IPNG 50 YEARS 1967-2016

सत्यमेव जयते
Government of India

INDIAN PETROLEUM & NATURAL GAS STATISTICS 2015-16



Ministry of Petroleum and Natural Gas

Economic and Statistics Division

सत्यमेव जयते
Government of India

INDIAN PETROLEUM & NATURAL GAS STATISTICS

2015-16

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MESSAGE

I am happy to note that the Economic & Statistics Division is bringing out the 50th Edition of the its annual publication - Indian Petroleum and Natural Gas (IPNG) Statistics 2015-16.

The IPNG Statistics is a comprehensive document containing latest and reliable statistics relating to the oil & gas Sector in India along with glimpses of the international oil scenario. This year's publication, is being brought out in a color format and has been refined by addition of chapter-wise Summary Highlights and graphical illustrations for ease of comprehension. The efforts put in by the officials of Economic & Statistics Division in bringing out this issue are highly appreciated.

I am sure that this publication would be wide used by policy makers, administrators, researchers and commentators, both within and outside India, to provide valuable insights into the oil and gas sector, for effective policy making.

(Dharmendra Pradhan)

New Delhi
October, 2016

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खुशियां बांटने की खुशी

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FOREWORD

It is a matter of great satisfaction that the Economic & Statistics Division of this Ministry is bringing out the annual Publication 'Indian Petroleum & Natural Gas Statistics 2015-16. The Publication, a comprehensive and accurate collection of Indian oil & gas sector statistics, is a valuable database, referred widely, both within and outside the country. This is the 50th edition of the report, an important milestone for a publication that has traced the development of India's hydrocarbon sector since 1967. I am confident that the Summary Highlights, definition of commonly used terminologies in the oil & gas sector and pictorial additions would add greater value for the users. The color format being used for the first time for the golden jubilee issue of the publication would also provide a better visual experience.

I compliment the officers and staff, under the leadership of Senior Adviser of this Ministry, in their sustained endeavor to bring out this publication. I am sure that it would be a useful source of information for planners, policy makers and researchers engaged in the Indian oil & gas sector.

New Delhi
October, 2016

(K.D. Tripathi)

सत्यमेव जयते

उर्वशी साधवानी
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Senior Adviser

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PREFACE

The objective of the annual publication titled "Indian Petroleum and Natural Gas Statistics," brought out by the Ministry of Petroleum and Natural Gas is to provide a comprehensive, reliable and updated data base of the oil and gas sector in India and also give a glimpse of the world petroleum scenario. The eleven chapters, contained in the Report, provide a brief analysis of the data on production, exploration, refining, transportation and marketing, imports and exports of crude oil and petroleum products alongwith taxes and duties realized. The man power employed in CPSEs under the Ministry of Petroleum and Natural Gas, outlays and annual expenditure for the sector, dividends paid, equity capital and profits of the CPSEs have also been covered. This 50th golden jubilee edition of the publication "Indian Petroleum and Natural Gas Statistics 2015-16", has been brought out in colour and revamped to make it user-friendly by adding chapter-wise highlights and visually depicting key take-aways of each chapter.

This publication has been made possible on time only because of utmost cooperation from various Ministries/Departments, concerned oil and gas CPSEs and attached offices including the Petroleum Planning and Analysis Cell of this Ministry, who came forward to share the required information/data. In preparing the chapter on International Petroleum Statistics, data from Organization of Petroleum Exporting Countries, International Energy Agency and B.P. Statistical Review of World Energy have been taken. Inputs/data received from all departments/organizations is gratefully acknowledged.

The untiring efforts put in collectively by the team of officers and staff in Economic & Statistics Division in bringing out the present issue is highly commended. Any comments/suggestions towards improving the scope, contents, layout, etc., of this publication would be welcome and highly appreciated. We are sure that this publication would prove to be useful for all kinds of data users working in the oil and gas sector.

Urvashi Sadhwani

(Urvashi Sadhwani)
Senior Adviser

New Delhi
October, 2016

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SCOPE AND COVERAGE OF DATA PUBLISHED

1. **Scope**: The "**Indian Petroleum & Natural Gas Statistics**" presents updated comprehensive statistics on various aspects of Indian Petroleum & Natural Gas sector. The data on international developments in respect of the key parameters of Petroleum and Natural Gas sector have also been captured in the publication.
2. **Coverage**: The Statistics presented in the current publication cover the exploration, production, refining, marketing activities, etc. of Oil and Gas sector.
3. **Source**: The primary statistics in respect of petroleum and natural gas industries included in the publication are based on various returns, submitted by the Oil & Gas Central Public Sector Enterprises (CPSEs), Joint Venture companies and Private companies under the Ministry of Petroleum & Natural Gas.

   The sources of all the secondary data, including international statistics, incorporated in the publication, have been indicated at the bottom of relevant tables.
4. **Limitations**: The data in respect of sales/consumption of petroleum products reflect dispatches of various petroleum products from the sales depots of different oil companies to the bulk consumers/retail outlets. The state-wise sales/consumption of such products show dispatches to direct consumers / retail outlets meant for consumption / sales in a particular state.
5. **Reference Period**: Key statistics for the domestic petroleum and natural gas industries have been presented on calendar (January-December) as well as on financial year (April-March) basis.
6. **Natural Gas**: The gross production of natural gas reflects gross withdrawals of natural gas from reservoir. On the other hand, the net production of natural gas show gross withdrawal of natural gas from reservoirs less gas used for reinjection into reservoirs for pressuring gas which is flared and / or vented.

   The utilization data for natural gas includes gas marketed, gas used for LPG extraction and gas consumed for field operations by the companies engaged in hydrocarbons exploration / production activities.
7. **Petroleum Imports**: The crude oil and product import figures given in the publication includes crude oil / petroleum products imported by the oil PSUs, private and parallel marketers on behalf of Nepal for processing of crude oil in Indian refineries and arranging supplies of desired products to Nepal. Petroleum products actually brought into the country from processing of Indian and International crudes at foreign refineries for Indian oil companies have also been included under the product import figures.
8. **Value of Import/Export**: The value data in respect of exports of petroleum included in the publication show F.O.B. value of exports whereas similar value figures for imports reflect C.I.F. value of imports.
9. **Revision / Modification / Updation**: The statistics provided in this publication for the current year is provisional in view of the time lag involved in receipt of actual figures. In view of this, some information based on provisional data may undergo change as and when the actual data are available.

   Necessary revision / updation in the past data has been made in the light of latest available figures. To illustrate:

   - Data on exploration and production (wells, reserves, meterage) may not be strictly comparable with earlier issues due to change in nomenclature, rationalisation and classification of reporting.
   - Re-classification among the sectors of consumption of natural gas under energy and non-energy sectors has been done depending on usage. Sectors where natural gas is being used as feedstock are classified as consumption of gas under non-energy purpose whereas those sectors where natural gas is being used as fuel are classified as consumption of gas under energy purpose.
   - Data on pipeline have also been updated post reconciliation. Data on international statistics of certain parameters like world crude oil exports taken from different sources viz. OPEC Bulletins and BP Statistical Review may not tally due to difference in coverage and methodology used.
   - India's Refining Capacity in Table XI.7 on World Oil Refining Capacity has been retained for 2015 at 4319 Thousand barrels per day as against BP's quoted figure of 4307 Thousand barrels per day.
10. **Definitions:** Definitions of common Crude oil and Gas products and terminologies have been compiled based on 'Manual on Infrastructure Statistics' of Ministry of Statistics & Programme Implementation.
11. **Abbreviations:** Details of abbreviations used have been provided in Appendix.
12. **Conversion factor**: The conversion factors generally used in the Oil & Gas sector are also given in the Appendix.

Errors of Omissions and Commissions, if any, detected may kindly be brought to the notice of the Assistant Director, Economics & Statistics Division, Ministry of Petroleum & Natural Gas for rectification in the subsequent issue.

Chapter I : Performance of Petroleum & Natural Gas Sector-Some Key Macro-Economic Trends



Chapter I: Performance of Petroleum & Natural Gas Sector-Some Key Macro-Economic Trends

Introduction:

The Indian economy displayed signs of recovery in a tentative global economic condition during 2015-16. The growth rate of Gross Domestic Product (GDP) at constant (2011-12) prices is estimated to have increased by 7.6% in 2015-16 as against 7.2% in 2014-15. Growth rate of Gross Value Added at constant basic prices for 'Manufacturing' sector and 'Mining and quarrying' were 9.3% and 7.4% vis-à-vis the growth of 5.5% and 10.8% respectively in 2014-15. The revival in growth of the industrial sector and decline in international prices of crude oil led to a boost in consumption. Demand for petroleum products increased by 10.86% during April-March, 2015-16 over the same period last year. Given the limited domestic availability of crude oil and natural gas, the country is compelled to import over 75% of its domestic requirement.

I.1 Crude Oil and Natural Gas Production:

The crude oil production during the year 2015-16 is at 36.950 Million Metric Tonnes (MMT) as against production of 37.461 MMT in 2014-15, showing a decrease of 1.36%. Shortfall of production in Mumbai asset was due to natural decline of mature fields and less than envisaged production from new & marginal fields. Production was also affected due to various reasons, including inter alia delayed/less gain from some of the fields (Ahmedabad asset), power shutdown due to cyclone (Ahmedabad and Mehsana asset), less air injection (Mehsana asset), increase in water cut (Mehsana and Cambay asset) and closure of wells for rig less jobs (Assam asset). Decline in production from Upper Assam Basin and prolonged and frequent bandhs/ blockade also affected crude production in North East. Condensate receipt was affected due to re-routing of South Bassein Hazira Trunkline and time lag in normalization of production after Bassein Platforms A and B and shutdown for carrying out re-construction activities.

Natural Gas production during the year 2015-16 is at 32.249 Billion Cubic Meters (BCM) which is 4.18 % lower than production of 33.657 BCM in 2014-15. This was mainly due to natural decline in some of the fields, underperformance of wells, closure of wells for maintenance activities, unplanned shutdown of GAIL gas line and less off-take by the consumers. A total of 7 wells in D1 & D3 and 2 wells in MA field ceased to flow in 2015-16 due to water/sand ingress issues. Production from remaining Wells of KG-D6 also declined rapidly.

Government has taken several policy initiatives and reforms in the hydrocarbon sector which include, inter alia, new Hydrocarbon Exploration and Licensing Policy (HELP), Discovered Small Field Policy, marketing and pricing freedom for new gas production from Deepwater, Ultra Deepwater and High Pressure-High Temperature areas, extension of Production Sharing Contracts for small and medium size fields, linking the transparent new gas pricing formula to the global market, early monetization of hydrocarbon discoveries, policy on testing requirements for discoveries in NELP block, reassessing the hydrocarbon potential in India's sedimentary basin, appraising about 1.5 million square kilometers unappraised basins and setting up of National Data repository.

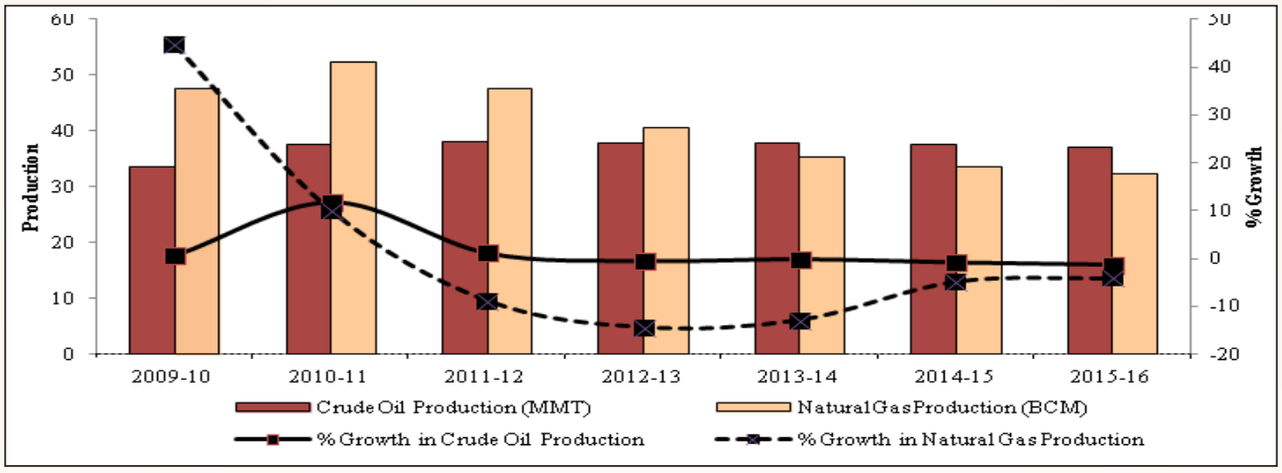
The trends in the production of crude oil and natural gas for the year 2009-10 to 2015-16 have been depicted below:

Table-I.1: Crude Oil and Natural Gas Production

Year	Crude Oil Production (MMT)	% Growth in Crude Oil Production	Natural Gas Production (BCM)	% Growth in Natural Gas Production
2009-10	33.690	0.54	47.496	44.61
2010-11	37.684	11.85	52.219	9.94
2011-12	38.090	1.08	47.559	-8.92
2012-13	37.862	-0.60	40.679	-14.47
2013-14	37.788	-0.19	35.407	-12.96
2014-15	37.461	-0.87	33.657	-4.94
2015-16(P)	36.950	-1.36	32.249	-4.18

P: Provisional

Figure I.1: Crude Oil & Natural Gas Production



I.2 Refining Capacity & Refinery Crude Throughput:

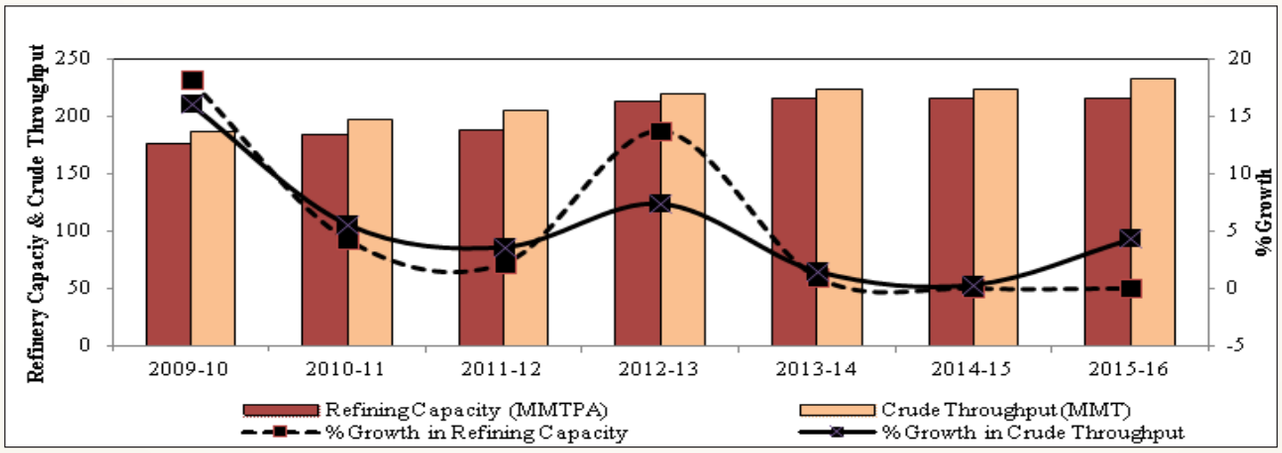
Indian refining industry has done exceedingly well in establishing itself as a major player globally. India is emerging as a refinery hub and refining capacity exceeds the demand which is second largest refiner in Asia after China. After the commissioning of the Paradip Refinery in February 2016, the country's refining capacity has increased from 215.066 MMTPA to 230.066 MMTPA at present (as on 01.04.2016). Refinery Crude Throughput (Crude Oil Processed) for the year 2015-16 is 232.865 MMT as against 223.242 MMT in 2014-15, showing an increase of about 4.31%. The trend in Refining Capacity and Crude throughput during 2009-10 to 2015-16 are depicted in Table 1.2.

Table I.2: Refinery Capacity & Refinery Crude Throughput (in terms of Crude Oil Processed)

Year	Refining Capacity (MMTPA)	% Growth in Refining Capacity	Crude Throughput (MMT)	% Growth in Crude Throughput	Refinery Capacity Utilization (%)
2009-10	175.956	18.12	186.552	16.03	106.02
2010-11	183.386	4.22	196.989	5.59	107.42
2011-12	187.386	2.18	204.121	3.62	108.93
2012-13	213.066	13.70	219.212	7.39	102.88
2013-14	215.066	0.94	222.497	1.50	103.46
2014-15	215.066	0.00	223.242	0.33	103.80
2015-16(P)	215.066*	0.00	232.865	4.31	108.28

P: Provisional * Refining Capacity has since been enhanced by 15 MMTPA with the commissioning of the grassroot refinery at Paradip on 7.2.2016.
Refining capacity as on 1st April of initial year.

Figure I.2: Refinery Capacity and Refinery Crude Throughput



I.3 Production and Consumption of Petroleum Products

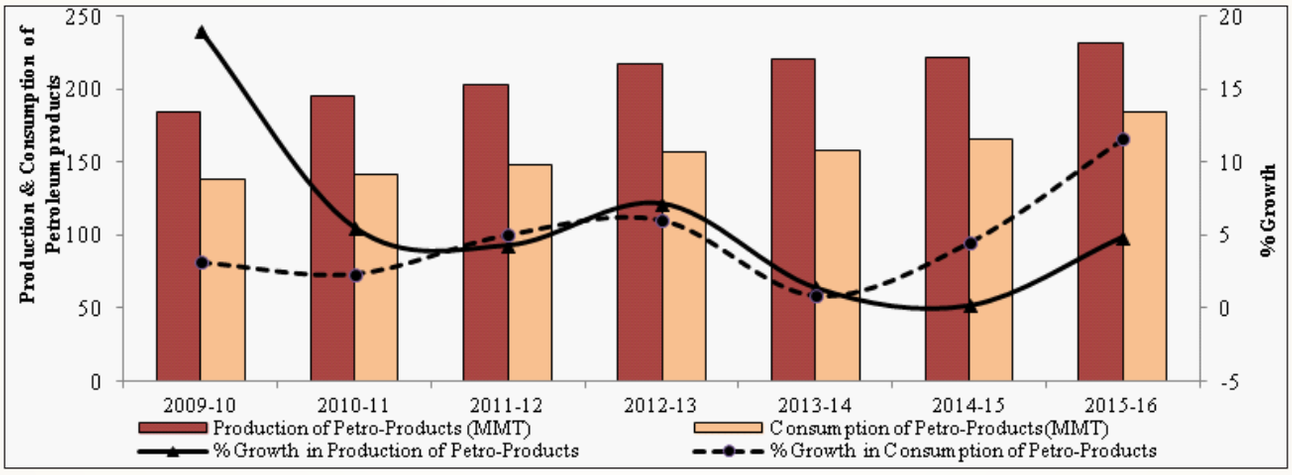
The production of petroleum products is at 231.924 MMT in year 2015-16 as against 221.136 MMT achieved in 2014-15, showing an increase of about 4.88%.During the year 2015-16, the consumption of petroleum products in India was 184.674 MMT with a growth of 11.57% as compared to consumption of 165.520 MMT during 2014-15. Year-wise production and consumption of petroleum products since 2009-10 to 2015-16 are depicted below:

Table I.3: Production and Consumption of Petroleum Products

Year	Production of Petro-Products (MMT)	% Growth in Production of Petro-Products	Consumption of Petro-Products (MMT)	% Growth in Consumption of Petro-Products
2009-10	184.610	18.99	137.808	3.15
2010-11	194.821	5.53	141.040	2.35
2011-12	203.202	4.30	148.132	5.03
2012-13	217.736	7.15	157.057	6.02
2013-14	220.756	1.39	158.407	0.86
2014-15	221.136	0.17	165.520	4.49
2015-16(P)	231.924	4.88	184.674	11.57

P: Provisional

Figure I.3: Production and Consumption (indigenous sales) of Petroleum Products



I.4 Import of Crude Oil:

Import of crude oil during 2015-16 was 202.851 MMT valued at ₹ 4,16,361 crore as against import of 189.435 MMT valued at ₹6,87,416 crore in 2014-15. Thus notwithstanding an increase of 7.08% in quantity terms, oil imports registered a decline of 39.43% in value terms over the same period of last year mainly because of a steep decline in crude oil prices.

Global prices of crude oil which stayed above US $100 /bbl since February, 2010, took a sharp downturn with effect from September 2014. From June 2014, when they stood at US $ 111.66 /bbl, they have plummeted and shown a steady decline to US $ 28.08 /bbl in January, 2016. This sharp fall can be attributed to weakening of demand in economies of Asia, especially China, and Europe in addition to a production glut. Further, exploration of shale gas by countries like the United States and Canada to reduce their dependence on oil imports has led to lower demand of oil.

The average international crude oil price (Indian Basket) was US$ 46.17/bbl. during April-March, 2015-16 as compared to US$ 84.16/bbl in the same period of 2014-15, i.e. lower by 45.14% as compared to the same period last year.

The trend in growth of crude oil imports and crude oil international (Indian Basket) prices is shown in Table-4 & Graph- 4.

Table I.4: Import of Crude Oil and average Crude Oil Prices

Year	Import of Crude Oil (MMT)	% Growth in Import of Crude Oil	Average Crude oil Prices (US$/bbl.)	% Growth in Average Crude oil Prices
2009-10	159.259	19.95	69.760	-16.53
2010-11	163.595	2.72	85.090	21.98
2011-12	171.729	4.97	111.890	31.50
2012-13	184.795	7.61	107.970	-3.50
2013-14	189.238	2.40	105.520	-2.27
2014-15	189.435	0.10	84.160	-20.24
2015-16(P)	202.851	7.08	46.170	-45.14

(P): Provisional *: Import value is provisional and crude price is on average basis

Figure I.4 (a): Quantity of Crude Oil Imports and Average International Crude Oil Prices (Indian basket)

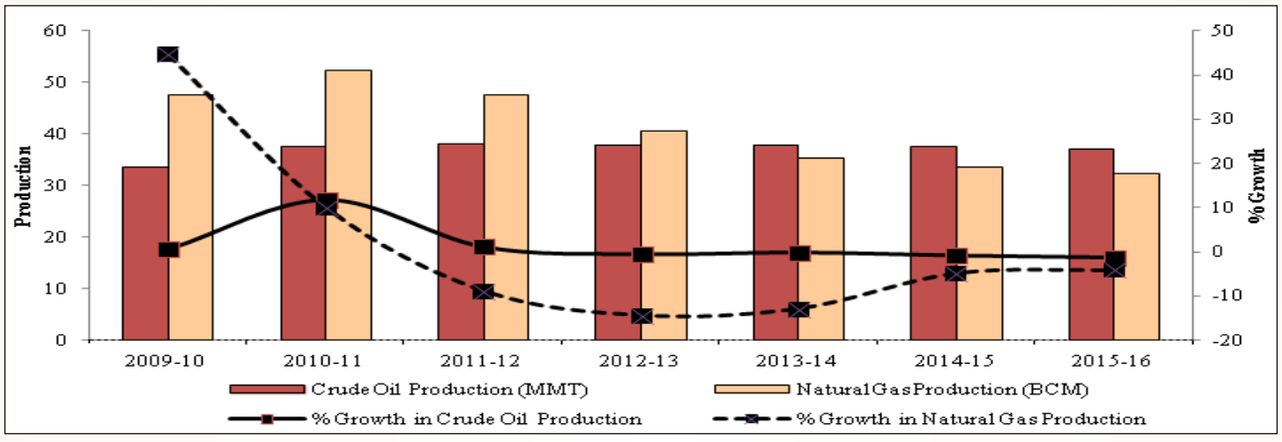


Figure I.4 (b): Trend in Prices of crude oil (Indian Basket) during 2015-16



I.5 Imports & Exports of Petroleum Products:

During 2015-16 imports of petroleum products were at 28.302 MMT valued at ₹65,803 crore which shows an increase of 32.87% in quantity terms and 11.84% decrease in value terms against 21.301 MMT imports valued at ₹74,644 crore during 2014-15.

During the year 2015-16 exports of petroleum products were 60.536 MMT valued at ₹1,76,773 crore which shows a decrease of 5.31% in quantity terms and 38.74% decrease in value terms against the exports of 63.932 MMT valued at ₹2,88,580 crore during 2014-15.

During 2015-16, import of LNG was 16.582 MMT valued at ₹45,601 crore which registered an increase of 17.67% in quantity terms, however, in value terms saw a decline of 20.53% against imports of 14.092 MMT of LNG, valued at ₹57,384 crore during 2014-15.

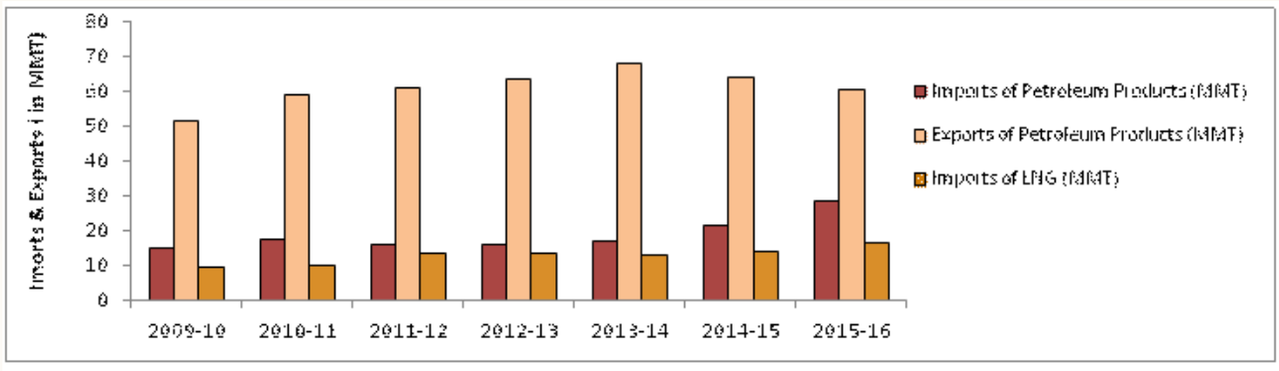
The trends in quantity of petroleum products and LNG imports & exports are depicted below in Table 1.5 & Figure 1.5.

Table I.5: Imports & Exports of Petroleum Products

Year	Imports of Petroleum Products (MMT)	% Growth in Imports of Petroleum Products	Exports of Petroleum Products (MMT)	% Growth in Export of Petroleum Products	Imports of LNG (MMT)	% Growth in Imports of LNG
2009-10	14.665	-21.10	51.155	31.35	9.148	13.50
2010-11	17.379	18.51	59.077	15.49	9.931	8.56
2011-12	15.849	-8.80	60.837	2.98	13.214	33.06
2012-13	15.774	-0.48	63.408	4.23	13.136	-0.60
2013-14	16.718	5.99	67.864	7.03	12.995	-1.07
2014-15	21.301	27.41	63.932	-5.79	14.092	8.45
2015-16(P)	28.302	32.87	60.536	-5.31	16.582	17.67

P : Provisional

Figure I.5: Trend in Imports & Exports of Petroleum Products



I.6 Foreign Direct Investment Inflows:

In order to attract Foreign Direct Investment (FDI) in the sector, the FDI policy has been further liberalized. FDI for petroleum refining by CPSEs has been allowed with 49% foreign equity under the automatic route instead of approval through Foreign Investment Promotion Board. Year-wise FDI inflows under Petroleum & Gas sector is given in Table 1.6 below. It may be observed that inflow of FDI in petroleum and natural gas has varied considerably over the years that could at least be partly due to the bulkiness of investments in the sector. The highest FDI inflow was received in 2011-12 at ₹ 9955.17 crore contributing 6.03% of total FDI inflow in the economy. During the year 2015-16, FDI inflow received was ₹677 crore contributing almost 3.44% of total FDI inflow in the economy.

Table I.6: Year wise FDI inflows under Petroleum & Gas Sector

Years	FDI inflows				Annual Growth (%)			
	All Sector		P&NG Sector		All Sector		P&NG Sector	
	₹ Million	US$ Million	₹ Million	US$ Million	₹ Million	US$ Million	₹ Million	US$ Million
2009-10	1231196	25834	12969	266	-13.80	-17.71	-20.60	-23.98
2010-11	973204	21383	25431	556	-20.95	-17.23	96.09	109.55
2011-12	1651455	35121	99552	2030	69.69	64.25	291.45	264.82
2012-13	1219067	22424	11926	215	-26.18	-36.15	-88.02	-89.42
2013-14	1475178	24299	6784	112	21.01	8.37	-43.12	-47.75
2014-15	1891071	30931	64957	1079	28.19	27.29	857.51	861.44
2015-16(P)	2623216	40001	6770	103	38.72	29.33	-89.58	-90.45

P: Provisional

I.7 Plan Outlay for Ministry of Petroleum & Natural Gas

The actual Plan expenditure in 2015-16 was ₹67319.89 crore against Budget Estimate (BE) of ₹75235.72 crore. This comprised ₹1201.00 crore as GBS and ₹66118.89 crore of Plan investment through I&EBR of oil & gas CPSEs in year 2015-16. Actual expenditure of the Ministry of Petroleum & Natural Gas in 2015-16 in detail is given in Table X.1

I.7 Indian Economy -Selected Indicators							
Indicator	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16 (P)**
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
1. Geographical Area (M.Sq.Km.)	3.29	3.29	3.29	3.29	3.29	3.29	3.29
2. Population (Million)	1170	1186	1220	1235	1251	1267	1283
3. Gross Domestic Product :							
(i) At current prices (₹ Crore)	-	-	8736039	9951344	11272764	12488205	13576086
(ii) At constant prices (₹ Crore)	-	-	8736039	9226879	98739434	10552151	11350249
4. GVA at Basic Price							
(i) At current prices (₹ Crore)	-	-	8106656	9210023	10380813	11472409	12279410
(ii) At constant prices (₹ Crore)	-	-	8106656	8546552	9084369	9727490	10427191
5. Per Capita NNI (Population in Million) :							
(i) At current prices (₹)	-	-	63460	71050	79412	86879	93293
(ii) At constant prices (₹)	-	-	63460	65664	68867	72889	77435
6. Foreign Exchange Reserves :	12597	13610	15061	15884	18284	21376	23787
(i) Gold (₹ Billion)	812	1026	1383	1397	1296	1192	1334
(ii) SDR (₹ Billion)	226	204	229	235	268	249	100
(iii) Foreign Currency Assets (₹ Billion)	11497	12249	13305	14126	16609	19855	22191
(iv) Reserve Tranch Position (₹ Billion)	62	132	145	125	110	81	163
7. Foreign Trade :							
(i) Import (₹ Billion)	13637	16835	23455	26692	27154	27371	24880
(ii) Export(₹ Billion)	8455	11429	14660	16343	19050	18963	17146
(iii) Balance of Trade (₹ Crore)	-5182	-5405	-8795	-10348	-8104	-8407	-7734
8. Index of Production :							
(i) Agricultural (2007-08=100)	102.7	121.0	125.2	124.2	121.1	119.6	116.0
(ii) Industrial (2004-05=100)	152.9	165.5	170.3	172.2	172.0	176.9	181.1
9. Wholesale Price Index (2004-05=100)	130.8	143.3	156.1	167.6	177.6	181.2	176.7
10. Consumer Price Index:							
(i) Industrial Workers (2001=100)	134.4	165.6	194.8	215.2	236.0	250.8	265.0
(ii) Agricultural Labourers (1986-87=100)	513.1	516.9	610.7	671.9	749.8	799.5	834.9
(iii) Rural Labourers (1986-87=100)	512.6	516.5	611.0	673.3	750.5	802.2	839.4
11 Energy Generation (Gross) :							
Coal (MMT)	532.04	532.70	539.95	556.40	565.77	609.18	637.87
Lignite (MMT)	34.07	37.73	42.33	46.45	44.27	48.27	44.44
Natural Gas (BCM)	47.50	52.22	47.56	40.68	35.41	33.66	32.25
Crude Oil (MMT)	33.69	37.68	38.09	37.86	37.79	37.46	36.95
Petroleum Products	184.61	194.82	203.20	217.74	220.76	221.14	231.92
12. Electricity Generated (GWh)							
(i) Total Utilities	799800	884226	974436	964489	1021167	1116850	1168359
Hydel	104100	114416	130510	113720	134848	129244	121377
Thermal	677100	704300	759400	760454	792477	877941	943788
Nuclear	18600	26266	33300	32866	34228	36102	37414
R.E.S.	-	39245	51226	57449	59615	73563	65781
(ii) Non-utilities	106100	120917	128200	144010	156843	162057	183612
Total Electricity	905900	1005143	1102636	1108499	1178010	1278907	1351971
13. POL Traffic by Rail (MMT)	38.88	39.29	39.77	40.61	41.16	41.10	43.20

Note: GDP & NNI at constant (2011-12) prices. Figures prior to 2011-12 are not available at 2011-12 prices. P: Provisional

Source : Economic Survey, RBI, Ministry of Statistics & Programme Implementation/Commerce & Industry/Finance & Labour Bureau.

I.8 Trends in Indian Petroleum Industry at a Glance

Item	Unit	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 (P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
1. Production								
(i) Crude Oil	MMT	33.69	37.68	38.09	37.86	37.79	37.46	36.95
(ii) Natural Gas	BCM	47.50	52.22	47.56	40.68	35.41	33.66	32.25
(iii) Petroleum Products	MMT	184.61	194.82	203.20	217.74	220.76	221.14	231.92
2. Consumption								
(i) Crude Oil (in terms of refinery crude processed)	MMT	186.55	196.99	204.12	219.21	222.50	223.24	232.86
(ii) Natural Gas (including LNG)	BCM	48.34	52.02	60.68	53.91	48.99	46.95	47.85
(iii) Petroleum Products	MMT	137.81	141.04	148.13	157.06	158.41	165.52	184.67
3. Reserves (Balance Recoverable) as on 31st March								
(i) Crude Oil	MMT	774.66	757.40	759.59	758.44	762.73	763.48	754.34
(ii) Natural Gas	BCM	1148.54	1278.06	1330.24	1354.76	1427.15	1488.47	1497.21
4. Imports & Exports								
(i) Gross Imports :								
(a) Qty : Crude Oil	MMT	159.26	163.60	171.73	184.80	189.24	189.43	202.85
LNG	MMT	9.15	9.93	13.21	13.14	12.99	14.09	16.58
Pol. Products	MMT	14.67	17.38	15.85	15.77	16.72	21.30	28.30
Total (a)	MMT	183.07	190.91	200.79	213.70	218.95	224.83	247.73
(b) Value: Crude Oil	₹ Billion	3752.77	4552.76	6722.20	7846.52	8648.75	6874.16	4163.61
LNG	₹ Billion	106.95	143.62	317.18	419.02	531.23	573.84	456.01
Pol. Products	₹ Billion	336.87	559.98	680.91	683.63	746.05	746.44	658.03
Total (b)	₹ Billion	4196.59	5256.37	7720.29	8949.17	9926.03	8194.44	5277.65
(ii) Exports :								
(a) Qty : Pol. Products	MMT	51.15	59.08	60.84	63.41	67.86	63.93	60.54
(b) Value: Pol. Products	₹ Billion	1446.87	1968.61	2846.43	3200.90	3682.79	2885.80	1767.73
(iii) Net Imports :								
(a) Qty : Crude Oil	MMT	159.26	163.60	171.73	184.80	189.24	189.43	202.85
LNG	MMT	9.15	9.93	13.21	13.14	12.99	14.09	16.58
Pol. Products	MMT	-36.49	-41.70	-44.99	-47.63	-51.15	-42.63	-32.23
Total (a)	MMT	131.92	131.83	139.96	150.30	151.09	160.90	187.20
(b) Value: Crude Oil	₹ Billion	3752.77	4552.76	6722.20	7846.52	8648.75	6874.16	4163.61
LNG	₹ Billion	106.95	143.62	317.18	419.02	531.23	573.84	456.01
Pol. Products	₹ Billion	-1110.00	-1408.62	-2165.52	-2517.27	-2936.74	-2139.36	-1109.70
Total (b)	₹ Billion	2749.71	3287.76	4873.85	5748.28	6243.24	5308.64	3509.92
(iv) Unit Value of Crude oil imports(gross)	₹/MT	23564	27829	39144	42461	45703	36288	20525
5. India's Total Imports	₹ Billion	13637	16835	23455	26692	27154	27371	24880
6. India's Total Exports	₹ Billion	8455	11429	14660	16343	19050	18963	17146
7. Petroleum Imports as % of India's total Imports	%	30.77	31.22	32.92	33.53	36.55	29.94	21.21
8. Petroleum Exports as % of India's total Exports	%	17.11	17.22	19.42	19.59	19.33	15.22	10.31
9. Contribution of Oil Sector to Centre/State Resources								
(i) Royalty from crude oil	₹ Crore	6155	8958	15921	18083	20113	18339	13916
(ii) Royalty from gas	₹ Crore	1800	2355	3294	3880	3483	3874	2858
(iii) Oil Development Cess	₹ Crore	7096	6783	8119	15784	16072	16149	15854
(iv) Excise & Custom duties	₹ Crore	71767	102828	95229	98603	104163	122926	213995
(v) Sales Tax	₹ Crore	63949	80709	100375	111438	127957	136137	142938
(vi) Dividend	₹ Crore	13811	13329	13042	14064	14994	14653	16507

P: Provisional

I.9 International Petroleum Statistics

Item/Year	Unit	2009	2010	2011	2012	2013	2014	2015 (P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
1. World reserves of oil & gas at year end								
(i) Crude Oil	TMT	216	231	236	238	239	240	239
of which OPEC		150	164	169	170	171	171	171
(ii)Natural Gas	TCM	169	176	185	184	186	187	187
of which OPEC		90	94	95	95	95	95	95
2. World production of oil & gas								
(i) Crude Oil	MMT	3887	3979	4012	4119	4127	4229	4362
of which OPEC		1624	1671	1711	1782	1734	1733	1807
(ii)Natural Gas Net	BCM	2983	3209	3300	3363	3411	3463	3539
of which OPEC		525	601	623	659	674	697	730
3. World Oil Refinery								
(i) Refinery capacity at year end	MMT	4510	4548	4587	4638	4734	4819	4841
(ii) Crude throughput		3638	3740	3755	3806	3826	3874	3964
4. World Oil Consumption								
(i) World Total	MMT	3949	4080	4122	4169	4210	4252	4331
(ii)Main consuming areas[1]	MMT	2255	2368	2396	2437	2477	2519	2569
(iii)Consumption in main areas as % of world	%	57	58	58	58	59	59	59
5. World Imports								
(i) Crude Oil	MMT	1989	2065	2052	2078	2019	2008	2074
(ii)Pol. Products		977	1139	1187	1176	1215	1237	1313
Total		**2967**	**3204**	**3239**	**3254**	**3234**	**3245**	**3387**
6. Export of Crude Oil & POL from OPEC								
(i) Crude Oil	MMT	1111	1151	1182	1249	1177	1141	1158
(ii)Pol. Products		185	167	210	205	212	207	225
Total		**1296**	**1318**	**1392**	**1454**	**1389**	**1348**	**1383**
7. World Primary Energy Consumption								
(i) Oil	MTOE	3949	4080	4122	4169	4185	4211	4331
(ii) Natural Gas		2656	2864	2914	2986	3020	3066	3135
(iii)Coal		3239	3464	3629	3724	3827	3882	3840
(iv) Hydro-Electric		738	782	795	834	856	879	583
(v) Nuclear Energy		614	626	600	560	563	574	893
(vi) Renewables		142	169	206	241	279	317	365
Total		**11337**	**11985**	**12265**	**12513**	**12731**	**12928**	**13147**

1: Includes USA, Canada, Brazil, Germany, Japan, China, Russia, Saudi Arabia, India and South Korea.

TMT: Thousand Million Tonnes, TCM: Trillion Cubic Meters, MMT: Million Metric Tonnes, MTOE: Million Tonnes Oil Equivalent

Source : (i) BP Statistical Review of World Energy , June-2016 (ii) OPEC Annual Statistical Bulletins, 2014, 2015 & 2016

I.10(a) Petroleum Energy in India (Calendar Year-wise)

Products	2009	2010	2011	2012	2013	2014	2015(P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Availability							
In Original Units (Million Tonnes)							
Kerosene	9.44	9.20	8.61	7.98	7.37	7.62	7.46
ATF	4.59	4.95	5.45	5.37	5.48	5.63	5.83
Diesel	57.60	60.66	63.10	69.27	67.53	69.38	73.72
Fuel Oils	10.94	14.70	12.41	10.32	8.83	7.63	8.11
Others[1]	34.72	37.66	43.06	45.69	45.72	51.49	56.47
Total	117.30	127.16	132.64	138.63	134.93	141.76	151.59
In Million Tonnes of Coal Equivalent Unit[2]							
Kerosene	18.88	18.40	17.22	15.96	14.74	15.24	14.92
ATF	9.18	9.90	10.90	10.74	10.96	11.26	11.66
Diesel	115.20	121.32	126.20	138.54	135.06	138.76	147.44
Fuel Oils	21.88	29.40	24.82	20.64	17.66	15.26	16.22
Others	69.44	75.32	86.12	91.38	91.44	102.98	112.94
Total	**234.58**	**254.34**	**265.26**	**277.26**	**269.86**	**283.50**	**303.18**
In Million Tonnes of Coal Replacement Unit[2]							
Kerosene	75.52	73.60	68.88	63.84	58.96	60.96	59.68
ATF	34.43	37.13	40.88	40.28	41.10	42.23	43.73
Diesel	518.40	545.94	567.90	623.43	607.77	624.42	663.48
Fuel Oils	21.88	29.40	24.82	20.64	17.66	15.26	16.22
Others	124.74	124.74	124.74	126.37	126.37	126.37	126.37
Total	**774.97**	**810.81**	**827.22**	**874.56**	**851.86**	**869.24**	**909.48**
Consumption[3]							
In Original Units (Million Tonnes)							
Kerosene	9.35	9.00	8.43	7.65	7.25	7.13	6.89
ATF	4.59	4.82	5.32	5.14	5.26	5.68	6.10
Diesel	54.11	58.05	63.50	68.58	68.88	69.38	73.07
Fuel Oils	10.90	9.81	8.47	7.00	5.34	5.88	6.23
Others[1]	38.04	42.96	46.28	48.70	49.56	54.40	58.72
Total	**117.00**	**124.64**	**132.01**	**137.07**	**136.28**	**142.46**	**151.00**
In Million Tonnes of Coal Equivalent Unit[2]							
Kerosene	18.70	18.00	16.87	15.31	14.50	14.25	13.77
ATF	9.18	9.64	10.65	10.27	10.52	11.36	12.19
Diesel	108.23	116.09	127.01	137.16	137.76	138.75	146.14
Fuel Oils	21.81	19.62	16.95	14.00	10.67	11.76	12.45
Others	76.08	85.92	92.55	97.40	99.11	108.81	117.44
Total	**233.99**	**249.27**	**264.02**	**274.15**	**272.56**	**284.93**	**302.00**
In Million Tonnes of Coal Replacement Unit[2]							
Kerosene	74.80	72.00	67.47	61.24	58.00	57.02	55.10
ATF	34.43	36.16	39.93	38.51	39.44	42.59	45.71
Diesel	487.02	522.42	571.54	617.23	619.93	624.38	657.61
Fuel Oils	21.81	19.62	16.95	14.00	10.67	11.76	12.45
Others	128.94	128.94	128.94	128.94	128.94	128.94	128.94
Total	**746.99**	**779.14**	**824.83**	**859.93**	**856.98**	**864.68**	**899.82**

Note: P: Provisional

1. Other excludes Naphtha, Lube, Bitumen, Petroleum coke, Paraffin wax & other petroleum products and includes LPG, Gasoline, Refinery Boiler Fuel.
2. Based on conversion factors adopted by FPC, 1974
3. Includes Petroleum Products used for power generation.

I.10(b) Petroleum Energy in India (Financial Year-wise)

Products	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16(P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Availability							
In Original Units (Million Tonnes)							
Kerosene	9.48	9.05	8.39	7.74	7.40	7.57	7.54
ATF	4.71	5.09	5.50	5.42	5.48	5.58	6.11
Diesel	46.29	47.29	63.95	69.66	67.77	69.35	75.16
Fuel Oils	14.09	14.71	11.74	10.20	8.53	8.06	8.12
Others	38.41	42.02	45.77	47.87	49.54	52.22	57.51
Total	**112.98**	**118.17**	**135.36**	**140.89**	**138.72**	**142.78**	**154.43**
In Million Tonnes of Coal Equivalent Unit[2]							
Kerosene	18.96	18.10	16.78	15.48	14.80	15.14	15.08
ATF	9.42	10.18	11.00	10.84	10.96	11.16	12.22
Diesel	92.58	94.58	127.90	139.32	135.54	138.70	150.32
Fuel Oils	28.18	29.42	23.48	20.40	17.06	16.12	16.24
Others	76.82	84.04	91.54	95.74	99.08	104.44	115.02
Total	**225.96**	**236.32**	**270.70**	**281.78**	**277.44**	**285.56**	**308.88**
In Million Tonnes of Coal Replacement Unit[2]							
Kerosene	75.84	72.40	67.12	61.92	59.20	60.56	60.32
ATF	35.33	38.18	41.25	40.65	41.10	41.85	45.83
Diesel	416.61	425.61	575.55	626.94	609.93	624.15	676.44
Fuel Oils	28.18	29.42	23.48	20.40	17.06	16.12	16.24
Others	124.74	124.74	124.74	124.74	124.74	124.74	124.74
Total	**680.70**	**690.35**	**832.14**	**874.65**	**852.03**	**867.42**	**923.57**
Consumption[3]							
In Original Units (Million Tonnes)							
Kerosene	9.30	8.93	8.23	7.50	7.16	7.09	6.83
ATF	4.63	5.08	5.54	5.27	5.50	5.72	6.26
Diesel	56.78	60.53	64.75	69.48	68.75	69.42	75.05
Fuel Oils	11.59	10.79	9.31	7.66	6.24	5.96	6.63
Others	37.56	44.40	47.64	49.69	51.29	54.74	60.24
Total	**119.86**	**129.72**	**135.46**	**139.60**	**138.94**	**142.93**	**155.02**
In Million Tonnes of Coal Equivalent Unit[2]							
Kerosene	18.60	17.86	16.46	15.00	14.33	14.17	13.65
ATF	9.26	10.16	11.07	10.54	11.01	11.45	12.52
Diesel	113.56	121.05	129.50	138.96	137.50	138.83	150.11
Fuel Oils	23.18	21.58	18.61	15.31	12.47	11.92	13.26
Others	75.12	88.79	95.27	99.38	102.58	109.49	120.49
Total	**239.72**	**259.44**	**270.92**	**279.20**	**277.89**	**285.86**	**310.03**
In Million Tonnes of Coal Replacement Unit[2]							
Kerosene	74.40	71.42	65.83	60.01	57.32	56.69	54.61
ATF	34.73	38.09	41.52	39.53	41.28	42.92	46.97
Diesel	511.02	544.73	582.75	625.31	618.75	624.74	675.49
Fuel Oils	23.18	21.58	18.61	15.31	12.47	11.92	13.26
Others	132.95	132.95	132.95	132.95	132.95	132.95	132.95
Total	**776.27**	**808.77**	**841.66**	**873.11**	**862.77**	**869.23**	**923.27**

Note: P: Provisional

1. Other excludes Naphtha, Lube, Bitumen, Petroleum coke, Paraffin wax & other petroleum products and includes LPG, Gasoline, Refinery Boiler Fuel.
2. Based on conversion factors adopted by FPC, 1974
3. Includes Petroleum Products used for power generation.

I.11 Oil and Gas Production Abroad								
Sl. No.	Name of Project	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16(P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Oil Production(MMT)								
1	GNOP, Sudan	2.126	1.801	1.324	0.596	0.741	0.705	0.627
2	MECL, Colombia	0.409	0.468	0.561	0.552	0.597	0.618	0.614
3	Sancristobal, Venezuela	0.704	0.757	0.894	0.800	0.767	0.645	0.585
4	IEC, Russia'	0.543	0.770	0.771	0.560	0.387	0.265	0.305
5	Sakhalin I, Russia	1.532	1.474	1.498	1.370	1.488	1.536	1.742
6	Block 5A, Sudan	0.247	0.226	0.174	0.000	0.034	0.000	0
7	GPOC, South Sudan	-	-	-	0.000	0.218	0.000	0
8	Vietnam 06.1	0.042	0.038	0.036	0.037	0.032	0.030	0.029
9	AFPC, Syria	0.694	0.647	0.496	0.124	0.000	0.000	0
10	BC-10, Brazil	0.192	0.573	0.450	0.291	0.318	0.812	0.649
11	Block 24,Syria	-	0.002	0.010	0.001	0.000	0.000	0
12	Carabobo-1,Venezuela	-	-	-	0.001	0.021	0.063	0.112
13	ACG,Azerbaijan	-	-	-	0.009	0.883	0.859	0.847
Total-OIL		**6.489**	**6.756**	**6.214**	**4.341**	**5.486**	**5.533**	**5.510**
Gas Production(BCM)								
1	Sakhalin I, Russia	0.390	0.415	0.494	0.650	0.576	0.618	0.588
2	Vietnam 06.1	1.967	2.249	2.023	2.104	1.851	1.774	1.659
3	A1, A3, Myanmar			0.000		0.201	0.662	0.891
4	AFPC, Syria	0.024	0.015	0.007	0.002	0.000	0.000	0
5	BC-10, Brazil	-	0.013	0.015	0.012	0.013	0.042	0.04
6	IEC,Russia	-	-	-	0.071	0.036	0.024	0.03
7	MECL,Colombia	-	-	-	0.007	0.007	0.008	0.009
8	Sancristobal, Venezuela	-	-	-	0.072	0.087	0.074	0.064
9	Carabobo-1,Venezuela	-	-	-	-	0.001	0.003	0.007
10	ACG,Azerbaijan	-	-	-	0.001	0.099	0.136	0.118
Total-GAS		**2.381**	**2.692**	**2.539**	**2.919**	**2.871**	**3.341**	**3.406**
Total O & OEG		**8.870**	**9.448**	**8.753**	**7.260**	**8.357**	**8.874**	**8.916**

Note: For calculating OEG, 1 BCM of gas has been taken to be equal to 1 MMT of crude oil. P: Provisional

Source: Oil & Natural Gas Corporation Videsh Limited.

Chapter II: Exploration



Chapter Highlights

- With a view to explore oil and gas finds, over 4.91 lakh geological surveys have been conducted in India and 506 wells (of which 71% are development wells) with 11.18 lakh meterage area drilled by Oil Companies up to 31.03.2016.

- Balance recoverable reserves of crude oil as on 01.04.2016 are at 621.11 MMT, out of which 283.53 MMT (46%) are in offshore. ONGC (nomination) has the largest share of 72% in reserves of crude oil with OIL (nomination) and PSC regime contributing 13% and 15% respectively.

- Balance recoverable reserves of natural gas as on 01.04.2016 were 1227.20 BCM, out of which 745.41 BCM (61%) are in offshore. PSC regime has the largest share of 48% in natural gas reserves with ONGC (nomination) and OIL (nomination) at 42% and 10% respectively.

- Out of total crude oil & condensate production of 36.950 MMT in 2015-16, 60% (22.368 MMT) is from ONGC (nomination), 9% (3.226 MMT) from OIL (nomination) and 31% (11.356 MMT) from PSC regime

- Out of total natural gas production of 32.249 BCM in 2015-16, 66% (21.177 BCM) is from ONGC (nomination), 9% (2.838 BCM) from OIL (nomination) and 25% (8.235 BCM)) from PSC regime.

- Maximum production of crude Oil (9.920 MMT) occurred in Mumbai High asset of ONGC and maximum production of natural gas (10.043 BCM) occurred in Bassein & Satellite fields of ONGC in 2015-16.

- Total consumption of natural gas in 2015-16 stands at 47.849 BCM as against 46.955 BCM in 2014-15. Out of 47.849 BCM, 26.683 BCM (56%) is consumed for energy purpose as fuel and the balance 44% is used for non-energy purpose as feedstock for various industries.

- In 2015-16 highest consumption of natural gas under energy purpose was in power sector at 10.889 BCM (41%) followed by City or Local Natural Gas Distribution Network at 5.464 BCM (20%). Under non-energy purpose, maximum consumption was seen in fertilizer industry at 16.135 BCM (76%) followed by petrochemical sector at 3.733 BCM (18%).

II.1 Area-wise Development of Deep Drilling Rigs, Wells & Metreage Drilled									
Year	Onshore			Offshore			Total		
	Rigs	Wells	Metreage	Rigs	Wells	Metreage	Rigs	Wells	Metreage
	(Numbers)		('000')	(Numbers)		('000')	(Numbers)		('000')
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
(A) Oil & Natural Gas Corporation Ltd. (Nomination)									
2009-10	85	288	613	35	73	216	120	361	829
2010-11	88	300	632	36	64	180	124	364	812
2011-12	84	323	655	31	62	175	115	385	829
2012-13	81	304	638	40	93	269	121	397	907
2013-14	73	273	587	39	82	222	112	355	809
2014-15	69	259	495	36	84	215	105	343	710
2015-16 (P)	71	271	556	34	54	134	105	325	689
(B) Oil India Limited (Nomination)									
2009-10	18	43	135	-	-	-	18	43	135
2010-11	20	35	114	-	-	-	20	35	114
2011-12	16	34	117	-	-	-	16	34	117
2012-13	17	37	128	-	-	-	17	37	128
2013-14	15	34	105	-	-	-	15	34	105
2014-15	17	36	131	-	-	-	17	36	131
2015-16 (P)	20	44	143	-	-	-	20	44	143
(C) PSC Regime									
2009-10	15	126	240	7	46	171	22	172	411
2010-11	15	166	276	7	35	111	22	201	387
2011-12	19	116	215	7	34	111	26	150	326
2012-13	13	69	140	10	31	116	23	100	256
2013-14	34	210	344	20	45	156	54	255	500
2014-15	36	201	370	20	34	109	56	235	478
2015-16 (P)	27	110	209	12	27	78	39	137	286
Total (A+B+C)									
2009-10	118	457	988	42	119	387	160	576	1375
2010-11	123	501	1022	43	99	291	166	600	1313
2011-12	119	473	987	38	96	285	157	569	1272
2012-13	111	410	906	50	124	385	161	534	1291
2013-14	122	517	1037	59	127	378	181	644	1415
2014-15	122	496	995	56	118	324	178	614	1319
2015-16 (P)	118	425	907	46	81	211	164	506	1118

Note P: Provisional

1. Figures not strictly comparable with earlier issues due to change in nomenclature, rationalisation and classification of reporting.

2. Number of rigs of ONGC and OIL may overlap in nomination and PSC regime blocks

Source: Oil & Natural Gas Corporation Ltd., Oil India Ltd & DGH

Figure II.1(a): Percentage share of wells drilled during 2015-16

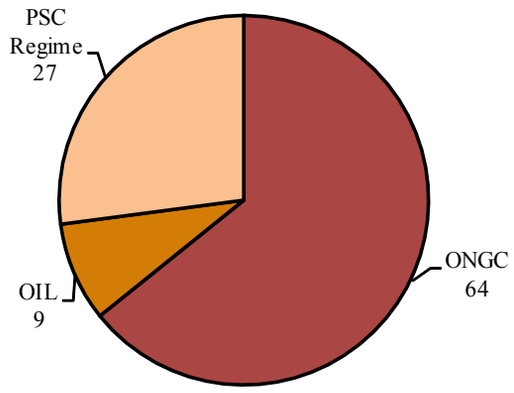
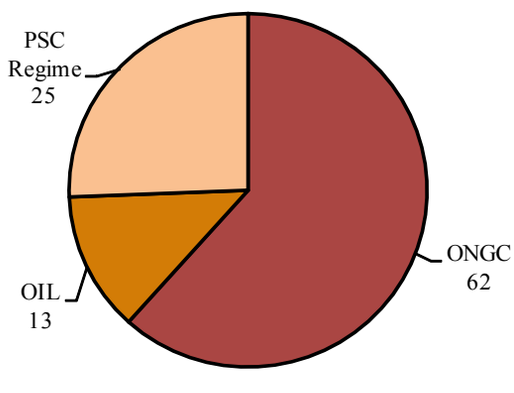


Figure II.1(b): Percentage share in metreage drilled during 2015-16



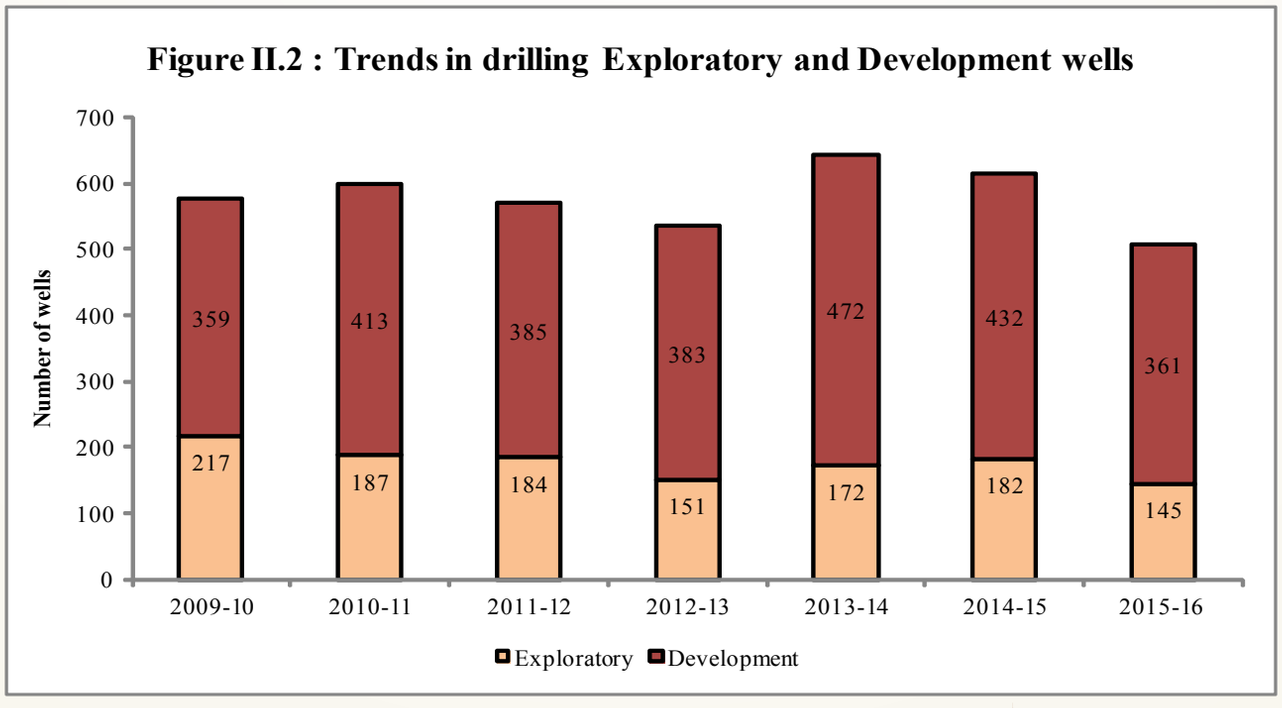
II.2 Exploratory & Development Drilling by Oil Companies						
Year	Exploratory		Development		Total	
	Wells (Nos.)	Metreage ('000')	Wells (Nos.)	Metreage ('000')	Wells (Nos.)	Metreage ('000')
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*
(A) Onshore						
2009-10	162	410	295	578	457	988
2010-11	127	357	374	665	501	1022
2011-12	140	354	333	633	473	987
2012-13	109	315	301	591	410	906
2013-14	128	349	389	687	517	1037
2014-15	130	344	366	652	496	995
2015-16 (P)	105	320	320	587	425	907
(B) Offshore						
2009-10	55	216	64	171	119	387
2010-11	60	198	39	92	99	291
2011-12	44	152	52	134	96	285
2012-13	42	145	82	240	124	385
2013-14	44	155	83	223	127	378
2014-15	52	158	66	166	118	324
2015-16 (P)	40	105	41	107	81	211
Total (A+B)						
2009-10	217	626	359	749	576	1375
2010-11	187	555	413	757	600	1313
2011-12	184	506	385	766	569	1272
2012-13	151	460	383	831	534	1291
2013-14	172	505	472	910	644	1415
2014-15	182	502	432	817	614	1319
2015-16 (P)	145	425	361	694	506	1118

Note:

P: Provisional

1. Figures not strictly comparable with earlier issues due to change in nomenclature, rationalisation and classification of reporting.
2. Includes Water Disposal Wells and Non-Associated Gas Wells

Source: Oil & Natural Gas Corporation Ltd., Oil India Ltd & DGH



II.3 Status of Wells (in Numbers)

(in Numbers)

Category / Year #	Oil	Gas	Dry	Under Test	Injector	Others	Total
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
(A) Oil India Ltd. (Nomination)							
2009	438	103	431	65	102	1094	2233
2010	459	90	431	78	106	1112	2276
2011	469	102	438	76	105	1121	2311
2012	473	104	432	88	108	1140	2345
2013	473	121	440	96	106	1147	2383
2014	422	116	441	98	105	1236	2418
2015	368	94	450	77	86	1379	2454
2016	378	107	449	78	128	1358	2498
(B) Oil & Natural Gas Corporation Ltd. (Nomination)							
2009	4294	569	2581	28	1004	2706	11182
2010	4520	601	2635	50	1024	2713	11543
2011	4762	640	2683	66	1031	2725	11907
2012	5007	684	2735	63	1040	2763	12292
2013	5292	707	2764	84	1049	2793	12689
2014	5547	735	2788	88	1053	2833	13044
2015	5780	770	2808	80	1059	2890	13387
2016	5989	790	2829	105	1081	2918	13712
(C) PSC Regime							
2009	287	100	401	1	3	20	812
2010	354	136	459	1	13	21	984
2011	440	157	502	2	62	22	1185
2012	487	190	547	3	84	24	1335
2013	516	212	589	3	88	27	1435
2014	633	240	636	6	148	27	1690
2015	696	267	675	24	225	37	1924
2016	732	284	712	30	266	37	2061
Total (A+B+C)							
2009	5019	772	3413	94	1109	3820	14227
2010	5333	827	3525	129	1143	3846	14803
2011	5671	899	3623	144	1198	3868	15403
2012	5967	978	3714	154	1232	3927	15972
2013	6281	1040	3793	183	1243	3967	16507
2014	6602	1091	3865	192	1306	4096	17152
2015	6844	1131	3933	181	1370	4306	17765
2016	7099	1181	3990	213	1475	4313	18271

#: As on 1st April of each year

Note: Figures not strictly comparable with earlier issues due to change in nomenclature, rationalisation and classification of reporting.

Source: ONGC, OIL and DGH.

II. 4 State-wise Geological Surveys Achievements upto 31.03.2016			
States	ONGC	OIL	Total Geological Surveys
(1)	*(2)*	*(3)*	*(4)*
Andhra Pradesh	53427	-	53427
A.N. Islands	6860	-	6860
Arunachal Pradesh	3692	8	3700
Assam	48073	6	48079
Bihar (incl. Jharkhand)	4035	-	4035
Gujarat (Gulf Of Cambay)	60625	-	60625
Himachal Pradesh	9948	-	9948
Jammu & Kashmir	31970	-	31970
Kerala-Karnataka (incl. Goa)	4000	-	4000
Madhya Pradesh	117920	-	117920
Chhattisgarh	5920	-	5920
Manipur	2781	-	2781
Meghalaya	1911	1	1912
Mizoram	6194	8	6202
Nagaland	6971	-	6971
Orissa	-	-	0
Rajasthan	46501	-	46501
Sikkim	720	-	720
Tamil Nadu (Incl. Puducherry)	20003	-	20003
Tripura	21263	-	21263
Uttar Pradesh (incl. Uttarakhand)	29797	-	29797
West Bengal	8808	-	8808
Maharashtra	-	-	0
Eastern offshore	-	-	0
Western offshore	-	-	0
Total	**491419**	**23**	**491442**

Source: Oil and Natural Gas Corporation Limited & Oil India Limited

II. 5 State-wise Achievements of Geophysical Field Parties in India since Inception upto 31.03.2016						
Area/ State	ONGC (Nomination)		OIL (Nomination)		PSC Regime	
	2D (LKM)	3D (SKM)	2D (LKM)	3D (SKM)	2D (LKM)	3D (SKM)
(1)	*(2)*	*(3)*	*(4)*	*(6)*	*(7)*	*(8)*
(A) Onshore						
Andhra Pradesh	39166	8064	-	268	1466	1497
Arunachal Pradesh	0	0	3462	-	52	114
Assam	31327	4220	24245	7282	3207	1629
Bihar	6566	0	-	-	2423	947
Chhattisgarh	202	0	-	-	0	0
Gujarat	104712	10261	-	-	7449	7289
Himachal Pradesh	3785	0	-	-	810	0
Haryana	1038	0	-	-	0	0
Jammu & Kashmir	2563	0	-	-	0	0
Madhya Pradesh	10021	470	-	-	2339	304
Maharashtra	0	0	-	-	476	0
Manipur	0	0	-	-	210	0
Meghalaya	205	0	-	-	0	0
Mizoram	35	0	-	500	1526	613
Nagaland	602	6	-	-	0	0
Orissa	313	0	4278	-	470	0
Punjab	4078	0	-	-	0	0
Rajasthan	20571	1210	11570	-	17214	16765
Tamil Nadu	41031	8269	-	-	1710	2763
Tripura	6202	884	-	-	1519	14
Uttar Pradesh	26798	0	-	-	2860	211
Uttarakhand	1522	0	6223	-	0	0
West Bengal	29227	596	-	-	4376	3591
Total(A)	**329961**	**33980**	**49777**	**8051**	**48107**	**35738**
(B) Offshore						
Andaman	-	-	14043	-	0	0
Saurashtra	-	-	8768	332	0	0
Eastern offshore	117515	7292	-	-	226001	193620
Western offshore	434940	72187	-	-	108671	62190
Total(B)	**552455**	**79479**	**22811**	**332**	**334671**	**255811**
Total	**882416**	**113459**	**22811**	**8383**	**382778**	**291548**

LK: Line Kilometre. SKM: Square Kilometre.

Note: Geophysical fields of Pvt./JVs in State of Bihar includes Jharkhand

Source: Oil & Natural Gas Corporation Ltd.,Oil India Ltd. and DGH

II.6 Basin-wise / State-wise Achievements of Drilling since Inception upto 31.03.2016			
Basin	State / Region	Wells	Metreage
		Numbers	('000')
(1)	*(2)*	*(3)*	*(4)*
(A) Onshore		**14586**	**30841**
Cambay	Gujarat	7696	13309
Kutch	Gujarat	5	11
Rajasthan	Rajasthan	1061	1848
Vindhyan	Rajasthan	4	10
	Total WRBC	**8766**	**15179**
	Nagaland	36	127
Upper Assam	Assam	4072	10664
	Meghalaya	3	6
	Odisha	4	11
Fold Belt	Mizoram under ERBC	5	18
	Arunachal Pradesh	58	190
Assam-Arakan	Tripura	213	622
	Total ERBC	**4391**	**11637**
Foot hills & Ganga Valley	West Bengal	37	149
Ganga Valley	Bihar	9	39
Satpura-South Rewa-Damodar	Madhya Pradesh	2	6
	Total CRBC	**48**	**193**
Himalayan Foot-hills,	Himachal Pradesh	16	60
Ganga Valley &	Punjab	4	16
Vindhyan/Gondwana	Uttar Pradesh	10	35
	Madhya Pradesh	17	49
	Jammu & Kashmir	4	12
	Total NRBC	**51**	**172**
Krishna-Godavari	Andhra Pradesh	630	1860
Pranhita-Godavari	Andhra Pradesh	1	3
Cauvery	Tamil Nadu	699	1797
	Total SRBC	**1330**	**3660**
(B) Offshore		3630	9518
East Coast(SW+DW)	East Coast including KG, Cauvery	590	1955
West Coast(SW+DW)	West Coast including drilling in	3023	7497
	Orissa, Andaman & Saurashtra	17	66
	Others	0	0
Total (A+B)		**18216**	**40358**

Note: All figures are provisional

WRBC: Western Region Basin Coast, CRBC: Central Region Basin Coast, SRBC: Southern Region Basin Coast, NRBC: Northern Region Basin Coast, ERBC: Eastern Region Basin Coast

Source: Oil & Natural Gas Corporation Ltd. & Oil India Ltd.

II.7 State-wise/Basin -wise Oil Fields in India
As on 31.03.2016

(in Number)

Company / State	Basin	Oil Fields	Gas Fields	Oil and Gas Fields	Total Fields
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
A. Oil & Natural Gas Corporation Ltd. (Nomination)					
Gujarat	Cambay	44	5	35	84
Assam	Upper Assam	25	1	10	36
Assam	A&AA	2	5	-	7
Rajasthan	Jodhpur	-	8	-	8
Andhra Pradesh	K.G. Basin	8	46	10	64
Tamil Nadu	Cauvery	7	9	13	29
Tripura	A&AA	-	10	-	10
Nagaland	A&AA	1	-	1	2
Total Onshore		**87**	**84**	**69**	**240**
East Coast	Cauvery Offshore	-	1	-	1
East Coast	KG Offshore(Shallow)	3	8	4	15
East Coast	KG Offshore(Deep)	1	3	2	6
West Coast	Cambay	-	-	2	2
West Coast	Mumbai Offshore	24	19	37	80
West Coast	Kutch	1	2	1	4
Total Offshore		29	33	46	108
Total (A)		**116**	**117**	**115**	**348**
B. Oil India Ltd. (Nomination)					
Assam	Upper Assam	0	0	14	14
Arunachal Pradesh	Upper Assam	0	0	1	1
Rajasthan	Jaisalmer	0	0	3	3
	Bikaner Nagpur	0	0	1	1
Total (B)		**0**	**0**	**19**	**19**
C. PSC Regime					
Gujarat	Cambay	29	3	2	34
Arunachal Pradesh	Assam-Arakan	1	0	0	1
Assam	Assam-Arakan	0	1	0	1
Madhya Pradesh*	Sohagpur	0	2	0	2
Jharkhand*	Jharia	0	1	0	1
Jharkhand*	Bokaro	0	1	0	1
Rajasthan	Rajasthan	5	2	0	7
West Bengal*	Raniganj	0	2	0	2
Total Onshore+CBM		35	12	2	49
East Coast	Cauvery	1	1	0	2
East Coast	Krishna Godavari	1	2	1	4
West Coast	Mumbai	0	2	1	3
West Coast	Cambay	0	0	2	2
Total Offshore		**2**	**5**	**4**	**11**
C. Total		**37**	**17**	**6**	**60**
Grand Total (A+B+C)		**153**	**134**	**140**	**427**

A&AA : Assam & Assam Arakan. *: CBM Fields

Note: Figures not strictly comparable with earlier issues due to change in nomenclature, rationalisation and classification of reporting.

Source: ONGC, OIL and DGH.

II.8 Exploration contracts awarded in different rounds under NELP									
Parameter	New Exploration Licensing Policy (NELP)								
	I	II	III	IV	V	VI	VII	VIII	IX
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
Year of Launch	**1999**	**2000**	**2002**	**2003**	**2005**	**2006**	**2007**	**2009**	**2010**
No. of Blocks Offered	48	25	27	24	20	55	57	70	34
No. of Blocks Bid For	28	23	24	21	20	52	45	36	33
No. of Bids Received	45	44	52	44	69	165	181	76	74
No. of blocks awarded	25	23	23	21	20	52	44	34	19
No. of PSC signed	24	23	23	20	20	52	41	32	19
Area Awarded (Sq. Km)	228472	263050	204588	192810	113687	306331	112988	52603	26428

Source: DGH

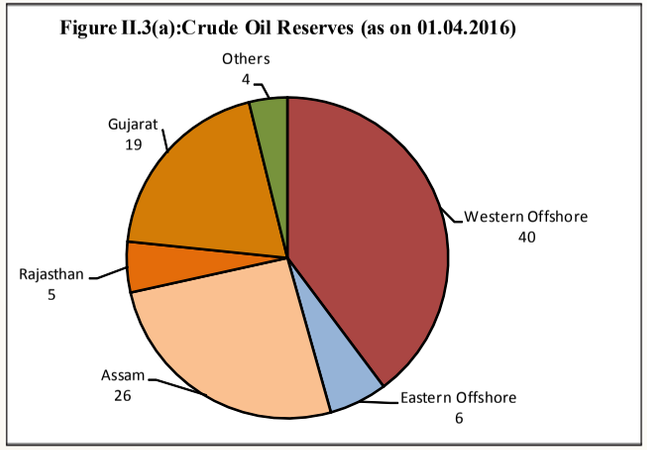
II. 9 State-wise/ Area-wise Balance Recoverable reserves of Crude Oil & Natural Gas

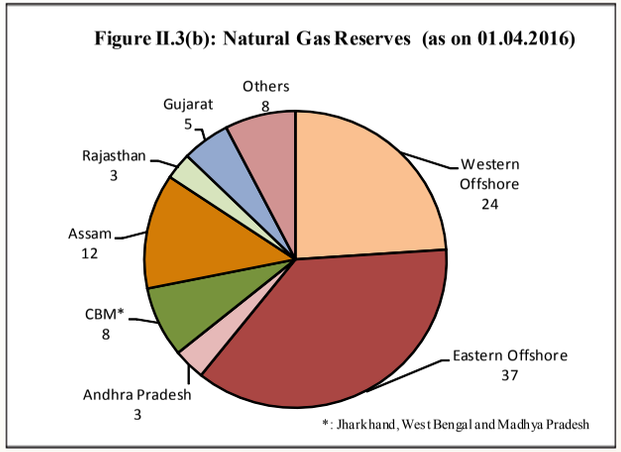
Area/State	Crude Oil(MMT)								Natural Gas(BCM)							
	2009	2010	2011	2012	2013	2014	2015	2016	2009	2010	2011	2012	2013	2014	2015	2016
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*	*(16)*	*(17)*
Western Offshore	269.07	273.38	256.97	256.69	265.33	255.70	255.27	247.13	284.19	316.70	318.07	317.25	319.42	319.72	325.01	293.96
Eastern Offshore	18.29	22.33	20.43	18.31	16.79	34.75	34.19	36.39	397.80	390.71	405.10	426.14	416.98	449.47	467.65	451.46
A. Total Offshore	**287.36**	**295.70**	**277.40**	**275.00**	**282.12**	**290.45**	**289.46**	**283.53**	**681.99**	**707.40**	**723.16**	**743.38**	**736.40**	**769.20**	**792.66**	**745.41**
Arunachal Pradesh	3.69	3.53	3.39	3.42	3.37	2.95	1.64	1.57	2.10	2.07	2.22	2.14	1.96	0.81	0.79	0.76
Andhra Pradesh	3.94	3.68	4.25	4.61	6.80	10.73	10.94	10.90	34.40	36.09	35.31	37.03	42.25	42.32	41.79	42.03
Nagaland	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Jharkhand (CBM)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.78	51.14	27.46	28.91	28.91	28.91	28.13
West Bengal(CBM)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.67	37.96	14.35	37.95	39.71	39.55	39.33	66.24
Madhya Pradesh(CBM)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.14	32.14	32.14	32.14	32.14	32.13	32.13	32.12
Tamil Nadu	7.76	7.69	8.11	8.49	8.52	8.43	8.47	8.99	26.21	34.04	36.66	39.07	37.69	36.76	35.36	31.68
Tripura	0.08	0.08	0.08	0.08	0.07	0.07	0.07	0.07	26.83	27.11	27.21	29.99	30.61	30.27	30.74	28.28
Assam	167.29	168.18	167.02	169.25	168.18	169.25	165.91	160.79	128.58	134.01	137.86	137.88	140.68	140.04	149.38	153.76
Rajasthan	80.93	80.48	75.33	68.78	60.19	44.99	37.32	31.72	13.80	13.57	13.13	13.19	13.77	13.97	36.93	35.66
Gujarat	120.18	121.78	122.07	120.15	119.93	118.12	119.41	121.16	69.94	69.27	68.32	66.45	67.48	65.05	63.79	63.06
B. Total Onshore	**386.25**	**387.80**	**382.63**	**377.16**	**369.44**	**356.93**	**346.13**	**337.59**	**341.75**	**390.14**	**418.43**	**423.39**	**435.29**	**429.90**	**459.23**	**481.79**
Total Reserves (A+B)	**673.61**	**683.51**	**660.04**	**652.16**	**651.55**	**647.38**	**635.59**	**621.11**	**1023.74**	**1097.54**	**1141.59**	**1166.77**	**1171.69**	**1199.10**	**1251.89**	**1227.20**

Notes:

1. Proved and indicated Balance Recoverable Reserves as on 1st April.
2. Western offshore Includes Gujarat offshore

Source: ONGC, OIL and DGH.



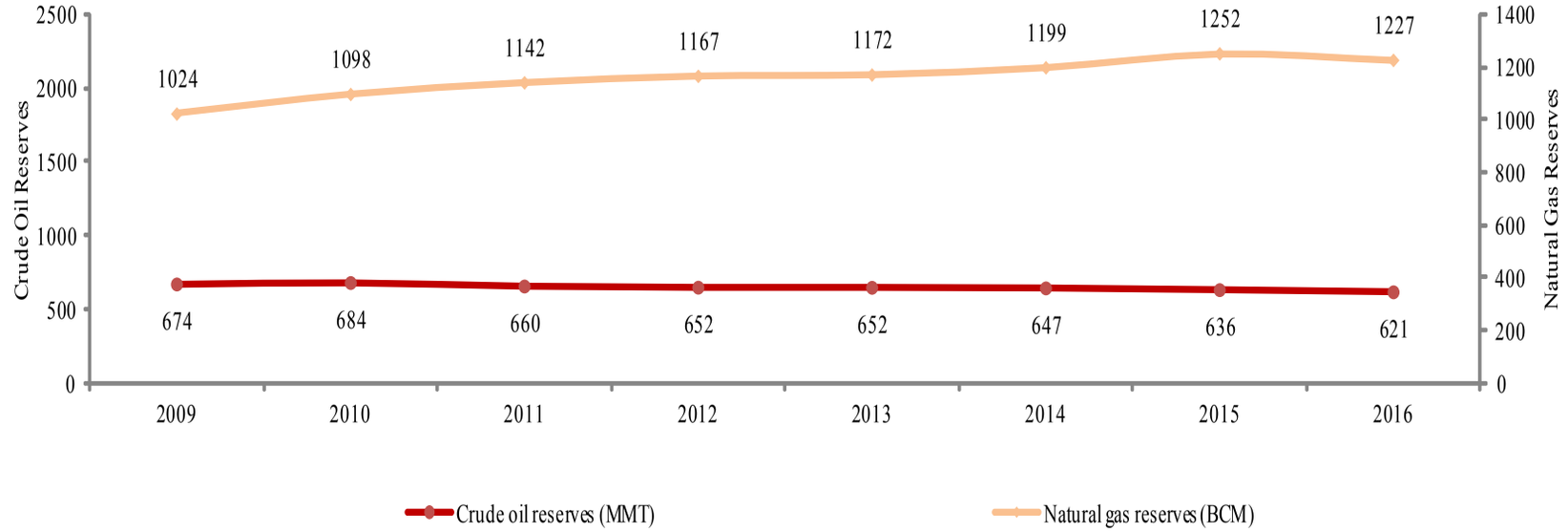


II. 10 Company-wise Balance Recoverable Reserves of Crude Oil & Natural Gas																
Area/State	Crude Oil(MMT)								Natural Gas(BCM)							
	2009	2010	2011	2012	2013	2014	2015	2016	2009	2010	2011	2012	2013	2014	2015	2016
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*	*(16)*	*(17)*
Onshore																
ONGC(Nomination)	214.57	214.89	215.45	214.52	215.02	212.12	212.40	209.78	185.25	195.32	197.54	203.14	209.07	205.71	201.65	190.76
OIL (Nomination)	82.19	82.53	81.79	84.04	84.04	86.04	83.23	80.58	98.24	102.75	105.55	105.61	109.57	109.18	114.52	119.45
PSC Regime	89.49	90.38	85.39	78.60	70.38	58.77	50.50	47.23	58.26	92.07	115.34	114.64	116.65	115.01	143.06	171.58
A. Total Onshore	**386.25**	**387.80**	**382.63**	**377.16**	**369.44**	**356.93**	**346.13**	**337.59**	**341.75**	**390.14**	**418.43**	**423.39**	**435.29**	**429.90**	**459.23**	**481.79**
Offshore																
ONGC (Nomination)	255.68	253.98	239.80	239.58	248.40	239.83	241.56	234.85	257.67	288.31	314.28	319.49	325.77	330.23	338.93	327.28
PSC Regime	31.68	41.72	37.60	35.42	33.72	50.62	47.90	48.68	424.32	419.09	408.88	423.89	410.63	438.97	453.73	418.13
B. Total Offshore	**287.36**	**295.70**	**277.40**	**275.00**	**282.12**	**290.45**	**289.46**	**283.53**	**681.99**	**707.40**	**723.16**	**743.38**	**736.40**	**769.20**	**792.66**	**745.41**
Grand Total (A+B)	**673.61**	**683.51**	**660.04**	**652.16**	**651.55**	**647.38**	**635.60**	**621.11**	**1023.74**	**1097.54**	**1141.59**	**1166.77**	**1171.69**	**1199.10**	**1251.89**	**1227.20**

Note: Proved and indicated Balance Recoverable Reserves as on 1st April.

Source: ONGC, OIL and DGH.

Figure II.4: Reserves of Crude Oil & Natural Gas (as on 01.04.2016)



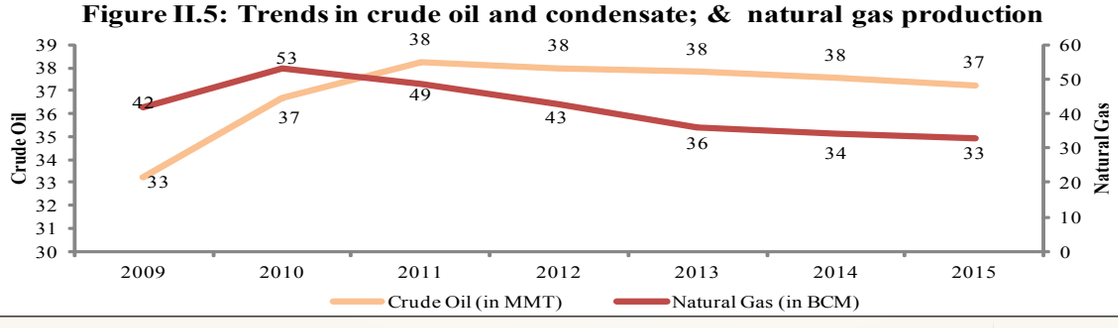
II.11 Production of Crude Oil and Condensate; & Natural Gas (Calendar Year-wise)

State/Region	2009	2010	2011	2012	2013	2014	2015(P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
1. Crude Oil Production (TMT)							
(a) Onshore							
Gujarat	5878	5927	5855	5414	5229	4750	4445
Assam	4684	4648	5003	4948	4869	4492	4239
Arunachal Pradesh	127	122	117	118	116	84	57
Tamil Nadu	246	225	250	243	225	237	259
Andhra Pradesh	300	300	308	295	301	258	295
Rajasthan	226	3880	6281	8228	8513	8996	8578
Total (a)	**11462**	**15101**	**17815**	**19245**	**19254**	**18816**	**17873**
of which							
OIL	3525	3538	3825	3757	3644	3359	3284
ONGC	7442	7431	7476	7014	6860	6243	5810
PSC Regime	495	4132	6514	8475	8751	9214	8779
(b) Offshore							
ONGC	15692	15249	14563	13622	13731	14488	15286
PSC Regime	4331	4137	3730	2885	2809	2582	2597
Total (b)	**20023**	**19386**	**18293**	**16507**	**16541**	**17070**	**17883**
(c) Condensate							
ONGC	1534	1946	1910	2086	1908	1520	1329
PSC Regime	210	253	223	144	107	134	155
Total (c)	1744	2199	2133	2230	2015	1654	1485
Grand Total (a+b+c)	**33228**	**36685**	**38240**	**37982**	**37810**	**37540**	**37241**
2. Natural Gas Production (MMSCM)							
(a) Onshore							
Gujarat	2500	2293	2155	2120	1745	1538	1480
Assam	2653	2657	2865	2916	2896	2934	2966
Arunachal Pradesh	36	46	41	40	42	34	31
Tripura	553	596	636	633	716	1113	1293
Tamil Nadu	1203	1115	1247	1212	1283	1255	1046
Andhra Pradesh	1488	1409	1344	1298	1190	673	593
Rajasthan	230	380	567	655	879	1128	1329
CBM	36	37	75	103	145	209	357
Total (a)	**8699**	**8533**	**8929**	**8977**	**8896**	**8885**	**9094**
of which							
OIL	2370	2334	2595	2631	2650	2682	2784
ONGC	5651	17502	5639	5579	5282	4942	4731
PSC Regime	678	687	697	767	964	1262	1579
(b) Offshore:							
ONGC (Mumbai High)	17304	17502	17374	18170	18019	17466	16966
PSC Regime	15701	27293	22432	15594	9082	7756	6896
Total (b)	**33005**	**44796**	**39806**	**33764**	**27101**	**25222**	**23862**
Grand Total (a+b)	**41704**	**53328**	**48736**	**42742**	**35997**	**34106**	**32956**

Note: CBM production from West Bengal, Jharkhand and Madhya Pradesh CBM: Coal Bed Methane P: Provisional

Source: ONGC, OIL and DGH.

Figure II.5: Trends in crude oil and condensate; & natural gas production



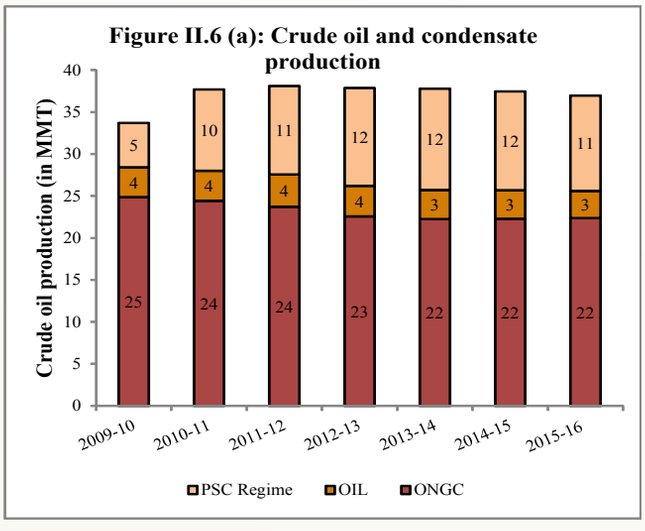
II.12 Production of Crude Oil and Condensate (Financial Year-wise)

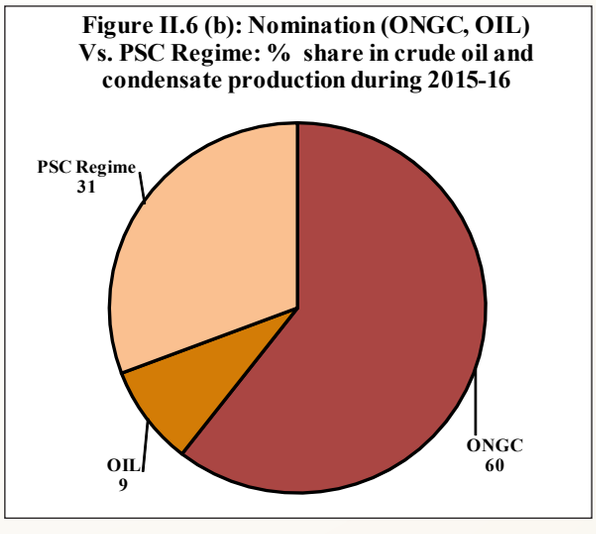
(in TMT)

State/Region	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 (P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
(a) Crude Oil-Onshore:							
Gujarat	5960	5905	5779	5331	5061	4653	4433
Assam	4729	4710	5024	4863	4710	4466	4186
Arunachal Pradesh	131	116	118	121	111	76	43
Tamil Nadu	239	233	247	238	226	240	261
Andhra Pradesh	304	305	305	295	297	254	295
Rajasthan	447	5141	6543	8583	9131	8783	8493
Total (a)	**11809**	**16411**	**18016**	**19431**	**19536**	**18472**	**17711**
of which							
OIL	3572	3582	3847	3661	3466	3412	3226
ONGC	7515	7447	7386	6944	6705	6069	5825
PSC Regime	722	5382	6784	8826	9365	8991	8660
(b) Crude Oil-Offshore:							
ONGC	15457	15081	14378	13541	13735	14758	15264
PSC Regime	4337	4035	3540	2689	2595	2661	2533
Total (b)	**19794**	**19116**	**17918**	**16230**	**16330**	**17419**	**17797**
(c) Condensate							
ONGC	1883	1892	1952	2076	1806	1437	1279
PSC Regime	204	265	203	125	117	133	163
Total (c)	**2087**	**2157**	**2156**	**2201**	**1923**	**1570**	**1442**
Grand Total (a+b+c)	**33690**	**37684**	**38090**	**37862**	**37788**	**37461**	**36950**

Source: ONGC, OIL and DGH.

P: Provisional





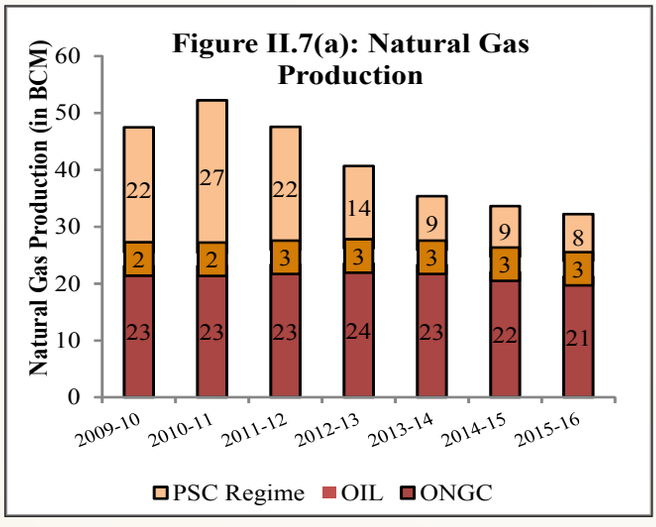
II.13 Production of Natural Gas (Financial Year-wise)

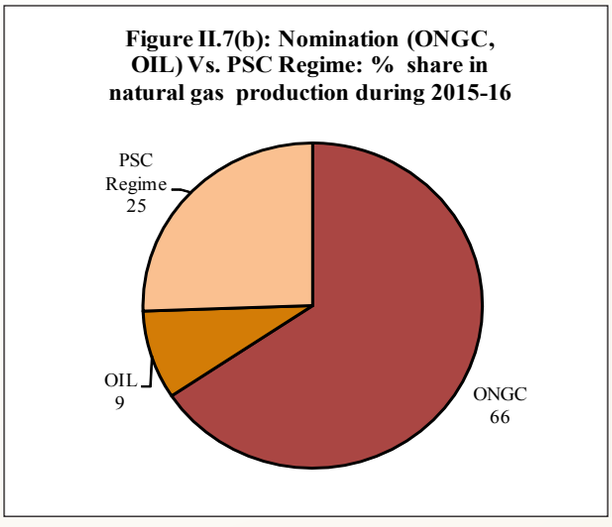
(in MMSCM)

State/Region	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 (P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
(a) Onshore:							
Gujarat	2444	2262	2173	2032	1657	1527	1490
Assam	2703	2680	2905	2910	2868	2958	3025
Arunachal Pradesh	40	44	40	41	41	34	30
Tripura	564	610	644	647	822	1140	1332
Tamil Nadu	1178	1119	1285	1206	1304	1192	1011
Andhra Pradesh	1479	1384	1364	1249	1171	541	619
Rajasthan	239	432	590	685	982	1178	1338
West Bengal (CBM)	38	41	79	101	156	224	389
Madhya Pradesh (CBM)	0	0	2	3	6	2	1
Jharkhand (CBM)	0	0	4	3	3	2	2
Total (a)	**8685**	**8574**	**9084**	**8877**	**9012**	**8797**	**9237**
of which							
OIL	2416	2350	2633	2639	2626	2722	2838
ONGC	5634	5504	5751	5447	5316	4752	4770
PSC Regime	635	720	699	791	1069	1323	1629
(b) Offshore:							
ONGC	17462	17591	17565	18102	17968	17272	16406
PSC Regime	21350	26054	20910	13700	8428	7589	6605
Total (b)	**38811**	**43645**	**38475**	**31802**	**26395**	**24861**	**23012**
Grand Total (a+b)	**47496**	**52219**	**47559**	**40679**	**35407**	**33657**	**32249**

CBM: Coal Bed Methane P: Provisional

Source: ONGC, OIL and DGH.





II.14 Field-wise Production of Crude Oil and Natural Gas

AREA	STATE	ASSET	Oil (TMT)		Gas (MMSCM)	
			2014-15	2015-16 (P)	2014-15	2015-16 (P)
Oil and Natural Gas Corporation						
Offshore	Mumbai Offshore (Off the coast of Maharashtra) and Eastern offshore	Mumbai High	9812	9920	5028	5083
		B134A	2739	2774	1117	1068
		Bassein & Satellite	2188	2543	11007	10043
		Condensate receipt	1437	1279	-	-
		Eastern offshore	18	27	119	212
	Total Offshore		**16195**	**16543**	**17272**	**16406**
Onshore	Gujarat	Ahmedabad	1318	1300	181	138
		Mehsana	2289	2128	224	202
		Ankleshwar	756	740	1010	1050
		Cambay	150	143	9	9
		Total Gujarat	**4513**	**4311**	**1425**	**1399**
	Assam	Assam	1061	965	449	405
	Tamilnadu	Cauvery	241	254	1192	1010
	Andhra Pradesh	Rajahmundry	254	295	541	619
	Tripura	Tripura	-	-	1140	1332
	Rajasthan	Jodhpur	-	-	6	5
	Total Onshore		**6069**	**5825**	**4752**	**4770**
Total ONGC			**22264**	**22368**	**22023**	**21177**
Oil India Limited						
Onshore	Assam	Greater Naharkatia Field	252	226	389	301
		Greater Jorajan Field	165	109	608	461
		Moran Field	67	47	44	48
		Greater Shalmari Field	151	174	20	22
		Greater Hapjan Field	1449	1358	347	341
		Greater Chandmari Field	505	448	202	446
		Tengakhat Field	102	85	38	35
		Bhogpara Field	125	103	11	10
		Greater Kathaloni Field	185	174	35	31
		Greater Dikom Field	217	193	292	252
		Western Satellite Field	39	37	9	9
		Eastern Satellite Field	36	33	95	93
		Central Small Field	104	226	418	569
		Digboi	7	6	1	1
		Total Assam	**3405**	**3220**	**2510**	**2620**
	Arunachal Pradesh	Kumchai Field	7	6	12	11
	Rajasthan	Dandewala	-	-	200.7	202
		Bagitibba	-	-		4
		Tanot	-	-		0.2
		Total Rajasthan	**-**	**-**	**201**	**206**
Total OIL (Onshore)			**3412**	**3226**	**2722**	**2838**

Contd....

II.14 Field-wise Production of Crude Oil and Natural Gas (Contd...)						
Private/JVs						
Onshore	Arunachal Pradesh	KHARSANG	69	52	22	18
	Gujarat	CB-ON/3	2	1	-	-
		CB-ON/2	3	10	7	9
		CB-ONN-2000/1	40	38	2	2
		CB-ONN-2002/3	0	0	-	-
		CB-ONN-2003/2	2	3	0	0
		UNAWA	0	1	0	0
		SANGANPUR	0	0	0	0
		ALLORA	0	0	-	-
		DHOLASAN	1	0	-	-
		KANAWARA	6	4	7	10
		NORTH KATHANA	1	0	-	-
		ASJOL	1	1	-	-
		CB-ON/7	6	5	0	0
		N.BALOL	-	-	8	5
		DHOLKA	44	47	15	12
		WAVEL	3	3	-	-
		HAZIRA	5	5	55	42
		BHANDUT	0	0	0	0
		CAMBAY	1	1	0	1
		SABARMATI	0	-	-	-
		CB-ONN-2001/1	0	1	-	-
		CB-ONN-2002/1	0	0	-	-
		CB-ONN-2004/1	0	1	-	-
		CB-ONN-2004/2	0	1	-	-
		BAKROL	15	18	7	8
		INDRORA	1	2	0	0
		LOHAR	9	6	0	0
		Total Gujarat	139	150	102	91
	Rajasthan	RJ-ON-90/1	8844	8599	606	699
		RJ-ON/6	3	3	365	428
		Total Rajasthan	8848	8602	971	1127
	Tamil Nadu	CY-ONN-2002/2	0	7	0	1
	Total Onshore		**9056**	**8810**	**1095**	**1236**
CBM	Jharkhand	JHARIA			2	2
	Madhya Pradesh	SOHAGPUR EAST	-	-	1	0
		SOHAGPUR WEST	-	-	2	1
		Total M.P.	-	-	2	1
	West Bengal	RANIGANJ EAST	-	-	91	236
		RANIGANJ WEST	-	-	132	153
		Total West Bengal	-	-	224	389
	TOTAL CBM		-	-	228	393
Offshore	Eastern Offshore	RAVVA	1102	1019	324	260
		KG-OSN-2001/3	4	4	110	134
		PY-3	0	0	0	0
		PY-1	2	2	32	22
		KG-DWN-98/3	267	208	4462	3940
		Total Eastern Off.	1375	1232	4928	4356
	Gujarat Offshore	CB-OS/2	396	411	110	68
	Western Offshore	M&S TAPTI	27	16	446	131
		PANNA-MUKTA	932	887	2105	2050
		Total Western Off.	959	903	2551	2181
	Total Offshore		**2729**	**2546**	**7589**	**6605**
Total Pvt/JVs			**11785**	**11356**	**8912**	**8235**
Total Production			**37461**	**36950**	**33657**	**32249**

Source: ONGC, OIL and DGH

P: Provisional

II.15 State-wise Gross & Net Production of Natural Gas in India

(in MMSCM)

State / Utilisation	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 (P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Assam							
Gross Production (GP)	2703.01	2679.85	2904.54	2909.79	2868.03	2958.25	3024.78
Flared	182.24	174.76	168.65	193.89	172.63	178.29	171.39
Net Availability	2520.77	2505.09	2735.89	2715.90	2695.40	2779.96	2853.39
Re-injected (Internal Use)	558.57	549.73	583.85	576.76	567.55	539.87	526.36
Net Production (Sales)	1963.38	1958.79	2151.86	2139.12	2127.86	2192.29	2280.58
% Flared to GP	6.74	6.52	5.81	6.66	6.02	6.03	5.67
Arunachal Pradesh							
Gross Production	39.60	44.49	39.50	41.07	41.39	33.53	29.56
Flared	27.57	30.64	25.83	26.92	22.86	14.10	13.07
Net Availability	12.04	13.84	13.67	14.15	18.53	19.43	16.49
Re-injected (Internal Use)	12.04	13.56	13.67	14.14	8.45	8.56	7.95
Net Production (Sales)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
% Flared to GP	69.61	68.88	65.38	65.54	55.22	42.05	44.20
Rajasthan							
Gross Production	238.86	432.49	590.18	685.42	982.20	1177.77	1338.01
Flared	17.69	48.68	33.31	51.74	38.40	38.68	59.56
Net Availability	221.17	383.80	556.87	633.68	943.81	1139.08	1278.45
Re-injected (Internal Use)	7.82	200.37	259.85	360.54	445.74	508.66	533.44
Net Production (Sales)	213.36	183.43	297.03	273.13	474.16	571.06	656.63
% Flared to GP	7.41	11.26	5.64	7.55	3.91	3.28	4.45
Gujarat							
Gross Production	2444.18	2261.83	2172.93	2032.09	1656.94	1526.82	1490.08
Flared	37.96	30.57	69.43	38.61	72.35	121.88	87.13
Net Availability	2406.22	2231.26	2103.51	1993.48	1584.59	1404.94	1402.95
Re-injected (Internal Use)	613.94	622.06	605.97	570.52	475.61	428.65	458.52
Net Production (Sales)	1792.07	1609.17	1497.52	1422.96	1108.98	976.31	944.40
% Flared to GP	1.55	1.35	3.20	1.90	4.37	7.98	5.85
Tamil Nadu							
Gross Production	1177.75	1119.18	1284.76	1206.04	1304.02	1191.57	1010.87
Flared	14.80	13.20	8.19	6.89	5.74	17.02	20.82
Net Availability	1162.95	1105.98	1276.57	1199.15	1298.28	1174.55	990.05
Re-injected (Internal Use)	1.97	1.83	1.85	1.39	1.40	1.39	1.98
Net Production (Sales)	1160.98	1104.14	1274.72	1197.75	1296.88	1173.16	988.07
% Flared to GP	1.26	1.18	0.64	0.57	0.44	1.43	2.06
Andhra Pradesh							
Gross Production	1479.26	1384.39	1363.78	1248.55	1171.34	540.59	619.36
Flared	0.92	1.78	2.22	2.97	3.65	21.83	50.40
Net Availability	1478.33	1382.61	1361.56	1245.58	1167.69	518.76	568.95
Re-injected (Internal Use)	10.42	10.26	18.56	28.19	30.61	15.64	20.18
Net Production (Sales)	1467.59	1372.36	1343.00	1217.40	1137.09	503.12	548.77
% Flared to GP	0.06	0.13	0.16	0.24	0.31	4.04	8.14
Tripura							
Gross Production	563.79	609.98	643.90	646.74	822.24	1140.04	1331.96
Flared	0.04	0.10	0.01	0.06	6.32	0.17	0.45
Net Availability	563.76	609.88	643.90	646.68	815.92	1139.88	1331.51
Re-injected (Internal Use)	1.39	1.66	1.68	2.63	2.58	2.36	2.37
Net Production (Sales)	560.77	608.22	642.22	644.05	813.33	1137.52	1329.14
% Flared to GP	0.01	0.02	0.00	0.01	0.77	0.01	0.03

Contd...

II.15 State-wise Gross & Net Production of Natural Gas in India (Contd...)

(in MMSCM)

State / Utilisation	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 (P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
West Bengal (CBM)							
Gross Production	38.4	41.4	79.1	100.8	156.5	223.7	389.4
Flared	30.0	5.1	10.3	4.9	15.5	20.3	128.9
Net Availability	8.4	36.3	68.8	96.0	141.0	203.4	260.5
Re-injected (Internal Use)	2.8	5.2	9.4	12.3	21.4	33.7	41.5
Net Production (Sales)	5.6	31.1	59.4	83.7	119.5	169.6	219.0
% Flared to GP	78.13	12.33	13.04	4.82	9.93	9.09	33.10
Madhya Pradesh (CBM)							
Gross Production	-	-	1.53	3.44	5.65	2.08	1.40
Flared	-	-	0.89	2.30	4.09	1.29	0.31
Net Availability	-	-	0.63	1.14	1.57	0.79	1.09
Re-injected (Internal Use)	-	-	0.63	1.14	1.57	0.79	1.06
Net Production (Sales)	-	-	0.00	0.00	0.00	0.00	0.03
% Flared to GP	-	-	58.58	66.89	72.29	62.16	22.22
Jharkhand (CBM)							
Gross Production	-	-	3.56	2.95	3.38	2.48	2.04
Flared	-	-	0.00	0.00	0.00	0.00	0.00
Net Availability	-	-	3.56	2.95	3.38	2.48	2.04
Re-injected (Internal Use)	-	-	0.00	0.00	0.00	0.02	0.16
Net Production (Sales)	-	-	3.56	2.95	3.38	2.46	1.88
% Flared to GP	-	-	0.00	0.00	0.00	0.00	0.00
A. Total Onshore							
Gross Production	8684.87	8573.57	9083.80	8876.92	9011.68	8796.80	9237.48
Flared	311.22	304.84	318.85	328.23	341.57	413.57	532.04
Net Availability	8373.64	8268.73	8764.95	8548.69	8670.11	8383.23	8705.43
Re-injected (Internal Use)	1208.99	1404.67	1495.47	1567.61	1554.93	1539.64	1593.50
Net Production (Sales)	7163.69	6867.17	7269.30	6981.04	7081.20	6725.55	6968.53
% Flared to GP	3.58	3.56	3.51	3.70	3.79	4.70	5.76
B. Offshore							
Gross Production	38811.39	43645.09	38474.84	31802.34	26395.20	24860.64	23011.74
Flared	663.67	662.90	758.35	574.18	427.10	451.53	474.31
Net Availability	38147.73	42982.19	37716.49	31228.16	25968.10	24409.10	22537.43
Re-injected (Internal Use)	4451.99	3808.97	3817.32	3861.01	4035.24	4327.17	4192.30
Net Production (Sales)	33709.92	39173.23	33899.14	27367.16	21902.64	20054.14	18328.49
% Flared to GP	1.71	1.52	1.97	1.81	1.62	1.82	2.06
Total (A+B)							
Gross Production	47496.26	52218.66	47558.64	40679.26	35406.88	33657.44	32249.21
Flared	974.89	967.74	1077.20	902.42	768.67	865.11	1006.35
Net Availability	46521.37	51250.92	46481.44	39776.85	34638.21	32792.33	31242.86
Re-injected (Internal Use)	5660.98	5213.64	5312.79	5428.62	5590.17	5866.81	5785.80
Net Production	40873.61	46040.40	41168.44	34348.20	28983.83	26779.68	25297.03
% Flared to GP	2.05	1.85	2.26	2.22	2.17	2.57	3.12

P: Provisional CBM:Coal Bed Methane

Note:

1. Net availability denotes natural gas available for consumption which is derived by deducting gas flared from Gross Production
2. Net production denotes natural gas available for sale

Source: ONGC, OIL and DGH.

II.16 State-wise Utilisation of Domestic Natural Gas in India

(in MMSCM)

Item	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 (P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
(a) Onshore							
Gujarat	2406	2231	2103	1993	1585	1405	1403
Assam	2522	2509	2736	2716	2695	2732	2807
Arunachal Pradesh	12	14	14	14	8	9	8
Tripura	562	610	644	647	816	1140	1332
Tamil Nadu	1163	1106	1277	1199	1298	1175	990
Andhra Pradesh	1478	1383	1362	1246	1168	519	569
Rajasthan	221	384	557	634	920	1080	1190
West Bengal (CBM)	8	36	69	96	141	203	261
Madhya Pradesh (CBM)	0	0	1	1	2	1	1
Jharkhand (CBM)	0	0	4	3	3	2	2
Total (a)	8373	8272	8765	8549	8636	8265	8562
(b) Offshore							
Eastern Offshore	15740	21348	16394	10184	5611	4991	4521
Western Offshore	22122	21342	21111	20902	20216	19280	17931
Gujarat Offshore	299	292	212	142	111	110	68
Total (b)	38162	42982	37716	31228	25938	24381	22521
Grand Total (a+b)	**46535**	**51254**	**46481**	**39777**	**34574**	**32646**	**31083**
of which							
ONGC	22462	22471	22507	22931	22765	21415	20529
OIL	2248	2193	2490	2470	2477	2527	2667
PSC Regime	21824	26590	21484	14375	9332	8704	7887

CBM: Coal Bed Methane P: Provisional

Note: Utilisation is sum of sales and internal consumption

Source: ONGC, OIL and DGH.

II.17 Sector-wise Consumption of Natural Gas

(in MMSCM)

Sector	2011-12	2012-13	2013-14	2014-15	2015-16 (P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
(a) Energy Purpose					
Power	22628.46	16077.71	11283.62	10719.80	10889.20
Industrial	283.75	269.40	155.89	394.51	401.11
Manufacture	29.61	0.00	104.84	138.30	144.22
Road Transport	0.00	0.00	66.30	0.02	0.00
City or Local Natural Gas Distribution Network	5598.79	5779.84	5837.79	5415.49	5463.89
Tea Plantation	175.28	182.10	195.72	180.48	188.24
Internal Consumption for Pipeline System	385.14	386.82	372.13	350.57	409.58
Refinery	4256.87	3890.54	3968.48	4575.20	5076.54
Miscellaneous	9063.73	7975.90	7479.30	5941.23	4110.47
Total (a)	**42421.62**	**34562.30**	**29464.05**	**27715.60**	**26683.25**
(b) Non-Energy Purpose					
Fertilizer Industry	14003.32	14733.29	15869.37	15190.30	16134.61
Petrochemical	1857.69	2485.96	2404.66	2889.67	3733.28
Sponge Iron	1333.26	1105.74	274.12	153.59	544.32
LPG Shrinkage	1068.37	1027.29	981.85	1005.48	754.19
Total (b)	**18262.64**	**19352.29**	**19530.01**	**19239.04**	**21166.40**
Grand Total (a+b)	**60684.26**	**53914.59**	**48994.06**	**46954.64**	**47849.65**
Total in MMSCMD	**165.80**	**147.71**	**134.23**	**128.64**	**131.09**

Note: P: Provisional

1. Re-classification among the sectors of consumption of natural gas under energy and non-energy sectors, has been done depending on usage. Sectors where natural gas is being used as feedstock are classified as consumption of gas under non-energy purpose whereas those sectors where natural gas is being used as fuel are classified as consumption of gas under energy purpose .
2. Includes LNG

Source: PPAC

CHAPTER III: REFINING, TRANSPORTATION & MARKETING



Chapter Highlights

- With the commissioning of Paradip Refinery of IOCL, Petroleum Refining Capacity in India is augmented by 7% to reach 230.066 MMTPA as on 31.03.2016. This has led to an increase in share of Public Sector Refineries in India's total refining capacity from 55.8% in 2015 to 59% in 2016. Private Sector & JVs account for 35% and 6% respectively.

- Indian Oil Corporation Limited (IOCL) having 9 refineries has the largest share of all refineries at 30% (69.2 MMTPA) of total refining capacity as on 31.03.2016.

- Crude Throughput registered a sharp increase of 4.3% to reach 232865 TMT in year 2015-16 over 2014-15 as compared to a mere 0.33% increase in 2014-15 over 2013-14.

- Production of Petroleum Products at 231924 TMT witnessed a growth of 4.9% in 2015-16 over 2014-15 as compared to a marginal increase of 0.17% increase in 2014-15 over 2013-14.

- In line with Pradhan Mantri Ujjawala Yojana (PMUY), which envisages to provide clean fuel to 5 crore Below Poverty Line (BPL) families within 3 years, LPG production has increased by 7.4% from 9.84 MT in 2014-15 to 10.57 MT in 2015-16, as against a decline of 1.9%in 2014-15 over 2013-14.

- Total pipeline length is 42486 Km as on 31.03.2016 as against 41129 Km as on 31.03.2015.

- Total Crude Oil Pipelines have increased by 3.88% to reach 9853 km as on 31.03.2016 as against 9,485 in 2015. Out of 9853 km, 9365 km is in onshore and 488 km is in offshore.

- Total Natural Gas Pipeline as on 31.03.2016 stands at 17658 km as against 17406 km in 2015 registering growth of 2.55%, with Gas Authority of India Limited (GAIL) at 11077 km, accounting for around 63% of overall length.

- Petroleum Product Pipeline has increased from 14426 km (as on 31.03.2015) to 14975 km as on 31.03.2016, with IOCL's share at 43% in the total length.

- Total PDS SKO Kerosene allocated to States is at 6759054 MT in 2015-16 of which 98.29% was uplifted. In 2015-16, maximum SKO (around 18%) was allocated to Uttar Pradesh at 1212140 MT.

- LPG Bottling Capacity has increased by 8.03% from 14044 TMTPA in 2014-15 to 15172 TMTPA in 2015-16. LPG Distributers have increased significantly from 15930 in 2014-15 to 17916 (by 12.47%) in 2015-16.

- With strong emphasis on clean energy, Compressed Natural Gas (CNG) Sales has increased by 5.8% from 2037 TMT in 2014-15 to 2155 TMT in 2015-16.

- To meet the increasing demand of CNG, number of CNG stations has increased from 1010 on 31.03.2015 to 1081 as on 31.03.2016.

- As of 31.03.2016, there are 56190 Retail Outlets (ROs) in India. ROs have increased by 6.8% in 2015-16 as compared to 2014-15.

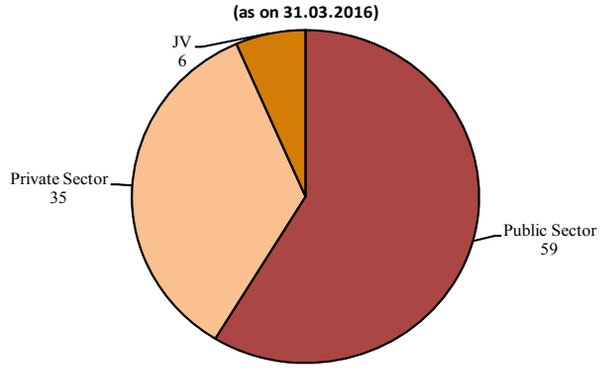
III.1 Petroleum Refining Capacity in India

(in MMTPA)

Sl. No.	Refinery Location & Year of Commissioning	Capacity as on 31st March						
		2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
A	**Public Sector**	**112.886**	**116.886**	**120.066**	**120.066**	**120.066**	**120.066**	**135.066**
	Indian Oil Corporation Ltd.	**51.20**	**54.20**	**54.20**	**54.20**	**54.20**	**54.20**	**69.20**
1	Digboi, Assam - 1901	0.65	0.65	0.65	0.65	0.65	0.65	0.65
2	Guwahati, Assam - 1962	1	1	1	1	1	1	1
3	Barauni, Bihar - 1964	6	6	6	6	6	6	6
4	Koyali, Gujarat - 1965	13.7	13.7	13.7	13.7	13.7	13.7	13.7
5	Haldia, West Bengal - 1975	7.5	7.5	7.5	7.5	7.5	7.5	7.5
6	Mathura, Uttar Pradesh - 1982	8	8	8	8	8	8	8
7	Panipat, Haryana - 1998	12	15	15	15	15	15	15
8	Bongaigaon, Assam - 1974	2.35	2.35	2.35	2.35	2.35	2.35	2.35
9	Paradip, Odisha-2016	-	-	-	-	-	-	15
	Bharat Petroleum Corporation Ltd.	**21.5**	**21.5**	**21.5**	**21.5**	**21.5**	**21.5**	**21.5**
10	Mumbai, Maharashtra - 1955	12	12	12	12	12	12	12
11	Kochi, Kerala - 1963	9.5	9.5	9.5	9.5	9.5	9.5	9.5
	Hindustan Petroleum Corporation Ltd.	**13.8**	**14.8**	**14.8**	**14.8**	**14.8**	**14.8**	**14.8**
12	Mumbai, Maharashtra - 1954	5.5	6.5	6.5	6.5	6.5	6.5	6.5
13	Visakh, Andhra Pradesh - 1957	8.3	8.3	8.3	8.3	8.3	8.3	8.3
	Chennai Petroleum Corporation Ltd.	**11.5**	**11.5**	**11.5**	**11.5**	**11.5**	**11.5**	**11.5**
14	Manali, Tamil Nadu - 1965	10.5	10.5	10.5	10.5	10.5	10.5	10.5
15	Narimanam, Tamil Nadu - 1993	1	1	1	1	1	1	1
	Numaligarh Refinery Ltd.	**3**	**3**	**3**	**3**	**3**	**3**	**3**
16	Numaligarh, Assam	3	3	3	3	3	3	3
	Oil & Natural Gas Corporation Ltd.	**0.066**	**0.066**	**0.066**	**0.066**	**0.066**	**0.066**	**0.066**
17	Tatipaka, Andhra Pradesh - 2001	0.066	0.066	0.066	0.066	0.066	0.066	0.066
	Mangalore Refinery & Petrochemical Ltd.	**11.82**	**11.82**	**15**	**15**	**15**	**15**	**15**
18	MRPL, Mangalore- 1996	11.82	11.82	15	15	15	15	15
B	**Private Sector**	**71**	**71**	**78**	**80**	**80**	**80**	**80**
	Reliance Industries Ltd.	**60**	**60**	**60**	**60**	**60**	**60**	**60**
19	Jamnagar, Gujarat - 1999	33	33	33	33	33	33	33
20	Jamnagar (SEZ), Gujarat - 2008	27	27	27	27	27	27	27
	Essar Oil Ltd.	**11**	**11**	**18**	**20**	**20**	**20**	**20**
21	Vadinar, Gujarat - 2006	11	11	18	20	20	20	20
C	**Joint Venture (JV)**	-	-	15	15	15	15	15
	Bharat Oman Refinery Ltd.	**-**	**-**	**6**	**6**	**6**	**6**	**6**
22	Bina, Madhya Pradesh - 2011	-	-	6	6	6	6	6
	HPCL Mittal Energy Ltd.	**-**	**-**	**9**	**9**	**9**	**9**	**9**
23	Bathinda, Punjab - 2012	-	-	9	9	9	9	9
	Total Refinery Capacity	**183.386**	**187.386**	**213.066**	**215.066**	**215.066**	**215.066**	**230.066**

Source: Oil Companies

Figure III.1: Distribution (%) of Petroleum refining capacity in India (as on 31.03.2016)



III.2 Refinery Crude Throughput and Production of Petroleum Products

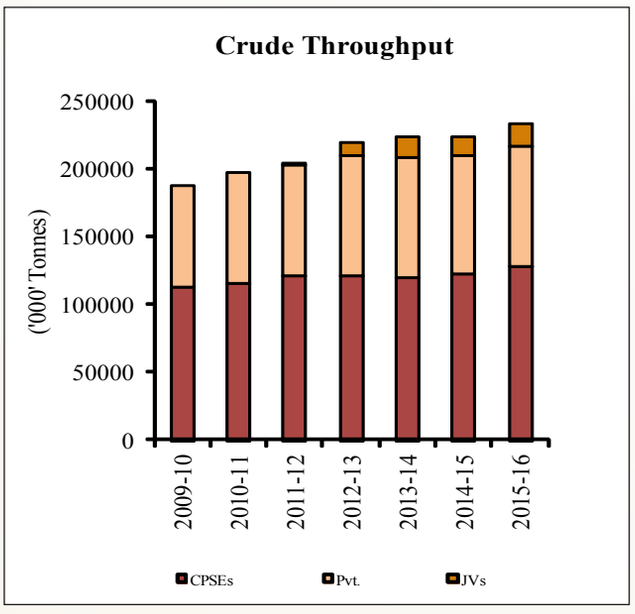
(in TMT)

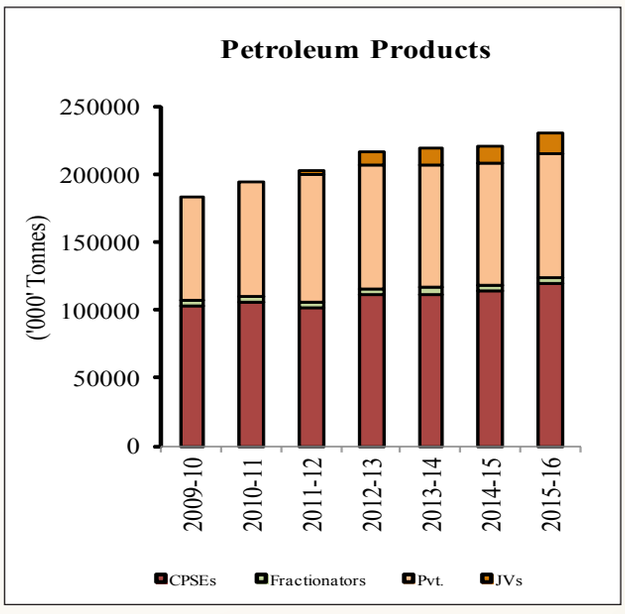
Year	Crude Throughput				Production of Petroleum Products					
	Refinery			Total	Refinery				Faction ators	Grand Total
	CPSEs	Pvt.	JVs		CPSEs	Pvt.	JVs	Total		
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*
(Calendar Years)										
2009	112365	75951	-	188316	104026	75343	-	179369	4767	184136
2010	112829	83407	-	196236	103981	84080	-	188060	4558	192618
2011	121030	81387	1242	203660	112609	84360	980	197949	4644	202594
2012	119763	87363	8035	215160	111558	90034	7191	208783	4566	213349
2013	119749	88097	14472	222318	114144	85588	16878	216610	4396	221006
2014	120944	88436	13442	222822	114401	89977	12580	216958	4101	221059
2015 (P)	123342	87096	16659	227097	116397	89908	15832	222137	3937	226074
(Financial Years)										
2009-10	112116	74435	-	186551	103641	76127	-	179768	4840	184608
2010-11	115311	81678	-	196989	106428	83888	-	190316	4504	194821
2011-12	120895	81179	2048	204121	102518	94328	1716	198561	4640	203202
2012-13	120303	88273	10636	219212	112329	91197	9692	213219	4518	217736
2013-14	119547	88229	14721	222497	112738	90101	13617	216456	4300	220756
2014-15	121183	88533	13526	223242	114462	89997	12682	217141	3994	221136
2015-16 (P)	127087	88662	17116	232865	120228	91734	15945	227908	4016	231924

Note: Crude throughput in terms of crude oil processed P: Provisional

Source: Oil Companies

Figure III.2: Refinery Crude Throughput and Production of Petroleum Products





III.3 Refinery-wise Crude Throughput and Production of Petroleum Products

(in TMT)

Refinery	Crude Throughput							Production of Petroleum Products						
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 (P)	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 (P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*
(a) PUBLIC SECTOR	**112116**	**115311**	**120895**	**120303**	**119547**	**121183**	**127087**	**103641**	**106429**	**112518**	**112329**	**112738**	**114462**	**120228**
IOCL, Digboi	600	651	622	660	651	591	562	578	633	602	652	650	591	541
IOCL, Guwahati	1078	1118	1058	956	1019	1006	904	952	997	927	881	1078	1067	1103
IOCl, Barauni	6184	6207	5730	6344	6478	5944	6545	5651	5654	5210	5732	5948	5412	6079
IOCL, Koyali	13206	13561	14253	13155	12960	13285	13820	12472	12687	13437	12480	12300	12492	13246
IOC, Haldia	5686	6878	8072	7490	7952	7650	7776	5053	6242	7283	6793	7233	7008	7133
IOCl, Mathura	8107	8880	8202	8561	6641	8515	8860	7672	8561	7926	8281	6370	8243	8640
IOCL, Panipat	13615	13660	15496	15126	15098	14191	15282	11959	12026	14029	14112	14795	14110	15501
IOCL, Bongaigoan	2220	2008	2188	2356	2328	2403	2442	2100	1841	1969	2116	2121	2186	2253
IOCL, Paradip	-	-	-	-	-	-	1817	-	-	-	-	-	-	1107
Total IOCL	**50696**	**52964**	**55621**	**54649**	**53126**	**53586**	**58007**	**46437**	**48642**	**51382**	**51048**	**50494**	**51110**	**55603**
BPCL, Mumbai	12516	13020	13355	13077	12684	12821	13371	11810	12406	12726	12458	12365	12346	12802
BPCL, Kochi	7875	8699	9472	10105	10285	10356	10712	7389	8138	8796	9385	9674	9803	10164
Total BPCL	**20391**	**21719**	**22828**	**23183**	**22969**	**23177**	**24083**	**19199**	**20544**	**21523**	**21843**	**22039**	**22149**	**22965**
HPCL, Mumbai	6965	6638	7506	7748	7785	7408	8013	6594	5987	7225	7388	7213	7030	7468
HPCL, Vishakhapatnam	8796	8200	8682	8028	7776	8770	9220	8117	7626	8017	7452	7246	8241	8558
Total HPCL	**15761**	**14838**	**16189**	**15777**	**15561**	**16179**	**17234**	**14711**	**13613**	**15242**	**14840**	**14459**	**15271**	**16026**
CPCL(MRL), Manali	9580	10104	9953	9105	10065	10251	9100	8718	9098	8998	8140	9169	9421	8330
CPCL(MRL), Narimanam	517	703	611	640	559	531	544	503	696	602	635	558	539	550
Total CPCL	**10097**	**10807**	**10565**	**9745**	**10624**	**10782**	**9644**	**9221**	**9794**	**9601**	**8775**	**9728**	**9959**	**8881**
NRL, Numaligarh	2619	2252	2825	2478	2613	2777	2520	2336	1996	2750	2373	2557	2754	2521
MRPL, Mangalore	12498	12662	12798	14415	14589	14632	15532	11683	11773	11952	13394	13397	13169	14166
ONGC, Tatipaka	55	69	69	57	65	51	67	54	68	68	56	64	50	66
(b) PRIVATE SECTOR	**74435**	**81678**	**81179**	**88273**	**88229**	**88533**	**88662**	**76127**	**83887**	**84328**	**91197**	**90101**	**89997**	**91734**
RIL, Jamnagar	31379	31198	32497	32613	30307	30867	32428	31768	31514	33114	32755	30815	30864	32331
RIL, SEZ-Jamnagar	29555	35607	35186	35892	37720	37174	37133	30113	37871	38541	39399	39799	39329	41089
Total RIL	**60934**	**66805**	**67683**	**68504**	**68027**	**68042**	**69561**	**61881**	**69385**	**71655**	**72154**	**70613**	**70192**	**73419**
EOL, Vadinar	13502	14873	13496	19769	20202	20491	19101	14246	14502	12673	19043	19487	19804	18315
(c) JOINT VENTURE	**-**	**-**	**2048**	**10636**	**14721**	**13526**	**17116**	**-**	**-**	**1716**	**9692**	**13617**	**12682**	**15945**
BORL, Bina	-	-	2048	5732	5450	6209	6402	-	-	1716	5209	4994	5782	5916
HMEL, Bathinda	-	-	-	4904	9271	7318	10713	-	-	-	4483	8623	6900	10029
(d) FRACTIONATORS	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**4842**	**4504**	**4640**	**4518**	**4300**	**3994**	**4016**
Grand Total	**186552**	**196989**	**204121**	**219212**	**222497**	**223242**	**232865**	**184610**	**194821**	**203202**	**217736**	**220756**	**221136**	**231924**

Note: Excluding other inputs from refinery crude throughput

P: Provisional

Source: Oil Companies

III.4 Refinery-wise Production of Petroleum Products during 2015-16 (P)

(in TMT)

Refinery/Plant	LPG	Motor Spirit	Naphtha	ATF	SKO	HSDO	LDO	Furnace Oil	LSHS	Bitumen	Lube Oil	Petroleum Coke	Waxes	Total Production	Fuel & Losses	Crude Processed
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*	*(16)*	*(17)*
IOC, Guwahati	39	223	17	32	109	625	-1	0	0	0	0	59	0	1103	117	904
IOC, Barauni	336	1219	221	0	764	3295	0	61	-7	0.00	0	147	0	6079	574	6545
IOC, Koyali	554	1783	762	400	776	7060	18	456	0	367	0	808	0	13246	1270	13820
IOC, Haldia	245	546	487	373	885	2864	0	863	0	651	157	0	0	7133	676	7776
IOC, Mathura	445	1311	501	477	492	3224	0	1200	0	770	0	0	0	8640	719	8860
IOC, Digboi	9	83	1	0	11	263	33	76	0	0	0	34	26	541	63	562
IOC, Panipat	767	1715	1499	1262	717	7023	0	248	0	320	0	932	0	15501	1475	15282
IOCL,Bongaigoan, Assam	58	155	184	6	123	1442	98	34	0	0	0	153	0	2253	209	2442
IOCL, Paradip, Odisha	87	29	214	5	106	610	0	0	0	0	0	56	0	1107	456	1817
BPCL, Mumbai	490	2140	744	804	311	6202	68	858	29	557	270	0	0	12802	605	13371
BPCL, Kochi	558	2067	391	480	208	5377	23	679	52	223	0	0	0	10164	645	10712
HPCL, Mumbai	405	1377	353	448	224	2708	95	620	0	610	423	0	0	7468	628	8013
HPCL, Vishakhapatnam	419	1655	354	97	551	3760	96	955	-2	587	0	0	0	8558	706	9220
CPCL(MRL), Manali	282	955	580	643	300	3669	0	943	0	564	188	0	21	8330	877	9100
CPCL(MRL), Narimanam	19	0	207	0	22	209	0	0	94	0	0	0	0	550	25	544
NRL, Numaligarh	46	511	-11	67	134	1652	0	0	0	0	0	96	23	2521	148	2520
MRPL, Mangalore	803	1165	1574	1001	563	6454	0	604	71	183	0	857	0	14166	1543	15532
ONGC, Tatipaka	0	0	16	0	3	25	0	0	22	0	0	0	0	66	1	67
RPL, Jamnagar	373	2566	5972	2617	0	9328	0	1015	0	0	0	2805	0	32331	2582	32428
RPL,SEZ	813	9959	1681	1973	0	15999	0	679	0	0	0	3746	0	41089	3429	37133
EOL, Vadinar	761	3163	744	479	206	9161	0	177	0	324	0	2120	0	18315	1101	19101
BORL,Bina	208	1095	-1	369	616	3037	0	0	0	0	0	487	0	5916	451	6402
HMEL,Bathinda	844	1604	263	251	318	4591	0	0	0	0	0	1021	0	10029	686	10713
Total Refinery	**8562**	**35321**	**16751**	**11786**	**7438**	**98579**	**429**	**9468**	**259**	**5157**	**1037**	**13322**	**70**	**227908**	**18986**	**232865**
Fractionators	**2006**	**0**	**1110**	**3**	**65**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4016**	**0**	**0**
Grand Total	**10568**	**35321**	**17861**	**11789**	**7504**	**98588**	**429**	**9468**	**259**	**5157**	**1037**	**13322**	**70**	**231924**	**18986**	**232865**

Source: Oil Companies

P: Provisional

III.5 (a) Production of Petroleum Products (Calendar Year-wise)

(in '000' Tonne)

Products	Year							% variation in 2015 over 2014
	2009	2010	2011	2012	2013	2014	2015 (P)	
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*('9)*
LPG	10432	9628	9717	9709	9853	9953	10301	3.5
Motor Spirit	21718	25881	26845	29549	30263	31800	34056	7.1
Naphtha	18659	19366	18927	18648	18779	17821	17300	-2.9
Kerosene	8708	8056	7815	8115	7461	7604	7433	-2.3
ATF	9171	9212	10593	9538	11208	10926	11084	1.4
HSD	72990	76726	82255	89283	93022	94693	96391	1.8
LDO	521	528	537	428	427	351	410	16.7
Total Fuel Oils	18031	20167	19067	15832	13787	12307	10278	-16.5
of which								
(a) Furnace Oil	15350	18294	17324	14266	13156	11745	9855	-16.1
(b) LSHS/HHS/RFO	2681	1872	1744	1566	631	562	423	-24.8
Lube Oils	911	859	1016	954	915	878	1073	22.3
Bitumen	4938	4510	4629	4555	4876	4756	4769	0.3
Petroleum Coke	4043	2657	6706	9990	11892	10060	9800	-2.6
Paraffin Wax	63	63	50	54	52	54	57	6.3
Others	14351	17221	14438	16694	18470	19855	23123	16.5
Total Production of Petroleum Products	**184536**	**194874**	**202594**	**213349**	**221006**	**221059**	**226074**	**2.3**
of which								
Refineries	**179769**	**190316**	**197949**	**208783**	**216610**	**216958**	**222137**	**2.4**
Fractionators	**4767**	**4558**	**4644**	**4566**	**4396**	**4101**	**3937**	**-4.0**

Source: Oil Companies

P: Provisional

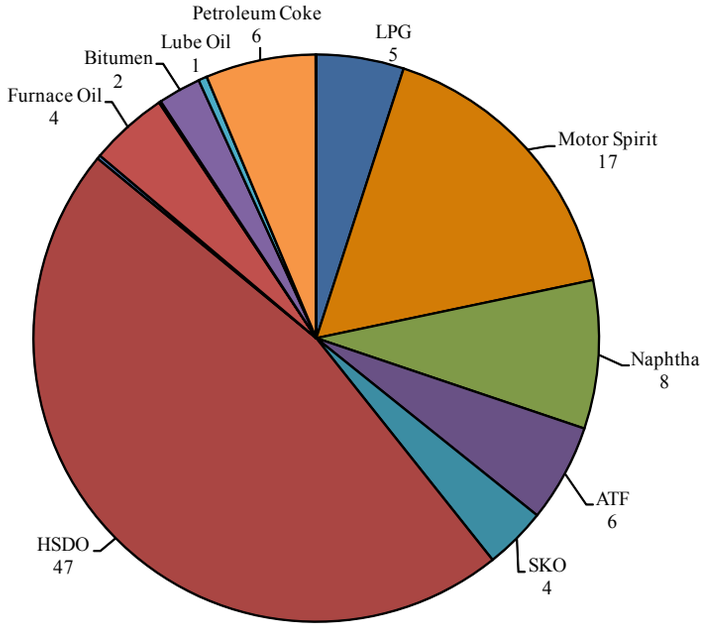
III. 5 (b) Production of Petroleum Products (Financial Year-wise)

(in '000' Tonne)

Products	Year							% variation in 2015-16 over 2014-15
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16(P)	
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(10)*
LPG	10334	9708	9547	9825	10030	9840	10568	7.4
Motor Spirit	22537	26138	27186	30118	30275	32325	35321	9.3
Naphtha	18788	19196	18825	19018	18505	17391	17861	2.7
Kerosene	8703	7809	7861	7971	7418	7559	7504	-0.7
ATF	9304	9589	10065	10088	11220	11103	11789	6.2
HSD	73298	78057	82880	91103	93759	94428	98588	4.4
LDO	472	590	502	400	423	358	429	19.8
Total Fuel Oils	18346	20519	18433	15054	13405	11919	9727	-18.4
of which								
a) Furnace Oil	15828	18659	16732	13690	12920	11248	9468	-15.8
b) LSHS/HHS/RFO	2518	1860	1701	1364	485	671	259	-61.4
Lube Oils	950	884	1028	896	941	946	1037	9.7
Bitumen	4889	4478	4610	4670	4785	4632	5157	11.3
Petroleum Coke	3709	2711	7837	10943	12068	12448	13322	7.0
Paraffin Wax	64	61	47	52	55	51	65	28.3
Others	13215	15081	14381	17598	17871	18137	20557	13.3
Total Production of Petroleum Products of which	**184610**	**194821**	**203202**	**217736**	**220756**	**221136**	**231924**	**4.9**
Refineries	**179768**	**190316**	**198561**	**213219**	**216456**	**217141**	**227908**	**5.0**
Fractionators	**4842**	**4504**	**4640**	**4518**	**4300**	**3994**	**4016**	**0.5**

Source: Oil Companies P: Provisional

Figure III.3: % distribution of petroleum products produced during 2015-16



III.6 Crude Oil, Natural Gas and Product Pipelines in India								
Type of Pipeline / Owner	Length (in Kms.) as on 31st March							
	2009	2010	2011	2012	2013	2014	2015	2016
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crude Pipelines (Onshore)								
ONGC	569	647	790	835	820	820	743	691.77
OIL	1193	1193	1193	1193	1193	1193	1193	1192.6
IOC	4332	4332	4332	4342	4448	4448	4448	4867
BORL (JV with BPCL)	--	--	--	937	937	937	937	937
HMEL (JV with HPCL)	--	--	--	1017	1017	1017	1017	1017
CAIRN	-	-	-	-	-	660	660	660
Subtotal	**6094**	**6172**	**6315**	**8323**	**8414**	**9074**	**8997**	**9365**
Crude Pipelines (Offshore)								
ONGC	488	488	488	488	488	488	488	488
Subtotal	**488**	**488**	**488**	**488**	**488**	**488**	**488**	**488**
Total Crude Oil Pipelines	**6582**	**6660**	**6803**	**8811**	**8902**	**9562**	**9485**	**9853**
Gas Pipelines (Onshore)								
ONGC	--	--	--	--	53	53	53	53
IOC	--	--	132	132	134	134	140	140
GAIL	7190	7803	8197	9454	10702	10909	10984	11077
GSPL	--	--	--	--	2163	2174	2192	2540
RIL[1]	1469	1469	1469	1469	1469	1469	1469	1469
AGC,DNPL	--	--	--	--	--	811	811	811
CAIRN	--	--	--	--	--	581	581	581
Subtotal	**8659**	**9272**	**9798**	**11055**	**14521**	**16131**	**16231**	**16671**
Gas Pipelines (Offshore)								
ONGC	963	963	963	963	987	987	987	987
Subtotal	**963**	**963**	**963**	**963**	**987**	**987**	**987**	**987**
Total Gas Pipelines	**9622**	**10235**	**10761**	**12018**	**15508**	**17118**	**17218**	**17658**
Product Pipelines (Onshore)								
IOC	5963	6175	6401	6401	6633	6633	6633	6739
BPCL	1389	1389	1389	1648	1648	1697	1936	1936
HPCL	2134	2134	2134	2164	2407	2407	2514	2957
OIL	654	654	654	654	654	654	654	654
PCCK	293	293	293	293	293	293	293	293
PHMB	364	364	364	364	364	364	364	364
GAIL	1964	1978	1978	2038	2038	2032	2032	2032
Subtotal	**12761**	**12987**	**13213**	**13562**	**14037**	**14080**	**14426**	**14975**
Product Pipelines (Offshore)	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
Total Product Pipeline	**12761**	**12987**	**13213**	**13562**	**14037**	**14080**	**14426**	**14975**
Grand Total	**28964**	**29882**	**30777**	**34391**	**38447**	**40760**	**41129**	**42486**

Note: Detail in Tables III.7, III.8 and III.9

Source: Oil Companies

III.7 Major Crude Oil Pipelines in India

Type of Pipeline / Owner/ Name of Pipeline	Capacity (TMT)		Length (KM)		Throughput (TMT)		Utilization (%)	
	31.03.2015	31.03.2016	31.03.2015	31.03.2016	2014-15	2015-16 (P)	2014-15	2015-16
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Onshore								
IOCL	**40400**	**40400**	**4448.00**	**4867.00**	**47779**	**50542**	**118.3**	**125.1**
Salaya Mathura Pipeline	21000	21000	1870	2226	23834	25142	113.5	119.7
Mundra Panipat Pipeline	8400	8400	1194	1194	7770	8726	92.5	103.9
Paradip Haldia Barauni Pipeline	11000	11000	1384	1447	16175	16674	147	151.6
ONGC	**26727**	**22847**	**742.61**	**691.77**	**9967**	**9525**	**37.3**	**41.7**
14" MHN-NGM Trunk pipeline	2265	2265	77	77	2225	2107	98.2	93
14" Kalol-Nawagam-Old [1]	3140	0	50.90	-	0	0	0	0
14" Kalol-Nawagam-New	3140	3140	62.5	62.5	992	1037	31.6	33.0
18" Nawagam-Koyali pipeline	5400	5400	78.4	78.4	2314	2255	42.9	41.8
14" Nawagam-Koyali pipeline	3300	3300	78.4	78.4	1414	1378	42.8	41.8
16" CTF, Ankl to Koyali Pipeline	2199	2199	94.77	94.77	882	743	40.1	33.8
8" CTF, Ankl to CPF, Gandhar[2]	394	394	44.30	44.3	0	0	0	0
12" CPF, Gandhar to Saraswani 'T' point[3]	1805	1805	56.70	56.7	586	589	32.5	32.6
10" Akholjuni to Laxmipura 'T' point	481	481	65.07	65.5	134	124	27.9	25.8
12" Lakwa-Moran pipeline	1500	1500	17.5	17.5	343	303	22.9	20.2
14" Geleki-Jorhat pipeline	1500	1500	48.5	48.5	572	494	38.1	32.9
12" Borholla-Jorhat pipeline	600	600	42.8	42.8	167	146	27.8	24.3
4" Kesnapalli-WGGS to Tatipaka Refinery[4]	83	83	13.5	13.5	0	21	0	25.3
4" GMAA EPT to S. Yamam unloading terminal (Ist line)[5]	90	90	3.5	3.5	0	0	0	0
4" GMAA EPT to S. Yanam unloading terminal (New line)	90	90	3.5	3.5	101	83	112.2	92.2
8" Narimanam to CPCL refinery pipeline-Old[6]	740	-	5.27	-	237	-	32	-
8" Narimanam to CPCL refinery pipeline-New[6]	-	740	-	4.9	-	245	0	33.1
OIL:Duliajan-Digboi-Barauni-Bongaigaon Pipeline	**8400**	**8400**	**1192.6**	**1192.6**	**6772**	**6426**	**80.62**	**76.50**
HMEL:Mundra - Bhatinda Pipeline	**9000**	**9000**	**1017**	**1017**	**7310**	**10700**	**81.22**	**118.89**
BORL: Vadinar - Bina Pipeline	**6000**	**6000**	**937**	**937**	**6131**	**6422**	**102.18**	**107.03**
Cairn: Mangala- Bhogat Pipeline	**8714**	**8714**	**660**	**660**	**8844**	**8692**	**101.49**	**99.75**
Total Onshore Crude Pipeline	**99241**	**95361**	**8997.21**	**9365.37**	**86803**	**92307**	**87.47**	**96.8**
Offshore								
ONGC	**45134**	**45134**	**488**	**488**	**13315**	**13067**	**29.5**	**28.95**
Mumbai High - Uran Trunk Pipeline	15634	15634	204	204	8240	8829	52.71	56.47
Heera-Uran Trunk Pipeline	11500	11500	81	81	5075	4238	44.13	36.85
Bombay-Uran Trunk 30" Pipeline	18000	18000	203	203	0	0	0	0
Total Offshore Crude Pipeline	**45134**	**45134**	**488**	**488**	**13315**	**13067**	**29.50**	**28.95**
Total Crude pipeline	**144375**	**140495**	**9485**	**9853**	**100118**	**105374**	**116.97**	**125.75**

Source: Oil Companies P: Provisional

Note:

1. Kalol-Nawagam (Old) trunk line is isolated and kept on standby.
2. 8" CTF to CPF line not in use due to damage / rupture of river portion of pipeline near Dhanturia on 25.08.2013 due to high floods in Narmada river.
3. Length and capacity data given for CPF, Gandhar to Saraswani 'T' point trunk pipeline includes length and capacity of branch lines from GNAQ and Dabka meeting at Magnad 'T' point and Mobha 'T' point respectively.
4. KSP-WGGS to TPK Refinery Pipeline dispatch resumed from 28.12.2015 onwards .
5. GMAA EPT to S.Yamam Unloading Terminal (1st Line) is not under use due to multiple leakages and required repair on account of ROU issues and has not been used in 2014-15.
6. Narimanam (NRM) to CPCL line-Old abandoned and Narimanam (NRM) to CPCL new line has been put to use.

III.8 Major Gas Pipelines in India

Type of Pipeline / Owner/Name of Pipeline	Capacity (MMSCMD)		Length (KM)		Throughput (MMSCMD)		Utilization (%)	
	31.03.2015	31.03.2016	31.03.2015	31.03.2016	2014-15	2015-16(P)	2014-15	2015-16
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Onshore								
GAIL [1]	**206.04**	**206.04**	**10984**	**11077**	**89.63**	**90.59**	**43.50**	**43.97**
HVJ-GREP-DVPL	53	53	4658	4658	38.76	33.06	73.13	62.38
DVPL-GREP Upgradation (DVPL-II & VDPL)	54	54	1119	1119	20.32	25.51	37.63	47.24
Chhainsa-Jhajjar-Hissar P/L (SNPL PART)	5	5	265	265	0.79	0.77	15.80	15.40
Dadri Bawana Nangal	31	31	835	835	4.08	4.06	13.16	13.10
Dahej-Panvel-Dhabol	19.9	19.9	875	875	8.52	9.53	42.81	47.89
Kochi-Koottanad-Bangalore- Mangalore (Phase-1)	6	6	48	48	0.39	0.57	6.5	9.50
Dhabol Bangalore	16	16	1004	1097	0.87	0.98	5.44	6.13
South Gujarat Regional	15.42	15.42	538	538	1.46	1.68	9.47	10.89
North Gujarat Regional (Ahmedabad)	2.91	2.91	133	133	0.32	0.27	11.00	9.28
Rajasthan Regional (Jaisalmer)	2.35	2.35	152	151	1.31	1.40	55.74	59.57
Cauvery Basin	8.66	8.66	278	278	3.25	2.74	37.52	31.63
K G Basin	16	16	881	881	3.45	4.88	21.57	30.51
Assam (Lakwa)	2.50	2.50	8	8	0.52	0.40	20.8	16
Tripura (Agartala)	2.26	2.26	61	61	1.45	1.47	64.16	65.04
Mumbai Regional	7.04	7.04	129	129	9.01	8.10	128.06	115.12
IOCL: Dadri Panipat R LNG Pipeline	9.5	9.5	140	140	3.84	3.89	40.42	40.95
ONGC: 20'' Agartala Dome-OTPC Palatana	3.2	3.2	53	53	1.47	1.88	45.96	58.75
GSPL: Network incl. Spur Lines	43	43	2192	2540	23.00	24.49	53.49	56.95
DNPL: Duliajan to Numaligarh	1.20	1.20	192	192	0.66	0.61	55.28	50.89
AGCL: Duliajan to Numaligarh2	2.06	2.06	619	619	1.74	1.72	84.68	83.63
RIL: East-West Pipeline	80.00	80.00	1469	1469	21	19	26.25	23.75
Cairns: Raageswari Bhogat Pipeline	0.62	0.62	581	581	0.32	0.47	51.6	76.46
Total Onshore Gas Pipeline	**345.62**	**345.62**	**16231**	**16671**	**141.67**	**142.66**	**40.99**	**41.28**
Offshore								
ONGC	**105.75**	**105.75**	**987**	**987**	**43.44**	**40.30**	**41.08**	**38.11**
28" MUT Gas Pipeline	12.25	12.25	204	204	9.26	8.71	75.59	71.14
26" BUT Gas Pipeline	12.50	12.50	203	203	0.00	0.00	0.00	0.00
26" HUT Gas Pipeline	16.00	16.00	81	81	2.16	2.04	13.53	12.77
36" BPA - Hazira (gas)	22.00	22.00	231	231	13.41	11.58	60.93	52.66
42" BPB - Hazira (gas)	37.00	37.00	244	244	14.75	14.15	39.87	38.25
20" Uran Trombay Gas Trunk Line	6.00	6.00	24	24	3.86	3.81	64.34	63.43
Total Offshore Gas Pipeline	**105.77**	**105.77**	**987**	**987**	**43.44**	**40.30**	**41.07**	**38.10**
Total Gas Pipeline	**464.12**	**464.12**	**17218**	**17658**	**186.02**	**186.02**	**40.08**	**40.08**

Note: P: Provisional

1. Gail's total capacity/throughput does not include capacity/throuphput of Chhainsa-Jhajjar-Hissar pipeline and Dadri Bawana Nangal pipelines as these are extension of DVPL-GREP upgradation pipeline.

2. Includes 514 KM CGD pipeline of AGCL.

III.9 Major LPG & Petroleum Products Pipelines in India

Type of Pipeline / Owner/Name of Pipeline	Capacity (TMT)		Length (KM)		Throughput (TMT)		Utilization (%)	
	31.03.2015	31.03.2016	31.03.2015	31.03.2016	2014-15	2015-16 (P)	2014-15	2015-16
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
LPG Pipelines								
BPCL: Mumbai Uran	**800**	**800**	**28**	**28**	**55**	**290**	**6.91**	**36.25**
IOCL: Panipat - Jalandhar LPG Pipeline	**700**	**700**	**274**	**274**	**477**	**558**	**68.14**	**79.71**
GAIL	**3830**	**3830**	**2032**	**2032**	**3437**	**3724**	**89.73**	**97.23**
Jamnagar-Loni LPG Pipeline	2500	2500	1414	1414	2326	2063	93.03	82.52
Vizag-Secunderabad LPG Pipeline	1330	1330	618	618	1111	1661	83.52	124.89
Total LPG Pipeline	**5330**	**5330**	**2334**	**2334**	**3969**	**4572**	**74.47**	**85.78**
Products Pipelines								
IOCL	**39390**	**39486**	**6359**	**6465**	**27428**	**28724**	**69.63**	**72.74**
Koyali Ahmedabad Pipeline	1100	1100	116	116	745	758	67.73	68.91
Koyali Sanganer Pipeline	4600	4600	1287	1288	3451	3283	75.02	71.37
Koyali Ratlam Pipeline	2000	2000	265	265	1317	1388	65.85	69.40
Koyali Dahej Pipeline	2600	2600	197	197	148	577	5.69	22.19
Barauni Kanpur Pipeline	3500	3500	745	745	2263	2401	64.66	68.60
Haldia Mourigram Rajbandh Pipeline	1350	1350	277	277	1763	1800	130.59	133.33
Haldia Barauni Pipeline	1250	1250	526	526	1205	1351	96.40	108.08
Guwahati Siliguri Pipeline	1400	1400	435	435	1787	1877	127.64	134.07
Panipat Bhatinda Pipeline	1500	1500	219	219	1345	1400	89.67	93.33
Panipat Rewari Pipeline	2100	2100	155	155	1514	1582	72.10	75.33
Panipat Ambala Jalandhar Pipeline	3500	3500	434	434	2336	2761	66.74	78.89
Panipat Delhi Pipeline	3000	3000	189	189	1228	1618	40.93	53.93
Mathura Delhi Biijwasan Panipat Pipeline	3700	3700	258	258	2614	2333	70.65	63.05
Mathura Tundla Pipeline	1200	1200	56	56	326	384	79.83	76.75
Mathura Bharatpur Pipeline			21	21	632	537	#DIV/0!	#DIV/0!
Chennai Trichy Madurai Pipeline	2300	2300	683	683	2438	2611	106.00	113.52
Chennai Bangalore Pipeline	2450	2450	290	290	1430	1229	58.37	50.16
Chennai Meenambakkam ATF Pipeline	180	180	95	95	183	164	101.67	91.11
Digboi Tinsukia Pipeline	1000	1000	75	75	482	440	48.20	44.00
Devangonthi Devanhalli Pipeline	660	660	36	36	221	216	33.48	32.73
Paradip Raipur Ranchi Pipeline	-	96	-	105	-	14	-	14.58
BPCL	**14140**	**14140**	**1908**	**1908**	**9722**	**10590**	**68.75**	**74.89**
Mumbai Manmad Manglya Piyala Bijwasan(MS/SKO/HSD)	6000	6000	1389	1389	6227	6740	103.78	112.33
Bina Kota (MS/SKO/HSD)	4400	4400	259	259	2548	2880	57.92	65.45
Mumbai Refinery - Santacruz Airport (ATF)	1440	1440	15	15	771	760	53.54	52.78
Kochi Refinery - Kochi Airport (ATF)	600	600	34	34	176	210	29.26	35.00
Kota Jobner (MS/SKO/HSD)1	1700	1700	211	211	0	0	-	-
HPCL	**23610**	**31590**	**2514**	**2957**	**14914**	**18481**	**63.17**	**58.50**
Mumbai - Pune - Solapur Pipeline	4300	4300	508	508	3565	4445	82.92	103.37
Visakh - Vijayawada - Secunderabad Pipeline	5380	5380	572	572	4354	4425	80.92	82.25
Mundra - Delhi Pipeline	5000	5000	1054	1054	3424	2909	68.49	58.18
Ramanmandi - Bahadurgarh Pipeline	4710	4710	243	243	2904	4456	61.65	94.61
Ramanmandi - Bhatinda Pipeline	1130	1130	30	30	638	839	56.48	74.25
Awa-Salawas Pipeline	2340	2340	93	93	21	683	0.88	29.19

Contd...

III.9 Major LPG & Petroleum Products Pipelines in India (Contd..)

Type of Pipeline / Owner/Name of Pipeline	Capacity (TMT)		Length (KM)		Throughput (TMT)		Utilization (%)	
	31.03.2015	31.03.2016	31.03.2015	31.03.2016	2014-15	2015-16 (P)	2014-15	2015-16
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Bahadurgarh-Tikrikalan Pipeline	750	750	14	14	8	531	1.07	70.80
Rewari-Kanpur Pipeline	0	7980	0	443	0	193	0.00	2.42
OIL: Numaligarh - Siliguri Pipeline	**1721**	**1721**	**654**	**654**	**1806**	**1744**	**104.94**	**101.34**
PCCK: Cochin - Coimbatore - Karur Pipeline	**3300**	**3300**	**293**	**293**	**2458**	**2715**	**74.48**	**82.27**
PHMB: Mangalore Hassan Bengaluru Pipeline	**2140**	**2140**	**364**	**364**	**3141**	**3318**	**146.78**	**155.05**
Total Products Pipeline	**84301**	**92377**	**12092**	**12641**	**59469**	**65572**	**70.54**	**70.98**
Grand Total Pipelines (including LPG)	**89631**	**97707**	**14426**	**14975**	**63438**	**70144**	**70.78**	**71.79**

Note: P: Provisional

1: Design capacity of pipeline is 1.70 MMTPA. However, its throughput is not shown as it is Branch Line for pumping product from MMBPOL or BKPL

Source: Oil companies

III.10 Tonnage of Indian Tankers Fleet

	2009	2010	2011	2012	2013	2014	2015	2016
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
A. Coastal Trade (Oil Tankers)								
1. Product Carriers								
No. of tankers	14	13	13	14	13	14	14	14
DWT ('000' tonnes)	67	43	43	43	43	44	44	44
2. Crude Oil Carriers								
No. of tankers	2	2	2	2	1	2	3	4
DWT ('000' tonnes)	82	82	82	82	41	41	358	403
3. Offshore Supply Vessels								
No. of tankers	100	110	110	115	106	108	102	106
DWT ('000' tonnes)	123	133	134	134	113	115	110	114
4. Specialized vessels for offshore								
No. of tankers	36	38	38	38	38	38	36	36
DWT ('000' tonnes)	49	51	51	50	50	50	49	49
Total (1+2+3+4)								
No. of tankers	152	163	163	169	158	162	155	160
DWT ('000' tonnes)	321	308	310	310	247	250	560	609
B. Overseas Trade (Oil Tankers)								
5. Ore Oil Bulk Carriers								
No. of tankers	2	2	2	2	1	1	1	1
DWT ('000' tonnes)	169	169	169	169	46	46	46	46
6. Crude Oil Carriers								
No. of tankers	54	60	72	71	59	64	60	63
DWT ('000' tonnes)	5264	5688	6665	6506	5661	5786	5608	5858
7. Product Carriers								
No. of tankers	50	57	55	55	49	47	47	50
DWT ('000' tonnes)	3303	3587	3474	3405	3266	3273	3313	3440
8. LPG Carriers								
No. of tankers	14	9	8	9	9	9	8	11
DWT ('000' tonnes)	396	277	241	241	273	273	223	303
Total Overseas (5+6+7+8)								
No. of tankers	120	128	137	137	118	121	116	125
DWT ('000' tonnes)	9132	9721	10549	10321	9246	9377	9190	9646
Total Oil Tankers (A+B)								
No. of tankers	272	291	300	306	276	283	271	285
DWT ('000' tonnes)	9452.9	10029.0	10859.2	10630.9	9493.6	9627.3	9749.7	10255.8

DWT: Dead Weight Tonnage.

Source: Directorate General of Shipping, Mumbai.

III.11 Indian Tonnage as on 31.03.2016

(in Tonnes)

Sl. No.	Owner of the ship	Gross Registered Tonnage	Dead Weight Tonnage
Coastal Trade			
	Tankers (Product Carriers)		
1	Associated Maritime Pvt.Ltd.	1090	2052
2	Atlantic Shipping Pvt. Ltd.	2814	3617
3	Blue Ocean Sea Transport Ltd.	965	1546
4	Castle Ships Pvt.Ltd.	1332	2127
5	Coast Line Services (India)Pvt. Ltd.	493	872
6	Jaisu Shipping (P) Ltd.	1873	2808
7	K. Raghupathi Rao (Raghu)	65	0
8	M.Gangadhar Rao	36	0
9	Pratibha Shipping Co.Ltd.	30565	28610
10	Vamsee Shipping Carrier Pvt.Ltd.	1495	2238
11	Shree Krishna Quarry Pvt. Ltd.	708	0
	Total	**41436**	**43870**
	Tankers (Crude Oil Carriers)		
1	The Shipping Corpn.of India Ltd.	190359	357757
2	Jadwet Trading Company	40	0
3	Seven Islands Shipping Ltd.	29083	44970
	Total	**219482**	**402727**
	Offshore Supply Vessels		
1	Administration of U.T. of Lakshadweep	10721	960
2	ARC Maritime Pvt. Ltd.	1591	1921
3	Albatross Shipping Agencies	2893	3798
4	Chandra Ship Management Pvt. Ltd.	285	0
5	Dolphin Offshore Shipping Ltd.	363	272
6	Damodar Marine Services Pvt. Ltd.	487	737
7	Dunnimaa Engineers & Divers Ent. P.Ltd.	639	627
8	Dolphin Offshore Shipping Ltd.	1008	491
9	Epsom Shipping (I) Pvt. Ltd.	921	1025
10	Samudrika Logistics Pvt. Ltd.	275	290
11	GAL Offshore Shipping	640	0
12	Bhambhani Shipping Ltd.	867	1060
13	Global Offshore Services Ltd.	867	1060
14	GOL Offshore Ltd.	10342	13848
15	Diplomat Marine	1221	1149
16	Greatship (India) Ltd.	4983	2416
17	Coastal Marine Const. & Engg. Ltd.	2101	1204
18	Hal Offshore Ltd.	1085	832
19	Hede Ferrominas(P) Ltd.	1332	1686
20	ITT Lines Pvt. Ltd.	1042	1207
21	Jayesh Shipping P. Ltd.	69	0
22	Hind Offshore Pvt. Ltd.	4916	2387
23	KEI-RSOS Maritime Ltd.	2779	2914
24	Mathew Meenathethil George	322	500

Contd...

III.11 Indian Tonnage as on 31.03.2016 (Contd...)

(in Tonnes)

Sl. No.	Owner of the ship	Gross Registered Tonnage	Dead Weight Tonnage
25	Oil & Natural Gas Corporation	20394	24788
26	Prince Marine Transport Services	3634	1172
27	PFS Shipping (India)Ltd.	3844	3842
28	Synergy Offshore Services	189	125
29	Raj Shipping Agencies Ltd.	4337	4759
30	The Shipping Corpn. Of India Ltd.	7841	6917
31	Samson Maritime Ltd.	4876	5443
32	Supreme Global Service Pvt.Ltd.	495	0
33	TAG Sea Logistics Ltd.	3939	4952
34	TAG Offshore Ltd.	9217	7605
35	Atlas Offshore Services Pvt. Ltd.	297	1018
36	Tarun Shipping & Industries Ltd.	1978	2172
37	S.R.Offshore Pvt. Ltd.	417	0
38	Lewek Alter Shipping Pvt. Ltd.	3601	0
39	Transtar Marine & Offshore Services	1078	0
40	Sambhulingam Marine Services	317	0
41	Asian Marine Supplier	104	0
42	S. S. Offshore Pvt. Ltd.	1310	1812
43	Mustan Tahderbhai Khanbhai	1310	1817
44	Mrs. Ishrat Johan W/o. Mr. Riaz Khan	140	15
45	Daniel Engineering Works & Ship Repairs	850	1000
46	Fugro Survey (India) Pvt. Ltd.	494	509
47	Sun Marine	1310	1758
48	Mr. Nikhil Kumar Dhali	189	0
49	Ocean Sparkle Ltd.	7118	3878
50	Netincon Logistics Pvt. Ltd.	2419	0
	Total	**133447**	**113966**
	Specialized Vessels for Offshore Services		
1	Elcom Surveys	392	469
2	Hind Offshore Pvt. Ltd.	3114	1480
3	Jaisu Shipping Co. (P) Ltd.	99	99
4	National Institute of Ocean Technology	4862	0
5	National Institute of Oceanography, Goa	709	297
6	Oil & Natural Gas Corporation	45281	26469
7	Dolphin Offshore Shipping Ltd.	405	436
8	Raj Shipping Agencies Ltd.	715	915
9	Reliance Industries Ltd.	2421	3104
10	Safe & Sure Marine Services Pvt. Ltd.	490	826
11	K. Desai & Company	181	0
12	Sealion Sparkle Maritime Services Ltd.	136	14
13	South East Asia Marine Engg & Const. Ltd.	11211	6135
14	The Council of Scientific & Industrial Research	2661	800
15	The Dept. of Ocean Development	4582	1605
16	The Dir. Gen. of Light House & Lightship	5823	3083
17	The Geological Survey of India	2942	2005
18	Sea Rides Ship Management	1011	1142
	Total	**87035**	**48879**

Contd...

III.11 Indian Tonnage as on 31.03.2016 (Contd...)

(in Tonnes)

Sl. No.	Owner of the ship	Gross Registered Tonnage	Dead Weight Tonnage
Overseas Trade			
	Ore Oil Bulk Carriers		
1	The Shipping Corpn.of India Ltd.	28029	45792
	Total	**28029**	**45792**
	Oil Tankers (Crude Carriers)		
1	Chambal Fertilizers & Chemicals	342002	623836
2	Essar Shipping Ports & LogisticsLtd.	149274	281396
3	Great Eastern Shipping Co. Ltd.	323536	562607
4	Mercator Lines Ltd.	136977	234833
5	Pratibha Shipping Co.Ltd.	205806	364629
6	Peninsular Tankers Pvt. Ltd.	8228	15037
7	Seven Islands Shipping Ltd.	260086	410842
8	The Shipping Corpn.of India Ltd.	1610570	2910569
9	Varun Shipping Co.Ltd.	114263	213678
10	Arya Tankers Pvt. Ltd.	28414	44998
11	Arya Voyagers Pvt. Ltd.	22181	35024
12	Zen Shipping & Ports India Pvt. Ltd.	5998	10280
13	Arya Ship Charters Pvt. Ltd.	79979	149834
	Total	**3287314**	**5857563**
	Oil Tankers (Product Carriers)		
1	M.P.Recycling Co. Pvt. Ltd.	20378	29990
2	ASM Shipping	18101	30990
3	Castle Ships Pvt.Ltd.	4473	7335
4	Great Eastern Shipping Co. Ltd.	600032	1048950
5	Mercator Lines	387744	675026
6	Pratibha Shipping Ltd.	45172	76881
7	Sanmar Shipping Ltd.	117250	203119
8	Seven Islands Shipping Ltd.	4473	7314
9	The Shipping Corpn. Of India Ltd.	668271	1133958
10	SCI Forbes Ltd.	34500	52489
11	Zen Shipping & Ports India Pvt. Ltd.	8253	14003
12	Doehle Danautic (I) Pvt. Ltd.	28226	45999
13	Arya Tankers Pvt. Ltd.	22848	35437
14	Indian Ocean Shipping Pvt. Ltd.	50306	78425
	Total	**2010027**	**3439916**
	LPG Carriers		
1	The Shipping Corpn.of India Ltd.	35556	35202
2	Varun Shipping Co.Ltd.	155605	187978
3	Mercator Ltd.	44704	0
4	Global United Shipping India Pvt. Ltd.	41879	52714
5	Varun Resources Ltd.	23878	303094
	Total	**301622**	**578988**

III.12 Share of Traffic of Petroleum Products in the Total Traffic Handled at Major Ports

(in Million Tonnes)

Name of the port	Year	Total Traffic	POL Traffic	POL as %age of total traffic at the port
(1)	*(2)*	*(3)*	*(4)*	*(5)*
Kolkata/Haldia	2009-10	46.30	10.08	21.80
	2010-11	47.43	11.65	24.60
	2011-12	43.24	8.58	19.80
	2012-13	39.88	6.90	17.30
	2013-14	41.38	6.82	16.50
	2014-15	46.29	6.15	13.29
	2015-16	50.19	7.68	15.30
Mumbai	2009-10	54.54	36.60	67.10
	2010-11	54.59	33.23	60.90
	2011-12	56.19	33.31	59.30
	2012-13	58.04	34.78	59.90
	2013-14	59.18	35.98	60.80
	2014-15	61.66	36.28	58.84
	2015-16	61.11	36.27	59.35
Chennai	2009-10	61.06	13.43	22.00
	2010-11	61.46	13.88	22.60
	2011-12	55.71	13.29	23.90
	2012-13	53.40	13.42	25.10
	2013-14	51.11	12.78	25.00
	2014-15	52.54	12.74	24.25
	2015-16	50.06	11.89	23.75
Cochin	2009-10	17.43	11.46	65.70
	2010-11	17.47	12.10	69.30
	2011-12	20.09	14.01	69.70
	2012-13	19.85	13.90	70.00
	2013-14	20.89	14.32	68.50
	2014-15	21.60	14.02	64.91
	2015-16	22.10	13.77	62.31
Kandla	2009-10	79.52	47.21	59.40
	2010-11	81.88	48.43	59.10
	2011-12	82.50	46.94	56.90
	2012-13	93.62	54.36	58.10
	2013-14	87.01	53.14	61.10
	2014-15	92.50	55.59	60.10
	2015-16	100.05	55.59	55.56
Visakhapatnam	2009-10	65.50	18.29	27.90
	2010-11	68.04	19.27	28.30
	2011-12	67.42	18.44	27.40
	2012-13	58.96	15.02	25.50
	2013-14	58.50	14.01	23.90
	2014-15	58.00	14.64	25.24
	2015-16	57.03	16.95	29.72
Mormugao	2009-10	48.85	0.96	2.00
	2010-11	50.02	0.94	1.90
	2011-12	39.00	0.92	2.40
	2012-13	17.69	0.82	4.60
	2013-14	11.74	0.53	4.50
	2014-15	14.71	0.57	3.87
	2015-16	20.78	0.56	2.69

Cont'd.....

III.12 Share of Traffic of Petroleum Products in the Total Traffic Handled at Major Ports (Contd...)

(in Million Tonnes)

Name of the Port	Year	Total Traffic	POL Traffic	POL as %age of total traffic at the port
(1)	*(2)*	*(3)*	*(4)*	*(5)*
J.N.P.T.	2009-10	60.75	6.08	10.00
	2010-11	64.30	5.13	8.00
	2011-12	65.75	4.93	7.50
	2012-13	64.50	4.29	6.70
	2013-14	62.33	4.41	7.10
	2014-15	63.80	4.03	6.32
	2015-16	64.03	4.09	6.39
Paradip	2009-10	57.01	11.65	20.40
	2010-11	56.03	12.85	22.90
	2011-12	54.25	15.09	27.80
	2012-13	56.55	16.47	29.10
	2013-14	68.00	17.70	26.00
	2014-15	71.01	17.98	25.32
	2015-16	76.39	20.57	26.93
Tuticorin (VOC Port)	2009-10	23.79	0.51	2.10
	2010-11	25.73	0.74	2.90
	2011-12	28.10	0.84	3.00
	2012-13	28.26	0.79	2.80
	2013-14	28.64	0.48	1.70
	2014-15	32.41	0.61	1.88
	2015-16	36.85	0.69	1.87
New Mangalore	2009-10	35.53	21.34	60.10
	2010-11	31.55	21.55	68.30
	2011-12	32.94	22.25	67.50
	2012-13	37.04	24.30	65.60
	2013-14	39.37	24.65	62.60
	2014-15	36.57	22.97	62.81
	2015-16	35.68	23.93	67.26
Ennore	2009-10	10.70	0.40	3.70
	2010-11	11.01	0.59	5.40
	2011-12	14.96	0.50	3.30
	2012-13	17.89	1.12	6.30
	2013-14	27.34	2.34	8.60
	2014-15	30.25	3.19	10.55
	2015-16	32.20	3.88	12.05
Grand Total	2009-10	560.98	178.01	31.70
	2010-11	569.51	180.36	31.70
	2011-12	560.15	179.10	32.00
	2012-13	545.68	186.17	34.10
	2013-14	545.68	186.17	34.10
	2014-15	581.26	188.74	32.47
	2015-16	606.37	195.87	32.30

Source : Ministry of Shipping.

III.13 Movement of POL Traffic on Railways

Year	Tonnes Originating (TMT)	Earnings (in ₹ '000')	Average Lead (Kms)	Earnings (Paise/Tonnes/ Kms)	Average Freight (₹/Tonne)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2009-10	38884	31890095	639	128.20	820.13
2010-11	39293	33537646	664	128.60	853.53
2011-12	39774	36236428	656	138.90	911.06
2012-13	40607	47178574	692	168.01	1161.83
2013-14	41159	53439517	723	179.69	1298.37
2014-15	41095	55156558	662	202.62	1342.17
2015-16 (P)	43200	60030400	674	206.17	1389.59

Source : Ministry of Railways

III.14 Rail Freight Rates in respect of Petroleum Products

(in ₹/Tonne)

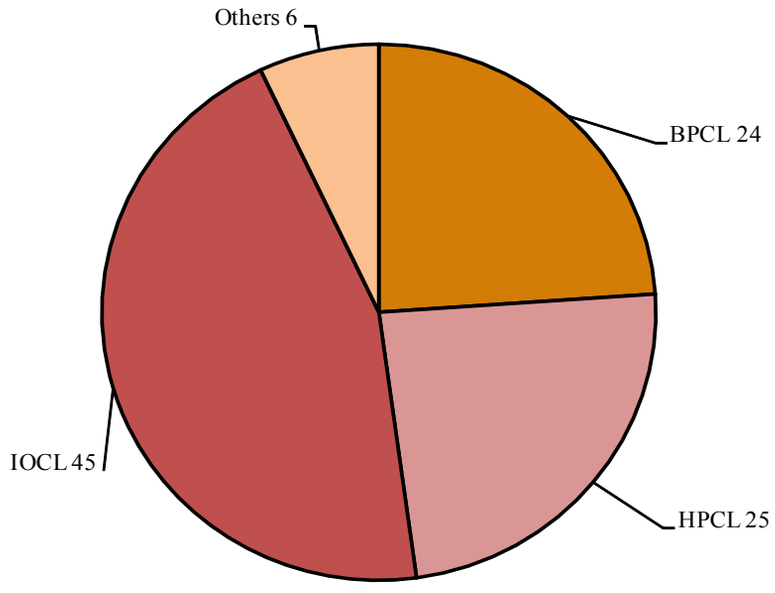
Effective Dates	Distance in Kilometers							
	100	300	500	800	1000	1500	2000	2500
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
01.04.2009	166.8	393.4	616.4	959.6	1183.8	1747.6	2192.8	2491.2
01.04.2010	166.8	393.4	616.4	959.6	1183.8	1747.6	2192.8	2491.2
01.04.2011	166.8	405.0	640.8	998.0	1231.2	1817.6	2280.6	2590.8
01.04.2012	200.2	486.0	769.0	1197.6	1477.4	2181.2	2736.8	3109.0
01.04.2013	211.8	514.0	813.6	1267.0	1563.2	2367.6	2896.6	3289.4
10.10.2013	215.4	522.6	827.2	1288.0	1589.0	2346.0	2944.0	3344.2
25.06.2014	257.8	556.4	880.8	1371.4	1692.2	2497.8	3134.4	3560.6
01.04.2015	255.2	550.8	871.9	1357.7	1675.3	2472.8	3103.0	3524.9
01.04.2016 (P)	255.2	550.8	871.9	1357.7	1675.3	2472.8	3103.0	3524.9

Source : Ministry of Railways

III.15 Total Retail Outlets in India as on 31st March (in Number)						
Year	Unit	BPCL	HPCL	IOCL	Others	TOTAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2009	Nos.	8389	8419	18140	3005	37953
	%	22.1	22.2	47.8	7.9	100
2010	Nos.	8692	9127	18643	2969	39431
	%	22.0	23.1	47.3	7.5	100
2011	Nos.	9289	10212	19463	2983	41947
	%	22.1	24.3	46.4	7.1	100
2012	Nos.	10310	11253	20575	2966	45104
	%	22.9	24.9	45.6	6.6	100
2013	Nos.	11637	12173	22372	2487	48669
	%	23.9	25.0	46.0	5.1	100
2014	Nos.	12123	12869	23993	2883	51868
	%	23.4	24.8	46.3	5.6	100
2015	Nos.	12809	13233	24405	2972	53419
	%	24.0	24.8	45.7	5.6	100
2016	Nos.	13439	13802	25363	3586	56190
	%	23.9	24.6	45.1	6.4	100

Source: Oil Companies

Figure III.4: % Distribution of retail outlets across oil companies (as on 31.03.2016)



III.16 State-wise Number of Retail Outlets, LDO/SKO Dealers and LPG Distributors

(in Number)

State / UT	As on 31st March 2016		
	Retail Outlets	LDO/SKO Dealers	LPG Distributors
(1)	*(2)*	*(3)*	*(4)*
STATES			
Andhra Pradesh	3004	503	842
Arunachal Pradesh	71	33	57
Assam	788	359	423
Bihar	2511	372	1045
Chhattisgarh	1108	108	363
Delhi	393	116	320
Goa	114	22	51
Gujarat	3384	480	744
Haryana	2536	141	416
Himachal Pradesh	396	26	160
Jammu & Kashmir	485	47	231
Jharkhand	1151	87	390
Karnataka	3836	324	934
Kerala	2009	237	572
Madhya Pradesh	3269	284	1210
Maharashtra	5419	767	1697
Manipur	85	36	77
Meghalaya	190	35	48
Mizoram	36	19	54
Nagaland	69	19	56
Orissa	1560	177	563
Punjab	3316	239	731
Rajasthan	3736	250	1022
Sikkim	47	12	15
Tamil Nadu	4702	466	1130
Telangana	2228	93	664
Tripura	67	40	57
Uttar Pradesh	6616	696	2814
Uttarakhand	551	73	243
West Bengal	2244	458	926
UNION TERRITORIES			
Andaman & Nicobar	10	2	5
Chandigarh	41	12	27
Dadra & Nagar Haveli	31	2	2
Daman & Diu	31	5	3
Lakshadweep	0	0	1
Puducherry	156	8	23
Grand Total	**56190**	**6548**	**17916**

Source: Oil Companies

III.17 State-wise and Company-wise Retail Outlets

(in Number)

State / UT	As on 31st March 2016					Total as on 31.03.2015
	IOCL	HPCL	BPCL	TOTAL CPSEs Outlets	Total Outlets [1]	
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*
STATES						
Andhra Pradesh	1199	929	720	2848	3004	2811
Arunachal Pradesh	48	0	7	55	71	71
Assam	503	91	129	723	788	759
Bihar	1351	475	610	2436	2511	2385
Chhattisgarh	481	329	275	1085	1108	1040
Delhi	189	97	107	393	393	394
Goa	31	36	47	114	114	111
Gujarat	1274	738	771	2783	3384	3050
Haryana	1334	666	385	2385	2536	2419
Himachal Pradesh	218	109	62	389	396	382
Jammu & Kashmir	221	130	134	485	485	475
Jharkhand	496	265	319	1080	1151	1082
Karnataka	1803	888	966	3657	3836	3737
Kerala	885	587	457	1929	2009	1932
Madhya Pradesh	1295	814	917	3026	3269	3005
Maharashtra	1846	1542	1678	5066	5419	5207
Manipur	69	0	12	81	85	83
Meghalaya	116	23	39	178	190	179
Mizoram	30	3	2	35	36	33
Nagaland	45	3	9	57	69	68
Orissa	748	314	414	1476	1560	1464
Punjab	1685	878	610	3173	3316	3248
Rajasthan	1630	977	819	3426	3736	3465
Sikkim	16	7	23	46	47	46
Tamil Nadu	1991	1158	1317	4466	4702	4616
Telangana	911	644	565	2120	2228	2088
Tripura	62	0	2	64	67	64
Uttar Pradesh	3394	1374	1313	6081	6616	6247
Uttarakhand	242	166	114	522	551	514
West Bengal	1119	488	563	2170	2244	2178
UNION TERRITORIES						
Andaman & Nicobar	10	0	0	10	10	9
Chandigarh	20	11	10	41	41	41
Dadra & Nagar Haveli	11	11	4	26	31	31
Daman & Diu	11	10	7	28	31	31
Lakshadweep	0	0	0	0	0	0
Puducherry	79	39	32	150	156	153
Grand Total	**25363**	**13802**	**13439**	**52604**	**56190**	**53418**

1: Including Pvt. Retail Outlets

Source: Oil Companies

III.18 State-wise and Company-wise LPG Domestic Consumers

(in Number)

State / UT	As on 31st March 2016				Total as on 31.03.2015
	IOCL	HPCL	BPCL	TOTAL	
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
STATES					
Andhra Pradesh	4992689	5878895	2575417	13447001	11815440
Arunachal Pradesh	257976	0	5049	263025	244245
Assam	3490797	105795	339624	3936216	3497667
Bihar	4330870	1693448	1558006	7582324	6380454
Chhattisgarh	1254511	781791	327964	2364266	2008339
Delhi	4079083	862051	1392850	6333984	6146480
Goa	15400	365498	190854	571752	559013
Gujarat	4583094	1874795	2116827	8574716	8100759
Haryana	2687576	1191764	1910959	5790299	5310990
Himachal Pradesh	1651026	221271	141435	2013732	1916380
Jammu & Kashmir	665769	1424617	241098	2331484	2174536
Jharkhand	1501722	510994	330561	2343277	2047293
Karnataka	5120967	4058005	2930191	12109163	10829277
Kerala	4619029	1591317	2599798	8810144	8487215
Madhya Pradesh	4286935	2379952	1910767	8577654	7734329
Maharashtra	3085505	10028005	10345196	23458706	21793042
Manipur	419321	0	0	419321	390028
Meghalaya	194268	0	4572	198840	188993
Mizoram	307884	0	0	307884	293261
Nagaland	241230	225	2670	244125	232823
Orissa	1540519	1465037	910129	3915685	3117055
Punjab	4656626	1537598	1919714	8113938	7548988
Rajasthan	4379477	2823173	2744724	9947374	8813142
Sikkim	168589	0	0	168589	157559
Tamil Nadu	10765323	2860711	4684011	18310045	17044036
Telangana	4353355	3606191	2508177	10467723	9271617
Tripura	512023	0	0	512023	450370
Uttar Pradesh	14620127	4060613	6158554	24839294	21447880
Uttarakhand	2017751	178529	421164	2617444	2432775
West Bengal	7495936	2514819	2156598	12167353	10454283
UNION TERRITORIES					
Andaman & Nicobar	94100	0	0	94100	86026
Chandigarh	274563	84833	58120	417516	408309
Dadra & Nagar Haveli	0	75769	0	75769	72139
Daman & Diu	0	45132	26954	72086	68800
Lakshadweep	4756	0	0	4756	4512
Puducherry	142488	150123	94438	387049	374211
GRAND TOTAL	**98811285**	**52370951**	**50606421**	**201788657**	**181902266**

Source: Central Public Sector Enterprises

III.19 State-wise and Company-wise LPG Distributors

(in Number)

State / UT	As on 31.03.2016				Total as on 31.03.2015
	IOCL	HPCL	BPCL	TOTAL	
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
STATES					
Andhra Pradesh	342	285	215	842	753
Arunachal Pradesh	56	0	1	57	49
Assam	345	25	53	423	374
Bihar	540	244	261	1045	933
Chhattisgarh	178	113	72	363	321
Delhi	195	48	77	320	317
Goa	5	29	17	51	51
Gujarat	405	172	167	744	662
Haryana	216	78	122	416	384
Himachal Pradesh	125	18	17	160	154
Jammu & Kashmir	119	82	30	231	206
Jharkhand	225	88	77	390	373
Karnataka	420	279	235	934	816
Kerala	290	117	165	572	526
Madhya Pradesh	614	305	291	1210	1074
Maharashtra	404	621	672	1697	1549
Manipur	77	0	0	77	63
Meghalaya	44	0	4	48	43
Mizoram	54	0	0	54	54
Nagaland	50	1	5	56	47
Odisha	245	191	127	563	465
Punjab	397	153	181	731	642
Rajasthan	487	278	257	1022	909
Sikkim	15	0	0	15	13
Tamil Nadu	620	216	294	1130	1083
Telangana	301	180	183	664	572
Tripura	57	0	0	57	52
Uttar Pradesh	1536	529	749	2814	2389
Uttarakhand	172	22	49	243	213
West Bengal	576	188	162	926	784
UNION TERRITORIES					0
Andaman & Nicobar	5	0	0	5	5
Chandigarh	18	5	4	27	27
Dadra & Nagar Haveli	0	2	0	2	2
Daman & Diu	0	2	1	3	2
Lakshadweep	1	0	0	1	1
Puducherry	10	7	6	23	22
Grand Total	**9144**	**4278**	**4494**	**17916**	**15930**

Source: Central Public Sector Enterprises

III.20 State-wise and Company-wise SKO/LDO Dealerships

(in Number)

State / UT	As on 31.03.2016				Total as on 31.03.2015
	IOCL	HPCL	BPCL	TOTAL	
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
STATES					
Andhra Pradesh	171	176	47	394	394
Arunachal Pradesh	33	0	0	33	33
Assam	359	0	0	359	359
Bihar	284	37	51	372	372
Chhattisgarh	61	39	8	108	108
Delhi	78	23	15	116	117
Goa	8	7	7	22	22
Gujarat	276	127	77	480	480
Haryana	78	41	22	141	141
Himachal Pradesh	18	3	5	26	26
Jammu & Kashmir	35	8	4	47	47
Jharkhand	57	13	17	87	87
Karnataka	180	94	50	324	325
Kerala	135	72	30	237	237
Madhya Pradesh	163	63	58	284	285
Maharashtra	301	260	206	767	769
Manipur	36	0	0	36	36
Meghalaya	35	0	0	35	35
Mizoram	19	0	0	19	19
Nagaland	19	0	0	19	19
Orissa	105	47	25	177	177
Punjab	133	71	35	239	241
Rajasthan	114	103	33	250	252
Sikkim	10	0	2	12	12
Tamil Nadu	268	139	59	466	468
Telangana	109	68	25	202	202
Tripura	40	0	0	40	40
Uttar Pradesh	408	138	150	696	696
Uttarakhand	46	12	15	73	73
West Bengal	314	89	55	458	458
UNION TERRITORIES					
Andaman & Nicobar	2	0	0	2	2
Chandigarh	7	3	2	12	12
Dadra & Nagar Haveli	1	0	1	2	2
Daman & Diu	3	0	2	5	5
Lakshadweep	0	0	0	0	0
Puducherry	3	5	0	8	8
Grand Total	**3909**	**1638**	**1001**	**6548**	**6559**

Source: Central Public Sector Enterprises

III.21 State-wise PDS SKO Kerosene allocated and Quantity Uplifted

(in MTs)

State	2014-15		2015-16 (P)	
	PDS SKO allocation	Uplifitment	PDS SKO Allocation	Uplifitment
(1)	*(2)*	*(3)*	*(4)*	*(5)*
Andaman & Nicobar Islands	4987	4377	4492	4478
Andhra Pradesh	249479	221696	207530	180581
Arunachal Pradesh	8918	8887	8031	8015
Assam	255194	255127	250095	249832
Bihar	632657	625888	620003	618441
Chandigarh	2587	1839	2325	663
Chhattisgarh	136800	130330	134064	123846
Dadra & Nagar Haveli	1588	1588	1429	1429
Daman and Diu	682	672	644	644
Delhi[1]	0	0	0	0
Goa	4081	4081	3997	3922
Gujarat	521986	521766	511546	511308
Haryana	70151	69394	68750	54929
Himachal Pradesh	19172	19121	18789	18747
Jammu and Kashmir[2]	70193	67210	63175	62313
Jharkhand	208511	208021	204336	202694
Karnataka	406823	392482	396756	376843
Kerala	93525	93525	91658	91629
Lakshadweep	784	784	766	766
Madhya Pradesh	486826	456950	459007	451478
Maharashtra	541513	541288	487359	477820
Manipur	19424	19331	18201	18148
Meghalaya	20190	20180	19788	19751
Mizoram	5771	5771	5192	5164
Nagaland	13298	13298	13037	13037
Odisha	309479	308261	303287	299674
Puducherry	3381	3306	3315	3269
Punjab	69777	69043	66444	64783
Rajasthan	393217	386870	385354	374739
Sikkim	4940	4940	4445	4445
Tamil Nadu	271359	271349	265933	265932
Telangana	113155	141962	135782	132345
Tripura	30490	30490	29883	29883
Uttar Pradesh	1236878	1233842	1212140	1211419
Uttrakhand	27950	27786	27390	27252
West Bengal	749089	747767	734111	733172
Total	**6984855**	**6909223**	**6759054**	**6643391**

Note P: Provisional

1. NCT of Delhi has been Declared Kerosene free city, effective October 1, 2013.

2. Allocation for Jammu and Kashmir includes separate allocation of 3600 MT for Ladakh region.

Source: Petroleum Planning & Analysis Cell.

III.22 LPG Marketing in India

Item	Unit	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 (P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Consumption (CPSE/Pvt)	TMT	13135	14331	15350	15601	16294	18000	19551
LPG Customers (CPSEs)**	Lac	1163	1269	1387	1523	1663	1819	2018
LPG Distributors (CPSEs)**	No.	9686	10541	11489	12610	13896	15930	17916
LPG Markets (CPSEs)**	No.	4599	4866	4990	5105	5245	5485	5805
Enrolment	Lac.	86.2	104.2	122.7	132	159	163.4	204.5
Indigenous Production (CPSE/Pvt)	TMT	10340	9709	9547	9825	10030	9840	10568
of which								
(a) Refineries	TMT	8091	7541	7333	7694	7890	7662	8562
(b) Fractionators	TMT	2249	2168	2214	2130	2140	2178	2006
Imports (CPSE/Pvt)	TMT	2718	4484	5790	6293	6607	8313	8885
Bottling Capacity**	TMTPA	11569	11889	12723	13458	14345	14044	15172

** Year end position P: Provisional

Source: Petroleum Planning & Analysis Cell.

III.23 CNG activities in India as on 31.03.2016

Company	State	No. of Companies	CNG Sales (TMT)				No. of CNG Stations	No. of CNG Vehicles
			2012-13	2013-14	2014-15	2015-16		
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Adani Energy Ltd., Gujarat Gas Ltd.,(An amalgamated entity of Gujarat State Petroleum Corporation Gas Company Ltd. and Gujarat Gas Company Ltd.) Sabarmati Gas Ltd.(SGL),Hindustan Petroleum Corporation Ltd.,(HPCL), Vadodara Gas Limited (JV of GAIL Gas Ltd. and Vadodara Mahanagar Seva Sadan)	Gujarat	5	442	464	476	503	377	864735
Indraprastha Gas Ltd. (IGL), New Delhi	Delhi	1	695	698	717	738	340	823298
GAIL Gas Ltd.	Rajasthan	1	1	2	3	4	3	4720
Mahanagar Gas Ltd(MGL),Mumbai, Maharashtra Natural Gas Ltd.(MNGL), Pune, GAIL Gas Ltd.	Maharashtra	3	425	476	531	565	225	567785
Bhagyanagar Gas Ltd.(BGL), Hyderabad.	Andhra Pradesh / Telangana	1	25	25	26	27	33	37270
Green Gas Ltd. (Lucknow), Central UP Gas Ltd.,Kanpur, Siti Energy Ltd., GAIL Gas Ltd., Sanwaria Gas Ltd.	Uttar Pradesh	5	138	163	185	212	45	105238
Tripura Natural Gas Co. Ltd.(TNGCL), Agartala.	Tripura	1	4	7	10	11	5	8063
Avantika Gas Ltd.,(Indore) and GAIL Gas Ltd.	Madhya Pradesh	2	15	16	17	19	22	21139
Haryana City Gas Ltd., GAIL Gas Ltd., Adani Gas Ltd.	Haryana	3	73	78	72	75	24	123372
Great Eastern Energy Corporation Ltd.	West Bengal	1	1	1	1	1	7	2275
Total		**18***	**1818**	**1928**	**2037**	**2155**	**1081**	**2557895**

Note: *GAIL Gas is operating in 5 states and Adani Gas in 2 states. Hence, their number is taken once only.

Source: Petroleum Planning & Analysis Cell.

III.24 PNG Status as on 31.03.2016					
State	City Covered	CGD Companies	Domestic connections	Commercial connections	Industrial connections
(1)	(2)	(3)	(4)	(5)	(6)
Delhi / NCR	National Capital Territory of Delhi (Including Noida and Ghaziabad)	Indraprastha Gas Ltd.	636318	1750	821
Maharashtra	Mumbai, Thane, Mira-Bhayender, Navi Mumbai, Pune, Kalyan, Ambernath, Panvel, Bhiwandi	Mahanagar Gas Ltd., Maharashtra Natural Gas Ltd., Gujarat Gas Ltd.	892897	2998	175
Gujarat	Gandhinagar, Mehsana, Sabakantha,Nadiad, Halol, Hazira, Rajkot, Khambhat, Palej, Valsad, Navsari, Surendra Nagar, Ahmedabad, Vadodara, Surat, Ankeleswar, Bhavnara, Anand.	Sabarmati Gas Ltd., Gujarat Gas Ltd., Hindustan Petroelum Corporation Ltd., Vadodara Gas Ltd, Adani Gas Ltd., Charotar Gas Sahkari Mandal Ltd.	1507639	16849	4009
Uttar Pradesh	Merrut, Mathura, Agra, Firozabad,Kanpur, Bareilly, Lucknow, Moradabad, Khurja	Green Gas Ltd. (Lucknow), Central UP Gas Limited (Kanpur), GAIL Gas Ltd.,Sanwariya Gas Ltd., Siti Energy Ltd.,Adani Gas Ltd.	33618	229	466
Tripura	Agartala	Tripura Natural Gas Company Ltd.	22615	322	47
Madhya Pradesh	Dewas, Indore, Ujjain, Gwalior	GAIL Gas Ltd., Avantika Gas Ltd.	6000	33	78
Rajasthan	Kota	GAIL Gas Ltd.	189	1	16
Assam	Tinsukia, Dibrugarh, Sibsagar,Jorhat	Assam Gas Co. Ltd.	29000	941	397
Andhra Pradesh/ Telangana	Kakinada, Hyderabad,Vijayawada	Bhagyanagar Gas Ltd.	4270	46	3
Haryana	Sonepat, Gurgaon, Faridabad	GAIL Gas Ltd, Adani Gas Ltd., Haryana City Gas Distribution Ltd.	31042	135	213
Total			**3163588**	**23304**	**6225**

Source: Petroleum Planning & Analysis Cell.

III.25 Introduction to Green Fuels in India

Product	Effective Date	Areas Covered
(1)	*(2)*	*(3)*
Bio Diesel	01.01.2006	20 purchase centres have been nominated: For Andhra Pradesh, Jharkhand & Odisha – Ghatkesar ; Chhattisgarh – Mandirhasaud ; Delhi – Biijwasan ; Gujarat – Kandla ; Haryana – Rewari ; Karnataka – Devangunthi & Mangalore ; Madhya Pradesh – Mangliagaon ; Maharashtra – Manmad, Borkhedi, Loni & Vashi ; Punjab – Bhatinda ; Rajasthan – Sanganer & Salawas ; Tamil Nadu – Korruupet, Narimanam & Karur ; Uttar Pradesh & Uttarakhand – Panki & Amousi
Ethanol Blended Petrol (EBP)	20.09.2006*	20 States: A.P., Bihar, Chhattisgarh, Delhi, Goa, Gujarat, Haryana, H.P., Jharkhand, Karnataka, Kerala, M.P., Maharashtra, Orissa, Punjab, Rajasthan, T.N., Uttarakhand, U.P & West Bengal and 4 UTs: Chandigarh, Daman & Diu, Dadar & Nagar Haveli & Pondicherry.
	02.01.2013	As per MoPNG Gazette Notification No. G.S.R. 4(E). dated 02.01.2013, Oil Marketing Companies shall sell Ethanol-blended–petrol with percentage of Ethanol up to ten per cent and as per the Bureau of Indian Standard Specification to achieve five per cent Ethanol blending across the country as a whole.
MS(BS-IV) &HSD (BS IV)	01.04.2010	Delhi & NCR, Mumbai, Kolkata, Chennai, Bengaluru, Hyderabad, Kanpur, Agra, Pune, Surat, Ahmedabad, Lucknow, Sholapur
	01.01.2012	Puducherry, Mathura
	01.02.2012	Jamnagar, Vapi
	01.03.2012	Ankleshwar, Hissar , Bharatpur
	01.07.2012	Silvasa, Daman, Diu
	01.10.2012	Aligarh, Rae Bareilly, Unnao
	01.03.2013	Valsad, Karnal, Kurukshetra , Yamuna Nagar
	01.07.2013	Nizamabad, Medak, Mehboobnagar
	01.01.2014	Mahabaleshwar, Ahmednagar, Hindaun, Dholpur, Kosi Kalan, Vrindavan
	15.3.2015	Lonawala, Palgarh, Dahanu, Talasari, Boisar, Panchgani, Mahad, Nagothana, Indapur, Vizag, Kochi, Thiruvananthapuram, Kavaratti, Nagr, Dig, Nadbai, Bhiwani, Jind, Mahendragarh, Hansi, Charki Dadri, Narnaul, Kiruli and Fatehpur Sikri
	1.4.2015	"The whole of Northern India covering Jammu & Kashmir, (except Leh/Kargil and 7 districts of J&K), Punjab, Haryana, Himachal Pradesh, Uttarakhand, Chandigarh, Delhi and the bordering districts in Rajasthan and Western Uttar Pradesh. The relevant districts of Rajasthan are Bharatpur, Alwar, Hanumangarh and Sriganganagar. The districts of West Uttar Pradesh covered are Saharanpur, Muzaffarnagar, Baghpat, Meerut, Bijnor, Ghaziabad, Gautam Buddh Nagar, Bulandshar, Jyotiba Phule Nagar, Rampur, Moradabad, Aligarh, Budaun, Bareilly, Mathura, Mahamaya Nagar, Etah, Agra, Ferozabad, Etawah and Mainpuri."
	15.4.2015	7 additional districts of Uttar Pradesh (Pilibhit, Shamli, Sambhal, Farrukhabad, Kannauj, Auraiya and Kasganj)
	1.5.2015	7 districts of J&K (Pulwama, Baramullah, Badgam, Srinagar, Kudwara, Bandipora and Ganderbal)
	1.9.2015	2 additional districts of J&K (Leh and Kargil)
	1.4.2016	All of Goa, Kerala, Karnataka, Telangana, Odisha, and the Union Territories of Daman & Diu, Dadra-Nagar-Haveli and Andaman & Nicobar Islands.
	1.4.2016	Certain districts of Maharashtra (Mumbai, Thane, Pune and Palghar districts), Gujarat (Surat, Valsad, Dangs, Tapi and Navsari districts) and highway corridor connecting Northern India and Western ports
MS (BS-III) & HSD (BS-III)	01.04.2010	Goa
	16.05.2010	Chhattisgarh, Andaman & Nicobar
	31.05.2010	Madhya Pradesh, Maharashtra
	16.05.2010	Andaman & Nicobar
	16.06.2010	Punjab, Rajasthan, Chandigarh, Orissa, Sikkim, West Bengal, Haryana, Uttarakhand, Himachal Pradesh, Gujarat, UTs of Dadar & Nagar Haveli and Daman & Diu.
	30.06.2010	Western UP, Andhra Pradesh, Tamil Nadu, Puducherry, Jammu & Kashmir (other than Leh & Kargil)
	16.07.2010	Leh & Kargil
	16.09.2010	Eastern UP, Bihar & Jharkhand
	31.07.2010	Karnataka
	16.09.2010	Kerala, including, UT of Lakshadweep & Puducherry area fed Ex- Kerala.
	22.09.2010	Arunachal Pradesh, Assam, Manipur Meghalaya, Mizoram, Nagaland & Tripura.

Note: * :Vide Notification No. GSR-580(E) dated 20.09.2006, MoPNG decided to introduce Ethanol Blended Petrol(EBP) in 20 States and 4 UTs subject to commercial viability.

Source: Petroleum Planning & Analysis Cell.


Naphtha
ATF
Petrol
Diesel
Kerosene
LPG
Natural Gas
Petroleum Coke
Crude Oil

Chapter Highlights

- Wholesale Price Index (WPI) inflation for all commodities fell by 2.47 % in 2015-16 as compared to 2014-15. However, the decline in WPI inflation was much sharper for crude & petroleum products which reduced by around 18% & 36% respectively during the same period.

- The maximum decline in WPI inflation has been observed in case of Furnace Oil (41%), followed by Aviation Turbine Fuel and Light Diesel Oil (each by 34%) and Naphtha (32%).

- The international crude oil price (Indian basket) which peaked at 63.82 $/bbl in May 2015, averaged to 46.17 $/bbl during 2015-16, which was around 40% lower than May 2014 (106.85 $/bbl) and 45% lower when compared to average price in 2014-15 (84.2 $/bbl).

- Share of petroleum sector in total subsidies has declined from 23.34% (₹60269 crore (actual) in 2014-15 to 11.64 % (₹30000 crore (RE)) in 2015-16 and is budgeted at 10.76% (B.E) in 2016-17.

- Total under recovery on sensitive petroleum products during 2015-16 is at ₹27570 crore, which is 64% less than the under recovery in 2014-15 (₹76285 crore).

- Under recovery of CPSEs on PDS SKO reduced by 53% from ₹24799 crore in 2014-15 to ₹11496 crore in 2015-16 whereas that on Domestic LPG reduced by 60.3% from ₹40569 crore in 2014-15 to ₹16074 crore in 2015-16.

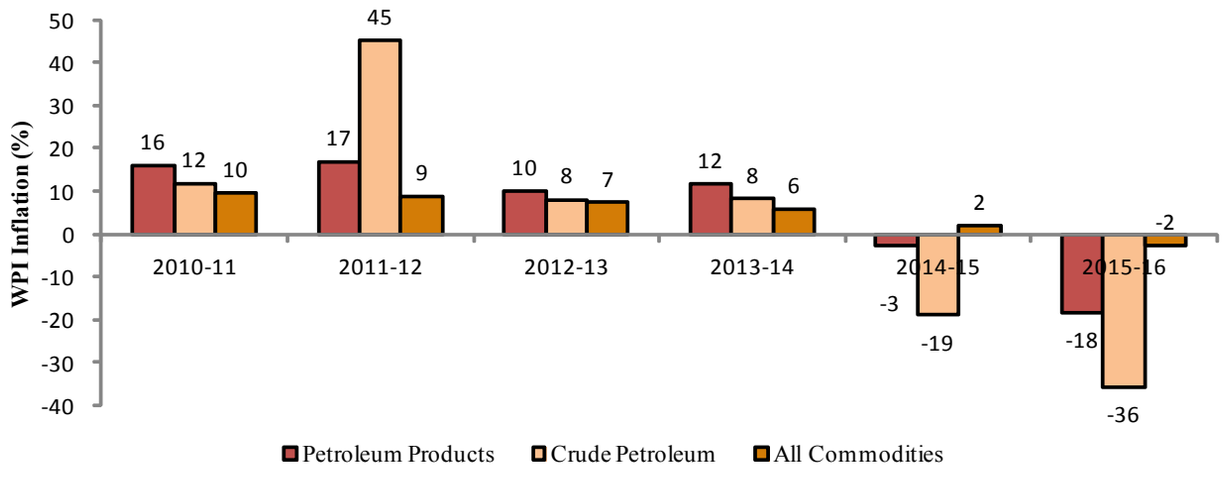
IV.1. Wholesale Price Indices of Selected Petroleum Products

(Base year 2004-05 =100)

Products	Weight(%)	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Light Distillates								
LPG	0.91468	111.85	125.90	143.17	158.52	167.97	169.07	162.13
Petrol	1.09015	119.33	143.02	174.41	186.26	192.58	182.11	163.5
Naphtha	0.79078	172.76	204.02	257.87	283.57	302.25	267.63	181.4
Middle Distillates								
Kerosene	0.73619	99.90	127.19	154.42	162.87	166.48	155.17	145.4
Aviation Turbine Fuel	0.25545	137.03	164.92	229.44	257.89	274.04	241.02	158.5
High Speed Diesel Oil	4.67020	132.97	151.72	164.54	183.36	217.84	223.27	186.9
Light Diesel Oil	0.11889	161.47	192.49	252.03	275.73	302.45	261.99	172.0
Heavy Ends								
Furnace Oil	0.46505	187.58	223.68	304.64	337.82	351.07	299.09	176.3
Lubricating Oil	0.16785	174.50	192.56	230.40	244.57	259.48	271.77	277.5
Bitumen	0.15515	238.04	249.42	304.27	319.68	389.96	370.66	263.8
Total Petroleum Products (Mineral Oils)	**9.36439**	**135.75**	**157.47**	**184.02**	**202.45**	**225.95**	**219.64**	**179.5**
Crude Petroleum	**0.90028**	**181.37**	**202.81**	**294.45**	**318.21**	**344.28**	**279.50**	**180.0**
All commodities	**100**	**130.81**	**143.32**	**156.13**	**167.62**	**177.64**	**181.19**	**176.7**

Source: Office of Economic Adviser, Ministry of Commerce & Industry

Figure IV.1: WPI Inflation trends of Crude Petroleum and Petroleum Products



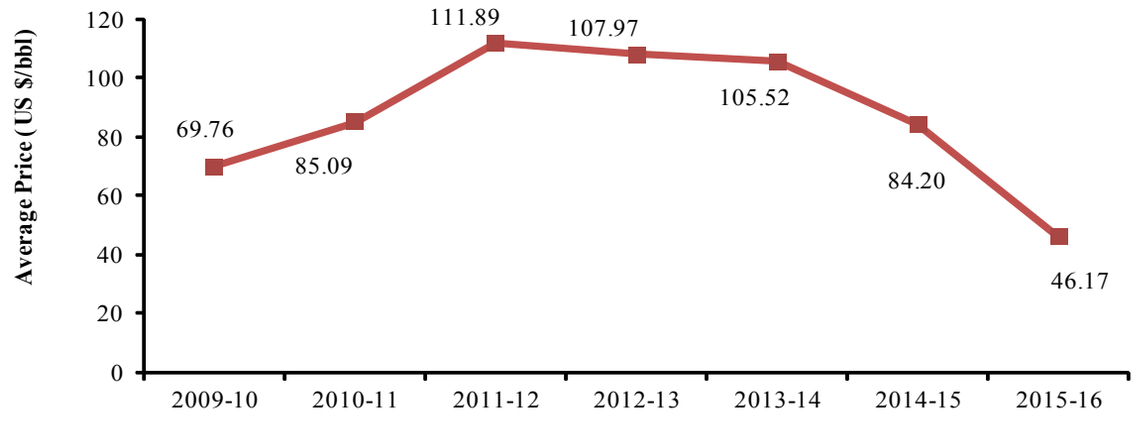
IV.2 Month-wise & Year-wise average International Crude Oil Prices (Indian Basket)

(in US$/bbl.)

Year/Month	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	% Growth in 2015-16 over 2014-15
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
April	50.14	84.13	118.79	117.98	101.57	105.56	59.07	-44.04
May	58.00	76.11	110.70	108.05	101.10	106.85	63.82	-40.27
June	69.12	74.36	109.99	94.51	101.11	109.05	61.75	-43.38
July	64.83	73.54	112.53	100.34	104.86	106.28	56.30	-47.03
August	71.98	75.13	106.94	110.07	108.45	101.89	47.33	-53.55
September	67.70	76.09	108.79	111.77	109.47	96.96	46.10	-52.45
October	73.07	81.11	106.11	109.79	107.37	86.83	46.68	-46.24
November	77.39	84.26	109.62	107.87	106.55	77.58	42.50	-45.21
December	75.02	89.78	107.20	107.28	108.72	61.21	35.68	-41.71
January	76.61	93.87	110.47	109.55	105.29	46.58	28.08	-39.72
February	73.65	101.16	117.67	112.68	106.19	56.43	30.53	-45.91
March	78.02	110.72	123.61	106.45	105.30	55.18	36.42	-34.00
Year Average	69.76	85.09	111.89	107.97	105.52	84.20	46.17	-45.17

Source: PPAC

Figure IV.2: Year-wise Average International Crude Oil Prices (Indian Basket)



IV.3 International prices of crude oil and major petroleum products

Period	Crude Oil (Indian Basket)	Petrol	Diesel	Kerosene	LPG
	($/BBL)				($/MT)
(1)	(2)	(3)	(4)	(5)	(6)
2008-09	83.57	89.42	101.75	104.37	688.00
2009-10	69.76	76.23	74.67	75.35	582.69
2010-11	85.09	92.43	95.66	96.79	745.29
2011-12	111.89	121.63	125.38	125.99	899.42
2012-13	107.97	118.98	121.98	123.11	885.20
2013-14	105.52	114.31	119.41	118.80	880.49
2014-15	84.20	95.45	96.64	96.98	683.87
2015-16	46.17	61.72	55.02	55.71	394.71

Notes:

1. The composition of Indian Basket of Crude represents Average of Oman & Dubai for sour grades and Brent (Dated) for sweet grade in the ratio of 72.28 : 27.72 w.e.f. 1st April, 2015 and for 72.04:27.96 during 2014-15; 69.9:30.1 for 2013-14; 68.2:31.8 for 2012-13; 65.2:34.8 for 2011-12; 67.6:32.4 for 2010-11; 63.5:36.5 for 2009-10.
2. Price of kerosene (0.5% sulphur) is for Arab Gulf Market and Price of Petrol is 92 RON unleaded for Singapore market.
3. LPG Price is Saudi Aramco CP based on 60:40 butane / propane ratio.
4. From 02.01.2013 the Diesel price in Arab Gulf Market is for 0.05% Sulphur, for earlier years the price is for 0.5% Sulphur.

Source: IOCL & PPAC.

IV. 4 Weighted Average Crude Oil Prices

(in ₹/MT)

Year		Basic Price	Royalty	OID Cess	Sales Tax/VAT/CST
(1)	(2)	(3)	(4)	(5)	(6)
2009-10	Offshore crude	26187	2128	2500	722
	Onshore crude	24233	3670	2500	931
	Offshore and Onshore crude	25530	2633	2500	791
2010-11	Offshore crude	31525	2664	2500	846
	Onshore crude	28829	4411	2500	1109
	Offshore and Onshore crude	30614	3255	2500	935
2011-12*	Offshore crude	42902	3636	2500/4500	1356
	Onshore crude	41143	6327	2500/4500	1932
	Offshore and Onshore crude	42293	4567	2500/4500	1555
2012-13	Offshore crude	46134	3933	4500	1385
	Onshore crude	43656	6728	4500	2034
	Offshore and Onshore crude	45295	4880	4500	1605
2013-14	Offshore crude	49911	4235	4500	1654
	Onshore crude	45600	7037	4500	2128
	Offshore and Onshore crude	48504	5149	4500	1809
2014-15	Offshore crude	40129	3392	4500	1294
	Onshore crude	37089	5685	4500	1727
	Offshore and Onshore crude	39215	4081	4500	1425
2015-16	Offshore crude	24453	2066	4450	781
	Onshore crude	22149	3307	4404	1055
	Offshore and Onshore crude	23799	2418	4437	859

* In Budget 2012, OID Cess rate increased from ₹ 2500/MT to ₹ 4500/MT w.e.f 17.03.2012

Notes:

1. Basic Price is all inclusive gross (pre-discount) price and linked to international crude price, though ONGC net price realization has been lower due to sharing of under-recoveries of OMCs by extending discount, as per the directives of MoPNG.
2. VAT/CST and Royalty are worked out based on Gross (Pre-discount) Price. However, the above levies are actually paid on post- discount price.
3. Royalty and OID Cess are production levies and are part of cost
4. NCCD @ ₹ 50/MT is also paid on crude oil & Education Cess @ 3% on OID Cess and NCCD were paid till 2014-15
5. OID Cess during 2015-16 in ₹/MT is worked out considering specific rate of ₹ 4,500/MT upto Feb'16 and "20% ad-valorem" w.e.f. 01st Mar'16

Source: ONGC

IV.5 Consumer and Producer Prices of Natural Gas

(in ₹/'ooo' cubic metre)

Effective Date	Consumer Prices		Producer Prices			Calorific Value (K. Cal / SCM) #
	Off-shore (Landfall point) and On-shore	For North-East States	ONGC	ONGC (North-East States)	OIL (North-East States)	
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*
01.04.2009	3200	1920	3200	1920	3200	10000
01.04.2010	3200	1920	3200	1920	3200	10000
01.04.2011	7499	4499	7498	7498	7499	10000
01.04.2012	8387	5032	8387	8387	8387	10000
01.04.2013	9067	5440	9067	9067	9067	10000
01.04.2014	10168	6101	10168	10168	10168	10000
01.11.2014	12292	7375	12292	12292	12292	10000
01.04.2015	11548	6929	11548	11548	11548	10000
01.04.2016	8138	4883	8138	8138	8138	10000

Notes:

1. Effective 01.04.2010, the price of Natural gas was fixed by the Government at USD 4.2/mmbtu on Net Calorific Value, Price of APM gas upto 31.05.2010 was exclusive of royalty/levies.
2. GOI has issued the New Domestic Gas Pricing Guidelines on 25.10.2014. In line with these guidelines, PPAC declared the price of natural gas effective 01.04.2016 at USD 3.06/mmbtu on gross calorific value.
3. Consumer price for NE states is 60% of the applicable producer price.
4. ₹ 67.02/USD : RBI March,2016 reference rate
5. Above price is inclusive of royalty.
6. Above price is for 10000 K Cal. However, actual price realised from consumers is for the actual calorific value.

Source: ONGC, OIL

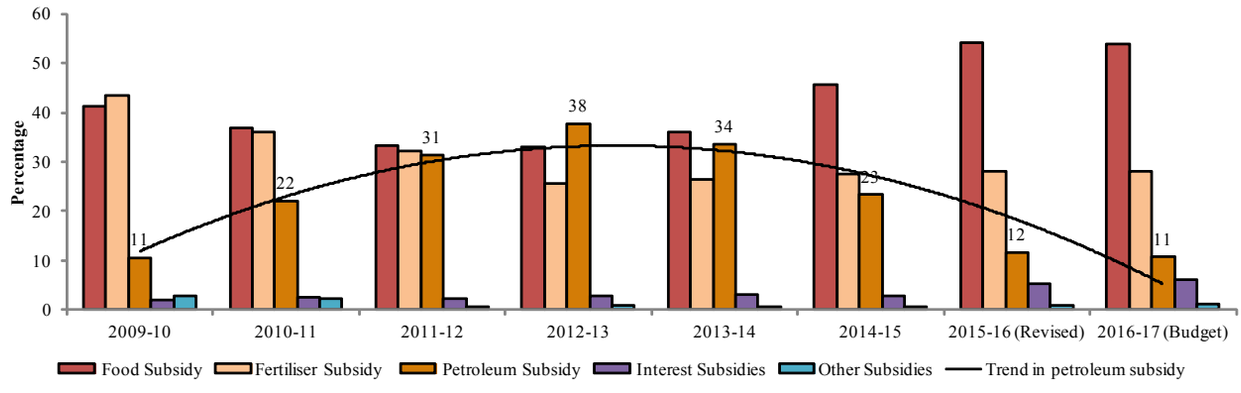
IV.6 Rates of Dealers' Commission for MS, HSD and LPG in India						
Effective	MS	HSD	Effective	LPG (Packed Domestic)		
				14.2 Kg	5Kg	Additional commission for sale at market determined price
	(₹/Kilolitre)			(₹/Cylinder)		(₹/14.2 KG cyl.)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
27.10.2009	1125	673	30.06.2009	21.94	11.30	-
07.09.2010	1218	757	-	-	-	-
01.07.2011	1499	912	01.07.2011	25.83	13.30	-
27.10.2012	1794	1089	07.10.2012	37.25	18.63	-
21.12.2013	₹ 1390.15/ KL + 0.883% of Product Billable Price	1186	11.12.2013	40.71	20.36	-
As on 1.4.2014	₹ 1390.15/KL+ 0.883% of Product Billable Price	₹ 1186/KL	As on 1.4.2014	40.71	20.36	0.75
23.10.2014	₹ 1499.37/KL+ 0.887% of Product Billable Price	₹ 1116.09/KL+ 0.29% of Product Billable Price	23.10.2014	44.06	22.03	0.82
01.08.2015	₹ 1749.86/KL + 0.883% of Product Billable Price	₹ 1301.70/KL + 0.286% of Product Billable Price	9.12.2015	45.83	22.67	0.26
16.11.2015	₹ 1750.08/KL + 0.883% of Product Billable Price	₹ 1301.88/KL + 0.286% of Product Billable Price	01.01.2016	45.83	22.67	0.33
			01.02.2016	45.83	22.67	0.22
			01.03.2016	45.83	22.67	0.13
			01.05.2016	45.83	22.67	0.15

Source: PPAC

IV.7 Subsidies provided under Budget of Government of India									
Sector	Actuals 2009-10	Actuals 2010-11	Actuals 2011-12	Actuals 2012-13	Actuals 2013-14	Actuals 2014-15	Budget 2015-16	Revised 2015-16	Budget 2016-17
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
(in ₹ crore)									
1. Food Subsidy	**58443**	**63844**	**72822**	**85000**	**92000**	**117671**	**124419**	**139419**	**134835**
2. Fertilisers									
(i) Indigenous (Urea) Fertilisers	17580	15081	20208	20000	26500	38200	38200	38200	-
(ii) Imported (Urea) Fertilisers	4603	6454	13716	15132	11538	12223	12300	12300	-
(iii) Nutrient Based Subsidy Policy	-	-	-	-	-	-	-	-	19000
(iv) Sale of decontrolled fertiliser with concession to Farmers	39081	40767	36089	30480	29301	20653	22469	21938	-
(v) Urea Subsidy	-	-	-	-	-	-	-	-	51000
Total Fertiliser Subsidy	**61264**	**62301**	**70013**	**65613**	**67339**	**71076**	**72969**	**72438**	**70000**
3. Petroleum Subsidy	**14951**	**38371**	**68484**	**96880**	**85378**	**60269**	**30000**	**30000**	**26947**
4. Interest Subsidies	2686	4680	5049	7270	8137	7632	14903	13808	15523
5. Other Subsidies	4006	4223	1573	2316	1778	1610	1520	2136	3128
Total Subsidies	**141350**	**173420**	**217941**	**257079**	**254632**	**258258**	**243811**	**257801**	**250433**
(as Percentage of Total Subsidy)									
1. Food Subsidy	41.35	36.81	33.41	33.06	36.13	45.56	51.03	54.08	53.84
2.Fertiliser Subsidy	43.34	35.93	32.12	25.52	26.45	27.52	29.93	28.10	27.95
3. Petroleum Subsidy	10.58	22.13	31.42	37.68	33.53	23.34	12.30	11.64	10.76
4. Interest Subsidies	1.90	2.70	2.32	2.83	3.20	2.96	6.11	5.36	6.20
5. Other Subsidies	2.83	2.44	0.72	0.90	0.70	0.62	0.62	0.83	1.25

Sources: Expenditure Budget 2016-17 (Vol.-I)

Figure IV.3: Subsidies provided under the Budget



IV.8 Subsidy Provided by the Government & Oil Companies on PDS SKO & Domestic LPG

(in ₹ crore)

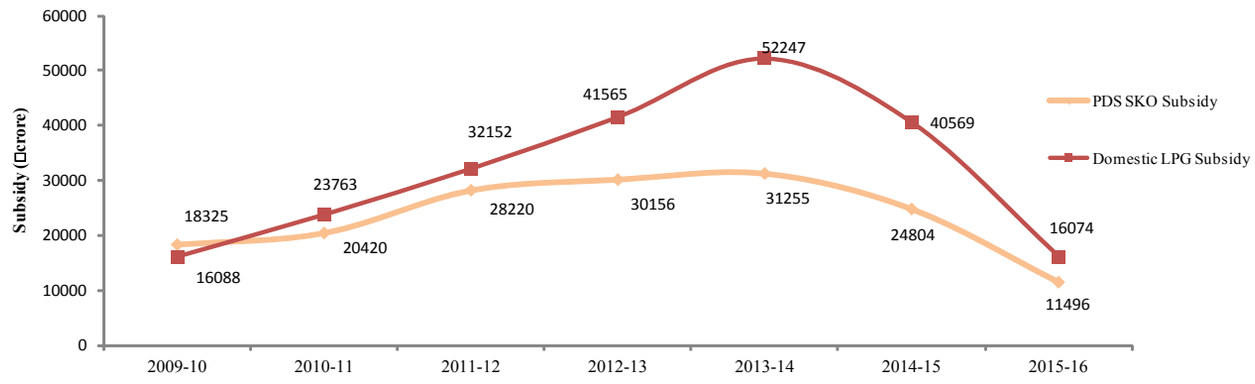
Years	PDS SKO			Domestic LPG				Total
	Fiscal Subsidy*	Under Recoveries to Oil Company	Total	Fiscal Subsidy*	DBTL Subsidy**	Under Recoveries to Oil Company	Total	(Subsidy and Under Recoveries)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
2009-10	961	17364	18325	1831	-	14257	16088	34413
2010-11	936	19484	20420	1991	-	21772	23763	44183
2011-12	868	27352	28220	2155	-	29997	32152	60372
2012-13	746	29410	30156	2007	-	39558	41565	71721
2013-14	681	30574	31255	1920	3869	46458	52247	83502
2014-15	5	24799	24804	18	3971	36580	40569	65373
2015-16	0	11496	11496	0	16056	18	16074	27570

* Fiscal Subsidy includes subsidy under 'PDS Kerosene and Domestic LPG Subsidy Scheme, 2002', 'Freight Subsidy (For Far-Flung Areas) Scheme, 2002'.

** DBTL subsidy claims on Domestic LPG from 2013-14 onwards.

Source: Budget Documents and Petroleum Planning & Analysis Cell

Figure IV.4: Subsidy by Government & Oil Companies on PDS SKO & Domestic LPG



IV.9 Under-Recoveries by Oil Marketing Companies on Sensitive Petroleum Products

(in ₹ crore)

Products	Under-Recovery						
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
PDS Kerosene	17364	19484	27352	29410	30574	24799	11496
Domestic LPG[1]	14257	21772	29997	39558	50327	40551	16074
Petrol[2]	5151	2227	-	-	-	-	-
Diesel[3]	9279	34706	81192	92061	62837	10935	-
Total	**46051**	**78189**	**138541**	**161029**	**143738**	**76285**	**27570**

Note:

1 Including DBTL subsidy claims

2. Under recovery on Petrol is only upto 25th June 2010.

3. Under recovery on Diesel is only upto 18th October, 2014.

Source: PPAC

IV.10 Under Recovery and its Burden Sharing

(in ₹ crore)

Items	Under-Recovery & Burder Sharing						
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Total Under Recovery	46051	78190	138541	161029	143738	76285	27570
Burden Sharing through Oil Bonds/ Cash Subsidy[1]	26000	41000	83500	100000	74641	26056	26301
Borne by OMCs	5621	6893	41	1029	2076	7407	18
Upstream Companies[2]	14430	30297	55000	60000	67021	42822	1251

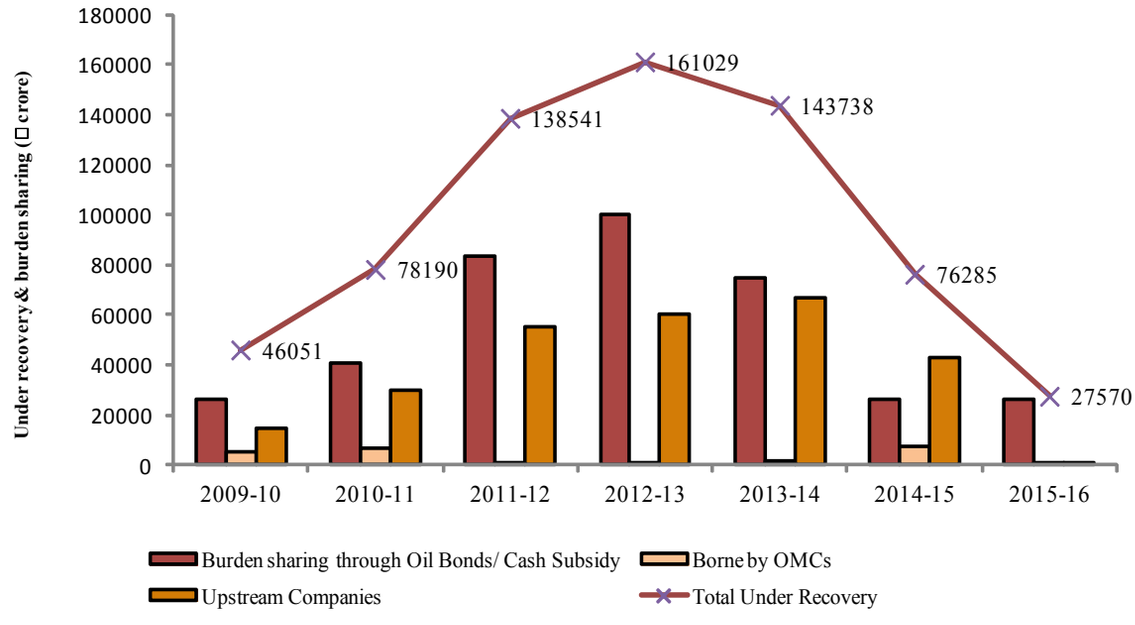
Note:

1. Since 2009-10, cash subsidy was provided by Government in place of Oil Bonds.

2. OIL, ONGC & GAIL

Source: PPAC

Figure IV.5: Under recovery & its burden sharing



IV.11 Price Build-up of Selected Petroleum Products in Major Cities (As on 01.04.2016)

Market	Delhi	Kolkata	Mumbai	Chennai
Liquefied Petroleum Gas (Domestic) (₹/14.2 Kg Cyl)				
Cost Price at LPG Bottling Plant	**405.41**	**428.93**	**376.40**	**417.04**
Add: Delivery Charges	10.00	10.00	10.00	10.00
Add: State Specific Costs	0.00	0.00	22.56	0.00
Add: Octroi/Toll Tax	0.00	0.16	0.00	0.00
Add : Uncompensated Costs (Import Costs, Recovery for Non-revision, Rounding-off, Diff in SSC, Diff in TC, Diff in WC & Delivery Charges)	48.26	51.60	48.26	48.26
Market Determined Price	463.67	490.69	457.23	475.30
Add : VAT(including VAT on Distributor Commission)	0.00	0.00	15.10	0.00
Add : Distributor Commission	45.96	45.96	45.96	45.96
Retail Selling Price	509.63	536.65	518.28	521.26
Retail Selling Price (Rounded)	**509.50**	**536.50**	**518.00**	**521.00**
"Less: Cash Compensation to Consumer under DBTL (including impact of uncompensated cost to OMCs)"	90.37	115.37	62.01	114.37
Effective Cost to Consumer after Subsidy	**419.13**	**421.13**	**455.99**	**406.63**
Motor Spirit (₹/Kl)				
Ex Storage Point Price	22936.00	22936.00	22936.00	22936.00
State Surcharge	0.00	2101.00	2438.00	-13.00
BMC Surchrge	0.00	0.00	859.00	0.00
Siding Charge	50.00	90.00	0.00	0.00
TL-WL Adj	0.00	0.00	0.00	0.00
RLY/Ocean/Freight	91.96	144.73	0.00	0.00
RPO Factor/Others	40.36	340.36	140.36	240.36
Assesable Value.	23118.32	25612.09	26373.36	23163.36
Ass. Value Adj.	0.00	0.00	0.00	0.00
FDZ Charges	142.00	142.00	142.00	142.00
Excise Duty	21480.00	21480.00	21480.00	21480.00
Sub Total	44740.32	47234.09	47995.36	44785.36
Delivery Charges Beyond Fdz	0.00	86.51	0.00	0.00
Toll Tax	0.00	22.96	0.00	0.00
RPO Price	44740.32	47343.56	47995.36	44785.36
Sales Tax Percent	27.00	25.00	26.00	27.00
Sales Tax Amount	12079.89	13120.00	12478.79	12092.05
Surcharge On Sales Tax%	0.00	0.00	0.00	0.00
Surcharge On Sales Amt	0.00	1000.00	3000.00	0.00
Fixed Dealer Commission	1750.08	1750.08	1750.08	1750.08
Advalorem Dealer Commission	501.72	542.72	560.48	502.23
VAT On Dealer Commission	607.99	0.00	0.00	0.00
RSP/KL	59680.00	63756.36	65784.71	59129.71
Revised RSP/Ltr	**59.68**	**63.76**	**65.79**	**59.13**

Contd...

IV.11 Price Build-up of Selected Petroleum Products in Major Cities (Contd...) (As on 01.04.2016)

Market	Delhi	Kolkata	Mumbai	Chennai
High Speed Diesel (₹/KL)				
Ex Storage Point Price	21621.93	21621.93	21621.93	21621.93
State Surcharge	0.00	1278.00	2127.00	0.00
BMC Surcharge	0.00	0.00	299.00	0.00
Siding Charge	54.00	110.00	0.00	0.00
PAF	0.00	20.00	0.00	20.00
RLY/Ocean/Freight	102.68	162.19	0.00	0.00
RPO Factor/ Others	21.27	121.27	91.27	121.27
Assesable Value.	21799.88	23313.39	24139.20	21763.20
Ass. Value Adj.	0.00	0.00	0.00	0.00
FDZ Charges	142.00	142.00	142.00	142.00
Total Excise Duty	17330.00	17330.00	17330.00	17330.00
Sub Total	39271.88	40785.39	41611.20	39235.20
Delivery Charges Beyond Fdz	0.00	86.51	0.00	0.00
Octroi at Destination	0.00	22.96	0.00	0.00
RPO Price	39271.88	40894.86	41611.20	39235.20
Pollution Cess	250.00	0.00	0.00	0.00
Sales Tax Percent	0.18	0.17	0.24	0.21
Sales Tax Amount	7113.94	7410.00	9986.69	8408.10
Surcharge on Sales Tax%	0.00	0.00	0.00	0.00
Surcharge on Sales Amt	0.00	1000.00	2000.00	0.00
Fixed Dealer Commission	1301.88	1301.88	1301.88	1301.88
Advalorem Dealer Commission	133.38	141.01	153.29	136.26
VAT on Dealer Commission	258.35	0.00	0.00	0.00
RSP/KL	48329.42	50747.75	55053.06	49081.44
RSP/Ltr	**48.33**	**50.75**	**55.06**	**49.09**
Light Diesel Oil (₹/Kl)				
Ex-storage Point Price	25860.00	25860.00	25860.00	25860.00
State Surcharge	526.00	663.00	1039.00	526.00
Notional Railway Freight	388.11	1667.01	0.00	0.00
Siding Dest.	56.00	130.00	46.55	0.00
Assessable value	26830.11	28320.01	26899.00	26386.00
Excise Duty+edu cess	3756.21	3964.80	3765.86	3694.04
Additional Levy alongwith Cess	2500.00	2500.00	2500.00	2500.00
Total Inclusive of excise duty+ edu cess	33086.32	34784.81	33164.86	32580.04
Sales tax	6617.26	7410.00	4145.61	8145.01
Discount on Sales Tax	0.00	0.00	0.00	0.00
State Development Tax	0.00	0.00	0.00	0.00
RSP/KL	39703.59	42194.81	37310.47	40725.05
RSP/Ltr	**39.70**	**42.19**	**37.31**	**40.73**

Contd...

IV.11 Price Build-up of Selected Petroleum Products in Major Cities (Contd...) (As on 01.04.2016)

Market	Delhi	Kolkata	Mumbai	Chennai
Superior Kerosene Oil (₹/Kl)				
Ex-Storage Price	12822.00	12822.00	12822.00	12822.00
State Specific Cost	0.00	0.00	731.00	869.00
BMC Surcharge	0.00	0.00	0.00	0.00
Past Dues - Surcharge	0.00	0.00	0.00	0.00
Siding Charge	0.00	0.00	0.00	0.00
RLY/PL/Ocean/Freight	130.49	19.37	0.00	0.00
Ass. Value	12952.49	12841.37	13553.00	13691.00
Excise Duty Rate	0.00	0.00	0.00	0.00
Excise Duty Amount	0.00	0.00	0.00	0.00
Other State Levies	0.00	0.00	0.00	-1332.00
Sub Total	12952.49	12841.37	13553.00	12359.00
Entry Tax Amount/Tn Rebate	0.00	0.00	0.00	0.00
Octroi At Depot	0.00	0.00	0.00	0.00
Sales Tax Percent	0.05	0.00	0.03	0.05
Sales Tax Amount	647.62	0.00	406.59	617.95
Surcharge On Sales Tax%	0.00	0.00	0.00	0.00
Surcharge On Sales Amt	0.00	0.00	0.00	0.00
Sub Total	13600.11	12841.37	13959.59	12976.95
Cess/Toll Charges/Tot Rate	0.00	0.00	0.00	0.00
Cess/Toll Charges/Tot Amt	0.00	0.00	0.00	0.00
Less State Govt Subsidy	0.00	0.00	0.00	0.00
Ex-Mi/ Depot Price/KL-Oil Co.	13600.11	12841.37	13959.59	12976.95
Ex-Mi/ Depot Price/KL-St.Govt	13600.11	12841.37	13959.59	12976.95
Wholesales Margin	438.24	536.09	714.18	170.00
Wholesalers Extra Ordinary Margin	0.00	0.00	99.00	0.00
Transport Charges	675.23	866.60	280.79	119.17
Vat On Wholesale Margin	55.67	0.00	35.14	8.50
Toll	0.00	0.00	70.00	0.00
Handling Charges	0.00	128.41	7.24	0.00
Rounding Up	0.00	0.00	0.00	0.00
Wholesales Price/KL	14769.26	14372.47	15166.00	13274.62
Retailer Margin	179.00	788.20	231.00	360.00
Handling Charges	0.00	537.44	0.00	0.00
Leakage And Other Expenses	0.00	0.00	0.00	0.00
Retailer Transportation	0.00	386.60	0.00	40.00
VAT On Retailer Margin	8.95	0.00	7.50	18.00
Retail Extraordinary Commission	0.00	0.00	19.00	0.00
Rounding Up	0.00	0.00	0.00	0.00
Retail Selling Price/KL	14957.21	16084.71	15423.50	13692.62
RSP/Ltr	**14.96**	**16.00**	**15.42**	**13.70**

Contd...

IV.11 Price Build-up of Selected Petroleum Products in Major Cities (Contd...) (As on 01.04.2016)

Market	Delhi	Kolkata	Mumbai	Chennai
ATF (Domestic Airlines)				
Basic Price	24990.00	24970.00	24550.00	24810.00
State Surcharge	479.00	1705.00	946.00	479.00
Freight	506.70	957.40	100.00	330.37
Siding Charges	52.00	0.00	0.00	0.00
AFS Cost	3232.17	5092.08	3391.57	4534.72
MSL Cost	324.00	324.00	324.00	324.00
Assessable Value	29583.87	33048.48	29311.57	30478.09
Rate Of Excise Duty	0.14	0.14	0.14	0.14
Excise Duty	4141.74	4626.79	4103.62	4266.93
Toll Tax	0.00	0.00	0.00	0.00
Posted Airfield Price (PAP) Per KL	33725.61	37675.27	33415.19	34745.02
Rate Of Sales Tax	0.25	0.25	0.25	0.29
Sales Tax Amount	8431.40	9418.82	8353.80	10076.07
Surcharge On Sales Tax - Rate	0.00	0.00	0.00	0.00
Surcharge On Sales Tax Amount	0.00	0.00	0.00	0.00
Final Selling Price Per KL	**42157.01**	**47094.08**	**41768.99**	**44821.09**
Furnace Oil (₹ /Kl)				
Ex-Storage Point Price	0.00	15960.00	15220.00	15710.00
State Surcharge	0.00	591.00	1168.00	591.00
Notional Railway Freight	0.00	0.00	0.00	0.00
Siding/Shunting Charges	0.00	0.00	0.00	0.00
Assessable Value	0.00	16551.00	16388.00	16301.00
Excise Duty+Edu Cess	0.00	2317.14	2294.32	2282.14
Total Inclusive Of Excise Duty+Edu Cess	0.00	18868.14	18682.32	18583.14
Sales Tax	0.00	943.41	2335.29	929.16
Total	**0.00**	**19811.55**	**21017.61**	**19512.30**

Note: Selling price for Superior Kerosene Oil is for Public Distribution System (PDS).

Source: IOCL

IV.12 Trends in Retail Selling Prices of Selected Petroleum Products in Metropolitan Cities in India

Price as on	Delhi	Kolkata	Mumbai	Chennai
(1)	*(2)*	*(3)*	*(4)*	*(5)*
Motor Spirit (₹/Litre)				
01.04.2009	40.62	44.05	44.55	44.24
01.04.2010	47.93	51.67	52.20	52.13
01.04.2011	58.37	62.51	63.08	61.93
01.04.2012	65.64	70.02	70.65	69.55
01.04.2013	68.30	75.78	75.20	71.42
01.04.2014	72.26	80.13	80.89	75.49
01.04.2015	60.49	67.67	68.04	63.26
01.04.2016	59.68	63.76	65.79	59.13
High Speed Diesel Oil (₹/Litre)				
01.04.2009	30.86	32.92	34.45	32.82
01.04.2010	38.10	37.99	39.88	38.05
01.04.2011	37.75	40.06	42.06	40.16
01.04.2012	40.91	43.73	45.27	43.95
01.04.2013	48.63	52.85	54.87	51.77
01.04.2014	55.49	60.11	63.86	59.18
01.04.2015	49.71	54.28	57.02	52.91
01.04.2016	48.33	50.75	55.06	49.09
Superior Kerosene Oil (₹/Litre)*				
01.04.2009	9.22	9.75	9.10	8.39
01.04.2010	9.32	9.62	9.13	8.41
01.04.2011	9.10	9.75	9.22	8.39
01.04.2012	14.82	14.84	14.38	13.54
01.04.2013	14.96	14.84	14.71	13.69
01.04.2014	14.96	15.25	15.25	13.70
01.04.2015	14.96	16.08	15.24	13.69
01.04.2016	14.96	16.00	15.42	13.70
Liquefied Petroleum Gas (₹/14.2 Kg Cylinder)				
01.04.2009	279.70	327.25	312.05	314.55
01.04.2010	310.35	328.70	313.45	315.95
01.04.2011	345.35	365.10	348.45	352.35
01.04.2012	399.00	405.00	414.00	393.50
01.04.2013	410.50	412.50	437.50	398.00
01.04.2014	414.00	416.00	451.50	401.00
01.04.2015	417.82	419.82	458.07	405.32
01.04.2016	419.13	421.13	455.99	406.63

*: Prices for Public Distribution System.

Source: IOCL

CHAPTER V: CONSUMPTION



Chapter Highlights

- Total consumption of petroleum products in the country during 2015-16 was 184.7 million metric tonnes (MMT) which marked a growth of 11.60% over the consumption of 165.5 MMT during 2014-15.
- Diesel (LDO+HSD) accounted for the highest consumption share (41%) followed by Petrol/Motor Spirit (12%), LPG (11%), Petroleum Coke (10%), Naphtha (7%) and others (19%).
- The share of public and private sector consumption in 2015-16 stood at 80% and 20% respectively as against 83% and 17% respectively in previous year.
- Highest consumption of LPG in 2015-16 was in domestic distribution sector (88%), naphtha in petrochemical sector (78%), kerosene mainly in domestic PDS (97%) and diesel in reseller/retail sector (85%).
- Highest market share in 2015-16 was captured by IOCL (41%) followed by BPCL (19%) and HPCL (18%). Market share of private companies stood at 20%.

V.1(a) Product-wise Consumption of Petroleum Products (Calendar Year-wise)

(in '000' Tonnes)

Products	2009	2010	2011	2012	2013	2014	2015 (P)	% to Total	% Growth
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
Light Distillates	**39723**	**40903**	**43243**	**45581**	**47059**	**49735**	**55996**	**31.5**	**12.59**
LPG	12797	14009	15209	15645	15855	17671	19040	10.7	7.75
Motor Spirit	12522	13914	14736	15535	16891	18384	21089	11.9	14.71
Naphtha	11636	10479	11069	11898	11433	10965	12910	7.3	17.74
Others	2769	2502	2229	2504	2879	2716	2958	1.7	8.90
Middle Distillates	**70058**	**74051**	**78062**	**82461**	**82125**	**82550**	**86399**	**48.7**	**4.66**
SKO	9335	9000	8434	7655	7249	7127	6887	3.9	-3.37
ATF	4527	4932	5465	5318	5449	5678	6095	3.4	7.35
HSDO	55256	59186	63231	68623	68641	69021	72665	40.9	5.28
LDO	470	439	442	392	384	354	403	0.2	13.92
Others	470	493	490	473	401	370	349	0.2	-5.70
Heavy Ends	**28729**	**24734**	**24835**	**27187**	**28604**	**31025**	**35094**	**19.8**	**13.11**
Furnace Oil	9526	8890	7942	6548	5853	5465	6031	3.4	10.36
LSHS	2666	2040	1849	1541	582	415	196	0.1	-52.69
Fuel Oil (FO+LSHS)	12193	10931	9791	8089	6435	5879	6227	3.5	5.91
Lubes/Greases	2429	2434	2579	3087	3180	3421	3366	1.9	-1.61
Bitumen	5054	4486	4657	4585	4986	5128	5570	3.1	8.63
Petroleum Coke	7068	5021	5811	9127	11285	13842	17006	9.6	22.86
Waxes	303	256	255	219	180	168	166	0.1	-1.03
Others	1684	1607	1741	2080	2538	2587	2759	1.6	6.64
Total Consumption	**138511**	**139688**	**146139**	**155229**	**157788**	**163310**	**177489**	**-**	**8.68**
Refinery Fuel and Losses (RBF)	14213	16166	17072	18168	17557	17536	18349	-	4.64
Grand Total	**152724**	**155854**	**163211**	**173397**	**175345**	**180846**	**195838**	**-**	**8.29**

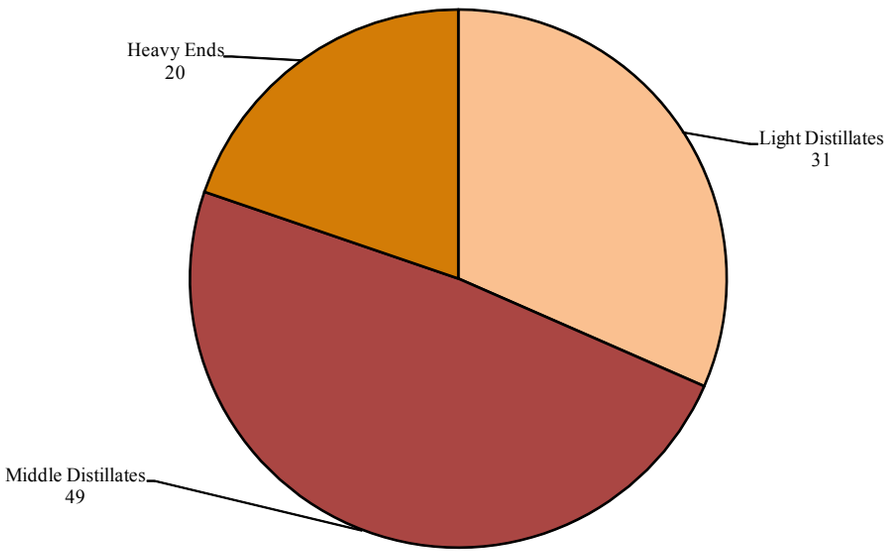
Note: P: Provisional

1. Consumption includes sales by oil companies, own consumption & direct private imports.

2. Growth rate in 2015 over 2014

Source: Petroleum Planning & Analysis Cell

Figures V.1: % share of broad categories of petroleum products in total consumption during 2015



V.1(b) Product-wise Consumption of Petroleum Products (Financial Year-wise)

(in '000' Tonnes)

Products	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 (P)	% to Total	% Growth
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
Light Distillates	**38996**	**41444**	**43870**	**46273**	**47578**	**50944**	**57743**	**31.27**	**13.35**
LPG	13135	14331	15350	15601	16294	18000	19623	10.63	9.02
Motor Spirit	12818	14194	14992	15744	17128	19075	21847	11.83	14.53
Naphtha	10134	10676	11222	12289	11305	11082	13271	7.19	19.75
Others	2908	2242	2306	2639	2851	2787	3002	1.63	7.73
Middle Distillates	**71121**	**75030**	**79415**	**82700**	**81830**	**82933**	**88517**	**47.93**	**6.73**
SKO	9304	8928	8229	7502	7165	7087	6826	3.70	-3.67
ATF	4627	5078	5536	5271	5505	5723	6262	3.39	9.42
HSDO	56242	60071	64750	69080	68364	69416	74647	40.42	7.54
LDO	457	455	415	399	386	365	407	0.22	11.46
Others	490	497	485	450	411	342	375	0.20	9.75
Heavy Ends	**27691**	**24567**	**24847**	**28084**	**28999**	**31643**	**38414**	**20.80**	**21.40**
Furnace Oil (FO)	9145	8807	7547	6290	5787	5584	6482	3.51	16.09
LSHS	2484	1982	1759	1366	449	377	150	0.08	-60.13
Fuel Oil (FO+LSHS)	11629	10789	9307	7656	6236	5961	6632	3.59	11.26
Lubes/Greases	2539	2429	2633	3196	3305	3310	3571	1.93	7.89
Bitumen	4934	4536	4638	4676	5007	5073	5938	3.22	17.05
Petroleum Coke	6586	4982	6138	10135	11756	14557	19297	10.45	32.56
Waxes	289	254	269	194	177	156	173	0.09	11.13
Others	1713	1576	1863	2226	2519	2586	2802	1.52	8.34
Total Consumption	**137808**	**141040**	**148132**	**157057**	**158407**	**165520**	**184674**	**100**	**11.57**
Refinery fuel and losses (RBF)	15116	16381	17295	18347	17868	17669	18773	-	6.25
Grand Total	**152924**	**157422**	**165427**	**175404**	**176274**	**183189**	**203447**	**-**	**11.06**

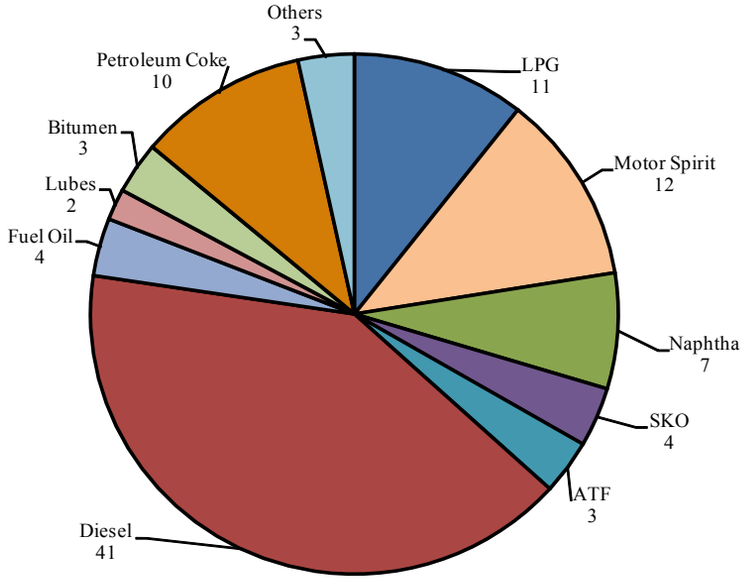
Note: P: Provisional

1. Consumption includes sales by oil companies, own consumption & direct private imports.

2. Growth rate in 2015-16 over 2014-15.

Source: Petroleum Planning & Analysis Cell.

Figure V.2: Percentage share of different petroleum products in total consumption during 2015-16



V.1(c) Product-wise Consumption of Petroleum Products by Public & Private Sector

(in '000' Tonnes)

Products	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16(P)	% Growth
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
A. PUBLIC SECTOR								
LPG	12740	13901	14929	15202	15925	17571	19134	8.9
Motor Spirit	12603	13895	14724	15458	16727	18588	21079	13.4
Naphtha	3106	3704	4139	5197	5414	4814	4790	-0.5
SKO	9304	8928	8229	7502	7165	7087	6826	-3.7
ATF	4551	4961	5369	5089	5304	5319	5629	5.8
HSDO	54994	58765	64662	69025	68200	68701	72092	4.9
LDO	457	455	415	399	386	365	407	11.5
Furnace Oil	7981	7713	6191	5250	4720	4790	5514	15.1
LSHS	2484	1982	1759	1366	449	377	150	-60.1
Lubes/Greases	1239	1216	1206	1222	1218	1162	1312	12.9
Bitumen/Asphalt	4342	4067	4322	4372	4500	4366	4819	10.4
Petroleum Coke	1273	1147	1757	1807	2133	2391	3483	45.7
Paraffin Wax	62	69	61	54	53	56	58	3.7
Others	1641	1691	1770	2156	2083	2029	2241	10.4
Total (A)	**116777**	**122494**	**129532**	**134098**	**134277**	**137616**	**147535**	**7.2**
B. PRIVATE SECTOR								
LPG	395	430	421	398	369	429	489	14.0
Motor Spirit	216	299	268	286	401	487	768	57.6
Naphtha	7029	6972	7083	7092	5891	6268	8481	35.3
ATF	76	117	167	182	201	404	632	56.7
HSDO	1248	1306	88	55	164	715	2555	257.4
Furnace Oil	1164	1094	1357	1041	1067	794	968	21.9
Lubes/Greases	1300	1213	1427	1974	2087	2148	2259	5.2
Bitumen/Asphalt	592	469	316	304	506	707	1118	58.2
Petroleum Coke	5313	3835	4381	8328	9622	12167	15815	30.0
Paraffin Wax	na	na	na	140	124	99	115	15.3
Others	3698	2811	3093	3159	3697	3685	3938	6.9
Total (B)	**21031**	**18546**	**18601**	**22959**	**24130**	**27904**	**37139**	**33.1**
TOTAL (A+B)	**137808**	**141040**	**148132**	**157057**	**158407**	**165520**	**184674**	**11.6**

Note: Private data include sales by private oil companies, own consumption & direct pvt imports na: not available P : Provisional

Source: Petroleum Planning & Analysis Cell.

V.2 Sector-wise Consumption (end use) of Selected Petroleum Products

(in '000' Tonnes)

Sector		2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16(P)
(1)		*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
LPG								
1	Domestic Distribution	11364.3	12368.7	13295.9	13568.0	14411.6	16040.4	17181.7
2	Non-Domestic/ Industry/Commercial	872.4	984.9	1068.5	1167.6	1073.6	1051.0	1464.4
3	Transport	225.3	223.9	223.7	214.8	195.0	164.6	171.8
(i)	Auto LPG	224.5	223.0	222.8	214.0	194.3	163.8	170.9
(ii)	Railways	0.8	0.9	0.8	0.8	0.7	0.8	0.9
4	Power Generation	0.1	0.1	0.0	0.0	2.6	3.1	2.7
5	Agriculture Sector	3.6	2.4	4.8	3.7	4.0	6.1	7.1
6	Mining	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	Manufacturing (Bulk LPG)	141.8	165.2	186.3	144.8	134.7	207.9	201.7
(i)	Chemicals	7.9	8.3	19.7	11.3	5.4	35.0	5.2
(ii)	Engineering	0.6	0.7	1.2	2.0	1.5	1.8	2.1
(iii)	Electronics	9.9	14.0	11.4	10.4	7.1	4.8	3.9
(iv)	Mechanical	11.1	14.6	23.3	18.6	14.9	13.9	12.4
(v)	Metallurgical	82.8	93.3	97.0	77.9	84.5	125.3	134.1
(vi)	Textiles	2.5	2.8	2.4	2.1	2.9	2.2	2.5
(vii)	Other Consumer/ Industrial Goods	26.9	31.5	31.2	22.5	18.5	24.8	41.5
8	Resellers/Retail	**	**	**	58.6	57.8	45.2	44.9
9	Miscellaneous (Bulk)	132.9	156.3	149.7	44.8	45.9	52.7	59.9
	Total Sales	**12740.4**	**13901.4**	**14928.9**	**15202.2**	**15925.1**	**17570.9**	**19134.2**
10	Pvt Imports	395.0	430.0	420.8	398.5	368.5	429.2	489.0
	Total Consumption	**13135.4**	**14331.4**	**15349.7**	**15600.7**	**16293.6**	**18000.1**	**19623.2**
NAPHTHA								
1	Fertilizers Sector	844.4	892.2	962.3	898.0	515.9	301.5	315.9
2	Petrochemicals Sector	6967.6	7500.0	8140.8	9412.2	9463.9	9530.1	10350.2
3	Power Sector	639.3	419.3	187.4	342.0	215.1	199.2	50.3
4	Steel Plants	2.5	0.0	0.2	0.0	0.0	0.0	0.0
5	Others	560.0	154.7	163.2	203.1	240.3	207.5	37.1
	Total Sales	**9013.7**	**8966.3**	**9453.8**	**10855.2**	**10435.2**	**10238.3**	**10753.5**
6	Pvt Imports	1120.5	1710.0	1767.7	1434.2	870.0	843.7	2517.4
	Total Consumption	**10134.2**	**10676.3**	**11221.5**	**12289.4**	**11305.2**	**11082.0**	**13270.8**
SKO (Kerosene)								
1	Domestic	9101.0	8722.0	8045.0	7349.0	7008.9	6917.3	6648.9
2	Commercial/Industry	69.0	67.0	61.0	37.2	49.0	60.1	63.9
3	Others	134.1	138.8	122.7	115.3	106.9	109.3	113.2
	Grand Total	**9304.1**	**8927.8**	**8228.7**	**7501.5**	**7164.8**	**7086.7**	**6826.1**

**: Included in miscellaneous

Contd...

P: Provisional

V.2 Sector-wise Consumption (end use) of Selected Petroleum Products (Contd...)

(in '000' Tonnes)

	Sector	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16(P)
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
	HSDO							
1	Transport	5364.6	5416.6	5528.8	5159.9	3203.1	4617.4	5764.6
(i)	Road Transport	2434.3	2483.4	2558.4	2207.2	205.9	1580.0	2671.3
(ii)	Aviation	1.7	1.0	1.4	1.4	1.2	1.2	1.3
(iii)	Shipping	667.9	561.3	539.8	413.1	365.2	343.5	366.2
(iv)	Railways	2260.7	2370.9	2429.3	2538.3	2630.8	2692.7	2725.9
2	Agriculture	593.8	615.6	683.6	617.3	429.2	574.9	629.8
3	Power Generation	303.2	165.8	168.2	214.3	204.4	197.2	223.9
4	Mining & Quarrying	1247.5	1365.9	1180.7	1073.3	873.1	998.2	1183.8
5	Manufacturing Industry	1501.8	1440.0	1649.2	1627.6	686.9	793.8	1095.6
(i)	Iron & Steel(Metallurgy)	220.5	239.1	290.4	263.0	153.8	162.1	170.4
(ii)	Textile	171.8	187.8	156.2	241.8	46.3	58.8	46.0
(iii)	Cement	192.3	211.6	226.2	213.0	124.7	148.7	203.6
(iv)	Ceramic & Glass	18.9	17.1	20.6	62.1	5.5	8.1	8.5
(v)	Chemicals & Allied	167.1	135.4	153.1	183.2	103.4	103.3	109.5
(vi)	Aluminium	10.2	15.4	20.8	26.4	28.2	19.2	17.8
(vii)	Civil Engineering	421.8	357.4	418.6	316.1	68.3	135.6	298.6
(viii)	Elec./Electronics	36.8	35.2	38.6	54.2	26.5	18.4	24.1
(ix)	Mechanical	112.6	106.1	200.3	137.6	70.1	77.9	137.4
(x)	Fertilizers	8.1	7.6	10.1	8.6	14.8	5.9	6.6
(xi)	Other Consumer/ Industrial Goods	141.8	127.4	114.2	121.7	45.3	55.8	73.0
6	Resellers/Retail	**	48703.9	53207.8	58021.3	61464.8	60402.9	63771.9
7	Miscellaneous	47137.0	2170.0	2262.0	2319.6	1425.7	1748.4	1922.1
	Total	**56147.9**	**59877.9**	**64680.2**	**69033.4**	**68287.3**	**69332.8**	**74591.7**
8	Pvt Imports	94.4	193.1	69.7	46.7	76.6	83.4	55.4
	Total Consumption	**56242.4**	**60071.0**	**64750.0**	**69080.0**	**68363.9**	**69416.2**	**74647.1**
	LDO							
1	Transport	6.3	4.9	2.5	3.1	3.8	5.0	3.7
(i)	Road Transport	0.0	0.0	0.0	0.0	0.7	2.2	0.2
(ii)	Shipping	4.5	3.8	1.7	2.2	2.4	2.1	2.9
(iii)	Railways	1.8	1.1	0.8	0.9	0.8	0.6	0.6
2	Agriculture	2.8	1.8	1.4	1.3	1.3	1.1	1.3
3	Power Generation	152.0	136.9	126.7	142.4	131.8	132.2	154.2
4	Mining & Quarrying	1.8	2.8	2.3	2.4	3.4	3.8	2.2
5	Manufacturing Industry	143.0	127.1	101.5	74.0	63.7	54.6	60.8
(i)	Civil Engineering	13.1	9.5	9.2	2.8	4.2	4.6	10.3
(ii)	Metallurgical	73.8	71.1	61.0	46.7	40.7	30.1	26.8
(iii)	Textile & Fibre	1.3	1.5	1.0	0.9	1.5	1.1	1.1
(iv)	Cement	3.2	2.1	0.0	1.2	0.0	1.2	1.2
(v)	Ceramic & Glass	1.2	0.0	0.0	0.0	0.0	0.0	0.0
(vi)	Chemicals & Allied	18.6	16.7	11.7	10.9	10.9	9.0	12.0
(vii)	Aluminium	8.7	6.7	4.8	3.0	3.8	6.9	3.3
(viii)	Electrical	0.4	0.2	0.1	0.1	0.1	0.0	0.2
(ix)	Mechanical	18.6	16.5	12.6	7.0	1.3	0.7	4.1
(x)	Other Consumer/ Industrial Goods	4.2	2.8	1.0	1.3	1.1	1.0	1.6
6	Resellers	**	**	**	0.8	0.7	3.8	1.1
7	Miscellaneous	151.6	181.5	180.3	174.6	181.6	164.8	183.8
	Total Sales	**457.4**	**455.0**	**414.8**	**398.5**	**386.3**	**365.3**	**407.1**
8	Pvt Imports	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total Consumption	**457.4**	**455.0**	**414.8**	**398.5**	**386.3**	**365.3**	**407.1**

**: Included in miscellaneous

Contd....

P : Provisional

V.2 Sector-wise Consumption (end use) of Selected Petroleum Products (Contd...)

(in '000' Tonnes)

Sector		2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16(P)
(1)		*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Furnace Oil (FO)								
1	TRANSPORT	559.9	780.1	371.0	276.7	315.3	346.4	379.5
(i)	Road Transport	0.2	0.1	0.7	1.4	6.2	10.2	45.0
(ii)	Shipping	556.6	776.1	366.9	272.7	306.7	334.5	332.6
(iii)	Railways	3.1	3.9	3.4	2.6	2.5	1.8	1.9
2	Agriculture	67.5	70.4	70.4	79.2	74.5	55.6	56.6
3	Power Generation	687.9	822.8	646.6	586.8	535.7	445.8	430.4
4	Mining & Quarrying	22.5	7.2	45.2	12.5	38.5	45.1	52.7
5	Manufacturing Industry	3135.2	2773.5	2408.3	2019.0	1833.3	1748.4	2136.5
(i)	Civil Engineering	61.2	62.6	79.3	59.0	55.9	32.8	47.9
(ii)	Metallurgical	998.1	1100.3	710.3	602.9	549.9	611.4	763.9
(iii)	Textile & Fibre	139.4	80.8	52.1	38.0	57.7	69.9	68.4
(iv)	Cement	98.1	74.8	39.4	27.8	13.1	12.7	14.7
(v)	Ceramic & Glass	237.1	236.8	221.5	145.7	123.2	87.9	142.7
(vi)	Chemicals & Allied	364.6	310.7	287.4	221.8	201.3	165.9	193.1
(vii)	Aluminium	222.0	0.0	219.6	233.1	231.6	232.3	218.5
(viii)	Electrical	8.2	6.6	13.1	30.4	7.3	1.6	1.3
(ix)	Mechanical	53.5	55.1	38.0	21.9	15.2	10.9	16.4
(x)	Fertilizers	599.6	479.0	458.1	475.2	408.1	393.3	476.5
(xi)	Other Consumer/ Industrial Goods	353.4	367.0	289.4	163.2	170.0	129.8	193.2
6	Resellers	**	**	**	351.3	309.1	196.9	270.2
7	Miscellaneous	4133.5	3978.8	3300.1	2356.9	1984.7	2175.4	2564.0
	Total Sales	**8606.5**	**8432.9**	**6841.6**	**5682.2**	**5091.1**	**5013.6**	**5889.8**
8	Pvt Imports	538.3	374.0	706.0	608.3	695.8	570.0	592.1
	Total Consumption	**9144.9**	**8806.9**	**7547.6**	**6290.5**	**5786.9**	**5583.6**	**6481.9**
LSHS/HHS								
1	Agriculture	2.1	0.3	0.2	0.0	0.0	0.0	0.0
2	Power Generation	936.5	468.6	399.2	439.0	328.1	226.2	50.7
3	Mining	0.0	0.2	0.9	0.0	0.0	0.0	0.0
4	Manufacturing Industry	1225.0	1031.2	1067.0	778.0	76.3	103.6	70.4
(i)	Civil Engineering	0.4	0.3	0.4	0.3	0.0	0.0	0.0
(ii)	Metallurgical	38.1	32.0	26.7	9.9	0.7	0.0	0.0
(iii)	Iron & Steel	31.0	40.0	56.9	52.2	58.1	55.3	46.3
(iv)	Textile & Fibre	2.9	0.3	0.1	0.3	0.0	0.0	0.0
(v)	Cement	6.9	2.8	0.8	0.6	0.0	0.0	0.2
(vi)	Chemicals & Allied	28.7	22.3	11.8	6.0	2.8	46.6	20.7
(vii)	Electrical	103.8	105.9	76.1	20.5	0.0	0.0	0.0
(viii)	Mechanical	1.9	2.4	2.2	1.6	0.0	0.0	0.0
(ix)	Fertilizers	1007.5	820.1	889.5	684.9	14.7	1.6	3.3
(x)	Other Consumer/ Industrial Goods	3.9	4.9	2.6	1.7	0.0	0.0	0.0
5	Miscellaneous	320.2	482.2	291.9	149.0	44.3	47.5	29.2
	Total Sales	**2483.7**	**1982.4**	**1759.1**	**1366.0**	**448.7**	**377.3**	**150.4**
6	Pvt Imports	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total Consumption	**2483.7**	**1982.4**	**1759.1**	**1366.0**	**448.7**	**377.3**	**150.4**

Source: Petroleum Planning & Analysis Cell.

P : Provisional

V.3 Consumption of Petroleum Products and Market Share of Oil Companies in India

(in '000' Tonnes)

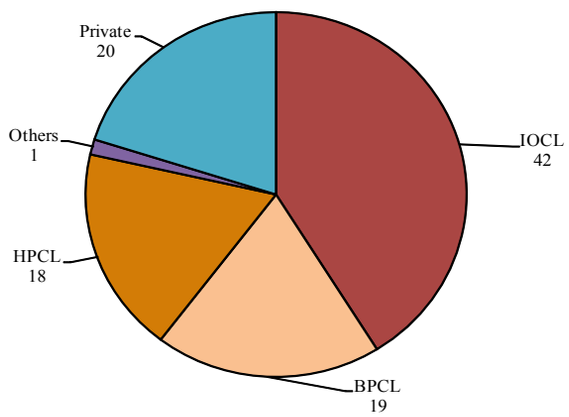
Year	Consumption	IOCL	BPCL	HPCL	Others	Private	TOTAL
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
2009-10	in TMT	63570	27015	24246	1946	21419	138196
	in %	46.0	19.5	17.5	1.4	15.5	100.0
2010-11	in TMT	66727	28461	25578	1728	18546	141040
	in %	47.3	20.2	18.1	1.2	13.1	100.0
2011-12	in TMT	70084	30228	27581	1639	18601	148132
	in %	47.3	20.4	18.6	1.1	12.6	100.0
2012-13	in TMT	71249	32232	28862	1755	22959	157057
	in %	45.4	20.5	18.4	1.1	14.6	100.0
2013-14	in TMT	69873	32776	30048	1581	24130	158407
	in %	44.1	20.7	19.0	1.0	15.2	100.0
2014-15	in TMT	71653	33394	30746	1824	27904	165520
	in %	43.3	20.2	18.6	1.1	16.9	100.0
2015-16(P)	in TMT	75946	35514	33585	2490	37139	184674
	in %	41.1	19.2	18.2	1.3	20.1	100.0

Note: P: Provisional

1. Others companies include CPCL, GAIL, MRPL, NRL & ONGC
2. Private includes sales by private oil companies, own consumption & direct private imports

Source: Petroleum Planning & Analysis Cell.

Figure V.3: % market share of oil companies in India during 2015-16



V.4 Deliveries Made to International/Coastal Bunkers

(in '000' Tonnes)

Items	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16(P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
INTERNATIONAL BUNKERS							
F.O	37.3	85.7	113.0	193.6	189.1	251.0	226.0
H.S.D	94.7	16.6	8.1	6.8	9.1	12.8	11.1
L.D.O	0.3	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	**132.3**	**102.3**	**121.1**	**200.5**	**198.2**	**263.8**	**237.1**
COASTAL BUNKERS							
F.O	553.7	783.6	345.6	141.7	168.6	155.9	169.0
H.S.D	503.5	404.2	336.4	200.5	181.1	196.2	188.2
L.D.O	6.5	4.7	2.4	2.6	2.4	2.9	3.6
TOTAL	**1063.7**	**1192.5**	**684.4**	**344.8**	**352.1**	**355.0**	**360.8**
TOTAL BUNKERS							
F.O	590.9	869.3	458.6	335.3	357.7	406.9	395.0
H.S.D	598.2	420.7	344.5	207.3	190.3	209.0	199.3
L.D.O	6.8	4.7	2.4	2.6	2.4	2.9	3.6
TOTAL	**1195.9**	**1294.7**	**805.5**	**545.3**	**550.3**	**618.7**	**597.9**

Source: Petroleum Planning & Analysis Cell. P : Provisional

V.5 State-wise Consumption of Major Petroleum Products during 2015-16

(in '000' Tonnes)

Region/State	Naphtha	LPG	MS	SKO	ATF	HSD	LDO	F.O	HHS/ LSHS	Lubs/Grs	Bitumen	Others	Total
Region: North													
Jammu & Kashmir	0	169	200	142	44	635	1	1	0	9	53	88	1341
Punjab	0	780	745	66	69	3302	5	123	0	42	123	705	5962
Rajasthan	0	995	1183	377	134	5316	13	209	0	42	280	2667	11218
Uttar Pradesh	1	2351	2164	1216	186	7098	52	329	0	69	605	939	15012
Haryana	3405	630	783	58	30	5014	6	174	0	46	158	471	10774
Himachal Pradesh	0	131	163	23	8	576	0	52	0	21	51	525	1549
Uttarakhand	0	232	253	31	3	747	0	85	0	17	68	84	1519
Chandigarh	0	46	101	1	46	115	0	62	0	2	4	63	440
Delhi	0	777	902	1	1605	1508	1	76	0	19	9	100	4997
North Total	**3406**	**6110**	**6494**	**1914**	**2125**	**24311**	**79**	**1110**	**0**	**268**	**1352**	**5643**	**52813**
Region: North East													
Arunachal Pradesh	0	17	31	14	1	118	0	0	0	1	17	0	200
Assam	25	295	267	252	108	852	5	5	0	13	33	265	2120
Manipur	0	24	44	19	3	88	0	0	0	0	3	0	180
Meghalaya	0	17	65	20	0	295	0	0	0	1	19	2	419
Mizoram	0	22	24	5	2	57	0	0	0	0	4	0	113
Nagaland	0	19	26	13	4	59	0	0	0	0	5	0	127
Tripura	0	35	38	30	4	93	0	0	0	1	11	0	212
Sikkim	0	12	16	12	0	58	0	1	0	0	2	0	100
North East Total	**25**	**440**	**512**	**364**	**121**	**1620**	**5**	**6**	**0**	**17**	**93**	**268**	**3470**
Region: East													
Bihar	0	769	545	619	23	2255	13	16	0	12	216	165	4633
Odisha	0	392	554	300	48	2232	24	609	0	24	137	142	4461
West Bengal	517	1226	655	736	270	2955	61	368	0	65	232	108	7194
Jharkhand	0	216	349	203	23	1602	11	135	0	31	177	21	2768
Andaman & Nicobar	0	9	14	5	22	124	0	0	0	1	5	0	180
East Total	**517**	**2612**	**2117**	**1862**	**385**	**9168**	**109**	**1128**	**0**	**134**	**767**	**436**	**19236**
Region: West													
Goa	0	58	151	4	126	309	0	48	0	5	25	3	730
Gujarat	6068	868	1526	515	186	5077	22	728	0	95	456	3438	18980
Madhya Pradesh	0	751	1038	453	77	3283	25	116	0	38	264	965	7009
Maharashtra	297	2425	2837	486	1374	7814	88	823	18	317	468	1281	18227
Chhattisgarh	0	198	418	124	30	1461	28	184	0	19	178	232	2873
Dadra&Nagar Haveli	0	16	17	1	0	151	0	113	6	101	2	3	411
Daman & Diu	0	9	19	1	1	81	0	24	0	42	1	3	181
West Total	**6365**	**4325**	**6005**	**1585**	**1794**	**18176**	**164**	**2036**	**25**	**617**	**1394**	**5924**	**48410**

Contd...

V.5 State-wise Consumption of Major Petroleum Products during 2015-16 (Contd...)

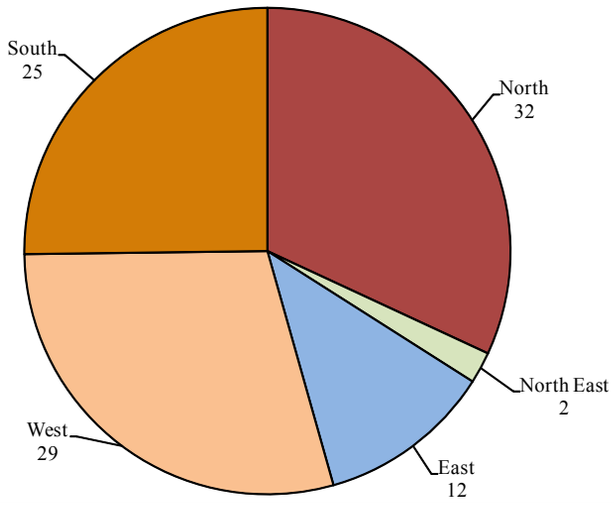
(in '000' Tonnes)

Region/State	Naphtha	LPG	MS	SKO	ATF	HSD	LDO	F.O	HHS/ LSHS	Lubs/Grs	Bitumen	Others	Total
Region: South													
Andhra Pradesh	48	923	845	183	72	3298	20	149	54	30	245	314	6182
Kerala	24	774	1130	97	382	2537	0	293	31	44	193	47	5552
Tamilnadu	207	1819	2052	305	415	6312	8	692	16	107	476	290	12698
Karnataka	162	1330	1664	379	424	5747	11	352	17	52	226	687	11051
Telangana	0	762	915	133	268	3078	11	100	5	41	307	84	5705
Lakshadweep	0	0	0	1	0	14	0	0	0	0	0	0	15
Puducherry	0	39	113	3	0	330	0	23	2	2	5	3	521
South Total	**440**	**5648**	**6719**	**1102**	**1562**	**21316**	**50**	**1609**	**125**	**276**	**1453**	**1425**	**41725**
Total	**10754**	**19134**	**21847**	**6826**	**5987**	**74592**	**407**	**5890**	**150**	**1312**	**5059**	**13696**	**165653**
Pvt. Imports	**2517**	**489**	**0**	**0**	**275**	**55**	**0**	**592**	**0**	**2259**	**879**	**11954**	**19021**
Total Consumption	**13271**	**19623**	**21847**	**6826**	**6262**	**74647**	**407**	**6482**	**150**	**3571**	**5938**	**25650**	**184674**

Note: Figures are provisional

Source: Petroleum Planning and Analysis Cell.

Figure V.4 : Region-wise % share of consumption of major petroleum products in India during 2015-16



V.6 State-wise Per Capita Sales of Petroleum Products

(Unit: Kg)

State/UT	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16(P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Andhra Pradesh	113.3	116.6	124.5	129.5	126.3	126.9	125.2
Andaman & Nicobar	266.8	290.6	333.3	337.8	404.3	451.8	473.0
Arunachal Pradesh	110.6	110.8	104.8	114.2	123.7	128.5	144.5
Assam	55.7	56.8	56.7	54.1	60.3	61.1	68.0
Bihar	35.4	37.2	35.9	36.4	38.3	39.6	44.6
Chandigarh	233.1	231.7	291.0	258.8	335.8	384.4	417.4
Chhattisgarh	77.5	79.6	77.5	88.3	94.9	100.0	112.5
Dadra & Nagar Haveli	763.3	1332.3	833.8	705.5	869.9	1097.9	1198.5
Daman & Diu	-	-	473.3	530.9	597.8	647.2	745.5
Delhi	237.1	227.5	256.3	247.1	256.2	269.6	298.3
Goa	633.2	631.9	724.3	659.8	446.4	470.8	500.7
Gujarat	299.9	275.8	270.2	285.3	282.0	292.2	314.3
Haryana	304.4	338.6	362.3	380.6	399.3	417.5	424.9
Himachal Pradesh	135.8	145.8	154.4	184.6	189.5	181.9	226.0
Jammu and Kashmir	99.9	96.1	96.1	98.3	98.3	95.7	106.9
Jharkhand	64.5	69.2	68.7	73.5	76.0	79.7	84.0
Karnataka	127.2	131.6	132.1	139.1	146.1	156.7	180.8
Kerala	141.9	143.1	147.9	158.4	158.5	161.4	166.3
Lakshadweep	**	**	**	**	**	228.9	232.7
Madhya Pradesh	64.5	70.9	71.6	80.4	83.6	88.6	96.5
Maharashtra	145.3	147.7	152.1	154.7	149.2	150.5	162.2
Manipur	58.1	42.5	49.6	57.4	60.3	63.7	66.0
Meghalaya	137.1	151.7	153.8	159.3	158.1	142.5	141.3
Mizoram	85.6	89.6	91.7	97.5	94.7	98.5	103.7
Nagaland	42.8	49.5	59.1	59.5	60.8	60.7	64.3
Odisha	74.6	81.2	79.9	81.5	87.6	93.6	106.4
Puducherry	431.7	419.2	440.5	414.7	362.3	369.0	418.5
Punjab	219.6	203.7	206.1	202.4	198.0	206.2	215.2
Rajasthan	106.4	108.2	126.3	147.0	154.9	158.5	163.5
Sikkim	137.1	160.3	153.0	149.8	156.7	152.9	164.9
Tamil Nadu	170.0	177.8	175.2	187.1	174.4	169.3	176.0
Telangana	-	-	-	-	-	136.6	161.7
Tripura	47.8	51.5	50.9	49.5	49.3	51.8	57.8
Uttar Pradesh	58.7	58.8	59.7	61.1	62.6	66.9	75.2
Uttrakhand	121.2	124.7	123.3	120.5	119.6	128.8	150.2
West Bengal	62.3	67.4	64.9	70.5	74.4	70.6	78.7
All India	**112.5**	**115.8**	**116.3**	**122.0**	**122.9**	**126.6**	**136.9**

**:Included in Andaman & Nicobar

P: Provisional

V.7 Per Capita Sales of Selected Petroleum Products

(Unit : Kg)

Product	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16(P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Naphtha	7.8	7.7	7.8	10.2	9.5	8.4	8.9
MS	11.0	12.2	12.4	13.0	14.2	15.8	18.1
SKO	8.0	7.7	6.8	6.2	5.9	5.9	5.6
HSDO	48.4	51.6	53.4	57.1	56.5	57.3	61.6
LDO	0.4	0.4	0.3	0.3	0.3	0.3	0.3
F.O (Regular)	7.4	7.3	5.7	5.2	4.7	4.1	4.9
LSHS/HHS	2.1	1.7	1.5	1.1	0.4	0.3	0.1
Total All India Sales	**112.5**	**115.8**	**116.3**	**122.0**	**122.9**	**126.6**	**136.9**

Note P : Provisional

1: Population figures have been taken from Census of India, 2011

2:Includes private sales by oil companies and excludes direct private imports.

V.8 Average Compound Annual Growth Rates (CAGR) of Consumption of Petroleum Products

(in Percentage)

Product	IX Plan 1997-02 (CAGR)	X Plan 2002-07 (CAGR)	XI Plan 2007-12 (CAGR)	XII Plan 2012-17 (CAGR)	Annual 2012-13 (% Gr.)	Annual 2013-14 (% Gr.)	Annual 2014-15 (% Gr.)	Annual 2015-16 (% Gr.)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
LPG	12.6	7.0	7.2	6.9	1.6	4.4	10.5	9.0
MS	7.2	5.8	10.1	8.5	5.0	8.8	11.4	14.5
Naphtha	20.1	3.4	-4.2	-0.2	9.5	-8.0	-2.0	19.8
ATF	0.9	12.0	6.8	9.6	-4.8	4.4	4.0	9.4
SKO	0.5	-1.8	-2.8	-4.0	-8.8	-4.5	-1.1	-3.7
HSD	0.9	3.3	8.6	5.2	6.7	-1.0	1.5	7.5
LDO	5.4	-14.7	-10.4	-0.2	-3.9	-3.1	-5.4	11.5
Lubes	2.3	10.8	6.7	3.7	21.4	3.4	0.1	7.9
FO/LSHS	2.4	-0.6	-5.9	-3.5	-17.7	-18.6	-4.4	11.3
Bitumen	2.6	8.2	3.9	5.1	0.8	7.1	1.3	17.1
Others	-	-	-	7.6	41.4	13.2	15.3	25.6
Total Sales	**4.9**	**3.8**	**4.2**	**4.8**	**6.0**	**0.9**	**4.5**	**11.6**

Note : Growth rates are based on consumption including private parties imports .

Source: Petroleum Planning & Analysis Cell.

V.9 Major End uses of Petroleum Products	
Products	**Major End-use**
LPG	Domestic fuel. Also for industrial application where technically essential. Now permitted as auto fuel.
NAPTHA / NGL	Feedstock/ fuel for Fertilizer Units, feedstock for petro-chemical sector and fuel for Power Plants.
MS (Petrol)	Fuel for passenger cars, taxies, two & three wheelers
ATF	Fuel for aircrafts.
SKO (Kerosene)	Fuel for cooking & lighting.
HSD (Diesel)	Fuel for transport sector (Railways/Road), agriculture (tractors pump sets, threshers, etc.) and captive power generation.
LDO	Fuel for agricultural pump sets, small industrial units, start up fuel for power generation
FO/LSHS	Secondary fuel for Thermal Power Plants, Fuel/feedstock for fertilizer plants, industrial units.
BITUMEN	Surfacing of roads.
LUBES	Lubrication for automotive and industrial applications
Other Minor Products (Benzenes, Toluene, MTO, LABFS, CBFS, Paraffin Wax, etc.)	Feedstock for value added products.

CHAPTER VI: TRADE



Chapter Highlights

- India's import bill on import of Crude Oil, LNG, and Petroleum Products has reduced significantly in value terms by 35.6% from ₹ 819444 crore in 2014-15 to ₹ 527765 crore in 2015-16.
- Although quantum of imports of crude registered 7.1% growth, a major reduction of 39.4% was witnessed in value terms from ₹ 687416 crore in 2014-15 to ₹ 416361 crore in 2015-16, owing to decline in crude prices.
- Exports of Petroleum Products have reduced by 5.3% from 63932 TMT in 2014-15 to 60536 TMT in 2015-16. This was primarily due to increase in consumption of Petroleum Products within the country demonstrating stronger industrial sentiment and being consistent with the Government's "Make in India" initiative.
- Import Availability of Petroleum Products has increased by 11.87% from 178505 TMT in 2014-15 to 199690 TMT in 2015-16.
- Imports of petroleum products in 2015-16 increased to 28302 TMT from 21301 TMT in 2014-15 (32.9%)
- India's trade deficit was lower by 8% at ₹773390 crore in 2015-16 from ₹840738 crore in previous year, owing to various factors including inter alia, the decline in value of Petroleum, Oil, & Lubricants (POL) and non POL imports and contraction in overall exports.
- India's trade deficit with OPEC Countries has shown a reduction of 42% from ₹ 491660 crore in 2014-15 to ₹ 285092 crore in 2015-16. Reduction in trade deficit is mainly due to reduction in the OPEC imports bill by 29.7% during the corresponding period.
- Percentage of India's OPEC imports to India's total imports has reduced from 30.5% in 2014-15 to 23.6% in 2015-16.

VI.1 Import/Export of Crude Oil, LNG and Petroleum Products

Year	Crude Oil		Petroleum Products		LNG		Total	
	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value
	TMT	₹ Crore	TMT	₹ Crore	TMT	₹ Crore	TMT	₹ Crore
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Gross Imports								
2009-10	159259	375277	14665	33687	9148	10695	183072	419659
2010-11	163595	455276	17379	55998	9931	14362	190906	525637
2011-12	171729	672220	15849	68091	13214	31718	200793	772029
2012-13	184795	784652	15774	68363	13136	41902	213705	894917
2013-14	189238	864875	16718	74605	12995	53123	218951	992603
2014-15	189435	687416	21301	74644	14092	57384	224828	819444
2015-16(P)	202851	416361	28302	65803	16582	45601	247735	527765
Exports								
2009-10	-	-	51155	144687	-	-	51155	144687
2010-11	-	-	59077	196861	-	-	59077	196861
2011-12	-	-	60837	284643	-	-	60837	284643
2012-13	-	-	63408	320090	-	-	63408	320090
2013-14	-	-	67864	368279	-	-	67864	368279
2014-15	-	-	63932	288580	-	-	63932	288580
2015-16(P)	-	-	60536	176773	-	-	60536	176773
Net Imports								
2009-10	159259	375277	-36490	-111000	9148	10695	131917	274971
2010-11	163595	455276	-41698	-140862	9931	14362	131829	328776
2011-12	171729	672220	-44988	-216552	13214	31718	139956	487385
2012-13	184795	784652	-47634	-251727	13136	41902	150297	574828
2013-14	189238	864875	-51146	-293674	12995	53123	151087	624324
2014-15	189435	687416	-42631	-213936	14092	57384	160896	530864
2015-16(P)	202851	416361	-32234	-110969	16582	45601	187199	350992

Source: Petroleum Planning & Analysis Cell. P: Provisional

VI.2 Availability of Crude Oil and Petroleum Products

(in TMT)

Items	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 (P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
A. Crude Oil							
Production	33690	37684	38090	37862	37788	37461	36950
Imports	159259	163595	171729	184795	189238	189435	202851
Availability	192949	201279	209819	222657	227027	226896	239800
B. Petroleum Products							
Production	184610	194821	203202	217736	220756	221136	231924
Net Imports	-36490	-41698	-44988	-47634	-51146	-42631	-32234
Availability	148120	153123	158214	170103	169610	178505	199690

Note: Excluding LNG imports. P: Provisional

Figure VI.1: Production, import and import value of crude oil

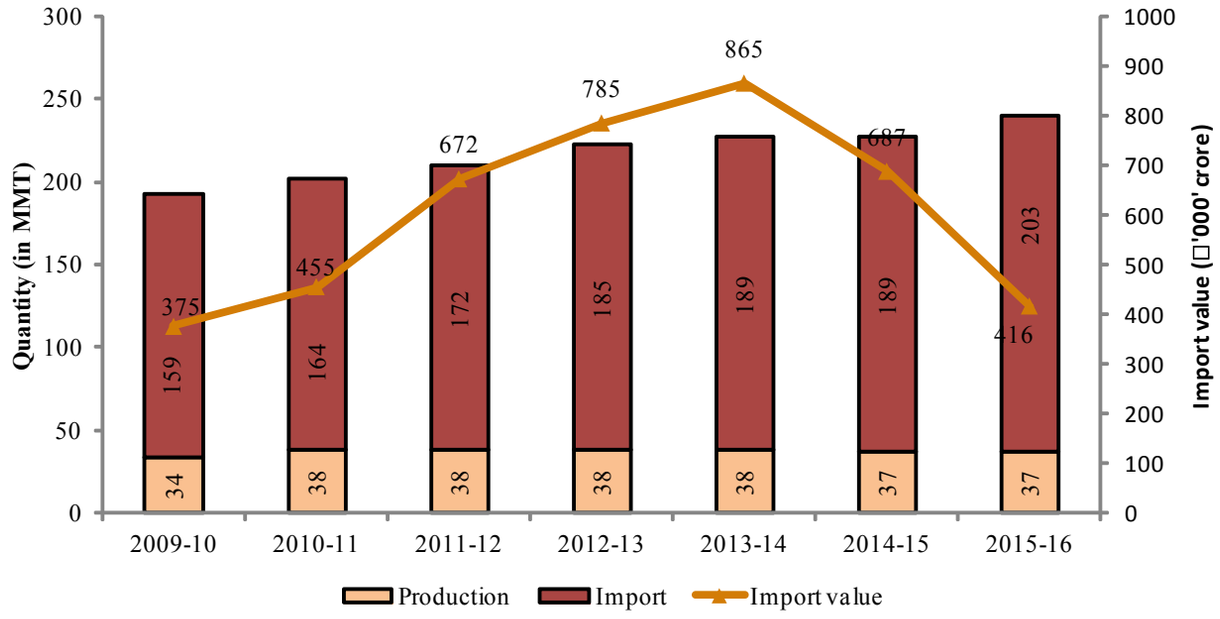
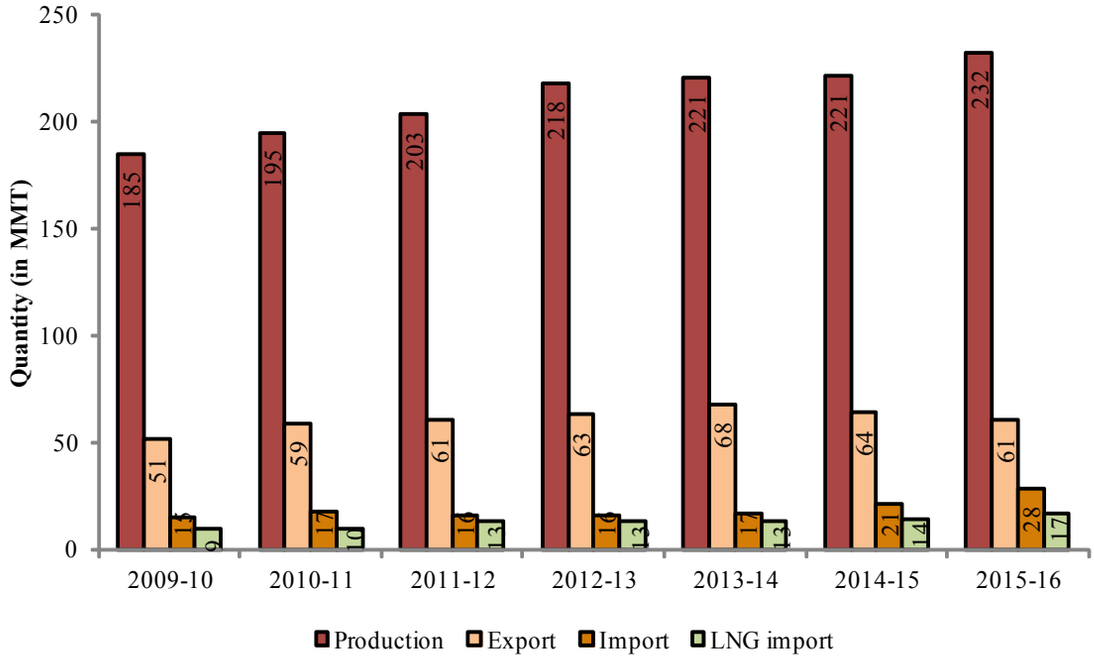


Figure VI.2: Production,export & import of petroleum products and LNG



VI.3 Import / Export of Crude Oil and Petroleum Products (Calendar Year-wise)

(Quantity in TMT & Value in ₹ crore)

ITEM	2009		2010		2011		2012		2013		2014		2015*	
	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*
Imports														
Crude Oil Import	**152481**	**323940**	**163340**	**421835**	**167813**	**613677**	**184173**	**783418**	**189351**	**846591**	**188772**	**798637**	**196490**	**446440**
Product Import														
LPG	2344	6405	4111	13883	5535	23814	6561	33301	6043	33002	8056	41208	8877	27058
MS/ Petrol	314	931	1534	5588	954	4632	147	891	235	1607	328	2115	993	4198
Naphtha/ NGL	1266	5790	1928	5981	2137	9720	1884	9838	1136	7239	630	3707	2778	9571
SKO/ Kerosene	707	2437	1317	4344	905	4179	0	0	0	0	30	172	41	158
HSD/ Diesel	2195	6853	1837	5673	1390	6330	871	4424	99	566	110	640	76	430
LOBS/ Lube oil	**	**	1321	3173	1401	7284	1485	8937	1585	10231	1846	11845	1851	8588
Fuel Oil/LSHS	953	1720	981	2336	1150	3866	965	3896	1325	5796	1077	4659	987	2543
Bitumen	**	**	94	201	60	142	95	248	150	476	420	1459	772	1919
Others[1]	7333	8921	3596	7112	2992	7688	4202	8075	4961	11066	7085	13168	10341	11920
Product Import	**15112**	**33057**	**16719**	**48290**	**16524**	**67655**	**16210**	**69608**	**15536**	**69982**	**19581**	**78973**	**26717**	**66386**
Total Import	**167593**	**356997**	**180058**	**470124**	**184337**	**681331**	**200382**	**853027**	**204887**	**916574**	**208353**	**877610**	**223207**	**512827**
Product Export														
LPG	94	424	154	664	165	856	195	1231	213	1393	239	1640	217	918
MS/ Petrol	8023	23547	13647	46607	14011	67059	16098	91260	15874	95263	15942	91334	15893	59681
Naphtha/ NGL	8561	23550	10586	34629	10609	45544	9035	44765	8496	45965	7397	38299	6708	20158
Aviation Turbine Fuel	4448	11987	4248	13589	5223	23996	4153	22225	5716	32482	5300	28108	5253	16792
HSD/ Diesel	18414	46615	19453	59691	21430	102486	21294	111708	25997	142665	25756	130712	23160	71693
SKO/ Kerosene	46	142	38	145	33	176	29	173	16	98	14	90	12	50
LDO	**	**	76	189	89	328	26	115	22	102	14	63	0	0
LOBS/ Lube Oil	**	**	10	60	30	167	75	470	19	150	12	93	19	130
Fuel Oil/LSHS	5136	9143	6207	12955	7937	23768	6480	22583	6281	22573	5187	17378	3154	5592
Bitumen	**	**	57	123	18	59	65	215	108	363	74	216	107	206
Others[2]	2411	5452	3054	8664	2897	10847	4097	16061	5953	23259	4402	19801	4087	10655
Total Product Export	**47133**	**120860**	**57530**	**177315**	**62440**	**275285**	**61548**	**310559**	**68696**	**364314**	**64337**	**327734**	**58611**	**185877**
Net Import	**120460**	**236137**	**122528**	**292809**	**121897**	**406046**	**138835**	**542468**	**136190**	**552259**	**144016**	**549876**	**164596**	**326950**

P: Provisional **: Included in others

1: Other imports include Pet coke, Paraffin Wax, Petroleum Jelly, LSWR, Aviation Gas, MTBE & Reformate.

2: Other exports include VGO, Benzene, MTO, Pet coke, CBFS & Sulphur.

Source: Petroleum Planning & Analysis Cell.

VI.4 Import / Export of Crude Oil and Petroleum Products

(in TMT)

Import/Export	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 (P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Imports							
Crude Oil Import	**159259**	**163595**	**171729**	**184795**	**189238**	**189435**	**202851**
Product Import							
LPG	2718	4484	5790	6293	6607	8313	8885
Petrol	385	1702	654	147	235	372	1024
Naphtha	1734	2063	2091	1735	1026	1034	2984
Kerosene	985	1381	564	0	0	30	41
Diesel	2531	1996	1059	626	84	124	180
Lubes	1419	1291	1434	1468	1674	2148	1880
Fuel Oil	896	1013	1203	1068	1283	902	1194
Bitumen	69	98	78	85	237	517	750
Others1	3928	3352	2977	4352	5571	7861	11364
Total Product Import	**14665**	**17379**	**15849**	**15774**	**16718**	**21301**	**28302**
Total Import	**173924**	**180974**	**187578**	**200569**	**205956**	**210736**	**231153**
Product Export							
LPG	131	154	174	200	227	254	195
Petrol	9771	13578	14524	16657	15247	16048	16817
Naphtha	10043	10655	10139	8647	8322	7008	7116
Aviation Turbine Fuel (ATF)	4588	4478	4561	4664	5745	5520	5686
Kerosene	46	33	34	23	15	15	10
Diesel	18451	20335	20407	22464	26469	25559	24035
LDO	41	98	84	9	30	6	0
Lubes	28	29	27	59	20	11	17
Fuel Oil	5186	6734	7895	5922	6159	4762	2806
Bitumen	31	56	5	87	95	94	101
Others[2]	2839	2927	2988	4675	5535	4653	3753
Total Export	**51155**	**59077**	**60837**	**63408**	**67864**	**63932**	**60536**
Net Import	**122769**	**121897**	**126741**	**137161**	**138092**	**146804**	**170616**
Net Product Export	**36490**	**41698**	**44988**	**47634**	**51146**	**42631**	**32234**

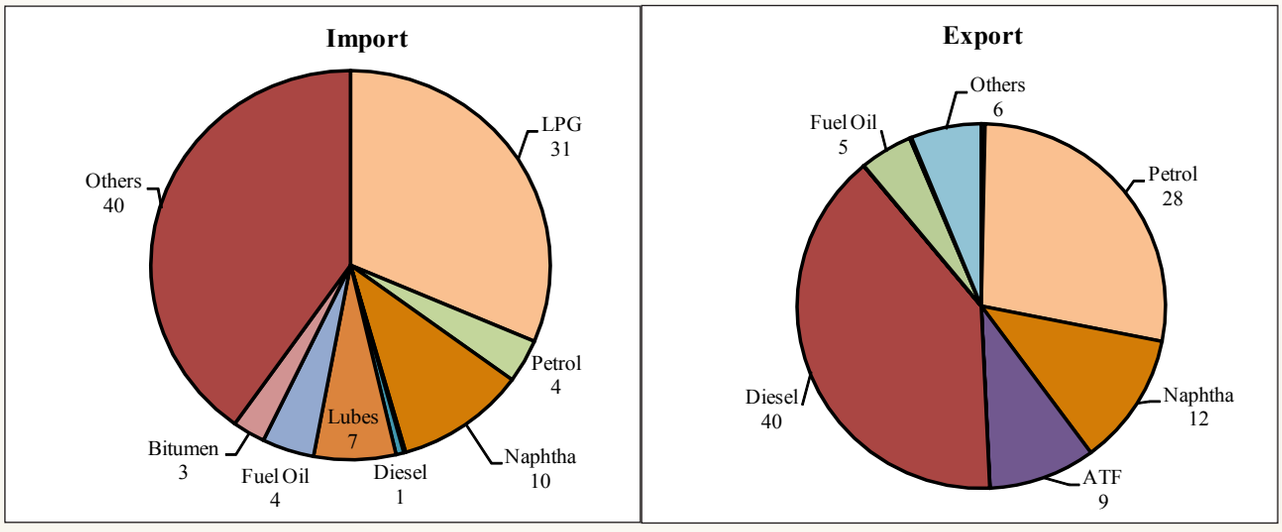
P: Provisional

1: Other imports include Pet coke, Paraffin Wax, Petroleum Jelly, LSWR, Aviation Gas, MTBE & Reformate.

2: Other exports include VGO, Benzene, MTO, Pet coke, CBFS & Sulphur.

Source: Petroleum Planning & Analysis Cell.

Figure VI.3:Import and export of petroleum products (in %)during 2015-16



VI.5 Import / Export of Crude Oil and Petroleum Products

(in ₹ Crore)

Import/Export	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 (P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Imports							
Crude Oil Import	**375277**	**455276**	**672220**	**784652**	**864875**	**687416**	**416361**
Product Import							
LPG	8329	15888	27019	31696	37425	36571	25626
Petrol	1264	6427	3311	891	1481	2301	4258
Naphtha	4942	6853	9827	9791	6067	4592	10166
Kerosene	2909	4939	2710	0	0	172	158
Diesel	6390	6969	5039	3219	503	670	655
Lubes	3518	4093	8314	9259	10664	12702	8487
Fuel Oil	1935	2455	4392	4546	5537	3659	2575
Bitumen	138	210	197	235	773	1623	1820
Others[1]	4262	8164	7282	8727	12156	12356	12060
Total Product Import	**33687**	**55998**	**68091**	**68363**	**74605**	**74644**	**65803**
Total Import	**408964**	**511275**	**740311**	**853015**	**939480**	**762060**	**482164**
Product Export							
LPG	491	693	947	1294	1589	1455	785
Petrol	31203	49480	73982	95346	92977	81971	59575
Naphtha	30318	37138	45620	43533	46059	31619	20056
Aviation Turbine Fuel(ATF)	13331	16140	21857	25223	33246	25413	16007
Kerosene	154	141	191	140	98	81	35
Diesel	50930	69300	104572	115554	148138	115149	66486
LDO	87	260	331	42	135	28	0
Lubes	121	154	181	381	138	100	127
Fuel Oil	10545	15098	25576	20415	22407	14251	4471
Bitumen	67	124	27	281	321	245	176
Others[2]	7441	8332	11360	17880	23169	18267	9054
Total Export	**144687**	**196861**	**284643**	**320090**	**368279**	**288580**	**176773**
Net Import	**264277**	**314414**	**455668**	**532926**	**571201**	**473481**	**305391**
Net Product Export	**111000**	**140862**	**216552**	**251727**	**293674**	**213936**	**110969**

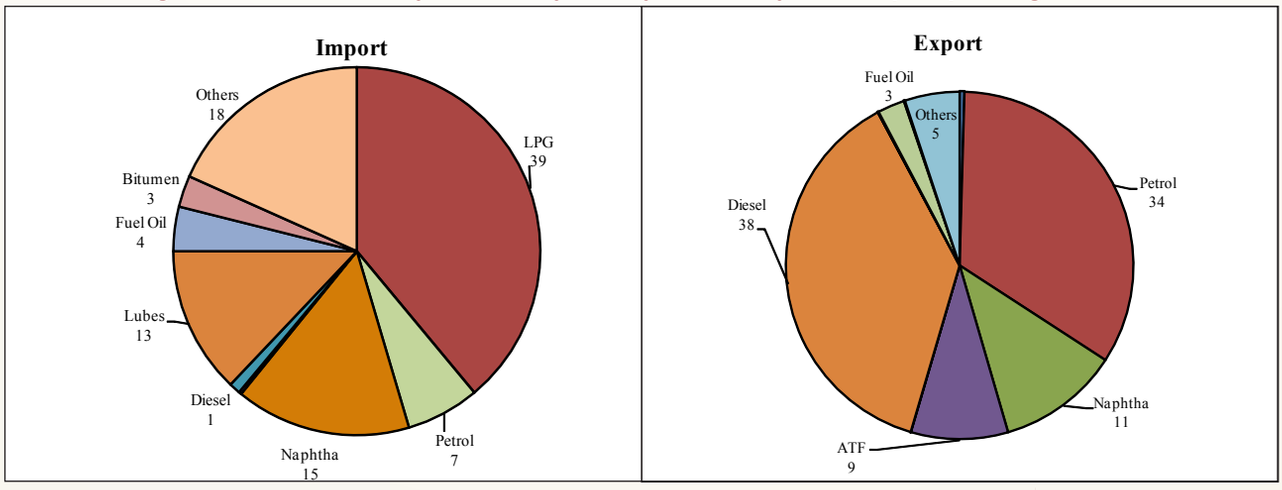
P: Provisional

1: Other imports include Pet coke, Paraffin Wax, Petroleum Jelly, LSWR, Aviation Gas, MTBE & Reformate.

2: Other exports include VGO, Benzene, MTO, Pet coke, CBFS & Sulphur.

Source: Petroleum Planning & Analysis Cell.

Figure VI.4: Value of import and export of petroleum products (in %) during 2015-16



VI.6 Import / Export of Crude Oil and Petroleum Products

(in Million US$)

Import/Export	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 (P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Imports							
Crude Oil Import	**79553**	**100080**	**139690**	**144293**	**142962**	**112737**	**63961**
Product Import							
LPG	1767	3469	5584	5807	6179	5968	3899
Petrol	266	1403	716	160	248	375	656
Naphtha	1029	1453	2022	1787	985	667	1548
Kerosene	614	1081	597	0	0	29	25
Diesel	1332	1505	1096	587	82	110	99
Lubes	733	855	1708	1690	1742	1777	1289
Fuel Oil	406	527	912	838	906	635	393
Bitumen	29	43	40	43	128	243	277
Others[1]	832	1731	1514	1593	1985	2030	1829
Total Product Import	**7007**	**12068**	**14189**	**12506**	**12255**	**11833**	**10015**
Total Import	**86560**	**112148**	**153879**	**156799**	**155217**	**124570**	**73976**
Product Export							
LPG	104	151	195	236	260	236	120
Petrol	6650	10861	15478	17528	15397	13454	9120
Naphtha	6419	8161	9482	7992	7584	5176	3071
Aviation Turbine Fuel(ATF)	2824	3546	4568	4645	5487	4155	2440
Kerosene	32	31	39	25	16	13	5
Diesel	10747	15220	21746	21253	24336	18865	10179
LDO	19	56	69	8	22	5	0
Lubes	26	34	36	65	27	13	20
Fuel Oil	2250	3318	5312	3757	3671	2321	688
Bitumen	12	27	6	52	52	57	27
Others[2]	1580	1935	2387	3288	3814	2995	1390
Total Export	**30663**	**43340**	**59318**	**58848**	**60664**	**47291**	**27058**
Net Import	**55897**	**68808**	**94560**	**97950**	**94553**	**121575**	**72586**
Net Product Export	**23656**	**31272**	**45130**	**46343**	**48409**	**35457**	**17043**

P: Provisional

1: Other imports include Pet coke, Paraffin Wax, Petroleum Jelly, LSWR, Aviation Gas, MTBE & Reformate.

2: Other exports include VGO, Benzene, MTO, Pet coke, CBFS & Sulphur.

Source: Petroleum Planning & Analysis Cell.

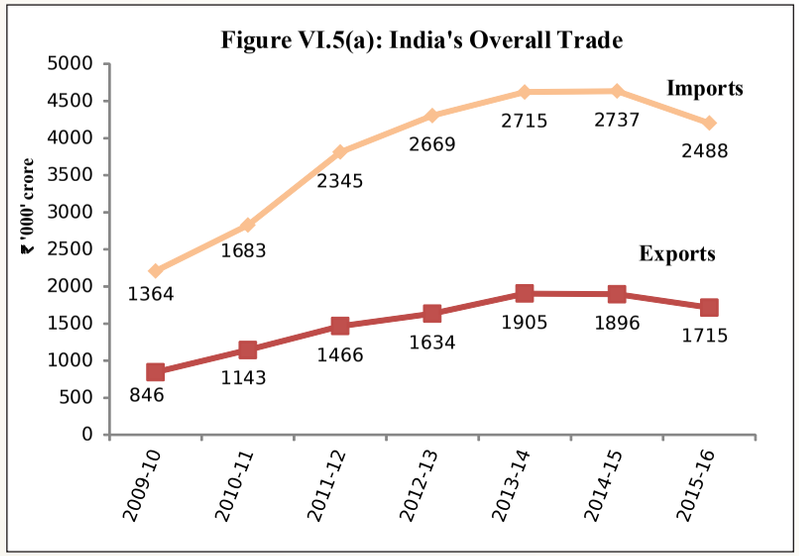
VI.7 Trends in India's overall Trade balance and Trade balance with OPEC Countries

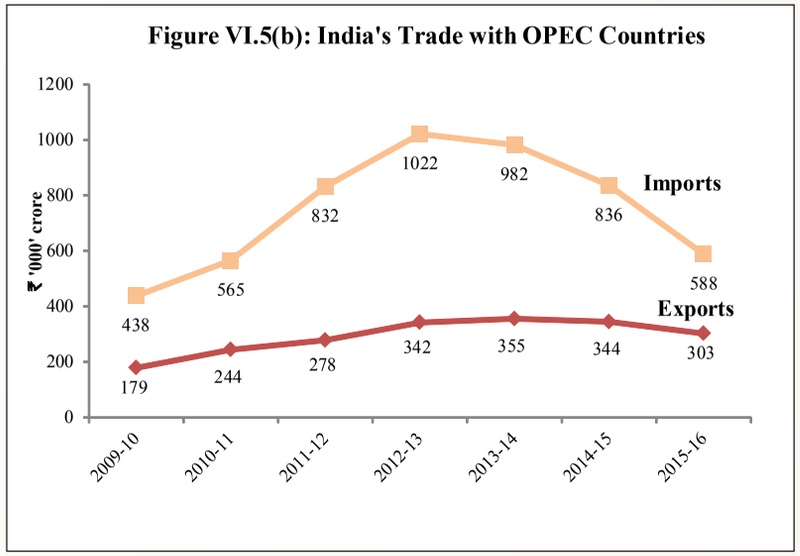
(in ₹ Crore)

Year	India's Overall Trade					India's Trade with OPEC Countries					% of India's trade with OPEC to India's total trade	
	Exports	Imports	Trade Balance	% variation over preceding year		Exports	Imports	Trade Balance	% variation over preceding year			
				Exports	Imports				Exports	Imports	Exports	Imports
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*
2009-10	845534	1363736	-518202	0.6	-0.8	178618	438189	-259571	-0.1	-2.3	21.1	32.1
2010-11	1142922	1683467	-540545	35.2	23.4	243769	565285	-321516	36.5	29.0	21.3	33.6
2011-12	1465959	2345463	-879504	28.3	39.3	278291	832230	-553939	14.2	47.2	19.0	35.5
2012-13	1634318	2669162	-1034844	11.5	13.8	342219	1021645	-679426	23.0	22.8	20.9	38.3
2013-14	1905011	2715434	-810423	16.6	1.7	355400	982126	-626726	3.9	-3.9	18.7	36.2
2014-15	1896348	2737087	-840738	-0.5	0.8	344479	836138	-491660	-3.1	-14.9	18.2	30.5
2015-16 (P)	1714618	2488007	-773390	-9.6	-9.1	302609	587701	-285092	-12.2	-29.7	17.6	23.6

P: Provisional

Source: Ministry of Commerce & Industry





VI.8 Import Dependency

	Items	Unit	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 (P)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Indigenous Crude Oil Production	TMT	33690	37684	38090	37862	37788	37461	36950
2	Indigenous Crude Oil Processing	TMT	28882	33317	33736	34196	33853	34248	34118
3	Total Production from Indigenous Crude & Condensate	TMT	31789	35589	36116	36423	35885	35948	35848
(i)	Products from Indigenous Crude[1]	TMT	26947	31085	31476	31905	31585	31953	31832
(ii)	Products from Fractionators	TMT	4842	4504	4640	4518	4300	3994	4016
4	Consumption of Petroleum Products	TMT	137808	141040	148132	157057	158407	165520	184674
5	Import & Export								
(i)	Crude Oil Imports	₹ Crore	375277	455276	672220	784652	864875	687416	416361
(ii)	Petroleum Products Imports	₹ Crore	33687	55998	68091	68363	74605	74644	65803
(iii)	LNG Imports	₹ Crore	10695	14362	31718	41902	53123	57384	45601
(iv)	Gross Petroleum Imports (Crude+POL+LNG)	₹ Crore	419659	525637	772029	894917	992603	819445	527765
(v)	Petroleum Products Exports	₹ Crore	144687	196861	284643	320090	368279	288580	176773
(vi)	India's Total Imports	₹ Crore	1363736	1683467	2345463	2669162	2715434	2737087	2485927
(vii)	India's Total Exports	₹ Crore	845534	1142922	1465959	1634318	1905011	1896445	1714424
6	Petroleum Imports as % of India's Gross Imports	%	30.77	31.22	32.92	33.53	36.55	29.94	21.23
7	Petroleum Exports as % of India's Gross Exports	%	17.11	17.22	19.42	19.59	19.33	15.22	10.31
8	Self Sufficiency[2]	%	23.07	25.23	24.38	23.19	22.65	21.72	19.41
9	Import Dependency[2]	%	76.93	74.77	75.62	76.81	77.35	78.28	80.59

1: SION taken as 93.3% of crude oil processed for working out product output from indigenous crude oil.

2: Based on Consumption

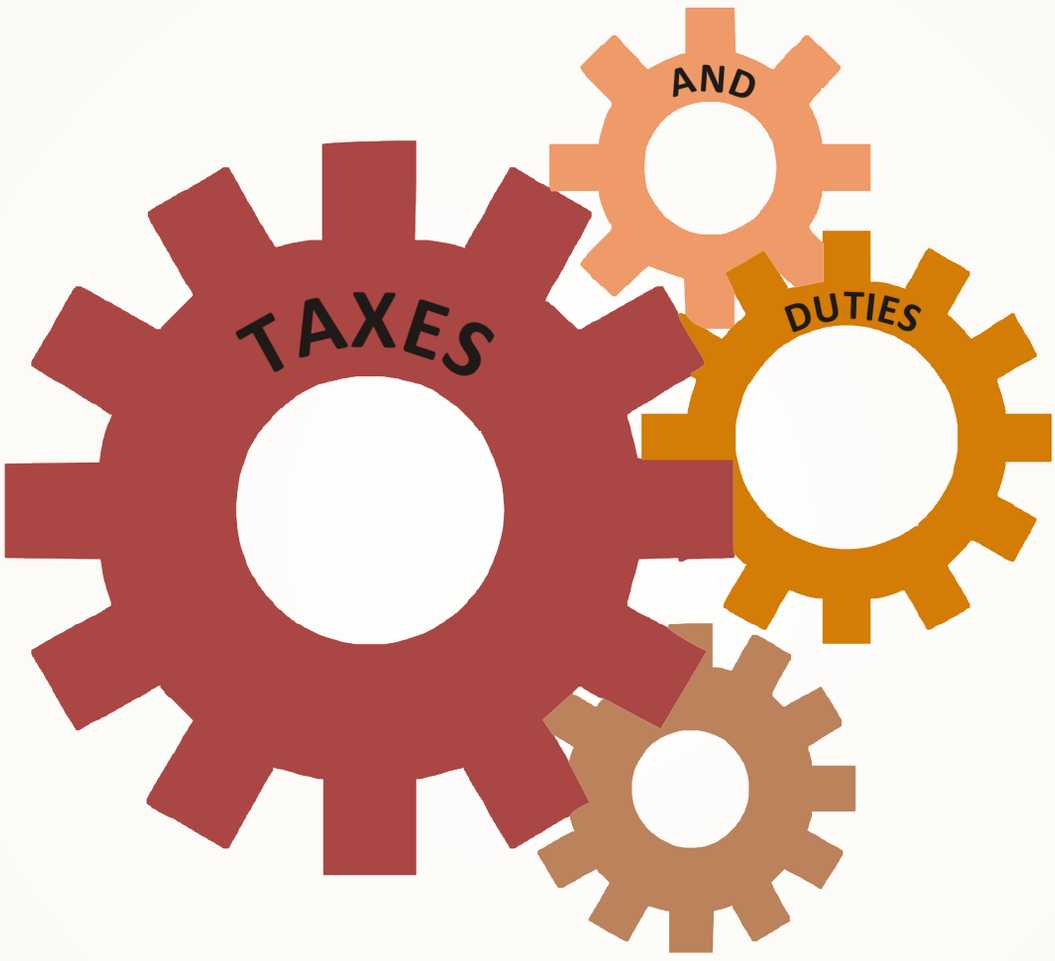
P: Provisional

VI.9 Annual Growth of Foreign Direct Investment Equity Inflows					
Year	FDI Inflow		% of FDI in P&NG to Total FDI	Annual Growth (%)	
	All Sectors	P&NG Sector		All Sectors	P&NG Sector
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
(in ₹ Million)					
2009-10	1231196.45	12969.02	1.05	-13.80	-20.60
2010-11	973203.93	25431.41	2.61	-20.95	96.09
2011-12	1651455.31	99551.66	6.03	69.69	291.45
2012-13	1219067.30	11925.66	0.98	-26.18	-88.02
2013-14	1475177.76	6783.90	0.46	21.01	-43.12
2014-15	1891071.26	64956.73	3.43	28.19	857.51
2015-16 (P)	2623215.61	6770.37	0.26	38.72	-89.58
(in US $ Million)					
2009-10	25834.41	265.53	1.03	-17.71	-23.98
2010-11	21383.05	556.43	2.60	-17.23	109.55
2011-12	35120.80	2029.98	5.78	64.25	264.82
2012-13	22423.58	214.80	0.96	-36.15	-89.42
2013-14	24299.33	112.23	0.46	8.37	-47.75
2014-15	30930.50	1079.02	3.49	27.29	861.44
2015-16 (P)	40000.98	103.02	0.26	29.33	-90.45

P: Provisional

Source: Foreign Direct Investment Cell, Department of Industrial Policy & Promotion

CHAPTER VII: TAXES AND DUTIES



Chapter Highlights

- Central excise collection from Petroleum sector (Crude oil & Petroleum Products) during 2015-16 was at ₹198793 crore which was 80% higher as compared to 2014-15 (₹110354 crore). More than half of the excise duty was contributed by refined diesel oil (51%) during 2015-16.

- Customs duties collected on crude petroleum & petroleum products for year 2015-16 at ₹15202 crore were 21% higher as compared to 2014-15.

- Although Oil Development Cess paid by upstream companies was marginally lower by around 2% in 2015-16 (₹15854 crore) as compared to 2014-15 (₹16149 crore), the royalty paid to the States on crude & gas showed a sharp decline of around 25% during the same period.

- Sales Tax payments collected on crude oil, natural gas & petroleum products during the year 2015-16 at ₹142938 crore, was 5% higher than the sales tax collected during 2014-15(₹136137 crore). Sales tax revenues realized on crude oil (₹1094 crore) & petroleum products (₹17337 crore) continued to be highest from Maharashtra; Gujarat maintained its position in terms of contributing maximum revenue on natural gas (37%) during 2015-16

VII.1 Realisation of Excise and Customs Duties from Crude Oil and Petroleum Products

(in ₹ crore)

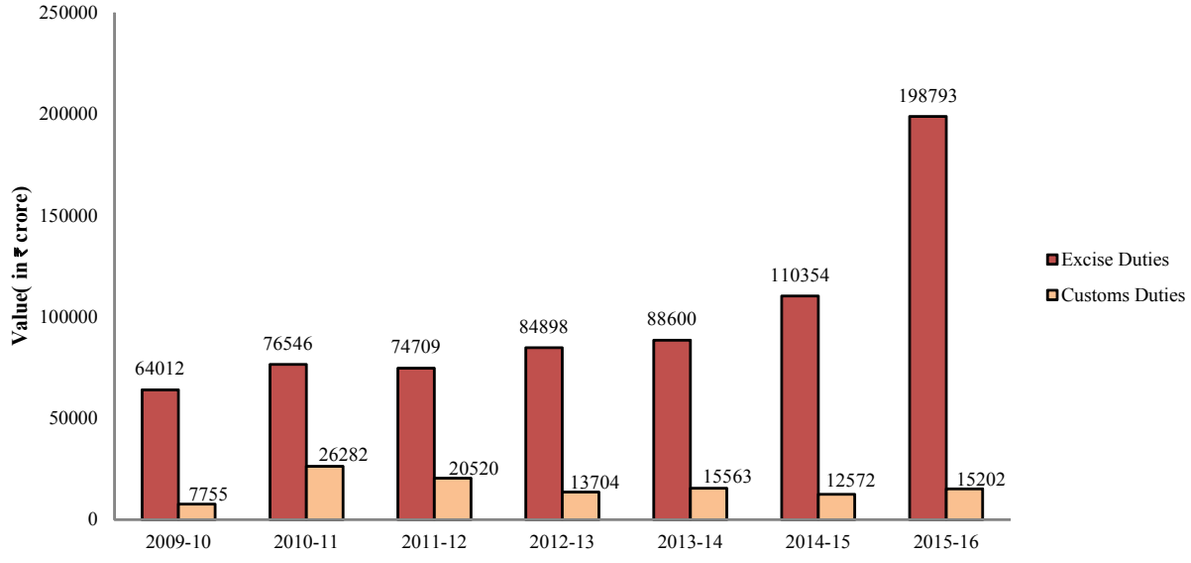
Products	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 (P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Excise Duties							
Motor Spirit	24809	26771	28795	23710	22424	30826	53413
Kerosene Oil	223	283	351	404	346	315	272
Refined Diesel Oil	23131	30412	19048	22513	27146	42464	101177
Diesel Oil (NES)	188	240	247	297	189	289	261
Furnace Oil	2446	2596	3105	2774	2502	1875	1369
Pol. Products (NOS)^	5822	6488	11435	17144	17049	11532	10751
Petroleum Gases	705	896	1372	1654	1613	1998	1898
Cess on crude oil	6688	8860	10357	16402	17331	21054	29652
Total (A)	**64012**	**76546**	**74709**	**84898**	**88600**	**110354**	**198793**
Customs Duties							
Crude Petroleum	1752	13370	5196	844	781	423	456
Petroleum Products	6003	12912	15323	12861	14782	12149	14746
Total (B)	**7755**	**26282**	**20520**	**13704**	**15563**	**12572**	**15202**
Grand Total (A+B)	**71767**	**102828**	**95229**	**98603**	**104163**	**122926**	**213995**
Composite Incidence of Excise & CustomsDuties (₹)	**5208**	**7291**	**6429**	**6278**	**6576**	**7427**	**11588**

P: Provisional

^: Incldues NCCD (National Calamity Contingent Duty)

Source: Central Excise & Customs

Figure VII.1: Realisation of Excise and Customs Duties from Crude Oil and Petroleum Products



VII.2 Royalty and Oil Development Cess Paid by Oil Companies on Production of Crude Oil and Natural Gas

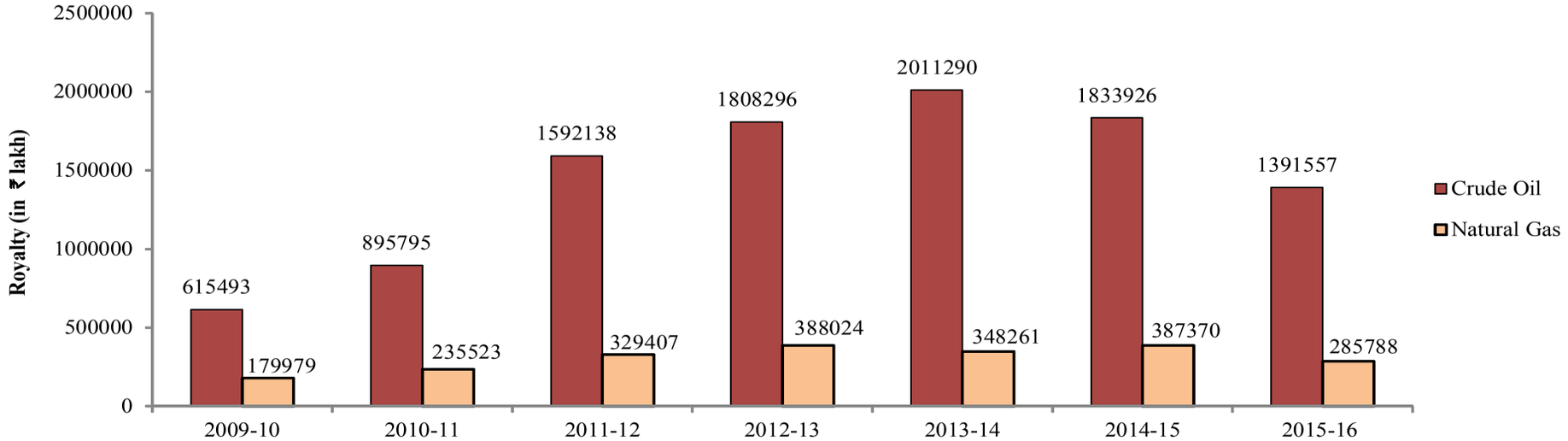
(in ₹ lakh)

Year	Royalty Paid on Crude Oil						Royalty Paid on Natural Gas						Oil Development Cess
	Western Region	Eastern Region	Southern Region	Central Region	Offshore	Total	Western Region	Eastern Region	Southern Region	Central Region	Offshore	Total	
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*
2009-10	177601	161241	18370	-	258281	615493	59187	48819	8349	-	63624	179979	709605
2010-11	450721	142949	16872	11	285242	895795	11108	10741	14157	2889	196628	235523	678260
2011-12	865542	179975	27471	13	519137	1592138	12727	14453	16825	3569	281833	329407	811883
2012-13	1107937	164323	18346	13	517677	1808296	13976	16337	17826	3978	335907	388024	1578373
2013-14	1232582	163619	19188	19	595882	2011290	16737	17412	20066	5039	289007	348261	1607203
2014-15	1144657	141246	40942	31	507050	1833926	20100	20952	16866	7231	322221	387370	1614887
2015-16 (P)	565487	138257	19384	41	668388	1391557	25040	22645	16828	9091	212184	285788	1585356

(P): Provisional

Source: Oil & Natural Gas Corpn. Ltd., Oil India Ltd. and Directorate General of Hydrocarbons.

Figure VII.2: Royalty paid on crude oil and natural gas



VII.3 Sales tax rates applicable on crude oil, natural gas and petroleum products (Contd...) (As on 01.04.2016)

(in Percentage)

State/U.T	Crude Oil	Natural Gas	MS	NAPHTHA	HSD	SKO (PDS)	SKO(IND)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Andhra Pradesh	5	14.50	31% + ₹4 per litre	14.50	22.25% + ₹4 per litre	5	14.50
Arunachal Pradesh	4	20	20	12.50	12.50	4	12.50
Assam	5	14.50	27.50	14.50	16.50	2	12.50
Bihar	5	20	24.5% (surcharge 30% on tax wef 02.02.16)	14.50	18% (surcharge 30% on tax wef 02.02.16)	5	5
Chandigarh	4	5	24.74	5	16.4% (MST ₹ 10 per KL)	5	12.50
Chhattisgarh	5	25	25% + ₹2 per ltr	14.50	25% + ₹1 per ltr	4	14.50
Delhi	5	Nil	27% (wef.18.1.2016)	20	18%, cess ₹250 per kl (wef.18.1.2016)	5	12.50
Goa	5	12.50	22% (Sold by PSU OMC to Auth RO), other 22%	20	22%. (HSD from bond sold to foreign going vessels:- 4%)	5	12.50
Gujarat	4 %, Add tax-1 % on TTO	12.50%, Add tax-2.50% on TTO	24%, cess-4% on turnover	16%, Additional tax 2.50% on TTO	24%, cess-4% turnover	0%*	25%, Addl tax-2.50% on taxable turnover
Haryana	5	12.50%, Add. tax on VAT 5%	25%, Additional tax on VAT 5%	12.50%, Additional tax on VAT 5%	16.40 %, Additional tax on VAT 5% (i.e. 17.22%)	Nil	12.50%, Additional tax on VAT 5%
Himachal Pradesh	4	4	27	5	16	Nil	13.75
J & K	5	5	MST 24.00%, cess ₹3 per Ltr.	13.50	MST 16%, cess ₹1per litre	5	13.50
Jharkhand	5	14	22% on the sale price or ₹15 per litre , which ever is higher + cess of ₹1 per Ltr.	14	22% on the sale price or ₹8.37 per litre, which ever is higher + cess of ₹1 per Ltr.	2	14
Karnataka	Nil	15	30.00	5.50	19.00	6	14.50
Kerala	5	Nil	31.80%, Additional Sales tax ₹1 per litre, SSC 1% on total tax	5	24.52%, Additional Sales tax ₹ 1per litre, SSC 1% on total tax	5	14.50
Madhya Pradesh	5	14	31% + ₹3 per ltr Additional tax	14	27% + ₹1.50 per ltr Additional tax	5	14
Maharashtra	5	13	**	12.50	***	3	12.50
Manipur	5	14	25.00	13.50	14.50	Nil	5.00
Meghalaya	4	14.50	22%, surcharge 2% on tax, partial exemption of ₹0.56 per Ltr withdrawn wef 15.03.2016	14.50	13.50%, surcharge 2% on tax	Nil	14.50
Mizoram	5	14	20.00	13.50	12.00	Nil	Nil

Contd...

VII.3 Sales tax rates applicable on crude oil, natural gas and petroleum products (Contd...)
(As on 01.04.2016)

(in Percentage)

State/U.T	Crude Oil	Natural Gas	MS	NAPHTHA	HSD	SKO (PDS)	SKO(IND)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Nagaland	5%, surcharge on tax 5% wef 16.07.15	5%, surcharge on tax 5% wef 16.07.2015	23.5%, surcharge on tax 5%	13.25	13.5%, surcharge on tax 5%	5%, surcharge on tax 5%	15%, surcharge on tax 5%
Orissa	5	15	26.00	14.50	26.00	exempted	14.50
Puducherry	5	5	15.00	14.50	14.00	Nil	14.50
Punjab	4.5%, surcharge on tax 10%	5.5%, surcharge on tax 10%	28%, surcharge on tax 10%, cess ₹2000 per KL	5.50% surcharge on tax 10.00%	13.4% for Normal and 13% for Branded Fuel. (surcharge on tax : 10%), cess ₹1000 per KL	5.50%, surcharge on tax 10%	13%, surcharge on tax 10.00%
Rajasthan	5	5	30%, cess ₹1500 per KL OMC 5%	5.50	22%, cess ₹1750 per KL OMC 5%	Nil	Nil
Sikkim	4.50	4.50	27%, cess ₹3000 per Kl, Sikkim Consumer Welfare Fund ₹100 per KL	13.50	17.5%, cess ₹2500 per Kl, Sikkim Consumer Welfare Fund ₹100 per Kl	4.50	13.50
Silvassa/Dadar Nagar Haveli	5	13	20.00	20.00	15.00	5	12.50
Tamil Nadu	5	5.00	27.00	5.00	21	5	25.00
Telangana	5	14.50	35.20	14.50	27	5	14.50
Tripura	5	14.50	20.00	14.50	14	Nil	14.50
Uttar Pradesh	4	21% Additional tax on taxable turnover 5 %	26.8% or ₹16.74 per litre whichever is greater	21	17.48% or ₹9.41 per litre whichever is greater	4% Additional tax on taxable turnover 1%	12.50% Additional tax on taxable turnover 2%
Uttarakhand	5	20	25% or ₹17per liter whichever is greater	13.50	"21% or ₹9 per liter whichever is greater plus 50 paise cess per ltr "	Nil	Nil
West Bengal	5	5	25% or ₹13.12/Ltr whichever is higher, cess ₹1000 per Kl, Additional tax on tax 20%, Rebate Available ₹17/Kl.	5	17% or ₹7.70/Litre whichever is higher, cess ₹ .1000 per Kl,Additional tax on tax 20%, Rebate Available ₹ 290/Kl.	Nil	14.50

**:Within Municipal Limits of Thane, Mumbai, Navi Mumbai, Solapur, Amravati, Nagpur, Aurangabad, Nandurbar 26%+₹ 3/ltr, Other ₹25%+₹ 3/Ltr25%+Re1/Ltr for MS and 24.00%, Other ₹ 21% for HSD.

***:Within Municipal Limits of Thane, Mumbai, Navi Mumbai, Solapur, Amravati, Nagpur, Aurangabad, Nandurbar 24.00%+₹ 2/ltr, Other₹ 21%+₹ 2/ltr *:OMC transaction for SKO(PDS) are not exempt as per Hon'ble Gujarat High Court judgement

Contd...

VII.3 Sales tax rates applicable on crude oil, natural gas and petroleum products (Contd...)
(As on 01.04.2016)

(in Percentage)

State/U.T	LPG(Domestic)	LPG (Non Dom)	AUTO LPG	FO	LSHS	LDO	LUBE
(1)	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*
Andhra Pradesh	5	14.50	14.50	14.5% & 5% ^	14.50	22.25% + ₹4 per litre	14.50
Arunachal Pradesh	4	12.50	12.50	12.50	12.50	12.50	4
Assam		9	9	5	14.50	16.50	14.50
Bihar	1	14.50	14.50	14.50	14.50	18% (surcharge 30% on tax wef 02.02.2016)	14.50
Chandigarh	Nil	12.50	12.50	12.50	12.50	16.4% (MST ₹10 per KL)	12.50
Chhattisgarh	Nil	5	14.50	5	14.50	5	14.50
Delhi	Nil	5	5	20	12.50	18% (cess ₹250 per KL wef 16.07.2015)	20% **
Goa	Nil	12.50	12.50	12.50%.*	12.50	22	12.50
Gujarat	4%, Add tax-1.% on taxable turnover	Nil	12.50%, Additional tax 2.50% on TTO	4%, Additional tax 1.00% on TTO	24%, + cess 4%	12.50%, Additional tax 2.50% on TTO	12.50%/15%, Additional tax 2.50% on TTO
Haryana	Nil	12.50%, Additional tax on VAT 5%	12.50%, Additional tax on VAT 5%	12.50%, Additional tax on VAT 5%	12.50%, Additional tax on VAT 5%	16.40%, Additional tax on VAT 5% (wef 16.07.2015)	12.50%, Additional tax on VAT 5%
Himachal Pradesh	4	13.75	13.75	13.75	13.75	16	13.75
J & K	Nil	13.50	13.50	13.50	13.50	MST 16%, cess ₹1 per LTR	13.50
Jharkhand	5	14	14	14	14	18	14
Karnataka	1	14.50	14.50	14.50	14.50	19	14.50
Kerala	5	14.50	14.50	14.50	14.50	41%, Additional tax 15% on tax, SSC 1% on tax+Additional tax	14.50
Madhya Pradesh	5	14	14	14	14	14	14
Maharashtra	3	12.50	12.50	12.50	12.50	12.50	12.50
Manipur	5	13.50	13.50	13.50	13.50	13.50	13.50
Meghalaya	Nil	14.50	14.50	14.50	5	12.5%, surcharge 2% on tax	14.50
Mizoram	1.79	8	8	13.50	13.50	12.00	10
Nagaland	5.00%, surcharge on tax 5% wef 16.07.15	12%, surcharge on tax 5%	12%, surcharge on tax 5%	13.25	4.75	12%, surcharge on tax 5%	12%, surcharge on tax 5%

Contd...

Contd...

VII.3 Sales tax rates applicable on crude oil, natural gas and petroleum products (Contd...)
(As on 01.04.2016)

(in Percentage)

State/U.T	LPG(Domestic)	LPG (Non Dom)	AUTO LPG	FO	LSHS	LDO	LUBE
(1)	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*
Orissa	exempted	14.50	14.50	14.50%, FO & LUBES for intnl bunkering 5%	14.50	20	14.50
Puducherry	1% for DBTL & 0.5% for Non DBTL	14.50	14.50	14.50	14.50	14.50	14.50
Punjab	4%, surcharge on tax 10%	13%, surcharge on tax 10.00%	13%, surcharge on tax 10%	5.50% surcharge on tax 10%	13%, surcharge on tax 10%	13.4% (surcharge on tax 10%)	13%, surcharge on tax 10%
Rajasthan	Nil	14.50	14.50	5.50	5.50	22% (wef 18.12.2014)	14.50
Sikkim	4.50	13.50	13.5% (wef 01.01.2015)	13.5% (wef 01.01.2015)	13.50	17.5%, cess ₹2500 per KL, Sikkim Consumer Welfare Fund ₹100 per KL	13.50
Silvassa/Dadar Nagar Haveli	5	12.50	20	20	Nil	20	12.50
Tamil Nadu	Nil	14.50	14.50	5	5	25	14.50
Telangana	5	14.50	14.50	14.50	14.50	27	14.50
Tripura	1.50	14.50	14.50	14.50	14.50	14.50	14.50
Uttar Pradesh	Nil	12.50% Additional tax on taxable turnover 2%	12.50% Additional tax on taxable turnover 2%	21	21	17.48% or ₹9.41 per litre whichever is greater	21
Uttarakhand	5	13.50	13.50	13.50	13.50	21	20
West Bengal	Nil	5% & cess ₹1000 per MT	14.50	5	14.50	17% or ₹7.70/Litre whichever is higher,Additional tax on tax 20%, Rebate Available ₹290/KL.	14.50

^:When used for Industrial Purpose. *:FO from bond sold to foreign going vessels:-1% **:Petroleum based lube taxable @ 20% and other lubes taxable @ 12.50%)

^^: 4% wef 11.03.2015 for when sold at the Airport in Punjab to Scheduled & Non Scheduled Airlines carrying passengers (surcharge on tax -10%))

VII.3 Sales tax rates applicable on crude oil, natural gas and petroleum products (As on 01.04.2016)

(in Percentage)

State/U.T	ATF (Duty Paid/Bonded)	ATF Declared	ATF (When Sold to Aircraft having maximum take off mass of < 40000 Kgs, operated by scheduled airlines) i.e declared goods under CST Act	BITUMEN	SULPHUR	ASPHALT
(1)	*(16)*	*(17)*	*(18)*	*(19)*	*(20)*	*(21)*
Andhra Pradesh	1	Nil.	1	5	0.05	0.145
Arunachal Pradesh	20	Nil	4	4	0.04	0.125
Assam	22	Nil	5	5	0.05	0.145
Bihar	29% {ATF (Sch.Airlines):- 5% }	29% {ATF (Sch.Airlines):- 5% }	5	5	0.05	0.145
Chandigarh	20% (MST ₹10 per KL)	20	4	5	0.05	0.05
Chhattisgarh	5	5	5	5	0.05	0.05
Delhi	25	Nil.	5	5	0.05	0.125
Goa	18	N.A.	5	5	0.125	0.125
Gujarat	ATF duty paid 30% & 5%	38	4%, Additional tax 1% on TTO	4%, Additional tax 1% on TTO	4%, Addl Tax 1% on TTO	4%, Addl Tax 1% on TTO
Haryana	20%, Additional tax on VAT 5%	Nil.	5	5.00%, Additional tax on VAT 5%	5.00%, Additional Tax on VAT 5%	12.50%, Additional Tax on VAT 5%
Himachal Pradesh	27	27	1	5	0.05	5% #
J & K	GST 20%, surcharge on tax 5%	GST 20%, surcharge on tax 5%	GST 5%	5	0.05	0.05
Jharkhand	A) 4% for non-scheduled airlines B)5% for sch.Airlines	A) 4% for non-scheduled airlines B)5% for sch.Airlines	5	5	0.05	0.14
Karnataka	28	Nil.	5	6	0.145	0.055
Kerala	25%, Additional tax 15% on tax, surcharge 1% on tax & Additional tax	25%, Additional tax 15% on tax, surcharge 1% on tax & Additional tax	5	5	0.05	0.05
Madhya Pradesh	4	4	4	5	0.14	0.05
Maharashtra	ATF - duty paid Mumbai Pune 25%, ATF - duty paid except Mumbai & Pune 5%	30	5	12.50	0.125	0.125

Contd...

VII.3 Sales tax rates applicable on crude oil, natural gas and petroleum products (Contd...)
(As on 01.04.2016)

(in Percentage)

State/U.T	ATF (Duty Paid/Bonded)	ATF Declared	ATF (When Sold to Aircraft having maximum take off mass of < 40000 Kgs, operated by scheduled airlines) i.e declared goods under CST Act	BITUMEN	SULPHUR	ASPHALT
(1)	*(16)*	*(17)*	*(18)*	*(19)*	*(20)*	*(21)*
Manipur	20	Nil	5	5	0.135	0.135
Meghalaya	20.00% + 2% surcharge	Nil	Nil	5	0.05	0.145
Mizoram	20	Nil	4	5	0.05	0.135
Nagaland	20%, surcharge on tax 5%	Nil	5.00%, surcharge on tax 5% (16.07.15)	4.75	0.0475	0.1325
Orissa	5	NA	5	5% w.e.f 18.06.2014	0.145	0.145
Puducherry	14.50	14.50	exempted w.e.f 1.4.15	14.50	0.145	0.145
Punjab	13% ^^	13%^^	4.5%, surcharge on tax 10%	5.5%, surcharge on tax 10%	5.5%, Surcharge on Tax 10%	5.5%, Surcharge on Tax 10%
Rajasthan	"A) 26% B) 5.50% when airlines maintan hub or connect two cities of Rajasthan "	26% (wef 10.09.2015)	5	14.50	0.05	0.145
Sikkim	25%, cess ₹3000 per KL, Sikkim Consumer Welfare Fund ₹100 per KL	NA	4.50	4.50	0.045	0.135
Silvassa/Dadar Nagar Haveli	20	20	NA	5	-	-
Tamil Nadu	29	Nil.	5	5	0.05	0.05
Telangana	16	Nil.	5	5	0.05	0.145
Tripura	18	Nil	5	5	0.05	0.145
Uttar Pradesh	21%, In case of sale to civil aircraft at Agra & Varanasi - 5%	21	4	12.50% Additional tax on taxable turnover 2%	4.00% Additional Tax on Taxable Turnover 1.00%	12.50% Additional Tax on Taxable Turnover 2%
Uttarakhand	20	20	5	5	0.135	0.135
West Bengal	25% + 20% Add. tax on tax. For Bagdogra AFS- nil (No tax)	NA	5	14.50	0.05	0.145

#:CRMB & Polymer modified bitumen fall under redidual category & hence taxable & 13.75%

VII.4 Sales Tax Payments on Crude Oil, Natural Gas and Petroleum Products

(in ₹ Lakh)

State/UTs	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16(P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
1. CRUDE OIL **	**160845**	**149902.2**	**191571**	**175972**	**166179**	**193774**	**201750**
Andhra Pradesh	4601	4461	5706	3946	3751	4456	3055
Assam	37027	37180	55142	50371	49617	49513	44420
Gujarat	36805	25038	38581	27632	10161	23708	41811
Maharashtra	79962	80298	87196	88789	97123	111400	109405
Rajasthan	2	1	0	2	2	18	1
Tamil Nadu	2448	2913	4946	5232	5525	4679	3058
Tripura	0	11	0	0	0	0	0
2. NATURAL GAS	**270331**	**399826**	**472756**	**555772**	**560350**	**598715**	**567415**
Andhra Pradesh	41019	65812	60032	53315	20782	10342	13569
Assam	6800	9701	12630	14079	14493	20432	24650
Delhi	518	841	1315	1846	2589	2823	2379
Gujarat	107475	150976	167178	195769	208437	227082	210325
Haryana	2884	5054	8778	12692	12785	14565	13344
Jharkhand	2	12	34	33	52	31	24
M.P	14334	20168	30257	30154	21469	20108	19540
Maharashtra	31602	40093	53705	73534	112248	123598	113811
Punjab	0	0	0	2120	14532	10288	6443
Rajasthan	5347	3889	6928	9516	9427	11602	12496
Tamil Nadu	1815	2935	4516	5087	6205	6663	5807
Tripura	1559	3070	3888	4070	4447	5340	5908
Uttar Pradesh	56976	97275	123495	153337	132360	145074	138085
Uttarakhand	0	0	0	220	524	766	1033
3. POL PRODUCTS	**5963688**	**7521157**	**9373208**	**10412080**	**12069214**	**12821245**	**13524638**
Andhra Pradesh	619049	743946	933223	1062576	1224168	854598	753149
Arunachal Pradesh	2264	3172	4245	3934	5396	5724	5450
Assam	86440	96659	118716	132923	161998	163213	171259
Bihar	181060	222074	277753	312935	398250	395302	543459
Chhattisgarh	110959	140873	172423	199967	241499	266494	263732
Delhi	153576	191044	241467	256703	312447	280513	317137
Goa	43405	47027	57382	37848	38868	47814	53429
Gujarat	339089	499437	645986	699234	877642	968617	943085
Haryana	212531	277870	340734	383128	451103	497026	581574
Himachal Pradesh	13949	16697	14895	16410	20464	23475	26308
Jammu & Kashmir	45860	59026	74731	84522	95383	95387	100682
Jharkhand	76023	111601	125325	148857	183789	208805	249496
Karnataka	456082	572576	701865	809514	908367	1019404	1016774
Kerala	289477	353718	410434	459857	518204	539872	608632
Madhya Pradesh	284607	380657	438540	439357	527917	576756	670965
Maharashtra	889120	1101417	1338852	1537916	1731039	1759558	1733694
Manipur	3581	4166	7625	8238	10178	11676	11480
Meghalaya	5616	2582	401	197	277	221	162
Mizoram	2340	3178	4422	6084	4440	5754	5323
Nagaland	2895	4187	5451	5914	6400	8270	8005

Contd...

VII.4 Sales Tax Payments on Crude Oil, Natural Gas and Petroleum Products (Contd...)

(in ₹ Lakh)

State/UTs	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16(P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Odisha	135674	173444	199039	220775	269349	304673	322423	
Puducherry	662	937	1344	1871	2912	2483	1901	
Punjab	199032	253422	281192	286858	309983	341055	385749	
Rajasthan	322105	397050	473367	528079	655914	765557	867286	
Sikkim	2107	3639	4308	4788	6579	7366	9794	
Tamil Nadu	601613	768458	924391	1128082	1230215	1230951	1101065	
Telangana						453793	637761	
Tripura	6098	6408	10020	12082	11806	12718	13820	
Uttar Pradesh	525464	652311	1073199	1051785	1185145	1281102	1398925	
Uttarakhand	48410	64676	72630	81118	104744	115341	121474	
West Bengal	294345	360869	411487	478612	550546	550603	578795	
Union Territories								
Chandigarh	8779	7556	6932	7030	7479	8436	7586	
Andaman & Nicobar (Portblair)	0	0	0	4063	5490	4845	0	
Dadra & Nagar Haveli	1476	479	829	822	6121	8643	9164	
Daman & Diu	#	#	#	#	5100	5200	5100	
Grand Total (1+2+3)	**6394864**	**8070885**	**10037535**	**11143823**	**12795743**	**13613734**	**14293803**	

P: Provisional # included in Dadra & Nagar Haveli

**: Includes Condensate sales tax payment.

VII.5 Central Excise and Customs Tariff as on 1.4.2016

Name of the Product		CUSTOMS			CENTRAL EXCISE		
		"Basic Customs Duty"	Additional Customs Duty (CVD)	Additional Customs Duty	"Basic Cenvat Duty"	Special Addition-al Excise Duty	Additional Excise Duty
Crude Petroleum		NIL + ₹ 50/MT as NCCD			"Nil+ Cess @ 20% ₹50/ MT as NCCD"		
Motor Spirit		2.5%	₹9.48/ltr. + ₹6 / ltr SAD	₹6/ltr.	₹9.48/ltr	₹6/ltr.	₹6/ltr.
Motor Spirit (branded)		-	-	-	₹10.66/ltr	₹6/ltr.	₹ 6/ltr.
High Speed Diesel		2.5%	₹11.33/ltr	₹6/ltr.	₹11.33/ltr	Nil	₹ 6/ltr.
High Speed Diesel (branded)		-	-	-	₹13.69/Ltr	Nil	₹ 6/ltr.
LPG	Domestic	Nil	Nil	Nil	Nil	Nil	Nil
	Non - Domestic	5%	8%	Nil	8%	Nil	Nil
Kerosene	PDS	Nil	Nil	Nil	Nil	Nil	Nil
	Non PDS	5%	14%	Nil	14%	Nil	Nil
Aviation Turbine Fuel		Nil	14%*	Nil	14%*	Nil	Nil
Naphtha	Non- Fertilizer	5%	14%	Nil	14%	Nil	Nil
	Fertilizer	Nil	Nil	Nil	Nil	Nil	Nil
Bitumen & Asphalt		5%	14%	Nil	14%	Nil	Nil
Furnace Oil	Fertilizer	Nil	Nil	Nil	Nil	Nil	Nil
	Non- Fertilizer	5%	14%	Nil	14%	Nil	Nil
Light Diesel Oil		5%	14% + ₹2.50/ Ltr	Nil	14% + ₹2.50/ Ltr	Nil	Nil
Liquified Natural Gas		5%	Nil	Nil	Nil	Nil	Nil
Low Sulphur Heavy Stock/ HPS & other Res.	Fertilizer	5%	Nil	Nil	Nil	Nil	Nil
	Non- Fertilizer	5%	14%	Nil	14%	Nil	Nil
Lube oil/greases		5%	14%	Nil	14%	Nil	Nil
Natural Gas (Gaseous state)		5%	Nil	Nil	Nil	Nil	Nil
Petroleum Coke		2.5%	14%	Nil	14%	Nil	Nil
Petroleum Jelly		5%	14%	Nil	14%	Nil	Nil
Waxes all types		5%	14%	Nil	14%	Nil	Nil

Note:

1. Additional Duty of Customs @4% would be levied in lieu of sales tax/VAT except petrol, diesel, SKO(PDS), LPG(Dom), coal, coke and petroleum gases and fuels of Chapter 27 on direct imports for consumption.
2. In addition to above, Education Cess @2% on aggregate duties is charged w.e.f. 9.7.2004 and additional 1% is charged w.e.f. 1.3.2007.
3. Education cess has been removed on Excise duty effective 1st March 2015.
4. *8% for supply to Scheduled Commuter Airlines (SCA) from the regional connectivity scheme (RCS) airports.

Source : IOCL & PPAC

CHAPTER VIII: MANPOWER



Chapter Highlights

- Total manpower employed in oil and gas sector CPSEs at 1,10,675 (as on 31.03.2016) has been almost stagnant over the years.
- Exploration & production vertical accounted for the highest manpower deployment (30%) followed by marketing (28%) and refinery (23%) as on 31.03.2016.
- Executive/Managerial categories employed the highest proportion of manpower (54%) followed by Workmen (31%), Supervisory (9%) and Clerical (6%) accounted for the balance during 2015-16.
- ONGC and IOCL in 2015-16 together accounted for over 60% of the total manpower employed in the oil & gas CPSEs.

VIII.1 Sector-wise manpower employed in oil & gas CPSEs in India

(in Number)

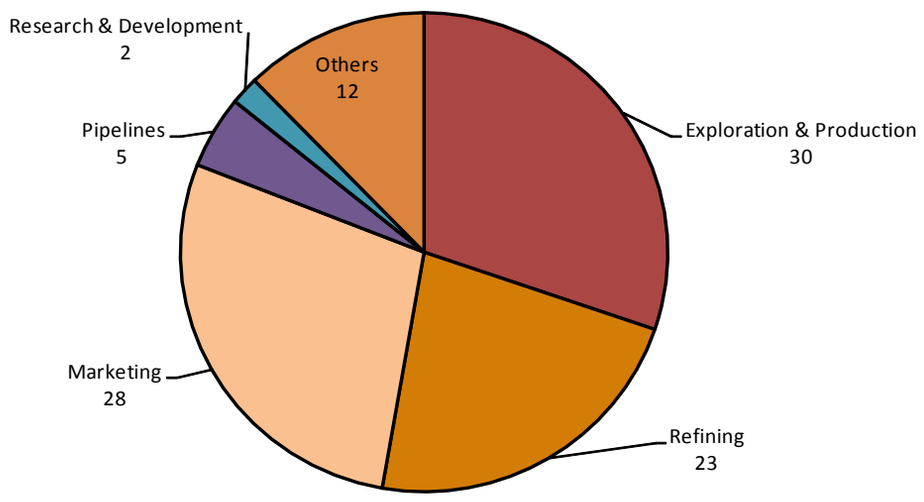
Category	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
1. Exploration & Production	31617	32170	31823	31701	32388	32850	33451
2. Refining	26134	26335	26174	25988	25689	25233	24939
3. Marketing	32855	32426	32492	32732	32220	31094	31204
4. Pipelines	4567	4713	4653	4438	4985	5087	5421
5. Research & Development	2124	1967	1959	1943	2015	2126	2090
6. Others	16140	16225	16095	15969	15751	14329	13570
Grand Total	**113437**	**113836**	**113196**	**112771**	**113048**	**110719**	**110675**

Notes:

1. The figures are as on 31st March of each year.
2. Figures for previous years have been revised and exclude 'Expatriates/Foreign Experts/on Contract' manpower

Source: Central Public Sector Enterprises

Figure VIII.1: Sectoral manpower (in %) employed in oil & gas CPSEs (as on 31.03.2016)



VIII.2 Category-wise manpower employed in oil & gas CPSEs in India

(in Number)

Category	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Executive/Managerial	54583	58555	59187	59472	60571	59598	59728
Supervisory	11303	11422	11367	11162	10773	10407	9837
Clerical	13172	8122	8033	7684	7218	7036	6506
Workmen	34379	35737	34609	34453	34486	33678	34604
Grand Total	**113437**	**113836**	**113196**	**112771**	**113048**	**110719**	**110675**

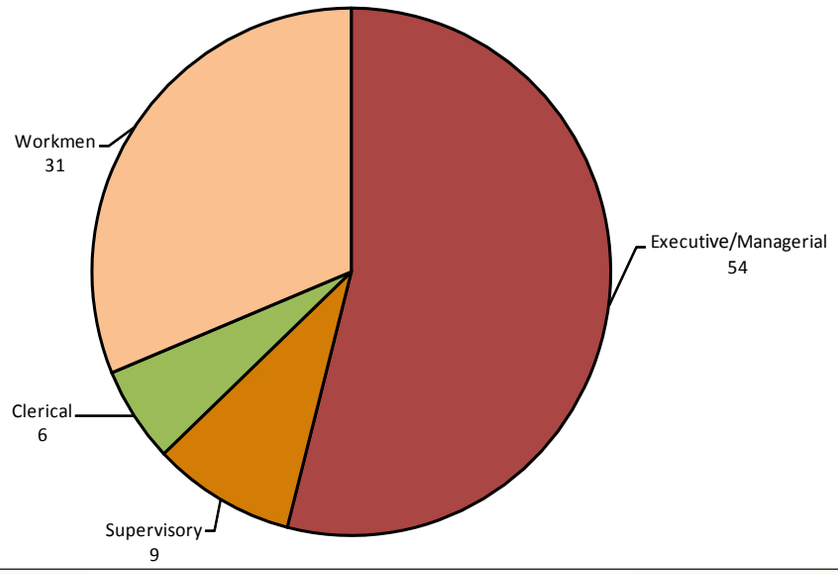
Notes:

1. The figures are as on 31st March of each year.

2. Figures for previous years have been revised and exclude 'Expatriates/Foreign Experts/on Contract' manpower

Source: Central Public Sector Enterprises

Figure VIII.2: Category-wise manpower (in %) employed in oil & gas CPSEs (as on 31.03.2016)



VIII.3 Category-wise manpower employed in select sectors of oil & gas CPSEs in India

(in Number)

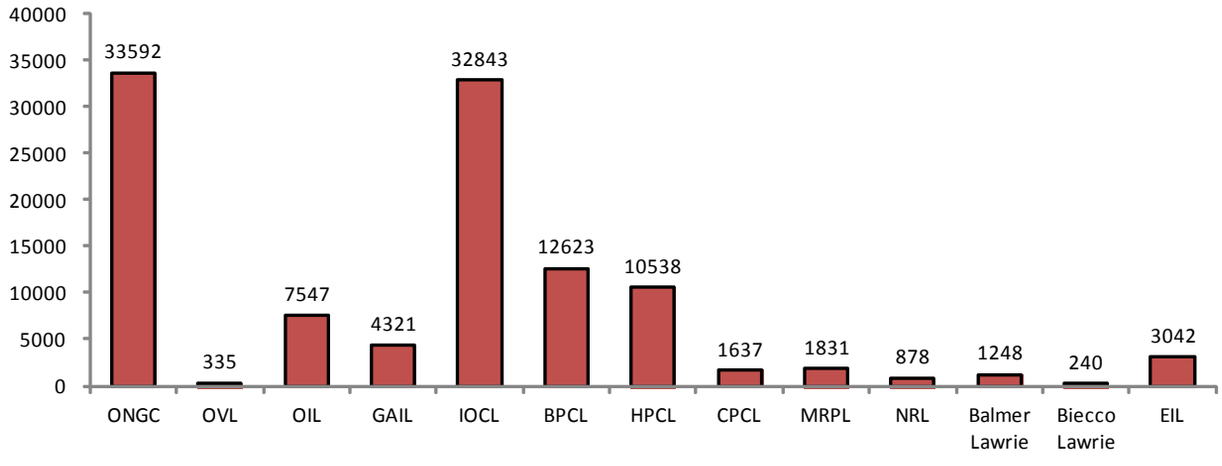
Category	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Exploration and Production							
1. Executive/Managerial	18909	21777	21270	20991	20940	20785	20253
2. Supervisory	2775	2835	2826	2702	2540	2538	2321
3. Clerical	4944	727	1045	349	330	475	545
4. Workman	4989	6831	6682	7659	8578	9052	10332
Total	**31617**	**32170**	**31823**	**31701**	**32388**	**32850**	**33451**
Refining							
1. Executive/Managerial	9528	9715	9735	9918	10028	10080	10212
2. Supervisory	3629	3638	3673	3596	3491	3371	3147
3. Clerical	2015	1792	1902	1813	1645	1580	700
4. Workman	10962	11190	10864	10661	10525	10202	10880
Total	**26134**	**26335**	**26174**	**25988**	**25689**	**25233**	**24939**
Marketing							
1. Executive/Managerial	12475	13138	13875	13993	14762	14642	15088
2. Supervisory	3032	3061	3160	3168	3113	3101	1305
3. Clerical	3668	3929	3872	3720	3521	3334	4107
4. Workman	13680	12298	11585	11851	10824	10017	10704
Total	**32855**	**32426**	**32492**	**32732**	**32220**	**31094**	**31204**

Notes:

1. The figures are as on 31st March of each year.
2. Figures for previous years have been revised and exclude 'Expatriates/Foreign Experts/on Contract' manpower

Source: Central Public Sector Enterprises

Figure VIII.3: Total manpower employed in oil & gas CPSEs (as on 31.03.2016)



CHAPTER IX: ENERGY



Chapter Highlights

- Production of petroleum products was 231.92 MMT during 2015-16, which is 4.9% higher than the production in 2014-15 (221.14MMT).
- Natural Gas Production during 2015-16 was 32.25 BCM, which is 4.2% less than the production in 2014-15(33.66 BCM)
- Coal production in the country during the year 2015-16 was 637.81 MMT as compared to 609.18 MMT in 2014-15, registering a growth of 4.7%.
- Gross Electricity Generation which increased from 1.279 billion GWh in 2014-15 to 1.352 billion GWh in 2015-16 achieved growth rate of 5.7%.
- Gross Value Added (at constant prices) by petroleum and natural gas in Economic activity was ₹257801 crore in 2014-15 as compared to ₹243800 crore in 2013-14, registering a growth of 5.7%.

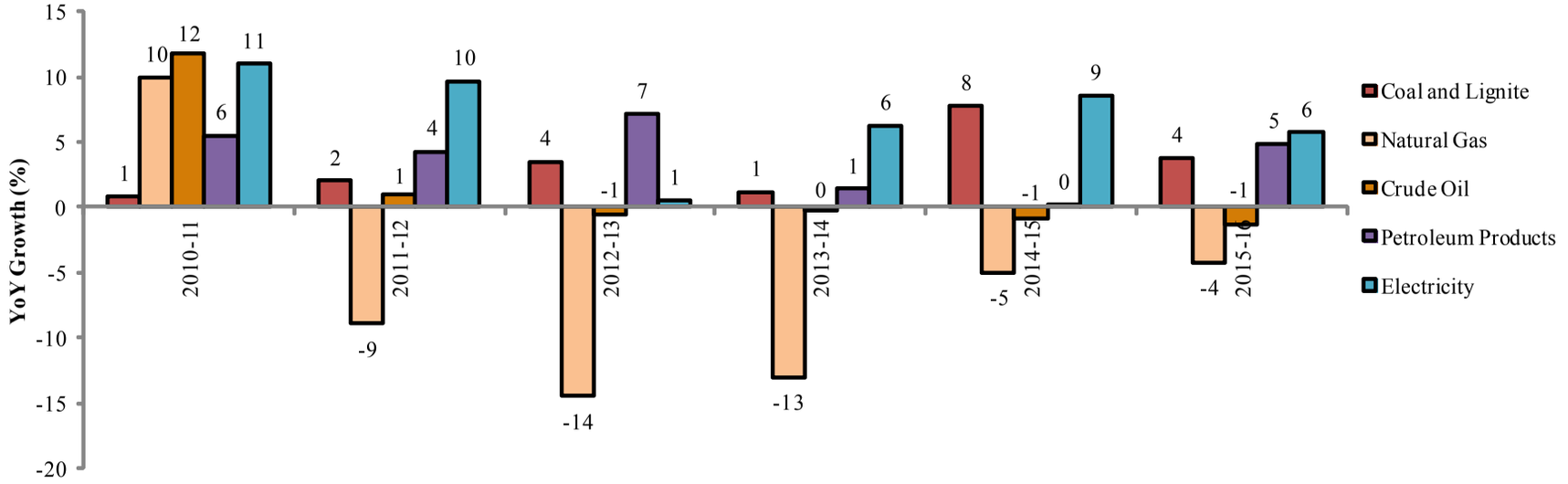
IX.1 Gross Production of Energy by Various Sources in India

Year	Coal & Lignite			Hydro-Carbon			Power					
							Utilities				Non Utilities	Gross Electricity Generation
	Coal	Lignite	Total	Natural Gas	Crude Oil	Petroleum Products	Thermal	HYdel	Nuclear	RES		
	(Million Tonnes)			(MMSCM)	(TMT)		(GWh)					
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*
2009-10	532.04	34.07	566.11	47496	33690	184610	677100	104100	18600	-	106100	905900
2010-11	532.70	37.73	570.81	52219	37684	194821	704300	114416	26266	39245	120917	1005143
2011-12	539.95	42.33	582.28	47559	38090	203202	759400	130510	33300	51226	128200	1102636
2012-13	556.40	46.45	602.85	40679	37862	217736	760454	113720	32866	57449	144010	1108499
2013-14	565.77	44.27	610.04	35407	37788	220756	792477	134848	34228	59615	156843	1178010
2014-15	609.18	48.27	657.45	33657	37461	221136	877941	129244	36102	73563	162057	1278907
2015-16(P)	637.87	44.44	682.31	32249	36950	231924	943788	121377	37414	65781	183612	1351971

P: Provisional

Source : Economic Survey, M/o Coal, M/o Power and CEA.

Figure IX.1: YoY growth in energy production by various sources in India



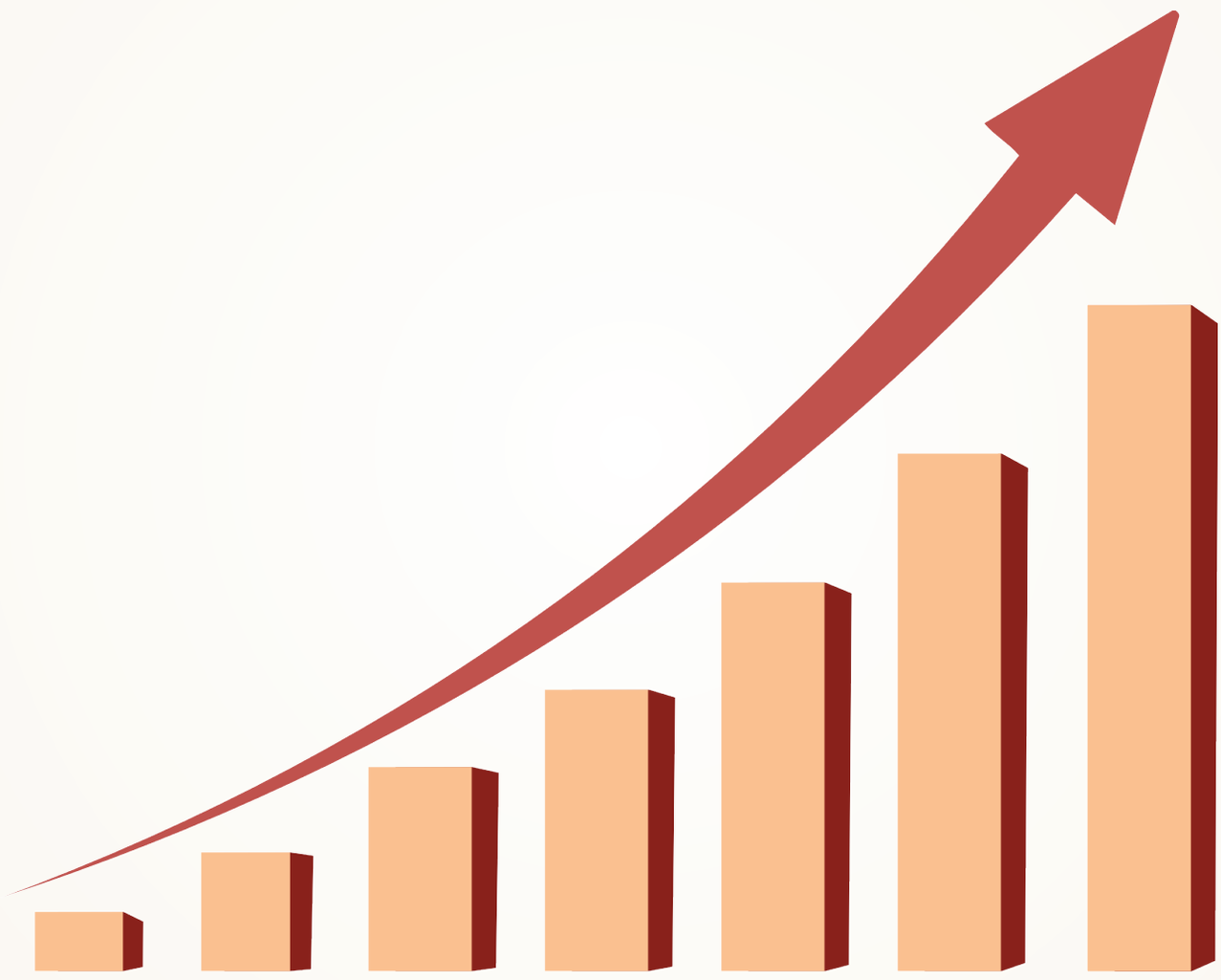
IX.2 Gross Value Added at basic prices by Economic Activity

(in ₹ crore)

Sectors	2011-12	2012-13	2013-14	2014-15	2011-12	2012-13	2013-14	2014-15
	at Current Prices				at Constant Prices (2011-12)			
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
1. (a) Petroleum & Natural Gas	94476	111425	120395	110167	94476	103045	102959	116088
(b) Manufacture of coke and refined petroleum products	78462	148584	164945	162151	78462	137254	140841	141714
(c) Total	172938	260009	285340	272318	172938	240298	243800	257801
2. Railways	61150	72297	78799	92213	61150	68958	73100	78752
3. Transport by other means	337347	388058	426422	480548	337347	360009	381628	406560
4. Storage	5108	6165	6164	7409	5108	5709	5256	6137
5. Communication & Services related to broadcasting	125930	142969	179782	207959	125930	134534	158771	179465
6. Electricity	145194	168206	200213	227406	145194	148674	154022	166571
7. Gas	14666	15652	16868	14896	14666	14271	14134	12974
8. Water Supply	14710	17653	22201	27478	14710	16041	18443	21568
9. Other Utility Services	12098	14027	16529	19155	12098	12890	14262	15857
10. GVA at basic prices	8106656	9210023	10380813	11472409	8106656	8546552	9084369	9727490
11. Contribution of P& NG in total GVA at basic prices	**2.13**	**2.82**	**2.75**	**2.37**	**2.13**	**2.81**	**2.68**	**2.65**
Growth Rate (%)								
1. (a) Petroleum & Natural Gas	-	17.94	8.05	-8.50	-	9.07	-0.08	12.75
(b) Manufacture of coke and Refined Petroleum products	-	89.37	11.01	-1.69	-	74.93	2.61	0.62
(c) Total	-	50.35	9.74	-4.56	-	38.95	1.46	5.74
2. Railways	-	18.23	8.99	17.02	-	12.77	6.01	7.73
3. Transport by other means	-	15.03	9.89	12.69	-	6.72	6.01	6.53
4. Storage	-	20.71	-0.02	20.20	-	11.77	-7.93	16.77
5. Communication & Services related to broadcasting	-	13.53	25.75	15.67	-	6.83	18.02	13.03
6. Electricity	-	15.85	19.03	13.58	-	2.40	3.60	8.15
7. Gas	-	6.72	7.77	-11.69	-	-2.69	-0.96	-8.21
8. Water Supply	-	20.01	25.76	23.77	-	9.05	14.97	16.94
9. Other Utility Services	-	15.94	17.84	15.89	-	6.55	10.64	11.18
10. GVA at basic prices	-	13.61	12.71	10.52	-	5.43	6.29	7.08

Source:Central Statistics Office, MoSPI

CHAPTER X: PLAN PERFORMANCE



Chapter Highlights

- Plan outlay from Internal and Extra Budgetary Resources (Budget Estimate) for petroleum and natural gas sector is at ₹77600.42 crore in 2016-17, which is 3.2% higher than that for the year 2015-16.
- The dividend paid by Oil & gas CPSEs under the Ministry of Petroleum and Natural Gas, to the Government of India for the year 2015-16 (₹16507.21 crore), registered an increase of 12.65% over the dividend paid in 2014-15 (₹14652.99 crore).
- Net Profit earned by CPSEs during the year 2015-16 was ₹43779.65 crore which was around 16% higher as compared to 2014-15. Indian Oil Corporation Ltd achieved the highest net profit increase (97.2%) in 2015-16 over 2014-15.

X.1 12th Five Year Plan Outlay & Actual Expenditure for P&NG Sector

(in ₹ crore)

CPSEs	2012-13			2013-14			2014-15			2015-16			Cumulative Expdtr. (2012-13 to 2015-16)	2016-17
	BE	RE	Actual	BE	RE	Actual	B E	RE	Actual	BE	RE	Actual		BE
(1)	*(2)*	*(3)*	*(4)*	*(6)*	*(7)*	*(8)*	*(10)*	*(11)*	*(12)*	*(14)*	*(14)*	*(15)*	*(16)*	*(17)*
I&EBR by CPSEs														
OVL	7909.90	13140	10891.41	9491.88	36117.46	35357	14792	10147	7171.55	10402	8488	6782.96	60202.92	14843
ONGC	33065.31	33577	29507.91	35049.23	35049.06	32469.54	36059.07	34813.22	29997.46	36249.37	31467.45	30110.43	122085.34	29307.20
OIL	3378.29	3069.52	2890.03	3580.99	10439	9350.97	3632	3529.44	3773.76	3917.64	3537.27	3622.25	19637.01	4019.71
GAIL	9447.27	6738.77	5962	7511.50	5481.93	4069.78	3104.62	2131.52	1632.18	2704.51	1799.17	1511.75	13175.71	1637.03
IOCL	10000	10000	9378.11	11276.76	11826.00	16660.61	11375	9367	14313.68	10540	11502.91	11484.74	51837.14	13772.87
HPCL	3467.43	3354	2883.65	4081.44	2754.67	2641.87	3773.33	1801.64	2669.61	1791.85	1539.78	1430.09	9625.22	1974.26
BPCL	4479	3546	3829.59	4747.74	3618	4373.58	5250	5793.50	6874.75	6501.32	7250	8287	23364.92	10597
MRPL	6817	2847.47	2248.55	2524.48	1542.84	1448.74	1300.15	1880	2747.36	1564.00	1213.77	1502.03	7946.68	169.35
CPCL	785.68	279.38	260.56	299.27	192	228.60	1102	617	465.90	1300.03	1250	1272	2227.06	1073
NRL	272	225	160.60	368.88	293	372.14	177.65	111	102.77	115	104	70.27	705.78	157
BALMER LAWRIE	55	55	67.28	70	70	119.55	62	158	79.79	100	100	45.37	311.99	50
BIECCO LAWRIE	8	8	0	7	7	0	7	0	0	0	0	0	0	0
Total (I&EBR)	**79684.88**	**76840.14**	**68079.69**	**79009.17**	**107390.96**	**107092.38**	**80634.82**	**70349.32**	**69828.81**	**75185.72**	**68252.35**	**66118.89**	**311119.77**	**77600.42**
Gross Budgetary Support Schemes (GBS)														
1. Rajiv Gandhi Instt. of Petroleum Technology (RGIPT)	41	10	0	41	15	0	42	1	0	48	48	48	48	47
2. Strategic Storage Programme for Storage of Crude Oil by ISPRL	1	0	0	1	0	0	1	2400	0	1	1153	1153	1153	1
3. ISPLR Phase-II (Construction of caverns)	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4. Setting up Petroleum University in Andhra Pradesh	0	0	0	0	0	0	0	1	0	1	1	0	0	1
5. LPG Connections to BPL Households **	1	0	0	1	0	0	0	0	0	0	0	0	0	0
6. Scheme for LPG Connection to Poor Households -PMUY (Ujjwala)	0	0	0	0	0	0	0	0	0	0	0	0	0	2000
Total (GBS)	**43**	**10**	**0**	**43**	**15**	**0**	**43**	**2402**	**0**	**50**	**1202**	**1201**	**1201**	**2050**
Total (I&EBR & GBS)	**79727.88**	**76850.14**	**68079.69**	**79052.17**	**107405.96**	**107092.38**	**80677.82**	**72751.32**	**69828.81**	**75235.72**	**69454.35**	**67319.89**	**312320.77**	**79650.42**

Note

1. IOCL proposed ₹ 10540 crore in BE as IEBR for 2015-16
2. Due to printing typographic error, Plan outlay for CPCL for 2015-16 has been printed ₹2230.90 crore in Budget Document - 2015-16 against their proposal of ₹1300 crore. This has been taken up by IFD, M/oPNG with the Department of Economic Affairs, M/o Finance
3. RE for OVL for 2014-15 proposed to M/o PNG ₹10147 crore instead of ₹12387 crore, printed in Budget Document for 2015-16.

** It has since been decided (at RE stage in 2013-14) that the scheme on LPG Connections to BPL Families would not be taken from the GBS and funds would be provided from CSR funds of CPSEs in the P&NG Sector.

X.2 Dividend paid/payable by CPSEs under the Ministry of Petroleum and Natural Gas

(in ₹ crore)

Name of Company	Dividend paid to Govt by CPSEs				
	2011-12	2012-13	2013-14	2014-15	2015-16
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Oil & Natural Gas Corp. Ltd.	8342	8128	8127.72	8128	7272.18
Oil India Ltd.	1142.15	1803.41	1292.45	1202.28	961.82
GAIL (INDIA) Ltd.	1104	1218	1319.21	761	698
Indian Oil Corp. Ltd.	1213.98	1505.33	2112.32	1602.45	3399.13
Hindustan Petroleum Corp. Ltd.	287.83	287.83	524.87	829.64	1168.26
Bharat Petroleum Corp. Ltd.	397.70	795.39	1229.24	1627	2241.56
Engineers India Ltd.	202.15	202.16	219.01	168.47	134.76
Chennai Petroleum Corp. Ltd.	29.78	0	0	0	59.56
Biecco Lawrie Ltd.	0	0	Nil	Nil	Nil
Balmer Lawrie Ltd.	45.6	50.16	51.30	39.9	57
Numaligarh Refinery Ltd.	73.56	73.56	117.70	294.25	514.94
Mangalore Refinery & Petrochemicals Ltd.	203.69	0	Nil	Nil	Nil
ONGC Videsh Ltd.	0	0	Nil	Nil	Nil
Total	**13042.44**	**14063.84**	**14993.82**	**14652.99**	**16507.21**

Source: Ministry of Petroleum and Natural Gas

X.3 Equity Capital of CPSEs under the Ministry of Petroleum and Natural Gas

(in ₹ crore)

Name of the CPSE	2015-16		
	Authorised Capital	Paid up Capital	Govt. equity in the CPSEs
(1)	*(2)*	*(3)*	*(4)*
Oil & Natural Gas Corp. Ltd.	15000	4277.76	68.93
Oil India Ltd.	2000	601.14	67.64
GAIL (INDIA) Ltd.	2000	1268.48	56.11
Indian Oil Corp. Ltd.	6000	2427.95	58.57
Hindustan Petroleum Corp. Ltd.	350	338.63	51.11
Bharat Petroleum Corp. Ltd.	2500	723.08	54.93
Engineers India Ltd.	300	168.47	69.37
Chennai Petroleum Corp. Ltd.	1400	1149	Nil *
Biecco Lawrie Ltd.	75	74.76	32.23
Balmer Lawrie Ltd.	60	28.50	Nil **
Numaligarh Refinery Ltd.	1000	735.63	12.35
Mangalore Refinery & Petrochemicals Ltd.	2000	1752.60	Nil
ONGC (Videsh) Ltd.	25000	10000	Nil ^
Total	**57685**	**23546.00**	

* Consequent to transfer by Government of India of its entire shareholding (7,72,65,200 shares representing 51.89% of Equity Share Capital) in favour of IOCL, effective 29/03/2001)

** There is no direct holding by Government of India in Balmer Lawrie & Co. Ltd. (BL). Balmer Lawrie Investments Ltd. (BLIL), a Government Company holds 61.8% of equity shares in BL. President of India holds 59.67% in BLIL.

^ 100% Subsidiary of ONGC

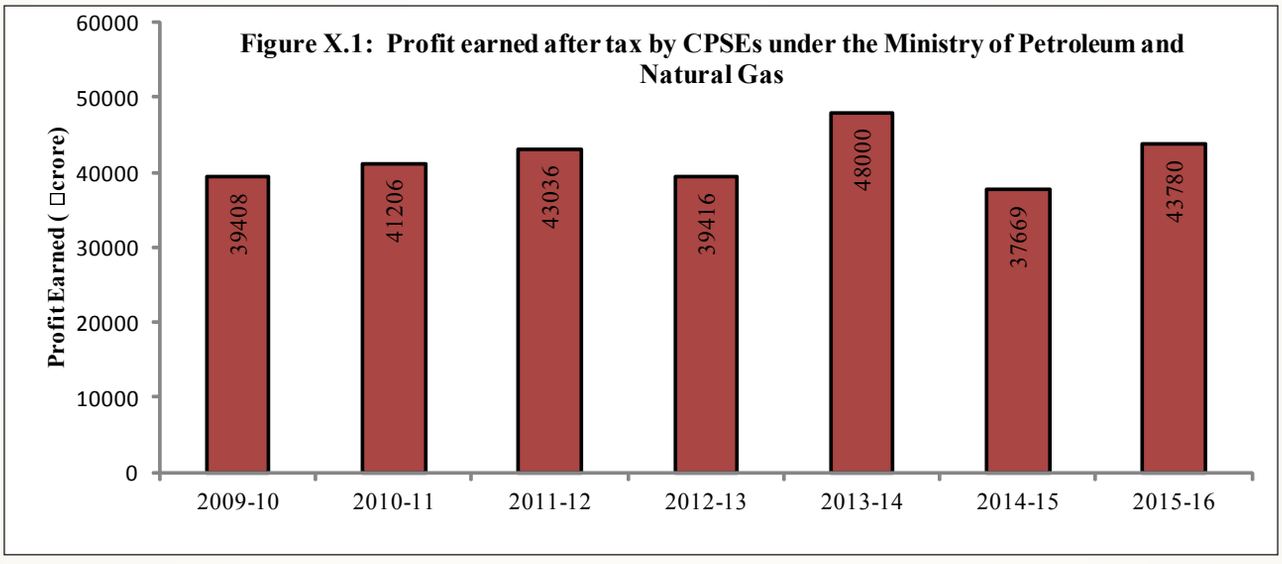
Source: Ministry of Petroleum and Natural Gas

X.4 Profit earned after tax by CPSEs under the Ministry of Petroleum and Natural Gas

(in ₹ crore)

Name of CPSEs	Profit after tax during						
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Indian Oil Corporation Ltd.	10221	7445.48	3954.62	5005.17	7019.09	5273.03	10399.03
Bharat Petroleum Corporation Ltd.	1536	1546.48	1311.27	2642.9	4060.88	5085	7431.88
Hindustan Petroleum Corporation Ltd.	1301	1539.01	911.43	904.71	1733.77	2733.26	3862.74
Oil & Natural Gas Corporation Ltd.	16126	18924	25123	20926	22094.81	17733	16003.65
Oil India Ltd.	2611	2888	3446.92	3589.34	2981.30	2510.20	2330.11
GAIL (India) Ltd.	3140	3561	3654.00	4022	4375.27	3039.00	2299
Engineers India Ltd.	436	522.52	636.32	628.58	479.76	307.98	258.31
Chennai Petroleum Corporation Ltd.	603	511.52	61.83	-1766.84	-303.85	-38.99	770.68
Biecco Lawrie Ltd.	-	3.75	-15.27	-14.74	-15.08	-15.7	-15.9
Balmer Lawrie Ltd.	-	117.80	138.07	162.77	156.67	132	163.2
Numaligarh Refineries Ltd.	232	279.26	183.70	144.26	371.09	718.31	1222.34
Mangalore Refinery & Petrochemicals Ltd.	1112	1176.63	908.58	-756.91	601.18	-1712.23	1148.16
ONGC (Videsh) Ltd.	2089.58	2690.55	2721.15	3929.14	4445.32	1904.22	-2093.55
Total	**39407.58**	**41206**	**43035.62**	**39416.38**	**48000.21**	**37669.08**	**43779.65**

Source: Ministry of Petroleum and Natural Gas



X.5 Performance of CPSEs under the Ministry of Petroleum and Natural Gas during 2015-16

(in ₹ crore)

Performance Parameters	Unit	ONGC	OVL	IOCL	GAIL	HPCL	OIL	BPCL	CPCL	MRPL	NRL	EIL	Balmer Lawrie	Biecco Lawrie
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*
Authorised Capital	₹ crore	15000	25000	6000	2000	350	2000	2500	1400	3000	1000	300	60	75
Paid up Capital	₹ crore	4277.8	10000	2428	1268.5	338.6	601.1	723.1	1149.0	1752.6	735.6	168.5	28.5	74.8
Govt. equity in the CPSE	% age	68.93	Nil ^	58.57	56.11	51.11	67.64	54.93	Nil*	Nil	12.35	59.37	Nil**	32.23
Gross Turnover	₹ crore	78565.2	12542.9	399579.4	52089	197744.3	9764.9	217805.8	34953.4	50864.2	11925.4	1495.8	2895.0	19.2
PAT	₹ crore	16003.7	-2093.6	10399	2299	3862.7	2330.1	7431.9	770.7	1148.2	1222.3	258.3	163.2	-15.9
Debt equity ratio	Ratio	-	0.94	0.71:1	0.27:1	0.95:1	0.41:1	0.59	1.08	1.24	0.13	Nil	Debt free	0.60
Reserves & Surpluses	₹ crore	147574.9	29981.6	71520.8	29316	18017.1	22316.2	26435.6	2147.7	4667.8	3221.9	2496.6	968.8	-121.8
Networth	₹ crore	151022.6	39981.6	73948.7	30314	18356.1	22301.8	27158.7	3296.7	6420.4	3957.6	2665.0	997.3	-47.1
Dividend paid / payable	₹ crore	7272.2	Nil	3399.1	698	1168.3	961.8	2241.6	59.6	Nil	514.9	134.8	57.0 #	Nil
Dividend as a %age of Equity	% age	170	Nil	140	55	345	160	310	40	Nil	70	80	200	Nil
Dividend as a %age of PAT	% age	45.44	Nil	32.69	30	30.24	41.28	30.16	8.00	Nil	42.00	52.17	34.93	Nil
EPS	₹	18.7	-20.9	42.8	18	114.1	38.8	102.8	49.0	6.6	16.6	7.7	57.3	-2.1
Payout Ratio	% age	45.44	Nil	32.69	30	30.24	41.28	30.16	18.91	Nil	0.42	52.17	34.93	Nil
Total outstanding loan	₹ crore	-	37974.4	52469.2	8118	21336.8	9198.8	15975.8	3560.5	8100.3	497.9	Nil	Nil	19.8

*: Consequent to transfer by Government of India of its entire shareholding (7,72,65,200 shares representing 51.89% of Equity Share Capital) in favour of IOCL, effective 29/03/2001)

** There is no direct holding by Government of India in Balmer Lawrie & Co. Ltd. (BL). Balmer Lawrie Investments Ltd. (BLIL), a Government Company holds 61.8% of equity shares in BL. President of India holds 59.67% in BLIL. #: Proposed ^: 100% Subsidiary of ONGC

Source: Ministry of Petroleum and Natural Gas

X.6 Estimates of Crude Oil Production in 12th Plan (2012-17)

(in MMT)

Company	Projected Crude Oil Production in 12th Plan						Actual Crude Oil Production			
	2012-13	2013-14	2014-15	2015-16	2016-17	Total	2012-13	2013-14	2014-15	2015-16
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*
ONGC	25.045	28.270	28.002	26.286	25.456	**133.059**	22.561	22.246	22.264	22.368
OIL	3.920	4.000	4.060	4.160	4.200	**20.340**	3.661	3.466	3.412	3.226
Pvt/JV	13.340	13.300	12.700	12.100	11.500	**62.940**	11.640	12.076	11.785	11.356
Total	**42.305**	**45.570**	**44.762**	**42.546**	**41.156**	**216.339**	**37.862**	**37.788**	**37.461**	**36.950**

Source: Report of the Working Group on Petroleum and Natural Gas Sector for the 12th Five Year Plan

X.7 Estimates for Natural Gas Production in 12th Plan (2012-17)

(in BCM)

Company	Projected Natural Gas Production in 12th Plan						Actual Natural Gas Production			
	2012-13	2013-14	2014-15	2015-16	2016-17	Total	2012-13	2013-14	2014-15	2015-16
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*
ONGC	24.877	25.472	26.669	28.215	38.676	**143.909**	23.549	23.284	22.023	21.177
OIL	3.140	3.800	4.000	4.100	4.200	**19.240**	2.639	2.626	2.722	2.838
Pvt/JV	15.000	14.500	16.500	18.500	21.000	**85.500**	14.491	9.497	8.912	8.235
Total (BCM)	**43.017**	**43.772**	**47.169**	**50.815**	**63.876**	**248.649**	**40.679**	**35.407**	**33.657**	**32.249**
Total (MMSCMD)	**117.800**	**119.900**	**129.200**	**138.800**	**175.000**	**680.700**	**111.450**	**97.005**	**92.212**	**88.354**

Source: Report of the Working Group on Petroleum and Natural Gas Sector for the 12th Five Year Plan including addendum

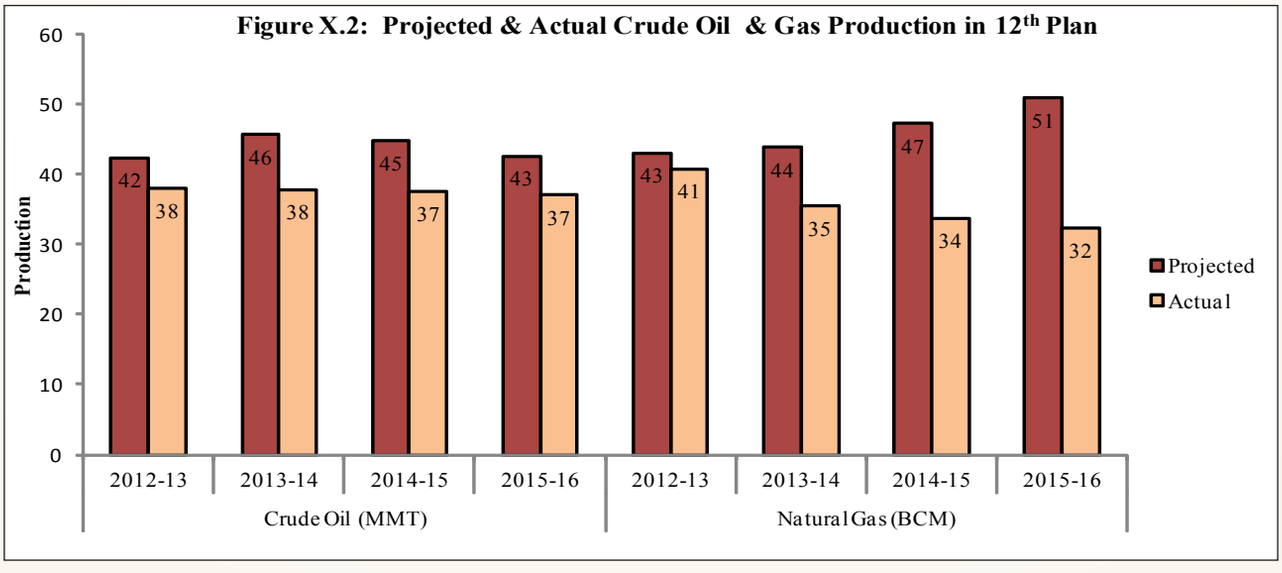
X.8 Estimated Total Gas Availability during 12th Plan (2012-17)

(in MMSCMD)

Source	Projected Gas Availability during 12th Plan						Actual Gas Availability			
	2012-13	2013-14	2014-15	2015-16	2016-17	Total	2012-13	2013-14	2014-15	2015-16
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*
Domestic Sources	124	149	170	177	209	**829**	108.978	94.899	89.842	85.597
Imports-LNG	63	87	87	129	150	**516**	47.822	47.252	48.485	59.825
Total Availability	**187**	**236**	**257**	**306**	**359**	**1345**	**156.800**	**142.151**	**138.327**	**145.422**

Source: Report of the Working Group on Petroleum and Natural Gas Sector for the 12th Five Year Plan

Figure X.2: Projected & Actual Crude Oil & Gas Production in 12th Plan



X.9 Oil and Natural Gas Production Target of OVL from Assets abroad in 12th Plan

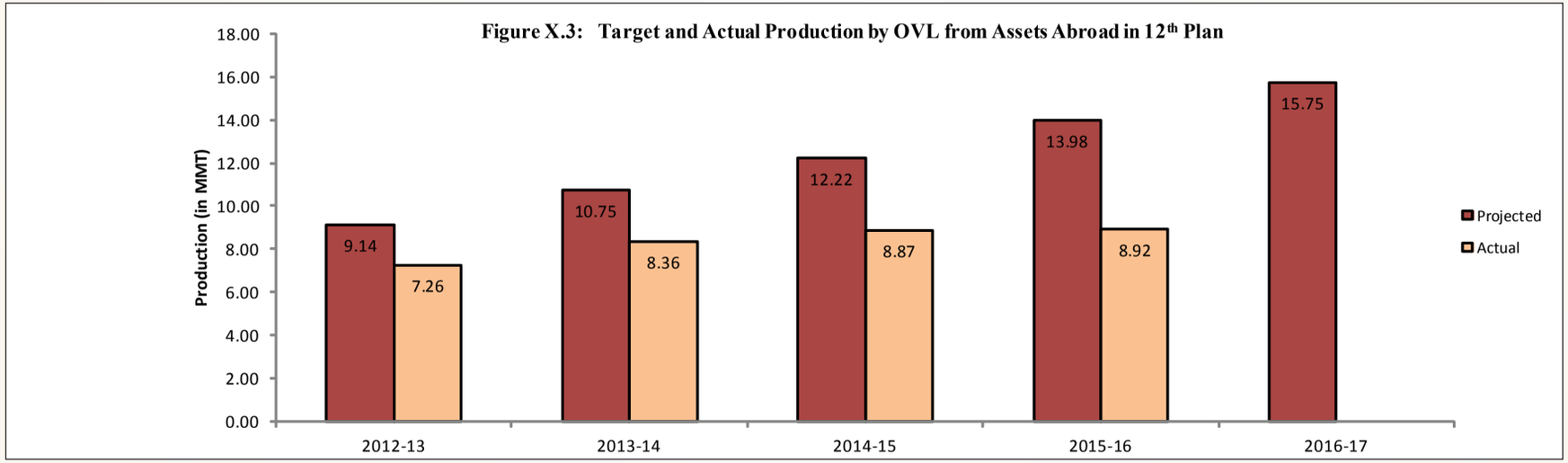
Projects	Particulars	Projected Production						Actual Production			
		2012-13	2013-14	2014-15	2015-16	2016-17	Total	2012-13	2013-14	2014-15	2015-16
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*
Producing Assets	Oil (MMT)	6.470	6.362	6.346	6.567	6.555	**32.30**	4.33	4.513	4.25	4.263
	Gas (BCM)	2.580	2.60	2.183	2.196	2.573	**12.132**	2.918	2.568	2.521	2.372
	Oil and Gas (MMTOE)	9.050	8.962	8.529	8.763	9.129	**44.433**	7.248	7.081	6.771	6.635
Development Assets (Carabobo-1 Venezuela and A1&A3 Myanmar)"	Oil (MMT)	0.031	0.255	0.670	1.052	1.419	**3.428**	0.001	0.021	0.063	0.112
	Gas (BCM)	0	0.41	0.81	0.91	0.91	**3.030**	0	0.202	0.665	0.898
	Oil and Gas (MMTOE)	0.031	0.664	1.484	1.957	2.324	**6.461**	0.001	0.223	0.728	1.010
Exploratory Asset (Block 24, Syria)"	Oil (MMT)	0.062	0.193	0.214	0.21	0.183	**0.863**	0.001	0	0	0
	Gas (BCM)	--	--	--	--	--	**--**	0	0	0	0
	Oil and Gas (MMTOE)	0.062	0.193	0.214	0.21	0.183	**0.863**	0.001	0	0	0
Existing Assets	Total Oil (MMT)	6.564	6.810	7.230	7.829	8.157	**36.591**	4.332	4.534	4.313	4.375
	Total Gas (BCM)	2.58	3.009	2.997	3.101	3.478	**15.165**	2.918	2.77	3.186	3.27
	Total Oil & Gas (MMTOE)	**9.144**	**9.819**	**10.228**	**10.930**	**11.636**	**51.757**	**7.250**	**7.304**	**7.499**	**7.645**
"New Ventures** (ACG, Azerbaijan + Addnl 12% from BC-10)"	Oil & Gas (MMTOE)	0	0.93	1.99	3.05	4.11	**10.08**	0.011	1.053	1.375	1.271
Grand Total	**Existing + NV (MMTOE)**	**9.144**	**10.749**	**12.218**	**13.980**	**15.746**	**61.837**	**7.26**	**8.357**	**8.874**	**8.916**

** ACG (PI: 2.7213%) acquired on 28th March 2013

^: Projected

** Additional 12% BC-10 acquired on 30th December 2013

Source: OVL and Report of the Working Group on Petroleum and Natural Gas Sector for the 12th Five Year Plan



X.10 Estimated Refining Capacity in 12th Plan (2012-17)

(in MMTPA)

Company	Refinery Location	Projected Refining Capacity					Current Capacity as on 31.03.2016
		2012-13	2013-14	2014-15	2015-16	2016-17	
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
IOCL	Digboi	0.650	0.650	0.650	0.650	0.650	0.650
	Guwahati	1.000	1.000	1.000	1.000	1.000	1.000
	Barauni	6.000	6.000	6.000	6.000	6.000	6.000
	Koyali	13.700	13.700	13.700	18.000	18.000	13.700
	Haldia	7.500	7.500	7.500	8.000	8.000	7.500
	Bongaigaon	2.350	2.350	2.350	2.350	2.350	2.350
	Mathura	8.000	8.000	8.000	8.000	11.000	8.000
	Panipat	15.000	15.000	15.000	15.000	15.000	15.000
	Paradip	0.000	15.000	15.000	15.000	15.000	15.000
	Sub-total	**54.200**	**69.200**	**69.200**	**74.000**	**77.000**	**69.200**
CPCL	Manali	11.100	11.100	11.100	11.100	11.100	10.500
	Nagapattinam	1.000	1.000	1.000	1.000	1.000	1.000
	Sub-total	**12.100**	**12.100**	**12.100**	**12.100**	**12.100**	**11.500**
HPCL	Mumbai	7.500	8.200	8.200	8.200	8.200	6.500
	Visakh	9.000	9.000	9.000	9.000	15.000	8.300
	New Refinery	-	-	-	-	9.000	
	Sub-total	**16.500**	**17.200**	**17.200**	**17.200**	**32.200**	**14.800**
BPCL	Mumbai	12.000	12.000	13.500	13.500	13.500	12.000
	Kochi	9.500	9.500	9.500	15.500	15.500	9.500
	Sub-total	**21.500**	**21.500**	**23.000**	**29.000**	**29.000**	**21.500**
NRL	Numaligarh	3.000	3.000	3.000	3.000	8.000	3.000
BORL	Bina	6.000	6.000	7.200	7.200	9.000	6.000
HMEL	Bhatinda	9.000	9.000	9.000	9.000	9.000	9.000
MRPL	Mangalore	15.000	15.500	16.000	16.500	18.000	15.000
ONGC	Tatipaka	0.066	0.066	0.066	0.066	0.066	0.066
	Sub-total	**33.066**	**33.566**	**35.266**	**35.766**	**44.066**	**33.066**
Total CPSE/JV refineries		**137.366**	**153.566**	**156.766**	**168.066**	**194.366**	**150.066**
Reliance	DTA, Jamnagar	33.000	33.000	33.000	33.000	33.000	33.000
	SEZ, Jamnagar	27.000	27.000	27.000	27.000	27.000	27.000
	Sub-total	**60.000**	**60.000**	**60.000**	**60.000**	**60.000**	**60.000**
ESSAR	Jamnagar	19.000	20.000	20.000	30.800	38.000	20.000
Nagarjuna	Cuddalore	2.000	6.000	6.000	6.100	15.000	0.000
Total Private Refineries		**81.000**	**86.000**	**86.000**	**96.900**	**113.000**	**80.000**
GRAND TOTAL		**218.366**	**239.566**	**242.766**	**264.966**	**307.366**	**230.066**

Source: Report of the Working Group on Petroleum and Natural Gas Sector for the 12th Five Year Plan

X.11 Estimated Demand for Petroleum Products in 12th Plan (2012-17)

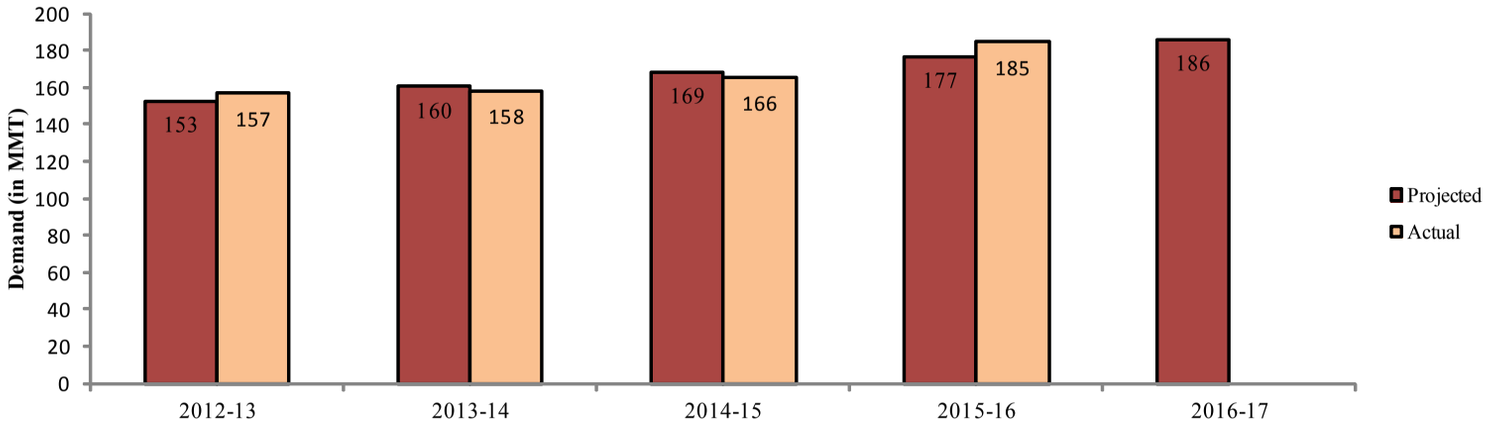
(in MMT)

Products	Projected Demand of Petroleum Products						Actual Demand of Petroleum Products			
	2012-13	2013-14	2014-15	2015-16	2016-17	Total	2012-13	2013-14	2014-15	2015-16
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*
1. Petroleum Products ('000MT)										
LPG	16.986	18.363	19.675	20.857	21.831	**250.586**	15.601	16.294	18	19.623
MS	16.091	17.527	19.083	20.766	22.588	**240.874**	15.744	17.128	19.075	21.847
NAPHTHA	12.353	11.417	11.417	11.022	11.022	**57.231**	12.289	11.305	11.082	13.271
ATF	6.009	6.587	7.202	7.849	8.54	**36.187**	5.27	5.505	5.723	6.262
SKO	7.949	7.631	7.326	7.033	6.751	**36.690**	7.502	7.165	7.087	6.826
HSDO	65.040	68.654	72.589	76.904	81.599	**364.786**	69.080	68.364	69.416	74.647
LDO	0.40	0.40	0.400	0.40	0.40	**2.000**	0.399	0.386	0.365	0.407
LUBES	2.691	2.772	2.857	2.945	3.036	**14.301**	3.196	3.305	3.31	3.571
FO/LSHS	7.954	7.902	7.899	7.872	7.872	**39.499**	7.656	6.236	5.961	6.632
BITUMEN	5.254	5.541	5.732	5.971	6.114	**28.612**	4.676	5.007	5.073	5.938
PET COKE	6.765	7.514	8.345	9.268	10.294	**42.186**	10.135	11.756	14.557	19.297
OTHERS	5.445	6.127	6.109	6.085	6.162	**29.928**	5.509	5.956	5.871	6.353
Total (Petroleum Products)	**152.937**	**160.436**	**168.635**	**176.972**	**186.209**	**845.189**	**157.057**	**158.407**	**165.520**	**184.674**
2. Natural Gas (MMSCMD)[1]	**293**	**371**	**405**	**446**	**473**	**1988**	**147.711**	**134.230**	**128.643**	**128.643**

1: Including LNG

Source: Report of the Working Group on Petroleum and Natural Gas Sector for the 12th Five Year Plan

Figure X.4: Projected and Actual Demand for Petroleum Products in 12th Plan (2012-17)



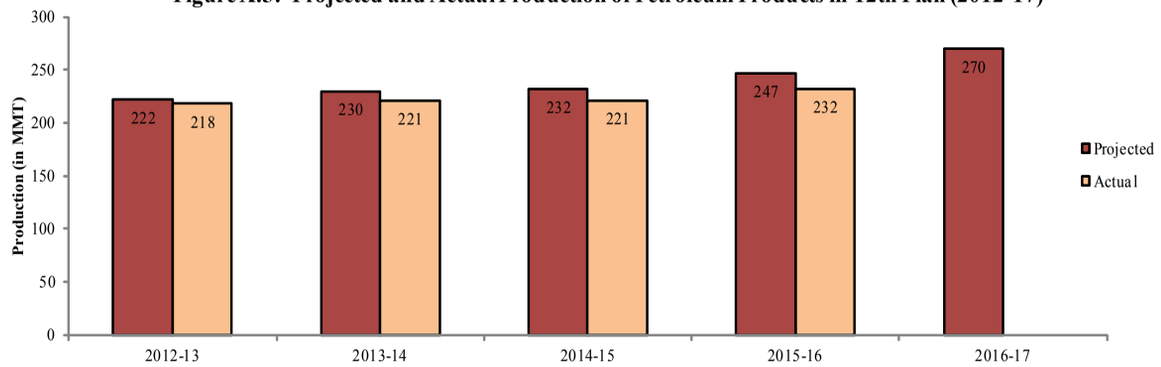
X.12 Estimated Production of Petroleum Products in 12th Plan (2012-17)

(in MMT)

Products	Projected Production						Actual Production			
	2012-13	2013-14	2014-15	2015-16	2016-17	Total	2012-13	2013-14	2014-15	2015-16
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*
1. Crude Processing	236.478	245.308	247.008	261.828	286.618	**1277.240**	219.212	222.497	223.242	232.865
2. Petroleum Products										
LPG	9.255	10.345	10.659	11.358	13.087	**54.704**	9.825	10.030	9.84	10.568
Naphtha	18.147	18.772	18.695	20.088	22.713	**98.415**	19.018	18.505	17.391	17.861
MS	30.071	31.620	32.679	36.003	38.763	**169.136**	30.118	30.275	32.325	35.321
HSD	95.638	97.570	100.178	106.222	116.520	**516.128**	91.103	93.759	94.428	95.588
ATF	11.984	12.643	12.843	14.316	16.037	**67.823**	10.088	11.220	11.103	11.789
SKO	8.376	8.697	8.98	9.40	9.743	**45.196**	7.971	7.418	7.559	7.504
LDO	0.480	0.338	0.338	0.163	0.218	**1.537**	0.400	0.423	0.358	0.429
FO/LSHS	16.147	15.557	11.408	11.186	10.084	**64.382**	15.054	13.405	11.919	9.727
BITUMEN	5.209	5.482	5.595	5.446	5.620	**27.352**	4.670	4.785	4.632	5.157
LUBES & GREASES	0.792	0.871	0.883	0.895	1.302	**4.743**	0.896	0.941	0.946	1.037
OTHERS	25.489	28.028	29.538	31.699	35.525	**150.279**	28.594	29.995	30.635	36.943
Total (Petroleum Products)	**221.588**	**229.923**	**231.797**	**246.776**	**269.611**	**1199.695**	**217.736**	**220.756**	**221.136**	**231.924**

Source:Report of the Working Group on Petroleum and Natural Gas Sector for the 12th Five Year Plan

Figure X.5: Projected and Actual Production of Petroleum Products in 12th Plan (2012-17)



CHAPTER XI: INTERNATIONAL PETROLEUM STATISTICS

Chapter Highlights

- World's Proven Crude Oil reserves at end of 2015 are 1697.6 Thousand Million Barrels. Middle East with reserves of 803.5 Thousand Million Barrels has the highest share (47.3%), followed by Central & South America (19.4%). Asia Pacific region constitute a mere 2.5% of the total basket.
- Middle East with reserves of 80.15 Trillion cubic metres of Natural Gas has the highest share region wise (42.8%) in Proved Reserve of Natural Gas in world (186.84 Trillion cubic metres). Europe & Eurasia (56.79 Trillion cubic metres) followed by Asia Pacific (15.6 Trillion cubic metre) is having the second and third largest share region wise in World Natural gas reserves.
- World Production of Crude Oil was 4361.9 Million Tonnes during 2015, which is 3.2% higher than the Crude Oil production in 2014 (4228.68 Million Tonnes).
- Saudi Arabia had the largest share in crude oil production with 568.5 million tonnes (34.5%) for OPEC countries in 2015, followed by Iraq & Iran at 197 million tonnes (10.9%) and 182.6 million tonnes (10.1%) respectively.
- World Natural gas production in 2015 was 3199.5 Million Tonnes Oil Equivalent (MTOE) as compared to 3130.25 MTOE in 2014, registering a growth of 2.2%.
- Europe & Eurasia region accounted for 28.8% share (903 MTOE) in global consumption of natural gas at 3135.21 MTOE followed by North America at 28.1% (881 MTOE).
- World Oil Refining capacity at end of 2015 was 97239 thousand barrels/day registering a growth of 0.5% over 2014. India with refining capacity of 4319 thousand barrels per day had a share of 4.4% in world refining capacity.
- India with a consumption of 195.5 Million tonnes is having the third largest share country wise in World Oil consumption (4331.3 Million tonnes).
- OPEC Countries are having a share of 56.6 % in world crude oil export for 2015.
- China is having the largest share (22.92%) in Global Primary energy consumption. India with consumption of 700.5 Million tonnes oil equivalent of primary energy is the third largest consumer of primary energy.

XI.1 (a) World Proven Oil Reserves at end 2015				
Country/ Region	**Thousand million tonnes**	**Thousand million barrels**	**% share of total**	**R/P ratio**
(1)	*(2)*	*(3)*	*(4)*	*(5)*
US	6.6	55.0	3.2	11.9
Canada	27.8	172.2	10.1	107.6
Mexico	1.5	10.8	0.6	11.5
Total North America	**35.9**	**238.0**	**14.0**	**33.1**
Argentina	0.3	2.4	0.1	10.2
Brazil	1.9	13.0	0.8	14.1
Colombia	0.3	2.3	0.1	6.3
Ecuador	1.2	8.0	0.5	40.4
Peru	0.2	1.4	0.1	34.3
Trinidad & Tobago	0.1	0.7	♦	18.1
Venezuela	47.0	300.9	17.7	313.9
Other S. & Cent. America	0.1	0.5	♦	9.9
Total S. & Cent. America	**51**	**329.2**	**19.4**	**117.0**
Azerbaijan	1.0	7.0	0.4	22.8
Denmark	0.1	0.6	♦	9.6
Italy	0.1	0.6	♦	14.7
Kazakhstan	3.9	30.0	1.8	49.3
Norway	1.0	8.0	0.5	11.3
Romania	0.1	0.6	♦	19.5
Russian Federation	14.0	102.4	6.0	25.5
Turkmenistan	0.1	0.6	♦	6.3
United Kingdom	0.4	2.8	0.2	8.0
Uzbekistan	0.1	0.6	♦	25.3
Other Europe & Eurasia	0.3	2.1	0.1	15.0
Total Europe & Eurasia	**21**	**155.2**	**9.1**	**24.7**
Iran	21.7	157.8	9.3	110.3
Iraq	19.3	143.1	8.4	97.2
Kuwait	14.0	101.5	6.0	89.8
Oman	0.7	5.3	0.3	15.3
Qatar	2.7	25.7	1.5	37.1
Saudi Arabia	36.6	266.6	15.7	60.8
Syria	0.3	2.5	0.1	253.7
United Arab Emirates	13.0	97.8	5.8	68.7
Yemen	0.4	3.0	0.2	176.5
Other Middle East	†	0.2	♦	2.8
Total Middle East	**108.7**	**803.5**	**47.3**	**77.1**
Algeria	1.5	12.2	0.7	21.1
Angola	1.7	12.7	0.7	19.0
Chad	0.2	1.5	0.1	52.4
Rep. of Congo (Brazzaville)	0.2	1.6	0.1	15.8
Egypt	0.5	3.5	0.2	13.2
Equatorial Guinea	0.1	1.1	0.1	10.4
Gabon	0.3	2.0	0.1	23.5
Libya	6.3	48.4	2.8	306.8
Nigeria	5.0	37.1	2.2	43.2
South Sudan	0.5	3.5	0.2	64.9

Contd...

XI.1 (a) World Proven Oil Reserves at end 2015 (Contd...)				
Country/ Region	Thousand million tonnes	Thousand million barrels	% share of total	R/P ratio
(1)	*(2)*	*(3)*	*(4)*	*(5)*
Sudan	0.2	1.5	0.1	39.2
Tunisia	0.1	0.4	♦	18.6
Other Africa	0.5	3.7	0.2	38.3
Total Africa	**17.1**	**129.1**	**7.6**	**42.8**
Australia	0.4	4.0	0.2	28.3
Brunei	0.1	1.1	0.1	23.8
China	2.5	18.5	1.1	11.7
India	0.8	5.7	0.3	18.0
Indonesia	0.5	3.6	0.2	12.0
Malaysia	0.5	3.6	0.2	14.2
Thailand	†	0.4	♦	2.3
Vietnam	0.6	4.4	0.3	33.3
Other Asia Pacific	0.2	1.3	0.1	12.0
Total Asia Pacific	5.7	42.6	2.5	14.0
Total World	**239.4**	**1697.6**	**100**	**50.7**

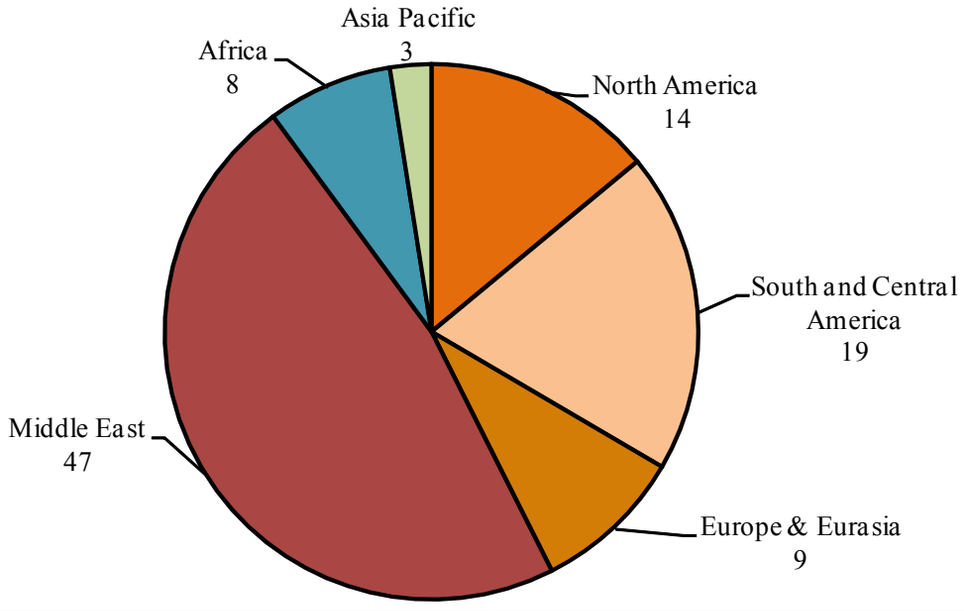
†: Less than 0.05 ♦:Less than 0.05%.

Notes:

1. Proved reserves of oil - Generally taken to be those quantities that geological and engineering information indicates with reasonable certainty can be recovered in the future from known reservoirs under existing economic and operating conditions.
2. Reserves-to-production (R/P) ratio - If the reserves remaining at the end of any year are divided by the production in that year, the result is the length of time that those remaining reserves would last if production were to continue at that rate.
3. Source of data - The estimates in this table have been compiled using a combination of primary official sources, third party data from the OPEC Secretariat, World Oil, Oil & Gas Journal and an independent estimate of Russia and announcements. Chinese reserves based on information in the public domain. Canadian oil sands 'under active development' are an official estimate. Venezuelan Orinoco Belt reserves are based on the OPEC Secretariat and Government announcements. development' are an official estimate. Venezuelan Orinoco Belt reserves are based on the OPEC Secretariat and Government announcements.
4. Reserves include gas condensate and natural gas liquids (NGLs) as well as crude oil.
5. Percentage shares of total and R/P ratios are calculated using thousand million barrels figures.
6. Totals may not add up due to independent rounding.

Source: BP Statistical Review of World Energy, June 2016.

Figure XI.1(a): Region-wise % share of proven crude oil reserves -2015



XI.1 (b) World Proven Natural Gas Reserves at end 2015				
Country/ Region	**Trillion cubic feet**	**Trillion cubic metres**	**% share of total**	**R/P ratio**
(1)	*(2)*	*(3)*	*(4)*	*(5)*
US	368.7	10.4	5.6	13.6
Canada	70.2	2.0	1.1	12.2
Mexico	11.4	0.3	0.2	6.1
Total North America	**450.3**	**12.8**	**6.8**	**13**
Argentina	11.7	0.3	0.2	9.1
Bolivia	9.9	0.3	0.2	13.5
Brazil	15.0	0.4	0.2	18.5
Colombia	4.8	0.1	0.1	12.2
Peru	14.6	0.4	0.2	33.1
Trinidad & Tobago	11.5	0.3	0.2	8.2
Venezuela	198.4	5.6	3.0	173.2
Other S. & Cent. America	**2.2**	**0.1**	**♦**	**24.0**
Total S. & Cent. America	**268.10**	**7.6**	**4.1**	**42.5**
Azerbaijan	40.6	1.1	0.6	63.2
Denmark	1.1	†	♦	6.7
Germany	1.4	†	♦	5.4
Italy	1.6	†	♦	7.3
Kazakhstan	33.4	0.9	0.5	75.7
Netherlands	23.8	0.7	0.4	15.7
Norway	65.6	1.9	1.0	15.9
Poland	3.3	0.1	0.1	23.1
Romania	3.9	0.1	0.1	10.7
Russian Federation	1139.6	32.3	17.3	56.3
Turkmenistan	617.3	17.5	9.4	241.4
Ukraine	21.3	0.6	0.3	34.7
United Kingdom	7.3	0.2	0.1	5.2
Uzbekistan	38.3	1.1	0.6	18.8
Other Europe & Eurasia	7.0	0.2	0.1	31.4
Total Europe & Eurasia	**2005.50**	**56.8**	**30.4**	**57.4**
Bahrain	6.1	0.2	0.1	11.1
Iran	1201.4	34.0	18.2	176.8
Iraq	130.5	3.7	2.0	*
Israel	6.4	0.2	0.1	21.9
Kuwait	63.0	1.8	1.0	119.1
Oman	24.3	0.7	0.4	19.7
Qatar	866.2	24.5	13.1	135.2
Saudi Arabia	294.0	8.3	4.5	78.2
Syria	10.1	0.3	0.2	66.0
United Arab Emirates	215.1	6.1	3.3	109.2
Yemen	9.4	0.3	0.1	100.0
Other Middle East	0.2	^	♦	44.9
Total Middle East	**2826.68**	**80.0**	**42.8**	**129.5**

Contd...

XI.1 (b) World Proven Natural Gas Reserves at end 2015 (Contd...)				
Country/ Region	Trillion cubic feet	Trillion cubic metres	% share of total	R/P ratio
(1)	*(2)*	*(3)*	*(4)*	*(5)*
Algeria	159.1	4.5	2.4	54.3
Egypt	65.2	1.8	1.0	40.5
Libya	53.1	1.5	0.8	118.0
Nigeria	180.5	5.1	2.7	102.1
Other Africa	38.8	1.1	0.6	53.9
Total Africa	**496.66**	**14.1**	**7.5**	**66.4**
Australia	122.6	3.5	1.9	51.8
Bangladesh	8.2	0.2	0.1	8.7
Brunei	9.7	0.3	0.1	21.7
China	135.7	3.8	2.1	27.8
India	52.6	1.5	0.8	50.9
Indonesia	100.3	2.8	1.5	37.8
Malaysia	41.3	1.2	0.6	17.1
Myanmar	18.7	0.5	0.3	27.0
Pakistan	19.2	0.5	0.3	12.9
Papua New Guinea	5.0	0.1	0.1	14.3
Thailand	7.8	0.2	0.1	5.5
Vietnam	21.8	0.6	0.3	57.9
Other Asia Pacific	9.9	0.3	0.2	15.8
Total Asia Pacific	**552.84**	**15.6**	**8.4**	**28.1**
Total World	**6600.08**	**186.9**	**100.0**	**52.8**

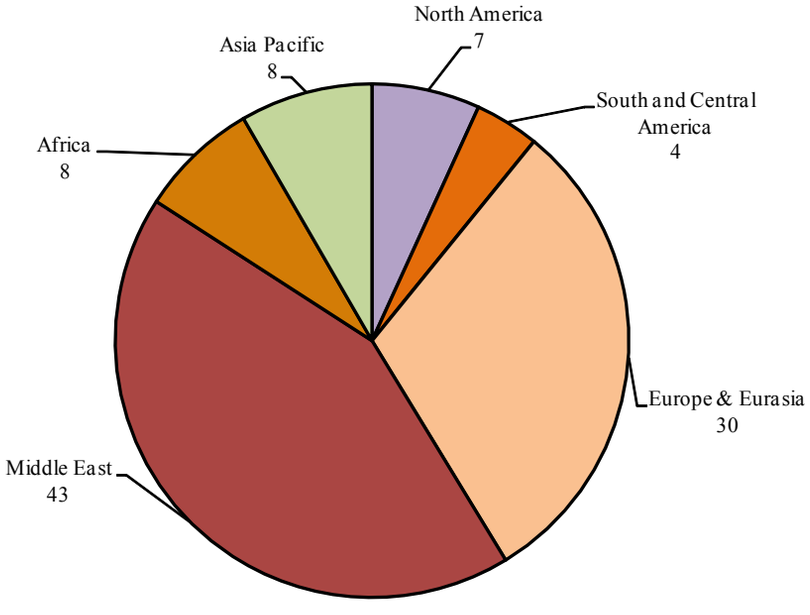
* More than 100 years. †: Less than 0.05 ♦:Less than 0.05%.

Notes:

1. Proved reserves of oil - Generally taken to be those quantities that geological and engineering information indicates with reasonable certainty can be recovered in the future from known reservoirs under existing economic and operating conditions.
2. Reserves-to-production (R/P) ratio - If the reserves remaining at the end of any year are divided by the production in that year, the result is the length of time that those remaining reserves would last if production were to continue at that rate.
3. Source of data - The estimates in this table have been compiled using a combination of primary official sources and third-party data from Cedigaz and the OPEC Secretariat.

Source: BP Statistical Review of World Energy, June 2016.

Figure XI.1(b): Region-wise % share of proven natural gas reserves - 2015



XI.2 World Crude Oil Production

(in Million Tonnes)

Country/Region/Year	2008	2009	2010	2011	2012	2013	2014	2015	% share in 2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
US	302.33	322.48	332.82	344.97	393.68	448.03	522.81	567.25	13.0
Canada	152.88	152.81	160.29	169.80	182.59	195.04	209.59	215.46	4.9
Mexico	156.98	146.76	145.71	144.61	143.91	141.89	137.14	127.58	2.9
Total North America	**612.19**	**622.04**	**638.82**	**659.38**	**720.18**	**784.96**	**869.54**	**910.30**	**20.9**
Argentina	36.54	33.57	33.01	30.60	30.66	30.10	29.72	29.74	0.7
Brazil	98.89	105.75	111.37	114.06	112.06	109.81	122.11	131.80	3.0
Colombia	31.07	35.32	41.40	48.21	49.86	52.88	52.16	53.07	1.2
Ecuador	27.19	26.11	26.12	26.81	27.10	28.24	29.83	29.11	0.7
Peru	4.71	4.84	5.06	4.88	4.86	4.82	5.34	4.75	0.1
Trinidad & Tobago	7.00	6.77	6.31	5.99	5.23	5.20	5.13	4.88	0.1
Venezuela	165.63	155.69	145.69	141.56	139.18	137.64	138.16	135.19	3.1
Other S. & Cent. America	7.06	6.57	6.85	6.97	7.26	7.45	7.55	7.42	0.2
Total S. & Cent. America	**378.09**	**374.63**	**375.81**	**379.07**	**376.20**	**376.14**	**390.01**	**396.00**	**9.1**
Azerbaijan	44.51	50.42	50.84	45.63	43.37	43.46	42.08	41.66	1.0
Denmark	14.04	12.90	12.16	10.94	9.98	8.68	8.13	7.69	0.2
Italy	5.24	4.57	5.11	5.31	5.40	5.56	5.82	5.52	0.1
Kazakhstan	70.67	76.48	79.68	80.06	79.22	81.79	80.83	79.31	1.8
Norway	114.75	108.69	98.85	93.78	87.27	83.20	85.32	88.02	2.0
Romania	4.72	4.50	4.29	4.22	3.98	4.13	4.05	4.01	0.1
Russian Federation	493.67	500.82	511.79	518.83	526.04	531.10	534.11	540.72	12.4
Turkmenistan	10.39	10.50	10.80	10.80	11.20	11.68	12.12	12.72	0.3
United Kingdom	71.67	68.20	62.96	51.97	44.56	40.65	39.93	45.29	1.0
Uzbekistan	4.78	4.46	3.65	3.59	3.17	3.17	3.06	2.97	0.1
Other Europe & Eurasia	20.60	19.87	19.17	19.25	19.16	19.58	19.20	18.74	0.4
Total Europe & Eurasia	**855.04**	**861.40**	**859.28**	**844.36**	**833.34**	**832.99**	**834.65**	**846.70**	**19.4**
Iran	212.95	205.59	211.85	212.70	180.45	169.62	174.68	182.58	4.2
Iraq	119.32	119.93	121.48	136.68	152.50	153.24	160.28	197.02	4.5
Kuwait	136.12	120.99	123.35	140.85	153.95	151.51	150.79	149.11	3.4
Oman	37.59	40.24	42.82	43.82	45.00	46.08	46.22	46.60	1.1
Qatar	64.65	62.56	71.12	78.01	82.21	80.19	79.58	79.28	1.8
Saudi Arabia	509.87	456.72	473.82	525.95	549.83	538.43	543.44	568.49	13.0
Syria	20.29	19.97	19.17	17.58	8.52	2.96	1.64	1.34	♦
United Arab Emirates	141.40	126.22	133.34	151.28	154.79	165.48	166.63	175.46	4.02
Yemen	14.76	14.35	14.27	11.18	8.78	6.86	6.61	2.13	♦
Other Middle East	9.49	9.44	9.44	9.88	9.03	10.21	10.46	10.41	0.24
Total Middle East	**1266.44**	**1176.00**	**1220.67**	**1327.94**	**1345.06**	**1324.58**	**1340.34**	**1412.40**	**32.38**
Algeria	85.62	77.23	73.78	71.68	67.21	64.78	68.77	68.49	1.6
Angola	93.54	87.62	90.53	83.80	86.88	87.31	83.02	88.70	2.0
Chad	6.69	6.19	6.40	5.97	5.31	4.36	4.33	4.12	0.1
Rep. of Congo (Brazzaville)	12.25	14.23	16.19	15.52	15.20	14.49	14.23	14.30	0.3
Egypt	34.65	35.26	35.03	34.60	34.73	34.36	35.14	35.62	0.8
Equatorial Guinea	16.05	14.16	12.63	11.64	12.72	12.43	13.11	13.53	0.3
Gabon	12.00	12.03	12.76	12.68	12.28	11.78	11.80	11.63	0.3

Contd...

XI.2 World Crude Oil Production (Contd...)

(in Million Tonnes)

Country/Region/Year	2008	2009	2010	2011	2012	2013	2014	2015	% share in 2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
Libya	85.52	77.37	77.62	22.49	71.07	46.44	23.33	20.20	0.5
Nigeria	103.78	107.59	122.07	119.05	117.19	111.53	114.76	113.01	2.6
South Sudan	na	na	na	na	1.53	4.91	7.65	7.28	0.2
Sudan	22.57	23.41	22.76	14.33	5.09	5.81	5.89	5.16	0.1
Tunisia	4.56	4.33	3.97	3.66	3.89	3.60	3.35	2.88	0.1
Other Africa	9.33	9.19	8.08	10.92	10.95	12.08	12.11	13.07	0.3
Total Africa	**486.56**	**468.60**	**481.81**	**406.33**	**444.04**	**413.88**	**397.51**	**398.00**	**9.1**
Australia	24.13	22.37	24.53	21.53	21.38	17.81	19.10	17.01	0.4
Brunei	8.59	8.25	8.45	8.11	7.82	6.61	6.18	6.20	0.1
China	190.44	189.49	203.01	202.88	207.48	209.96	211.43	214.56	4.9
India	37.80	38.00	41.27	42.88	42.55	42.47	41.64	41.18	0.9
Indonesia	49.43	48.41	48.62	46.31	44.62	42.70	41.22	39.97	0.9
Malaysia	34.02	32.20	32.59	29.37	29.78	28.53	29.83	31.89	0.7
Thailand	14.03	14.56	14.85	15.41	16.72	16.53	16.27	17.24	0.4
Vietnam	15.15	16.67	15.56	15.77	17.31	17.39	18.05	17.44	0.4
Other Asia Pacific	14.89	14.40	13.77	13.04	12.72	11.99	12.91	13.09	0.3
Total Asia Pacific	**388.48**	**384.35**	**402.66**	**395.29**	**400.38**	**393.99**	**396.63**	**398.60**	**9.1**
Total World	**3986.80**	**3887.03**	**3979.05**	**4012.38**	**4119.21**	**4126.55**	**4228.68**	**4361.90**	**100**

na: Not available ♦: Less than 0.05%.

Note: Production includes crude oil, shale oil, oil sands and NGLs (the liquid content of natural gas where this is recovered separately).Excludes liquid fuels from other sources such as biomass and coal derivatives

Source: BP Statistical Review of World Energy, June 2016.

XI.3 Crude Oil Production by OPEC Member Countries

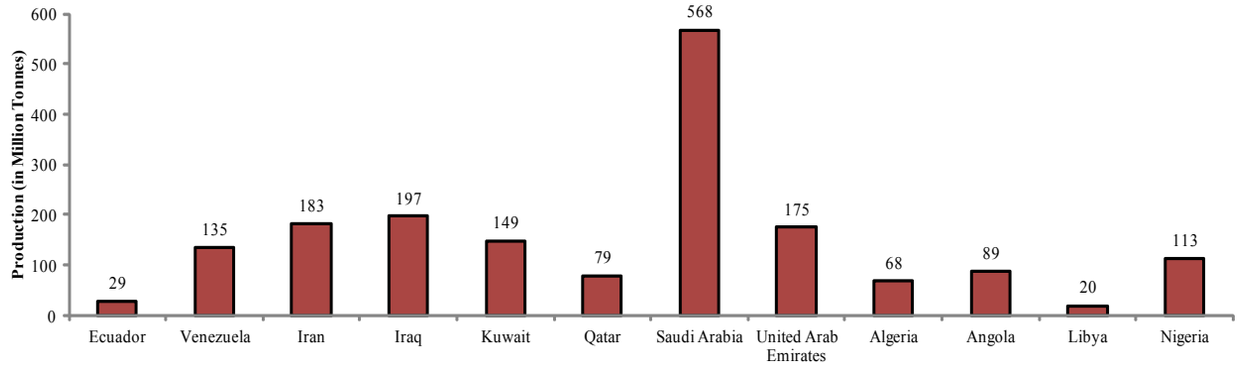
(in Million Tonnes)

OPEC Countries	2008	2009	2010	2011	2012	2013	2014	2015	% share in 2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
Ecuador	27.2	26.1	26.1	26.8	27.1	28.2	29.8	29.1	1.6
Venezuela	165.6	155.7	145.7	141.6	139.2	137.6	138.2	135.2	7.5
Iran	213.0	205.6	211.9	212.7	180.5	169.6	174.7	182.6	10.1
Iraq	119.3	119.9	121.5	136.7	152.5	153.2	160.3	197.0	10.9
Kuwait	136.1	121.0	123.3	140.8	154.0	151.5	150.8	149.1	8.3
Qatar	64.7	62.6	71.1	78.0	82.2	80.2	79.6	79.3	4.4
Saudi Arabia	509.9	456.7	473.8	525.9	549.8	538.4	543.4	568.5	31.5
United Arab Emirates	141.4	126.2	133.3	151.3	154.8	165.5	166.6	175.5	9.7
Algeria	85.6	77.2	73.8	71.7	67.2	64.8	68.8	68.5	3.8
Angola	93.5	87.6	90.5	83.8	86.9	87.3	83.0	88.7	4.9
Libya	85.5	77.4	77.6	22.5	71.1	46.4	23.3	20.2	1.1
Nigeria	103.8	107.6	122.1	119.0	117.2	111.5	114.8	113.0	6.3
Total OPEC	**1745.6**	**1623.6**	**1670.8**	**1710.9**	**1782.4**	**1734.4**	**1733.3**	**1806.6**	**100**

Note: Indonesia suspended its membership as on 01.01.2009 and reactivated as of 1.1.2016

Source: BP Statistical Review of World Energy, June 2016.

Figure XI.2: Crude oil production by OPEC countries during 2015



XI.4 World Production of Natural Gas

(in Million Tonnes Oil Equivalent)

Country/Region	2008	2009	2010	2011	2012	2013	2014	2015	% share in 2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
US	521.70	532.71	549.50	589.81	620.16	626.44	669.09	705.31	22.0
Canada	158.90	147.59	143.94	143.74	140.16	140.47	145.84	147.18	4.6
Mexico	48.04	53.35	51.81	52.43	51.47	52.37	51.36	47.89	1.5
Total North America	**728.65**	**733.64**	**745.24**	**785.98**	**811.80**	**819.28**	**866.29**	**900.40**	**28.1**
Argentina	39.65	37.28	36.09	34.91	33.96	31.98	31.91	32.84	1.0
Bolivia	12.86	11.08	12.79	14.02	15.99	18.26	18.91	18.77	0.6
Brazil	12.57	10.74	13.13	15.06	17.34	19.19	20.36	20.62	0.6
Colombia	8.15	9.46	10.14	9.86	10.78	11.37	10.60	9.91	0.3
Peru	3.06	3.13	6.51	10.17	10.67	10.97	11.63	11.25	0.4
Trinidad & Tobago	37.77	39.25	40.28	38.78	38.45	38.56	37.87	35.67	1.1
Venezuela	29.49	27.91	27.56	24.84	26.53	25.59	25.77	29.18	0.9
Other S. & Cent. America	3.12	3.10	3.07	2.66	2.50	2.37	2.36	2.36	0.1
Total S. & Cent. America	**146.67**	**141.95**	**149.57**	**150.30**	**156.22**	**158.29**	**159.42**	**160.60**	**5.0**
Azerbaijan	13.31	13.29	13.58	13.33	14.04	14.58	15.81	16.35	0.5
Denmark	9.08	7.58	7.39	5.93	5.18	4.36	4.15	4.13	0.1
Germany	11.73	10.96	9.57	9.00	8.14	7.40	6.95	6.47	0.2
Italy	7.58	6.56	6.88	6.92	7.05	6.33	5.86	5.55	0.2
Kazakhstan	10.44	9.65	9.48	9.44	10.20	10.69	10.95	11.13	0.3
Netherlands	59.88	56.42	63.44	57.73	57.42	61.77	50.13	38.72	1.2
Norway	90.10	93.95	96.53	91.14	103.25	97.87	97.94	105.44	3.3
Poland	3.69	3.68	3.69	3.85	3.91	3.82	3.73	3.68	0.1
Romania	9.03	8.94	8.62	8.67	9.02	8.61	8.77	9.28	0.3
Russian Federation	541.55	474.89	529.98	546.31	533.05	544.24	523.57	515.97	16.1
Turkmenistan	59.46	32.74	38.12	53.59	56.06	56.11	62.34	65.16	2.0
Ukraine	17.10	17.35	16.66	16.79	16.73	16.61	16.11	15.66	0.5
United Kingdom	62.67	53.71	51.42	40.71	34.99	32.83	33.11	35.69	1.1
Uzbekistan	51.99	50.02	48.96	51.31	51.23	51.20	51.56	51.97	1.6
Other Europe & Eurasia	8.85	8.74	8.77	8.25	7.61	6.59	5.88	5.64	0.2
Total Europe & Eurasia	**956.45**	**848.47**	**913.08**	**922.97**	**917.86**	**923.01**	**896.85**	**890.80**	**27.8**
Bahrain	11.39	11.49	11.77	11.96	12.36	13.22	13.92	13.98	0.4
Iran	117.75	129.34	137.13	143.87	149.54	150.10	163.84	173.22	5.4
Iraq	1.69	1.03	1.17	0.79	0.58	1.06	0.81	0.92	♦
Kuwait	11.48	10.34	10.56	12.18	13.96	14.68	13.53	13.48	0.4
Oman	23.39	24.31	26.40	27.82	28.96	31.31	29.96	31.39	1.0
Qatar	69.28	80.37	118.05	130.74	141.34	159.84	156.65	163.30	5.1
Saudi Arabia	72.40	70.61	78.89	83.03	89.40	90.03	92.14	95.78	3.0
Syria	4.78	5.27	7.24	6.38	5.23	4.58	4.22	3.89	0.1
United Arab Emirates	45.22	43.96	46.15	47.08	48.87	49.14	48.82	50.19	1.6
Yemen	-	0.70	5.58	8.10	6.55	8.90	8.39	2.40	0.1
Other Middle East	3.28	2.60	3.08	4.00	2.39	5.88	6.91	7.57	0.2
Total Middle East	**360.64**	**380.02**	**446.04**	**475.95**	**499.19**	**528.75**	**539.20**	**556.10**	**17.4**
Algeria	77.2	71.6	72.4	74.4	73.4	74.2	75.0	74.7	2.3
Egypt	53.1	56.4	55.2	55.3	54.8	50.5	43.9	41.0	1.3
Libya	14.3	14.3	15.1	7.1	11.0	9.3	10.6	11.5	0.4

Contd...

XI.4 World Production of Natural Gas (Contd...)

(in Million Tonnes Oil Equivalent)

Country/Region	2008	2009	2010	2011	2012	2013	2014	2015	% share in 2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
Nigeria	32.5	23.4	33.6	36.5	39.0	32.6	40.5	45.1	1.4
Other Africa	13.6	14.0	15.7	17.2	16.3	18.8	17.1	18.3	0.6
Total Africa	**190.76**	**179.73**	**191.98**	**190.51**	**194.40**	**185.30**	**187.18**	**190.60**	**6.0**
Australia	40.0	44.1	47.3	46.7	50.6	52.1	55.2	60.3	1.9
Bangladesh	15.3	17.5	18.0	18.3	20.0	20.5	21.5	24.1	0.8
Brunei	10.9	10.3	11.1	11.5	11.3	11.0	10.7	11.4	0.4
China	74.8	79.4	89.2	98.1	100.7	110.0	118.4	124.2	3.9
India	27.5	33.8	44.3	40.1	34.9	29.0	27.4	26.3	0.8
Indonesia	66.4	69.2	77.1	73.3	69.4	68.8	67.7	67.5	2.1
Malaysia	57.3	54.8	54.8	55.8	55.2	60.4	60.0	61.4	1.9
Myanmar	11.2	10.4	11.2	11.5	11.5	11.8	15.2	17.6	0.6
Pakistan	37.3	37.4	38.1	38.1	39.4	38.4	37.7	37.7	1.2
Thailand	25.9	27.8	32.6	33.3	37.3	37.6	37.9	35.8	1.1
Vietnam	6.7	7.2	8.5	7.6	8.4	8.8	9.2	9.6	0.3
Other Asia Pacific	16.0	16.3	15.9	16.0	15.9	16.3	20.4	24.9	0.8
Total Asia Pacific	**389.29**	**408.25**	**448.03**	**450.34**	**454.53**	**464.55**	**481.32**	**501.00**	**15.7**
Total World	**2772.47**	**2692.07**	**2893.95**	**2976.06**	**3034.00**	**3079.19**	**3130.25**	**3199.50**	**100**

♦: Less than 0.05%

Note: Production includes gas flared or recycled and natural gas produced for Gas-to-Liquids transformation

Source: BP Statistical Review of World Energy, June 2016.

XI.5 World Consumption of Natural Gas

(in Million Tonnes Oil Equivalent)

Country/Region/ Year	2008	2009	2010	2011	2012	2013	2014	2015	% share in 2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
US	600.8	590.1	619.3	628.8	657.4	675.5	692.7	713.6	22.8
Canada	86.5	85.4	85.5	90.8	90.2	93.5	93.8	92.2	2.9
Mexico	59.7	65.0	65.2	68.9	71.9	74.9	78.1	74.9	2.4
Total North America	**746.96**	**740.53**	**770.03**	**788.56**	**819.53**	**843.93**	**864.63**	**880.69**	**28.1**
Argentina	40.0	37.9	38.9	40.7	42.2	41.8	42.4	42.8	1.4
Brazil	22.4	18.1	24.1	24.0	28.5	33.6	35.5	36.8	1.2
Chile	2.1	2.2	4.4	4.5	4.1	4.1	3.4	3.5	0.1
Colombia	6.8	7.8	8.2	8.0	8.9	9.0	9.8	9.5	0.3
Ecuador	0.4	0.4	0.4	0.4	0.5	0.6	0.6	0.6	0.0
Peru	3.1	3.1	5.0	5.6	6.1	5.9	6.5	6.8	0.2
Trinidad & Tobago	19.2	19.9	20.9	21.0	20.0	20.2	19.8	19.4	0.6
Venezuela	30.9	29.0	29.0	26.7	28.3	27.5	27.7	31.1	1.0
Other S. & Cent. America	**4.3**	**4.5**	**4.8**	**5.5**	**6.1**	**6.6**	**6.9**	**6.9**	**0.2**
Total S. & Cent. America	**129.07**	**123.10**	**135.75**	**136.36**	**144.52**	**149.20**	**152.57**	**157.30**	**5.0**
Austria	8.5	8.2	9.0	8.4	8.1	7.7	7.1	7.5	0.2
Azerbaijan	8.2	7.0	6.7	7.3	7.7	7.7	8.5	8.8	0.3
Belarus	17.4	14.5	17.8	16.5	16.7	16.7	16.5	15.5	0.5
Belgium	14.8	15.1	17.0	14.2	14.4	14.2	12.4	13.6	0.4
Bulgaria	2.9	2.1	2.3	2.6	2.5	2.4	2.4	2.6	0.1
Czech Republic	7.1	6.7	7.6	6.9	6.9	6.9	6.2	6.5	0.2
Denmark	4.1	4.0	4.5	3.8	3.5	3.4	2.8	2.9	0.1
Finland	3.6	3.2	3.6	3.1	2.7	2.6	2.3	1.9	0.1
France	39.9	38.4	42.6	37.0	38.2	38.8	32.6	35.1	1.1
Germany	77.0	72.6	75.7	69.5	69.7	73.1	64.0	67.2	2.1
Greece	3.5	2.9	3.2	4.0	3.6	3.2	2.4	2.5	0.1
Hungary	12.1	10.5	11.3	10.0	9.1	8.3	7.5	8.0	0.3
Republic of Ireland	4.5	4.3	4.7	4.1	4.0	3.8	3.7	3.8	0.1
Italy	69.5	63.9	68.1	63.8	61.4	57.4	50.7	55.3	1.8
Kazakhstan	6.3	6.0	4.0	4.6	6.1	6.3	6.9	7.8	0.2
Lithuania	2.6	2.2	2.5	2.7	2.7	2.2	2.1	2.1	0.1
Netherlands	34.7	35.0	39.2	34.2	32.7	33.3	28.8	28.6	0.9
Norway	3.9	3.7	3.7	4.0	3.9	4.0	4.2	4.3	0.1
Poland	13.5	13.0	14.0	14.1	15.0	15.0	14.6	15.1	0.5
Portugal	4.3	4.2	4.6	4.7	4.0	3.8	3.7	3.9	0.1
Romania	12.6	10.5	10.8	11.0	11.2	10.2	9.5	9.3	0.3
Russian Federation	374.4	350.7	372.7	382.1	374.6	372.1	370.7	352.3	11.2
Slovakia	5.2	4.4	5.0	4.6	4.4	4.8	3.8	3.9	0.1
Spain	34.9	31.2	31.1	28.9	28.6	26.1	23.7	24.8	0.8
Sweden	0.8	1.0	1.4	1.1	1.0	1.0	0.8	0.8	♦
Switzerland	2.5	2.4	2.7	2.4	2.6	2.8	2.4	2.6	0.1
Turkey	33.8	32.1	35.1	36.8	37.3	37.6	40.2	39.2	1.3
Turkmenistan	19.3	17.7	20.4	21.2	23.7	20.6	24.9	30.9	1.0

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XI.5 World Consumption of Natural Gas (Contd...)

(in Million Tonnes Oil Equivalent)

Country/Region/ Year	2008	2009	2010	2011	2012	2013	2014	2015	% share in 2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
Ukraine	54.0	42.1	47.0	48.3	44.6	38.9	33.1	25.9	0.8
United Kingdom	84.4	78.3	84.8	70.3	66.5	65.7	60.0	61.4	2.0
Uzbekistan	43.8	35.9	36.8	42.9	42.5	42.2	43.9	45.3	1.4
Other Europe & Eurasia	15.4	13.4	14.8	14.9	14.7	13.5	13.4	13.7	0.4
Total Europe & Eurasia	**1019.43**	**937.35**	**1004.40**	**980.17**	**964.43**	**946.05**	**905.76**	**903.11**	**28.8**
Iran	119.9	128.4	137.6	146.0	145.4	146.6	162.0	172.1	5.5
Israel	3.4	3.8	4.8	4.5	2.3	6.2	6.8	7.6	0.2
Kuwait	11.5	11.1	13.1	14.9	16.6	16.8	16.8	17.5	0.6
Qatar	17.1	17.9	28.9	18.7	23.3	38.4	35.7	40.6	1.3
Saudi Arabia	72.4	70.6	78.9	83.0	89.4	90.0	92.1	95.8	3.1
United Arab Emirates	53.5	53.2	54.7	56.9	59.0	60.5	59.6	62.2	2.0
Other Middle East	34.5	37.4	41.6	40.2	40.2	43.7	42.2	45.4	1.4
Total Middle East	**312.26**	**322.37**	**359.55**	**364.17**	**376.14**	**402.19**	**415.26**	**441.17**	**14.1**
Algeria	22.8	24.5	23.7	25.1	27.9	30.0	33.7	35.1	1.1
Egypt	36.8	38.3	40.6	44.7	47.3	46.3	43.2	43.0	1.4
South Africa	3.4	3.0	3.5	3.7	4.0	4.1	4.5	4.5	0.1
Other Africa	27.7	23.8	28.6	29.4	31.8	30.1	34.1	39.2	1.3
Total Africa	**90.64**	**89.60**	**96.46**	**102.82**	**111.03**	**110.60**	**115.55**	**121.91**	**3.9**
Australia	28.7	29.0	29.9	29.2	29.9	30.9	32.4	30.9	1.0
Bangladesh	15.3	17.5	18.0	18.3	20.0	20.5	21.5	24.1	0.8
China	75.7	83.3	100.1	123.4	135.8	154.7	169.6	177.6	5.7
China Hong Kong SAR	2.9	2.8	3.4	2.7	2.5	2.4	2.3	2.9	0.1
India	37.4	45.6	55.3	55.7	51.8	45.3	45.6	45.5	1.5
Indonesia	35.2	37.3	39.1	37.9	38.0	36.7	36.8	35.8	1.1
Japan	84.4	78.7	85.1	95.0	105.2	105.2	106.2	102.1	3.3
Malaysia	35.3	31.8	31.0	31.3	31.9	36.3	36.7	35.8	1.1
New Zealand	3.4	3.6	3.9	3.5	3.8	4.0	4.4	4.1	0.1
Pakistan	37.3	37.4	38.1	38.1	39.4	38.4	37.7	39.0	1.2
Philippines	3.4	3.4	3.2	3.5	3.3	3.0	3.2	3.0	0.1
Singapore	8.3	8.7	7.9	7.9	8.5	9.5	9.8	10.2	0.3
South Korea	32.1	30.5	38.7	41.7	45.2	47.3	43.0	39.2	1.3
Taiwan	10.5	10.2	12.7	14.0	14.7	14.7	15.5	16.5	0.5
Thailand	33.6	35.3	40.5	41.9	46.1	47.0	47.4	47.6	1.5
Vietnam	6.7	7.2	8.5	7.6	8.4	8.8	9.2	9.6	0.3
Other Asia Pacific	5.2	4.8	5.2	5.6	5.6	5.8	6.5	7.1	0.2
Total Asia Pacific	**455.37**	**467.29**	**520.53**	**557.21**	**590.18**	**610.53**	**627.69**	**631.03**	**20.1**
Total World	**2753.73**	**2680.23**	**2886.72**	**2929.29**	**3005.84**	**3062.50**	**3081.46**	**3135.21**	**100**

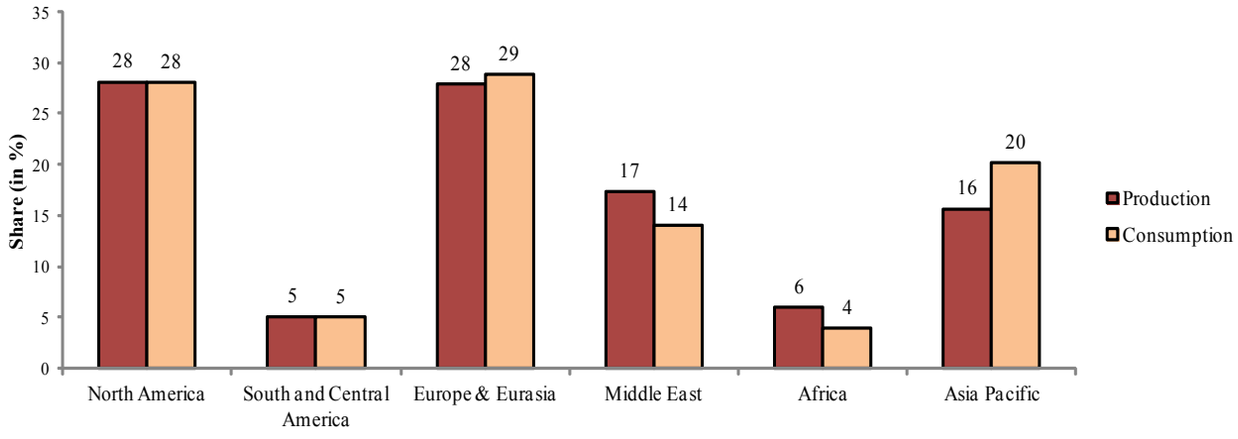
♦: Less than 0.05%.

Notes:

1. The difference between these world consumption figures and the world production statistics is due to variations in stocks at storage facilities and liquefaction plants, together with unavoidable disparities in the definition, measurement or conversion of gas supply and demand data.
2. Excludes natural gas converted to liquid fuels but includes derivatives of coal as well as natural gas consumed in Gas-to-Liquids transformation

Source: BP Statistical Review of World Energy, June 2016

Figure XI.3: Region-wise % share of production and consumption of natural gas during 2015



XI.6 Productivity of Producing Wells in OPEC Member Countries during 2015

Country	Wells	Average Daily Production ('000' bbl)	t/w/d
(1)	*(2)*	*(3)*	*(4)*
Algeria	1968	1157.00	80.0
Angola	1593	1767.10	150.9
Ecuador	3483	543.1	21.2
Iran	2339	3151.60	183.2
Iraq	2361	3504.10	201.8
Kuwait*	1731	2858.70	224.6
Libya	540	403.9	101.7
Nigeria	1947	1748.20	122.1
Qatar	467	656	191.0
Saudi Arabia*	3555	10192.60	389.9
U.A.E	1792	2988.90	226.8
Venezuela	14686	2653.90	24.6
Total OPEC	**36462**	**31625**	**118.0**

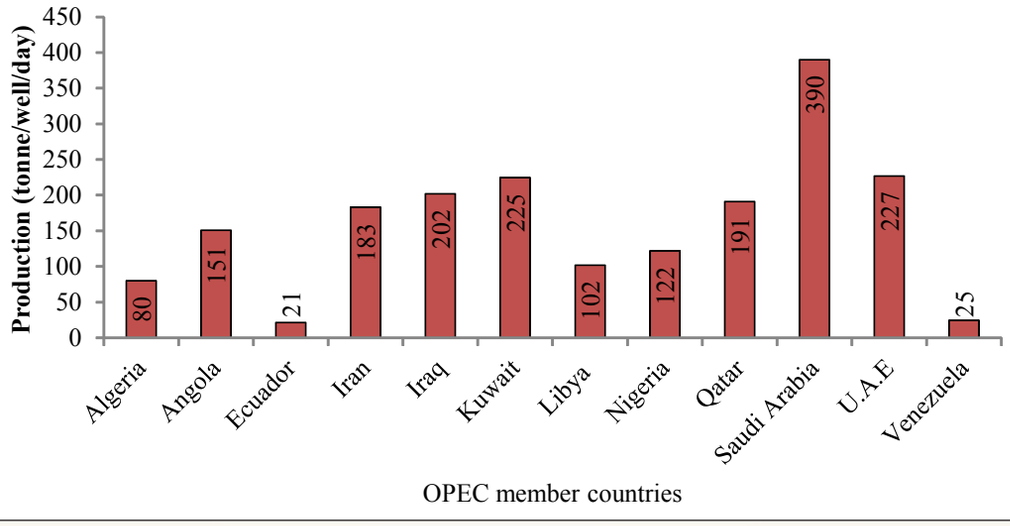
*: Figures include share of production and producing wells from Neutral Zone.

Note: Excluding shut-in wells. Figures as at year-end.

t/w/d: tonne/well/day

Source : OPEC Annual Statistical Bulletin, 2016

Figure XI.4: Productivity of wells in OPEC member countries during 2015



XI.7 World Oil Refining Capacity

(in '000' barrels daily*)

Country/Region/Year	2008	2009	2010	2011	2012	2013	2014	2015	% share in 2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
US	17672	17584	17736	17322	17824	17925	17889	18315	18.8
Canada	1951	1976	1913	2040	2050	1965	1965	1966	2.0
Mexico	1463	1463	1463	1605.5	1605.5	1605.5	1602	1602	1.6
Total North America	**21086**	**21023**	**21113**	**20967**	**21479**	**21495**	**21456**	**21883**	**22.5**
Argentina	628	625	625	625	657	657	657	657	0.7
Brazil	1973	1988	1988	2010	2001	2093	2235	2278	2.3
Chile	242	242	242	250	254	254	258	258	0.3
Colombia	326	336	336	336	336	336	336	421	0.4
Curacao	320	320	320	320	320	320	320	320	0.3
Ecuador	175	175	175	175	175	175	175	175	0.2
Peru	230	252	252	252	252	253	253	253	0.3
Trinidad & Tobago	165	165	165	165	165	165	165	165	0.2
Venezuela	1303	1303	1303	1303	1303	1303	1303	1303	1.3
Other S. & Cent. America	1176	900	901	1013	356	364	371	392	0.4
Total S. & Cent. America	**6538**	**6306**	**6307**	**6449**	**5819**	**5920**	**6073**	**6222**	**6.4**
Austria	201	201	201	193	193	193	193	193	0.2
Azerbaijan	205	205	205	205	205	205	205	205	0.2
Belarus	460	460	460	460	460	460	460	460	0.5
Belgium	786	786	787	788	753	776	776	776	0.8
Bulgaria	175	180	195	195	195	195	195	195	0.2
Czech Republic	193	193	193	193	178	178	178	178	0.2
Denmark	189	189	189	181	181	181	180	180	0.2
Finland	261	261	261	261	261	261	261	261	0.3
France	1971	1842	1702	1610	1513	1375	1375	1375	1.4
Germany	2366	2362	2091	2077	2097	2061	2077	2032	2.1
Greece	425	425	490	495	498	498	498	498	0.5
Hungary	165	165	165	165	165	165	165	165	0.2
Ireland	75	75	75	75	75	75	75	75	0.1
Italy	2396	2396	2396	2276	2113	1876	1915	1915	2.0
Kazakhstan	330	330	330	330	330	350	350	350	0.4
Lithuania	241	241	241	241	241	241	241	241	0.2
Netherlands	1280	1280	1274	1276	1274	1274	1274	1293	1.3
Norway	316	316	316	316	316	316	316	316	0.3
Poland	492	491	560	580	582	582	582	581	0.6
Portugal	306	306	306	306	306	306	306	306	0.3
Romania	358	283	247	229	214	235	228	246	0.3
Russian Federation	5397	5435	5573	5731	5836	6245	6352	6428	6.6
Slovakia	122	122	122	122	122	122	122	122	0.1
Spain	1362	1362	1421	1542	1546	1546	1546	1546	1.6
Sweden	436	436	436	436	436	436	436	436	0.4
Switzerland	140	140	140	140	106	140	140	68	0.1
Turkey	613	613	613	613	613	613	613	613	0.6
Turkmenistan	270	300	300	300	300	300	300	300	0.3
Ukraine	566	582	474	474	248	262	248	248	0.3

Contd..

XI.7 World Oil Refining Capacity (Contd...)

(in '000' barrels daily*)

Country/Region/Year	2008	2009	2010	2011	2012	2013	2014	2015	% share in 2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
United Kingdom	1827	1757	1757	1787	1526	1498	1337	1337	1.4
Uzbekistan	232	232	232	232	232	232	232	232	0.2
Other Europe & Eurasia	408	430	434	414	436	437	454	463	0.5
Total Europe & Eurasia	**24565**	**24396**	**24188**	**24244**	**23551**	**23635**	**23632**	**23635**	**24.3**
Iran	1805	1860	1860	1860	1952	1985	1985	1985	2.0
Iraq	738	853	914	935	971	823	931	933	1.0
Israel	275	275	280	292	292	294	301	301	0.3
Kuwait	936	936	936	936	936	936	936	936	1.0
Qatar	137	283	283	283	283	283	283	283	0.3
Saudi Arabia	2107	2109	2109	2107	2107	2507	2899	2899	3.0
United Arab Emirates	680	700	700	705	710	710	1143	1143	1.2
Other Middle East	978	978	978	978	978	864	864	864	0.9
Total Middle East	**7656**	**7994**	**8060**	**8096**	**8229**	**8402**	**9342**	**9344**	**9.6**
Algeria	444	554	554	652	652	647	651	651	0.7
Egypt	810	810	822	840	840	840	840	840	0.9
South Africa	520	520	520	520	520	520	520	520	0.5
Other Africa	1339	1199	1301	1247	1453	1563	1578	1578	1.6
Total Africa	**3113**	**3083**	**3197**	**3259**	**3465**	**3569**	**3589**	**3589**	**3.7**
Australia	734	734	740	742	663	662	536	443	0.5
Bangladesh	33	36	36	36	37	40	40	40	♦
China	9163	9479	10302	10834	11933	13304	14109	14262	14.7
India	2992	3574	3703	3795	4279	4319	4319	4319	4.4
Indonesia	1052	1085	1141	1041	1041	1077	1055	1116	1.1
Japan	4650	4630	4291	4274	4254	4123	3749	3721	3.8
Malaysia	568	572	582	601	606	612	612	612	0.6
New Zealand	103	136	136	136	136	136	136	136	0.1
Pakistan	274	273	277	277	275	390	390	390	0.4
Philippines	270	267	264	261	261	270	271	271	0.3
Singapore	1427	1427	1427	1427	1422	1414	1514	1514	1.6
South Korea	2712	2746	2774	2864	2878	2878	3110	3110	3.2
Taiwan	1197	1197	1197	1197	1197	1197	1197	988	1.0
Thailand	1165	1236	1230	1230	1230	1237	1252	1252	1.3
Vietnam	11	159	159	159	159	159	159	159	0.2
Other Asia Pacific	214	219	219	220	220	226	233	233	0.2
Total Asia Pacific	**26564**	**27768**	**28477**	**29094**	**30590**	**32043**	**32682**	**32566**	**33.5**
Total World	**89521**	**90570**	**91341**	**92110**	**93133**	**95065**	**96772**	**97239**	**100**

* Atmospheric distillation capacity on a calendar-day basis. ♦ : Less than 0.05%.

Note:

1. Annual changes and shares of total are calculated using thousand barrels daily figures.
2. India's refining capacity has been retained at 4319 thousand barrel per day as against BP's quoted figure of 4307 thousand barrel per day

Source: BP Statistical Review of World Energy, June 2016

XI.8: World Refinery Crude Throughput

(in '000' barrel daily)

Country/Region/Year	2008	2009	2010	2011	2012	2013	2014	2015	% share in 2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
US	14648	14336	14724	14806	14999	15312	15848	16207	20.4
Canada	1839	1773	1832	1734	1802	1767	1735	1705	2.1
Mexico	1295	1184	1184	1166	1199	1224	1155	1064	1.3
Total North America	**17782**	**17293**	**17740**	**17707**	**18000**	**18303**	**18738**	**18976**	**23.8**
Argentina	578	532	531	516	530	527	526	536	0.7
Brazil	1760	1781	1787	1813	1889	2035	2085	1984	2.5
Chile	204	192	159	173	164	174	174	165	0.2
Colombia	313	302	299	306	303	289	230	227	0.3
Curacao	197	183	64	164	165	170	189	191	0.2
Ecuador	155	156	137	156	152	141	125	121	0.2
Peru	169	190	192	184	182	179	181	185	0.2
Trinidad & Tobago	150	152	126	137	107	132	105	125	0.2
Venezuela	1010	961	969	991	936	952	920	830	1.0
Other S. & Cent. America	964	808	709	716	324	295	298	302	0.4
Total S. & Cent. America	**5501**	**5256**	**4973**	**5157**	**4753**	**4893**	**4834**	**4666**	**5.9**
Austria	176	169	158	168	170	174	172	173	0.2
Azerbaijan	147	121	124	127	124	132	135	129	0.2
Belarus	427	434	330	411	434	425	448	491	0.6
Belgium	675	629	668	598	634	555	645	644	0.8
Bulgaria	143	125	110	102	118	113	104	121	0.2
Czech Republic	165	148	159	143	145	134	151	144	0.2
Denmark	156	157	146	137	153	144	139	147	0.2
Finland	222	220	211	225	215	227	225	197	0.2
France	1676	1449	1314	1313	1138	1117	1096	1151	1.4
Germany	2151	2026	1915	1876	1901	1857	1833	1876	2.4
Greece	360	346	393	331	410	399	416	433	0.5
Hungary	140	127	128	132	122	120	131	130	0.2
Ireland	62	55	60	59	61	57	55	68	0.1
Italy	1741	1614	1673	1570	1475	1259	1198	1341	1.7
Kazakhstan	236	235	257	326	331	341	362	337	0.4
Lithuania	195	174	190	189	181	192	160	174	0.2
Netherlands	1160	1143	1189	1144	1144	1044	1067	1138	1.4
Norway	279	278	259	289	287	292	274	293	0.4
Poland	417	408	458	482	505	488	486	532	0.7
Portugal	241	209	227	206	221	239	217	281	0.4
Romania	282	247	217	194	182	189	194	208	0.3
Russian Federation	4742	4765	5020	5185	5436	5633	5912	5764	7.2
Slovakia	117	114	110	120	108	116	105	119	0.1
Spain	1174	1057	1060	1051	1186	1168	1185	1304	1.6
Sweden	413	394	406	374	417	332	381	401	0.5
Switzerland	101	95	90	87	68	97	98	56	0.1
Turkey	490	375	392	394	398	421	406	512	0.6

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XI.8: World Refinery Crude Throughput (Contd...)

(in '000' barrel daily)

Country/Region/Year	2008	2009	2010	2011	2012	2013	2014	2015	% share in 2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
Turkmenistan	149	152	170	165	157	160	163	163	0.2
Ukraine	243	255	249	206	108	85	69	22	0.0
United Kingdom	1533	1440	1395	1433	1348	1197	1125	1136	1.4
Uzbekistan	93	88	73	69	62	71	70	70	0.1
Other Europe & Eurasia	184	200	185	158	134	138	128	147	0.2
Total Europe & Eurasia	**20290**	**19249**	**19336**	**19267**	**19374**	**18917**	**19149**	**19704**	**24.8**
Iran	1780	1829	1833	1873	1937	1975	1919	1847	2.3
Israel	215	220	226	218	219	231	239	245	0.3
Kuwait	906	869	892	852	916	873	879	907	1.1
Qatar	116	135	255	255	247	248	250	256	0.3
Saudi Arabia	2018	1928	1922	1884	1953	1876	2243	2445	3.1
United Arab Emirates	368	397	427	449	451	464	472	658	0.8
Other Middle East	1344	1257	1329	1350	1303	1306	1144	1032	1.3
Total Middle East	**6746**	**6636**	**6883**	**6881**	**7027**	**6974**	**7147**	**7390**	**9.3**
Algeria	429	475	548	520	478	492	615	594	0.7
Egypt	617	598	580	523	534	507	512	522	0.7
South Africa	396	351	390	410	415	408	407	407	0.5
Other Africa	942	841	908	725	789	792	647	549	0.7
Total Africa	**2384**	**2265**	**2425**	**2179**	**2216**	**2199**	**2181**	**2072**	**2.6**
Australia	536	542	569	589	563	552	506	401	0.5
Bangladesh	25	18	26	27	24	27	24	25	0.0
China	6828	7452	8408	8686	9199	9599	10155	10661	13.4
India	3213	3641	3899	4085	4302	4462	4473	4561	5.7
Indonesia	910	900	853	880	820	822	848	872	1.1
Japan	3946	3627	3619	3410	3400	3453	3289	3258	4.1
Malaysia	560	554	470	516	575	558	553	557	0.7
New Zealand	99	95	99	108	109	105	101	109	0.1
Pakistan	226	209	190	193	192	223	232	257	0.3
Philippines	184	147	181	190	170	158	168	212	0.3
Singapore	1161	844	979	1035	1020	936	796	897	1.1
South Korea	2365	2297	2390	2533	2582	2484	2516	2783	3.5
Taiwan	900	956	876	809	897	847	850	838	1.1
Thailand	927	938	963	937	978	1078	1029	1132	1.4
Vietnam	10	43	123	124	142	145	125	145	0.2
Other Asia Pacific	94	98	97	100	89	97	96	94	0.1
Total Asia Pacific	**21983**	**22361**	**23742**	**24220**	**25062**	**25546**	**25759**	**26802**	**33.7**
Total World	**74686**	**73060**	**75099**	**75411**	**76432**	**76832**	**77808**	**79609**	**100**

Note

1.Atmospheric distillation capacity on a calendar-day basis.

2.Totals may not add up due to independent rounding.

Source: BP Statistical Review of World Energy, June 2016

XI.9 Country-wise World Oil Consumption*

(in Million Tonnes)

Country/Region/Year	2008	2009	2010	2011	2012	2013	2014	2015	% share in 2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
US	875.4	833.2	850.1	834.9	817.0	832.1	838.1	851.6	19.7
Canada	101.2	95.0	101.6	105.0	103.3	103.5	103.3	100.3	2.3
Mexico	91.6	88.5	88.6	90.3	92.3	89.7	85.2	84.3	1.9
Total North America	**1068.2**	**1016.7**	**1040.3**	**1030.2**	**1012.6**	**1025.3**	**1026.6**	**1036.3**	**23.9**
Argentina	24.9	24.3	28.1	28.3	29.7	31.1	30.9	31.6	0.7
Brazil	110.1	110.3	120.0	125.9	128.8	137.4	143.4	137.3	3.2
Chile	18.6	18.2	16.0	17.6	17.5	16.8	16.7	16.9	0.4
Colombia	11.7	10.7	11.9	12.8	13.9	13.8	14.6	15.5	0.4
Ecuador	8.7	8.9	10.3	10.5	10.9	11.6	12.0	11.7	0.3
Peru	8.0	8.2	8.6	9.5	9.6	10.2	10.2	10.9	0.3
Trinidad & Tobago	1.8	1.7	1.9	1.7	1.6	1.7	1.8	1.8	•
Venezuela	33.8	34.2	34.2	34.6	37.2	38.1	36.7	32.0	0.7
Other S. & Cent. America	63.5	62.8	63.6	64.8	63.9	62.1	63.6	65.0	1.5
Total S. & Cent. America	**281.1**	**279.3**	**294.6**	**305.6**	**312.9**	**322.9**	**329.8**	**322.7**	**7.5**
Austria	13.4	12.8	13.4	12.7	12.5	12.7	12.5	12.6	0.3
Azerbaijan	3.6	3.3	3.2	4.0	4.2	4.5	4.4	4.5	0.1
Belarus	7.9	9.3	7.5	8.6	10.4	7.1	7.3	7.1	0.2
Belgium	35.9	31.5	33.0	30.8	29.6	30.2	29.8	30.5	0.7
Bulgaria	4.8	4.3	3.9	3.8	3.9	3.6	3.9	4.2	0.1
Czech Republic	9.9	9.7	9.2	9.0	8.9	8.5	9.1	9.4	0.2
Denmark	9.3	8.3	8.4	8.3	7.8	7.7	7.9	8.1	0.2
Finland	10.5	9.9	10.4	9.7	9.2	9.0	8.6	8.3	0.2
France	90.8	87.5	84.5	83.0	80.3	79.3	76.9	76.1	1.8
Germany	118.9	113.9	115.4	112.0	111.4	113.4	110.4	110.2	2.5
Greece	20.4	19.5	18.1	17.0	15.3	14.5	14.4	14.8	0.3
Hungary	7.5	7.1	6.7	6.3	5.9	5.8	6.5	7.0	0.2
Ireland	9.0	8.0	7.6	6.8	6.5	6.5	6.5	6.9	0.2
Italy	80.4	75.1	73.1	70.5	64.2	59.4	55.8	59.3	1.4
Kazakhstan	11.0	8.9	9.3	12.3	13.1	13.1	13.5	12.7	0.3
Lithuania	3.1	2.6	2.7	2.6	2.7	2.6	2.6	2.6	0.1
Netherlands	47.3	45.9	45.9	46.1	43.7	41.4	39.6	38.7	0.9
Norway	10.4	10.7	10.8	10.6	10.5	10.8	10.2	10.2	0.2
Poland	25.3	25.3	26.7	26.6	25.7	23.8	23.9	25.1	0.6
Portugal	14.1	13.2	13.0	12.1	11.0	11.3	11.1	11.4	0.3
Romania	10.4	9.2	8.8	9.1	9.2	8.4	9.0	9.1	0.2
Russian Federation	133.6	128.2	133.3	142.2	144.6	144.9	150.8	143.0	3.3
Slovakia	3.9	3.7	3.9	3.9	3.6	3.6	3.4	3.8	0.1
Spain	78.0	73.5	72.1	68.8	64.7	59.3	59.0	60.5	1.4
Sweden	16.7	15.5	16.2	14.8	14.6	14.4	14.5	14.1	0.3
Switzerland	12.1	12.3	11.4	11.0	11.2	11.8	10.6	10.7	0.2
Turkey	32.1	32.6	31.8	31.1	31.6	32.7	34.4	38.8	0.9
Turkmenistan	5.3	5.0	5.5	5.8	6.0	6.2	6.3	6.4	0.1
Ukraine	14.2	13.5	12.6	13.1	12.5	11.9	10.0	8.4	0.2
United Kingdom	79.5	75.8	74.9	73.7	71.2	70.6	69.9	71.6	1.7

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XI.9 Country-wise World Oil Consumption* (Contd...)

(in Million Tonnes)

Country/Region/Year	2008	2009	2010	2011	2012	2013	2014	2015	% share in 2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
Uzbekistan	4.6	4.3	3.6	3.4	3.0	2.9	2.8	2.8	0.1
Other Europe & Eurasia	35.8	35.0	34.7	34.5	33.4	32.6	32.8	33.1	0.8
Total Europe & Eurasia	**959.5**	**915.4**	**911.3**	**904.3**	**882.7**	**864.7**	**858.6**	**862.2**	**19.9**
Iran	93.1	95.4	86.8	88.0	89.0	95.5	93.1	88.9	2.1
Israel	12.0	10.8	11.2	11.8	13.9	10.9	10.3	11.0	0.3
Kuwait	19.0	20.4	21.6	20.4	21.5	22.7	22.7	23.6	0.5
Qatar	6.2	6.0	6.5	8.0	8.3	9.4	10.0	10.9	0.3
Saudi Arabia	114.4	125.9	137.1	139.1	146.2	147.3	160.1	168.1	3.9
United Arab Emirates	30.2	28.9	30.8	33.3	34.5	35.1	37.6	40.0	0.9
Other Middle East	68.5	71.1	74.3	74.9	76.8	81.0	83.2	83.3	1.9
Total Middle East	**343.4**	**358.6**	**368.3**	**375.6**	**390.3**	**402.0**	**417.1**	**425.7**	**9.8**
Algeria	14.0	14.9	14.8	15.8	16.9	17.7	18.2	19.3	0.4
Egypt	32.6	34.4	36.3	33.7	35.3	35.7	38.3	39.2	0.9
South Africa	25.7	24.2	26.6	28.1	28.2	27.9	29.3	31.1	0.7
Other Africa	80.9	82.9	86.7	82.7	88.5	92.0	91.4	93.5	2.2
Total Africa	153.2	156.3	164.5	160.3	168.9	173.3	177.2	183.0	4.2
Australia	42.7	43.1	43.4	45.6	47.2	46.7	45.4	46.2	1.1
Bangladesh	3.8	3.5	3.9	5.1	5.4	5.3	5.7	5.5	0.1
China	377.5	392.2	447.9	464.2	486.3	507.2	526.8	559.7	12.9
China Hong Kong SAR	14.8	16.9	17.8	18.0	17.2	17.6	16.7	18.3	0.4
India	144.7	152.6	155.4	163.0	173.6	175.3	180.8	195.5	4.5
Indonesia	60.1	59.7	64.2	73.1	74.7	74.6	76.0	73.5	1.7
Japan	224.8	200.4	202.7	203.6	217.0	208.0	197.3	189.6	4.4
Malaysia	29.5	29.2	29.3	31.0	32.6	34.7	35.0	36.2	0.8
New Zealand	7.2	6.9	7.0	7.0	7.0	7.1	7.2	7.5	0.2
Pakistan	20.0	21.8	21.3	21.5	20.5	21.7	22.8	25.2	0.6
Philippines	13.3	14.0	14.6	13.8	14.4	14.9	16.1	18.4	0.4
Singapore	51.4	55.5	61.0	63.7	63.3	64.0	65.9	69.5	1.6
South Korea	103.1	103.7	105.0	105.8	108.8	108.3	107.9	113.7	2.6
Taiwan	45.9	46.1	47.2	44.5	44.6	45.1	45.4	46.0	1.1
Thailand	44.4	45.9	47.7	49.7	52.4	54.6	54.9	56.6	1.3
Vietnam	14.1	14.6	15.6	16.9	17.3	17.5	18.0	19.5	0.5
Other Asia Pacific	15.6	16.4	16.9	18.7	19.1	19.1	20.4	20.6	0.5
Total Asia Pacific	**1212.7**	**1222.4**	**1300.9**	**1345.5**	**1401.2**	**1421.8**	**1442.2**	**1501.4**	**34.7**
Total World	**4018.1**	**3948.7**	**4079.9**	**4121.6**	**4168.6**	**4209.9**	**4251.6**	**4331.3**	**100**

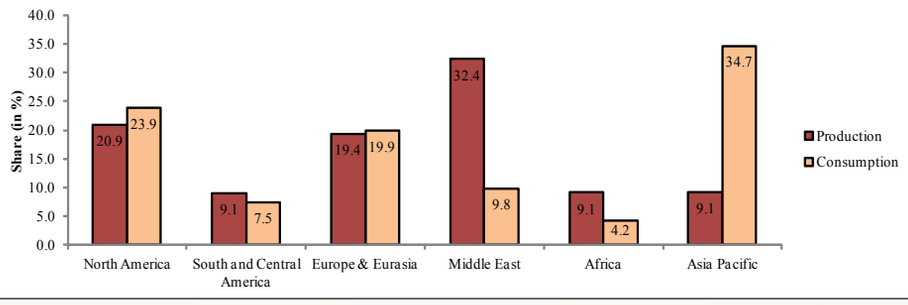
* Inland demand plus international aviation and marine bunkers and refinery fuel and loss. Consumption of fuel ethanol and biodiesel is also included.

•: Less than 0.05%.

Note: Differences between these world consumption figures and world production statistics are accounted for by stock changes, consumption of non-petroleum additives. and substitute fuels, and unavoidable disparities in the definition, measurement or conversion of oil supply and demand data.

Source: BP Statistical Review of World Energy, June 2016

Figure XI.5: Region-wise % share in production and consumption of crude oil during 2015



XI.10 Product-wise Regional Consumption of Main Petroleum Products

(in '000' barrels daily)

Country/Region/Year	2008	2009	2010	2011	2012	2013	2014	2015	% share in 2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
North America									
Light distillates	10859	10839	10950	10697	10572	10772	10837	11064	46.80
Middle distillates	6934	6281	6567	6694	6409	6518	6801	6785	28.70
Fuel oil	941	801	810	745	662	576	447	418	1.77
Others	5126	5036	5191	5194	5283	5498	5332	5376	22.74
Total North America	**23860**	**22957**	**23518**	**23330**	**22926**	**23365**	**23418**	**23644**	**100**
US									
Light distillates	9253	9257	9263	9022	8932	9125	9164	9395	48.44
Middle distillates	5801	5241	5464	5518	5278	5371	5632	5627	29.01
Fuel oil	609	508	532	459	367	317	256	259	1.33
Others	3827	3766	3921	3883	3913	4147	4054	4115	21.22
Total US	**19490**	**18771**	**19180**	**18882**	**18490**	**18961**	**19106**	**19396**	**100**
South and Central America									
Light distillates	1685	1791	1888	1959	2006	2115	2182	2211	31.22
Middle distillates	2187	2155	2380	2501	2622	2741	2751	2718	38.37
Fuel oil	811	771	747	725	723	713	767	741	10.46
Others	1375	1337	1369	1439	1430	1466	1490	1413	19.95
Total S. & Cent. America	**6057**	**6054**	**6384**	**6624**	**6782**	**7035**	**7190**	**7083**	**100**
Europe & Eurasia									
Light distillates	4763	4657	4659	4445	4322	4269	4206	4178	22.73
Middle distillates	9159	8764	8965	8979	8871	8878	8832	9098	49.50
Fuel oil	1972	1794	1655	1631	1499	1388	1383	1239	6.74
Others	4192	4061	3945	4020	3914	3837	3845	3864	21.02
Total Europe & Eurasia	**20086**	**19276**	**19223**	**19075**	**18605**	**18372**	**18266**	**18380**	**100**
Middle East									
Light distillates	1592	1633	1697	1760	1818	1900	1967	2036	21.28
Middle distillates	2315	2403	2412	2538	2658	2764	2758	2744	28.68
Fuel oil	1770	1918	1959	1991	2060	2106	2201	2277	23.79
Others	1763	1901	2133	2166	2234	2242	2426	2512	26.25
Total Middle East	**7440**	**7855**	**8201**	**8455**	**8770**	**9011**	**9353**	**9570**	**100**
Africa									
Light distillates	766	801	835	824	878	875	901	960	24.68
Middle distillates	1482	1516	1612	1621	1672	1765	1824	1877	48.26
Fuel oil	440	438	457	392	438	447	444	448	11.52
Others	548	560	580	576	590	591	593	604	15.54
Total Africa	**3236**	**3315**	**3486**	**3413**	**3579**	**3678**	**3763**	**3888**	**100**
Asia Pacific									
Light distillates	7450	7685	8313	8512	8951	9465	9742	10390	32.02
Middle distillates	9390	9393	9916	10332	10762	10942	11037	11338	34.95
Fuel oil	3359	3047	3050	3121	3209	2969	2835	2848	8.78
Others	5701	6118	6674	6929	7080	7212	7506	7868	24.25
Total Asia Pacific	**25900**	**26244**	**27954**	**28893**	**30001**	**30588**	**31119**	**32444**	**100**
Light distillates	2125	2230	2767	2970	3120	3306	3545	3616	30.21
Middle distillates	3079	3178	3430	3660	3951	4001	4136	4255	35.55
Fuel oil	776	662	666	588	560	588	537	633	5.29
Others	1957	2141	2403	2572	2600	2769	2837	3463	28.94
Total World	**86578**	**85700**	**88765**	**89790**	**90663**	**92049**	**93109**	**95008**	**100**

Note:

1. 'Light distillates' consists of aviation and motor gasolines and light distillate feedstock (LDF).
2. 'Middle distillates' consists of jet and heating kerosene, and gas and diesel oils (including marine bunkers).
3. 'Fuel oil' includes marine bunkers and crude oil used directly as fuel.
4. 'Others' consists of refinery gas, liquified petroleum gas (LPG), solvents, petroleum coke, lubricants, bitumen, wax, other refined products and refinery fuel and loss.

Source: BP Statistical Review of World Energy, June 2016

XI.11 World Oil Production, Consumption and Relative Deficit/Surplus in each Country/Region

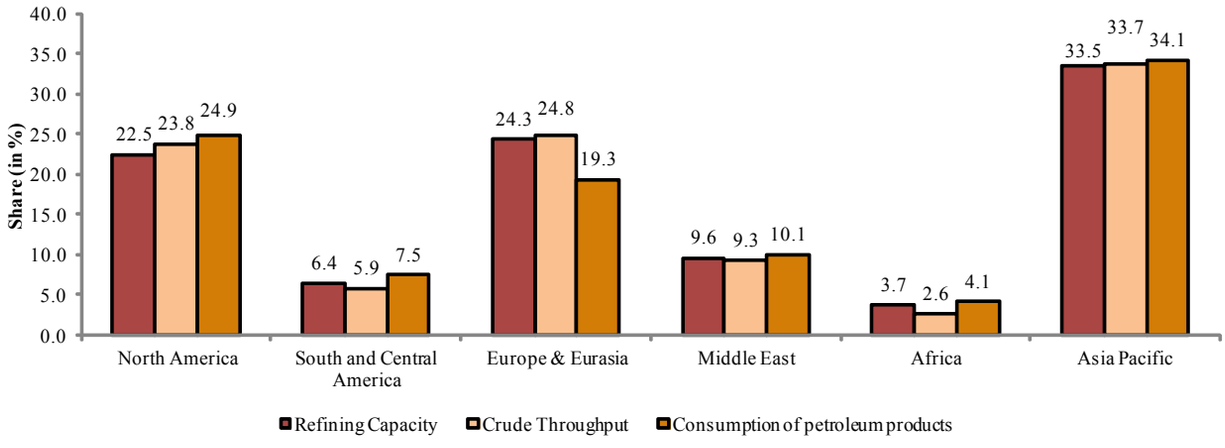
(in Million Tonnes)

Country/ Region/Year	2014				2015 (P)			
	Production	Consumption	Deficit/ Surplus	% extent of deficit/ surplus	Production	Consumption	Deficit/ Surplus	% extent of deficit/ surplus
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
North America	869.50	1026.60	-157.10	-15.30	910.30	1036.30	-126.00	-12.16
South & Central America	390.00	329.80	60.20	18.25	396.00	322.70	73.30	22.71
Middle East	1340.30	417.10	923.20	221.34	1412.4	425.70	986.72	231.79
Africa	397.50	177.20	220.30	124.32	398.00	183.00	215.00	117.49
Asia Pacific	396.60	1442.20	-1045.60	-72.50	398.60	1501.4	-1102.85	-73.45
of which India	41.60	180.80	-139.20	-76.99	41.20	195.50	-154.30	-78.93
Japan	-	197.30	-	-	-	189.60		
China	211.43	526.80	-315.37	-59.87	214.6	559.70	-345.14	-61.67
Australia	19.10	45.40	-26.30	-57.93	17.00	46.20	-29.20	-63.20
Europe & Eurasia	834.70	858.60	-23.90	-2.78	846.70	862.20	-15.50	-1.80
Total World	**4228.60**	**4251.50**	**-22.90**	**-0.54**	**4362.02**	**4331.35**	**30.67**	**0.71**

P: Provisional

Source : BP Statistical Review of World Energy, June 2016

Figure XI.6: Region-wise % share of refining capacity, crude throughput and consumption of petroleum products during 2015



XI.12 World Crude Oil and Petroleum Products Imports and Exports during 2015

Region/Country	Imports		Exports		Imports		Exports	
	Crude	Product	Crude	Product	Crude	Product	Crude	Product
	(Million Tonnes)				(Thousand barrels daily)			
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
US	366.0	98.1	24.5	198.3	7351	2050	491	4145
Canada	32.7	29.3	159.4	30.0	657	613	3200	627
Mexico	†	37.0	59.8	8.2	‡	774	1201	171
S. & Cent. America	20.1	91.3	172.4	29.0	404	1908	3462	605
Europe	488.1	184.0	10.2	129.2	9801	3847	204	2701
Russia	2.9	2.0	254.7	150.1	57	41.0	5115.0	3139
Other CIS	23.2	12.9	81.0	11.9	465	269.0	1626.0	249
Middle East	7.9	37.1	879.6	141.3	158	776	17665	2954
North Africa	8.1	32.7	61.5	19.0	162	683	1235	397
West Africa	0.5	28.1	215.5	6.2	9	588	4327	130
East & Southern Africa	6.7	22.4	8.4	1.5	134	467	170	32
Australasia	24.5	25.8	9.2	3.0	491	540	184	63
China	335.8	69.5	2.8	36.7	6743	1453	57	767
India	195.1	23.3	0.2	55.0	3919	488	3	1150
Japan	167.8	46.7	0.3	17.4	3370	976	6	363
Singapore	45.7	125.7	0.1	88.7	918	2628	1	1855
Other Asia Pacific	252.3	163.3	37.8	103.6	5067	3415	759	2166
Total World	**1977.3**	**1029.3**	**1977.3**	**1029.2**	**39706**	**21516**	**39707**	**21516**

† Less than 0.05. ‡ : Less than 0.5

Note: Bunkers are not included as exports. Intra-area movements (for example, between countries in Europe) are excluded.

CIS: Commonwealth of Independent States

Source : BP Statistical Review of World Energy, June 2016

XI.13 Export of Crude Oil and Refined Petroleum Products from OPEC

(in '000' barrels/day)

Country/ Year	2008	2009	2010	2011	2012	2013	2014	2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Crude Oil								
Algeria	841	747	709	843	809	744	622.9	642
Angola	1044	1770	1683	1546	1663	1669	1608	1711
Ecquador	348	329	340	334	358	388	422	433
Iran	2574	2406	2583	2537	2102	1215	1109	1081
Iraq	1855	1906	1890	2166	2423	2390	2516	3005
Kuwait	1739	1348	1430	1816	2070	2058	1995	1964
Libya	1403	1170	1118	300	962	589	319	235
Nigeria	2098	2160	2464	2377	2368	2193	2120	2114
Qatar	703	647	588	588	599	596	595	491
Saudi Arabia	7322	6268	6644	7218	7557	7571	7154	7163
UAE	2334	1953	2103	2457	2445	2701	2497	2442
Venezuela	1770	1608	1562	1553	1725	1528	1965	1974
Total	**24031**	**22312**	**23114**	**23735**	**25081**	**23642**	**22922**	**23254**
Refined Petroleum Products								
Algeria	457	232	314	492	449	453	583	605
Angola	41	41	8	31	30	32	31	37
Ecuador	42	34	28	29	27	20	8	16
Iran	275	301	371	441	456	394	470	514
Iraq	85	26	5	1	2	11.5	9.3	14
Kuwait	708	674	632	759	804	805	751	739
Libya	157	136	48	21	40	76	38	30
Nigeria	19	12	23	24	8	23	49	18
Qatar	98	249	322	510	466	511	522	521
Saudi Arabia	1058	1008	951	902	862	794	988	1155
UAE	359	374	188	604	654	803.5	760	950
Venezuela	912	956	751	786	675	713	312	318
Total	**4211**	**4043**	**3641**	**4601**	**4474**	**4636**	**4521**	**4917**

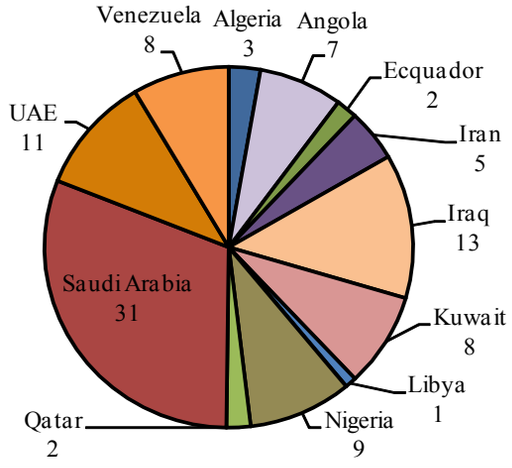
Note

1. Includes changes in the quantity of oil in transit, movements not otherwise shown, unspecified use, etc.

2. Indonesia suspended its membership as on 01.01.2009 and reactivated as of 1.1.2016

Source: OPEC Annual Statistical Bulletins, 2014, 2015 & 2016

Figure XI.7: Member country's % share in export of crude oil by OPEC during 2015



XI.14 World Imports of Natural Gas by Country

(in Million Standard Cubic Metres)

Country/ Region/Year	2008	2009	2010	2011	2012	2013	2014	2015 (P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
North America	130250	127071	128562	127975	118033	108349	98218	98648
Canada	15900	20830	22622	29740	29180	26,699	21,890	20796
United States	114350	106241	105940	98235	88853	81,650	76,328	77852
Latin America	**29810**	**28910**	**37868**	**43529**	**52664**	**54988**	**57004**	**56868**
Argentina	1300	2660	3610	7560	8700	11200	11,312	11425
Brazil	11030	8440	12600	10480	13730	16770	17,530	18144
Chile	750	1490	3410	3920	3830	3778	3,715	3742
Mexico	13880	13160	15150	18060	21827	18529	19,698	20084
Venezuela	1500	1800	1446	1797	1877	1821	1,839	500
Others	na	na	na	1712	2700	2890	2910	2973
Eastern Europe & Eurasia	**189050**	**137130**	**145874**	**155380**	**139400**	**131390**	**120171**	**110131**
Armania	2300	2050	1750	1950	2070	1960	2080	2120
Belarus	21100	17570	21600	21850	20252	20260	20052	18790
Bulgaria	3100	2640	2160	2640	2370	2590	2600	2613
Czech Republic	8610	9570	11140	11280	10220	9970	8000	8200
Estonia	630	710	360	650	610	na	na	na
Georgia	1130	200	200	200	172	na	na	na
Hungary	11500	8100	7510	6910	6060	6130	7100	5500
Kazakhstan	5800	7400	6690	6590	6200	6501	6696	6770
Kyrghyzstan	1200	1200	190	250	250	na	na	na
Latvia	750	1190	660	1550	1050	1060	940	931
Lithuania	3090	2740	2630	3000	3110	2530	2490	2540
Maldova	2800	2900	2920	2910	2910	2250	2630	2656
Poland	10280	9150	10150	11170	11270	12690	12424	10900
Romania	4500	2050	2150	2650	2040	1300	1040	728
Russia	56200	28100	34389	33110	33770	28010	27730	24957
Slovakia	5600	5400	6425	5830	5030	5080	4100	4000
Tajikistan	700	700	700	180	188	198	306	306
Ukraine	52720	35460	34250	42000	30890	28023	19133	16263
Others	-	2110	750	660	938	2838	2850	2857
Western Europe	**405855**	**394627**	**428413**	**420478**	**414350**	**412623**	**403145**	**422835**
Austria	8100	7190	7530	9780	7810	6390	7800	6000
Belgium	21140	21760	31330	29920	28580	31850	28500	34100
Bosnia/Herzegovina	310	220	210	260	240	240	240	240
Croatia	1260	1200	1170	820	1280	1370	1040	1044
Denmark	0	0	150	370	250	na	na	na
Finland	4500	4100	4782	3940	3661	3340	2910	2907
France	49250	49060	46199	47400	44940	47990	44250	44648
Germany	92765	94572	93980	89310	90530	92550	98103	100300
Greece	4140	3290	3815	4640	4340	3700	2928	3161
Ireland	5000	5080	5261	5290	5290	4880	4500	4600
Italy	76870	69310	75348	69930	67802	61953	55758	58200
Luxembourg	1200	1300	1366	1250	1206	1028	973	877
Macedonia	70	80	77	100	100	na	na	na

Contd...

XI.14 World Imports of Natural Gas by Country (Contd...)

(in Million Standard Cubic Metres)

Country/ Region/Year	2008	2009	2010	2011	2012	2013	2014	2015 (P)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Netherlands	17970	16980	16970	14300	15390	15560	15900	25000
Portugal	4560	4410	5109	5120	4610	4840	4200	5000
Serbia	2150	1550	1933	1850	2240	2195	1900	1815
Slovenia	1000	890	880	770	730	na	na	na
Spain	39060	35430	36716	35520	36754	35399	36383	36274
Sweden	1000	1310	1642	1300	1130	1120	1000	1030
Switzerland	3190	3625	3165	3190	3420	3650	3240	3381
Turkey	36850	33180	36930	42560	44300	43710	49043	48062
United Kingdom	36540	41060	53850	52838	49100	48944	43405	45087
Others	na	na	1107	20	647	1914	1072	1109
Middle East	**35280**	**39100**	**41048**	**44674**	**38819**	**41823**	**36619**	**44260**
Iran, I.R.	7100	5800	7243	11659	6720	5329	4422	9015
Jordan	2720	2850	2520	830	810	1180	1197	2200
Kuwait	na	890	890	688	688	3517	3025	3852
Oman	350	1500	1900	1950	1950	1950	1970	1988
Syrian Arab Republic	140	910	690	552	350	250	125	25
United Arab Emirates	24970	25450	25705	28275	28201	29047	25800	27100
Others	na	1700	2100	720	100	550	80	80
Africa	**4950**	**5250**	**4790**	**6296**	**6580**	**6990**	**7620**	**11464**
Morocco	500	500	500	786	660	580	500	500
South Africa	3200	3500	3040	3300	3600	3720	3800	3804
Tunisia	1250	1250	1250	1380	1890	2260	2890	2930
Others	na	na	na	830	430	430	430	4230
Asia Pacific	**164660**	**160551**	**212122**	**241180**	**272823**	**295569**	**300356**	**299788**
China	4440	7630	16350	30490	39700	51800	55944	59169
India	10790	12620	12150	16390	17920	17380	17378	18536
Japan	92250	85900	98015	104000	122243	122489	123908	122190
South Korea	36550	34320	43579	48780	48120	52980	49400	44400
Malaysia	500	900	2938	1990	2340	na	na	na
Singapore	9970	10800	8553	8460	8310	na	na	na
Chinese Taipei	12080	11790	15890	15930	16694	16798	na	na
Thailand	8550	8291	8810	9580	9760	10360	10500	10941
Others	na	na	17328	5560	7736	23762	43226	44552
Total World	**959855**	**892639**	**998677**	**1039512**	**1042669**	**1051732**	**1023132**	**1043994**

P: Provisional na: not available

Source : OPEC Annual Statistical Bulletins, 2014, 2015 & 2016

XI.15 World Imports of Petroleum Products by Country

(in '000' Barrels/ Day)

Country/Year	2008	2009	2010	2011	2012	2013	2014	2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
NORTH AMERICA	**2415**	**2103**	**2005**	**2818**	**2340**	**2402**	**2203**	**2347**
Canada	330	279	251	317	269	272.8	305.5	297
United States	2080	1819	1748	2501	2071	2129	1897	2050
LATIN AMERICA	**1946**	**1792**	**2235**	**2424**	**2416**	**2407**	**2544**	**2638**
Brazil	344	309	501	683	570	563	611	557
Cuba	79	9	38	27	25	28	30	na
Ecuador	na	88.0	119	104	118	133	157	154
Mexico	478	455	654	660	648	567	618	713
Netherland Antilles	66	87	45	45	45	45	45	na
Panama	43	43	64	51	62	59.5	63.4	58.4
Venezuela	na	68	72	68	145	133	158	187
Others	938	733	742	787	803	878	860	970
Eastern Europe and Eurasia	**353**	**390**	**792**	**868**	**815**	**811**	**958**	**913**
Bulgaria	30	30	37	26	31	32.1	33.6	37.6
Russia	11	11	57	92	50	39	48	51
Hungary	45	44	57	46	41	45	48	57
Poland	120	160	138	130	104	108	121	126.8
Others	146	145	503	575	590	587	708.5	641
WESTERN EUROPE	**6207**	**6572**	**7433**	**6742**	**6707**	**7039**	**7005**	**7272**
Belgium	439	362	450	428	389	546	490	547
France	700	776	839	815	900	881	897.3	857
Germany	704	667	757	702	689	802	792	798
Italy	230	240	390	233	206	260	253	262
Netherlands	1459	1632	1766	1753	1871	1843	1793	1901
United Kingdom	437	476	677	495	538	595	608	652
Others	2238	2419	2554	2317	2114	2111	2173	2256
MIDDLE EAST	**535**	**667**	**1063**	**981**	**1230**	**1264**	**1316**	**1503**
Iran	na	182	107	30	6	15	40	53
Iraq	na	49	48	63	103	84	99	81
Saudi Arabia	na	225	170	197	320	482	465	588
Others	535	211	738	691	801	683	712	782
AFRICA	**828**	**971**	**1493**	**1552**	**1696**	**1578**	**1651**	**1880**
Algeria	na	23	18	43	94	102	55	83
Angola	na	60	57	64	92	89	99	135
Egypt	103	157	183	186	242	198	205	367
Libya	na	na	na	93	95	94	95	73
Morocco	82	81	160	163	161	166	163	161
Nigeria	156	162	197	412	352	331	439.7	441
Tunisia	68	68	80	73	64	63	70.4	83
Others	419	420	798	518	597	535	524.5	538
Asia and Pacific	**7112**	**7133**	**7861**	**8446**	**8420**	**8903**	**9161**	**9810**
Australia	337	339	323	337	379	423	430	546
China	804	777	997	1011	1018	1093	958	1151
Hong Kong	331	389	439	393	368	421	388	na
India	408	283	390	394	405	372	488	637
Indonesia	na	na	na	435	467	461	555	506
Japan	934	829	1053	1026	1089	1003	993	973
New Zealand	44	45	41	41	40	46	49	46
Singapore	1978	2210	2021	2513	2170	2313	2391	2578
South Korea	na	na	na	763	853	899	886	844
Others	2276	2261	2597	1533	1631	1871	2025	2529
TOTAL WORLD	**19396**	**19628**	**22882**	**23831**	**23623**	**24404**	**24838**	**26364**

Source : OPEC Annual Statistical Bulletins, 2014, 2015 & 2016

na = Not Available

XI.16 World Crude Oil Export by Country

(in '000' Barrels/ Day)

Country/Year	2008	2009	2010	2011	2012	2013	2014	2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
NORTH AMERICA	**1564**	**1531**	**1520**	**1731.1**	**1824**	**2193**	**2627**	**2755**
Canada	1525	1486	1478	1684	1757	2059	2276.2	2297
United States	39	45	42	47	67	134	351	458
LATIN AMERICA	**4479**	**4327**	**4624**	**4600**	**4579**	**4382**	**4944**	**5213**
Columbia	346	358	484	558	555	703	722	736
Ecuador	348	329	340	334	358	388	422	433
Mexico	1446	1312	1460	1420	1333	1271	1220	1247
Trinidad and Tobago	10	94	75	40	31	38	34.2	29
Venezuela	1770	1608	1562	1553	1725	1528	1965	1974
Others	559	626	703	695	577	454	581	794
EASTERN EUROPE & EURASIA	**5058**	**7204**	**7273**	**7011**	**6968**	**6943**	**6800**	**7197**
Russia	5046	4967	4978	4786	4757	4689	4488.8	4898
Others	12	2237	2295	2225	2211	2254	2311	2299
WESTERN EUROPE	**2785**	**2761**	**2555**	**2176**	**2038**	**1869**	**1892**	**1949**
Norway	1702	1773	1602	1423	1303	1199	1203	1235
United Kingdom	840	771	747	563	576	514	571	595
Others	243	217	206	190	159	156	118	120
MIDDLE EAST	**17323**	**15346**	**16323**	**17772**	**18087**	**17493**	**16792**	**17037**
Iran	2574	2406	2583	2537	2102	1215	1109	1081
Iraq	1855	1906	1890	2166	2423	2390	2516	3005
Kuwait	1739	1348	1430	1816	2070	2058	1995	1964
Oman	593	671	749	742	768	838	804.3	788
Qatar	703	647	588	588	599	596	595	491
Saudi Arabia	7322	6268	6644	7218	7557	7571	7153	7163
Syrian Arab Rep.	253	250	149	114	na	na	na	na
United Arab Emirates	2334	1953	2103	2457	2445	2701	2497	2442
Others	203	147	336	248	123	124	123	104
AFRICA	**6297**	**7105**	**7608**	**6636**	**6996.9**	**6526**	**6072**	**6178**
Algeria	841	747	709	843	809	744	623	642
Angola	1044	1770	1683	1546	1663	1669	1608	1711
Congo	240	272	288	264	252	241	261	227
Egypt	98	102	85	83	91	97	117	156
Gabon	209	188	225	235	227	211	225	210
Libia	1403	1170	1118	300	962	589	319	235
Nigeria	2098	2160	2464	2377	2368	2193	2120	2114
Sudan	na	371	389	363	60	133	168	166
Others	364	325	647	625	565	649	631	717
ASIA AND PACIFIC	**1742**	**1676**	**1565**	**1291**	**1240**	**1132**	**1200**	**1325**
Australia	239	272	314	272	261	205.6	244.3	222
Brunei	164	152	162	154	139	115	108	112
China	107	104	61	51	49	32	12	57
Indonesia	294	323	356	257	229	228.6	255.9	315
Malaysia	402	372	370	280	268	263	278	366
Vietnam	206	202	161	165	185	170	173	144
Others	330	251	141	113	109	117	128	109
TOTAL WORLD	**39248**	**39950**	**41468**	**41218**	**41733**	**40538**	**40326**	**41654**
OPEC	24031	22312	23114	23735	25081	23642	22922	23254
OPEC (%)	61	56	56	58	60	58	57	56

Note

1. Revision have been made throughout the time series. Data includes re-exports.
2. Figures of World crude oil exports of OPEC and BP Statistical Review may not tally due to difference in coverage and methodology used

Source : OPEC Annual Statistical Bulletins, 2014, 2015 & 2016

XI.17 World Exports of Refined Products by Country

(in '000' Barrels/ Day)

Country/Year	2008	2009	2010	2011	2012	2013	2014	2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
NORTH AMERICA	**2086**	**2221**	**2738**	**3329**	**3606**	**3995**	**4289**	**4776**
Canada	445	431	427	390	468	505	464	484
United States	1641	1790	2311	2939	3138	3490	3825	4292
LATIN AMERICA	**2510**	**2455**	**2321**	**1856**	**1627**	**1674**	**1202**	**1133**
Brazil	163	155	158	140	164	155	160	130
Ecuador	42	34	28	29	27	20	8	16
Mexico	244	219	190	198	143	183	201.6	196
Netherland Antilles	231	201	77	157	163	156	139	na
Trinidad and Tobago	94	108	107	114	70	92	70	65
Venezuela	912	956	751	786	674	713	312	318
Virgin Islands	421	394	367	340	313	315	na	na
Others	403	388	643	92	73	40.2	311.7	408
EASTERN EUROPE & EURASIA	**1450**	**2890**	**3343**	**3137**	**3195**	**3224**	**3325**	**3529**
Romania	101	96	75	68	67	68.8	88.8	90
Russia	1127	2159	2230	1927	1979	2118	2174	2270
Others	222	635	1038	1142	1149	1037	1062	1170
WESTERN EUROPE	**5680**	**5527**	**6223**	**6026**	**6358**	**6355**	**6359**	**6930**
Belgium	400	343	441	386	390	494	524	529
France	571	466	482	440	426	406	411	441
Germany	517	453	375	371	384	414	434	452
Italy	527	489	601	544	586	490	418	566
Netherlands	1645	1871	2137	2033	2113	2079	2081	2245
United Kingdom	561	521	560	584	569	553	484	487
Others	1459	1384	1627	1668	1890	1919	2007.5	2210
MIDDLE EAST	**2960**	**3018**	**2876**	**3669**	**3648**	**3683**	**3875**	**4250**
Bahrain	238	240	223	242	246	248	249	251
Iran	275	301	371	441	456	394	470	514
Iraq	85	26	5	1	2	12	9	14
Kuwait	708	674	632	759	804	805	751	739
Qatar	98	249	322	510	466	511	522	521
Saudi Arabia	1058	1008	951	902	862	794	988	1155
United Arab Emirates	359	374	188	604	654	803	760	950
Others	139	146	184	209	158	116	126	106
AFRICA	1011	745	643	786	750	832	938	922
Algeria	457	232	314	492	449	453	583	605
Angola	41	41	8	31	30	32	31	37
Egypt	67	54	90	70	58	49	53	64
Gabon	7	6	8	6	6	3	8	10
Nigeria	19	12	23	24	8	23	49	18
Libya	157	136	48	21	40	76	38	30
Others	263	264	152	142	159	196	176	158
ASIA AND PACIFIC	**5055**	**5290**	**5745**	**6372**	**6374**	**6834**	**6812**	**7039**
Australia	50	49	72	56	64	57	56	47
China	456	523	623	610	570	666	693	836

Contd...

XI.17 World Exports of Refined Products by Country (Contd...)

(in '000' Barrels/ Day)

Country/Year	2008	2009	2010	2011	2012	2013	2014	2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
India	806	1003	1224	1267	1289	1475	1374	1246
Indonesia	103	82	101	84	71	87	88	74
Japan	406	391	351	476	440	513	509	560
Malaysia	189	286	304	310	402	492	494	453
Singapore	1623	1766	1755	1964	1731	1743	1772	1885
South Korea	na	na	na	1101	1195	1159	1206	1279
Others	1422	1190	1315	504	614	642	619.5	659
TOTAL WORLD	**20752**	**22146**	**23889**	**25174**	**25558**	**26597**	**26800**	**28578**
OPEC	4211	4043	3641	4600	4472	4636	4521	4917
OPEC(%)	20	18	15	18	17	17	17	17

Note:Revision have been made throughout the time series.Data includes re-exports of petroleum products from gas plants.

Source : OPEC Annual Statistical Bulletins, 2014, 2015 & 2016

XI.18 International Petroleum Crude Price Index								
Petroleum Spot	2008	2009	2010	2011	2012	2013	2014	2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
U.K. BRENT 38.0/0.26	466.11	295.26	381.04	533.08	558.26	519.96	474.29	250.89
USA WEST TAXAS INTERMEDIATE, 40.0/0.4	408.83	252.98	324.69	388.35	384.71	400.49	381.28	199.22
UAE DUBAI FATEH 32.5/1.43	460.50	303.39	383.22	521.15	535.18	517.42	474.53	249.95
IRAN LIGHT 33.9/1.4	458.62	296.75	378.78	524.66	531.93	519.33	471.22	249.03
IRAN HEAVY 31.0/1.6	459.52	304.47	385.43	532.95	547.76	531.04	483.07	245.10
INDONESIA MINAS 33.0/0.1	432.72	279.02	353.74	493.51	501.29	461.78	424.25	211.39
NIGERIA BONNY LIGHT, 36.7/0.1	419.78	261.80	335.55	472.48	470.45	463.37	419.50	219.16
MEXICO ISTHUMAS, 31.8/1.51	431.84	275.96	353.11	479.09	483.22	476.92	424.72	231.93
RUSSIA URALS 36.1/2.52	420.90	271.61	347.78	484.43	490.20	479.15	435.14	230.26
MALAYSIA TAPIS 44.3/0.2	388.52	241.73	307.47	435.34	434.71	425.08	383.31	207.17
AUSTRALIA Gippsland GIPPSLAND, 46.0/0.13	430.40	270.15	346.02	482.26	476.25	457.83	413.12	221.08
SAUDI ARABIA ARAB HEAVY, 28.0/3.0	469.47	320.99	402.56	554.40	577.09	553.49	499.09	250.45

Note : The number below the crude names show the API gravities and percentage of sulphur by weight.

Base year (1990 =100)

Source : OPEC Annual Statistical Bulletins, 2014, 2015 & 2016

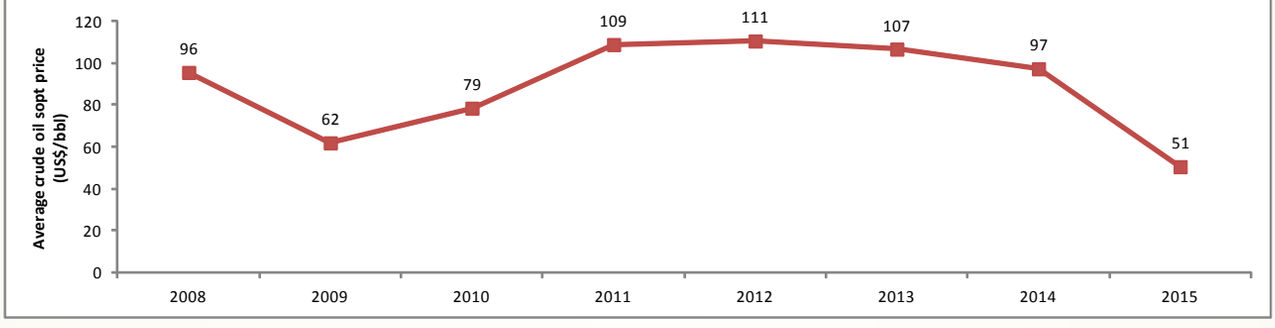
XI.19 Spot prices of key OPEC crude

(US $/bbl)

Period	Country/Crude Name										
	Kuwait Kuwait Export	Libya Brega	Nigeria Forcados	Qatar Dukhan	Saudi Arabia Arab Heavy	UAE Murban	Indonesia Minas	Iran		Iraq Basrah Light	Oman Oman
								Iran Light	Iran Heavy		
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*
2008	91.16	98.12	101.42	98.39	88.12	99.03	102.16	94.66	91.49	92.08	94.51
2009	60.68	62.16	63.35	62.86	60.25	63.78	64.00	61.25	60.62	60.50	62.06
2010	76.32	79.67	81.06	79.36	75.56	79.94	81.78	78.18	76.74	76.79	78.34
2011	105.63	112.89	113.65	108.86	104.06	109.77	115.50	108.29	106.11	106.17	106.63
2012	108.93	111.45	113.66	109.26	110.22	111.76	114.71	109.79	109.06	107.96	109.35
2013	105.04	108.51	111.36	107.05	103.89	108.21	107.41	107.19	105.73	103.60	105.51
2014	95.32	98.51	101.35	98.44	93.68	99.45	98.68	97.26	96.18	94.45	97.04
2015	48.13	52.08	54.41	52.87	47.01	53.87	49.17	51.40	48.80	47.87	51.21

Source : OPEC Annual & Monthly Statistical Bulletins, 2014, 2015 & 2016

Figure XI.8: Trends in average international crude oil spot price



XI.20 Crude Oil Spot Prices

(Average Unit Value, FOB)(in US $/bbl)

Crude	Country	2008	2009	2010	2011	2012	2013	2014	2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
Brent	UK(North Sea)	97.10	61.70	79.51	111.21	111.68	108.68	98.94	52.37
WTI	U.S.A	99.67	61.93	79.48	95.04	94.12	98.03	93.28	48.71
WTS	U.S.A	95.93	60.40	77.32	92.99	88.71	95.41	87.33	48.97
Light Lui.	Louisiana	102.45	64.54	82.83	112.38	111.69	107.39	96.9	52.35
Dubai	UAE	94.20	61.86	78.13	106.33	109.02	105.44	96.52	50.84
Iran Light	Iran	93.46	61.26	77.88	109.08	109.81	107.4	96.87	51.12
Iran Heavy	Iran	91.07	60.6	76.85	107.11	108.19	105.63	95.02	49.72
Urals	Russia	94.07	61	78.17	109.61	110.85	108.39	97.97	51.5
Minas	Indonesia	99.62	64.71	82.22	114.41	116.26	110.08	100.3	52.52
Tapis	Malaysia	104.90	65.08	82.72	119.30	117.00	115.10	102.83	54.5

Source : Energy Prices and Taxes, Second Quarter of 2016. International Energy Agency Publication.

XI.21 Petroleum Products Spot Prices

(in US $/bbl)

Product	2008	2009	2010	2011	2012	2013	2014	2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
NW EUROPE								
Gasoline	100.22	70.06	87.32	116.42	122.89	116.69	108.16	67.03
Gas Oil	123.85	69.38	89.75	125.02	128.03	123.4	112.63	65.48
Jet/Kerosene	126.59	71.02	90.63	127.42	129.00	124.12	113.87	65.32
Naphtha	88.90	59.91	80.11	104.56	105.37	101.44	93.95	51.79
LSFO	79.14	56.36	72.28	100.38	105.12	96.43	86.96	41.01
HSFO	70.11	52.93	67.99	94.51	97.65	91.47	81.04	37.85
U.S.A								
Gasoline	109.38	73.42	91.29	123.86	131.91	127.42	117.36	77.29
Gas Oil	117.97	68.05	88.24	122.41	125.43	120.4	109.09	60.84
Jet/Kero	124.07	69.93	90.31	125.92	128.22	122.67	113.3	63.86
Naphtha	87.17	55.95	78.12	100.48	98.05	94.47	87.61	47.66
LSFO	79.14	56.36	72.28	100.38	na	na	na	na
HSFO	72.59	55.92	69.70	95.72	99.32	92.96	82.82	40.73
SINGAPORE								
Gasoline	103.25	70.37	88.48	119.81	123.44	118.98	110.75	69.09
Gas Oil	123.42	70.44	90.39	126.25	128.08	123.24	112.63	64.47
Jet/Kero	122.30	70.26	90.28	125.70	126.81	122.87	112.4	64.69
Naphtha	89.90	61.07	79.41	102.75	103.73	101.2	94.43	52.88
LSFO	88.34	53.31	80.83	109.75	115.43	106.16	98.55	48.07
HSFO	79.12	58.43	73.23	114.76	118.22	111.96	104.93	56.38

na: not available

Source : Energy Prices and Taxes, Second Quarter of 2016. International Energy Agency Publication.

XI. 22 Natural Gas Prices for Industry and Household Use

USD/MWh (GCV basis) (using PPPs)

Country/Year	2008	2009	2010	2011	2012	2013	2014	2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
FOR INDUSTRIAL USE								
Belgium	38.4	36.8	28.6	32.4	34.2	48.8	45.9	41.9
Canada	26.2	14.1	11.6	12.3	9.5	39.9	35.7	28.3
Czech Repubic	63.2	62.2	62.4	67	71	47.3	42.8	33.7
Estonia	48.2	46.3	52.5	54.4	65.8	47.2	47.4	33.6
Finland	23.9	22.8	25.0	35.8	38.8	55.6	53.5	41.3
France	40.5	31.6	36.7	43.9	46.6	51.8	49.2	40.5
Germany	48.2	42.5	42.7	46.1	44.2	49.9	44.6	34.1
Greece	54.0	39.1	47.9	57.5	75.5	61	56.5	36.9
Hungary	86.3	84.6	60.9	70.1	86.1	45.6	51.2	34.2
Ireland	38.1	33.5	33.2	37.9	42.6	51.7	48.6	35.9
Italy	48.2	44.3	40.2	na	na	na	na	na
Japan	na	39.4	42.9	52.2	58.7	72	72.2	na
Korea	60.2	63.9	72.1	77.9	84.8	67.2	70.9	53.2
Luxembourg	23.8	31.7	34.4	40.3	42.9	53.5	44.8	42.4
Mexico	55.6	na	na	na	na	na	na	na
Netherlands	37.3	36.2	30.6	33.4	36.2	41.7	41	31.6
New Zealand	19.7	21.8	18.9	19.0	19.0	23.7	22.2	17.7
Poland	59.4	62.5	64.8	69.1	78	42.3	43.8	31.8
Portugal	49.6	47.5	48.1	58.2	69.1	55.7	59.8	44.1
Slovak Republic	71.2	62.8	68	69.6	78.7	49.3	44.2	36.3
Slovenia	60.8	54.8	60.7	66.5	81.4	57.9	51.7	38
Spain	39.7	37.8	35.3	38.5	49.7	45.8	44.4	33.2
Sweden	49.5	42	44.8	49.6	48.6	63.8	54.9	44.4
Switzerland	44.8	43.3	39.3	44.9	48.1	72.2	73.6	65.8
Turkey	71.9	68.4	55.8	56.9	70.2	43.6	38.7	32.6
U.K	32.2	29.7	26.5	31.7	34.9	41.9	40.1	33.3
U.S.A	31.9	17.6	17.8	16.9	12.8	15.3	18.3	12.7
OECD Total	38.5	29	28.4	29.7	29.4	31.2	31.3	21.6
FOR HOUSEHOLD USE								
Austria	70.7	76.4	73.0	80.1	83.8	110.2	107.6	87.3
Belgium	75.2	65.3	66.3	81.3	84.4	88.1	86.8	66.8
Canada	37.6	32.4	31.3	29.6	27.6	33.8	35.1	26.8
Chile	179.8	151.8	168.4	191.5	173.4	111.9	102.7	83.9
Czech Repubic	87.4	96.1	93.7	109.3	127.5	84	77	67
Denmark	na	78.3	90.3	99.4	93	130	118	87.6
Estonia	64.9	72.3	74.1	82.6	95	66.3	64.2	46
Finland	33.4	32.6	35.4	49.3	53.6	na	na	na
France	61.4	61.0	65.5	73.9	76.4	89.6	89.4	74.6
Germany	87.5	86.3	79.9	84.9	89.4	94.6	94.7	78.4
Greece	101.9	92.4	100.3	110.9	156.2	151.5	139.8	112.7
Hungary	85.8	99.2	91.9	102.4	106.2	57.5	49	39.9
Ireland	63.9	70.6	66.2	69.7	81.1	97	100.5	80.5
Italy	85.9	84.1	91.0	na	na	na	na	na
Japan	..	109.7	111.7	122.9	129.4	146.1	143.1	na

Contd...

XI. 22 Natural Gas Prices for Industry and Household Use (Contd...)

USD/MWh (GCV basis) (using PPPs)

Country/Year	2008	2009	2010	2011	2012	2013	2014	2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Korea	76.4	76.9	77.5	84.3	90.5	68.5	75.9	58.3
Lexembourg	55.7	48.7	47.3	59.5	64.6	78.9	69.2	53.8
Mexico	57.5	67.0	65.0	59.3	50.4	34.5	35.4	27.2
Netherlands	86.6	85.5	76.5	83.8	92.5	103.7	102.6	82.1
New Zealand	91.9	80.5	79.9	87.3	89.8	111.7	109.9	92.6
Poland	104.2	115.3	110.1	117.8	125.3	68	72.6	59.6
Portugal	96.6	93.8	96.8	108.8	134.2	117.5	130.9	108.6
Slovak Republic	89.9	94.5	89.5	95.5	102.5	70.6	70.7	58
Slovania	98.3	96.9	97.4	112.7	124.5	91.4	88.6	69.6
Spain	83.9	80.8	77.7	91.1	115.2	111.7	118.9	97.4
Sweden	106.7	108.0	109.5	119.9	120.4	162.8	154	127.9
Switzerland	65.8	63.1	60.3	66.5	71.7	108.4	112.7	100.5
Turkey	82.7	83.0	72.1	71.3	85.7	52.7	47.5	40.8
U.K	51.6	57.8	53.0	60.0	65.5	75.6	84.6	75
U.S.A	45.9	40.0	37.0	36.4	35.3	34	36.1	34.2
OECD Total	59.5	59.3	57.9	57.6	62.2	59.9	59.2	48.6

GCV: Gross Calorific Value. MWh: megawatt hour

PPP: Purchasing Power Parity

na: not available

Source : Energy Prices and Taxes, 2nd Quarter of 2016. International Energy Agency Publication.

XI. 23 Crude Oil Import Costs

(Average Unit Value, CIF)(in US $/bbl)

Country	2008	2009	2010	2011	2012	2013	2014	2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
IEA[1]	97.19	60.40	78.13	107.61	109.15	105.84	97.43	50.88
IEA Europe[1]	96.83	61.09	79.05	110.54	111.58	108.93	98.89	51.83
Australia	107.83	63.40	82.60	155.66	117.78	114.19	107.05	57.9
Austria	103.05	60.69	80.00	110.92	112.50	110.63	103.81	55.52
Belgium	96.01	61.77	79.65	110.50	110.83	108.45	98.49	51.65
Canada	101.41	60.29	79.14	110.80	110.61	108.6	98.47	53.48
France	97.63	61.64	79.78	111.78	112.01	109.56	99.4	53.14
Germany	96.70	61.18	78.49	110.63	112.21	109.62	99.76	52.65
Greece	93.60	60.10	78.97	109.41	111.92	107.61	95.55	49.32
Italy	96.67	60.69	79.29	110.23	112.18	109.98	99.09	52.06
Japan	100.98	61.29	79.43	109.30	114.75	110.61	104.16	54.2
Korea	98.11	61.12	78.72	108.63	113.24	108.59	101.24	53.32
Netherlands	97.89	60.54	78.55	109.19	111.54	108.55	99.22	51.66
New Zealand	105.80	65.85	80.62	112.38	117.70	113.43	105.96	57.99
Spain	94.86	59.78	77.84	108.50	109.48	106.77	97.07	49.51
Sweden	95.09	60.58	79.00	110.67	112.36	109.1	97.75	51.19
U.K	99.34	62.39	80.60	113.49	112.62	110.27	100.07	53.81
U.S.A	94.97	58.83	76.02	102.43	101.16	97.25	89.55	45.83

1: Computed across the countries of the region using import volumes as current weights. Poland is included since Jan. 2008; the Slovac Republic is included since Jan. 2007; Korea and Czech Republic are included since January 2001;Hungary is not included. For reasons like confidentiality, data for some countries is not listed separately.

Source: International Energy Agency's "Energy Prices and Taxes" Second Quarter of 2016.

XI.24 Spot Prices of Key OPEC Crude Oils

(in US $/bbl)

Year/Month/Country	Iran	Kuwait	Nigeria Bonny	Saudi Arabia		UAE
	Light 33.9	Export 31.4	Light 36.7	Light 34.2	Heavy 28.0	Dubai 32.4
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*
2008						
January	89.21	85.63	94.85	88.75	82.85	87.35
March	99.35	95.58	106.68	99.23	92.67	96.72
June	127.89	124.37	136.44	129.35	120.62	127.82
September	97.56	93.15	100.48	97.57	89.92	95.90
December	40.03	36.47	43.10	38.82	34.38	40.46
2009						
January	39.13	40.00	45.44	41.23	38.31	43.94
March	44.52	44.91	49.70	46.39	43.76	45.59
June	68.16	68.73	69.55	69.00	68.74	69.41
September	66.43	66.45	68.74	67.34	66.16	67.74
December	74.34	74.03	75.68	74.38	74.00	75.42
2010						
January	75.62	75.69	77.39	76.46	75.60	76.69
March	77.70	76.29	80.40	77.24	75.87	77.31
June	73.13	72.30	76.00	73.84	71.19	73.99
September	76.82	72.92	79.65	74.55	71.88	75.13
December	90.60	87.25	93.08	89.59	86.11	89.17
2011						
January	94.90	91.45	98.10	93.59	90.26	92.33
March	111.44	107.66	116.75	110.37	105.80	108.71
June	110.45	106.65	117.27	109.37	104.34	107.77
September	108.47	105.16	115.63	107.72	103.18	106.31
December	107.06	107.06	110.71	107.96	106.61	106.43
2012						
January	109.8	112.00	113.08	112.82	111.73	109.86
March	122.8	122.32	127.98	123.43	121.84	122.47
June	93.35	93.32	97.19	94.51	92.67	94.44
September	112.24	110.02	114.06	111.32	109.76	111.22
December	107.61	106.19	111.19	108.35	104.79	106.34
2013						
January	105.33	103.79	115.41	110.64	102.21	107.94
March	105.63	103.08	110.57	107.61	101.63	105.55
June	110.27	106.56	106.12	101.30	104.50	100.32
September	96.41	95.30	114.30	109.48	99.73	108.28
December	61.32	58.25	113.11	108.07	56.65	107.8
2014						
January	105.33	103.79	110.26	105.74	102.21	104.01
February	106.47	104.17	110.77	106.3	102.34	105.04
March	105.63	103.05	109.50	104.8	101.63	104.32
April	106.03	103.13	110.19	104.87	101.61	104.68
May	107.42	104.21	112.22	105.8	102.72	105.55
June	110.27	106.56	114.36	108.61	104.50	108.03
July	105.73	105.50	109.19	107.15	103.69	106.13

Contd..

XI.24 Spot Prices of Key OPEC Crude Oils (Contd...)

(in US $/bbl)

Year/Month/Country	Iran	Kuwait	Nigeria Bonny	Saudi Arabia		UAE
	Light 33.9	Export 31.4	Light 36.7	Light 34.2	Heavy 28.0	Dubai 32.4
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*
August	101.3	100.57	102.26	102.24	99.14	101.73
September	96.41	95.30	98.07	97.23	93.73	96.47
October	84.9	83.99	88.51	85.93	82.45	86.73
November	76.88	74.04	80.1	76.07	72.18	76.33
December	61.32	58.25	63.81	60.13	56.65	60.25
2015						
January	47.42	42.31	48.51	44.47	40.25	45.57
February	55.97	52.25	58.46	53.78	51.07	55.85
March	54.79	50.52	56.75	52.2	49.34	54.66
April	59.34	55.96	60.65	57.73	54.26	58.55
May	63.97	60.92	65.31	62.62	59.42	63.54
June	62.28	59.29	62.19	60.94	58.01	61.76
July	55.76	53.85	56.77	54.94	53.55	56.15
August	45.74	45.28	47.07	46.52	44.82	47.87
September	46.16	43.96	48.01	45.56	43.37	45.38
October	47.05	43.61	49.16	45.37	43.01	45.84
November	43.17	38.39	44.81	40.64	37.00	41.79
December	35.98	31.49	38.16	33.7	30.15	34.59

Source: OPEC Bulletin 1-2/16

XI.25 Spot Prices of Major Petroleum Products in Key Trading Centres of the World

(in U$/bbl)

Market/Product/Year	2014					2015											
	Jan	Mar	Jun	Sep	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*	*(16)*	*(17)*	*(18)*
NAPHTHA																	
North European Market, FOB Rotterdam	101.62	100.82	105.38	93.04	54.22	43.66	55.35	55.65	57.96	60.76	59.34	52.04	44.38	45.3	47.36	46.13	42.67
South European Market, FOB Italy	98.76	97.86	103.3	90.97	50.28	39.92	52.53	52.55	54.42	58.37	56.05	48.48	42.33	43	45.25	44.06	40.29
US East Coast Market, spot cargos New York	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Caribbean Market, Cargoes	110.69	108.79	113.92	99.2	53.81	na	na	na	na	na	na	na	na	na	na	na	na
Singapore Cargoes	104.47	102.08	106.17	94.45	56.33	45.23	57.39	57.38	59.56	62.04	60.89	53.15	45.76	46.81	48.92	48.95	45.69
Middle East Gulf Market, FOB	101.9	99.14	103.22	92.44	54.62	43.32	54.88	54.22	56.96	59.89	58.06	50.09	43.45	45.55	48	47.58	43.62
GASOLINE																	
North European Market, FOB, (regular unleaded)	116.51	120.86	130.41	117.23	73.31	61.8	73.71	77.62	82.31	87.7	93.68	90.5	77.52	70.72	66.73	65.27	58.79
North European Market, FOB, (premium) 50ppm	116.51	120.86	130.41	117.23	73.31	na	na	na	na	na	na	na	na	na	na	na	na
South European Market, FOB Italy(premium) 50ppm	113.28	115.23	126.37	113.54	68.7	56.54	68.31	73.37	78.27	82.87	86.19	83.94	70.26	63.02	58.98	58.77	51.81
US East Coast, New York (regular unleaded 87)	112.2	115.94	121.86	113.53	71.13	57.53	67.86	69.59	75.99	82	84.6	78.66	68.26	61.4	58.62	58.51	53.68
Singapore Cargoes(Premium Unl. 95)	117.98	119.37	123.74	110.58	71.91	57.42	70.46	73.84	75.55	83.73	83.97	75.95	66	65.24	63.39	59.1	55.63
Singapore Cargoes(Premium Unl. 92)	114.66	116.53	120.46	108.61	69.58	54.66	67.06	70.34	73.07	81.1	81.02	72.52	61.95	61.59	60.55	56.42	52.83
JET KERO																	
North European Market, FOB Rotterdam	124.57	121.71	124.73	114.54	81.09	66.67	75.7	71.93	73.97	78.67	76.99	68.18	60.18	61.35	59.68	56.78	47.54
US East Coast, New York	128.58	124.16	122.17	117.1	84.2	67.73	77.29	72.79	74.67	80	75.76	67.53	60.76	61.6	60.94	59.07	49.31
Caribbean Cargoes	123.68	122.93	122.73	116.34	77.19	na	na	na	na	na	na	na	na	na	na	na	na
Singapore Cargoes	121.63	119.99	120.8	112.48	78.36	63.66	73.25	70.01	72.08	77.69	74.56	65.81	57.08	58.99	59.28	57.46	47.7
Middle East Gulf Market, FOB	119.51	117.47	118.28	109.68	75.73	60.98	70.81	67.18	69.51	74.98	71.45	62.23	53.79	56.6	57.4	55.51	45.39

Contd...

XI.25 Spot Prices of Major Petroleum Products in Key Trading Centres of the World (Contd...)

(in U$/bbl)

	2014					2015											
Market/Product/Year	Jan	Mar	Jun	Sep	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*	*(16)*	*(17)*	*(18)*
GAS OIL/Diesel																	
North European Market, FOB Rotterdam	121.84	121.01	121.59	111.88	77.45	61.8	73.71	77.62	82.31	87.7	93.68	90.5	77.52	70.72	66.73	65.27	58.79
South European Market, FOB Italy	123.07	121.46	122.79	112.15	77.48	56.54	68.31	73.37	78.27	82.87	86.19	83.94	70.26	63.02	58.98	58.77	51.81
US East Coast, New York	127.16	121.77	120.46	110.29	77.33	67.86	78.66	68.35	72.65	76.98	74.07	64.91	58.4	59.78	58.73	55.08	43.89
Caribbean Cargoes	121.9	121.01	122.06	112.29	73.84												
Singapore Cargoes	121.56	121.68	121.24	111.95	77.1	62.67	74.14	70.75	72.37	78.02	74.73	65.07	57.12	59.48	59.13	57.46	46.86
Middle East Gulf Market, FOB	119.31	119	118.56	108.99	74.32	59.82	68.55	67.74	69.66	75.15	71.44	61.29	53.64	56.93	57.13	55.4	44.42
FUEL OIL																	
North European Market (1%s)	92.37	100.1	98.71	86.5	49.59	37.2	47.05	45.35	49.2	52.57	50.32	44.59	35.24	33.88	33.89	30.2	22.4
North European Market (3.5%s)	89.22	91.27	93.2	86.14	49.44	37.79	47.79	46.07	49.64	53.41	51.12	45.3	35.8	34.41	34.43	30.68	22.59
South European Market,(1%s) FOB Italy	92.94	100.69	100.17	88.6	50.62	39.43	49.07	47.87	51.02	54.19	51.87	45.57	36.31	34.49	36.2	32.83	25.88
South European Market,(3.5%s) FOB Italy	90.16	90.48	92.2	85.92	48.88	38.01	46.78	46.03	49.58	52.79	51.46	44.77	35.76	34.26	34.97	30.02	22.2
US East Coast, New York (0.3%S)	126.38	118.41	106.62	99.44	69.84	57.16	66.91	60.93	61.66	59.69	52.31	44.45	43.4	46.36	45.01	35.65	32.01
US East Coast, New York (2.2%S)	91.97	94.11	95.5	87.09	50.19	na	na	na	na	na	na	na	na	na	na	na	na
Caribbean Cargoes (2%s)	89.5	91.83	92.18	84.72	47.07	na	na	na	na	na	na	na	na	na	na	na	na
Caribbean Cargoes (2.8%s)	84.5	86.83	87.18	79.72	42.07	na	na	na	na	na	na	na	na	na	na	na	na
Singapore Cargoes (380 Cst)	94.56	93.13	95.13	89.14	54.6	42.59	52.24	49.42	52.45	58.22	55.73	47.49	37.36	36.58	36.99	34.98	27.15
Singapore Cargoes (180 Cst)	96.46	95	97.24	90.86	55.52	43.99	54.93	51.54	54.82	61.28	57.08	48.71	39.04	37.37	38.32	36.11	28.2
Middle East Gulf Market, (180 Cst)	91.3	90.51	92.58	86.42	51.21	40.28	50.49	47.63	51.01	57.06	51.98	44.31	35.34	34.36	35.3	32.63	24.35

Source : OPEC Monthly Statistical Bulletins, 2014, 2015 & 2016

na: not available

XI.26 World Survey of Selected Petroleum Products Prices in 2015

Country	US $ Exchange Rate in National Currencies	Automotive Diesel Oil Non-commercial use (US$/Ltr)	Heavy/High Sulphur Fuel Oil (for Industry) (US$/tonne)	Light Fuel Oil	
				For Household Use	For Industry Use
				(US$/1000 Ltr)	
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Australia	1.331	0.969	..	..	..
Austria	0.902	1.243	..	791.6	540.3
Belgium	0.902	1.358	..	638.4	527.6
Canada	1.278	0.854	313.6	821.6	547.8
Chile	654.32	0.781	..	952.7	..
Czech Repubic	24.593	1.269	c	743.5	541.8
Denmark	6.725	1.388	..	1359.1	796.5
Estonia	0.902	1.196	..	861.4	717.8
Finland	0.902	1.436	..	933.7	753.0
France	0.902	1.276	..	782.8	596.5
Germany	0.902	1.265	..	656.7	512.4
Greece	0.902	1.286	..	993.4	807.7
Hungry	279.2	1.282	..	x	..
Ireland	0.902	1.391	684.2	747.5	577.8
Israel	3.887	1.639	c	1602.6	c
Italy	0.902	1.560	..	1295.1	1061.5
Japan	121	0.967	..	678.6	578.4
Korea	1131	1.149	439	838.2	x
Luxembourg	0.902	1.130	x	604.0	542.0
Mexico	15.874	0.889	258.7	x	281.0
Netherlands	0.902	1.365	x	1136.5	939.3
New Zealand	1.434	0.797	378	..	441.9
Norway	8.064	1.516	x	1217.6	974.0
Poland	3.77	1.187	322	805.2	628.5
Portugal	0.902	1.317	x	1178.4	..
Slovak Republic	0.901	1.273	x	..	667.4
Slovenia	0.902	1.305	x	940.0	770.5
Spain	0.902	1.237	..	736.6	608.8
Sweden	8.429	1.576	x	..	726.0
Switzerland	0.962	1.613	x	771.3	671.9
Turkey	2.723	1.425	603.5	1142.6	..
U.K	0.655	1.756	x	699.7	671.5
U.S.A	1	0.716	350.6	734.2	413.5

.. : not available x : not applicable c : confidential

Source : International Energy Agency's "Energy Prices and Taxes" 2nd Quarter of 2016.

XI.27 Airfield Prices of Jet A-1 Fuel at Major International Airports

(U.S.C./U.S GALLON)(as on 1st April)

Countries / Ports	2009	2010	2011	2012	2013	2014	2015	2016
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
France								
Paris	142.80	226.11	337.38	341.81	314.42	303.58	183.00	125.31
Germany								
Frankfurt	140.39	223.24	330.00	341.02	303.55	298.08	178.60	121.17
Italy								
Rome	na	na	na	na	na	na	190.71	127.15
Kenya								
Nairobi	148.94	234.05	339.44	347.24	na	na	na	na
Malaysia								
Kualalampur	132.36	213.35	319.36	330.97	293.61	290.47	170.00	117.39
Singapore								
Paya Lebar/Changi	145.23	212.18	321.68	326.91	289.58	285.65	165.17	115.15
U.A.E								
Abu Dhabi	146.42	228.97	334.64	343.83	307.63	300.99	178.37	133.35
Dubai	150.10	227.56	332.90	333.84	301.75	292.99	170.37	127.15
U.K								
London(Heathrow)	144.17	226.285	337.55	342.35	304.94	303.29	183.49	127.39
Kuwait	133.13	206.23	300.75	309.81	280.94	274.67	166.90	120.45
New York	147.75	219.92	324.55	356.19	303.13	304.34	172.75	117.86
Japan								
Tokyo	143.21	221.71	327.36	346.63	314.95	303.54	180.31	126.26
India								
Mumbai	163.92	252.83	374.67	392.82	323.15	316.85	207.25	164.18
Delhi	166.16	254.66	378.02	392.40	322.80	315.32	205.06	129.84
Madras	164.18	253.91	358.89	390.71	324.01	317.61	208.31	142.64

Note: Prices are Air India Contract price barring Italy

na : not available

Source : Air India

XI.28 Tanker Fleet Development in OPEC Members

(in '000' DWT)

Country/Year	2008		2009		2010		2011		2012		2013		2014		2015	
	Number	DWT	Number	DWT	Number	DWT	Number	DWT	Number	DWT	Number	DWT	Number	DWT	Number	DWT
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*	*(16)*	*(17)*
Algeria	1	315	1	315	1	160	1	160.0	1	160	1	160	1	160	1	160
Angola	na	na	na	na	na	na	8	1186.0	31	2363	31	2363	27	2498	27	2498
Ecuador	8	269	8	269	8	269	10	579	14	957	18	1231	20	1457	9	638
Iran	42	9560	42	9560	47	10994	47	10994.0	47	10994	47	10994	46	10982	46	10982
Iraq	2	26	4	53	4	53	4	53.0	4	53	4	50	4	53	4	53
Kuwait	21	3113	20	3110	16	2223	16	2223.0	21	3404	19	3547	26	4825	26	4825
Libya	8	627	8	627	8	627	5	548.0	5	548	5	548	5	548	5	548
Nigeria	2	409	2	409	2	409	2	409.0	2	409	2	409	2	409	2	409
Qatar	6	528	6	528	6	528	6	528.0	6	528	6	528	5	397	5	397
Saudi Arabia	46	10483	40	8662	35	6993	32	5766.0	20	5051	23	6004	23	6004	23	6004
UAE	13	660	13	660	13	660	13	660.0	13	660	13	660	19	1139	19	1139
Venezuela	16	1091	16	1091	16	1091	18	1348.0	19	1452	22	2066	26	2627	26	2627
Total OPEC	165	27081	160	25284	156	24007	162	24454	183	26579	191	28560	204	31099	216	34109
Total World	**4825**	**398196**	**5713**	**481185**	**4167**	**385828**	**4494**	**422849**	**4734**	**453168**	**4912**	**472169**	**5153**	**482975**	**5359**	**499922**
OPEC(%)		**7**		**5**		**6**		**6**		**6**		**6**		**6**		**7**

Notes: Figures as at year-end DWT: Dead Weight Tonnage na: not available

Source :OPEC Annual Statistical Bulletins, 2014, 2015 and 2016

XI.29 Oil Trade Movements

(in 000 Barrels daily)

Country/Year	2008	2009	2010	2011	2012	2013	2014	2015	% share in 2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(10)*	*(11)*
Imports									
US	12872	11453	11689	11338	10587	9859	9240	9401	15.4
Europe	13885	12608	12201	12272	12569	12815	12619	13648	22.3
China	4494	5100	5886	6295	6675	6978	7398	8196	13.4
Japan	4925	4263	4567	4494	4743	4637	4383	4346	7.1
Rest of World	19550	20023	20025	20773	21213	23668	24542	25631	41.9
Total World	**55726**	**53447**	**54368**	**55171**	**55787**	**57957**	**58182**	**61223**	**100**
Exports									
US	1967	1947	2154	2495	2682	3563	4034	4636	7.6
Canada	2498	2518	2599	2798	3056	3296	3534	3828	6.3
Mexico	1609	1449	1539	1487	1366	1347	1293	1372	2.2
South & Central America	3616	3748	3568	3755	3830	3790	3922	4068	6.6
Europe	2086	2074	1949	2106	2193	2578	2531	2905	4.7
Russia	7540	7257	7397	7448	7457	7948	7842	8253	13.5
Other CIS	1680	1790	1944	2080	1848	2102	1940	1875	3.1
Middle East	20128	18409	18883	19687	19581	20000	19945	20619	33.7
North Africa	3260	2938	2871	1945	2596	2125	1695	1632	2.7
West Africa	4587	4364	4601	4637	4557	4428	4515	4458	7.3
Asia Pacific *	5392	5631	6226	6088	6299	6307	6425	7006	11.4
Rest of World	1363	1323	637	646	322	476	507	571	0.9
Total World	**55726**	**53447**	**54368**	**55171**	**55787**	**57957**	**58182**	**61223**	**100**

*: Excludes Japan. CIS: Commonwealth of Independent States

Note: Annual changes and shares of total are calculated using thousand barrels daily figures. North and West African exports exclude intra-Africa trade

Source: BP Statistical Review of World Energy, June 2016

XI.30 World Primary Energy Consumption by Fuel during 2015

(in Million Tonnes Oil Equivalent)

Country	Oil	Natural Gas	Coal	Nuclear Energy	Hydro electricity	Renewables	Total
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
US	851.6	713.6	396.3	189.9	57.4	71.7	2280.6
Canada	100.3	92.2	19.8	23.6	86.7	7.3	329.9
Mexico	84.3	74.9	12.8	2.6	6.8	3.5	185.0
Total North America	**1036.3**	**880.7**	**429.0**	**216.1**	**150.9**	**82.6**	**2795.5**
Argentina	31.6	42.8	1.4	1.6	9.6	0.9	87.8
Brazil	137.3	36.8	17.4	3.3	81.7	16.3	292.8
Chile	16.9	3.5	7.2	-	5.3	2.0	34.9
Colombia	15.5	9.5	7.0	-	10.1	0.4	42.5
Ecuador	11.7	0.6	-	-	3.0	0.1	15.4
Peru	10.9	6.8	0.9	-	5.3	0.4	24.1
Trinidad & Tobago	1.8	19.4	-	-	-	^	21.2
Venezuela	32.0	31.1	0.2	-	17.3	^	80.5
Other S. & Cent. America	65.0	6.9	3.0	-	20.7	4.3	100.0
Total S. & Cent. America	**322.7**	**157.3**	**37.1**	**5.0**	**152.9**	**24.2**	**699.3**
Austria	12.6	7.5	3.2	-	8.3	2.4	34.1
Azerbaijan	4.5	8.8	^	-	0.4	^	13.7
Belarus	7.1	15.5	0.8	-	^	0.1	23.6
Belgium	30.5	13.6	3.2	5.9	0.1	3.2	56.5
Bulgaria	4.2	2.6	6.7	3.5	1.3	0.7	18.9
Czech Republic	9.4	6.5	15.6	6.1	0.4	1.7	39.6
Denmark	8.1	2.9	1.8	-	^	4.3	16.9
Finland	8.3	1.9	3.5	5.3	3.8	3.1	25.9
France	76.1	35.1	8.7	99.0	12.2	7.9	239.0
Germany	110.2	67.2	78.3	20.7	4.4	40.0	320.6
Greece	14.8	2.5	5.7	-	1.3	1.9	26.3
Hungary	7.0	8.0	2.2	3.6	0.1	0.7	21.5
Republic of Ireland	6.9	3.8	2.2	-	0.2	1.6	14.6
Italy	59.3	55.3	12.4	-	9.9	14.7	151.7
Kazakhstan	12.7	7.8	32.6	-	1.8	^	54.8
Lithuania	2.6	2.1	0.2	-	0.1	0.3	5.3
Netherlands	38.7	28.6	10.6	0.9	^	2.7	81.6
Norway	10.2	4.3	0.8	-	31.1	0.6	47.1
Poland	25.1	15.1	49.8	-	0.4	4.6	95.0
Portugal	11.4	3.9	3.3	-	2.0	3.5	24.1
Romania	9.1	9.3	6.1	2.6	3.7	2.2	33.1
Russian Federation	143.0	352.3	88.7	44.2	38.5	0.1	666.8
Slovakia	3.8	3.9	3.3	3.4	0.9	0.5	15.8
Spain	60.5	24.8	14.4	12.9	6.3	15.4	134.4
Sweden	14.1	0.8	2.1	12.9	16.9	6.2	53.0
Switzerland	10.7	2.6	0.2	5.3	8.5	0.7	27.9
Turkey	38.8	39.2	34.4	-	15.1	3.8	131.3
Turkmenistan	6.4	30.9	-	-	^	^	37.3
Ukraine	8.4	25.9	29.2	19.8	1.4	0.3	85.1
United Kingdom	71.6	61.4	23.4	15.9	1.4	17.4	191.2
Uzbekistan	2.8	45.3	1.1	-	2.5	^	51.6
Other Europe & Eurasia	33.1	13.7	23.4	1.9	21.5	2.3	96.0
Total Europe & Eurasia	**862.2**	**903.1**	**467.9**	**264.0**	**194.4**	**142.8**	**2834.4**
Iran	88.9	172.1	1.2	0.8	4.1	0.1	267.2
Israel	11.0	7.6	6.7	-	^	0.3	25.6
Kuwait	23.6	17.5	-	-	-	^	41.0
Qatar	10.9	40.6	-	-	-	^	51.5
Saudi Arabia	168.1	95.8	0.1	-	-	^	264.0

Contd...

XI.30 World Primary Energy Consumption by Fuel during 2015 (Contd...)

(in Million Tonnes Oil Equivalent)

Country	Oil	Natural Gas	Coal	Nuclear Energy	Hydro electricity	Renewables	Total
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
United Arab Emirates	40.0	62.2	1.6	-	-	0.1	103.9
Other Middle East	83.3	45.4	0.8	-	1.8	0.1	131.4
Total Middle East	**425.7**	**441.2**	**10.5**	**0.8**	**5.9**	**0.5**	**884.7**
Algeria	19.3	35.1	0.2	-	^	^	54.6
Egypt	39.2	43.0	0.7	-	3.0	0.4	86.2
South Africa	31.1	4.5	85.0	2.4	0.2	1.0	124.2
Other Africa	93.5	39.2	11.0	-	23.8	2.4	169.9
Total Africa	**183.0**	**121.9**	**96.9**	**2.4**	**27.0**	**3.8**	**435.0**
Australia	46.2	30.9	46.6	-	3.1	4.5	131.4
Bangladesh	5.5	24.1	0.8	-	0.2	0.1	30.7
China	559.7	177.6	1920.4	38.6	254.9	62.7	3014.0
China Hong Kong SAR	18.3	2.9	6.7	-	-	^	27.9
India	195.5	45.5	407.2	8.6	28.1	15.5	700.5
Indonesia	73.5	35.8	80.3	-	3.6	2.4	195.6
Japan	189.6	102.1	119.4	1.0	21.9	14.5	448.5
Malaysia	36.2	35.8	17.6	-	3.3	0.2	93.1
New Zealand	7.5	4.1	1.4	-	5.6	2.4	21.0
Pakistan	25.2	39.0	4.7	1.1	7.8	0.4	78.2
Philippines	18.4	3.0	11.4	-	2.2	2.7	37.7
Singapore	69.5	10.2	0.4	-	-	0.2	80.2
South Korea	113.7	39.2	84.5	37.3	0.7	1.6	276.9
Taiwan	46.0	16.5	37.8	8.3	1.0	1.0	110.7
Thailand	56.6	47.6	17.6	-	0.9	2.3	124.9
Vietnam	19.5	9.6	22.2	-	14.4	0.1	65.9
Other Asia Pacific	20.6	7.1	19.3	-	14.1	0.3	61.3
Total Asia Pacific	**1501.4**	**631.0**	**2798.5**	**94.9**	**361.9**	**110.9**	**5498.5**
Total World	**4331.3**	**3135.2**	**3839.9**	**583.1**	**892.9**	**364.9**	**13147.3**

^: less than 0.05

Note:

1. Oil consumption is measured in million tonnes; other fuels in million tonnes of oil equivalent.
2. Primary energy comprises commercially traded fuels including modern renewables used to generate electricity.

Source: BP Statistical Review of World Energy, June 2016

Figure XI.9 (a): Region-wise Primary Energy Consumption (in %) during 2015

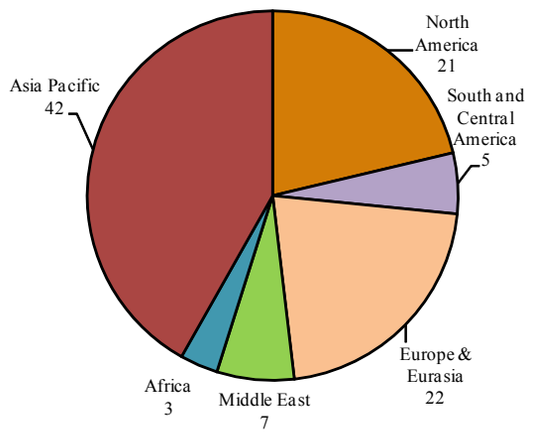
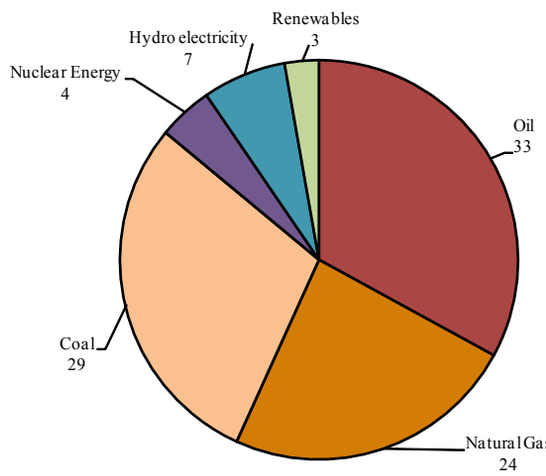


Figure XI.9 (b): Percentage share of various energy sources in world primary energy consumption during 2015



XI.31 Per Capita Primary Energy Consumption-some International Comparisons during 2015

(in Kg. Oil Equivalent)

Country	Oil	Natural Gas	Coal	Nuclear Energy	Hydro electricity	Renewables	Total
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
US	2651.4	2221.7	1234.0	591.1	178.7	223.4	7100.3
Canada	2801.7	2575.9	552.9	658.8	2421.6	205.1	9216.0
Mexico	664.1	589.5	101.1	20.6	53.5	27.8	1456.7
Total North America	**2141.0**	**1819.6**	**886.3**	**446.4**	**311.8**	**170.7**	**5775.9**
Argentina	745.5	1009.0	33.2	38.1	225.5	20.2	2071.6
Brazil	671.5	180.1	85.1	16.3	399.4	79.5	1431.8
Chile	940.4	194.5	402.3	na	294.1	109.5	1940.8
Colombia	320.9	196.7	146.1	na	209.8	7.4	880.8
Ecuador	718.9	35.2	na	na	181.8	7.5	943.4
Peru	348.1	216.5	27.7	na	169.0	12.2	773.6
Trinidad & Tobago	1294.6	13848.0	na	na	na	na	15142.6
Venezuela	1046.2	1015.3	6.1	na	564.5	na	2632.1
Other S. & Cent. America	589.0	62.7	27.2	na	187.7	38.8	905.5
Total S. & Cent. America	**641.6**	**312.7**	**73.9**	**9.8**	**303.9**	**48.2**	**1390.2**
Austria	1468.5	873.5	376.6	na	966.8	274.0	3959.5
Azerbaijan	464.3	909.5	na	na	38.2	na	1412.0
Belarus	750.3	1630.2	88.1	na	na	na	2468.6
Belgium	2725.1	1214.5	283.1	527.4	5.9	286.4	5042.3
Bulgaria	581.1	358.3	925.7	483.3	181.9	99.2	2629.5
Czech Republic	883.8	611.5	1468.4	573.0	38.3	162.7	3737.7
Denmark	1412.4	500.6	310.7	na	na	748.0	2971.8
Finland	1513.7	346.5	629.1	966.7	689.3	561.7	4706.9
France	1183.9	546.6	135.6	1539.3	189.7	122.2	3717.4
Germany	1358.4	828.2	965.4	255.3	53.9	492.6	3953.7
Greece	1288.7	220.7	499.3	na	109.9	164.4	2283.1
Hungary	718.9	818.2	219.4	365.6	5.4	67.0	2194.5
Republic of Ireland	1491.1	817.6	477.8	na	39.7	346.3	3172.5
Italy	949.2	884.8	199.1	na	158.9	235.1	2427.2
Kazakhstan	727.3	443.3	1860.1	na	102.2	na	3133.0
Lithuania	910.5	712.8	56.0	na	26.9	107.0	1813.2
Netherlands	2291.9	1694.5	628.9	54.6	na	158.6	4828.6
Norway	1966.6	831.6	149.1	na	5981.2	123.6	9052.0
Poland	651.6	391.4	1293.0	na	10.8	119.9	2466.7
Portugal	1106.4	379.7	319.8	na	190.1	342.0	2338.0
Romania	461.0	470.2	310.6	133.0	186.5	109.2	1670.5
Russian Federation	990.9	2441.7	615.0	306.1	266.5	0.9	4621.0
Slovakia	701.5	714.0	617.4	634.7	170.4	96.1	2934.0
Spain	1304.3	535.1	310.9	278.8	135.5	331.9	2896.4
Sweden	1437.9	82.0	216.0	1320.9	1720.8	632.0	5409.7
Switzerland	1293.7	309.3	18.8	634.1	1024.7	79.0	3359.6
Turkey	495.6	501.7	440.4	na	193.6	48.1	1679.3
Turkmenistan	1193.8	5720.4	na	na	na	na	6914.2
Ukraine	196.4	605.4	681.5	463.3	33.3	8.1	1987.9
United Kingdom	1099.5	943.7	359.5	244.5	22.0	267.7	2936.8

Contd...

XI.31 Per Capita Primary Energy Consumption-some International Comparisons during 2015 (contd...)

(in Kg. Oil Equivalent)

Country	Oil	Natural Gas	Coal	Nuclear Energy	Hydro electricity	Renewables	Total
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Uzbekistan	89.8	1445.9	35.5	na	78.3	na	1649.5
Other Europe & Eurasia	620.5	258.0	438.6	35.8	404.0	43.7	1800.6
Total Europe & Eurasia	**954.6**	**999.9**	**518.0**	**292.3**	**215.2**	**158.2**	**3138.1**
Iran	1132.4	2192.5	15.6	10.2	52.4	1.1	3404.2
Israel	1309.1	900.0	802.9	na	na	30.7	3042.6
Kuwait	6202.7	4592.7	na	na	na	na	10795.4
Qatar	4534.3	16931.8	na	na	na	na	21466.1
Saudi Arabia	5318.8	3031.1	3.1	na	na	na	8353.1
United Arab Emirates	4169.3	6479.9	169.6	na	na	na	10818.8
Other Middle East	791.0	431.4	7.8	na	17.3	na	1247.4
Total Middle East	**1776.8**	**1841.3**	**43.9**	**3.3**	**24.8**	**2.1**	**3692.2**
Algeria	483.7	880.2	4.5	na	na	0.5	1368.8
Egypt	439.5	482.9	7.7	na	33.2	4.0	967.3
South Africa	493.1	71.6	1349.5	38.8	3.4	15.7	1972.1
Other Africa	95.5	40.1	11.2	na	24.3	2.5	173.6
Total Africa	**156.3**	**104.1**	**82.7**	**2.1**	**23.1**	**3.2**	**371.5**
Australia	1934.9	1293.3	1951.2	na	129.8	190.3	5499.3
Bangladesh	34.5	150.5	4.8	na	1.3	0.3	191.5
China	408.0	129.4	1399.8	28.2	185.8	45.7	2196.9
China Hong Kong SAR	2502.7	400.2	917.6	na	na	na	3820.4
India	148.8	34.6	309.9	6.5	21.4	11.8	533.1
Indonesia	287.6	139.9	314.2	na	14.2	9.3	765.1
Japan	1494.2	804.4	941.1	na	172.2	114.1	3526.1
Malaysia	1173.9	1161.8	572.4	na	108.3	7.7	3024.1
New Zealand	1624.4	882.9	314.0	na	1207.6	530.4	4559.2
Pakistan	126.4	196.2	23.5	5.4	39.3	2.1	392.8
Philippines	178.2	29.2	111.0	na	21.6	26.2	366.1
Singapore	12627.3	1853.1	na	na	na	33.1	14513.5
South Korea	2242.0	774.1	1665.7	735.3	13.4	31.5	5462.1
Taiwan	1958.2	704.0	1609.9	351.2	43.0	43.6	4710.0
Thailand	869.5	730.7	269.8	na	13.1	34.7	1917.8
Vietnam	212.8	104.6	242.6	na	157.5	0.7	718.2
Other Asia Pacific	107.5	36.8	100.7	na	73.7	1.3	320.2
Total Asia Pacific	**373.0**	**156.7**	**695.1**	**23.6**	**89.9**	**27.5**	**1365.9**
Total World	**591.2**	**427.9**	**524.1**	**79.6**	**121.9**	**49.8**	**1794.5**

na: not available

Notes:

1.Oil consumption is measured in million tonnes; other fuels in million tonnes of oil equivalent.

2.Primary energy comprises commercially traded fuels including modern renewables used to generate electricity.

3.Population 2015 data have been taken from "Population Reference Bureau".

Source: BP Statistical Review of World Energy, June 2016

XI.32 Per Capita Consumption of Main Petroleum Products Some International Comparisons during 2015

(in Kg. Oil Per Capita)

Country/Area	Light Distillates	Middle Distillates	Fuel Oil	Others	Total
(1)	(2)	(3)	(4)	(5)	(6)
USA	1452.0	869.6	40.0	636.0	2997.6
Europe	387.8	844.5	115.0	358.7	1705.9
Middle East	421.8	568.5	471.7	520.4	1982.5
China	130.8	154.0	22.9	125.3	433.0
Japan	631.4	501.5	172.1	318.8	1623.8
OECD	670.3	658.7	74.7	366.0	1769.6

Note: Population 2015 data have been taken from "Population Reference Bureau".

Source : B.P Statistical Review of World Energy, June 2016

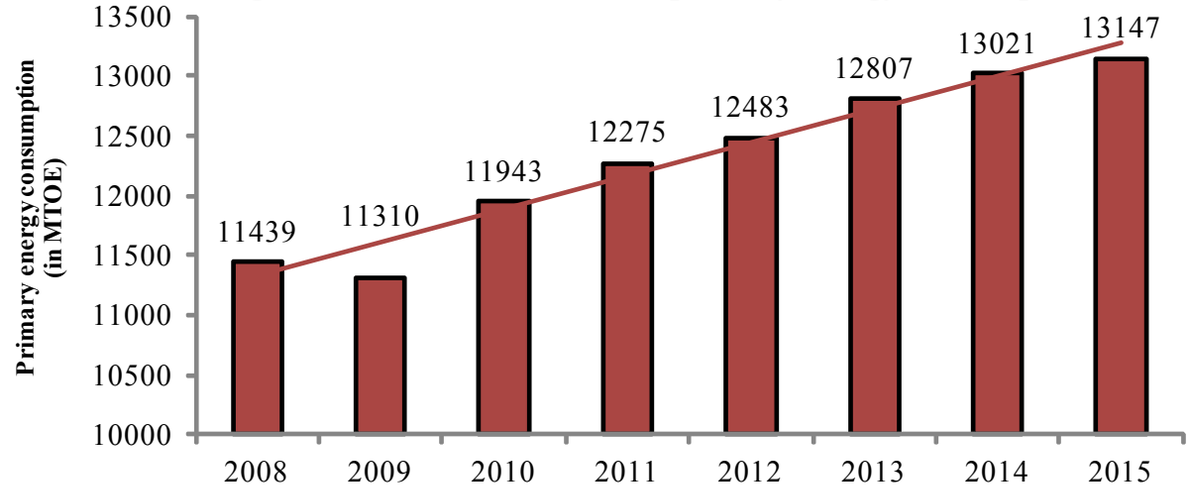
XI.33 Trends in World Primary Energy Consumption

(Million Tonnes Oil Equivalent)

Year	Oil	Natural Gas	Coal	Nuclear Energy	Hydro Electricity	Renewable	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2008	3994.8	2717.7	3256.3	619.0	727.6	123.2	11438.6
2009	3921.6	2655.7	3238.7	614.1	737.7	142.2	11310.0
2010	4038.2	2864.1	3464.0	626.4	782.1	168.6	11943.4
2011	4081.4	2914.2	3628.8	600.4	794.7	205.6	12274.6
2012	4138.9	2986.3	3723.7	559.9	833.6	240.8	12483.2
2013	4179.1	3052.8	3867.0	563.7	861.6	283.0	12807.2
2014	4251.6	3081.5	3911.2	575.5	884.3	316.6	13020.6
2015 (P)	4331.3	3135.2	3839.9	583.1	892.9	364.9	13147.3

Source : BP Statistical Review of World Energy, June 2016 P: Provisional

Figure XI.10: Trends in world primary energy consumption



XI.34 Primary Energy Consumption in Select Countries of the World

(in Million Tonnes Oil Equivalent)

Country/Year	2008	2009	2010	2011	2012	2013	2014	2015	% share in 2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
US	2320	2206	2285	2266	2210	2272	2300	2281	17.3
Canada	327	312	316	329	327	335	336	330	2.5
Mexico	174	174	178	186	188	189	190	185	1.4
Total North America	**2822**	**2692**	**2780**	**2781**	**2725**	**2796**	**2826**	**2796**	**21.3**
Argentina	77	75	80	82	84	86	86	88	0.7
Brazil	238	236	261	274	279	290	298	293	2.2
Chile	31	31	31	34	34	34	35	35	0.3
Colombia	35	32	35	36	39	39	41	42	0.3
Ecuador	12	11	13	14	14	15	15	15	0.1
Peru	16	17	19	21	22	22	23	24	0.2
Trinidad & Tobago	21	22	23	23	22	22	22	21	0.2
Venezuela	84	83	81	80	84	85	81	81	0.6
Other S.&Cent. America	91	90	93	95	96	96	98	100	0.8
Total S.&Cent. America	**605**	**598**	**634**	**658**	**674**	**689**	**698**	**699**	**5.3**
Austria	36	35	36	34	35	35	34	34	0.3
Azerbaijan	12	11	11	12	12	13	13	14	0.1
Belarus	26	24	26	26	28	25	25	24	0.2
Belgium	67	62	66	61	59	60	56	56	0.4
Bulgaria	19	17	18	19	18	17	18	19	0.1
Czech Republic	44	41	43	42	42	41	40	40	0.3
Denmark	20	19	20	18	17	18	18	17	0.1
Finland	30	28	31	29	28	27	26	26	0.2
France	259	245	253	245	245	247	238	239	1.8
Germany	331	310	324	312	317	326	312	321	2.4
Greece	33	33	32	31	29	28	26	26	0.2
Hungary	26	24	25	23	22	20	21	22	0.2
Republic of Ireland	17	15	15	14	14	14	14	15	0.1
Italy	179	167	172	168	162	156	147	152	1.2
Kazakhstan	53	47	49	55	57	57	58	55	0.4
Lithuania	8	8	6	6	6	5	5	5	♦
Netherlands	93	92	96	91	88	86	81	82	0.6
Norway	47	44	42	43	48	45	46	47	0.4
Poland	95	92	98	99	96	96	92	95	0.7
Portugal	24	24	26	24	22	24	25	24	0.2
Romania	39	33	34	35	34	31	33	33	0.3
Russian Federation	684	648	673	695	695	688	690	667	5.1
Slovakia	18	16	17	17	16	17	16	16	0.1
Spain	154	143	146	143	142	134	132	134	1.0
Sweden	53	48	52	51	55	51	52	53	0.4
Switzerland	29	29	29	27	29	30	28	28	0.2
Turkey	103	104	111	115	120	118	123	131	1.0
Turkmenistan	25	23	26	27	30	27	31	37	0.3
Ukraine	133	113	121	126	123	115	101	85	0.6
United Kingdom	216	205	211	199	202	201	189	191	1.5

Contd...

XI.34 Primary Energy Consumption in Select Countries of the World (Contd...)

(in Million Tonnes Oil Equivalent)

Country/Year	2008	2009	2010	2011	2012	2013	2014	2015	% share in 2015
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
Uzbekistan	52	43	44	50	49	49	50	52	0.4
Other Europe & Eurasia	95	93	99	97	94	96	94	96	0.7
Total Europe & Eurasia	**3021**	**2838**	**2949**	**2934**	**2934**	**2898**	**2832**	**2834**	**21.6**
Iran	216	227	228	238	239	248	261	267	2.0
Israel	23	22	24	24	25	25	24	26	0.2
Kuwait	30	32	35	35	38	39	39	41	0.3
Qatar	23	24	35	27	32	48	46	52	0.4
Saudi Arabia	187	197	216	222	236	237	252	264	2.0
United Arab Emirates	84	83	86	91	95	97	99	104	0.8
Other Middle East	105	110	118	117	120	127	128	131	1.0
Total Middle East	**669**	**694**	**742**	**755**	**784**	**822**	**849**	**885**	**6.7**
Algeria	38	40	39	41	45	48	52	55	0.4
Egypt	74	76	81	82	86	86	85	86	0.7
South Africa	126	124	126	126	124	125	128	124	0.9
Other Africa	134	132	144	141	150	155	163	170	1.3
Total Africa	**371**	**373**	**390**	**390**	**405**	**414**	**428**	**435**	**3.3**
Australia	131	130	130	131	131	131	130	131	1.0
Bangladesh	20	22	23	24	26	27	28	31	0.2
China	2222	2322	2487	2688	2795	2904	2970	3014	22.9
China Hong Kong SAR	25	27	27	28	27	28	27	28	0.2
India	476	515	541	565	600	626	666	701	5.3
Indonesia	131	135	149	163	171	175	188	196	1.5
Japan	511	469	497	472	468	466	454	448	3.4
Malaysia	76	74	77	79	83	89	90	93	0.7
New Zealand	19	19	20	20	20	20	21	21	0.2
Pakistan	70	71	71	71	72	72	74	78	0.6
Philippines	28	28	29	30	30	32	34	38	0.3
Singapore	60	64	69	72	72	74	76	80	0.6
South Korea	236	237	255	268	271	271	273	277	2.1
Taiwan	104	102	109	109	108	110	111	111	0.8
Thailand	95	98	106	110	118	120	123	125	0.9
Vietnam	38	39	44	50	53	55	60	66	0.5
Other Asia Pacific	50	51	53	52	53	57	59	61	0.5
Total Asia Pacific	**4293**	**4404**	**4687**	**4932**	**5099**	**5256**	**5387**	**5499**	**41.8**
Total World	**11781**	**11598**	**12181**	**12450**	**12622**	**12873**	**13021**	**13147**	**100**

♦: Less than 0.05

Notes: 1. Oil consumption is measured in million tonnes; other fuels in million tonnes of oil equivalent.

2. Primary energy comprises commercially traded fuels including modern renewables used to generate electricity.

Source: BP Statistical Review of World Energy, June 2016

XI. 35 Economic Indicators of OPEC Nations During 2015

Country	Population 2015	GDP at market prices 2015	Per capita GDP 2015	Petroleum Exports 2015	Total Export 2015	Petroleum Exports as % of total	Proven crude oil reserves 2015	Gas Reserves 2015	Producing Oil wells	Crude Refining Capacity	Exports of Refined Products
	(Million)	(Mn. $)	(US $)	(Mn. $)	(Mn. $)	Exports	(Bn.bbls)	(Bn. CM)	Nos.	(000' b/cd)	(000' b/d)
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*
Algeria	39.95	181828	4551	21751	37787	57.6	12200	4504	1968	650.8	605.4
Angola	25.79	102979	3993	31696	32637	97.1	9524	308	1593	65	36.7
Ecuador	16.28	99068	6086	6660	18366	36.3	8273	11	3483	190.8	15.6
Iran	78.33	387611	4949	27308	77974	35.0	158400	33500	2339	1781.00	514.3
Iraq	36.93	169460	4588	54394	54667	99.5	142503	3158	2361	900	13.7
Kuwait	4.24	120682	28469	48782	54959	88.8	101500	1784	1731	936	739.4
Libya	6.32	38300	6058	4975	10861	45.8	48363	1505	540	380	30
Nigeria	183.17	484635	2646	41818	45365	92.2	37062	5284	1947	445	18
Qatar	2.42	166484	68767	28303	77294	36.6	25244	24299	467	283	521
Saudi Arabia	31.02	653219	21061	157962	205447	76.9	266455	8588	3555	2907.00	1154.7
U.A.E	9.58	370293	38649	52369	333370	15.7	97800	6091	1792	1124.00	950.3
Venezuela	30.68	239572	7809	35802	38010	94.2	300878	5702	14685	1890.60	318
Total	**464.71**	**3014131**	**197626**	**511820**	**986737**	**52**	**1206.003**	**94734**	**36461**	**11553**	**4917.1**

Note: Totals may not add up due to independent rounding.

Source : OPEC Annual Statistical Bulletin, 2016

APPENDICES

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Abbreviations	
(I) Companies/Organisations	
AFPC, Syria	Al Furat Petroleum Company, Syria.
AGC	Assam Gas Company
BL	Balmer Lawrie & Co. Ltd.
BLIL	Balmer Lawrie Investments Ltd.
BORL	Bharat Oman Refinery Ltd.
BP	British Petroleum
BPCL	Bharat Petroleum Corporation Ltd.
CAIRN	Cairn India Limited
CPCL	Chennai Petroleum Corporation Ltd.
DGCIS	Directorate General of Commercial Intelligence and Statistics
DGH	Directorate General of Hydrocarbons
DNPL	Duliajan Numaligarh Pipeline Limited
EIL	Engineers India Ltd
Essar	Essar Oil Ltd.
GAIL	Gail (India) Limited
GOI	Government of India
GPOC, South Sudan	Greater Pioneer Operating Company, South Sudan
HMEL	HPCL Mittal Energy Ltd.
HPCL	Hindustan Petroleum Corporation Ltd.
IEC, Russia.	Imperial Energy Corporation, Russia.
IOCL	Indian Oil Corporation Ltd.
ISPRL	Indian Strategic Petroleum Reserves Limited.
MECL	Mansarovar Energy Colombia Ltd.
MoPNG	Ministry of Petroleum & Natural Gas
MoSPI	Ministry of Statistics And Programme Implementation
MRPL	Mangalore Refinery & Petrochemical Ltd.
NRL	Numaligarh Refinery Ltd.
OIL	Oil India Limited
OMC	Oil Marketing Company.
ONGC	Oil & Natural Gas Corporation Ltd.
OPEC	Organization of the Petroleum Exporting Countries
OVL	ONGC Videsh Ltd
P&NG	Petroleum & Natural Gas
PPAC	Petroleum Planning & Analysis Cell.
RBI	Reserve Bank of India.
RIL	Reliance Industries Ltd.

(II) Petroleum Products	
ATF	Aviation Turbine Fuel.
CBFS	Carbon Black Feed Stock
CBM	Coal bed Methane
CNG	Compressed Natural Gas.
EBP	Ethanol Blended Petrol
FO	Furnace Oil
HHS	Hot Heavy Stock
HSD	High Speed Diesel.
HSDO	High Speed Diesel Oil
HSFO	Heavy/High Sulphur Fuel Oil
LABFS	Linear Alkyl Benzene Feed Stock
LDF	Light Distillate Feedstock
LDO	Light Diesel Oil
LNG	Liquefied Natural Gas
LO	Lubricating Oil
LOBS	Lube Oil Base Stocks.
LPG	Liquefied Petroleum Gas.
LSHS	Low Sulphur Heavy Stock
LSWR	Low Sulphur Waxy Residue.
Mogas	Motor Gasoline.
Motor Spirit	Petrol
MS	Motor Spirit/Petrol
MTBE	Methyl Tertiary Butyl Ether
MTO	Mineral Turpentine Oil
NGL	Natural Gas Liquids
Pet-coke	Petroleum Coke.
PNG	Piped Natural Gas
RFO	Residual Fuel Oil
RPO	Rubber Process Oil.
SKO	Superior Kerosene Oil
VGO	Vacuum Gas Oil

(III) Prefixes Used in Metric Tables	
Prefix	**Meaning**
Centi	One Hundredth (1/100=0.01)
Deci	One Tenth (1/10=0.1)
Deka	Ten(10)
Hecto	One Hundred (100)
Kilo	One Thousand (1,000)
Mega	One Million (1,000,000)
Milli	One Thousandth (1/1000=0.001)
Unit	One (1)

(IV) Others	
A&AA	Assam & Assam Arakan
A.N Islands	Andaman Nicobar Islands
ACG, Azerbaijan	Azeri-Chirag-Deepwater Gunashli, Azerbaijan
Addl.	Additional
bbl.	Barrel
BCM	Billion Cubic Meter
BE	Budgetary Estimates.
BMC	Bombay Municipal Corporation.
Bn.Cu.Mtr.	Billion Cubic Meters
BPA	Bassein Platform A
BPB	Bassein Platform B
CAGR	Compound Annual Growth Rate
CEA.	Chief Economic Advisor
CGD	City Gas Distribution
China Hong Kong SAR	China Hong Kong Special Administrative Region
CIF	Cost Insurance Freight
CIS	Commonwealth of Independent States
CPSEs	Central Public Sector Enterprises
CRBC	Central Region Basin Coast
CSR	Corporate Social Responsibility
CST	Central Sales Tax
Cyl.	Cylinder
DBTL	Direct Benefit Transfer of LPG
Dom.	Domestic
DVPL	Dahej-Vijaipur Pipeline
DWT	Dead Weight Tonnage
EPS	Earning per share
ERBC	Eastern Region Basin cost
FDI	Foreign Direct Investment
FDZ	Free Delivery Zone
FOB	Free on Board
FPC	Federal Power Commission
GBS	Gross Budgetary Support
GCV	Gross Calorific Value
GDP	Gross Domestic Product
GNOP	Greater Nile Oil Project
GREP	Gas Rehabilitation and Expansion
GVA	Gross Value Added
HELP	Hydrocarbon Exploration Licensing Policy
HVJ	Hazira-Vijaipur-Jagdishpur
I&EBR	Internal and Extra Budgetary Resources

Contd...

(IV) Others (Contd.)	
Int. Con.	Internal Consumption
JV	Joint Venture
K.Cal	Kilocalories
K.g	Kilogram.
KG - D6	Krishna Godavari Dhirubhai 6
Kl	Kilo litre
KM	Kilometer
LK	Line kilometer
ltr	Litre.
M.Sq.Km	Million square kilometer
MMSCMD	Million Metric Standard Cubic Meter per day
MMT	Million Metric Tonnes
MMTOE	Million Metric Ton of Oil Equivalent
MMTPA	Million Metric Tonnes Per Annum
Mn. Tonne	Million Tonne.
MST	Manufacturers' Sales Tax
MT	Metric Ton
MUT	Mumbai-Uran Trunk
MWh	Megawatt Hour
n.a	Not Available
NCV	Net Calorific Value
NE	North East.
NELP	New Exploration Licensing Policy
NNI	Net National Income
NRBC	Northern Region Basin Coast
OEG	Oil Equivalent of Gas
PAT	Profit after Tax.
PDS	Public Distribution System
PMUY	Pradhan Mantri Ujjwala Yojana.
PPP	Purchasing Power Parity
PSC	Production Sharing Contract
R.E.S.	Renewable Energy Source
R/P ratio	Reserves-to-Production Ratio
RBF	Refinery Boiler Fuel and Losses
RE	Revised Estimate
RON	Research Octane Number
RSP	Retail Selling Price
S.& Cent. America	South & Central America
S.E.Z	Special Economic Zone
SAD	Special Additional Duty
SCM	Standard Cubic Meter.
SDR	Special Drawing Right
SION	Standard Input Output Norms
SKM	Square Kilometer
SRBC	Southern Region Basin Coast
t/w/d	Tonne/Well/Day
TCF	Trillion Cubic Feet
TMT	Thousand Metric Tonnes
TMTPA	Thousand Metric Tonnes per Annum.
Tr.Cu.ft.	Trillion Cubic Feet
VAT	Value Added Tax
Vol.	Volume
WPI	Wholesale Price Index
WRBC	Western Region Basin Coast

Conversion Factors (V) Metric Units Linear	
10 Millimetres	1 Centimetre.
10 Centimetres	1 Decimetre
10 Decimetres	1 Metre
10 Metres	1 Decametre
10 Decametres	1 Hectometre
10 Hectometres	1 Kilometre
Area	
100 Sq. Millimetres	1 Sq. Centimetre
100 Sq. Centimetres	1 Sq. Decimetre
100 Sq. Decimetres	1 Sq. Metre
100 Sq. Metres	1 Sq. Decametre-1 Acre.
100 Sq. Acres	1 Sq. Hectometre-1 Hectare.
100 Hectares	1 Sq. Kilometre.
Weight	
10 Milligrams	1 Centigram
10 Centigrams	1 Decigram
10 Decigrams	1 Gram
10 Grams	1 Decagram
10 Decagrams	1 Hectogram
10 Hectograms	1 Kilogram.
100 Kilograms	1 Quintal
1000 Kilograms	1 Metric Tonne.
Capacity	
10 Millilitres	1 Centilitre
10 Centilitres	1 Decilitre
10 Decilitres	1 Litre
10 Litres	1 Decalitre
10 Decalitres	1 Hectolitre
10 Hectolitres	1 Kilolitre
Volume	
1000 Cubic Millimetres	1 Cubic Centimetre
1000 Cubic Centimetres	C
1000 Cubic Decimetres	1 Cubic Metre

(VI) Linear and Square Measures Length	
1 Inch	25.4 Millimetres (mm)
	0.0254 Metres.
1 Foot	12 Inches.
	0.333333 Yard
	0.3048 Metre (m).
1 Yard	36 Inches.
	3 Feet
	0.9144 Metre (m)
1 Metre	39.3701 Inches.
	3.28084 Feet
	1.09361 Yards
	0.001 Kilometre (km.)
1 Kilometre	1000 Metre (m)
	0.621371 Mile
1 Mile	1760 Yard
	1.60934 Kilometre (km.)
1 International	6076.12 Feet
1 Nautical Mile	1.852 Kilometre (km)
	1.5152 Statute mile
Area	
1 Square Inch	645.16 Square Millimetres (mm^2).
1 Square Foot	0.0929030 Square Metre (m^2).
1 Square Yard	9 Square Feet.
	0.836127 Square Metre (m^2).
1 Square Metre	10.7639 Square Feet.
	1.19599 Square Yards.
1 Acre	4840 Square Yards
	4046.86 Sq. Metres (m^2)
	0.404686 Hectares.
1 Hectare	10,000 Square Metres (m^2).
	2.47105 Acres.
	0.01 Square Kilometre (km^2)
1 Square Kilometre	100 Hectares.
	0.386102 Square Mile.
1 Square Mile	640 Acres.
	258.999 Hectares
	2.58999 Square Kilometre (km^2).

(VII) Mass and Weights	
1 Ounce	28.3495 Grams (g).
1 Pound	0.453592 Kilogram (Kg.)
	0.00892857 Hundred Weight
1 Kilogram	2.20462 Pounds.
	0.01 Quintal
1 Hundred Weight (Cwt)	112 Pounds.
	50.8023 Kilograms (Kg.)
1 American (Short) Ton	2000 Pounds.
	0.892857 Long Ton
	0.97185 Tonnes
1 Tonne (Metric Ton)	2204.62 Pounds
	1000 Kilograms (Kg.)
	1.10231 Short tons
	0.984207 Long Ton
1 Imperial (Long) Ton	2240 Pounds
	1.12 Short Tons.
	1.01605 Tonnes.
(VIII) Energy and Power	
1 International Table (IT) Calorie	4.1868 Joules (J).
115 C calorie	4.1855 Joules (J)
1 Thermochemical Calorie	4.184 Joules (J)
1 Kilo Calories (IT)	1000 Calories
	3.96832 British Thermal Units
	1.163 Watt Hours
	1 Thermie
1 Kilowatt Hour	3412.14 British Thermal Units
	859.845 Kilo Calories
	3.6 Megajoules (MJ)
	1.34102 Horse Power Hours.
1 Therm	100,000 British Thermal Units (BTU).
	105.506 Megajoules (MJ)
	29.3071 Kilowatt Hours
	25.1996 Thermies
	25200 Kilocalories
1Metric Horsepower (Pferdestaerke or Cheval Vapeur)	735.499 watts (W).
	542.476 Foot Pounds Force/Second.
	0.986320 Imperial Horse Power
1 Imperial Horsepower	745.700 Watts (W)
	550 Foot Pounds Force/Second
	1.01387 Metric Horse Power.
1 Kilowatt	737.562 Foot Pounds Force/Second
	1.35962 Metric Horsepower
	1.34102 Imperial Horsepower.
	1000 Watts.
1 BTU	0.252 Kilocalories
	1.055 Kilojoules

(IX) Cubic Measures Volume	
1 Cubic Inch	16.3871 Cubic Centimetres (cm^3)
1 Pint	0.568261 Cubic Decimetres (dm^3) or Litres.
1 Litre	61.024 Cubic Inches
	1.75975 Pints
	1 Cubic Decimeter (dm^3)
	0.264172 American Gallons
	0.219963 Imperial Gallons
	0.0353147 Cubic Foot
1 Hectolitre	100 Cubic Decimetres (dm^3) or
	100 Litres
1 American Gallon	231 Cubic Inches
	3.78541 Cubic Decimetres or Litres
	0.832674 Imperial Gallon.
	0.133681 Cubic Foot.
	0.0238095 American Barrel.
	0.00378541 Cubic Metre (M^3)
1 Imperial Gallon	277.420 Cubic Inches
	4.54609 Cubic Decimetres (dm^3) or Litres
	1.20095 American Gallon
	0.160544 Cubic Foot
	0.02894 American Barrel
	0.00454609 Cubic Metre (m^3)
1 Cubic Foot	28.3168 Cubic Decimetres (dm^3) or Litres
	7.48052 American Gallons
	6.22883 Imperial Gallons
	0.17811 American Barrel
	0.0283168 Cubic Metre (m^3)
1 Americal Barrel	9702 Cubic Inches
	158.987 Cubic Decimetres (dm^3) or Litres
	42 American Gallons
	34.9726 Imperial Gallons
	5.6146 Cubic Feet
	0.158987 Cubic Metre (M^3)
1 Cubic Metres	1000 Litres.
	264.172 American Gallons
	219.969 Imperial Gallons
	35.3147 Cubic Feet
1 Kilolitre	1000 Cubic Decimetres (dm^3) or Litres
	6.28981 Americal Barrels.
1 Gross Ton (Shipping)	2.83168 Cubic Metres or 100 Cubic Feet
	or Permanently Enclosed Space
1 Ton of Liquefied Methane	Approx. 16 Barrels
	Approx. 1400 Cubic Metres of Natural
	Gas depending upon Methane Content

(X) Product Conversion Factor Conversion Factor from Volume to Tonnes at Natural Temp			
Product	**Litres to Metric Tonnes**	**Tonnes per K.L**	**American Barrels to Metric Tonnes**
Aviation Spirit 100/130	1421	0.7034	8.94
Aviation Spirit 144/145	1449	0.6901	9.11
Aviation Spirit 73 ON	1432	0.6983	9.01
Motor Spirit 79 ON	1427	0.7008	8.98
Motor Spirit 80 ON	1427	0.7008	8.98
Motor Spirit 93 ON	1386	0.7215	8.72
Motor Spirit 95 ON	1359	0.7358	8.55
Motor Spirit 83 ON/87 ON	1411	0.7087	8.88
JP-4	1384	0.7225	8.71
JP-5	1273	0.7855	8.01
Aviation Turbine Fuel	1288	0.7764	8.10
Naphtha	1467	0.6817	9.23
Power Alcohol	1286	0.7776	8.09
Benzol	1154	0.8666	7.26
SBP Spirit/Hexane	1457	0.6863	9.16
Mineral Turpentine (Laws 140/205)	1302	0.7680	8.19
Liquefied Petroleum Gas	1785	0.5602	11.23
Superior Kerosene	1285	0.7782	8.08
Inferior Kerosene	1265	0.7905	7.96
Power Kerosene (Vap. Oil)	1251	0.7994	7.87
High Speed Diesel	1210	0.8263	7.61
Light Diesel Oil	1172	0.8532	7.37
Malarial Oil	1172	0.8532	7.37
Special Larvicides	1175	0.8511	7.39
Furnace Oil	1071	0.9337	6.74
Tea Drier Oil	1071	0.9337	6.74
Hot Heavy Stock/LSHS	1017	0.9833	6.40
Refinery Gas/Ref. Boiler Fuel	1071	0.9337	6.74
Lubricants/Greases	1114	0.8977	7.01
Jute Batching Oil/Wash Oils	1167	C	7.34
Bitumen	1002	0.9980	6.30
SBP/Alcohol Mixture	1414	0.7072	8.89
Methanol Mixture	1106	0.9042	6.96
Carbon Black Feed Stock	1134	0.8818	7.13
Carburetor Testing Fluid	1388	0.7205	8.73
Benzene	1131	0.8812	7.05
Toluene	1148	0.8711	7.19
Demineralised Water	1002	0.9930	6.30
S. Glass Kleanzit	1003	0.9970	6.31
Miscellaneous	1114	0.8977	7.01
Wax/P. Coke/Chemicals	1114	0.8977	7.01
Aromex	1221	0.8190	7.68
Linear Alkyl Benzene Feed Stock	1205	0.8239	7.88

(XI) Volume per Metric Ton of Petroleum Products				
Products	**Kilolitre**	**Imperial Gallon**	**U.S. Gallon**	**Barrel**
Liquefied Petroleum Gas	1.8519	407.365	489.213	11.648
Aviation Spirit	1.3699	301.332	361.873	8.613
Natural Gasoline	1.3514	297.265	356.990	8.496
Motor Spirit	1.3514	297.265	356.990	8.496
Kerosene	1.2346	271.569	326.137	7.764
Jet Fuel	1.2346	271.569	326.137	7.764
Distillate Fuel Oil	1.1494	252.415	293.522	6.988
Lubricating Oil	1.1111	252.845	303.647	7.231
Fuel Oil N.O.S.	1.0939	241.727	290.301	6.911
Residual Fuel Oils	1.0526	231.551	278.071	6.623
Asphalt and Bitumen	0.9615	211.515	254.013	6.050
Crude Oil	1.1856	260.910	313.340	7.441

(XII) Conversion Factors for Duty Reduction from 15^0 C to 29.5^0 C	
Product	**Conversion Factor**
Aviation Spirit 100/130	0.9827
Aviation Spirit 114/145	0.982
Aviation Spirit 73 Clear	0.9824
Aviation Turbine Fuel	0.9862
Motor Spirit 83	0.983
Motor Spirit 93	0.9836
High Speed Diesel Oil	0.9879
Kerosene	0.9864
Light Diesel Oil	0.9877
Furnace Oil	0.9899
Special Boiling Point Spirit 55/115	0.9820
Special Boiling Point Spirit 64/69	0.9806
Solvent 1425	0.9820
Hexane	0.9806

(XIII) Crude Oil Conversions*					
To convert the following into	**Metric Tonnes**	**Barrels**	**Kilolitres**	**1000 Imp. Gallon**	**1000 U.S Gallon**
Metric Tons	1	7.33	1.16	0.256	0.308
Barrels	0.136	1	0.159	0.035	0.042
Kilolitres	0.863	6.29	1	0.220	0.264
1,000 Imp. Gallons	3.91	28.6	4.55	1	1.201
1,000 U.S. Gallons	3.25	23.8	3.79	0.833	

* Based on World Average Gravity (Excluding Natural Gas liquids)

(XIV) Natural Gas Conversions		
1 SCM (Standard Cubic Meter)	= 1 cubic metre @ 1 atmosphere pressure and 15.56 ° C	
1 Cubic Metre	= 35.31 Cubic feet	
1 BCM(Billion Cubic Metre) / Year of gas (consumption or production)	= 2.74 MMSCMD	365 Days a Year
1 TCF (Trillion Cubic Feet) of Gas Reserve	= 3.88 MMSCMD	100% Recoverable for 20 years @ 365 days/ annum)
1 MMTPA of LNG	=3.60 MMSCMD	Molecular Weight of 18 @ 365 days/ annum)
1 MT of LNG	=1314 SCM	Molecular Weight of 18
Gross Calorific Value (GCV)	10000 Kcal/ SCM	
Net Calorific Value (NCV)	90% of GCV	
1 Million BTU (MMBTU)	= 25.2 SCM	@10000 Kcal/SCM; 1 MMBTU= 252,000 Kcal)
Specific Gravity of Gas	0.62	Molecular Weight of Dry Air=28.964 gm/ mole)
Density of Gas	=0.76 Kg/SCM	Molecular Weight of Gas 18 gm/mol
Gas required for 1 MW of Power generation	=4128 SCM per Day	@50% efficiency of Combined Cycle Operation; at a station heat rate of 860 Kcal/Kwh~ 1720 Kcal/Kwh@50% Thermal Efficiency)
Power Generation from 1 MMSCMD Gas	=242 MW	@50% efficiency of Combined Cycle Operation; at a station heat rate of 860 Kcal/Kwh~ 1720 Kcal/Kwh@50% Thermal Efficiency)

Source: PPAC

(XV) Other Conversions

Crude oil*

From	To convert				
	tonnes (metric)	kilolitres	barrels	US gallons	tonnes/year
	Multiply by				
Tonnes (metric)	1	1.165	7.33	307.86	–
Kilolitres	0.8581	1	6.2898	264.17	–
Barrels	0.1364	0.159	1	42	–
US gallons	0.00325	0.0038	0.0238	1	–
Barrels/day	–	–	–	–	49.8

Products

From	To convert			
	barrels to tonnes	tonnes to barrels	kilolitres to tonnes	tonnes to kilolitres
	Multiply by			
Liquefied petroleum gas (LPG)	0.086	11.60	0.542	1.844
Gasoline	0.120	8.35	0.753	1.328
Kerosene	0.127	7.88	0.798	1.253
Gas oil/ diesel	0.134	7.46	0.843	1.186
Residual fuel oil	0.157	6.35	0.991	1.010
Product basket	0.125	7.98	0.788	1.269

Natural Gas (NG) and Liquefied Natural Gas (LNG)

From	To					
	billion cubic metres NG	billion cubic feet NG	million tonnes oil equivalent	million tonnes LNG	trillion British thermal units	million barrels oil equivalent
	Multiply by					
1 billion cubic metres NG	1	35.3	0.90	0.74	35.7	6.60
1 billion cubic feet NG	0.028	1	0.025	0.021	1.01	0.19
1 million tonnes oil equivalent	1.11	39.2	1	0.82	39.7	7.33
1 million tonnes LNG	1.36	48.0	1.22	1	48.6	8.97
1 trillion British thermal units	0.028	C	0.025	0.021	1	0.18
1 million barrels oil equivalent	0.15	5.35	0.14	0.11	5.41	1

Units

1 metric tonne	1.1023 short tons
	2204.62 lb.
1 kilolitre	6.2898 barrels
	1 cubic metre
1 kilocalorie (kcal)	4.187 kJ
	3.968 Btu
1 kilojoule (kJ)	0.239 kcal
	0.948 Btu
1 British thermal unit (Btu)	0.252 kcal
	1.055 kJ
1 kilowatt-hour (kWh	860 kcal
	3412 Btu
	3600 kJ
1 barrel of ethanol	0.57 barrel of oil
1 barrel of biodiesel	0.88 barrel of oil

*Based on worldwide average gravity.
Source: BP Statistical Review of World Energy 2016

Calorific equivalents

One tonne of oil equivalent equals approximately:

Heat units	10 million kilocalories
	42 gigajoules
	40 million Btu
Solid fuels	1.5 tonnes of hard coal
	3 tonnes of lignite
Electricity	12 megawatt-hours

One million tonnes of oil or oil equivalent produces about 4400 gigawatt-hours (=4.4 terawatt hours) of electricity in a modern power station.

(XVI) Petroleum Specific Gravities			
Degrees A.P.I.	**Specific Gravity**	**Barrels per tonne***	**Long Ton***
25	0.9042	6.98	7.09
26	0.8984	7.02	7.13
27	0.8927	7.06	7.18
28	0.8871	7.10	7.22
29	0.8816	7.15	7.27
30	0.8762	7.19	7.31
31	0.8708	7.24	7.36
32	0.8654	7.28	7.40
33	0.8602	7.33	7.45
34	0.8550	7.37	7.49
35	0.8499	7.42	7.54
36	0.8448	7.46	7.58
37	0.8398	7.51	7.63
38	0.8348	7.55	7.67
39	0.8299	7.60	7.72
40	0.8251	7.64	7.76
41	0.8203	7.69	7.81
42	0.8156	7.73	7.85

*Approximate figure at 15.6 degrees C or 60 degrees F.

(XVII) Petroleum Specific Gravity Ranges		
Products	**Specific Gravity**	**Barrels Per tonne**
Crude Oils	0.80-0.97	8.0-6.6
Aviation gasolines	0.70-0.78	9.1-8.2
Motor Gasolines	0.71-0.79	9.0-8.1
Kerosene	0.78- 0.84	8.2-7.6
Gas Oil	0.82-0.90	7.8-7.1
Diesel Oils	0.82-0.92	7.8-6.9
Lubricating Oils	0.85-0.95	7.5-6.7
Fuel Oils	0.92-0.99	6.9-6.5
Asphaltic Bitumen	1.00-1.10	6.4-5.8

(XVIII) Multiplier for Conversion of one Metric Tonne of Petroleum Products to one Tonne of Oil Equivalent	
Product	**Multiplier**
L.P.G.	1.130
Naphtha	1.075
Aviation Gasoline	1.070
Motor Gasoline	1.070
Jet Fuel	1.065
Kerosene	1.045
Gas/diesel	1.035
Residual Fuel Oils	0.985
Others	0.960

(XIX) Average International Calorific Value of different Fuels		
Products	**K Cals./Kg. (M. Cals/Tonne)**	**BTUs/Kg.**
A. Oil Equivalence:		
Average Crude Oil/NGLS(a)	10300	40870
United Nations	10175	40375
B. Oil Products:		
NGL	12135	48150
Motor Gasoline	11135	44190
Kerosene	10638	42210
Jet Fuel	11790	46790
Gas Oil	10790	42820
Fuel Oil	10440	41430
C. Coal Equivalence:		
Average Hard Coal (b)	7000	27775
D. Coal Equivalence (India)		
Hard Coal	5000	19840
Lignite-Brown Coal	2310	916
Firewood@	4750	18848
Charcoal@	6900	27379
E. Natural Gas-Production: (Average) India	**K cals/Cu. Metre**	
		8000-9480
F. Electricity:		
Output Basis(c)		860
Fuel Input basis(d)		2500-2700

Note:
(a) Represent average global factor for crude Oil/NGL production. For a specific crude oil, relevant conversion factors may have to be used.
(b) Factor used by United Nations to represent average calorific value of hard coals for purposes of standardising coal production to hard coal equivalent base.
(c) Calorific value of 1kwh of electricity.
(d) Represents K cals of hydro-carbon energies required to produce 1 kwh of electricity.
@ : As per Report of Fuel Policy Committee 1974
Conversion Factor: 1 K Cal=4.19 KJoules.

(XX) Coefficients used to Convert from Original Units into Standard Coal Equivalents			
Products	**Hard Coal**	**Lignite Brown Coal**	**Fuel Wood**
A. Primary Solids			
Standard Factor	1	0.385	0.333
India	0.714	0.330	
B. Other Hydrocarbons			
Petroleum Crude		1.454	
Natural Gas Liquids (wt.av.)		1.542	
Gasoline		1.500	
Kerosene & Jet Fuel		1.474	
Gas-Diesel Oil		1.450	
Residual Fuel Oil		1.416	
Liquefied Petroleum Gases		1.554	
Natural Gasoline		1.532	
Condensate		1.512	
Other Natural Gas Liquids		1.512	
Natural Gas (in Tera joules)*		34.121	
Other Gases(in Tera joules)*		34.121	
Hydro, Nuclear and Geothermal Electricity (In 1,000 kwh)		0.123	

Note:
The average calorific value of gas is measured in Kcal/m^3 (st.) i.e. in Kcal per cubic metre of gas under standard conditions at 15^0 C, 013.25 mbar, dry.

(XXI) Coal Replacement and Equivalents of different Fuels			
Fuels	**Original Unit**	**Unit million tonnes of coal equivalent (mtce)**	**Unit million tonnes of coal replacement (mtcr)**
Coal coking (6640 K cal/Kg), Non Cooking coal used in steam generation (500 Kcal/kg)	1mt	1.0	1.0
Hard Coke	1mt	1.3	1.3
Soft Coke	1mt	1.5	1.3
Firewood (4750 Kcal/Kg.)	1mt	0.95	0.95
Char Coal (6900 Kcal/Kg.)	1mt	1.0	1.0
Oil Products: 10,000 Kcal/Kg.			
Black Products:(Fuel Oil, FO, Refinery Fuel, LSHS & HHS)	1mt	2.0	2.0
Kerosene & LPG	1mt	2.0	8.0
HSDO & LDO	1mt	2.0	9.0
Motor Spirit & Jet Fuel	1mt	2.0	7.5
Natural Gas(9000k CAL/kg)	109m3	1.8	3.6
Electricity	109 kwh	1.0	1.0

m : Million mt: Million Tonnes
Source : Fuel Policy Committee 1974

(XXII) Approximate Calorific Equivalents(Oil =10000 Kcal/Kg)	
Items	**Million Tonnes of Oil equals**
Heat Units	40 million BTU
	397 million therms
	10,000 Tera calories
Solid Fuels	1.5 million tonnes of Coal
	3.0 million tonnes of lignite
Natural Gas (1 cub.ft.=1000 BTU)	1 Cub metre = 9000 K cal.
	1.111 thousand million cub metres
	39.2 thousand million cubic feet
	107 million cubic feet per day of a year
Electricity (1 Kwh=3412 BTU) (1 Kwh=860 KCal)	12 thousand million KWH

(XXIII) Heat Units & others expressed in terms of Million Tonnes of Oil	
Items	**Million Tonnes of Oil equals**
Heat Units	
10 million BTU	0.25
100 million therms	0.25
10000 Tera calories	1
Solid Fuels	
1 million tonne of coal	0.67
1 million tonne of lignite approximates to	0.33
Natural Gas	
1 thousand million cubic metres(BCM)	0.9
Town Gas	
1 thousand million cubic Metres (BCM)	0.42
Electricity	
12 thousand million KWH	0.86

Note: One Million tonne of oil produces about 4000 million units(KWH) of electricity in a modern power station.
Source: BP Statistical Review of World Energy

(XXIV) Exchange Rates							
	Calendar Years					**Financial Years**	
Year	**1st Qr.**	**2nd Qr.**	**3rd Qr.**	**4th Qr.**	**Average for the year**	**Year**	**Average for the year**
(1)	***(2)***	***(3)***	***(4)***	***(5)***	***(6)***	***(7)***	***(8)***
2008	39.82	41.72	42.78	48.76	43.27	2008-09	45.99
2009	49.77	48.79	48.42	46.64	48.41	2009-10	47.44
2010	45.93	45.63	46.49	44.86	45.73	2010-11	45.58
2011	45.27	44.71	45.78	50.93	46.67	2011-12	47.92
2012	50.31	54.22	55.24	54.14	53.48	2012-13	54.41
2013	54.17	56.50	62.13	62.03	58.71	2013-14	60.50
2014	66.75	59.80	60.61	61.93	62.27	2014-15	62.01
2015	62.24	63.50	64.91	65.92	64.14	2015-16	65.46
2016	67.50	66.93					

Source: RBI

DEFINITIONS

Crude Oil: Crude oil is a mineral oil consisting of a mixture of hydrocarbons of natural origin and associated impurities, such as sulphur. It exists in the liquid phase under normal surface temperature and pressure and its physical characteristics (density, viscosity, etc.) are highly variable.

Natural Gas: It comprises gases, occurring in underground deposits, whether liquefied or gaseous, consisting mainly of methane. It includes both "non associated" gas originating from fields producing hydrocarbons only in gaseous form, and "associated" gas produced in association with crude oil as well as methane recovered from coal mines (colliery gas).

Condensate: Condensate means low vapour pressure hydrocarbons obtained from Natural Gas through condensation or extraction and refer solely to those hydrocarbons that are liquid at normal surface temperature and pressure conditions.

Reservoir: Reservoir means a naturally occurring discrete accumulation of Petroleum.

Oil Field: Oil Field means, within the Contract Area, an Oil Reservoir or a group of Oil Reservoirs within a common geological structure or feature.

Gas Field: Gas Field means, within the Contract Area, a Natural Gas Reservoir or a group of Natural Gas Reservoirs within a common geological structure or feature.

Reserves: Amount of crude oil (or gas) expected to be recovered profitably from a given reservoir by known techniques under known or assumed economic conditions.

Discovery: Discovery means the finding, during Petroleum Operations, of a deposit of Petroleum not previously known to have existed, which can be recovered at the surface in a flow measurable by petroleum industry testing methods.

Exploration Well: Well drilled for the purpose of searching for undiscovered Petroleum accumulations on any geological entity (be it of structural, stratigraphic, facies or pressure nature) to at least a depth or stratigraphic level specified in the Work Programme.

Development Well: Well means a Well drilled, deepened or completed after the date of approval of the Development Plan pursuant to Development Operations or Production Operations for the purposes of producing Petroleum, increasing production, sustaining production or accelerating extraction of Petroleum including production Wells, injection Wells and dry Wells.

Oil Refinery: It converts crude oil into high-octane motor fuel (gasoline/petrol), diesel oil, liquefied petroleum gases (LPG), jet aircraft fuel, kerosene, heating fuel oils, lubricating oils, asphalt and petroleum coke, etc.

Refinery feedstock: Refinery feedstock is product or a combination of products derived from crude oil and destined for further processing other than blending in the refining industry. It is transformed into one or more components and/or finished products.

Petroleum Products: Petroleum products are any oil based products which can be obtained by distillation and are normally used outside the refining industry. The exceptions to this are those finished products which are classified as refinery feedstocks

Distillate: Any product obtained by condensation of the vapours of a petroleum product when it is distilled under atmospheric pressure or under reduced pressure.

Light Distillate: Naphthas and gasolines boiling below 2300C) at normal atmospheric pressure, and with a closedcup flash point below ambient temperature.

Middle Distillate: Kerosenes and gas oils boiling between approximately 1500C and 4000C at normal atmospheric pressure and having a closed-cup flash point above 380C.

Heavy Distillate: Distillate boiling predominately above 3500C at normal atmospheric pressure, it includes the heaviest fractions from atmospheric distillation, together with the distillate fractions obtained by vacuum distillation.

Motor gasoline: Motor gasoline consists of a mixture of light hydrocarbons distilling between 35°C and 215°C. It is used as a fuel for land-based spark ignition engines. Motor gasoline may include additives, oxygenates

and octane enhancers, including lead compounds such as TEL (Tetraethyl lead) and TML (tetramethyl lead). Motor gasoline can be divided into two groups:

- Unleaded motor gasoline: motor gasoline where lead compounds have not been added to enhance octane rating. It may contain traces of organic lead.
- Leaded motor gasoline: motor gasoline with TEL (tetraethyl lead) and/or TML (tetramethyl lead) added to enhance octane rating. This category includes motor gasoline blending components (excluding additives/oxygenates), e.g. alkylates, isomerate, reformate, cracked gasoline destined for use as finished motor gasoline.

Diesel/Gasoil : Petroleum derived diesel (called as petrodiesel) is a mixture of straight run product (150°C and 350 °C) with varying amount of selected cracked distillates and is composed of saturated hydrocarbons (primarily paraffins including n, iso, and cycloparaffins), and aromatic hydrocarbons (including napthalenes and alkylbenzenes). Diesel is used in diesel engines, a type of internal combustion engine.

Automotive diesel fuel serves to power trains, buses, trucks, and automobiles, to run construction, petroleum drilling and other off-road equipment and to be the prime mover in a wide range of power generation & pumping applications. The diesel engine is high compression, self-ignition engine. Fuel is ignited by the heat of high compression and no spark plug is used.

Kerosene : Kerosenes are distillate fractions of crude oil in the boiling range of 150-250°C. They are treated mainly for reducing aromatic content to increase their smoke point (height of a smokeless flame) and hydrofining to reduce sulphur content and to improve odour, colour & burning qualities (char value). Kerosene is used as a domestic fuel for heating / lighting and also for manufacture of insecticides/herbicides/fungicides to control pest, weeds and fungi. Since kerosene is less volatile than gasoline, increase in its evaporation rate in domestic burners is achieved by increasing surface area of the oil to be burned and by increasing its temperature. The two types of burners which achieve this fall into two categories namely vaporisers & atomizers

Liquefied Petroleum Gas (LPG): LPG is light paraffinic hydrocarbons derived from the refinery processes, crude oil stabilisation and natural gas processing plants. This consists mainly of propane (C3H8) and butane (C4Hl0) or a combination of the two. It could also include propylene, butylene, isobutene and isobutylene. LPG is normally liquefied under pressure for transportation and storage.

Lubricants: Lubricants are hydrocarbons produced from distillate by-products; they are mainly used to reduce friction between bearing surfaces. This category includes all finished grades of lubricating oil, from spindle oil to cylinder oil, and those used in greases, including motor oils and all grades of lubricating oil base stocks.

Fuel oil: This covers all residual (heavy) fuel oils (including those obtained by blending). Kinematic viscosity is above 10 cSt at 80°C. The flash point is always above 50°C and density is always more than 0.90 kg/l.

- Low sulphur content: heavy fuel oil with sulphur content lower than 1%.
- High sulphur content: heavy fuel oil with sulphur content of 1% or higher.

Liquefied Natural Gas (LNG): Natural gas cooled to approximately –160°C under atmospheric pressure condenses to its liquid form called LNG. LNG is odourless, colourless, noncorrosive and non-toxic.

Compressed Natural Gas (CNG): CNG is natural gas for use in special CNG vehicles, where it is stored in high-pressure fuel cylinders. CNG's use stems in part from its clean burning properties, as it produces fewer exhaust and greenhouse gas emissions than motor gasoline or diesel oil. It is used most frequently in light-duty passenger vehicles and pickup trucks, medium-duty delivery trucks, and in transit and school buses.

Natural Gas Liquids (NGL): Natural gas liquids are liquid or liquefied hydrocarbons recovered from natural gas in separation facilities or gas processing plants. Natural gas liquids include ethane, propane, butane (normal and iso-), (iso)pentane and pentanes plus (sometimes referred to as natural gasoline or plant condensate).

The natural gas may be extracted with crude oil (associated gas) or from a gas field without crude oil. The NGL may be removed from the natural gas stream close to the well-head or transported to a distant gas processing plant. Where gas processing and crude oil production are both occurring, it is common for some of the condensate fraction of the NGL to be injected into the crude oil stream.

Petroleum coke: Petroleum coke is a black solid by-product, obtained mainly by cracking and carbonising petroleum-derived feedstock, vacuum bottoms, tar and pitches in processes such as delayed coking or fluid coking. It consists mainly of carbon (90% to 95%) and has a low ash content. It is used as a feedstock in coke ovens for the steel industry, for heating purposes, for electrode manufacture and for production of chemicals. The two most important qualities are "green coke" and "calcinated coke". This category also includes "catalyst coke" deposited on the catalyst during refining processes; this coke is not recoverable and is usually burned as refinery fuel.

Refinery gas (not liquefied): Refinery gas includes a mixture of non-condensable gases mainly consisting of hydrogen, methane, ethane and olefins obtained during distillation of crude oil or treatment of oil products (e.g. cracking) in refineries. This also includes gases which are returned from the petrochemical industry.

Flared Gas: Flared Gas at oil production rigs and in refineries is gas burnt at the site. Its primary purpose is to act as a safety device to protect vessels or pipes from over-pressuring or due to insufficient capacity in the domestic market to absorb such gas, and there are few opportunities for its safe re-injection into reservoirs.

Percentage Gas flared: Gas flared as percentage of total output of gas, excluding re-inject gas.

Source: Bureau of Indian Standards, Manual on Infrastructure Statistics (CSO), Director General of Hydrocarbons, oil & gas CPSEs.











सत्यमेव जयते

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