 6,450 Crores.
- The Base price of Domestic gas would work out to US$ 8.8/MMBTU (Delivered price of US$12/MMBTU). Thus, total impact on existing Gas based stations on increase in base gas price from US$ 4.2/ MMBTU to US$ 8.8/MMBTU (increase in delivered gas price by ~ 6 US$/MMBTU) is about Rs 29,800 crores per annum.
- The Variable Cost would be around Rs. 5.40/Kwhr (45 paisa /MMBTU at present exchange rate) taking the Total Cost of generation to around Rs.6.40/unit, which will be unviable.
- Considering the capacity presently under construction, the total Gas base capacity will be about 28,000 MW generating about 1,71,696 MU/annum at 70% PLF. The impact of every dollar increase in gas price would be about Rupees 10,040 Crores per annum.
- Thus, the impact on total Gas based capacity on increase in base gas price from US$4.2/ MMBTU to US$8.8/MMBTU (increase in delivered gas price by ~ 6 US $ / MMBTU) is about Rupees 46,360 crores per annum.
- Base price of domestic gas beyond USD 5/MMBTU is unviable for power sector".

3.31 As regards the effect of this increased gas price on subsidy of government on petroleum products, the Ministry furnished following in the written reply:

> "LPG consumption of domestic gas is 6.02 MMSCMD and subsidized gas cylinders are about 94% of LPG sale i.e. 5.659 MMSCMD. Thus, impact on LPG

will be about Rupees 405.6 crore per annum for increase of 1 USD per MMBTU (5.659*365*35700*55) assuming one USD = Rs. 55 and one cubic metre = 35700 BTU.
The overall impact on fertilizer sector for USD 1/MMBTU increase in gas price is estimated to be Rs. 4144 crore per annum for 32 MMT urea production from 2017-18 onwards.
The impact on power sector for USD 1/MMBTU increase in gas price is estimated to be about Rupees 10,040 Crores per annum".

3.32 When asked as to how does Government expect the recent decision to provide a fillip to gas sector, the Ministry stated as below:

"The Natural Gas Pricing Guidelines, 2013 announced by the Government based on Rangarajan Committee recommendations will incentivize the domestic natural gas production by ensuring that the producers in India get at least the average price of what producers elsewhere in the world are getting. This will attract substantial investment in the Upstream Hydrocarbon Sector".

3.33 It has been stated that gas price revision would attract substantial investment in upstream hydrocarbon sector, the Committee in this regard wish to know the past experience post major gas hikes i.e. since the year 2009, the Ministry apprised as under:

"The investment made by Private/JV companies in NELP and pre NELP blocks is about US$ 30.87 billion upto 2011-12. The investment by Private/JV made before 2009 was of the order of US$ 20.689 billion in 15 years. After 2009 investment made by Private/JV companies in last three years is about US$ 10.18 billion. The average investment after 2009 was about US$3.39 billion per year as against investment of US$ 1.37 billion per year before 2009. The year-wise break-up of investment made by Private/JV companies is as under:

(US$ million)

Year	Total Pre-NELP	Total NELP	Grand Total
1994-95	4.8	0	4.8
1995-96	194.9	0	194.9
1996-97	511	0	511
1997-98	319.6	0	319.6
1998-99	229	0	229
1999-00	151.2	0	151.2
2000-01	192.9	29.6	222.4

2001-02	208.7	161.3	370
2002-03	282.7	293.6	576.3
2003-04	294.7	306.6	601.3
2004-05	391.1	601.8	992.8
2005-06	461.4	922.4	1,383.80
2006-07	1,474.20	1,372.30	2,846.50
2007-08	1,274.00	4,732.10	6,006.10
2008-09	1,815.60	4,463.80	6,279.40
Before 2009	**7,805.80**	**12,883.50**	**20,689.10**
2009-10	1,445.60	3,311.80	4,757.50
2010-11	972.4	2,620.60	3,593.00
2011-12	458.1	1,373.50	1,831.60
After 2009	2,876.10	7,305.90	10,182.10
Total	**10,681.70**	**20,189.40**	**30,871.10**

In addition, Plan outlay expenditure in 2011-12 by ONGC and OIL was Rs. 29246 crore and Rs 3180 crore respectively. During 2008-09, plan outlay expenditure by ONGC and OIL was about Rs. 21820 crore and Rs. 1632 crore respectively".

3.34 On being asked as to whether price hike is the only way of incentivizing the contractors or there may be other way outs possible, the Ministry submitted following reply:

"Apart from market price of oil & gas, other factors which may influence the investors in upstream sectors are:

i) Geological prospectivity i.e. resource base of the acreage available.

ii) Attractiveness of fiscal and contract terms.

iii) Contract stability guarantee by the host Government.

iv) General investment and operating environment.

v) Regional preferences of companies".

F. Uniform Price Policy

3.35 The Committee understand that the Ministry has been considering a report on uniform pricing of gas which was submitted by GAIL. When asked to furnish current Status of the report of the Inter-Ministerial Committee to formulate a policy for pooling of natural gas , the Ministry provided following details:

> "A committee was setup under the Chairmanship of Dr.Saumitra Chaudhuri, Member Planning Commission primarily with the aim to examine the need for and to suggest a viable scheme for a pooled price for natural gas delivered to consumers.
>
> The Committee finalized its report in August 2011. The report has made certain recommendations under a conservative scenario, in which the domestic gas production of gas would reach 199 MMSCMD by 2016-17.
>
> The recommendations of the Committee have not been accepted by the stakeholders. The main reasons for disagreement are given below:
>
> *(a)* The recommendation that 22% of the requirement of Fertilizer sector by 2016 be met through RLNG is not acceptable to Department of Fertilizer which has demanded meeting its full requirement from the cheapest source.
>
> *(b)* The recommendation that 27% of the requirement of Power sector by 2016 be met through RLNG is not acceptable by Ministry of Power which has stated that the power plants may not be viable if they have to use more than 25% RLNG.
>
> *(c)* The committee has recommended to freeze domestic gas allocation at 6 MMSCMD forth CGD sector and to meet any additional requirement through R-LNG. PNGRB has opposed the recommendation stating that preserving the present domestic allocation to the existing players and asking the future players to depend on RLNG will disadvantage the later entrants and distort the level playing field and suggested that the domestic allocation should be shared amongst all the players equitably. It has also stated that if substitution of diesel and petrol with CNG and of LPG with PNG is considered desirable then capping the domestic gas to this sector at 6 MMSCMD needs to be revised.
>
> *(d)* Under preferential allocation scheme the Committee has recommended diversion of around 10 MMSCMD gas from other sectors to Power & fertilizer sectors. This is not acceptable to Ministry of Petroleum & Natural Gas as technically no gas can be diverted from Non-core to Core sector".
>
> In a meeting held at PMO on 18th March, 2013, it was decided that Ministry of Power would bring a comprehensive note to the Cabinet on pooling of gas based on availability of natural gas for power sector from all sources.
>
> Ministry of Power is in the process of finalising their proposal on pooling of gas."

3.36 Asked about the view of the Ministry regarding the proposal of pooling of gases produced in different fields like NELP, nominated, pre-NELP etc, the Ministry furnished following reply:

> "The acceptability of a pooled gas price would depend on the ability of the sector, mainly power and fertilizer, to absorb the pooled price and manage a pass-through to their consumers. So long as the pooled price is acceptable to end consumers, MoP&NG has no objection for a pooled price mechanism".

OBSERVATIONS AND RECOMMENDATIONS

Recommendation No.1

Demand and Supply of Natural Gas

The Committee note that Natural Gas has emerged as one of the principal source of energy in the world and accounts for 23.94% of total global energy mix. Due to its inherent advantages over other fossil fuels there is a global trend of shift in energy mix from oil to natural gas. However, in case of India, share of natural gas in total energy mix accounts only 8.7% which is even lower than the Asia Pacific share of 11.27%.

As the Government pursued the economic policy to achieve high growth , the demand for natural gas has also sharply increased in India during the past few years, and expected to escalate further. The Committee are however, constrained to note the widening gap between demand and supply of gas in the country, as during 2012-13 there was only 134 mmscmd of gas available including the imported LNG against the demand of 286 mmscmd. Thus there was huge unmet demand of 152 mmscmd. During the year 2015-16, the expected gap would be to the tune of 300 mmscmd as against the demand of 439 mmscmd the available gas supply would be 139 mmscmd only. The chunk of this growing supply deficit is expected to be met through LNG imports from different countries. However, the Committee note that present LNG terminal capacity is 53 mmscmd only unable to support the increased purchase of LNG. Though the LNG infrastructure is expected to grow to 180 mmscmd by 2016-17, it would not still be sufficient to cater to the increasing LNG import in the coming years.

The Committee are of the view that MoPNG should evolve a plan to explore all possible options to increase the production and supply of natural gas in the country. Towards this end, the Committee desire that the Ministry should increase the blocks awarded for exploration, intensify activities for exploration and production of shale gas, pursue strong diplomatic efforts to expedite construction of transnational pipelines from neighbouring regions to bring gas and try to enter into long term contract for import of LNG at cheaper cost. The Committee further desire that unconventional sources of gas like Gas Hydrates,

CBM, Shale Gas should be seriously monitored for exploitation and development. Therefore, the Committee recommend that Ministry should prepare a blue print to improve the production and supply of natural gas in the country so that there is no deficit in meeting the domestic demand.

Recommendation No.2

Gas Allocation by EGoM

The Committee note that domestic production of Natural gas during the 12th plan was projected to be 111.54 mmscmd in the year 2012-13 and is expected to go up to 175 mmscmd by the end of the plan i.e. by 2016-17. The Committee however are surprised to note that the allocations made by EGoM for the year 2012-13 were to the tune of 238.27mmscmd, which is more than double the projected production during the same period. This shows huge mismatch devoid of any realistic estimations on part of EGoM. Though the Committee understands that the minimal surplus allocations are unavoidable but at the same time such excess allocations is not acceptable.

Further the shortfall in the actual production which plunged to 91.36 mmscmd in 2012-13 forced the Ministry to cut back the allocations to various sectors on pro-rata basis. So much so, that the consistent decline in production of gas from KG-D6 basin ultimately resulted in nil gas supply from the KG-D6 basin to power sector. These developments have an adverse impact on the projects and investment plans of many sectors of the economy which expects assured gas supply on basis of allocations made by the Government. The Committee therefore recommend that the allocations should be made by adopting a more pragmatic approach, and should not be more than 10% of the projected production.

Recommendation No.3

Allocation of gas to various sectors

The Committee note that allocation of natural gas is to be made to various consuming sectors as per the priority order decided by EGoM. As per this priority order, fertilizer industry comes at first place followed by LPG plants at the second and power plants at third place. The city gas distribution network rank fourth in priority.

The Committee, however note that due to less supply, allocation to the sectors have been much below the demand. In case of power sector, the allocation has been only 42.53 mmscmd against demand of 135 mmscmd in 2012-13 which is projected to go up to 207 mmscmd in 2016-17. However, large investments have been made in gas based power plants which has become infructous due to non-availability of gas. The power plants have the option of using imported LNG or coal in place of natural gas. As the cost of imported LNG is high, its use is uneconomical. As regards the usage of coal, the plants which have been designed for using natural gas have to make extra investments for shifting to coal as fuel. The Committee, therefore, recommend the Government to indicate the clear picture regarding the availability of gas for power sector in the next 5 to 10 years so that before making the investments in gas based power plant, the gas availability is factored in by the companies.

The Committee note that during 2012-13, power and fertilizer sectors cumulatively received 61.6% of natural gas whereas CGD sector received only 11.6% of the total available gas. Besides being an efficient environment friendly fuel, natural gas presently used in PNG and CNG does not also contain any subsidy element in its cost structure. Even a small quantity of natural gas allocation can cater to a large number of customers in the CGD network. The Committee seriously feel that in order to benefit a wider section of society, expansion of PNG/CNG network will be the way forward as this will also save the subsidy burden of the Government on the use of LPG and diesel. Hence, the Committee recommend that the CGD networks must be allocated an increased

quota of gas due to a slew of benefits that could be achieved by the use of natural gas over the other conventional fuels.

The Committee would also like to point out that requirement of natural gas varies from time to time and hence the allocation policy of Government needs to be dynamic and responsive towards the societal needs and changing economy. Therefore, the Committee desire that the allocation policy should be reviewed to reflect the changing demand supply scenario of the various sectors and the direction in which the Government wants to move forward.

Recommendation No. 4

Production of Natural Gas from KG – D6 Basin

The Committee note that KG-D6 basin is one of the successful discoveries in the NELP regime which gave hope to the country in its quest for exploration of hydrocarbon resources. The Committee note that the planned production as per the approved field development plan (FDP), which was 33.83 mmscmd in 2009-10 was to go up to 86.73 mmscmd in 2012-13. However, the production from the KG-D6 basin started declining as the actual production was 55.89 in 2010-11 to 26.18 mmscmd in 2012-13.

The Committee find that one of the reasons stated by the Ministry for the declining production was due to non-drilling of required number of gas producer wells by the contractor in line with Addendum to initial Development Plan (AIDP). Whereas according to the contractor, the decline has been due to substantial variance in reservoir behavior and higher pressure decline than envisaged. The Committee have been further informed that the contractor has been advised certain corrective measures to increase natural gas production in KG-D6 block. However, the contractor has failed to adhere to the corrective measures.

The Committee also observe that DGH had commissioned a study by an expert on the decline in production and the expert has concluded that reserves as estimated earlier, which is around 10 TFC are still available and remedial measures will help the production to go up. The expert has also observed that the

shortfall in gas production is due to non-drilling of adequate number of wells as per ADP (Approved Development Plan) and delays in commissioning additional producers would trigger water drive in the reservoir and consequent reduction of the ultimate recovery as a result of water encroachment as well as permanent loss of some of the gas reserves. Based on the aforesaid report the cost disallowance amounting to US $ 1.005 billion has been imposed upon the contractor which the contractor has taken for arbitration.

The Committee are worried and express their unhappiness at the whole series of events. The KG – D6 basin was success story of NELP regime which invited private companies and MNCs in the exploration and production regime which until then was a NOCs forte. However, the contractor has not adhered to the measures suggested by the upstream regulator DGH to drill wells to increase natural gas production. Also coincidentally, the demand for increase in the price of natural gas by the contractor over and above the discovered price by arm length mechanism as provided in the PSC has also brought question mark regarding the interest of contractor to abide in the sanctity and stability of the PSC.

The Committee has taken serious note of the statement made by the Ministry that the contractor (RIL) failed to adhere to the approved field development plan both in terms of gas production as well as drilling and putting on stream the required number of wells, even after repeated reminder. The Committee also note that the action taken by the Ministry in respect of cost disallowance of US$ 1.005 Billion to contractor based on arbitration procedure. In view of the above, the Committee is of the opinion that non-adherence by the contractor to approved field development plan should be construed as 'default' and not just failure and remedial action by the Ministry in this regard must be premised on 'default' by the contractor and not on 'failure'.

The Committee would like to point out that Supreme Court has observed that natural resources are national assets and are to be utilized for larger good of the people. Therefore, the Committee would recommend to MoPNG to explore all possible options and take corrective measures to increase the natural gas production from KG-D6 basin, as observed in the study commissioned by DGH.

Recommendation No. 5

Allocation to States

The Committee note that the natural gas produced from different denominated fields like APM, Non-APM, KG D6 and PMT are allocated as per the gas utilization policy by the EGoM. As per the policy the allocation of gas is done sectorwise in the order of priority as decided by EGoM and the geographical location of any oil/gas producing asset does not influence the allocation criteria of Government. Hence, this means that even though natural gas is produced from or adjoining areas of a State, there is no gurantee of any allocation to the State whereas industries in the priority sector in any state including far off ones would get preference in allocation of gas.

The Committee observe that total gas production during 2012-13 was 40678 million cubic metres, out of which the share of private/JV in the KG D6 basin located in coastal area adjoining Andhra Pradesh was 13700 million cubic metres. This accounts for 30% of the total natural gas production of the country. However, the allocation to Andhra Pradesh is pegged at 29.02 mmscmd in 2012-13, out of a total allocation of 216.27 mmscmd which works out to less than 15%. The Committee note that only regional preference given to Andhra Pradesh is that the power plants have been allocated KG D6 gas based on 75% plant load factor whereas power plants outside Andhra Pradesh have been allocated to operate at 70% PLF. The Committee are of the opinion that this is an insignificant privilege given to Andhra Pradesh considering the quantum of gas produced in the State. Further, though the gas producing and nearby states have enough demand for gas, it is transported from East to West Coast and vice-versa thus entailing extra expenditure increasing the cost of gas. The Committee feel that utilization of gas in nearby areas or states, could be more pragmatic and economical than transporting it to longer distances until a nation vide gas Pipeline network is in place.

The Committee are of the strong view that this policy should be re-examined and the industries in the state concerned or in the neighboring regions should be given priority in matter of allocation of gas as the state in which the

field is located will be very eager and interested to use the gas for its economic development . The Committee, therefore recommend MoPNG to supply atleast 50% of the gas produced to industries belonging to the state where the fields are situated.

Recommendation No. 6

Royalty to States on Natural Gas Production

The Committee note that oil and natural gas is produced from the fields located in onshore, shallow water and offshore. Some of the fields for exploration and production were awarded under nomination basis and once NELP regime came into being, the fields were awarded under competitive bidding. As per Production Sharing Contract (PSC) the contractor has to pay royalty to the Central/State Government depending on the area from where the natural gas is produced. The royalty rates on natural gas production are 10% of well head value for onland and shallow water areas applicable uniformly for all regime and it is paid to respective states in which the fields are located. The royalty rates applicable for gas produced from deep water fields under NELP is 5% of well head price for first 7 years and 10% thereafter on ex-royalty basis. However, in case of production from deep water, royalty accrues only to Central Government on the consideration that all the resources which are in the offshore areas belong to the Union of India.

The Committee feel that this policy has put the States where the gas is being produced from offshore fields to disadvantageous position as they are being deprived of royalty arising out of the production of natural gas. In the case of KG D 6 basin which is one of the biggest discovery of natural gas in the recent years, the royalty on the production accrues only to Central Government and no revenue is earned by the Andhra Pradesh State Government. As the royalty payments to States where the natural resources are located and produced is substantial as seen in the case of Rajasthan where State Government is earning to the tune of Rs.5000 crore/annum by way of royalty from Barmer fields, depriving other States of its rightful share of royalty from offshore fields is unjustified. Even though, the offshore fields lie in coastal areas, the contractors

would set up offices and source other infrastructure to carry out the work in the adjoining state to the offshore Hence, it is reasonable for the state to expect some benefits from such economic activities being carried out adjacent to their coast will incentivize the states to extend all cooperation to carry out the exploration and production activities.

As the production of oil and natural gas is expected to increase substantially with the new discoveries from offshore fields being made, the issue relating to non-sharing of royalty from offshore areas with State Governments needs to be revisited and the State Government should also be benefited from the economic activities being carried out in their coastal region. Since the exploration and production activities are expected to increase in offshore and deep waters in the years to come, the Committee therefore recommend that MoPNG should devise a policy for sharing the royalty earned from offshore areas also with the concerned State Governments.

Recommendation No. 7

Supply of APM Gas to TTZ Area

The Committee note that in pursuance of Supreme Court order, MoPNG has been supplying natural gas to the industrial units most of which are glass - bottle manufacturing units in Taj Trapezium Area, in Ferozabad near Agra since 1996. The allocation of gas for this purpose now stands at 1.7 mmscmd. The price of the natural gas charged to these units are APM price which has remain unchanged since 2005.

The Committee are given to understand that the number of factories in this area has grown manifold taking advantage of the low priced APM natural gas. The Committee feel that this has defeated the purpose of the Supreme Court order which wanted that Taj Area should be preserved from environmental pollution from the factories in the nearby area. The Committee also wish to observe that glass units in other town/cities in the country which buy gas at market related prices are at a distinct competitive disadvantages compared to the units located in TTZ Area.

In view of the above, the Committee desire the MoPNG to implement the Supreme Court order and the objectives set out in it in the right spirit without creating any imbalances in competitive factors for other similar industrial units in the country. Therefore, the Committee recommend that the MoPNG to initiate concrete corrective action and supply natural gas at competitive market price to these units so as to check the mushrooming of industries in TTZ area which are taking unfair advantage of low gas price.

Recommendation No.8

Rangarajan Committee on PSC

The Committee note that The Production Sharing Contracts are entered between contractors and Government on a host of issues under the NELP. Government appointed the Rangarajan Committee to review Production Sharing Contract (PSC). Some of the important recommendations of the committee include a new revenue sharing model, pricing formula for natural gas and tax holidays. The revenue sharing model has been proposed to overcome the present system of pre tax investment model and cost recovery mechanism.

The Committee desire that since Rangarajan committee recommendations have wide ramifications on the investments in the E&P sector, it needs to be examined in greater detail before any decision is taken on the implementation as the E&P activities under NELP has not achieved the desired participation from adequate number of both domestic and international companies.

Recommendation No. 9

Gas Price formula by Rangarajan Committee

The Committee note that the Rangarajan Committee appointed to review Production Sharing Contract (PSC) entered between contractors and Government under NELP regime has devised a new formula regarding the price of natural gas produced. In this regard, its report has stated that'….the producers in India get at least the average price of what producers elsewhere are getting'. The proposed formula is a simple average of two methodologies. In the first method, it takes the price of imports of LNG into India by different suppliers while in the second

method, the weighted average of prices of natural gas prevailing at Henry Hub (HH) in USA, National Balancing Point (NBP) in London and netback import price at the well head of suppliers into Japan in the preceding quarters is considered.

The Committee have noted that during the year 2012, the natural gas prices in these three selected hubs were around US$ 2.5 to 3.5 per mmbtu in HH(USA), US $ 8to 10 at NBP and $ 14 to 16 at Japan respectively. However, it is to be observed that the benefit of lower gas prices at HH has been at largely diluted by the inclusion of Japan's LNG FoB prices which includes 60% royalty component linkage to JCC and host of other factors.

The note prepared by Ministry of Finance for EGoM on the Rangarajan Committee formula argues that there is no logic in inclusion therein of the consumption by Japan which is having very high import LNG price and that nowhere in the world, well head prices of natural gas has been linked to spot LNG contract basis. The Committee find merit in this view of the Ministry of Finance.

The Committee further observe that Russia, being the second largest among the gas producing and consuming countries, exporting 40 to 50 percent of its gas to Europe at a price of about $8.77 per mmbtu, could be a valuable and better indicator of gas price. The Committee desire that Russian prices could be incorporated as one of the reference price in the pricing formula.

The Committee would also like to point out the glaring omission of factoring of domestic cost of production of natural gas by NOCs namely ONGC and OIL which was pegged at $ 3.63 and $3.21 respectively during the year 2012-13. Similarly the cost of production for RIL in 2012-13 stood at US$ 2.48 per MMBTU from KG-D6 field.

The Committee would further like to highlight that the price of domestic natural gas need not be dollar denominated due to huge volatility in dollar vis-à-vis Rupee which often leads to gains to operators for no reasons and adversely impact the Government financials. As the present price of $ 4.2/MMBTU at an exchange rate of Rs.45/-, works out to be Rs.189/MMBTU and as against Rs.60/USD, equals to Rs.252/MMBTU which is 30% windfall gain accrued due to rupee devaluation from Rs.45 to 60 against the US dollar.

The Committee taking into consideration all the factors analysed above would like to recommend that the Rangarajan Committee formula for arriving at natural gas price should be thoroughly reviewed and reconsidered. The Committee recommend factoring domestic cost of production of gas for arriving at the price, and fixation of price of gas in rupee terms in PSC under NELP regime.

Recommendation No. 10

Strategy to attract investments in Exploration and Production sector

The Committee is not sufficiently convinced on the efficacy of the strategy of the Government on deploying the single instrument of price to achieve multiple objective of incentivizing domestic gas exploration and production on the supply side and meeting the huge unmet demands for gas at reasonable cost. Doubts have been raised in the Committee as to whether a big rise in gas price would attract additional investment from within and abroad in the field of exploration. Data supplied by the Ministry on flow of investment by private/JV companies in exploration of gas reveal that flow of private investment in exploration has actually started tapering down every year from 2009-10 onward compared to similar investments in 2007-08 and 2008-09 despite there be substantial jump in the gas price from 2009 onward and also country's gas out put marked a drastic decline. The Committee, therefore, recommend a through review of the whole strategy of price-led investment growth.

Recommendation No. 11

Impact of Gas Price Revision on Power/Fertilizer Sector

The Committee note that under the allocation policy for natural gas, the top priority has been accorded to gas based fertilizer plants, followed by power plants supplying to grid. The allocation of Natural Gas to Fertilizer and Power sector during 2012-13 was 40.18 MMSCMD and 42.53 MMSCMD respectively and accounted for 29.9% and 31.6% of the total allocation. The Committee have been informed that presently fertilizer sector is getting Natural Gas at a price of $4.2 per MMBTU and increase of 1 US dollar per MMBTU will result in extra

expenditure of Rs 3155 crore per annum towards fertilizer subsidy. Similarly the Power Ministry has in its note submitted to CCEA have stated that if base price of domestic Natural gas is increased beyond US $ 5 /MMBTU, it would be unviable for power sector.

Considering the above it is clear that in the event of increase in gas prices, the Government will have to provide more money for the purpose of fertilizer subsidy. Simultaneously since power is an important input to most of the industries, increase in its cost will have a cascading impact on the economy as a whole.

In this regard, the Ministry while justifying the revision of natural gas prices have informed the Committee that the 12th Five Year Plan document has the underlying philosophy of the Government that the energy prices in the country must align with global energy prices. Hence, as the country is thriving on imported fuel , the pricing has to be linked to international prices.

The Committee while understanding the need to adopt market linked pricing of energy in the country also wish to point out that being a developing nation and having a huge population with very little surplus purchasing capacity, it would not be advisable to switch to market linked energy prices from a protected price environment.

The Committee therefore, recommend that the new formula for natural gas pricing as suggested by the Rangarajan Committee should be reviewed and reconsidered; the issue of market linked price of natural gas should be dealt and considered in due consideration of its impact on other sectors like fertilizer, power etc. including their viability, resources to fund increased subsidy by the Government and related issues.

Recommendation No. 12

Pooling of Gas

The Committee note that natural gas is produced from different category of fields like nominated blocks, Pre-NELP blocks and NELP blocks on both onshore and offshore fields. However by and large the priority in allocation for gas produced from different fields is same.

The Committee have also noted that the price for gas varies depending upon the type of fields from which the gas has been produced. The gas produced from APM fields is priced at $4.20/MMBTU whereas from PMT and Ravva fields it is priced at $5.57 and $3.5 – 6.8 respectively, whereas for KG – D6 basin it is priced at $4.2/MMBTU.

The Committee however, are of the view that the differential pricing of gas do not provide clarity and transparency about gas pricing to consumers. The Committee desire the MoP&NG to consider pooling of the entire production and then allocate to the sectors as per the priority at a uniform price.

The Committee is also of the firm opinion that for pooling gas prices, prices of gas from different fields must be premised on the respective cost of production and this necessitate factoring of domestic cost of production for arriving at the gas price.

The Committee note that a Committee was set up under the Chairmanship of Dr. Saumitra Chaudhari, Member, Planning Commission to examine the need for and to suggest a viable scheme for a pooled price for natural gas delivered to customers. This Committee have since given the report. The various stake holders like Ministry of Fertilizer and Power have expressed reservations on the recommendations of the Committee. While appreciating the reservations expressed by the stake holders, the Committee recommend that the Ministry should try to evolve a consensus on pooling of gas, so that a uniform price policy can be put in place for natural gas in the country.

New Delhi;
17 October, 2013
25 Asvina, 1935 (Saka)

SOMABHAI GANDALAL KOLI PATEL,
Acting Chairman,
Standing Committee on
Petroleum & Natural Gas.

Annexure I

MINUTES

STANDING COMMITTEE ON PETROLEUM & NATURAL GAS

(2012-13)

FIFTEENTH SITTING

(24.07.2013)

The Committee sat on Thursday the 24th July, 2013 from 1500 hrs. to 1730 hrs. in Committee Room 'E', Parliament House Annexe, New Delhi.

PRESENT

Shri Aruna Kumar Vundavalli - Chairman

MEMBERS

LOK SABHA

2 Shri Sudarshan Bhagat

3 Shri Ram Sundar Das

4 Shri Kalikesh N. Singh Deo

5 Shri Baliram Jadhav

6 Dr. Manda Jagannath

7 Shri Dilipkumar Mansukhlal Gandhi

8 Shri Somabhai G. Koli Patel

9 Shri P.L.Punia

10 Shri Dhananjay Singh

RAJYA SABHA

11 Shri Mansukh L. Mandaviya

12 Dr. Ram Prakash

13 Smt. Kusum Rai

14 Shri Tapan Kumar Sen

15 Smt. Gundu Sudharani

16 Dr. Prabha Thakur

17 Prof. Ram Gopal Yadav

SECRETARIAT

1.	Shri A.K.Singh	-	Joint Secretary
2.	Smt. Anita Jain	-	Director
3.	Shri H. Ram Prakash	-	Deputy Secretary

Representatives of the Ministry of Petroleum & Natural Gas

1.	Shri Vivek Rae	-	Secretary
2.	Shri Rajive Kumar	-	Additional Secretary
3.	Shri Giridhar Aramane	-	Joint Secretary
4.	Shri P.K.Singh	-	Joint Secretary

Representatives of Public Sector Organisations

1.	Shri S.K.Srivastava	-	CMD, OIL
2.	Shri B.C.Tripathi	-	CMD, GAIL
3.	Shri A.K.Banerjee	-	Director (Finance), ONGC
4.	Shri P.K.Borthakur-	-	Director (Offshore), ONGC

2. At the outset, Hon'ble Chairman welcomed the Members, representatives of the Ministry of Petroleum and Natural Gas and PSU officials to the sitting. Thereafter, the representatives of the Ministry briefed the Committee on the subject 'Allocation and Pricing of Gas'. A power point presentation was also made by the Ministry officials on the subject.

3. The Committee then deliberated upon various aspects related to the subject such as demand and supply of gas , criteria for allocation of gas to various sectors, right of native states on the allocation and utilization of onshore/offshore gas, reasons for gas price hike, rationale behind the gas pricing formula devised by Rangarajan committee,

pricing methodologies followed for domestically produced gas, production sharing mechanism etc.

4. The clarifications sought by the Members on various points related to the subject were provided by the representatives of the Ministry/PSUs. However, on some of the points to which the Ministry/PSU's officials could not readily respond, the Chairman asked them to furnish written information to the Secretariat.

5. Verbatim record of the proceedings of the sitting has been kept.

The Committee then adjourned.

Annexure II

MINUTES
STANDING COMMITTEE ON PETROLEUM & NATURAL GAS
(2012-13)
SIXTEENTH SITTING
(20.08.2013)

The Committee sat on Thursday the 20th August, 2013 from 1500 hrs. to 1645 hrs. in Committee Room 'C', Parliament House Annexe, New Delhi.

PRESENT

Shri P.L. Punia - Acting Chairman

MEMBERS

LOK SABHA

2 Shri Sudarshan Bhagat

3 Shri Baliram Jhadhav

4 Shri Somabhai G. Koli Patel

5 Shri Rao Saheb Danve Patil

6 Shri Dhananjay Singh

RAJYA SABHA

7 Shri Mansukh L. Mandaviya

8 Shri Sabir Ali

9 Shri Tapan Kumar Sen

10 Dr. Prabha Thakur

SECRETARIAT

1. Shri A.K.Singh - Joint Secretary
2. Smt. Anita Jain - Director
3. Shri H. Ram Prakash - Deputy Secretary

Representatives of the Ministry of Petroleum & Natural Gas

1.	Shri Vivek Rae	-	Secretary
2.	Shri Rajive Kumar	-	Additional Secretary
3.	Shri Giridhar Aramane	-	Joint Secretary
4.	Shri R.N. Choubey	-	DG, DGH

Representatives of Public Sector Organisations/Other agencies.

1.	Shri Sudhir Vasudeva	-	CMD, ONGC
2.	Shri S.K.Srivastava	-	CMD, OIL
3.	Shri B. C. Tripathy	-	CMD, GAIL

2. In the absence of the Chairman, the Committee chose Shri P.L. Punia to chair the sitting under rule 258(3) of the Rules of Procedure and Conduct of Business in Lok Sabha.

3. **********

4. Afterwards, the Committee called the witnesses to take their oral evidence on the subject "Allocation and Pricing of Gas". Thereafter, Hon'ble Chairman welcomed the representatives of the Ministry of Petroleum and Natural Gas and PSU officials to the sitting.

5. The Committee then deliberated upon various aspects related to the subject such as criteria for allocation of natural gas to various States, rationale behind fixing priorities for allocation of gas to different sectors of the economy, rates at which royalty is being paid to State governments by operators, reasons for differential rates of royalty to Government from offshore and onshore operations, allocation of gas produced in the economic zone, allocation of the low cost domestically produced gas to TTZ, natural gas prices prevalent in other countries of the world, rationale behind the gas pricing

formula devised by Rangarajan Committee, impact of the recent hike in Gas prices on various sectors including the Power and Fertiliser sector, consideration of Inter-fuel substitution in the Gas based power plants etc.

6. The clarifications sought by the Members on various points related to the subject were provided by the representatives of the Ministry/PSUs. However, on some of the points to which the Ministry/PSU's officials could not readily respond, the Chairman asked them to furnish written information to the Secretariat.

7. The witnesses then withdrew.

8. Verbatim record of the proceedings of the sitting has been kept.

The Committee then adjourned.

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*********Matter not related to this Report***

Annexure III

MINUTES

STANDING COMMITTEE ON PETROLEUM & NATURAL GAS

(2013-14)

SECOND SITTING

(17.10.2013)

The Committee sat on Thursday the 17th October, 2013 from 1100 hrs. to 1215 hrs. in Committee Room 'B', Parliament House Annexe, New Delhi.

PRESENT

Shri Somabhai G. Koli Patel - Acting Chairman

MEMBERS

LOK SABHA

2. Shri Subhash Bapurao Wankhede
3 Shri Harish Chaudhary
4 Shri Ram Sundar Das
5 Shri Baliram Jhadhav
6 Dr. Manda Jagannath
7 Shri Dhananjay Singh
8 Shri Manohar Tirkey
9 Shri Rao Saheb Danve Patil
10 Shri Thol Thirumaavalavan
11 Shri A.K.S. Vijayan
12 Shri Brijbhushan Sharan Singh

RAJYA SABHA

13 Shri Tapan Kumar Sen
14 Smt. Gundu Sudharani

SECRETARIAT

1.	Shri A.K.Singh	-	Joint Secretary
2.	Smt. Anita Jain	-	Director
3.	Shri H. Ram Prakash	-	Deputy Secretary

Representatives of the Ministry of Petroleum & Natural Gas

1.	Shri Vivek Rae	-	Secretary
2.	Shri Rajive Kumar	-	Additional Secretary
3.	Shri Neeraj Mittal	-	Joint Secretary

Representatives of Public Sector Organisations/Other agencies

1.	Shri R.S. Butola	-	CMD, IOCL
2.	Shri K.K. Gupta	-	Director, BPCL
3.	Ms. Nishi Vasudeva	-	Director, HPCL

2. In the absence of the Chairman, the Committee chose Shri Somabhai G. Koli Patel to chair the sitting under Rule 258(3) of the Rules of Procedure and Conduct of Business in Lok Sabha.

3. At the outset, Hon'ble Chairman welcomed the Members to the sitting of the Committee. The Committee then took up for consideration of the draft Report on the subject 'Allocation and Pricing of Gas'. The Members suggested certain modifications and authorized the Chairman to finalize the report and present it to Hon'ble Speaker.

4. **********

5. **********

6. **********

7. **********

8. Verbatim record of the proceedings of the sitting has been kept.

The Committee then adjourned.

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*Matter not related to this report.