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INDIAN PETROLEUM & NATURAL GAS STATISTICS 2017-18

Ministry of Petroleum and Natural Gas
Economic & Statistics Division



सत्यमेव जयते

Government of India

INDIAN PETROLEUM & NATURAL GAS STATISTICS 2017-18

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पेट्रोलियम एवं प्राकृतिक गैस ;
कौशल विकास एवं उद्यमशीलता मंत्रालय
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MESSAGE

India is at present, the fastest growing major economy in the world and is positioned to drive incremental energy demand growth through the next two decades. At this juncture when data is of essence in its role as a tool to throw up serious questions to the global energy audience, I am happy to share with you the 52nd edition of Indian Petroleum and Natural Gas Statistics 2017-18, compiled by the Economic and Statistics Division.

Quality and reliable data permit policy-makers to be better equipped to make judicious decisions and thereby contribute to creating improved opportunities for economic growth. This document captures important developments in oil and gas sector till 2017-18, & contains updated detailed key financial and performance parameters and related statistics of the sector. I am confident that the Publication will be a useful source of information & provide deep insights into the oil and gas sector.

New Delhi

(Dharmendra Pradhan)

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FOREWORD

"Indian Petroleum & Natural Gas (IPNG) Statistics", is an annual publication of the Ministry of Petroleum and Natural Gas. The publication provides an integrated, holistic, reliable and updated database of petroleum and natural gas sector, covering the entire hydrocarbon chain.

It has been our endeavour to continuously improve the publication, both in content and presentation. I have been informed that based on the feedback received suitable changes have been incorporated in this year's edition.

I appreciate the efforts of the officers and staff of Economic & Statistics Division in bringing out the 52nd edition of the publication. I am sure that this publication will be a useful referral document for planners, policy makers and researchers working in the oil and gas sector.

New Delhi

[Dr M M Kutty]

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PREFACE

I am happy to bring out the 52nd edition of the "Indian Petroleum & Natural Gas Statistics 2017-18" of the Ministry of Petroleum and Natural Gas (MoPNG), which contains exhaustive data pertaining to the Oil and Gas sector. The need for meticulous and timely information on energy data continues to remain important against the backdrop of India moving towards centre stage in the dynamic global and Indian Oil & Gas Sector in the recent past.

Over the years, our annual statistical publication has evolved in response to changes in the Indian oil & gas sector and established itself in the energy world as a valuable work of reference in providing credible, comprehensive and updated data of the sector. The 11 chapters of this publication endeavor to provide an annual opportunity to examine the entire gamut of India's hydrocarbon data including inter-alia exploration, production, refining, transportation, marketing, imports and exports of crude oil & petroleum products, energy mix, taxes and duties, manpower employed in oil & gas CPSEs, etc., and a glimpse of the global petroleum scenario, through user friendly graphics, charts and tables. Updations/additions have been carried out, wherever necessary to reflect key policy reforms of the Government.

Timely release of publication would not have been possible without the support and cooperation of various Ministries/Departments, oil & gas CPSEs and attached offices of MoPNG and international organizations, who have shared the required information/data in time. The inputs received on international petroleum statistics from Organization of Petroleum Exporting Countries, International Energy Agency and BP Statistical Review of World Energy are gratefully acknowledged. The Ministry looks forward to their continued cooperation in future.

I would like to place on record my gratitude and deep appreciation for my team of officers and staff in Economic & Statistics Division, whose collaborative and committed efforts have been instrumental in bringing out an improved version of the publication, well in time. The publication is also available on the Ministry's website. Any comments/suggestions towards improving any aspect of the publication, including its scope, content and coverage would be welcome and highly appreciated. I am sure that this document would prove to be useful for all kinds of data users including academicians, policy makers and the entire oil & gas research fraternity.

Urvashi Sadhwani

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Principal Adviser

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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/loss.
   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 of publication prior to 2015-16 due to change in nomenclature, rationalization and classification of reporting.

- Oil and gas production abroad includes producing entities (OVL, BPRL, HPCL, IOCL, GAIL and OIL) which carry out Exploration & Production activities abroad.
- 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.
- Dividend paid/payable by oil & gas sector CPSEs to the Government has been reconciled, which now excludes dividend distribution tax. A separate Table (X.6) on dividend distribution tax on cash basis has been included.
- Dividend data reported by CPSE (Table X.3) is on payment basis while that given in Tables X.2 & X.4 is on accrual basis.
- Data on Taxes and Duties (excise, customs, royalty on oil & gas, oil development cess, sales tax payment) may not be strictly comparable with earlier issues of publication prior to 2016-17 due to change in nomenclature, rationalization and classification of reporting.
- A new table on GST rates applicable on select petroleum products is added as Table VII.4 and sales tax rates applicable on select petroleum product is on Table VII.3.
- A new table on Sales Tax/SGST/UTGST payment on crude oil, natural gas and petroleum products by CPSEs is added as Table VII.6.

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 or Omissions and Commissions, if any, detected may kindly be brought to the notice of the Assistant Director, Economic & Statistics Division, Ministry of Petroleum & Natural Gas at email **eands-mopng@gov.in** for rectification in the subsequent issue.

Chapter I



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

Introduction

India is at present, the fastest growing major economy of the world. The robust growth in the economy has triggered the energy demand and India is positioned to drive the incremental demand growth in global energy arena. GDP growth at constant (2011-12) prices has averaged 7.3 per cent for the period from 2015-16 to 2017-18, which is the highest among the major economies of the world. Real GDP, viz., GDP at constant prices for the year 2017-18 is estimated at Rs 130.11 lakh crore showing a growth rate of 6.7% over the year 2016-17 of Rs 121.96 lakh crore. The growth is against a backdrop of resurgence in exports coupled with global tensions on trade front and volatile global oil market with a distinct hardening crude oil prices. On the domestic front, the strong growth is underpinned by robust private consumption, expectation of greater stability in GST and public investment as well as ongoing structural reforms. Demand for petroleum products having tapered off from double digits has stabilized in the region of 5.3% in 2017-18 and 2016-17 vis-à-vis corresponding period of last year.

I.1 Crude Oil and Natural Gas Production:

The crude oil production during the year 2017-18 is at 35.68 Million Metric Tonnes (MMT) as against production of 36.01 MMT in 2016-17, showing a decline of 0.9%. Shortfall in production by ONGC was mainly due to delay in deployment of MOPU-Sagar Samrat, non realization of production from Integrated Development of B-127 Cluster due to delay in implementation', ESP related issues in NBP field of western offshore and increase in water cut in wells of Heera, Neelam & B-173 fields. Production by OIL is mainly from matured fields where decline rate encountered was more than expected, less than planned contribution from work-over wells due to bandhs, blockades, miscreant activities which contributed to direct loss of production. Shortfall in production under PSC Regime was mainly due to shutdown at RJ-ON-90/1 to 85 oil wells are closed due to high water cut, require WOJ etc., poor reservoir performance of Bhagyam field and wells of Panna-Mukta closed for riser line pigging & closure of certain wells owing to well integrity issues.

Natural Gas production during the year 2017-18 is at 32.65 Billion Cubic Meters (BCM) which is 2.36% higher than production of 31.90 BCM in 2016-17. Shortfall in production by OIL was mainly attributed to less than planned production due to decline in associated gas production in Makum, Hapjan and Barekuri area and non-associated gas in few wells in Naharkatiya and Kusijan area. Gas production was also affected due to number of unscheduled shutdowns of plants of major gas customers like BCPL, BVFCL, NTPF & LTPS and various intermittent problems like bandhs, blockades in operational areas in Assam. Shortfall in production under PSC Regime was mainly due to under performance of KG-DWN-98/3 due to closure of wells, lower reservoir pressure and no offtake by major customers.

Government has taken several steps to enhance exploration & production of oil and gas in the country which include inter-alia Hydrocarbon Exploration and Licensing policy (HELP), Open Acreage Licensing Policy (OALP), Discovered Small Field Policy, gas pricing reforms with premium for difficult areas, grant of marketing freedom for gas produced from difficult areas, National Seismic Programme for unappraised areas, National Data Repository, Policy for extension of Production Sharing Contracts (PSCs) , Policy framework for streamlining of operation of PSCs and exploration and exploitation of unconventional hydrocarbons.

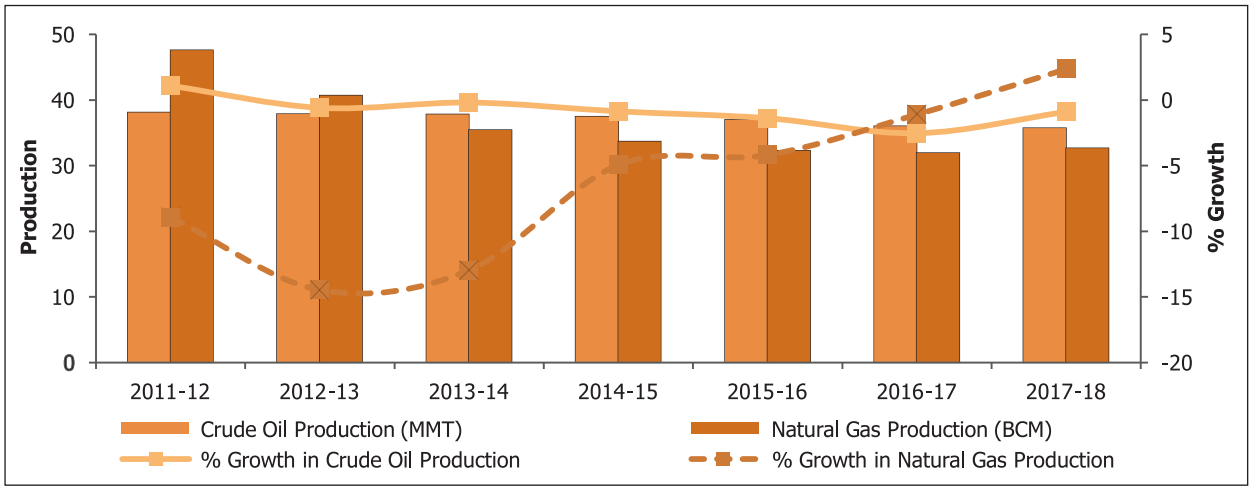
The trends in the production of crude oil and natural gas for the year 2011-12 to 2017-18 have been depicted below:

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
2011-12	38.09	1.08	47.56	-8.92
2012-13	37.86	-0.60	40.68	-14.46
2013-14	37.79	-0.19	35.41	-12.96
2014-15	37.46	-0.87	33.66	-4.94
2015-16	36.94	-1.39	32.25	-4.18
2016-17	36.01	-2.53	31.90	-1.09
2017-18 (P)	35.68	-0.90	32.65	2.36

P: Provisional

Figure I.1: Crude Oil & Natural Gas Production



I.2 Refinery Capacity & Refinery Crude Throughput:

Indian refinery industry has done well in establishing itself as a major player globally. India, which is second largest refiner in Asia after China, is emerging as a refinery hub with refining capacity exceeding demand. The country's refinery capacity has increased to 247.57 MMTPA at present. Capacity of BPCL-Kochi increased from 9.5 MMTPA to 15.5 MMTPA. Further, there was an addition of 2.3 MMTPA and 8.2 MMTPA capacities in HMEL-Bhatinda, and RIL (SEZ) Jamnagar refineries respectively during the year. Refinery Crude Throughput (Crude Oil Processed) for the year 2017-18 is 251.93 MMT as against 245.36 MMT in 2016-17, showing an increase of about 2.68%. Refinery capacity utilisation is 107.68 for the year 2017-18. The trend in Refinery Capacity and Crude throughput during 2011-12 onwards are depicted in Table I.2.

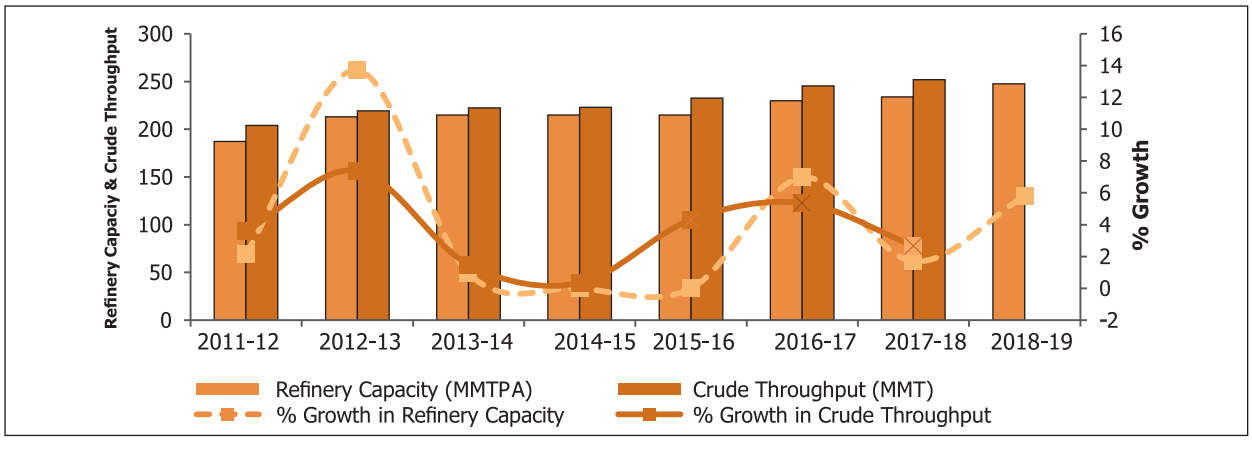
Table I.2: Refinery Capacity & Refinery Crude Throughput (in terms of Crude Oil Processed)

Year	Refinery Capacity @ (MMTPA)	% Growth in Refinery Capacity	Crude Throughput (MMT)	% Growth in Crude Throughput	Refinery Capacity Utilization (%)
2011-12	187.39	2.18	204.12	3.62	108.93
2012-13	213.07	13.70	219.21	7.39	102.88
2013-14	215.07	0.94	222.50	1.50	103.46
2014-15	215.07	0.00	223.24	0.33	103.80
2015-16	215.07	0.00	232.86	4.31	108.28
2016-17	230.07	6.97	245.36	5.37	106.65
2017-18 (P)	233.97	1.70	251.93	2.68	107.68
2018-19	247.57	5.81	-	-	-

P: Provisional

@: 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 254.40 MMT in year 2017-18 as against 243.55 MMT achieved in 2016-17, showing an increase of about 4.46%. During the year 2017-18, the consumption of petroleum products in India was 204.92 MMT with a growth of 5.31% as compared to consumption of 194.60 MMT during 2016-17.

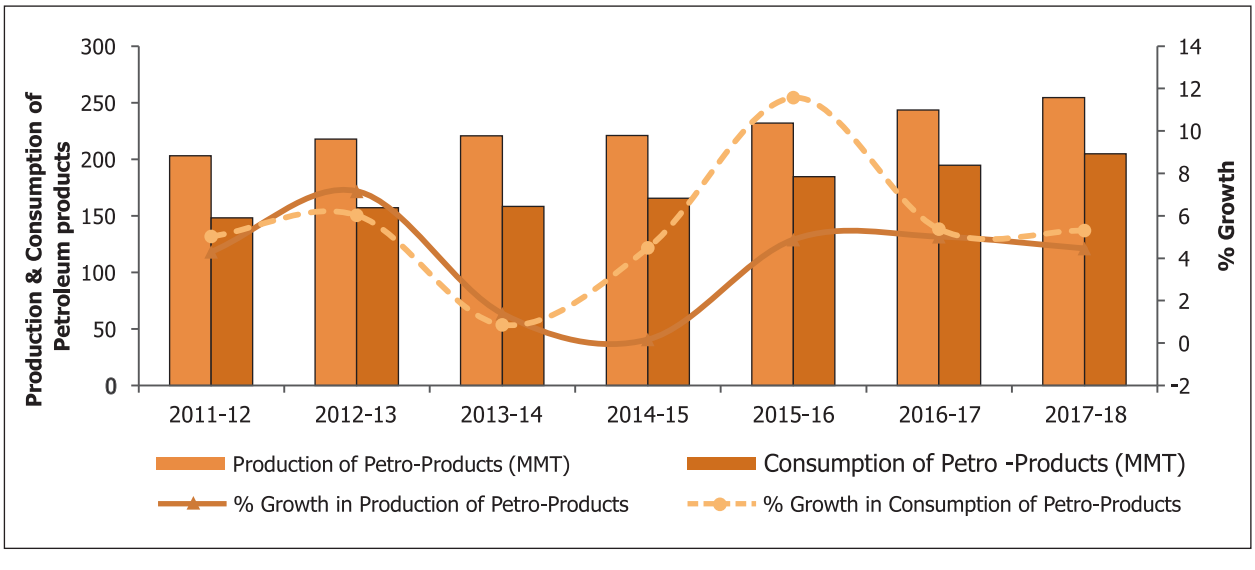
Year-wise production and consumption of petroleum products since 2011-12 to 2017-18 are depicted below:

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
2011-12	203.20	4.30	148.13	5.03
2012-13	217.74	7.15	157.06	6.02
2013-14	220.76	1.39	158.41	0.86
2014-15	221.14	0.17	165.52	4.49
2015-16	231.92	4.88	184.67	11.57
2016-17	243.55	5.01	194.60	5.37
2017-18 (P)	254.40	4.46	204.92	5.31

P: Provisional

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



I.4 Import of Crude Oil:

Import of crude oil during 2017-18 was 220.43 MMT valued at ₹5,65,951 crore as against import of 213.93 MMT valued at ₹4,70,159 crore in 2016-17 which marked an increase of 3.04% in quantity terms and 20.37% in value terms as compared to the import of crude oil during 2016-17.

The average international crude oil price (Indian Basket) was US$ 56.43/bbl during April-March, 2017-18 as compared to US$ 47.56/bbl in the same period of 2016-17, i.e. registered an increase of 18.65% after a period of declining prices.

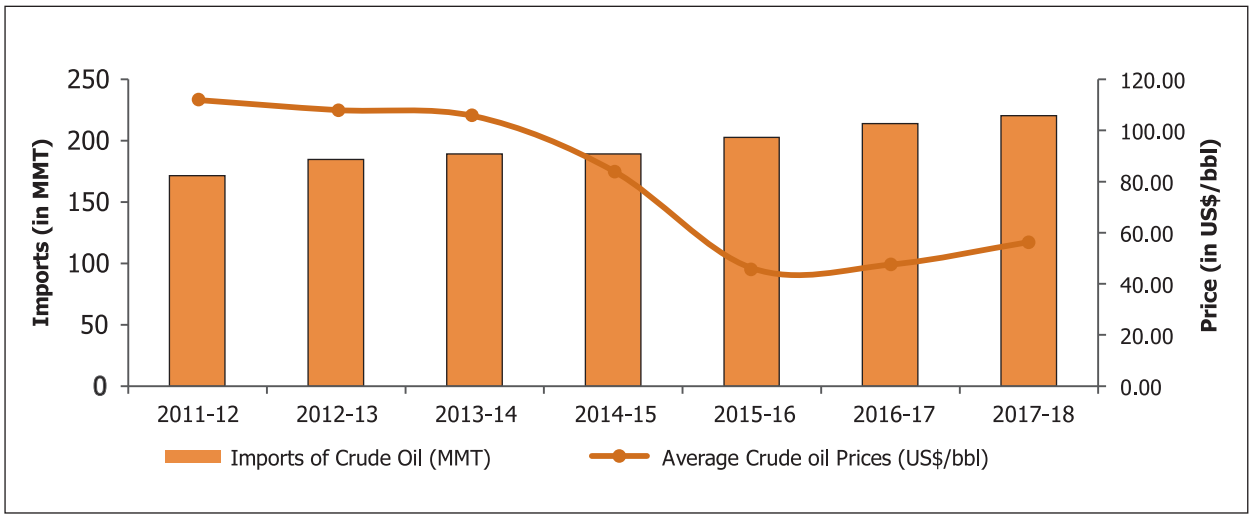
The trend in growth of crude oil imports and crude oil international (Indian Basket) prices is shown in Table I-4 & Graph I- 4.

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
2011-12	171.73	4.97	111.89	31.50
2012-13	184.80	7.61	107.97	-3.50
2013-14	189.24	2.40	105.52	-2.27
2014-15	189.43	0.10	84.16	-20.25
2015-16	202.85	7.08	46.17	-45.14
2016-17	213.93	5.46	47.56	3.02
2017-18 (P)	220.43	3.04	56.43	18.65

P: Provisional

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



I.5 Imports & Exports of Petroleum Products:

During 2017-18 imports of petroleum products were at 35.89 MMT valued at ₹86,946 crore which shows decrease of 1.09% in quantity terms and 21.49% increase in value terms against 36.29 MMT imports of petroleum products valued at ₹71,566 crore during 2016-17.

During the year 2017-18 exports of petroleum products were 66.76 MMT valued at ₹2,25,139 crore which shows an increase of 1.9% in quantity terms and 15.52% increase in value terms against the exports of 65.51 MMT valued at ₹1,94,893 crore during 2016-17.

During 2017-18, import of LNG was 19.87 MMT valued at ₹49,938 crore which registered an increase of 6.65% in quantity terms and 22.39% increase in value terms against imports of 18.63 MMT of LNG, valued at ₹40804 crore during 2016-17.

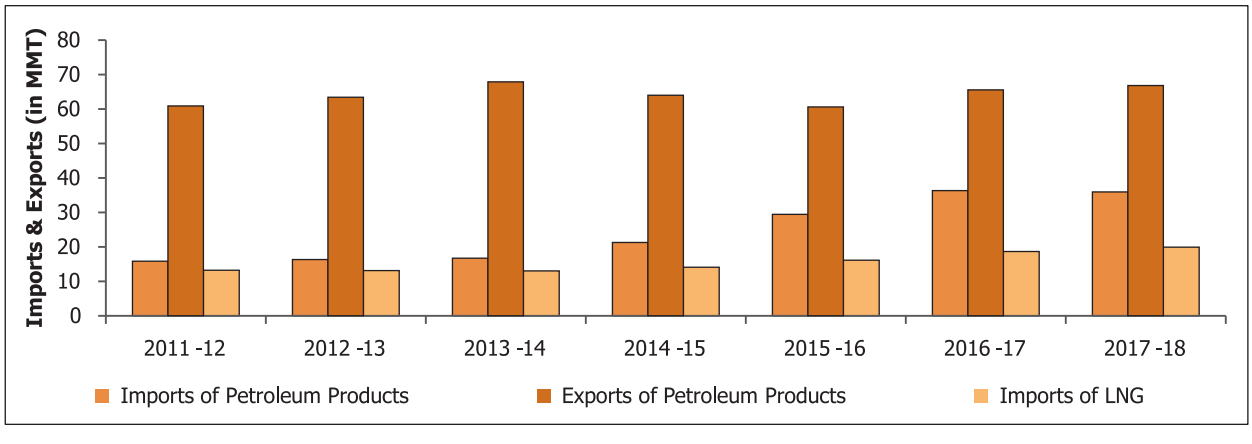
The trend in imports/exports of petroleum products and LNG are depicted in Table I.5 & Figure I.5.

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
2011-12	15.85	-8.80	60.84	2.98	13.21	33.06
2012-13	16.35	3.18	63.41	4.23	13.14	-0.60
2013-14	16.70	2.10	67.86	7.03	12.99	-1.07
2014-15	21.30	27.57	63.93	-5.79	14.09	8.45
2015-16	29.46	38.28	60.54	-5.31	16.14	14.55
2016-17	36.29	23.19	65.51	8.22	18.63	15.42
2017-18 (P)	35.89	-1.09	66.76	1.90	19.87	6.65

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 I.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 ₹9955.2 crore contributing 6.03% of total FDI inflow in the economy. During the year 2017-18, FDI inflow received was ₹156.1 crore.

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
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	2623216	40001	6770	103	38.72	29.33	-89.58	-90.45
2016-17	2916963	43478	11971	180	11.20	8.69	76.81	75.11
2017-18 (P)	2888885	44857	1561	24	-0.96	3.17	-86.96	-86.60

P: Provisional

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

The budgeted Internal and Extra Budgetary Resources (IEBR) for petroleum and natural gas sector at ₹ 89335.09 crore in 2018-19, is 3.8% higher than that Budgeted for the year 2017-18 (₹86027.28 crore). The actual expenditure in 2017-18 was ₹135499.35 crore which comprised ₹3495.84 crore as GBS and ₹132003.51 crore of outlay through I&EBR of oil & gas CPSEs. Actual expenditure of the Ministry of Petroleum & Natural Gas in 2017-18 is given at Table X.1.

I.8 Indian Economy-Select Indicators

Indicator	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18(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)	1220	1235	1251	1267	1283	1299	1353
3. Gross Domestic Product :							
(i) At current prices (₹ Crore)	8736329	9944013	11233522	12445128	13764037	15253714	16773145*
(ii) At constant prices (₹ Crore)	8736329	9213017	9801370	10536984	11386145	12196006	13010843*
4. GVA at Basic Price							
(i) At current prices (₹ Crore)	8106946	9202692	10363153	11481794	12566646	13841591	15182371*
(ii) At constant prices (₹ Crore)	8106946	8546275	9063649	9719023	10503348	11247629	11976155*
5. Per Capita NNI (Population in Million) :							
(i) At current prices (₹)	63462	70983	79118	86647	94731	103870	112835*
(ii) At constant prices (₹)	63462	65538	68572	72805	77826	82229	86668*
6. Foreign Exchange Reserves :	15061.3	15884.2	18283.8	21376.4	23787.4	23982.0	27608.5
(i) Gold (₹ Billion)	1382.5	1397.4	1296.2	1191.6	1334.3	1288.3	1397.4
(ii) SDR (₹ Billion)	228.6	235.4	268.3	249.4	99.6	93.8	100.2
(iii) Foreign Currency Assets (₹ Billion)	13305.1	14126.3	16609.1	19854.6	22190.6	22449.4	25975.7
(iv) Reserve Tranch Position (₹ Billion)	145.1	125.1	110.2	80.8	162.9	150.5	135.2
7. Foreign Trade :							
(i) Import (₹ Billion)	23454.6	26691.6	27154.3	27370.9	24903.0	25776.7	30010.2
(ii) Export (₹ Billion)	14659.6	16343.2	19050.1	18963.5	17163.8	18494.3	19555.4
(iii) Balance of Trade (₹ Crore)	-8795.0	-10348.4	-8104.2	-8407.4	-7739.2	-7282.4	-10454.7
8. Index of Production :							
(i) Agricultural (2007-08=100)	124.3	124.0	129.8	124.0	120.8	131.8	134.3^
(ii) Industrial (2011-12=100)	100.0	103.3	106.8	111.1	114.9	120.0	125.2
9. Wholesale Price Index (2011-12=100)	100.0	106.9	112.5	113.9	109.7	111.6	114.9
10. Consumer Price Index:							
(i) Industrial Workers (2001=100)	194.8	215.2	236.0	250.8	265.0	275.9	284.4
(ii) Agricultural Labourers (1986-87=100)	610.7	671.9	749.8	799.5	834.9	869.8	888.9
(iii) Rural Labourers (1986-87=100)	611.0	673.3	750.5	802.2	839.4	875.0	895.1
11. Energy Generation (Gross) :							
Coal (MMT)	539.95	556.40	565.77	609.18	639.23	657.87	676.48
Lignite (MMT)	42.33	46.45	44.27	48.27	43.84	45.23	47.46
Natural Gas (BCM)	47.56	40.68	35.41	33.66	32.25	31.90	32.65
Crude Oil (MMT)	38.09	37.86	37.79	37.46	36.94	36.01	35.68
Petroleum Products	203.20	217.74	220.76	221.14	231.92	243.55	254.40
12. Electricity Generated (GWh)							
(i) Total Utilities	974436	964489	1021167	1116850	1167584	1235358	1302721
Hydel	130510	113720	134848	129244	121377	122378	126123
Thermal	759400	760454	792477	877941	943013	993516	1036412
Nuclear	33300	32866	34228	36102	37414	37916	38346
R.E.S.	51226	57449	59615	73563	65781	81548	101839
(ii) Non-utilities	128200	144010	156843	162057	168372	172046	183000
Total Electricity	1102636	1108499	1178010	1278907	1335956	1407404	1485721
13. POL Traffic by Rail (MMT)	39.77	40.61	41.16	41.10	43.24	42.42	43.11

Note: GDP & NNI at constant (2011-12) prices. Figures prior to 2011-12 are not available at 2011-12 prices.
^: As per 3rd Advance Estimates P: Provisional *: Provisional Estimates
Source : Economic Survey, RBI, Ministry of Statistics & Programme Implementation, Ministry of Commerce & Industry, Ministry of Finance and Labour Bureau.

I.9 Trends in Indian Petroleum Industry at a Glance

Item	Unit	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18(P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. Production								
(i) Crude Oil	MMT	38.09	37.86	37.79	37.46	36.94	36.01	35.68
(ii) Natural Gas	BCM	47.56	40.68	35.41	33.66	32.25	31.90	32.65
(iii) Petroleum Products	MMT	203.20	217.74	220.76	221.14	231.92	243.55	254.40
2. Consumption								
(i) Crude Oil (in terms of refinery crude processed)	MMT	204.12	219.21	222.50	223.24	232.86	245.36	251.93
(ii) Natural Gas (including LNG)	BCM	60.68	53.91	48.99	46.95	47.85	50.78	52.83
(iii) Petroleum Products	MMT	148.13	157.06	158.41	165.52	184.67	194.60	204.92
3. Reserves (Balance Recoverable) as on 31st March								
(i) Crude Oil	MMT	652.16	651.55	647.34	635.59	621.28	604.10	594.49
(ii) Natural Gas	BCM	1166.77	1171.66	1199.10	1251.99	1227.50	1289.70	1339.57
4. Imports & Exports								
(i) Gross Imports :								
(a) Qty : Crude Oil	MMT	171.73	184.80	189.24	189.43	202.85	213.93	220.43
LNG	MMT	13.21	13.14	12.99	14.09	16.14	18.63	19.87
Pol. Products	MMT	15.85	16.35	16.70	21.30	29.46	36.29	35.89
Total (a)	MMT	200.79	214.28	218.93	224.83	248.45	268.85	276.20
(b) Value: Crude Oil	₹ Billion	6722.20	7846.52	8648.75	6874.16	4165.79	4701.59	5659.51
LNG	₹ Billion	317.18	419.02	531.23	573.84	450.38	408.04	499.41
Pol. Products	₹ Billion	680.91	688.52	758.96	746.44	653.61	715.66	869.46
Total (b)	₹ Billion	7720.29	8954.06	9938.94	8194.45	5269.78	5825.29	7028.37
(ii) Exports :								
(a) Qty : Pol. Products	MMT	60.84	63.41	67.86	63.93	60.54	65.51	66.76
(b) Value: Pol. Products	₹ Billion	2846.44	3200.90	3682.79	2885.80	1767.80	1948.93	2251.39
(iii) Net Imports :								
(a) Qty : Crude Oil	MMT	171.73	184.80	189.24	189.43	202.85	213.93	220.43
LNG	MMT	13.21	13.14	12.99	14.09	16.14	18.63	19.87
Pol. Products	MMT	-44.99	-47.05	-51.17	-42.63	-31.08	-29.23	-30.87
Total (a)	MMT	139.96	150.88	151.07	160.90	187.91	203.34	209.44
(b) Value: Crude Oil	₹ Billion	6722.20	7846.52	8648.75	6874.16	4165.79	4701.59	5659.51
LNG	₹ Billion	317.18	419.02	531.23	573.84	450.38	408.04	499.41
Pol. Products	₹ Billion	-2165.53	-2512.38	-2923.83	-2139.36	-1114.19	-1233.27	-1381.94
Total (b)	₹ Billion	4873.84	5753.17	6256.15	5308.65	3501.99	3876.37	4776.98
(iv) Unit Value of Crude oil imports(gross)	₹ / MT	39144.19	42460.63	45702.97	36287.73	20536.25	21977.04	25674.40
5. India's Total Imports	₹ Billion	23454.63	26691.62	27154.34	27370.87	24902.98	25776.66	30010.16
6. India's Total Exports	₹ Billion	14659.59	16343.18	19050.11	18963.48	17163.78	18494.29	19555.41
7. Petroleum Imports as % of India's total Imports	%	32.92	33.55	36.60	29.94	21.16	22.60	23.42
8. Petroleum Exports as % of India's total Exports	%	19.42	19.59	19.33	15.22	10.30	10.54	11.51
9. Contribution of Oil Sector to Centre/State Resources								
(i) Royalty from crude oil[1]	₹ Crore	-	15508	16863	15248	10221	14678	12392
(ii) Royalty from gas[1]	₹ Crore	-	2246	2294	2473	2557	1964	1845
(iii) Oil Development Cess[1]	₹ Crore	-	15781	15875	15874	15403	13076	14527
(iv) Excise & Custom duties	₹ Crore	-	68851	73780	94239	173675	237389	222020
(v) Sales Tax	₹ Crore	-	114001	128808	136805	142633	165922	190695
(vi) Dividend[2]	₹ Crore	-	14784	14237	13912	14614	33697	29891

Note:

P: Provisional

1. Royalty on crude Oil & Gas and Oil Development Cess are on accrual basis details in Table VII.2
2. Dividend on Payment basis details in Table X.3

I.10 International Petroleum Statistics

Item/Year	Unit	2011	2012	2013	2014	2015	2016	2017 (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. World reserves of oil & gas at year end								
(i) Crude Oil	Thousand Million Barrels	1681	1691	1699	1702	1690	1697	1697
of which OPEC		1198	1205	1210	1209	1211	1218	1214
(ii) Natural Gas	TCM	191	190	192	193	191	193	193
of which OPEC		95	95	95	96	95	96	96
2. World production of oil & gas								
(i) Crude Oil	MMT	4010	4121	4125	4223	4355	4377	4387
of which OPEC		1753	1826	1773	1766	1834	1867	1860
(ii) Natural Gas Net	MMTOE	2811	2869	2903	2964	3026	3052	3165
of which OPEC		534	565	567	594	624	649	676
3. World Oil Refinery								
(i) Refinery capacity	MMT	4655	4685	4738	4807	4832	4858	4887
(ii) Crude throughput		3763	3814	3836	3884	3975	3999	4079
4. World Oil Consumption								
(i) World Total	MMT	4117	4168	4219	4253	4332	4409	4470
(ii) Main consuming areas[1]		2402	2444	2484	2531	2588	2632	2663
(iii) Consumption in main areas as % of world	%	58.3	58.6	58.9	59.5	59.7	59.7	59.6
5. World Imports								
(i) Crude Oil	MMT	2052	2077	2070	2052	2132	2223	2313
(ii) Pol. Products		1090	1085	1120	1141	1224	1271	1319
Total		**3142**	**3162**	**3191**	**3193**	**3356**	**3493**	**3632**
6. Export of Crude Oil & POL from OPEC								
(i) Crude Oil	MMT	1194	1260	1210	1162	1180	1258	1238
(ii) Pol. Products		210	189	189	183	200	241	231
Total		**1404**	**1448**	**1399**	**1345**	**1380**	**1499**	**1469**
7. World Primary Energy Consumption								
(i) Oil	MTOE	4126	4176	4221	4255	4341	4557	4622
(ii) Natural Gas		2926	3011	3054	3073	3147	3073	3156
(iii) Coal		3807	3817	3887	3889	3785	3706	3731
(iv) Hydro-Electric		792	832	859	879	883	913	919
(v) Nuclear Energy		600	559	564	575	583	591	596
(vi) Renewables		204	239	281	317	367	417	487
Total		**12455**	**12634**	**12866**	**12989**	**13105**	**13259**	**13511**

Note: 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 : BP Statistical Review of World Energy, June-2018 and OPEC Annual Statistical Bulletin, 2018

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 545 wells (of which 74% are development wells) with 12.28 lakh meterage area drilled by Oil Companies during 2017-18.
- Balance recoverable reserves of crude oil as on 01.04.2018 is 594.49 MMT, out of which 276.67 MMT (47%) are in offshore. ONGC (nomination) has the largest share of 73% in reserves of crude oil with OIL (nomination) and PSC regime contributing 13% and 14% respectively.
- Balance recoverable reserves of natural gas as on 01.04.2018 were 1339.57 BCM, out of which 823.35 BCM (61%) are in offshore. PSC regime has the largest share of 49% in natural gas reserves followed by with ONGC (nomination) and OIL (nomination) at 42% and 9% respectively.
- Out of total crude oil & condensate production of 35.68 MMT in 2017-18, 62% (22.25 MMT) is from ONGC (nomination), 10% (3.38 MMT) from OIL (nomination) and 28% (10.06 MMT) from PSC regime
- Out of total natural gas production of 32.65 BCM in 2017-18, 72% (23.43 BCM) is from ONGC (nomination), 9% (2.88 BCM) from OIL (nomination) and 19% (6.34 BCM) from PSC regime.
- Maximum production of crude Oil (9.64 MMT) occurred in Mumbai High asset of ONGC and maximum production of natural gas (10.86 BCM) occurred in Bassein & Satellite fields of ONGC in 2017-18.
- Total consumption of natural gas in 2017-18 stands at 52.83 BCM as against 50.78 BCM in 2016-17. Out of 52.83 BCM, 32.06 BCM (61%) is consumed for energy purpose as fuel and the balance 39% is used for non-energy purpose as feedstock for various industries.
- In 2017-18 highest consumption of natural gas under energy purpose was in power sector at 12.03 BCM (38%) followed by City or Local Natural Gas Distribution Network at 8.58 BCM (27%) and Refinery at 6.53 BCM (20%). Under non-energy purpose, maximum consumption was seen in fertilizer industry at 14.68 BCM (71%) followed by petrochemical sector at 4.02 BCM (19%).
- Oil & Gas production from assets abroad is 21.72 MMTOE during 2017-18.

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)									
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	71	271	556	34	54	134	105	325	689
2016-17	69	319	636	36	117	316	105	436	951
2017-18 (P)	70	331	659	37	108	283	107	439	942
(B) Oil India Limited (Nomination)									
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	20	44	143	-	-	-	20	44	143
2016-17	19	56	169	-	-	-	19	56	169
2017-18 (P)	19	39	135	-	-	-	19	39	135
(C) PSC Regime									
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	27	110	209	12	27	78	39	137	286
2016-17	23	39	100	9	9	25	32	48	125
2017-18 (P)	23	53	120	10	14	31	33	67	152
Total (A+B+C)									
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	118	425	907	46	81	211	164	506	1118
2016-17	111	414	904	45	126	341	156	540	1246
2017-18 (P)	112	423	915	47	122	314	159	545	1228

P: Provisional

Note:

1. Total may not tally due to rounding off
2. Figures not strictly comparable with earlier issues of publication prior to 2015-16 due to change in nomenclature, rationalisation and classification of reporting.

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

Figure II.1(a): Share of wells drilled during 2017-18 (%)

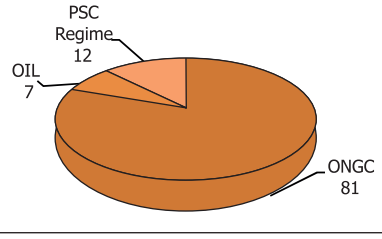
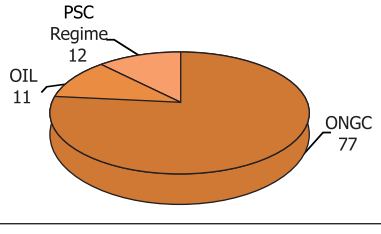


Figure II.1(b): Share in metreage drilled during 2017-18 (%)



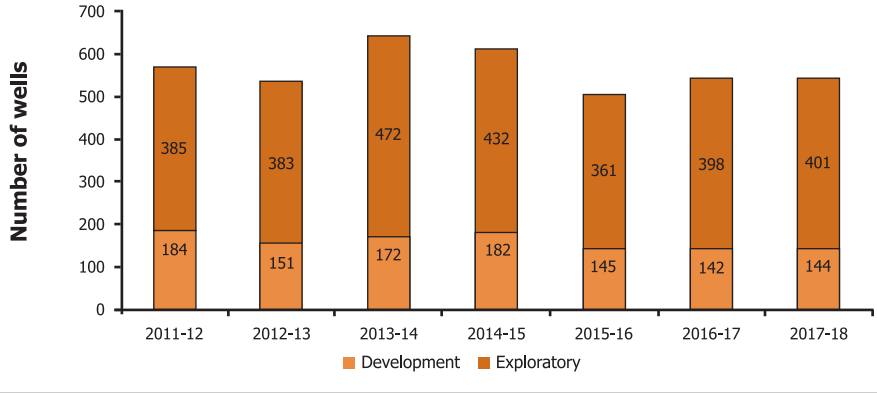
II.2 Exploratory & Development Drilling by Oil Companies

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						
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	105	320	320	587	425	907
2016-17	102	277	312	628	414	904
2017-18 (P)	85	266	338	649	423	915
(B) Offshore						
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	40	105	41	106	81	211
2016-17	40	119	86	222	126	341
2017-18 (P)	59	149	63	165	122	314
Total (A+B)						
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	145	425	361	693	506	1118
2016-17	142	396	398	850	540	1246
2017-18 (P)	144	414	401	814	545	1228

Note: P: Provisional
1. Includes Water Disposal Wells and Non-Associated Gas Wells
2. Total may not tally due to rounding off
3. Figures not strictly comparable with earlier issues of publication prior to 2015-16 due to change in nomenclature, rationalisation and classification of reporting.

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

Figure II.2: Trends in drilling Exploratory and Development wells



II.3 Status of Wells

(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)							
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
2017	386	107	436	18	48	1559	2554
2018	394	103	537	36	44	1479	2593
(B) Oil & Natural Gas Corporation Ltd. (Nomination)							
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
2017	6282	844	2870	136	1091	2925	14148
2018	6580	876	2913	182	1110	2926	14587
(C) PSC Regime							
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
2017	739	292	738	37	266	37	2109
2018	762	306	759	45	266	38	2176
Total (A+B+C)							
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
2017	7407	1243	4044	191	1405	4521	18811
2018	7736	1285	4209	263	1420	4443	19356

Note: Figures not strictly comparable with earlier issues of publication prior to 2015-16 due to change in nomenclature, rationalisation and classification of reporting.
#: As on 1st April of each year

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

II. 4 State-wise Geological Surveys Achievements upto 31.03.2018

(in Numbers)

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	-	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	-	0
Eastern offshore	0	-	0
Western offshore	0	-	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 31.03.2018

Area/ State	ONGC (Nomination)		OIL (Nomination)		PSC Regime	
	2D (LKM)	3D (SKM)	2D (LKM)	3D (SKM)	2D (LKM)	3D (SKM)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(A) Onshore						
Andhra Pradesh	39166	10039	-	-	1860	1752
Arunachal Pradesh	-	-	3393	268	52	114
Assam[1]	30955	4340	24487	7736	3312	2049
Bihar[2]	6566	0	-	-	2423	947
Chhattisgarh	202	0	-	-	-	-
Gujarat	104712	10844	-	-	7729	7734
Himachal Pradesh	3785	0	-	-	810	-
Haryana	1038	0	-	-	-	-
Jammu & Kashmir	2563	0	-	-	-	-
Madhya Pradesh	10021	899	-	-	2694	304
Maharashtra	-	-	-	-	476	-
Manipur	-	-	-	-	210	-
Meghalaya	205	0	-	-	-	-
Mizoram	35	0	-	-	1526	613
Nagaland	602	6	-	-	-	-
Orissa	313	0	4278	-	470	-
Punjab	4078	0	-	-	-	-
Rajasthan	20571	1423	11570	510	17324	17916
Tamil Nadu	41031	8269	-	-	1710	3263
Telangana	-	-	-	-	129	-
Tripura	6237	944	-	-	1688	63
Uttar Pradesh	26798	0	6223	-	2860	211
Uttarakhand	1522	0	-	-	-	-
West Bengal	29227	596	-	-	7516	6656
Total (A)	**329625**	**37361**	**49949**	**8514**	**52788**	**41624**
(B) Offshore						
Andaman	-	-	14043	-	-	-
Saurashtra	-	-	8767	332	-	-
Eastern offshore	117515	8100	-	-	229125	194431
Western offshore	434940	79869	-	-	120171	63720
Total (B)	**552454**	**87969**	**22810**	**332**	**349295**	**258152**
Total	**882079**	**125331**	**72759**	**8846**	**402083**	**299776**

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

SKM: Square Kilometre. LKM: Line Kilometre.

1. Figures not strictly comparable with earlier issues of publication prior to 2015-16 due to change in nomenclature, rationalisation and classification of reporting.
2. Excludes 387.81 LKM in Pre-NELP acreage in ONGC's 2D LKM.

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

II.6 Basin-wise / State-wise Achievements of Drilling since Inception upto 31.03.2018

Basin	State / Region	Wells	Metreage
		Numbers	('000')
(1)	(2)	(3)	(4)
(A) Onshore		15384	32662
Cambay	Gujarat	8217	14181
Kutch	Gujarat	5	3662
Rajasthan	Rajasthan	1098	1928
Vindhyan	Rajasthan	5	14
	Madhya Pradesh	1	3
	Total WRBC	**9326**	**16137**
	Nagaland	37	131
Upper Assam	Assam	4209	11220
	Meghalaya	3	6
Mahanadi	Odisha	4	11
Fold Belt	Mizoram under ERBC	6	21
	Arunachal Pradesh	58	190
Assam-Arakan	Tripura	242	708
	Total ERBC	**4559**	**12287**
Foot hills & Ganga Valley	West Bengal	37	148
Ganga Valley	Bihar	9	37
	West Bengal	3	9
Satpura-South Rewa-Damodar	Madhya Pradesh	2	6
	Total CRBC	51	200
Himalayan Foot-hills,	Himachal Pradesh	16	60
Ganga Valley &	Punjab	4	16
Vindhyan/Gondwana/Ganga	Uttar Pradesh	10	35
	Madhya Pradesh	20	57
	Jammu & Kashmir	4	12
	Total NRBC	**54**	**180**
Krishna-Godavari	Andhra Pradesh	666	1980
Pranhita-Godavari	Andhra Pradesh	1	3
Cauvery	Tamil Nadu	727	1874
	Total SRBC	**1394**	**3858**
(B) Offshore		3878	10172
East Coast(SW+DW)	East Coast including KG, Cauvery	622	2050
West Coast(SW+DW)	West Coast including drilling in	3239	8056
	Orissa, Andaman & Saurashtra	17	66
	Others	0	0
Total (A+B)		**19262**	**42834**

Note:
1. All figures are provisional
2. Figures not strictly comparable with earlier issues of publication prior to 2015-16 due to change in nomenclature, rationalisation and classification of reporting.
3. 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. and DGH

II.7 State-wise/Basin -wise Oil Fields in India As on 31.03.2018

(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	45	4	33	82
Assam	Upper Assam	23	1	10	34
Assam	A&AA	1	4	-	5
Rajasthan	Jodhpur	-	6	-	6
Andhra Pradesh	K.G. Basin	7	45	8	60
Tamil Nadu	Cauvery	7	9	12	28
Tripura	A&AA	-	10	-	10
Nagaland	A&AA	1	-	1	2
Madhya Pradesh	Vindhyan Basin	-	1	-	1
Total Onshore		**84**	**80**	**64**	**228**
East Coast	Cauvery Offshore	-	1	-	1
East Coast	KG Offshore(Shallow)	4	7	4	15
East Coast	KG Offshore(Deep)	1	4	2	7
West Coast	Cambay	2	-	-	2
West Coast	Mumbai Offshore	26	17	36	79
West Coast	Kutch	-	2	1	3
Total Offshore		**33**	**31**	**43**	**107**
Total (A)		**117**	**111**	**107**	**335**
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 Nagur	0	0	1	1
Total (B)		**0**	**0**	**19**	**19**
C. PSC Regime					
Andhra Pradesh	Krishna Godavari	1	0	0	1
Arunachal Pradesh	Assam-Arakan	1	0	0	1
Assam	Assam-Arakan	1	1	0	2
Gujarat	Cambay	36	3	1	40
Madhya Pradesh*	Sohagpur	0	2	0	2
Jharkhand*	Jharia	0	1	0	1
Jharkhand*	Bokaro	0	1	0	1
Rajasthan	Rajasthan	10	2	0	12
Tamil Nadu	Cauvery	1	0	0	1
West Bengal*	Raniganj	0	2	0	2
Total Onshore+CBM		50	12	1	63
East Coast	Cauvery	1	1	0	2
East Coast	Krishna Godavari	0	2	2	4
West Coast	Mumbai	1	2	1	4
West Coast	Cambay	0	1	2	3
Total Offshore		2	6	5	13
Total (C)		**52**	**18**	**6**	**76**
Grand Total (A+B+C)		**169**	**129**	**132**	**430**

A & AA : Assam & Assam Arakan.

*: CBM Fields

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

II.8 Exploration contracts awarded in different rounds under NELP & DSF

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

Contract areas awarded under discovered small field round-2016

	Consortium (Participating Interest in %)	State	Basin	Contract Area Name	Awarded Area (in sq.km)	Present Area (in sq.km)
SHALLOW WATER						
1	Sun Petrochemical (100) (Op.)	Mumbai Offshore	Mumbai	MB/OSDSF/B37/2016	124	124
2	Adani Welspun Exploration Ltd. (100)	Mumbai Offshore		MB/OSDSF/B9/2016	183	183
3	BPRL (100)	Mumbai Offshore		MB/OSDSF/B15/2016	41	41
4	BPRL (100)	Mumbai Offshore		MB/OSDSF/B127E/2016	39.3	39.3
5	HOEC(50), AEPL (50)	Mumbai Offshore		MB/OSDSF/B80/2016	56.02	56.02
6	IOCL (100)	Kutch Offshore	Gujarat Kutch	GK/OSDSF/KD/2016	46	46
7	KEI-RSOS Petroleum & Energy Pvt Ltd (100)	KG-Offshore	Krishna Godavari	KG/OSDSF/GSKV1/2016	24.2	24.2
				Sub Total	**513.52**	**513.52**
ONLAND						
8	PPCL (100)	Assam	Assam Arakan	AA/ONDSF/HILARA/2016	9.6	9.6
9	MEIL (100)	Assam		AA/ONDSF/LAXMIJAN/2016	8.9	8.9
10	VBIPL (100)	Assam		AA/ONDSF/PATHARIA/2016	19.15	19.15
11	RIPL (29), BDNEPL (29), DFPL (23), MIPL (19)	Assam		AA/ONDSF/BARSILLA/2016	6.22	6.22
12	OILMAX (100)	Assam		AA/ONDSF/CHARAIDEO/2016	11.5	11.5
13	RIPL (29), BDNEPL (29), DFPL (23), MIPL (19)	Assam		AA/ONDSF/DIPLING/2016	28.17	28.17
14	OILMAX (100)	Assam		AA/ONDSF/DUARMARA/2016	8.91	8.91
15	IOCL (100)	Assam		AA/ONDSF/JERAIPATHAR/2016	10.1	10.1
16	HOEC (40), OIL (40), PPCL (20)	Arunanchal Pradesh		AA/ONDSF/KHEREM/2016	16.45	16.45
17	PFHOGPL (100)	Gujarat	Cambay	CB/ONDSF/ELAO/2016	9.98	9.98
18	SACFZE (100)	Gujarat		CB/ONDSF/SOUTH PATAN/2016	9.88	9.88
19	MEIL (100)	Gujarat		CB/ONDSF/KHAMBEL/2016	9.78	9.78
20	Nippon Power Ltd. (100)	Gujarat		CB/ONDSF/KAMBOI/2016	2.35	2.35
21	Nippon Power Ltd. (100)	Gujarat		CB/ONDSF/WEST BECHRAJI/2016	9.15	9.15
22	GEMLPL (100)	Tamil Nadu	Cauvery	CY/ONDSF/NEDUVASAL/2016	10.01	10.01
23	BPRL (100)	Tamil Nadu		CY/ONDSF/KARAIKAL/2016	10.4	10.4
24	PFHOGPL (100)	Andhra Pradesh	Krishna Godavari	KG/ONDSF/ACHANTA/2016	9.63	9.63
25	PFHOGPL (100)	Andhra Pradesh		KG/ONDSF/BHIMANAPALLI/2016	15.1	15.1
26	KEI-RSOS Petroleum & Energy Pvt Ltd (100)	Andhra Pradesh		KG/ONDSF/KORAVAKA/2016	9.9	9.9
27	PPCL (100)	Andhra Pradesh		KG/ONDSF/ SANARUDRAVARAM/2016	9.35	9.35
28	BPRL (100)	Rajasthan	Rajasthan	RJ/ONDSF/BAKHRI TIBBA/2016	13.4	13.4
29	BPRL (100)	Rajasthan		RJ/ONDSF /SADEWALA/2016	10.3	10.3
30	IOCL (100)	Madhya Pradesh	Vindhyan	VN/ONDSF/NOHTA/2016	15	15
				Sub Total	**263.23**	**263.23**
				Total Area	**776.75**	**776.75**

Note: 1. Total 31 contract areas were awarded under DSF-I of which one awardee did not sign the contract
2. Under DSF Bid Round-II, expected to offer around 60 discoveries clubbed into around 26 new contract areas and established Hydrocarbon resource base of over 190 MMT(O+OEG).

Source: DGH

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

Area/State	Crude Oil(MMT)							Natural Gas(BCM)						
	2012	2013	2014	2015	2016	2017	2018	2012	2013	2014	2015	2016	2017	2018
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Western Offshore	256.69	265.33	255.70	255.27	247.13	239.20	236.25	317.25	319.42	319.72	325.01	293.96	302.35	312.52
Eastern Offshore	18.31	16.79	34.75	34.19	36.39	40.67	40.42	426.14	416.98	449.47	467.65	451.46	507.76	510.83
A. Total Offshore	**275.00**	**282.12**	**290.45**	**289.46**	**283.53**	**279.86**	**276.67**	**743.38**	**736.40**	**769.20**	**792.66**	**745.41**	**810.10**	**823.35**
Arunachal Pradesh	3.42	3.37	2.95	1.64	1.73	1.52	1.74	2.14	1.96	0.81	0.79	0.95	0.72	1.26
Andhra Pradesh	4.61	6.80	10.73	10.94	10.90	8.15	7.94	37.03	42.25	42.32	41.79	42.03	48.31	59.89
Nagaland	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
Jharkhand (CBM)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.46	28.91	28.91	29.01	28.23	8.11	8.11
West Bengal(CBM)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	37.95	39.71	39.55	39.33	66.24	66.45	65.92
Madhya Pradesh (CBM)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.14	32.14	32.13	32.13	32.12	32.11	31.91
Tamil Nadu	8.49	8.52	8.43	8.47	8.99	9.00	9.16	39.07	37.66	36.74	35.36	31.68	31.98	39.11
Tripura	0.08	0.07	0.07	0.07	0.07	0.07	0.07	29.99	30.61	30.27	30.74	28.28	36.10	35.20
Assam	169.25	168.18	169.25	165.91	160.78	159.95	160.34	137.88	140.68	140.04	149.38	153.76	158.57	161.65
Rajasthan	68.78	60.19	44.99	37.32	31.72	24.55	17.99	13.19	13.77	13.97	36.93	35.66	34.86	54.85
Gujarat	120.15	119.93	118.09	119.41	121.16	118.61	118.20	66.45	67.48	65.07	63.79	63.06	62.28	58.23
B. Total Onshore	**377.16**	**369.44**	**356.89**	**346.13**	**337.75**	**324.23**	**317.82**	**423.39**	**435.26**	**429.90**	**459.33**	**482.09**	**479.59**	**516.22**
Total Reserves (A+B)	**652.16**	**651.55**	**647.34**	**635.59**	**621.28**	**604.10**	**594.49**	**1166.77**	**1171.66**	**1199.10**	**1251.99**	**1227.50**	**1289.70**	**1339.57**

Notes:
1. Proved and indicated Balance Recoverable Reserves as on 1st April.
2. Western offshore includes Gujarat offshore
3. Total may not tally due to rounding off
Source: Oil & Natural Gas Corporation Ltd., Oil India Ltd. and DGH

Figure II.3(a): Crude Oil Reserves (as on 01.04.2018)

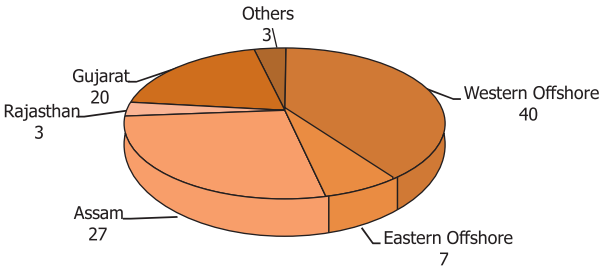
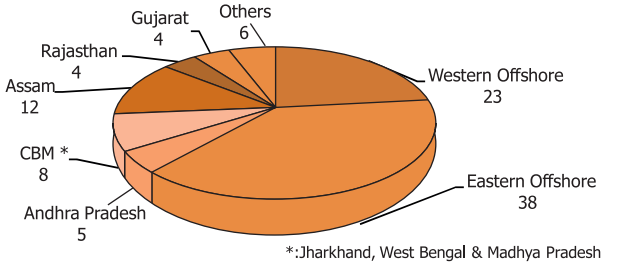


Figure II.3(b): Natural Gas Reserves (as on 01.04.2018)

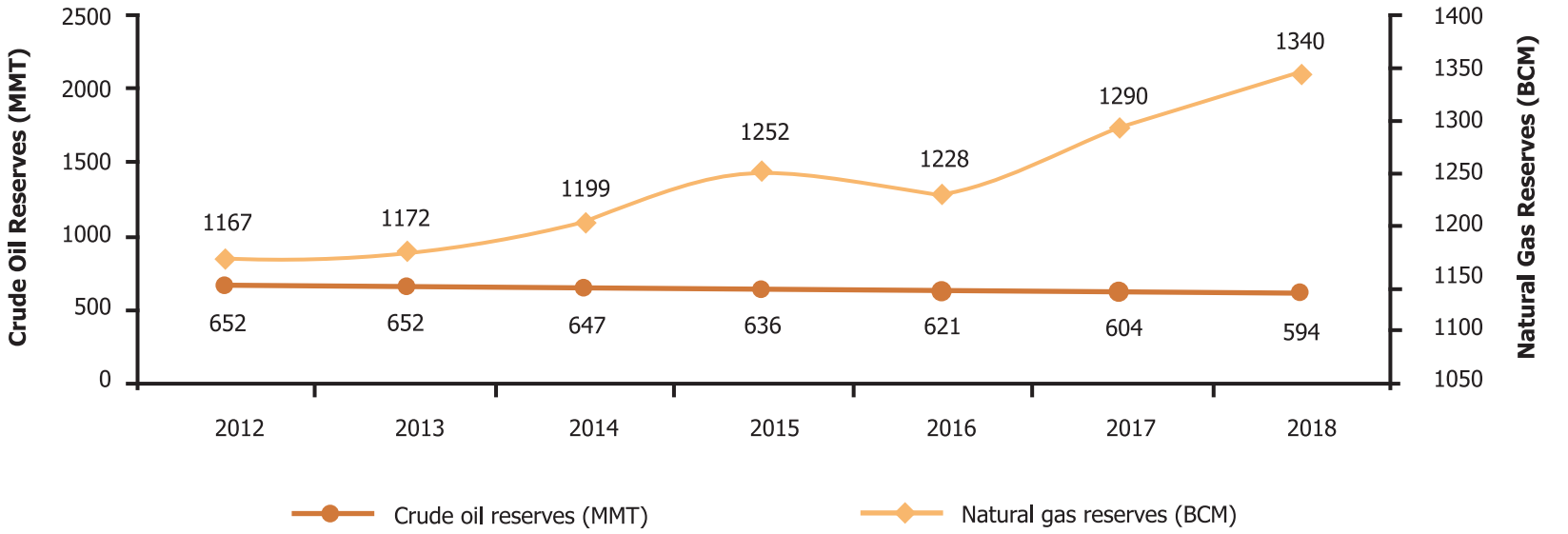


II. 10 State-wise/Area-wise Balance Recoverable reserves of Crude Oil and Natural Gas

Area/State	Crude Oil (MMT)							Natural Gas(BCM)						
	2012	2013	2014	2015	2016	2017	2018	2012	2013	2014	2015	2016	2017	2018
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Onshore														
ONGC(Nomination)	214.52	215.02	212.08	212.40	209.78	208.98	206.36	203.14	209.04	205.71	201.75	190.86	195.42	212.19
OIL (Nomination)	84.04	84.04	86.04	83.23	80.74	78.71	78.59	105.61	109.57	109.18	114.52	119.46	123.65	124.99
PSC Regime	78.60	70.38	58.77	50.50	47.22	36.54	32.87	114.64	116.65	115.01	143.06	171.77	160.52	179.04
A. Total Onshore	**377.16**	**369.44**	**356.89**	**346.13**	**337.75**	**324.23**	**317.82**	**423.39**	**435.26**	**429.90**	**459.33**	**482.09**	**479.59**	**516.22**
Offshore														
ONGC (Nomination)	239.58	248.40	239.83	241.56	234.85	228.30	225.08	319.49	325.77	330.23	338.93	327.28	338.12	348.22
PSC Regime	35.42	33.72	50.62	47.90	48.68	51.56	51.59	423.89	410.63	438.97	453.73	418.13	471.98	475.13
B. Total Offshore	**275.00**	**282.12**	**290.45**	**289.46**	**283.53**	**279.86**	**276.67**	**743.38**	**736.40**	**769.20**	**792.66**	**745.41**	**810.10**	**823.35**
Grand Total (A+B)	**652.16**	**651.55**	**647.34**	**635.59**	**621.28**	**604.10**	**594.49**	**1166.77**	**1171.66**	**1199.10**	**1251.99**	**1227.50**	**1289.70**	**1339.57**

Note:
1. Proved and indicated Balance Recoverable Reserves as on 1st April.
2. Total may not tally due to rounding off
Source: Oil & Natural Gas Corporation Ltd., Oil India Ltd. and DGH

Figure II.4: Balance Recoverable Reserves of Crude Oil & Natural Gas

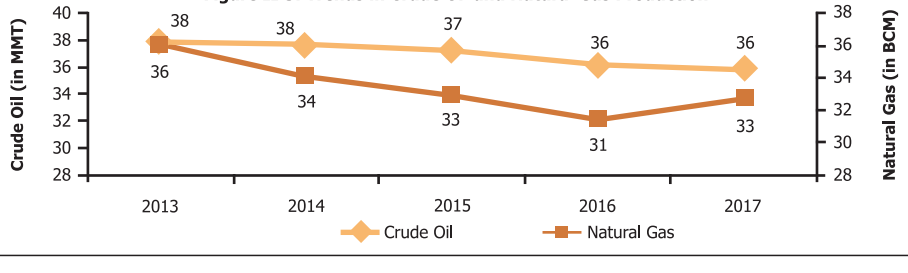


II.11 Production of Crude Oil & Condensate and Natural Gas (Calendar Year-wise)

State/Region	2011	2012	2013	2014	2015	2016	2017 (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Crude Oil Production (TMT)							
(a) Onshore							
Andhra Pradesh	308	295	301	258	295	273	322
Arunachal Pradesh	117	118	116	84	57	58	52
Assam	5003	4948	4869	4492	4239	4153	4340
Gujarat	5855	5414	5230	4750	4444	4589	4597
Rajasthan	6281	8228	8513	8996	8578	8166	7729
Tamil Nadu	250	243	225	237	255	269	341
Total (a) of which	**17815**	**19245**	**19255**	**18816**	**17868**	**17508**	**17381**
OIL	3825	3757	3644	3359	3284	3206	3376
ONGC	7476	7014	6860	6243	5804	5913	6016
PSC Regime	6514	8475	8751	9214	8779	8389	7988
(b) Offshore							
ONGC	14563	13622	13731	14488	15286	14901	14997
PSC Regime	3730	2885	2809	2582	2597	2183	1926
Total (b)	**18293**	**16507**	**16541**	**17070**	**17883**	**17085**	**16922**
Total Oil Production (a+b)	**36108**	**35753**	**35795**	**35887**	**35751**	**34592**	**34303**
(c). Condensate							
Assam	1	^	^	^	^	^	1
Gujarat	^	^	^	1	^	^	^
Rajasthan	8	9	36	63	96	122	147
Offshore	2123	2220	1978	1591	1388	1327	1447
Total (c) of which	**2133**	**2230**	**2015**	**1654**	**1485**	**1450**	**1596**
ONGC	1910	2086	1908	1520	1329	1298	1426
PSC Regime	223	144	107	134	155	152	170
Total Oil & Condensate (a+b+c)	**38240**	**37982**	**37810**	**37541**	**37235**	**36042**	**35899**
2. Natural Gas Production (MMSCM)							
(a) Onshore							
Andhra Pradesh	1344	1298	1190	673	593	811	921
Arunachal Pradesh	41	40	42	34	31	27	28
Assam	2865	2916	2896	2934	2966	3113	3219
Gujarat	2155	2120	1745	1538	1481	1529	1669
Jharkhand (CBM)	2	3	3	3	2	3	4
Madhya Pradesh (CBM)	1	3	5	4	1	5	126
Rajasthan	567	655	879	1128	1329	1313	1373
Tamil Nadu	1247	1212	1283	1255	1046	962	1163
Tripura	636	633	716	1113	1293	1402	1455
West Bengal (CBM)	72	97	137	203	354	516	554
Total (a) of which	**8929**	**8977**	**8896**	**8885**	**9095**	**9681**	**10512**
OIL	2595	2631	2650	2682	2784	2929	2922
ONGC	5639	5579	5282	4942	4732	5039	5616
PSC Regime	697	767	964	1262	1579	1712	1974
(b) Offshore:							
ONGC (Mumbai High)	17374	18170	18019	17466	16966	16286	17702
PSC Regime	22432	15594	9082	7756	6896	5471	4484
Total (b)	**39806**	**33764**	**27101**	**25222**	**23862**	**21757**	**22186**
Grand Total (a+b)	**48736**	**42742**	**35997**	**34106**	**32957**	**31437**	**32699**

Note: Total may not tally due to rounding off CBM: Coal Bed Methane P: Provisional ^: less than 0.5
Source: Oil & Natural Gas Corporation Ltd., Oil India Ltd. and DGH

Figure II.5: Trends in Crude Oil and Natural Gas Production



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

(in TMT)

State/Region	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Crude Oil Production (TMT)							
(a) Onshore							
Andhra Pradesh	305	295	297	254	295	276	322
Arunachal Pradesh	118	121	111	76	57	55	50
Assam	5024	4863	4710	4466	4185	4203	4342
Gujarat	5779	5331	5061	4653	4459	4605	4591
Rajasthan	6543	8583	9131	8783	8490	8049	7720
Tamil Nadu	247	238	226	240	255	284	345
Total (a)	**18016**	**19431**	**19536**	**18472**	**17741**	**17472**	**17369**
of which							
OIL	3847	3661	3466	3412	3226	3258	3376
ONGC	7386	6944	6705	6069	5817	5934	6010
PSC Regime	6784	8826	9365	8991	8698	8280	7984
(b) Offshore							
ONGC	14378	13541	13735	14758	15264	14921	14785
PSC Regime	3540	2689	2595	2661	2495	2108	1890
Total (b)	**17918**	**16230**	**16330**	**17419**	**17759**	**17029**	**16676**
Total Oil Production (a+b)	**35934**	**35661**	**35865**	**35891**	**35500**	**34501**	**34045**
2. Condensate							
Assam	1	^	^	^	^	^	3
Gujarat	^	^	^	1	^	^	^
Rajasthan	9	10	49	65	111	115	167
Offshore	2146	2191	1874	1505	1330	1392	1469
Total Condensate	**2156**	**2201**	**1923**	**1570**	**1442**	**1508**	**1639**
of which							
ONGC	1952	2076	1806	1437	1279	1363	1454
PSC Regime	203	125	117	133	163	144	185
Total Oil & Condensate (1+2)	**38090**	**37862**	**37788**	**37461**	**36942**	**36009**	**35684**

Note: Total may not tally due to rounding off ^: less than 0.5 P: Provisional

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

Figure II.6 (a): Crude Oil and Condensate Production

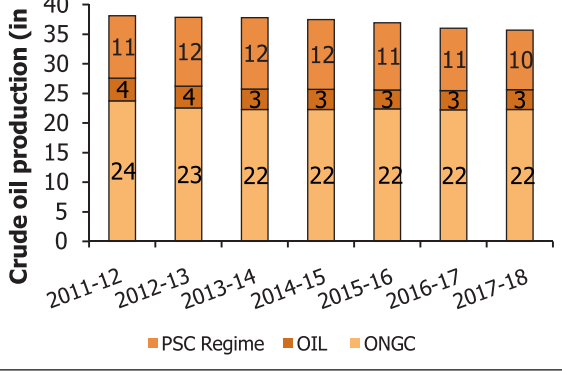
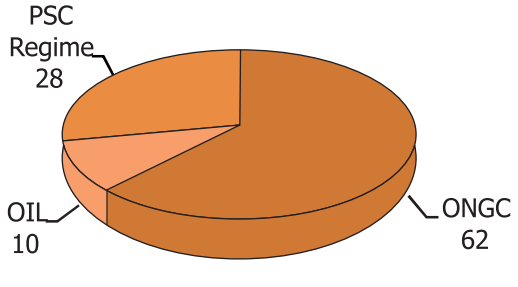


Figure II.6 (b): Nomination (ONGC, OIL) vs. PSC Regime: Share in Crude Oil and Condensate Production during 2017-18 (%)



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

(in MMSCM)

State/Region	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) Onshore:							
Andhra Pradesh	1364	1249	1171	541	619	868	959
Arunachal Pradesh	40	41	41	34	30	28	30
Assam	2905	2910	2868	2958	3025	3128	3219
Gujarat	2173	2032	1657	1527	1490	1580	1607
Rajasthan	590	685	982	1178	1338	1277	1442
Tamil Nadu	1285	1206	1304	1192	1011	983	1207
Tripura	644	647	822	1140	1332	1430	1440
Jharkhand (CBM)	4	3	3	2	2	3	4
Madhya Pradesh (CBM)	2	3	6	2	1	6	200
West Bengal (CBM)	79	101	156	224	389	555	531
Total (a)	**9084**	**8877**	**9012**	**8797**	**9237**	**9858**	**10639**
of which							
OIL	2633	2639	2626	2722	2838	2937	2881
ONGC	5751	5447	5316	4752	4770	5205	5638
PSC Regime	699	791	1069	1323	1629	1717	2119
(b) Offshore:							
ONGC	17565	18102	17968	17272	16406	16883	17791
PSC Regime	20910	13700	8428	7589	6605	5155	4219
Total (b)	**38475**	**31802**	**26395**	**24861**	**23012**	**22038**	**22011**
Grand Total (a+b)	**47559**	**40679**	**35407**	**33657**	**32249**	**31897**	**32649**

Note: Total may not tally due to rounding off CBM: Coal Bed Methane P: Provisional
Source: Oil & Natural Gas Corporation Ltd., Oil India Ltd. and DGH

Figure II.7(a): Natural Gas Production

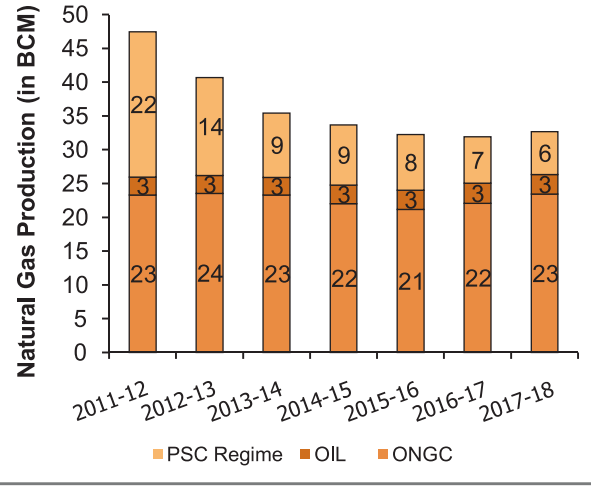
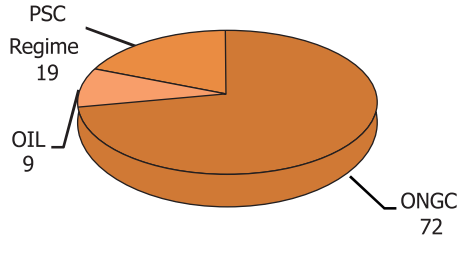


Figure II.7(b): Nomination (ONGC, OIL) vs. PSC Regime: Share in Natural Gas Production during 2017-18 (%)



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

AREA	STATE	ASSET	Oil (TMT)		Gas (MMSCM)	
			2016-17	2017-18 (P)	2016-17	2017-18 (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Oil and Natural Gas Corporation						
Offshore	Mumbai Offshore (Off the coast of Maharashtra) and Eastern offshore	Mumbai High	9678	9644	5215	5330.5
		Heera & Neelam	2635	2421	1066	1054.8
		Bassein & Satellite	2592	2713	10131	10857.6
		Condensate receipt	1363	1454	-	-
		Eastern offshore	16	8	470	548.2
	Total Offshore		**16284**	**16240**	**16883**	**17791**
Onshore	Gujarat	Ahmedabad	1325	1286	142	145
		Mehsana	2118	2049	207	212
		Ankleshwar	848	917	1132	1164
		Cambay	177	199	10	10
		Total Gujarat	**4468**	**4452**	**1490**	**1532**
	Assam	Assam	953	975	435	508
	Tamilnadu	Cauvery	238	262	977	1194
	Andhra Pradesh	Rajahmundry	276	322	868	959
	Tripura	Tripura	-	-	1430	1440
	Rajasthan	Jodhpur	-	-	5	6
	Total Onshore		**5934**	**6010**	**5205**	**5638**
	Total ONGC		**22218**	**22249**	**22088**	**23429**
Oil India Limited						
Onshore	Assam	Greater Naharkatia Field	197	197	257	313
		Greater Jorajan Field	124	131	465	473
		Moran Field	54	92	50	53
		Greater Shalmari Field	163	153	39	41
		Greater Hapjan Field	1331	1326	303	325
		Greater Chandmari Field	507	659	591	536
		Tengakhat Field	72	73	34	26
		Bhogpara Field	148	138	13	19
		Greater Kathaloni Field	129	150	29	30
		Greater Dikom Field	174	126	210	176
		Western Satellite Field	66	61	18	19
		Eastern Satellite Field	31	22	83	43
		Central Small Field	252	232	600	605
		Digboi	5	6	0	0
		Total Assam	**3250**	**3367**	**2693**	**2659**
	Arunachal Pradesh	Kumchai Field	8	7	12	12
	Rajasthan	Dandewala	-	-	226	202
		Bagitibba	-	-	6	10
		Tanot	-	-	0	0
		Baghewala (Heavy Oil)	-	2	-	-
		Total Rajasthan	**-**	**2**	**232**	**211**
Total OIL (Onshore)			**3258**	**3376**	**2937**	**2881**

Contd...

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

AREA	STATE	ASSET	Oil (TMT)		Gas (MMSCM)	
			2016-17	2017-18 (P)	2016-17	2017-18 (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Private/JVs						
Onshore	Arunachal Pradesh	KHARSANG	48	43	16	18
	Assam	AAP-ON-94/1	0	3	0	53
	Gujarat	CB-ON/3	1	2	0	0
		CB-ON/2	10	8	10	10
		CB-ONN-2000/1	35	30	2	1
		CB-ONN-2002/3	0	3	0	^
		CB-ONN-2003/2	3	3	^	^
		UNAWA	^	0	^	0
		SANGANPUR	^	^	^	^
		ALLORA	1	1	0	0
		DHOLASAN	^	^	0	0
		KANAWARA	3	2	9	9
		NORTH KATHANA	^	^	0	0
		ASJOL	1	^	0	0
		CB-ON/7	5	5	^	^
		N.BALOL	0	0	4	4
		DHOLKA	43	38	13	13
		WAVEL	4	4	0	^
		HAZIRA	4	4	42	26
		BHANDUT	^	0	2	^
		CAMBAY	^	^	^	1
		CB-ONN-2001/1	1	1	0	0
		CB-ONN-2002/1	0	0	0	0
		CB-ONN-2004/1	2	1	0	0
		CB-ONN-2004/2	1	5	0	0
		BAKROL	16	18	8	7
		INDRORA	2	2	^	^
		KARJISAN	0	1	0	2
		LOHAR	5	6	^	^
		BAOLA	0	3	0	0
		MODHERA	0	1	0	0
		Total Gujarat	**137**	**139**	**90**	**75**
	Rajasthan	RJ-ON-90/1	8162	7881	686	813
		RJ-ON/6	3	4	354	412
		Total Rajasthan	**8165**	**7885**	**1041**	**1225**
	Tamil Nadu	CY-ONN-2002/2	46	83	6	14
	Total Onshore		**8396**	**8154**	**1152**	**1384**
CBM	Jharkhand	JHARIA	-	-	3	4
	Madhya Pradesh	SOHAGPUR EAST	-	-	^	^
		SOHAGPUR WEST	-	-	6	200
		Total M.P.	**-**	**-**	**6**	**200**
	West Bengal	RANIGANJ EAST	-	-	385	328
		RANIGANJ WEST	-	-	170	203
		Total West Bengal	**-**	**-**	**555**	**531**
	TOTAL CBM		**-**	**-**	**565**	**735**
Offshore	Eastern Offshore	RAVVA	808	717	192	214
		KG-OSN-2001/3	7	4	128	109
		PY-1	2	4	18	24
		KG-DWN-98/3	146	93	2862	1922
		Total Eastern Off.	**963**	**819**	**3200**	**2269**
	Gujarat Offshore	CB-OS/2	382	399	81	98
	Western Offshore	PANNA-MUKTA	793	687	1874	1853
	Total Offshore		**2137**	**1905**	**5155**	**4219**
Total Pvt/JVs			**10532**	**10059**	**6872**	**6338**
Total Production			**36009**	**35684**	**31897**	**32649**

Note: Total may not tally due to rounding off CBM: Coal Bed Methane P: Provisional ^: less than 0.5

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

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

(in MMSCM)

State / Utilisation	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Andhra Pradesh							
Gross Production	1363.79	1248.55	1171.34	540.59	619.36	867.78	959.16
Flared	2.22	2.97	3.65	21.83	50.81	34.26	16.04
Losses	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Availability	1361.56	1245.59	1167.69	518.76	568.55	833.52	943.13
Internal Use/Consumption	18.56	28.19	30.61	15.64	19.78	31.47	31.91
Net Production (Sales)	1343.00	1217.40	1137.09	503.12	548.77	802.05	911.21
% Flared to GP	0.16	0.24	0.31	4.04	8.20	3.95	1.67
Arunachal Pradesh							
Gross Production	39.50	41.07	41.39	33.53	29.56	27.54	29.51
Flared	25.83	26.91	22.86	14.10	13.06	12.26	14.35
Losses	4.15	5.70	10.08	10.87	8.54	7.36	7.31
Net Availability	9.53	8.46	8.45	8.56	7.95	7.92	7.86
Internal Use/Consumption	8.47	8.45	8.45	8.56	7.95	7.92	7.86
Net Production (Sales)	1.05	0.00	0.00	0.00	0.00	0.00	0.00
% Flared to GP	65.39	65.53	55.23	42.05	44.20	44.51	48.62
Assam							
Gross Production (GP)	2904.53	2909.77	2868.03	2958.24	3024.78	3127.88	3219.02
Flared	168.66	193.89	172.62	180.37	171.72	192.10	185.76
Losses	5.42	2.81	2.65	3.86	3.63	2.21	5.07
Net Availability	2730.45	2713.07	2692.76	2774.01	2849.43	2933.57	3028.20
Internal Use/Consumption	578.59	573.95	564.79	581.73	569.29	584.30	617.57
Net Production (Sales)	2151.87	2139.12	2127.97	2192.28	2280.14	2349.27	2410.63
% Flared to GP	5.81	6.66	6.02	6.10	5.68	6.14	5.77
Gujarat							
Gross Production	2172.92	2032.09	1656.94	1526.83	1490.08	1580.27	1606.66
Flared	68.96	38.59	72.36	121.88	86.61	62.87	50.81
Losses	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Availability	2103.96	1993.50	1584.58	1404.95	1403.47	1517.40	1555.86
Internal Use/Consumption	606.44	570.54	475.60	428.65	459.06	470.31	422.56
Net Production (Sales)	1497.52	1422.96	1108.98	976.30	944.41	1047.09	1133.30
% Flared to GP	3.17	1.90	4.37	7.98	5.81	3.98	3.16
Rajasthan							
Gross Production	590.18	685.42	982.20	1177.77	1338.01	1277.34	1441.93
Flared	33.31	51.75	38.40	38.69	59.58	43.91	36.98
Losses	0.00	0.00	23.90	59.36	88.37	43.20	66.69
Net Availability	556.87	633.67	919.90	1079.73	1190.07	1190.23	1338.27
Internal Use/Consumption	259.85	360.54	445.74	508.66	533.43	568.92	595.16
Net Production (Sales)	297.03	273.13	474.16	571.06	656.63	621.31	743.10
% Flared to GP	5.64	7.55	3.91	3.28	4.45	3.44	2.56
Tamil Nadu							
Gross Production	1284.76	1206.04	1304.02	1191.57	1010.87	983.17	1207.22
Flared	8.19	6.89	5.74	17.02	21.68	17.76	21.32
Losses	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Availability	1276.57	1199.15	1298.28	1174.55	989.19	965.41	1185.90
Internal Use/Consumption	1.85	1.39	1.40	1.38	1.12	4.53	7.17
Net Production (Sales)	1274.72	1197.75	1296.88	1173.16	988.07	960.88	1178.73
% Flared to GP	0.64	0.57	0.44	1.43	2.14	1.81	1.77
Tripura							
Gross Production	643.91	646.74	822.23	1140.04	1331.96	1429.91	1440.37
Flared	0.21	0.16	6.46	0.17	0.46	0.21	0.26
Losses	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Availability	643.69	646.57	815.77	1139.88	1331.51	1429.70	1440.12
Internal Use/Consumption	1.47	2.53	2.44	2.36	2.37	2.48	2.95
Net Production (Sales)	642.22	644.05	813.33	1137.52	1329.14	1427.22	1437.16
% Flared to GP	0.03	0.03	0.79	0.01	0.03	0.01	0.02

Contd...

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

(in MMSCM)

State / Utilisation	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Jharkhand (CBM)							
Gross Production	3.56	2.95	3.38	2.48	2.04	3.08	3.96
Flared	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Losses	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Availability	3.56	2.95	3.38	2.48	2.04	3.08	3.96
Internal Use/Consumption	0.00	0.00	0.00	0.02	0.16	0.49	0.49
Net Production (Sales)	3.56	2.95	3.38	2.46	1.88	2.59	3.47
% Flared to GP	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Madhya Pradesh (CBM)							
Gross Production	1.53	3.44	5.65	2.08	1.41	6.44	199.77
Flared	0.89	2.30	4.09	1.29	0.31	0.91	0.83
Losses	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Availability	0.63	1.14	1.57	0.79	1.09	5.53	198.95
Internal Use/Consumption	0.63	1.14	1.57	0.79	1.07	4.65	14.82
Net Production (Sales)	0.00	0.00	0.00	0.00	0.03	0.87	184.13
% Flared to GP	58.58	66.89	72.29	62.22	22.21	14.19	0.41
West Bengal (CBM)							
Gross Production	79.11	100.85	156.49	223.68	389.42	555.07	531.07
Flared	10.31	4.86	15.54	20.32	128.91	240.66	173.01
Losses	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Net Availability	68.79	95.99	140.94	203.36	260.51	314.41	358.06
Internal Use/Consumption	9.41	12.30	21.42	33.73	41.48	50.36	62.06
Net Production (Sales)	59.39	83.68	119.52	169.63	219.04	264.04	296.00
% Flared to GP	13.04	4.82	9.93	9.09	33.10	43.36	32.58
A. Total Onshore							
Gross Production	9083.782	8876.909	9011.679	8796.803	9237.478	9858.471	10638.687
Flared	318.591	328.315	341.718	415.663	533.138	604.938	499.344
Losses	9.571	8.512	36.644	74.089	100.539	52.766	79.061
Net Availability	8755.620	8540.082	8633.317	8307.051	8603.801	9200.767	10060.282
Internal Use/Consumption	1485.269	1559.031	1552.016	1581.510	1635.704	1725.439	1762.553
Net Production (Sales)	7270.366	6981.043	7081.303	6725.543	6968.097	7475.328	8297.729
% Flared to GP	3.507	3.699	3.792	4.725	5.771	6.136	4.694
B. Offshore							
Gross Production	38474.81	31802.35	26395.20	24860.64	23011.74	22038.23	22010.62
Flared	757.94	574.75	427.52	451.35	474.33	371.09	324.45
Losses	19.31	17.84	30.22	27.15	16.63	18.98	15.19
Net Availability	37697.56	31209.76	25937.46	24382.14	22520.78	21648.16	21670.98
Internal Use/Consumption	3798.43	3842.60	4034.82	4327.36	4192.28	4131.61	4045.48
Net Production (Sales)	33899.14	27367.16	21902.64	20054.79	18328.50	17516.54	17625.50
% Flared to GP	1.97	1.81	1.62	1.82	2.06	1.68	1.47
Total (A+B)							
Gross Production	47558.59	40679.26	35406.88	33657.44	32249.22	31896.70	32649.31
Flared	1076.53	903.06	769.24	867.01	1007.47	976.03	823.79
Losses	28.88	26.36	66.87	101.23	117.17	71.75	94.26
Net Availability	46453.18	39749.84	34570.78	32689.20	31124.58	30848.92	31731.26
Internal Use/Consumption	5283.70	5401.63	5586.84	5908.87	5827.99	5857.05	5808.03
Net Production (Sales)	41169.50	34348.20	28983.94	26780.33	25296.59	24991.87	25923.23
% Flared to GP	2.26	2.22	2.17	2.58	3.12	3.06	2.52

Note: CBM:Coal Bed Methane P: Provisional

1. Total may not tally due to rounding off.
2. Net availability denotes natural gas available for consumption which is derived by deducting gas flared/losses from gross production.

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

II.16 Sector-wise Consumption of Natural Gas

(in MMSCM)

Sector	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18(P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) Energy Purpose							
Power	22628.46	16077.71	11283.62	10719.80	10889.20	11616.26	12028.29
Industrial	283.75	269.40	155.89	394.51	401.11	688.15	873.01
Manufacture	29.61	0.00	104.84	138.30	144.22	105.50	126.26
Road Transport	0.00	0.00	66.30	0.02	0.00	0.00	0.61
City or Local Natural Gas Distribution Network	5598.79	5779.84	5837.79	5415.49	5463.89	7350.00	8584.76
Tea Plantation	175.28	182.10	195.72	180.48	187.06	183.33	188.56
Internal Consumption for Pipeline System	385.14	386.82	372.13	350.57	409.58	471.18	495.62
Refinery	4256.87	3890.54	3968.48	4575.20	5076.54	5374.37	6533.13
Miscellaneous	9063.73	7975.90	7479.30	5941.23	4111.65	3745.96	3226.49
Total (a)	**42421.62**	**34562.30**	**29464.05**	**27715.60**	**26683.25**	**29534.74**	**32056.71**
(b) Non-Energy Purpose							
Fertilizer Industry	14003.32	14733.29	15869.37	15190.30	16134.61	15428.57	14675.67
Petrochemical	1857.69	2485.96	2404.66	2889.67	3733.28	4170.06	4024.13
Sponge Iron	1333.26	1105.74	274.12	153.59	544.32	885.05	1278.00
LPG Shrinkage	1068.37	1027.29	981.85	1005.48	754.19	759.45	797.87
Total (b)	**18262.64**	**19352.29**	**19530.01**	**19239.04**	**21166.40**	**21243.13**	**20775.68**
Grand Total (a+b)	**60684.26**	**53914.59**	**48994.06**	**46954.64**	**47849.65**	**50777.87**	**52832.40**
Total in MMSCMD	**165.80**	**147.71**	**134.23**	**128.64**	**130.74**	**139.12**	**144.75**

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 RLNG

Source: PPAC & OIL

Figure II.8(a): Trends in Natural Gas Consumption

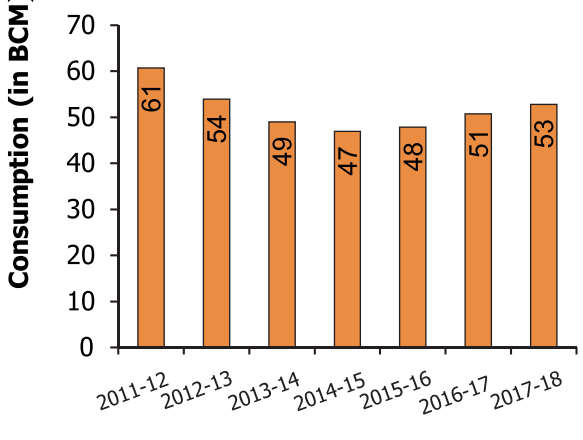
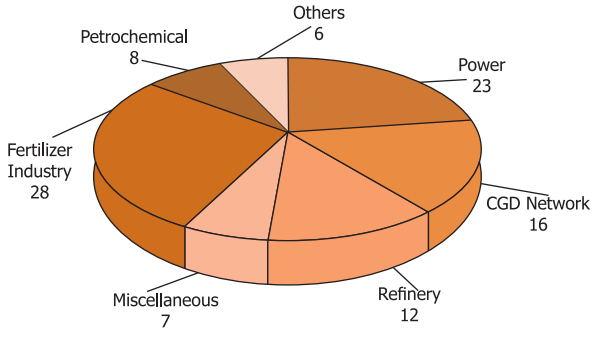


Figure II.8(b): Sector-wise Consumption of Natural Gas during 2017-18 (%)



II.17 Oil and Gas Production Abroad

Name of Project	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Oil Production (MMT)							
A. ONGC Videsh Ltd.	**6.214**	**4.341**	**5.486**	**5.533**	**5.510**	**8.434**	**9.352**
1. GNOP, Sudan	1.324	0.596	0.741	0.705	0.627	0.481	0.282
2. MECL, Colombia	0.561	0.552	0.597	0.618	0.614	0.543	0.474
3. Sancristobal, Venezuela	0.894	0.800	0.767	0.645	0.585	0.427	0.349
4. IEC, Russia	0.771	0.560	0.387	0.265	0.305	0.271	0.257
5. Sakhalin I, Russia	1.498	1.370	1.488	1.536	1.742	1.809	1.856
6. Block 5A, Sudan	0.174	0.000	0.034	0.000	0.000	0.000	0.000
7. GPOC, South Sudan	-	0.000	0.218	0.000	0.000	0.000	0.000
8. Vietnam 06.1	0.036	0.037	0.032	0.030	0.029	0.024	0.022
9. AFPC, Syria	0.496	0.124	0.000	0.000	0.000	0.000	0.000
10.BC-10, Brazil	0.450	0.291	0.318	0.812	0.649	0.604	0.663
11. Block 24,Syria	0.010	0.001	0.000	0.000	0.000	0.000	0.000
12. Carabobo-1,Venezuela	-	0.001	0.021	0.063	0.112	0.140	0.154
13. ACG,Azerbaijan	-	0.009	0.883	0.859	0.847	0.818	0.762
14. Vankor, Russia	-	-	-	-	-	3.317	4.444
15. Lower Zakum, UAE	-	-	-	-	-	-	0.051
16. CPO-5, Colombia	-	-	-	-	-	-	0.038
B. Others CPSEs	**0.012**	**0.048**	**0.169**	**0.275**	**0.291**	**2.643**	**4.883**
Total-Oil Production (A+B)	**6.226**	**4.389**	**5.655**	**5.808**	**5.801**	**11.077**	**14.235**
Gas Production (BCM)							
A. ONGC Videsh Ltd.	**2.539**	**2.919**	**2.871**	**3.341**	**3.406**	**4.369**	**4.811**
1. Sakhalin I, Russia	0.494	0.650	0.576	0.618	0.588	0.555	0.594
2. Vietnam 06.1	2.023	2.104	1.851	1.774	1.659	1.478	1.403
3. A1, A3, Myanmar	0.000	0.000	0.201	0.662	0.891	0.843	0.828
4. AFPC, Syria	0.007	0.002	0.000	0.000	0.000	0.000	0.000
5. BC-10, Brazil	0.015	0.012	0.013	0.042	0.040	0.039	0.041
6. IEC,Russia	-	0.071	0.036	0.024	0.030	0.027	0.037
7. MECL,Colombia	-	0.007	0.007	0.008	0.009	0.012	0.011
8. Sancristobal, Venezuela	-	0.072	0.087	0.074	0.064	0.048	0.041
9. Carabobo-1,Venezuela	-	-	0.001	0.003	0.007	0.011	0.015
10. ACG,Azerbaijan	-	0.001	0.099	0.136	0.118	0.128	0.094
11. Vankor, Russia	-	-	-	-	-	1.228	1.747
B. Others CPSEs	**0.006**	**0.079**	**0.415**	**0.864**	**1.103**	**2.146**	**3.009**
Total Gas Production (A+B)	**2.545**	**2.998**	**3.286**	**4.205**	**4.509**	**6.515**	**7.820**
Total Oil & Gas Production (in MMTOE)	**8.771**	**7.379**	**8.899**	**9.926**	**10.199**	**17.362**	**21.721**

P: Provisional

Source: OVL, BPRL, HPCL, IOCL, GAIL, OIL

Chapter III



Refining, Transportation & Marketing

Chapter Highlights

- Petroleum Refining Capacity in India reached to 247.566 MMTPA as on 31.03.2018 from 233.966 MMTPA as on 31.03.2017. Capacity of BPCL-Kochi increased from 9.5 MMTPA to 15.5 MMTPA. Further, there was addition of 2.3 MMTPA and 8.2 MMTPA capacities in HMEL-Bhatinda and RIL (SEZ) Jamnagar refineries respectively during the year. Share of Public, JV and Private sector refineries stood at 57%, 7% and 36% respectively.
- Indian Oil Corporation Limited (IOCL) having 9 refineries has the largest share of all refineries at 28% (69.2 MMTPA) of total refining capacity as on 31.03.2018.
- Crude Throughput registered a sharp increase of 2.7% to reach 251935 TMT in year 2017-18 over 2016-17 (245362 TMT).
- Production of Petroleum Products at 254405 TMT witnessed a growth of 4.5% in 2017-18 over 2016-17 (243551 TMT).
- In line with Pradhan Mantri Ujjwala Yojana (PMUY), which envisages to provide clean fuel to 8 crore Below Poverty Line (BPL) families by 2020, LPG production has increased by 9.31% from 11326 TMT in 2016-17 to 12380 TMT in 2017-18.
- Total pipeline length at 43807 km as on 31.03.2018 registered a growth of 3% as against 42541 km as on 31.03.2017.
- Total Crude Oil pipelines have increased by 1.6% to reach 10406 km as on 31.03.2018 as against 10242 km as on 31.03.2017.
- Total Natural Gas pipeline increased by 4% to reach 16789 km as on 31.03.2018 as against 16145 km as on 31.03.2017.
- Product Pipeline registered a growth of 2.8% to reach 16612 km as on 31.03.2018 as against 16153 km as on 31.03.2017.
- Total PDS SKO Kerosene allocated to States is at 5021828 KL in 2017-18 against which quantity uplifted was only 4669164 MT (93%). Maximum SKO (around 18%) was allocated to Uttar Pradesh at 911208 MT.
- LPG active consumers of CPSE OMCs increased by 12.8% to 22.43 crore as on 31.03.2018 as compared to 31.03.2017 (19.88 crore).
- As of 31.03.2018, there are 62585 Retail Outlets (ROs) in India registering a 5% increase in 2017-18 as compared to 2016-17.
- With strong emphasis on clean energy, Compressed Natural Gas (CNG) Sales has increased by 11.5% from 2365 TMT in 2016-17 to 2638 TMT in 2017-18.
- To meet the increasing demand of CNG, number of CNG stations has shown a sharp increase of over 15.5% from 1233 on 31.03.2017 to 1424 as on 31.03.2018.

III.1 Petroleum Refining Capacity in India

(in MMTPA)

SI. No.	Refinery Location & Year of Commissioning	Capacity as on 1st April						
		2012	2013	2014	2015	2016	2017	2018
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
A	**Public Sector**	**120.066**	**120.066**	**120.066**	**120.066**	**135.066**	**138.966**	**142.066**
	Indian Oil Corporation Ltd. (IOCL)	**54.200**	**54.200**	**54.200**	**54.200**	**69.200**	**69.200**	**69.200**
1	Digboi, Assam - 1901	0.650	0.650	0.650	0.650	0.650	0.650	0.650
2	Guwahati, Assam - 1962	1.000	1.000	1.000	1.000	1.000	1.000	1.000
3	Barauni, Bihar - 1964	6.000	6.000	6.000	6.000	6.000	6.000	6.000
4	Koyali, Gujarat - 1965	13.700	13.700	13.700	13.700	13.700	13.700	13.700
5	Haldia, West Bengal - 1975	7.500	7.500	7.500	7.500	7.500	7.500	7.500
6	Mathura, Uttar Pradesh - 1982	8.000	8.000	8.000	8.000	8.000	8.000	8.000
7	Panipat, Haryana - 1998	15.000	15.000	15.000	15.000	15.000	15.000	15.000
8	Bongaigaon, Assam - 1974	2.350	2.350	2.350	2.350	2.350	2.350	2.350
9	Paradip, Odisha-2016	-	-	-	-	15.000	15.000	15.000
	Bharat Petroleum Corporation Ltd.	**21.500**	**21.500**	**21.500**	**21.500**	**21.500**	**24.400**	**27.500**
10	Mumbai, Maharashtra - 1955	12.000	12.000	12.000	12.000	12.000	12.000	12.000
11	Kochi, Kerala - 1963	9.500	9.500	9.500	9.500	9.500	12.400	15.500
	Hindustan Petroleum Corporation Ltd.	**14.800**	**14.800**	**14.800**	**14.800**	**14.800**	**15.800**	**15.800**
12	Mumbai, Maharashtra - 1954	6.500	6.500	6.500	6.500	6.500	7.500	7.500
13	Visakh, Andhra Pradesh - 1957	8.300	8.300	8.300	8.300	8.300	8.300	8.300
	Chennai Petroleum Corporation Ltd.	**11.500**	**11.500**	**11.500**	**11.500**	**11.500**	**11.500**	**11.500**
14	Manali, Tamil Nadu - 1965	10.500	10.500	10.500	10.500	10.500	10.500	10.500
15	Narimanam, Tamil Nadu - 1993	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	Numaligarh Refinery Ltd. (NRL)	3.000	3.000	3.000	3.000	3.000	3.000	3.000
16	Numaligarh, Assam-1999	3.000	3.000	3.000	3.000	3.000	3.000	3.000
	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.	**15.000**	**15.000**	**15.000**	**15.000**	**15.000**	**15.000**	**15.000**
18	Mangalore, Karnataka- 1996	15.000	15.000	15.000	15.000	15.000	15.000	15.000
B	**Private Sector**	**78.000**	**80.000**	**80.000**	**80.000**	**80.000**	**80.000**	**88.200**
	Reliance Industries Ltd. (RIL)	**60.000**	**60.000**	**60.000**	**60.000**	**60.000**	**60.000**	**68.200**
19	Jamnagar, Gujarat - 1999	33.000	33.000	33.000	33.000	33.000	33.000	33.000
20	Jamnagar (SEZ), Gujarat - 2008	27.000	27.000	27.000	27.000	27.000	27.000	35.200
	Nyara Energy Ltd. (NEL)	**18.000**	**20.000**	**20.000**	**20.000**	**20.000**	**20.000**	**20.000**
21	Vadinar, Gujarat - 2006	18.000	20.000	20.000	20.000	20.000	20.000	20.000
C	**Joint Venture (JV)**	**15.000**	**15.000**	**15.000**	**15.000**	**15.000**	**15.000**	**17.300**
	Bharat Oman Refinery Ltd.	**6.000**	**6.000**	**6.000**	**6.000**	**6.000**	**6.000**	**6.000**
22	Bina, Madhya Pradesh - 2011	6.000	6.000	6.000	6.000	6.000	6.000	6.000
	HPCL Mittal Energy Ltd. (HMEL)	**9.000**	**9.000**	**9.000**	**9.000**	**9.000**	**9.000**	**11.300**
23	Bathinda, Punjab - 2012	9.000	9.000	9.000	9.000	9.000	9.000	11.300
	Total Refinery Capacity	**213.066**	**215.066**	**215.066**	**215.066**	**230.066**	**233.966**	**247.566**

Source: Oil Companies

Figure III.1(a): Trends in Refining Capacity in India

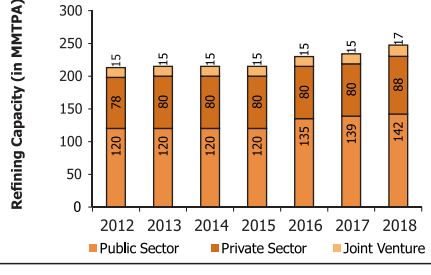
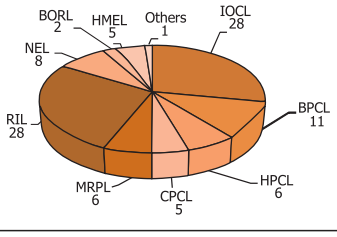


Figure III.1(b): Distribution of Petroleum refining capacity in India (%)



III.2 Refinery Crude Throughput and Production of Petroleum Products

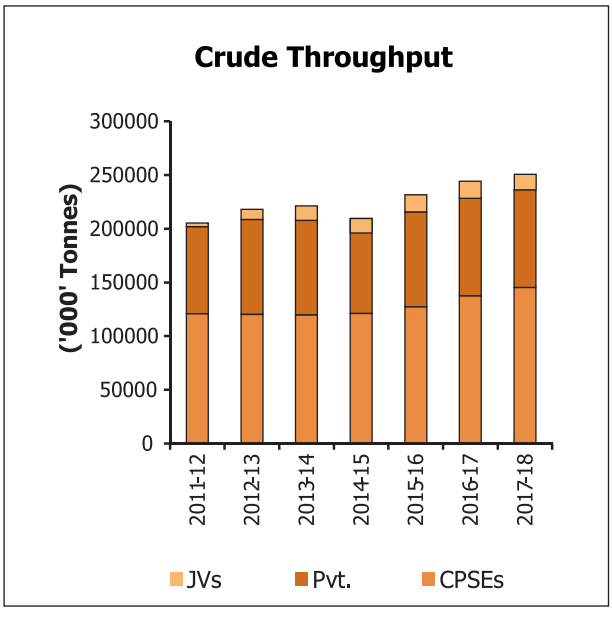
(in TMT)

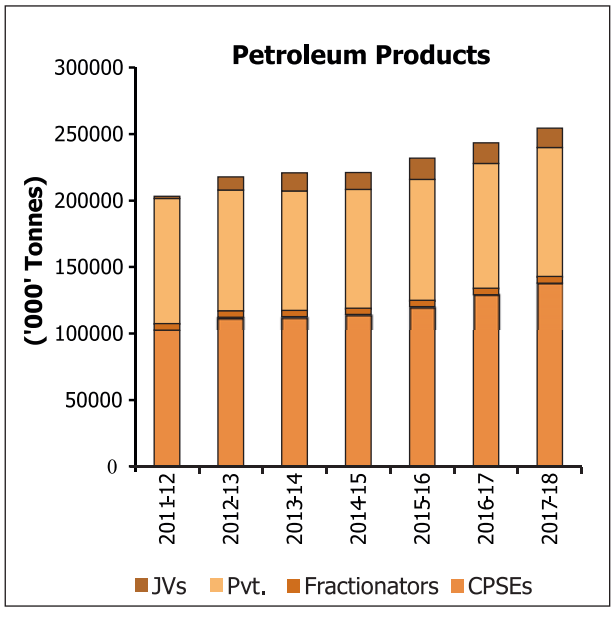
Year	Crude Throughput				Production of Petroleum Products					
	Refinery			Total	Refinery			Total	Fractio-nators	Grand Total
	CPSEs	Pvt.	JVs		CPSEs	Pvt.	JVs			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(Calendar Years)										
2011	121030	81387	1242	203660	112609	84360	980	197949	4644	202594
2012	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	123342	87096	16659	227097	116397	89908	15832	222137	3936	226073
2016	137891	91428	16894	246212	129740	93973	15743	239457	4183	243640
2017 (P)	142686	91622	15126	249435	134884	96921	14074	245879	4539	250418
(Financial Years)										
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	127087	88662	17116	232865	120227	91734	15945	227907	4016	231923
2016-17	137388	91093	16882	245362	129244	94285	15728	239256	4294	243551
2017-18 (P)	145234	91163	15538	251935	137835	97498	14464	249797	4608	254405

Note:
1. Crude throughput in terms of crude oil processed
2. Total may not tally due to rounding-off
Source: Oil Companies

P: Provisional

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





III.3 Refinery-wise Crude Oil Processed

(in TMT)

Refinery	Production of Petroleum Products							% variation in 2017-18 over 2016-17
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(a) PUBLIC SECTOR	**120895**	**120303**	**119547**	**121183**	**127087**	**137388**	**145234**	**5.7**
IOCL, Guwahati	1058	956	1019	1006	904	864	1024	18.5
IOCL, Barauni	5730	6344	6478	5944	6545	6526	5819	-10.8
IOCL, Koyali	14253	13155	12960	13285	13820	13994	13811	-1.3
IOCL, Haldia	8072	7490	7952	7650	7776	7689	7655	-0.4
IOCL, Mathura	8202	8561	6641	8515	8860	9230	9240	0.1
IOCL, Digboi	622	660	651	591	562	533	666	24.8
IOCL, Panipat	15496	15126	15098	14191	15282	15638	15654	0.1
IOCL, Bongaigaon	2188	2356	2328	2403	2442	2486	2402	-3.4
IOCL, Paradip	-	-	-	-	1817	8230	12730	54.7
Total IOCL	**55621**	**54649**	**53126**	**53586**	**58007**	**65191**	**69001**	**5.8**
BPCL, Mumbai	13355	13077	12684	12821	13371	13541	14054	3.8
BPCL, Kochi	9472	10105	10285	10356	10712	11820	14095	19.2
Total BPCL	**22828**	**23183**	**22969**	**23177**	**24083**	**25362**	**28149**	**11.0**
HPCL, Mumbai	7506	7748	7785	7408	8013	8510	8641	1.5
HPCL, Vishakhapatnam	8682	8028	7776	8770	9220	9335	9635	3.2
Total HPCL	**16189**	**15777**	**15561**	**16179**	**17234**	**17846**	**18276**	**2.4**
CPCL(MRL), Manali	9953	9105	10065	10251	9100	9725	10289	5.8
CPCL(MRL), Narimanam	611	640	559	531	544	531	500	-5.8
Total CPCL	**10565**	**9745**	**10624**	**10782**	**9644**	**10256**	**10789**	**5.2**
NRL, Numaligarh	2825	2478	2613	2777	2520	2683	2809	4.7
MRPL, Mangalore	12798	14415	14589	14632	15532	15965	16130	1.0
ONGC, Tatipaka	69	57	65	51	67	86	80	-7.1
(b) PRIVATE SECTOR	**81179**	**88273**	**88229**	**88533**	**88662**	**91093**	**91163**	**0.1**
RIL, Jamnagar	32497	32613	30307	30867	32428	32823	33153	1.0
RIL, SEZ-Jamnagar	35186	35892	37720	37174	37133	37351	37317	-0.1
Total RIL	**67683**	**68504**	**68027**	**68042**	**69561**	**70174**	**70470**	**0.4**
NEL, Vadinar	13496	19769	20202	20491	19101	20919	20693	-1.1
(c) JOINT VENTURE	**2048**	**10636**	**14721**	**13526**	**17116**	**16882**	**15538**	**-8.0**
BORL, Bina	2048	5732	5450	6209	6402	6360	6708	5.5
HMEL, Bathinda	-	4904	9271	7318	10713	10521	8830	-16.1
Grand Total	**204121**	**219212**	**222497**	**223242**	**232865**	**245362**	**251935**	**2.7**

Note:
1. Total may not tally due to rounding off
2. Crude throughput in terms of crude oil processed.

P: Provisional

Source: Oil Companies

Figure III.3(a): Trends in Crude Oil Processed

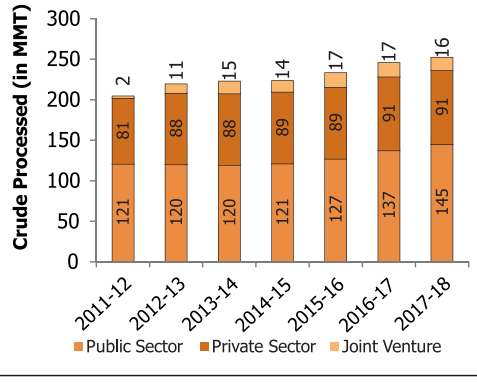
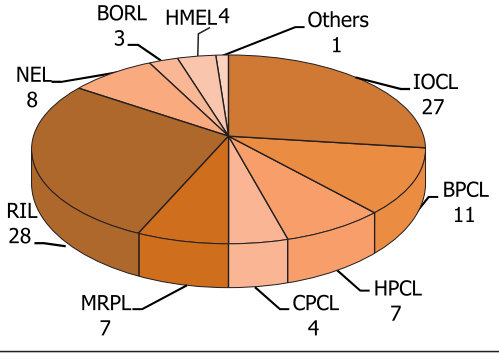


Figure III.3(b): Company-wise Crude Oil Processed during 2017-18 (%)



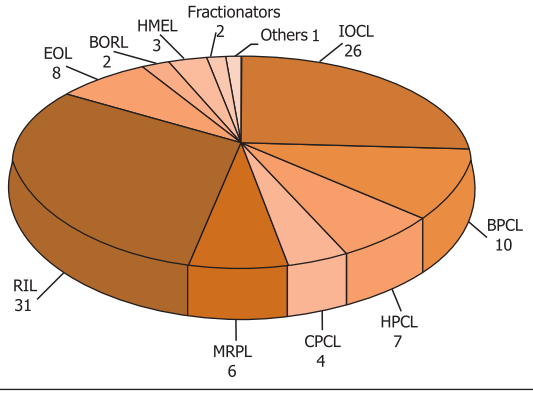
III.4 Refinery-wise Production of Petroleum Products

(in TMT)

Refinery	Production of Petroleum Products							% variation in 2017-18 over 2016-17
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(a) PUBLIC SECTOR	**112518**	**112329**	**112738**	**114462**	**120227**	**129244**	**137835**	**6.65**
IOCL, Guwahati	927	881	1078	1067	1103	1121	1142	1.84
IOCL, Barauni	5210	5732	5948	5412	6079	5881	5507	-6.35
IOCL, Koyali	13437	12480	12300	12492	13246	13106	13271	1.26
IOCL, Haldia	7283	6793	7233	7008	7133	6982	7167	2.65
IOCL, Mathura	7926	8281	6370	8243	8640	8916	9151	2.64
IOCL, Digboi	602	652	650	591	541	542	665	22.81
IOCL, Panipat	14029	14112	14795	14110	15501	15833	15889	0.35
IOCL, Bongaigoan	1969	2116	2121	2186	2253	2273	2241	-1.39
IOCL, Paradip	-	-	-	-	1107	6920	11447	65.42
Total IOCL	**51382**	**51048**	**50494**	**51110**	**55602**	**61573**	**66481**	**7.97**
BPCL, Mumbai	12726	12458	12365	12346	12802	13013	13638	4.81
BPCL, Kochi	8796	9385	9674	9803	10164	11194	13307	18.88
Total BPCL	**21523**	**21843**	**22039**	**22149**	**22965**	**24206**	**26945**	**11.32**
HPCL, Mumbai	7225	7388	7213	7030	7468	7952	8126	2.19
HPCL, Vishakhapatnam	8017	7452	7246	8241	8558	8653	8901	2.87
Total HPCL	**15242**	**14840**	**14459**	**15271**	**16026**	**16605**	**17027**	**2.54**
CPCL(MRL), Manali	8998	8140	9169	9421	8330	8963	9331	4.10
CPCL(MRL), Narimanam	602	635	558	539	550	532	502	-5.69
Total CPCL	**9601**	**8775**	**9728**	**9959**	**8881**	**9496**	**9833**	**3.55**
NRL, Numaligarh	2750	2373	2557	2754	2521	2653	2823	6.42
MRPL, Mangalore	11952	13394	13397	13169	14166	14629	14650	0.15
ONGC, Tatipaka	68	56	64	50	66	82	75	-8.29
(b) PRIVATE SECTOR	**84328**	**91197**	**90101**	**89997**	**91734**	**94285**	**97498**	**3.41**
RIL, Jamnagar	33114	32755	30815	30864	32331	32927	33561	1.93
RIL, SEZ-Jamnagar	38541	39399	39799	39329	41089	41261	44178	7.07
Total RIL	**71655**	**72154**	**70613**	**70192**	**73419**	**74188**	**77739**	**4.79**
NEL, Vadinar	12673	19043	19487	19804	18315	20096	19758	-1.68
(c) JOINT VENTURE	**1716**	**9692**	**13617**	**12682**	**15945**	**15728**	**14464**	**-8.04**
BORL, Bina	1716	5209	4994	5782	5916	5767	6094	5.67
HMEL, Bathinda	-	4483	8623	6900	10029	9961	8370	-15.97
(d) FRACTIONATORS	**4640**	**4518**	**4300**	**3994**	**4016**	**4294**	**4608**	**7.30**
Grand Total	**203202**	**217736**	**220756**	**221136**	**231923**	**243551**	**254405**	**4.46**

Note: Total may not tally due to rounding off
P: Provisional
Source: Oil Companies

Figure III.4: Company-wise Production of Petroleum Products during 2017-18 (%)



III.5 Refinery-wise and Product-wise Production of Petroleum Products during 2017-18 (P)

(in TMT)

Refinery/Plant	LPG	Motor Spirit	Naphtha	ATF	SKO	Diesel	Furnace Oil	Bitumen	Lube Oil	Petroleum Coke	Others	Total Production	Fuel & Losses	Crude Processed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
IOCL, Guwahati	43	231	32	44	70	654	0	0	0	64	3	1142	130	1024
IOCL, Barauni	325	884	522	0	613	2876	9	7	0	161	110	5507	547	5819
IOCL, Koyali	489	2271	574	432	416	7109	413	520	0	703	344	13271	1249	13811
IOCL, Haldia	218	697	513	497	677	2634	950	544	166	0	271	7167	653	7655
IOCL, Mathura	477	1508	392	637	280	3696	1121	840	0	0	198	9151	688	9240
IOCL, Digboi	19	119	-1	0	5	394	32	0	0	46	52	665	76	666
IOCL, Panipat	744	1816	1746	1370	386	7508	341	365	0	912	700	15889	1410	15654
IOCL,Bongaigoan, Assam	62	261	138	41	140	1412	39	0	0	138	10	2241	212	2402
IOCL, Paradip, Odisha	819	2370	11	526	250	5268	0	0	0	1088	1115	11447	1393	12730
BPCL, Mumbai	448	2463	730	990	186	6521	948	567	262	0	521	13638	651	14054
BPCL, Kochi	955	2387	738	623	113	7053	151	240	0	687	361	13307	1116	14095
HPCL, Mumbai	451	1549	426	458	203	3094	726	564	439	0	218	8126	621	8641
HPCL, Vishakhapatnam	382	1803	199	127	190	4415	1040	627	0	0	118	8901	688	9635
CPCL(MRL), Manali	316	1107	558	795	167	4419	1028	472	169	75	225	9331	1011	10289
CPCL(MRL), Narimanam	17	0	197	0	24	180	0	0	0	0	84	502	26	500
NRL, Numaligarh	60	615	-9	76	71	1867	0	0	0	85	59	2823	200	2809
MRPL, Mangalore	877	1375	1606	1396	63	6487	737	148	0	744	1218	14650	1665	16130
ONGC, Tatipaka	0	0	33	0	6	14	0	0	0	0	22	75	4	80
RIL, Jamnagar	599	1449	6336	2850	0	9380	809	0	0	2957	9180	33561	2707	33153
RIL, SEZ-Jamnagar	1019	8925	2919	2140	0	15756	675	0	0	3514	9231	44178	3724	37317
NEL, Vadinar	974	3325	1033	779	54	10433	-2	373	0	2340	448	19758	1190	20693
BORL,Bina	203	1159	58	633	224	3345	0	0	0	359	114	6094	653	6708
HMEL,Bathinda	675	1469	33	174	221	3938	0	9	0	881	969	8370	552	8830
Total Refinery	**10170**	**37784**	**18786**	**14588**	**4359**	**108453**	**9019**	**5277**	**1036**	**14754**	**25571**	**249797**	**21163**	**251935**
Fractionators	**2210**	**0**	**1220**	**6**	**49**	**13**	**0**	**0**	**0**	**0**	**1111**	**4608**	**0**	**0**
Grand Total	**12380**	**37784**	**20006**	**14594**	**4408**	**108465**	**9019**	**5277**	**1036**	**14754**	**26682**	**254405**	**21163**	**251935**

Note: Others include VGO, Benzene, MTO, CBFS, Sulphur, LSHS, Waxes, MTBE & Reformate, etc.
Source: Oil Companies

P: Provisional

III.6 Production of Petroleum Products (Calendar Year-wise)

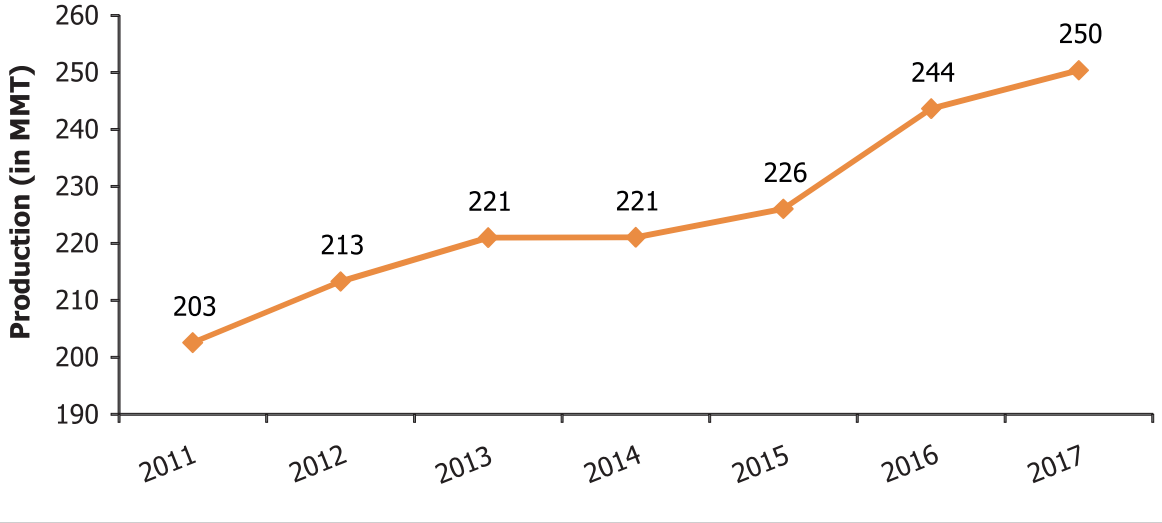
(in TMT)

Products	Year							% variation in 2017 over 2016
	2011	2012	2013	2014	2015	2016	2017 (P)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
LPG	9717	9709	9853	9953	10301	11285	12094	7.17
Motor Spirit	26845	29549	30263	31800	34056	36421	37631	3.32
Naphtha	18927	18648	18779	17821	17300	19699	20063	1.84
Kerosene	7815	8115	7461	7604	7433	6547	4693	-28.33
ATF	10593	9538	11208	10926	11084	13929	14153	1.60
HSD	82255	89283	93022	94693	96391	102718	105975	3.17
LDO	537	428	427	351	410	527	592	12.47
Total Fuel Oils	19067	15832	13787	12307	10278	10275	9439	-8.14
of which								
(a) Furnace Oil	17324	14266	13156	11745	9855	10025	9172	-8.51
(b) LSHS/HHS/RFO	1744	1566	631	562	423	250	267	6.77
Lube Oils	1016	954	915	878	1073	1060	994	-6.16
Bitumen	4629	4555	4876	4756	4769	5394	5076	-5.90
Petroleum Coke	6706	9990	11892	10060	9800	13952	14483	3.81
Others	14488	16748	18522	19909	23180	21832	25226	15.55
Total Production of Petroleum Products	**202594**	**213349**	**221006**	**221059**	**226074**	**243640**	**250418**	**2.78**
of which								
Refineries	**197949**	**208783**	**216610**	**216958**	**222137**	**239457**	**245879**	**2.68**
Fractionators	**4644**	**4566**	**4396**	**4101**	**3937**	**4183**	**4539**	**8.50**

P: Provisional

Note:
1. Others include VGO, Benzene, MTO, CBFS, Sulphur, Waxes, MTBE & Reformate, etc.
2. Total may not tally due to rounding off.
Source: Oil Companies

Figure III.5: Production of Petroleum Products during 2011 to 2017



III.7 Production of Petroleum Products (Financial Year-wise)

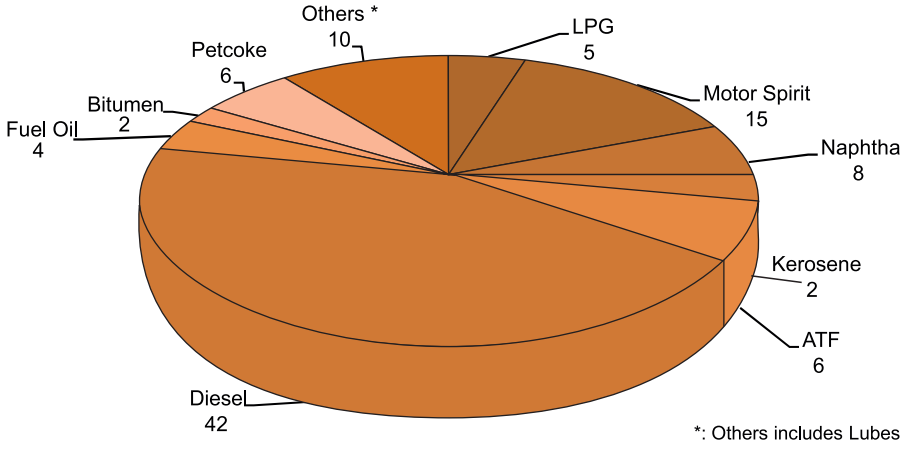
(in TMT)

Products	Year							% variation in 2017 over 2016
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
LPG	9547	9825	10030	9840	10568	11326	12380	9.31
Motor Spirit	27186	30118	30275	32325	35321	36593	37784	3.25
Naphtha	18825	19018	18505	17391	17861	19946	20006	0.30
Kerosene	7861	7971	7418	7559	7503	6041	4408	-27.03
ATF	10065	10088	11220	11103	11789	13831	14594	5.52
HSD	82880	91103	93759	94428	98588	102484	107904	5.29
LDO	502	400	423	358	429	629	562	-10.69
Total Fuel Oils	18433	15054	13405	11919	9727	9962	9486	-4.77
of which								
a) Furnace Oil	16732	13690	12920	11248	9468	9694	9019	-6.96
b) LSHS/HHS/RFO	1701	1364	485	671	259	268	468	74.23
Lube Oils	1028	896	941	946	1037	1029	1036	0.68
Bitumen	4610	4670	4785	4632	5157	5185	5277	1.76
Petroleum Coke	7837	10943	12068	12448	13322	13936	14754	5.87
Others	14429	17650	17927	18188	20622	22589	26215	16.05
Total Production of Petroleum Products	**203202**	**217736**	**220756**	**221136**	**231923**	**243551**	**254405**	**4.46**
of which								
Refineries	**198561**	**213219**	**216456**	**217141**	**227907**	**239256**	**249797**	**4.41**
Fractionators	**4640**	**4518**	**4300**	**3994**	**4016**	**4294**	**4608**	**7.30**

Note:
1. Others include VGO, Benzene, MTO, CBFS, Sulphur, Waxes, MTBE & Reformate, etc.
2. Total may not tally due to rounding off.
Source: Oil Companies

P: Provisional

Figure III.6: Distribution of Petroleum Products Produced during 2017-18 (%)

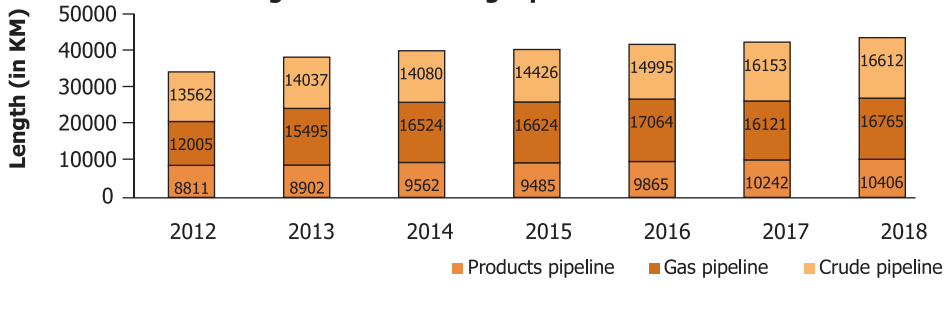


III.8 Existing Crude Oil, Natural Gas and Product Pipelines in India

Type of Pipeline / Owner	Length (in Km.) as on 31st March						
	2012	2013	2014	2015	2016	2017	2018
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crude Pipelines (Onshore)							
ONGC	835	820	820	743	703	703	783
OIL	1193	1193	1193	1193	1193	1193	1193
IOCL	4342	4448	4448	4448	4867	5217	5301
BORL (JV with BPCL)	937	937	937	937	937	937	937
HMEL (JV with HPCL)	1017	1017	1017	1017	1017	1017	1017
CAIRN	-	-	660	660	660	688	688
Subtotal	**8323**	**8414**	**9074**	**8997**	**9377**	**9754**	**9918**
Crude Pipelines (Offshore)							
ONGC	488	488	488	488	488	488	488
Subtotal	**488**	**488**	**488**	**488**	**488**	**488**	**488**
Total Crude Oil Pipelines	**8811**	**8902**	**9562**	**9485**	**9865**	**10242**	**10406**
Gas Pipelines (Onshore)							
ONGC	939	1016	1016	1016	1016	-	-
IOCL	132	134	134	140	140	140	140
GAIL	9454	10702	10909	10984	11077	11077	11410
GSPL	-	2163	2174	2192	2540	2612	2618
RIL	1480	1480	1480	1480	1480	1480	1784
AGC,DNPL	-	-	811	811	811	812	812
Subtotal	12005	15495	16524	16624	17064	16121	16765
Gas Pipelines (Onshore)							
ONGC	24	24	24	24	24	24	24
Subtotal	**24**	**24**	**24**	**24**	**24**	**24**	**24**
Total Gas Pipeline	**12029**	**15519**	**16548**	**16648**	**17088**	**16145**	**16789**
Product Pipelines (Onshore)							
IOCL	6401	6633	6633	6633	6739	7491	7950
BPCL	1648	1648	1697	1936	1936	1948	1948
HPCL	2164	2407	2407	2514	2977	3371	3371
OIL	654	654	654	654	654	654	654
PCCK	293	293	293	293	293	293	293
PHMB	364	364	364	364	364	364	364
GAIL	2038	2038	2032	2032	2032	2032	2032
Total Product Pipeline	**13562**	**14037**	**14080**	**14426**	**14995**	**16153**	**16612**
Grand Total	**34402**	**38458**	**40190**	**40559**	**41947**	**42541**	**43807**

Note: Detail in Tables III.9, III.10 and III.11
Source: Oil Companies

Figure III.7: Existing Pipelines in India



III.9 Existing Major Crude Oil Pipelines in India

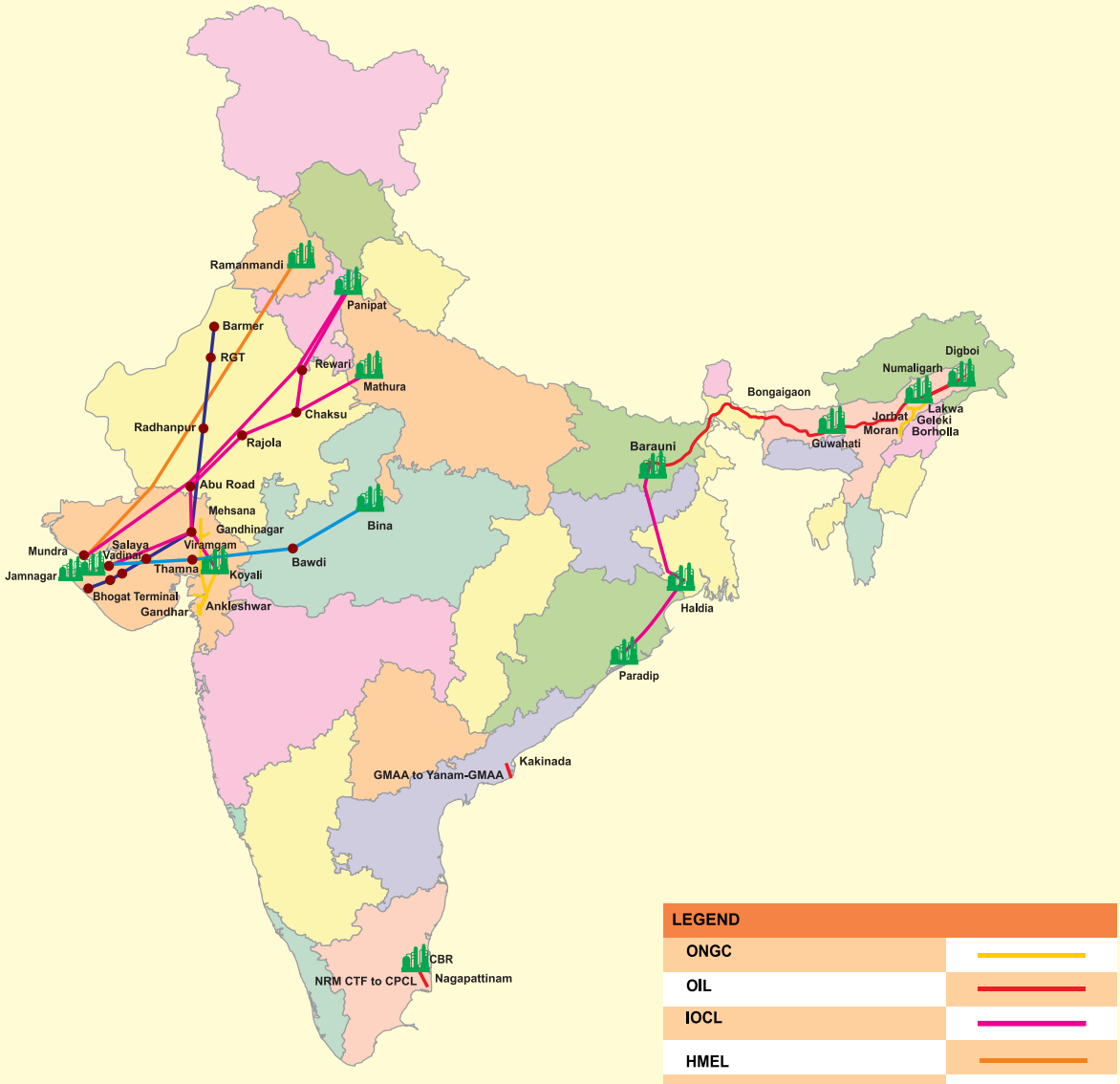
Type of Pipeline / Owner/Name of Pipeline	Capacity (TMT)			Length (km)		Thoughput (TMT)		Utilization (%)	
	2016*	2017*	2018*	2017*	2018*	2016-17	2017-18(P)	2016-17	2017-18
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Onshore									
IOCL	**40400**	**43032**	**48600**	**5217.0**	**5301.0**	**51337**	**51077**	**127.1**	**118.7**
Salaya Mathura Pipeline[1]	21000	23597	25000	2576.0	2660.0	26124	26203	124.4	111.0
Mundra Panipat Pipeline	8400	8400	8400	1194.0	1194.0	8618	8437	102.6	100.4
Paradip Haldia Barauni Pipeline[2]	11000	11035	15200	1447.0	1447.0	16595	16437	150.9	149.0
ONGC	**23497**	**24997**	**30397**	**702.9**	**782.5**	**9676**	**9709**	**41.2**	**38.8**
14" MHN-NGM Trunk pipeline	2265	2265	2265	77.0	77.0	2072	2061	91.5	91.0
14" Kalol-Nawagam-New	3140	3140	3140	62.5	62.5	1029	959	32.8	30.5
18" Nawagam-Koyali pipeline[3]	5400	5400	5400	78.4	78.4	2225	1790	41.2	33.1
18" Nawagam-Koyali pipeline(New)[4]	-	-	5400	-	80	-	376	-	7.0
14" Nawagam-Koyali pipeline[5]	3300	3300	3300	78.4	78.4	1360	1325	41.2	40.2
16" CTF, Ankl to Koyali Pipeline[6]	2199	2199	2199	94.8	94.8	854	920	38.8	41.8
8" CTF, Ankl to CPF, Gandhar	394	394	394	44.3	44.3	0	0	0.0	0.0
12" CPF, Gandhar to Saraswani 'T' point	1805	1805	1805	56.7	56.7	673	686	37.3	38.0
10" Akholjuni to Laxmipura 'T' point	481	481	481	65.5	65.5	162	193	33.8	40.1
12" Lakwa-Moran pipeline	-	1500	1500	17.5	17.5	111	107	7.4	7.1
12" Lakwa-Moran pipeline (New)[7]	1500	1500	1500	14.6	14.6	221	305	14.7	20.3
14" Geleki-Jorhat pipeline	1500	1500	1500	48.5	48.5	472	417	31.4	27.8
12" Borholla-Jorhat pipeline	600	600	600	42.8	42.8	139	154	23.2	25.7
4" Kesnapalli-WGGS to Tatipaka Refinery	83	83	83	13.5	13.5	16	31	19.3	37.3
4" GMAA EPT to S. Yanam unloading terminal (New line)	90	90	90	3.5	3.5	63	46	70.0	51.1
8" Narimanam to CPCL refinery pipeline	740	740	740	4.9	4.9	280	339	37.8	45.8
OIL: Duliajan-Digboi-Barauni-Bongaigaon Pipeline	8400	8450	8450	1192.6	1192.6	6604	6890	78.6	81.5
HMEL: Mundra - Bhatinda Pipeline	**9000**	**9000**	**11250**	**1017.0**	**1017.0**	**10516**	**8876**	**116.8**	**98.6**
BORL: Vadinar - Bina Pipeline	**6000**	**6000**	**6000**	**937.0**	**937.0**	**6377**	**6714**	**106.3**	**111.9**
Cairn: Mangala- Bhogat Pipeline	**9080**	**9080**	**9080**	**688**	**688**	**9100**	**9920**	**100.2**	**109.3**
Mangala- Bhogat Pipeline	8710	8710	8710	660.0	660.0	8100	7800	93.0	89.6
Mangala- Marine	370	370	370	28.0	28.0	1000	2120	270.3	573.0
Total Onshore Crude Pipeline	**96377**	**100559**	**113777**	**9754.5**	**9918.1**	**93610**	**93186**	**97.1**	**92.7**
Offshore									
ONGC	**45134**	**45134**	**45134**	**488.0**	**488.0**	**12884**	**13085**	**28.5**	**29.0**
Mumbai High - Uran Trunk Pipeline	15634	15634	15634	204.0	204.0	9322	10021	59.6	64.1
Heera-Uran Trunk Pipeline	11500	11500	11500	81.0	81.0	3552	3064	30.9	26.6
Bombay-Uran Trunk 30" Pipeline	18000	18000	18000	203.0	203.0	10	0	0.1	0.0
Total Offshore Crude Pipeline	**45134**	**45134**	**45134**	**488**	**488**	**12884**	**13085**	**28.5**	**29.0**
Total Crude pipeline	**141511**	**145693**	**158911**	**10242**	**10406**	**106494**	**106271**	**75.3**	**72.9**

Note: *: as on 31st March P: Provisional

1. 434 km added in SMPL since 01.04.2016 by commissioning of SMPL- Surendranagar Viramgam loopline on 07.08.2016, Viramgam - Sidhpur section on 14.08.2016, Abu road - Rajola section on 21.03.2017 and Sidhpur Abu road section on 29.04.2017 along with capacity augmention from 21 MMTPA to 25 MMTPA on 07.08.2016 .
2. Capacity augmented from 11 MMTPA to 15.2 MMTPA with commissiong of Balasore pump station on 29.03.2017 .
3. 78 km X 18" Nawagam-Koyali old line used upto Jan'18. Nawagam-Akhdol , 42 km section decommissioned and Akhdol-Koyali section not in use from Feb'2018.
4. 78 km X 18" Nawagam-Koyali new line Commissioned in 2017-18. Section Nawagam to Akhdol in Oct'17 and Akhdol to Koyali in Jan'2018.
5. 78 km X 14" Nawagam-Koyali line was given on lease to IOC in 2000 and was handed back to ONGC on 01.04.2010. The line was restored and re-commissioned in Oct.'2012.
6. CTF Ankleshwar to Makan 'T' point section i.e. HOEC Junction (about 47.51 km) of CTF Ankleshwar-Koyali Refinery trunk pipeline was not in use up to August, 2013. After damage / rupture of 8" CTF to CPF line on 25.08.2013, CTF to Koyali Trunk pipeline is in use from 31.08.2013 for dispatch of Ankleshwar crude oil including PSC & JV. CTF Ankleshwar to Koyali Crude Line (AKCL) actual quantity includes Ankleshwar, PSC, JV and Cambay crude oil also.
7. New 12" Lakwa-Moran Oil Line commissioned on 22.08.2016.

Source: Oil Companies

Map III.1: Crude Oil Pipelines*(as on 31.03.2018)



*Onshore

Note : Map is Indicative only, not to scale

III.10 Existing Major Gas Pipelines in India

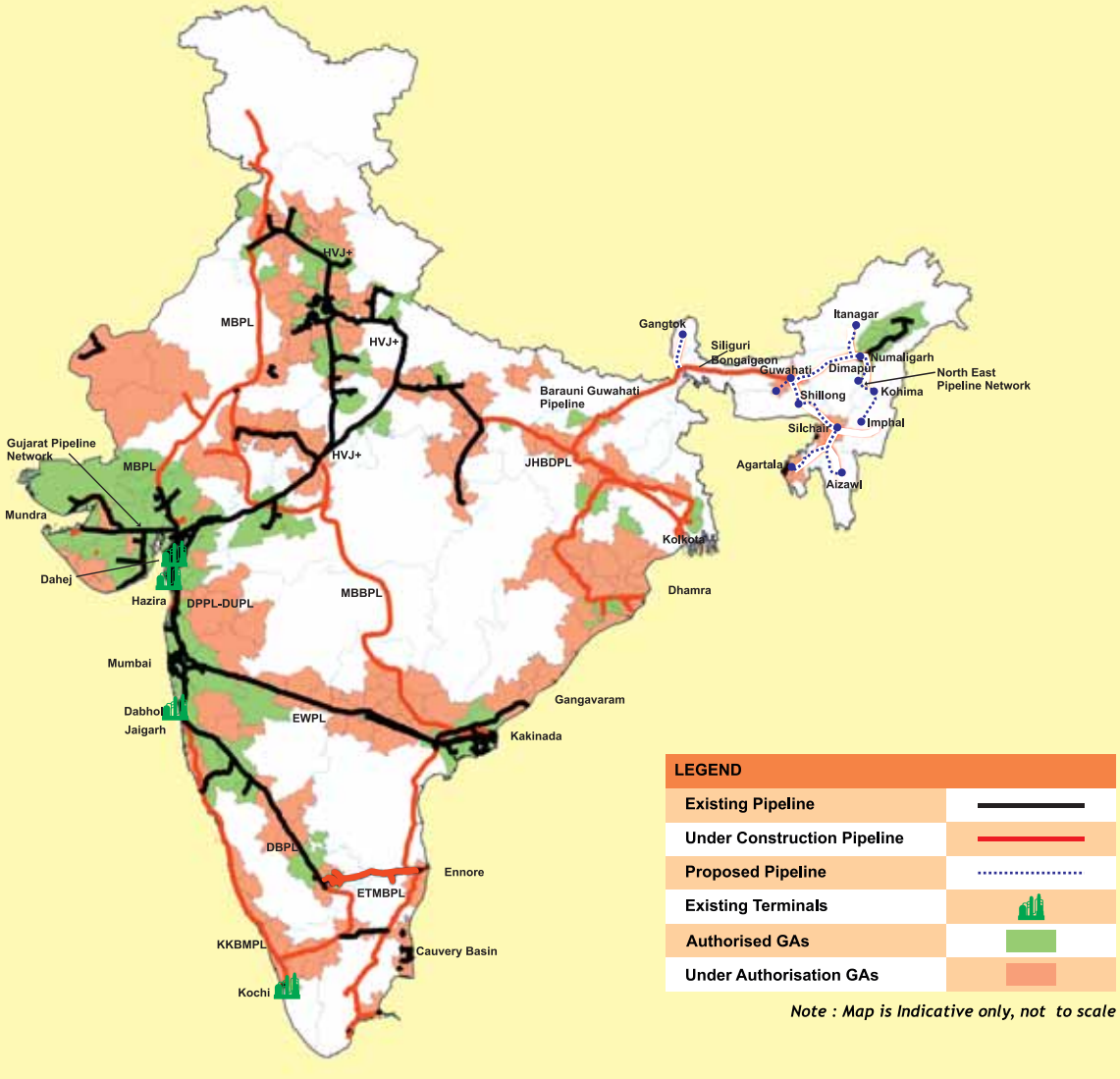
Type of Pipeline / Owner/Name of Pipeline	Capacity (MMSCMD)			Length (KM)		Thoughput (MMSCMD)		Utilization (%)	
	2016*	2017*	2018*	2017*	2018*	2016-17	2017-18(P)	2016-17	2017-18
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Onshore									
GAIL[1]	**206.0**	**206.0**	**194.2**	**11076.9**	**11410.3**	**100.4**	**105.0**	**48.7**	**51.0**
HVJ-GREP-DVPL	53.0	53.0	53.0	4658.5	4554.0	33.2	29.5	62.6	55.7
DVPL-GREP Upgradation (DVPL-II & VDPL)	54.0	54.0	54.0	1118.7	1385.0	28.3	35.9	52.3	66.5
Chhainsa-Jhajjar-Hissar P/L	5.0	5.0	5.0	265.0	310.0	1.0	1.0	19.4	20.2
Dadri Bawana Nangal	31.0	31.0	31.0	835.2	852.0	4.7	5.5	15.0	17.7
Dahej-Panvel-Dhabol	19.9	19.9	19.9	875.0	928.0	12.6	13.9	63.4	70.1
Kochi-Koottanad-Bangalore- Mangalore (Phase-1)	6.0	6.0	6.0	48.0	48.0	1.0	2.3	17.2	38.2
Dhabol Bangalore	16.0	16.0	16.0	1097.4	1116.0	1.2	1.3	7.3	7.9
Gujarat	18.3	18.3	8.9	671.0	685.1	4.3	4.4	23.7	23.8
Rajasthan Regional (Jaisalmer)	2.4	2.4	2.4	151.0	151.4	1.4	1.4	61.3	57.4
Cauvery Basin	8.7	8.7	8.7	278.0	306.3	2.7	3.3	30.6	37.5
K G Basin	16.0	16.0	16.0	881.0	883.5	5.4	5.4	33.7	33.8
Assam (Lakwa)	2.5	2.5	-	8.0	-	0.4	-	14.8	-
Tripura (Agartala)	2.3	2.3	2.3	61.0	60.0	1.4	1.3	63.7	57.5
Mumbai Regional	7.0	7.0	7.0	129.0	131.0	8.5	6.4	121.7	91.9
IOCL: Dadri Panipat	9.5	9.5	9.5	140.4	140.4	4.3	4.6	45.8	48.5
GSPL: Network incl. Spur Lines	43.0	43.0	43.0	2612.0	2618.2	24.9	25.3	57.8	58.9
DNPL: Duliajan to Numaligarh	1.2	1.2	1.2	193.0	193.0	0.6	0.7	52.3	61.2
AGCL: Duliajan to Numaligarh[2]	2.1	2.1	2.1	619.1	619.1	1.5	1.5	74.0	71.5
RIL	80.0	80.0	83.5	1480.0	1784.0	17.0	18.5	21.3	23.1
RIL: East-West Pipeline	80.0	80.0	80.0	1480.0	1480.0	17.0	18.0	21.3	22.5
RIL: Shahdol-Pholpur Pipeline	-	-	3.5	-	304.0	-	0.5	-	-
Total Onshore Gas Pipeline	**341.8**	**341.8**	**333.5**	**16121.4**	**16765.0**	**148.7**	**155.7**	**43.5**	**45.6**
Offshore									
ONGC[3]	6.0	6.0	6.0	24.0	24.0	3.6	3.7	60.0	61.1
20" Uran Trombay Gas Line	6.0	6.0	6.0	24.0	24.0	3.6	3.7	60.0	61.1
Total Gas Pipeline	**347.8**	**347.8**	**339.5**	**16145.4**	**16789.0**	**152.3**	**159.4**	**43.8**	**45.8**

Note: Excludes Cairn's Raageshwari Bhogat pipeline 592 km. *: as on 31st March P: Provisional

1. Capacity/throughput of Chhainsa-Jhajjar-Hissar Pipeline and Dadri Bawana Nangal Pipeline are not included in total capacity/throughput, as these are extension of DVPL-II/VDPL.
2. Includes 514 km CGD pipeline of AGCL.
3. Excluded ONGC's internal pipeline gas 28" MUT line of 204 km, 26" BUT line of 203 km, 26" HUT line of 81 km, 36"BPA Hazira line of 231 km, 42" BPB Hazira gas line of 244 km and 20" Agartala Domestic TPC palatana line of 52.8 km.

Source: Oil Companies

Map III.2 : Terminals, NG Pipelines and Geographical Areas (as on 31.03.2018)



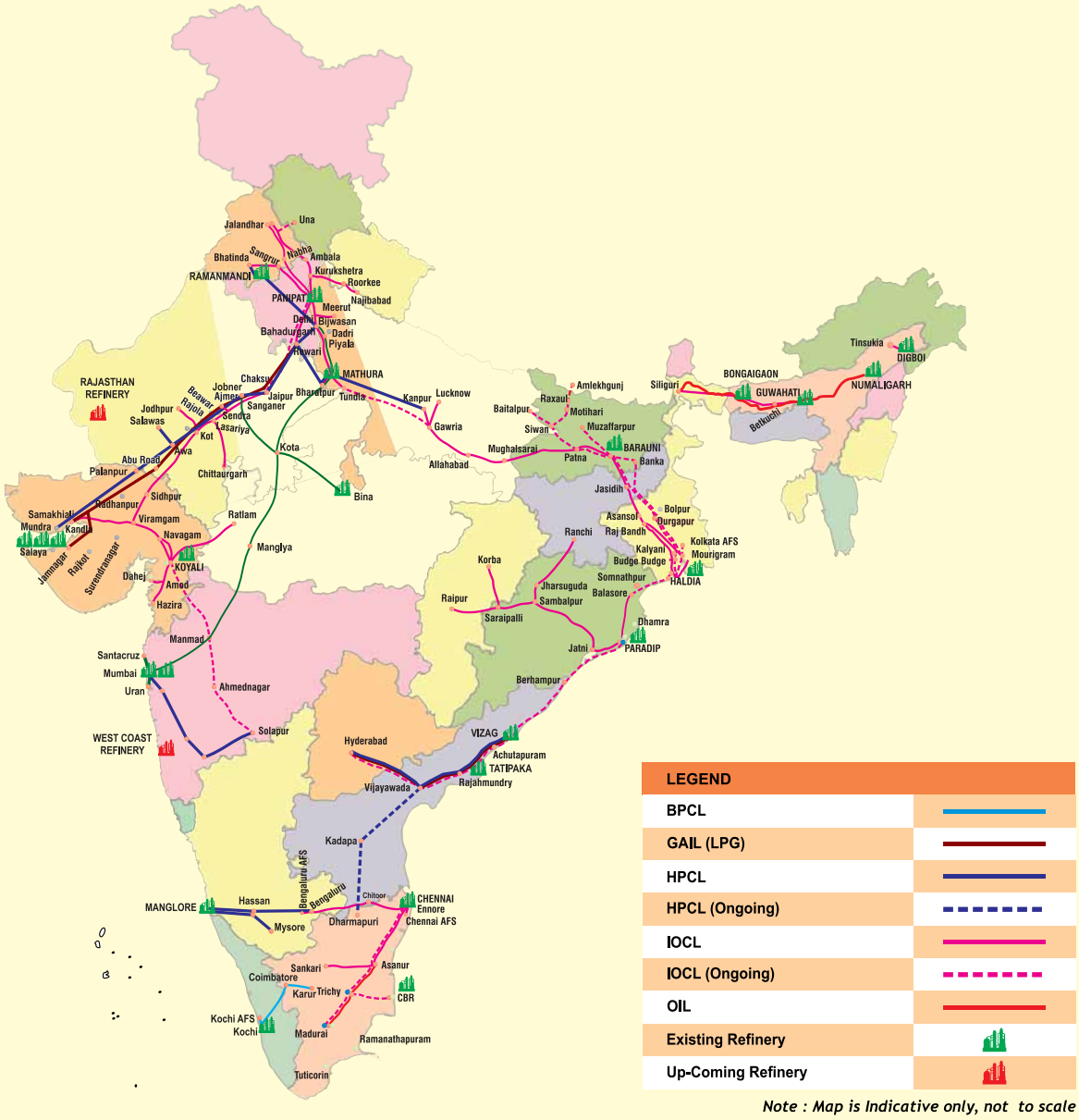
Note : Map is Indicative only, not to scale

III.11 Existing Major LPG & Petroleum Products Pipelines in India

Type of Pipeline / Owner/Name of Pipeline	Capacity (TMT)			Length (km)		Thoughput (TMT)		Utilization (%)	
	2016*	2017*	2018*	2017*	2018*	2016-17	2017-18(P)	2016-17	2017-18
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
LPG Pipelines									
BPCL: Mumbai Uran LPG Pipeline	800	800	800	28.0	28.0	366	337	45.75	42.13
IOCL	700	700	1203	274.0	431.0	573	649	81.86	92.71
Panipat - Jalandhar LPG Pipeline	700	700	700	274.0	274.0	573	599	81.86	85.57
Paradip Haldia Durgapur LPG Pipeline	-	-	503	-	157.0	-	50	-	9.94
HPCL: Mangalore-Hassan-Mysore-Solure	-	1940	1940	356.0	356.0	115	783	5.93	40.36
GAIL	3830	3830	3830	2032.0	2032.0	3362	3713	87.78	96.95
Jamnagar-Loni LPG Pipeline	2500	2500	2500	1414.0	1414.0	2437	2673	97.48	106.92
Vizag-Secunderabad LPG Pipeline	1330	1330	1330	618.0	618.0	925	1040	69.55	78.20
Total LPG Pipeline	**5330**	**7270**	**7773**	**2690.0**	**2847.0**	**4416**	**5482**	**82.85**	**75.41**
Products Pipelines									
IOCL	**44390**	**44390**	**44390**	**7217.0**	**7519.0**	**30580**	**33949**	**68.89**	**76.48**
Koyali Ahmedabad Pipeline	1100	1100	1100	116.0	79.0	822	153	74.73	13.91
Koyali Sanganer Pipeline	4600	4600	4600	1288.0	1300.0	3541	4351	76.98	94.59
Koyali Ratlam Pipeline	2000	2000	2000	265.0	265.0	1463	1452	73.15	72.60
Koyali Dahej Pipeline	2600	2600	2600	197.0	197.0	505	938	19.42	36.08
Barauni Kanpur Pipeline	3500	3500	3500	745.0	856.0	2519	2257	71.97	64.49
Haldia Mourigram Rajbandh Pipeline	1350	1350	1350	277.0	277.0	1765	1824	130.74	135.11
Haldia Barauni Pipeline	1250	1250	1250	526.0	526.0	1447	1485	115.76	118.80
Guwahati Siliguri Pipeline	1400	1400	1400	435.0	435.0	1953	1832	139.50	130.86
Panipat Bhatinda Pipeline	1500	1500	1500	219.0	219.0	1505	1546	100.33	103.07
Panipat Rewari Pipeline	2100	2100	2100	155.0	155.0	1634	1690	77.81	80.48
Panipat Ambala Jalandhar Pipeline	3500	3500	3500	434.0	434.0	2964	3060	84.69	87.43
Panipat Delhi Pipeline	3000	3000	3000	189.0	189.0	1153	1100	38.43	36.67
Mathura Delhi Bijwasan Panipat Pipeline	3700	3700	3700	258.0	258.0	2644	2763	71.46	74.68
Mathura Tundla Bharatpur Pipeline	1200	1200	1200	77.0	77.0	671	591	55.92	49.25
Chennai Trichy Madurai Pipeline	2300	2300	2300	683.0	683.0	2765	2841	120.22	123.52
Chennai Banglore Pipeline	2450	2450	2450	290.0	290.0	1475	1715	60.20	70.00
Chennai Meenambakkam ATF Pipeline	180	180	180	95.0	95.0	186	230	103.33	127.78
Digboi Tinsukia Pipeline	1000	1000	1000	75.0	75.0	435	528	43.50	52.80
Devangonthi Devanhalli Pipeline	660	660	660	36.0	36.0	221	424	33.48	64.24
Paradip Raipur Ranchi Pipeline	5000	5000	5000	857.0	1073.0	912	3169	18.24	63.38
BPCL	**15440**	**15440**	**15440**	**1920.0**	**1920.0**	**11369**	**12557**	**73.63**	**81.33**
Mumbai Manmad Manglya Piyala Bijwasan(MS/SKO/HSD)	6000	6000	6000	1389.0	1389.0	6654	7015	110.90	116.92
Bina Kota (MS/SKO/HSD)	4400	4400	4400	259.0	259.0	2966	3388	67.41	77.00
Mumbai Refinery - Santacruz Airport (ATF)	1440	1440	1440	15.0	15.0	864	933	60.00	64.79
Kochi Refinery - Kochi Airport (ATF)	600	600	600	34.0	34.0	237	380	39.50	63.33
Kota Jobner (MS/SKO/HSD)	1700	1700	1700	211.0	211.0	394	579	23.18	34.06
Mumbai LOBS	1300	1300	1300	12.0	12.0	254	262	19.54	20.15
HPCL	**35150**	**35150**	**36120**	**3015.3**	**3015.3**	**21239**	**24450**	**60.42**	**69.56**
Mumbai - Pune - Solapur Pipeline	4300	4300	4300	508.0	508.0	4134	4655	96.14	108.27
Vizag - Vijayawada - Secunderabad Pipeline	5380	5380	5380	572.0	572.0	5025	5752	93.41	106.91
Mundra - Delhi Pipeline	5000	5000	5000	1054.0	1054.0	2506	3487	50.12	69.75
Ramanmandi - Bahadurgarh Pipeline	4710	4710	4710	243.0	243.0	4722	4340	100.25	92.15
Ramanmandi - Bhatinda Pipeline	1130	1130	2100	30.0	30.0	867	852	76.73	75.38
Awa-Salawas Pipeline	2300	2300	2300	93.0	93.0	602	722	26.17	31.39
Bahadurgarh-Tikrikalan Pipeline	750	750	750	14.0	14.0	536	528	71.47	70.45
Rewari-Kanpur Pipeline	7980	7980	7980	443.0	443.0	1908	2672	23.91	33.48
Mumbai Refinery - Mumbai Airport (ATF)	1100	1100	1100	19.7	19.7	410	677	37.27	61.55
Black Oil Pipeline (BOPL)	1500	1500	1500	21.5	21.5	107	325	7.13	21.67
Lube Oil Pipeline- Trombay to Wadibundar	1000	1000	1000	17.1	17.1	422	440	42.20	44.00
OIL: Numaligarh - Siliguri Pipeline	1721	1721	1721	654.3	654.3	1781	1871	103.49	108.72
PCCK: Cochin - Coimbatore - Karur Pipeline	3300	3300	3300	292.5	292.5	2775	2651	84.09	80.33
PHMB: Mangalore Hassan Bengaluru Pipeline	2143	2143	2143	364.0	364.0	3429	3500	160.01	163.32
Total Products Pipeline	**102144**	**102144**	**103114**	**13463.1**	**13765.1**	**71173**	**78978**	**69.68**	**77.32**
Grand Total Pipelines (including LPG)	**107474**	**109414**	**110887**	**16153.1**	**16612.1**	**75589**	**84460**	**70.33**	**77.19**

*: as on 31st March
P: Provisional
Source: Oil Companies

Map III.3: Refineries and Petroleum Product Pipelines (as on 31.03.2018)



Note : Map is Indicative only, not to scale

III.12 Tonnage of Indian Tankers Fleet

	2012	2013	2014	2015	2016	2017	2018
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A. Coastal Trade (Oil Tankers)							
1. Product Carriers							
No. of tankers	14	13	14	14	14	15	16
DWT ('000' tonnes)	43	43	44	44	44	46	47
2. Crude Oil Carriers							
No. of tankers	2	1	2	3	4	4	4
DWT ('000' tonnes)	82	41	41	358	403	403	403
3. Offshore Supply Vessels							
No. of tankers	115	106	108	102	106	106	101
DWT ('000' tonnes)	134	113	115	110	114	119	114
4. Specialized vessels for offshore							
No. of tankers	38	38	38	36	36	36	37
DWT ('000' tonnes)	50	50	50	49	49	49	49
Total (1+2+3+4)							
No. of tankers	169	158	162	155	160	161	158
DWT ('000' tonnes)	310	247	250	560	609	617	613
B. Overseas Trade (Oil Tankers)							
5. Ore Oil Bulk Carriers							
No. of tankers	2	1	1	1	1	1	1
DWT ('000' tonnes)	169	46	46	46	46	46	46
6. Crude Oil Carriers							
No. of tankers	71	59	64	60	63	65	71
DWT ('000' tonnes)	6506	5661	5786	5608	5858	6231	7246
7. Product Carriers							
No. of tankers	55	49	47	47	50	53	56
DWT ('000' tonnes)	3405	3266	3273	3313	3440	3555	3660
8. LPG Carriers							
No. of tankers	9	9	9	8	11	14	19
DWT ('000' tonnes)	241	273	273	223	303	451	696
Total Overseas (5+6+7+8)							
No. of tankers	137	118	121	116	125	133	147
DWT ('000' tonnes)	10321	9246	9377	9190	9646	10283	11648
Total Oil Tankers (A+B)							
No. of tankers	**306**	**276**	**283**	**271**	**285**	**294**	**305**
DWT ('000' tonnes)	**10631**	**9494**	**9627**	**9750**	**10256**	**10899**	**12260**

Note: Total may not tally due to rounding off
DWT: Dead Weight Tonnage.
Source: Directorate General of Shipping, Mumbai.

III.13 Indian Tonnage as on 31.03.2018

(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	Bharat Chemical	1299	1500
4	Blue Ocean Sea Transport Ltd.	396	596
5	Castle Ships Pvt.Ltd.	1332	2127
6	Coast Line Services (India)Pvt. Ltd.	493	872
7	Jaisu Shipping (P) Ltd.	1873	2808
8	K. Raghupathi Rao (Raghu)	65	0
9	M.Gangadhar Rao	36	0
10	Marine Blue Shipping Pvt. Ltd.	708	0
11	Pratibha Shipping Co.Ltd.	30565	28610
12	Shiny Shipping & Logistics Pvt. Ltd.	2153	2734
13	Vamsee Shipping Carrier Pvt.Ltd.	1495	2238
	Total	**44319**	**47154**
	Tankers (Crude Oil Carriers)		
1	Jadwet Trading Company	40	0
2	Seven Islands Shipping Ltd.	29083	44970
3	The Shipping Corpn.of India Ltd.	190359	357757
	Total	**219482**	**402727**
	Offshore Supply Vessels		
1	Administration of U.T. of Lakshadweep	10721	960
2	Albatross Shipping Agencies	2893	3798
3	ARC Maritime Pvt. Ltd.	1591	1921
4	Asian Marine Supplier	104	0
5	Atlas Offshore Services Pvt. Ltd.	297	1018
6	Bhambhani Shipping Ltd.	1788	2085
7	Chandra Ship Management Pvt. Ltd.	285	0
8	Coastal Marine Const. & Engg. Ltd.	2101	1204
9	Damodar Marine Services Pvt. Ltd.	487	737
10	Daniel Engineering Works & Ship Repairs	850	1000
11	Diplomat Marine	1221	1149
12	Dolphin Offshore Shipping Ltd.	1371	763
13	First Oil & Gas Services Pvt. Ltd.	2568	2105
14	Fugro Survey (India) Pvt. Ltd.	494	509
15	GAL Offshore Shipping	640	0
16	Glory Ship Management Pvt. Ltd.	495	0
17	GOL Offshore Ltd.	10342	13848
18	Greatship (India) Ltd.	4983	2416
19	Hal Offshore Ltd.	1085	832
20	Hede Ferrominas(P) Ltd.	1332	1686
21	Hind Offshore Pvt. Ltd.	6908	5442
22	ITT Lines Pvt. Ltd.	1042	1207
23	Jayesh Shipping P. Ltd.	69	0
24	K. G. Offshore Services Pvt. Ltd.	417	0
25	KEI-RSOS Maritime Ltd.	2779	2914
26	Lewek Alter Shipping Pvt. Ltd.	3601	0
27	Mathew Meenathethil George	322	500
28	Mr. Nikhil Kumar Dhali	189	0
29	Mrs. Ishrat Johan W/o. Mr. Riaz Khan	140	15
30	Mustan Tahderbhai Khanbhai	1310	1817
31	Netincon Logistics Pvt. Ltd.	2419	0
32	Ocean Sparkle Ltd.	9255	7142
33	Oil & Natural Gas Corporation Ltd.	13736	16528
34	PFS Shipping (India)Ltd.	3844	3842
35	Prince Marine Transport Services	3634	1172
36	Raj Shipping Agencies Ltd.	4337	4759
37	Sambhulingam Marine Services	317	0
38	Samson Maritime Ltd.	5375	5945
39	Samudrika Logistics Pvt. Ltd.	275	290
40	Sun Marine	1310	1758
41	Synergy Offshore Services	189	125
42	TAG Offshore Ltd.	9217	7605
43	TAG Sea Logistics Ltd.	3939	4952
44	Tarun Shipping & Industries Ltd.	1978	2172
45	The Shipping Corpn. Of India Ltd.	7841	6917
46	Transtar Marine & Offshore Services	1078	0
47	Tulshyan Shipping & Offshore Services Pvt. Ltd.	2095	2374
	Total	**133264**	**113507**

Contd.....

III.13 Indian Tonnage as on 31.03.2018 (Contd...)

(in Tonnes)

SI. No.	Owner of the ship	Gross Registered Tonnage	Dead Weight Tonnage
	Specialized Vessels for Offshore Services		
1	Dolphin Offshore Shipping Ltd.	405	436
2	Hind Offshore Pvt. Ltd.	3114	1480
3	Jaisu Shipping Co. (P) Ltd.	99	99
4	K. Desai & Company	181	0
5	National Institute of Oceanography, Goa	709	297
6	National Institute of Ocean Technology	4862	0
7	Oil & Natural Gas Corporation	45281	26469
8	Raj Shipping Agencies Ltd.	715	915
9	Reliance Industries Ltd.	2421	3104
10	Sadhav Shipping Ltd.	70	5
11	Safe & Sure Marine Services Pvt. Ltd.	490	826
12	Sea Rides Ship Management	1011	1142
13	Sealion Sparkle Maritime Services Ltd.	136	14
14	South East Asia Marine Engg & Const. Ltd.	11211	6135
15	Sunrise Marine Services.	392	469
16	The Council of Scientific & Industrial Research	2661	800
17	The Dept. of Ocean Development	4582	1605
18	The Dir. Gen. of Light House & Lightship	5823	3083
19	The Geological Survey of India	2942	2005
	Total	**87105**	**48884**
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	112124	201913
2	Essar Shipping Ports & LogisticsLtd.	149274	281396
3	Great Eastern Shipping Co. Ltd.	708498	1287328
4	Mercator Lines Ltd.	136977	234833
5	Pratibha Shipping Co.Ltd.	205806	364629
6	Seven Islands Shipping Ltd.	443540	802369
7	The Shipping Corpn.of India Ltd.	1691654	3069609
8	Varun Shipping Co.Ltd.	114263	213678
9	Arya Tankers Pvt. Ltd.	28414	44998
10	Arya Voyagers Pvt. Ltd.	22181	35024
11	Zen Shipping & Ports India Pvt. Ltd.	5998	10280
12	Arya Ship Charters Pvt. Ltd.	132854	245254
13	Gu Crude Carriers Pvt. Ltd.	79751	152923
14	LMCS Maritime Pvt. Ltd.	157690	301418
	Total	**3989024**	**7245652**
	Oil Tankers (Product Carriers)		
1	Arya Tankers Pvt. Ltd.	22848	35437
2	ASM Shipping	18101	30990
3	Castle Ships Pvt.Ltd.	4473	7335
4	Doehle Danautic (I) Pvt. Ltd.	28226	45999
5	Great Eastern Shipping Co. Ltd.	658588	1148952
6	Indian Ocean Shipping Pvt. Ltd.	50306	78425
7	Intergrity Ships Pvt. Ltd.	4526	8080
8	M.P.Recycling Co. Pvt. Ltd.	20378	29990
9	Mercator Lines	387744	675026
10	Pratibha Shipping Ltd.	45172	76881
11	Sanmar Shipping Ltd.	145298	248980
12	SCI Forbes Ltd.	34500	52489
13	Seven Islands Shipping Ltd.	30691	53401
14	TAG Offshore Ltd.	22650	19939
15	The Shipping Corpn. Of India Ltd.	668271	1133958
16	Zen Shipping & Ports India Pvt. Ltd.	8253	14003
	Total	**2150025**	**3659885**
	LPG Carriers		
1	BW Global United LPG India Pvt. Ltd.	93662	109290
2	Global United Shipping India Pvt. Ltd.	126524	151270
3	Mercator Ltd.	44704	0
4	The Great Eastern Shipping Co. Ltd.	66829	76746
5	The Shipping Corpn.of India Ltd.	82062	88705
6	Varun Gas Logistics Pvt. Ltd.	47156	54826
7	Varun Resources Ltd.	23878	27200
8	Varun Shipping Co.Ltd.	155605	187978
	Total	**640420**	**696015**

Source: Directorate General of Shipping, Mumbai.

III.14 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	2011-12	43.24	8.58	19.84
	2012-13	39.88	6.90	17.30
	2013-14	41.38	6.82	16.48
	2014-15	46.29	6.15	13.29
	2015-16	50.19	7.74	15.42
	2016-17	50.95	7.69	15.10
	2017-18	57.89	8.92	15.41
Mumbai	2011-12	56.19	33.31	59.28
	2012-13	58.04	34.78	59.92
	2013-14	59.18	35.98	60.80
	2014-15	61.66	36.28	58.84
	2015-16	61.11	36.27	59.35
	2016-17	63.05	36.65	58.13
	2017-18	62.83	37.68	59.97
Chennai	2011-12	55.71	13.29	23.86
	2012-13	53.40	13.42	25.13
	2013-14	51.11	12.78	25.00
	2014-15	52.54	12.74	24.25
	2015-16	50.06	11.89	23.75
	2016-17	50.21	12.22	24.33
	2017-18	51.88	13.50	26.03
Cochin	2011-12	20.09	14.01	69.74
	2012-13	19.85	13.90	70.03
	2013-14	20.89	14.32	68.55
	2014-15	21.60	14.02	64.91
	2015-16	22.10	13.78	62.35
	2016-17	25.01	16.22	64.87
	2017-18	29.14	19.57	67.16
Deendayal (Kandla)	2011-12	82.50	46.94	56.90
	2012-13	93.62	54.36	58.06
	2013-14	87.01	53.14	61.07
	2014-15	92.50	55.59	60.10
	2015-16	100.05	55.59	55.56
	2016-17	105.44	60.34	57.23
	2017-18	110.10	62.20	56.49
Visakhapatnam	2011-12	67.42	18.44	27.35
	2012-13	58.96	15.02	25.47
	2013-14	58.50	14.01	23.95
	2014-15	58.00	14.64	25.24
	2015-16	57.03	16.94	29.70
	2016-17	61.02	16.60	27.21
	2017-18	63.54	16.05	25.26
Mormugao	2011-12	39.00	0.92	2.36
	2012-13	17.74	0.82	4.62
	2013-14	11.74	0.53	4.51
	2014-15	14.71	0.57	3.87
	2015-16	20.78	0.56	2.69
	2016-17	33.18	0.63	1.89
	2017-18	26.90	0.63	2.34

Contd.....

III.14 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.	2011-12	65.75	4.93	7.50
	2012-13	64.50	4.29	6.65
	2013-14	62.33	4.41	7.08
	2014-15	63.80	4.03	6.32
	2015-16	64.03	4.09	6.39
	2016-17	62.15	4.49	7.22
	2017-18	66.00	4.64	7.03
Paradip	2011-12	54.25	15.09	27.82
	2012-13	56.55	16.47	29.12
	2013-14	68.00	17.70	26.03
	2014-15	71.01	17.98	25.32
	2015-16	76.39	20.57	26.93
	2016-17	88.96	27.70	31.13
	2017-18	102.01	33.78	33.11
Tuticorin (VOC Port)	2011-12	28.10	0.84	2.99
	2012-13	28.26	0.79	2.80
	2013-14	28.64	0.48	1.68
	2014-15	32.41	0.61	1.88
	2015-16	36.85	0.69	1.87
	2016-17	38.46	0.67	1.73
	2017-18	36.58	0.64	1.75
New Mangalore	2011-12	32.94	22.25	67.55
	2012-13	37.04	24.30	65.60
	2013-14	39.36	24.65	62.63
	2014-15	36.57	22.97	62.81
	2015-16	35.68	23.93	67.07
	2016-17	39.95	25.10	62.85
	2017-18	42.06	24.72	58.77
Kamarajar (Ennore)	2011-12	14.96	0.50	3.34
	2012-13	17.89	1.12	6.26
	2013-14	27.34	2.34	8.56
	2014-15	30.25	3.19	10.55
	2015-16	32.20	3.88	12.05
	2016-17	30.02	4.06	13.52
	2017-18	30.45	4.34	14.25
Grand Total	2011-12	560.15	179.10	31.97
	2012-13	545.68	186.17	34.12
	2013-14	545.68	186.17	34.12
	2014-15	581.26	188.74	32.47
	2015-16	606.37	195.94	32.31
	2016-17	648.40	212.37	32.75
	2017-18	679.37	226.66	33.36

Source : Ministry of Shipping.

III.15 Movement of POL Traffic on Railways

Year	Tonnes Originating (TMT)	Earnings (in ₹ crore)	Average Lead (kms)	Earnings (Paise/ Tonnes/km)	Average Freight (₹/Tonne)
(1)	(2)	(3)	(4)	(5)	(6)
2011-12	39774	3623.64	656	138.90	911.06
2012-13	40607	4717.86	692	168.01	1161.83
2013-14	41159	5343.95	723	179.69	1298.37
2014-15	41095	5515.66	662	202.62	1342.17
2015-16	43238	5926.97	678	202.11	1370.78
2016-17	42422	5686.28	672	199.39	1340.41
2017-18 (P)	43110	5693.84	642	205.60	1320.77

Source : Ministry of Railways P: Provisional

III.16 Rail Freight Rates in respect of Petroleum Products

(in ₹/Tonne)

Effective Dates	Distance in Kilometres							
	100	300	500	800	1000	1500	2000	2500
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
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	255.2	550.8	871.9	1357.7	1675.3	2472.8	3103.0	3524.9
01.04.2017	204.2	550.8	871.9	1357.7	1675.3	2472.8	3103.0	3524.9
01.04.2018	204.2	550.8	871.9	1357.7	1675.3	2472.8	3103.0	3524.9

Note: Rail freight per tonne is only the base freight i.e. exclusive of other charges like @ 15% Busy Season charges @ 5% Development charge, GST etc. for Petroleum products for Trainload.

Source : Ministry of Railways

III.17 Total Retail Outlets in India

(in Number)

Year	Unit	IOCL	HPCL	BPCL	Others	TOTAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
31.03.2012	Nos.	20575	11253	10310	2966	45104
	%	45.6	24.9	22.9	6.6	100
31.03.2013	Nos.	22372	12173	11637	2487	48669
	%	46.0	25.0	23.9	5.1	100
31.03.2014	Nos.	23993	12869	12123	2883	51868
	%	46.3	24.8	23.4	5.6	100
31.03.2015	Nos.	24405	13233	12809	2972	53419
	%	45.7	24.8	24.0	5.6	100
31.03.2016	Nos.	25363	13802	13439	3586	56190
	%	45.1	24.6	23.9	6.4	100
31.03.2017	Nos.	26212	14412	13983	4988	59595
	%	44.0	24.2	23.5	8.4	100
31.03.2018	Nos.	27089	15062	14447	5987	62585
	%	43.3	24.1	23.1	9.6	100

Note: In Karnataka, 6 Outlets are of MRPL.

Source: Oil Companies

Figure III.8(a): Retail Outlets in India during 2012 to 2018

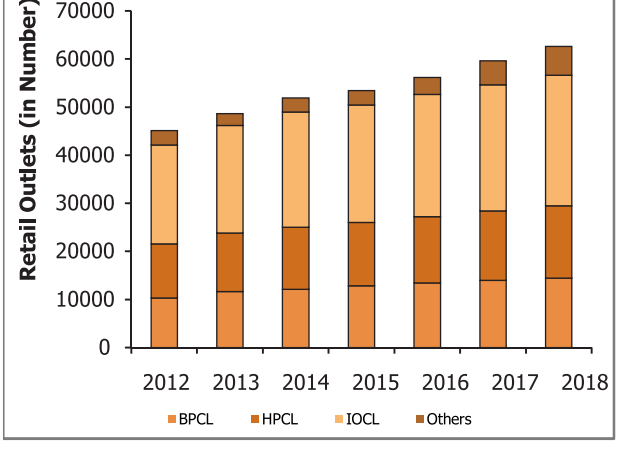
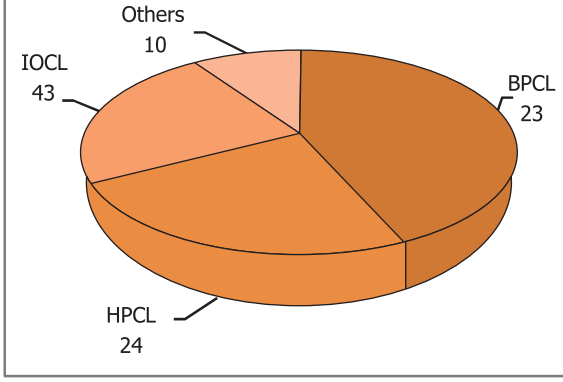


Figure III.8(b): Distribution of retail outlets across oil companies (%) (as on 31.03.2018)



III.18 State-wise Number of retail outlets, LDO/SKO dealers and LPG distributors

(in Number)

State / UT	As on 31.03.2018		
	Retail Outlets	LDO/SKO Dealers	LPG Distributors
(1)	(2)	(3)	(4)
STATES			
Andhra Pradesh	3336	394	940
Arunachal Pradesh	85	33	66
Assam	871	359	468
Bihar	2695	372	1109
Chhattisgarh	1249	108	443
Delhi	397	116	321
Goa	116	22	52
Gujarat	4025	476	774
Haryana	2862	141	540
Himachal Pradesh	432	26	168
Jammu & Kashmir	503	47	253
Jharkhand	1207	87	401
Karnataka	4214	318	1043
Kerala	2100	237	610
Madhya Pradesh	3711	284	1268
Maharashtra	5970	767	1827
Manipur	97	36	84
Meghalaya	203	35	51
Mizoram	41	19	54
Nagaland	73	19	60
Orissa	1681	177	753
Punjab	3427	237	808
Rajasthan	4476	250	1099
Sikkim	51	12	16
Tamil Nadu	5388	466	1353
Telangana	2626	202	715
Tripura	71	40	63
Uttar Pradesh	7473	696	3395
Uttarakhand	590	73	268
West Bengal	2333	458	1077
UNION TERRITORIES			
Andaman & Nicobar	14	2	5
Chandigarh	41	12	27
Dadra & Nagar Haveli	31	2	3
Daman & Diu	32	5	3
Lakshadweep	0	0	1
Puducherry	164	8	27
Grand Total	**62585**	**6536**	**20145**

Source: Oil Companies

III.19 State-wise and Company-wise Retail Outlets

(in Number)

State /UT	As on 31.03.2018					Total as on 31.03.2017
	IOCL	HPCL	BPCL	Total CPSEs	Total Outlets [2]	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
STATES						
Andhra Pradesh	1270	995	760	3025	3336	3197
Arunachal Pradesh	55	0	13	68	85	74
Assam	533	100	149	782	871	828
Bihar	1433	512	659	2604	2695	2604
Chhattisgarh	537	375	301	1213	1249	1176
Delhi	189	98	107	394	397	396
Goa	31	37	48	116	116	115
Gujarat	1322	818	850	2990	4025	3765
Haryana	1444	749	434	2627	2862	2726
Himachal Pradesh	229	120	70	419	432	414
Jammu & Kashmir	226	138	139	503	503	494
Jharkhand	504	285	335	1124	1207	1189
Karnataka[1]	1907	958	1025	3896	4214	4027
Kerala	902	601	484	1987	2100	2048
Madhya Pradesh	1451	910	993	3354	3711	3528
Maharashtra	1965	1695	1780	5440	5970	5684
Manipur	75	0	18	93	97	85
Meghalaya	120	27	43	190	203	198
Mizoram	32	3	5	40	41	37
Nagaland	49	3	9	61	73	70
Orissa	789	333	432	1554	1681	1639
Punjab	1719	895	622	3236	3427	3380
Rajasthan	1798	1063	889	3750	4476	4116
Sikkim	20	7	23	50	51	50
Tamil Nadu	2166	1264	1423	4853	5388	5039
Telangana	1030	736	619	2385	2626	2434
Tripura	65	0	3	68	71	68
Uttar Pradesh	3685	1594	1440	6719	7473	7069
Uttarakhand	260	176	120	556	590	570
West Bengal	1147	498	599	2244	2333	2299
UNION TERRITORIES						
Andaman & Nicobar	14	0	0	14	14	12
Chandigarh	20	11	10	41	41	41
Dadra & Nagar Haveli	11	11	4	26	31	31
Daman & Diu	11	11	7	29	32	32
Lakshadweep	0	0	0	0	0	0
Puducherry	80	39	34	153	164	160
Grand Total	**27089**	**15062**	**14447**	**56604**	**62585**	**59595**

Note:
1. In Karnataka, 6 Outlets are of MRPL.
2. Includes Pvt. Retail Outlets (RIL-1400; NEL-4473 & SHELL-108)
Source: Oil Companies

III.20 State-wise and Company-wise LPG Active Domestic Consumers

(in Number)

State /UT	As on 31.03.2018				Total as on 31.03.2017
	IOCL	HPCL	BPCL	Total	
(1)	(2)	(3)	(4)	(5)	(6)
STATES					
Andhra Pradesh	4777395	6005241	2382086	13164722	11628019
Arunachal Pradesh	207575	0	4849	212424	196643
Assam	3808653	236260	581960	4626873	3290532
Bihar	6552649	3420461	2985842	12958952	9943156
Chhattisgarh	2070356	1314181	633190	4017727	3112980
Delhi	2932112	734148	1158305	4824565	4780716
Goa	12802	303461	153714	469977	454979
Gujarat	4272457	2026344	2288809	8587610	7757798
Haryana	2636294	1337674	1978201	5952169	5413035
Himachal Pradesh	1195904	188322	142862	1527088	1407236
Jammu & Kashmir	529496	1458331	278223	2266050	1964174
Jharkhand	1953684	866801	544674	3365159	2583493
Karnataka	5492070	4408487	3180009	13080566	11529133
Kerala	4224906	1595014	2467800	8287720	8015385
Madhya Pradesh	5118182	3037842	2636543	10792567	9425246
Maharashtra	3521446	10189522	10391756	24102724	22192528
Manipur	400301	0	0	400301	334555
Meghalaya	181575	0	7554	189129	143813
Mizoram	249976	0	0	249976	243837
Nagaland	192763	487	3684	196934	180406
Orissa	2305813	2165108	1457444	5928365	4497851
Punjab	3968090	1563206	1822651	7353947	6901373
Rajasthan	5321833	3583450	3380267	12285550	11052001
Sikkim	122969	0	0	122969	115544
Tamil Nadu	10540881	3097681	4790415	18428977	17170554
Telangana	3780018	3389706	2266542	9436266	8921099
Tripura	505271	0	0	505271	440158
Uttar Pradesh	16560734	5724980	7926713	30212427	27547819
Uttarakhand	1612675	191568	435263	2239506	2116878
West Bengal	10286928	3877887	3462642	17627457	14569049
UNION TERRITORIES					
Andaman & Nicobar	77818	0	0	77818	77048
Chandigarh	183315	53251	36364	272930	270006
Dadra & Nagar Haveli	0	82199	0	82199	74733
Daman & Diu	0	35132	23498	58630	63819
Lakshadweep	5390	0	0	5390	3956
Puducherry	137968	125340	91724	355032	344318
GRAND TOTAL	**105740299**	**61012084**	**57513584**	**224265967**	**198763870**

Source: Central Public Sector Enterprises

III.21 State-wise and Company -wise LPG Distributors

(in Number)

State/UT	As on 31.03.2018				Total as on 31.03.2017
	IOCL	HPCL	BPCL	Total	
(1)	(2)	(3)	(4)	(5)	(6)
STATES					
Andhra Pradesh	389	329	222	940	876
Arunachal Pradesh	65	0	1	66	59
Assam	375	29	64	468	447
Bihar	576	253	280	1109	1076
Chhattisgarh	220	130	93	443	374
Delhi	194	48	79	321	321
Goa	5	30	17	52	51
Gujarat	425	175	174	774	759
Haryana	255	116	169	540	479
Himachal Pradesh	127	23	18	168	166
Jammu & Kashmir	125	96	32	253	246
Jharkhand	229	90	82	401	392
Karnataka	473	308	262	1043	1007
Kerala	308	127	175	610	594
Madhya Pradesh	652	310	306	1268	1240
Maharashtra	423	696	708	1827	1756
Manipur	84	0	0	84	82
Meghalaya	46	0	5	51	49
Mizoram	54	0	0	54	54
Nagaland	54	1	5	60	60
Odisha	328	233	192	753	576
Punjab	445	166	197	808	759
Rajasthan	522	300	277	1099	1063
Sikkim	16	0	0	16	15
Tamil Nadu	750	243	360	1353	1245
Telangana	323	205	187	715	694
Tripura	63	0	0	63	62
Uttar Pradesh	1819	675	901	3395	2959
Uttarakhand	191	25	52	268	253
West Bengal	640	223	214	1077	1009
UNION TERRITORIES					
Andaman & Nicobar	5	0	0	5	5
Chandigarh	18	5	4	27	27
Dadra & Nagar Haveli	0	3	0	3	2
Daman & Diu	0	2	1	3	3
Lakshadweep	1	0	0	1	1
Puducherry	12	8	7	27	25
Grand Total	**10212**	**4849**	**5084**	**20145**	**18786**

Source: Central Public Sector Enterprises

III.22 State-wise and Company-wise SKO/LDO Dealerships

(in Number)

State/UT	As on 31.03.2018				Total as on 31.03.2017
	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	116
Goa	8	7	7	22	22
Gujarat	272	127	77	476	478
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	174	94	50	318	323
Kerala	135	72	30	237	237
Madhya Pradesh	163	63	58	284	284
Maharashtra	301	260	206	767	767
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	131	71	35	237	237
Rajasthan	114	103	33	250	250
Sikkim	10	0	2	12	12
Tamil Nadu	268	139	59	466	466
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	**3897**	**1638**	**1001**	**6536**	**6543**

Source: Central Public Sector Enterprises

III.23 State-wise PDS SKO Kerosene allocated and Quantity Uplifted

(in KL)

State	PDS SKO allocation			Upliftment		
	2015-16	2016-17	2017-18 (P)	2015-16	2016-17	2017-18 (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andaman & Nicobar Islands	4492	5160	4128	4478	4868	4014
Andhra Pradesh*	207530	225696	56424	180581	191547	26574
Arunachal Pradesh	8031	9288	7920	8015	9150	7723
Assam	250095	289248	245856	249832	287814	245038
Bihar	620003	710736	495432	618441	705334	490280
Chandigarh*	2325	0	0	663	0	0
Chhattisgarh	134064	135384	115056	123846	121671	92679
Dadra & Nagar Haveli*	1429	1656	288	1429	1658	288
Daman and Diu*	644	756	132	644	480	0
Delhi*	0	0	0	0	0	0
Goa	3997	4620	2259	3922	2630	1428
Gujarat	511546	493008	344520	511308	492702	338163
Haryana*	68750	66252	0	54929	35927	0
Himachal Pradesh	18789	18120	14496	18747	17950	14400
Jammu and Kashmir	63175	73056	58476	62313	67873	57557
Jharkhand	204336	219696	186768	202694	219002	176263
Karnataka	396756	287532	156000	376843	260254	126539
Kerala	91658	88344	58728	91629	88345	58727
Lakshadweep[1]	766	936	768	766	935	768
Madhya Pradesh	459007	442368	345048	451478	427252	336902
Maharashtra	487359	563640	384696	477820	517933	377758
Manipur	18201	21060	17904	18148	15235	18196
Meghalaya	19788	22884	19440	19751	22694	19356
Mizoram	5192	6012	4800	5164	6013	4800
Nagaland	13037	15084	12177	13037	9007	9480
Odisha	303287	292296	248448	299674	282962	244343
Puducherry*	3315	3840	800	3269	3828	660
Punjab*	66444	74334	0	64783	62296	0
Rajasthan	385354	371400	259968	374739	355770	110452
Sikkim	4445	4296	3456	4445	4299	3450
Tamil Nadu	265933	307560	204528	265932	307572	204915
Telangana	135782	155436	103368	132345	133932	100793
Tripura	29883	34560	29376	29883	34522	29392
Uttar Pradesh	1212140	1168212	911208	1211419	1167555	901307
Uttarakhand	27390	31692	25344	27252	31156	13286
West Bengal	734111	788868	704016	733172	788263	653631
Total	**6759054**	**6933030**	**5021828**	**6643391**	**6678431**	**4669164**

Note: P: Provisional

* 3 States/ 5 UTs have become PDS kerosene free.

1. PDS SKO allocation for Lakshadweep is made on yearly basis in the 1st Quarter of the year.

Source: Distribution Section, MoPNG

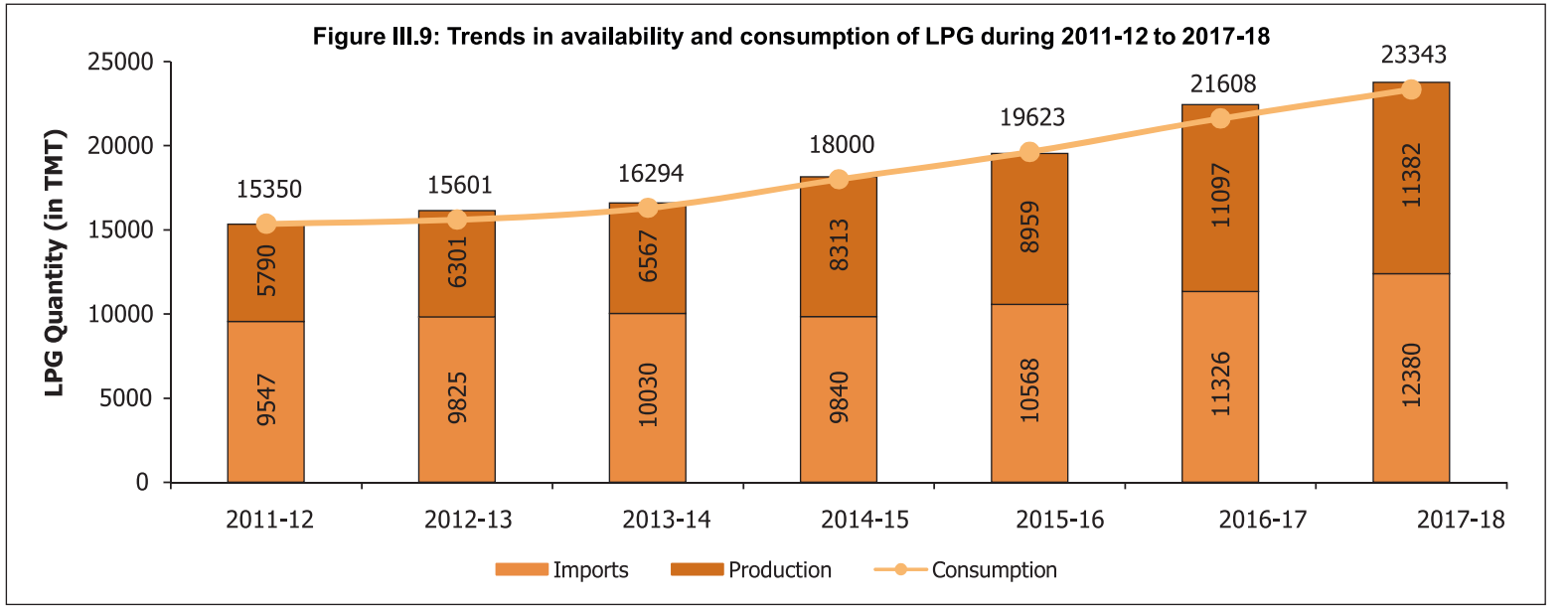
III.24 LPG Marketing in India

Item	Unit	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18(P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Consumption	TMT	15350	15601	16294	18000	19623	21608	23343
LPG Domestic Active Customers (CPSE OMCs)	Lac	NA	NA	NA	1486	1663	1988	2243
LPG Distributors (CPSE OMCs)	No.	11489	12610	13896	15930	17916	18786	20146
LPG Markets (CPSE OMCs)	No.	4990	5105	5245	5485	5805	6015	6830
New Enrolment in LPG domestic category (CPSE OMCs)	Lac	123	132	159	163	205	332	285
Indigenous Production (CPSE/Pvt) of which	TMT	9547	9825	10030	9840	10568	11326	12380
(a) Refineries	TMT	7333	7694	7890	7662	8562	9238	10170
(b) Fractionators	TMT	2214	2130	2140	2178	2006	2088	2210
Imports (CPSE/Pvt)	TMT	5790	6301	6567	8313	8959	11097	11382
Rated Bottling Capacity (CPSEs)	TMTPA	12723	13458	13515	14044	15172	16264	17395

Source: Oil Companies and Petroleum Planning & Analysis Cell.

NA: Not Available

P: Provisional



III.25 CNG activities in India as on 31.03.2018

State	Company	No. of Companies[1]	No. of CNG Stations	No. of CNG Vehicles[2]	CNG Sales (TMT)					
		As on 31.03.2018			2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Andhra Pradesh / Telangana	Bhagyanagar Gas Ltd.(BGL), Hyderabad. Godavari Gas Pvt. Ltd., Megha Engineering & Infrastructures Ltd.	3	55	42519	25	25	26	27	29	32
Chandigarh	Indian Oil-Adani Gas Pvt. Ltd.	1	4	4500	-	-	-	-	0	5
Dadra & Nagar Haveli	Gujarat Gas Ltd.	1	3	0	-	-	-	-	-	0
Daman & Diu	Indian Oil-Adani Gas Pvt. Ltd.	1	4	20	-	-	-	-	-	1
Delhi	Indraprastha Gas Ltd. (IGL), New Delhi	1	444	1027307	695	698	717	738	804	1016
Gujarat	Adani Gas Ltd., Gujarat Gas Ltd., (An amalgamated entity of Gujarat State Petroleum Corporation Gas Company Ltd. and Gujarat Gas Ltd.), Sabarmati Gas Ltd. (SGL), Hindustan Petroleum Corporation Ltd.(HPCL), Vadodara Gas Limited (JV of GAIL Gas Ltd. and Vadodara Mahanagar Seva Sadan), Charotar Gas Sahkari Mandali Ltd. , IRM Energy Ltd.**	7	457	906133	442	464	476	503	546	612
Haryana	Haryana City Gas Distribution Ltd, Adani Gas Limited, GAIL Gas Ltd., Indraprastha Gas Ltd.	4	47	125227	73	78	72	75	109	144
Karnataka	GAIL Gas Ltd.	1	5	362	-	-	-	-	0	0
Kerala	Indian Oil-Adani Gas Pvt. Ltd.	1	2	500						0
Madhya Pradesh	Aavantika Gas Ltd.,(Indore) and GAIL Gas Ltd.	2	31	30595	15	16	17	19	22	25
Maharashtra	Mahanagar Gas Ltd(MGL),Mumbai, Maharashtra Natural Gas Ltd.(MNGL), Pune, Gujarat Gas Limited	3	275	794264	425	476	531	565	593	630
Odisha	GAIL (India) Ltd.	1	2	591						0
Rajasthan	Rajasthan State Gas Limited	1	3	6927	1	2	3	4	4	5
Tripura	Tripura Natural Gas Co. Ltd.(TNGCL), Agartala.	1	6	10620	4	7	10	11	12	13
Uttar Pradesh	Green Gas Ltd. (Lucknow), Central UP Gas Ltd., Kanpur, Siti Energy Ltd., GAIL Gas Ltd., Sanwaria Gas Ltd., Indraprastha Gas Ltd., Indian Oil-Adani Gas Pvt. Ltd., Adani Gas Ltd.	8	79	137079	138	163	185	212	245	153
West Bengal	Greater Eastern Energy Corporation Ltd.	1	7	3495	1	1	1	1	2	2
	Total	**25**	**1424**	**3090139**	**1818**	**1928**	**2037**	**2155**	**2365**	**2638**

Note:
1. Some entities are operating in more than one State. Hence , their number is taken once only.
2. The No. of CNG vehicles for GGL and VGL are based on average no. of vehicles filled at company's CNG stations per day.
3. Total may not tally due to rounding off.
Source: Petroleum Planning & Analysis Cell.

III.26 PNG Status as on 31.03.2018

State	City/Cities Covered	CGD Company/Companies	Domestic connections	Commercial connections	Industrial connections
(1)	(2)	(3)	(4)	(5)	(6)
Andhra Pradesh	Kakinada, Vijayawada, Kovvur & Nidadavole (West Godavari), Rajahmundry & Ravulapalem (East Godavari District)	Bhagyanagar Gas Ltd., Godavari Gas Pvt. Ltd.	13935	53	1
Assam	Tinsukia, Dibrugarh, Sivasagar, Jorhat, Golaghat	Assam Gas Co. Ltd.	31628	1061	405
Chandigarh	Chandigarh	Indian Oil-Adani Gas Pvt. Ltd.	11792	0	0
Dadra & Nagar Haveli	Dadra & Nagar Haveli	Gujarat Gas Ltd.	463	9	8
Daman and Diu	Daman and Diu	Indian Oil-Adani Gas Pvt. Ltd.	2140	13	3
Delhi / NCR	National Capital Territory of Delhi (Including Noida and Ghaziabad)	Indraprastha Gas Ltd.	891106	2173	1216
Gujarat	Gandhinagar, Mehsana, Sabarkantha, Patan, Nadiad, Halol, Hazira, Rajkot, Khambhat, Palej, Valsad, Navsari, Surendernagar, Surat, Ankleshwar, Bhavnagar, Vadodara, Ahmedabad, Ahmedabad Urban, Anand, Palanpur.	Sabarmati Gas Ltd., Gujarat Gas Ltd., Hindustan Petroleum Corporation Ltd., Vadodara Gas Ltd, Adani Gas Ltd., Charotar Gas Sahkari Mandal Ltd., IRM Energy	1837701	17835	4551
Haryana	Sonepat, Gurgaon, Faridabad, Panipat, Rewari	GAIL Gas Ltd, Adani Gas Ltd., Haryana City Gas Distribution Ltd., Indraprastha Gas Limited, Indian Oil-Adani Gas Pvt. Ltd.	71991	236	345
Karnataka	Bengaluru	GAIL Gas Ltd.	5355	52	22
Kerala	Ernakulam	Indian Oil-Adani Gas Pvt. Ltd.	3126	3	0
Madhya Pradesh	Dewas, Vijaipur, Gwalior, Indore including Ujjain, Pithampur	GAIL Gas Ltd., Aavantika Gas Ltd.	39539	94	126
Maharashtra	Mumbai, Greater Mumbai including Thane City, Mira Bhayender, Navi Mumbai, Ambernath, Bhiwandi, Kalyan, Dombivli, Badlapur, Ulhasnagar, Panvel, Kharghar & Taloja, Raigarh. Pune City including Pimpri Chinchwad along with adjoining contiguous areas of Hinjewadi, Chakan & Talegaon GA	Mahanagar Gas Ltd., Maharashtra Natural Gas Ltd., Gujarat Gas Ltd.	1211826	3802	225
Odisha	Bhubaneshwar	GAIL (India) Ltd.	87		
Punjab	Fatehgarh Sahib	IRM Energy Pvt. Ltd.	0	0	1
Rajasthan	Kota	Rajasthan State Gas Limited	307	4	15
Telangana	Hyderabad	Bhagyanagar Gas Limited	7743	9	5
Tripura	Agartala	Tripura Natural Gas Company Ltd.	34741	415	49
Uttar Pradesh	Meerut, Mathura, Agra, Kanpur, Bareilly, Lucknow, Moradabad, Firozabad (TTZ), Khurja, Dibiyapur, Allahabad	Green Gas Ltd. (Lucknow), Central UP Gas Limited (Kanpur), GAIL Gas Ltd., Sanwariya Gas Ltd., Siti Energy Ltd.,Adani Gas Ltd., Indian Oil- Adani Gas Pvt. Ltd.	101804	372	629
Total			**4265284**	**26131**	**7601**

Source: Petroleum Planning & Analysis Cell.

III.27 Introduction to Green Fuels in India

Product	Effective Date	Areas Covered
(1)	(2)	(3)
Bio Diesel	01.01.2006	Bio Diesel purchase policy announced: 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
	16.01.2015	Direct sale of bio-diesel by private manufacturers/authorised dealers and JVs of OMCs to all consumers
	10.08.2015	Direct sale of Bio-Diesel (B100) by private manufactures to bulk consumers
	16.05.2018	National policy on Biofuels -2018 approved by the Cabinet.
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.
	10.12.2014	Delivered price of Ethanol increased from ₹ 48.50 to ₹ 49.50 per litre
	13.10.2016	For EBP Programme Ethanol price fixed at ₹ 39 per litre.
	01.12.2018**	The ex-mill price of ethanol derived out of B heavy molasses / partial sugarcane juice raised to ₹ 52.43 from ₹ 47.13 per litre. The ex-mill price of ethanol derived from 100% sugarcane juice fixed at ₹ 59.13 per litre as against of prevailing price of ₹ 47.13 per litre, for those mills who will divert 100% sugarcane juice for production of ethanol, thereby not producing any sugar. The ex-mill price of ethanol derived out of C heavy molasses raised to ₹ 43.70 per litre from ₹ 40.85 per litre.
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.
	1.4.2017	Entire country is covered with BS-IV auto fuels
MS (BS-VI) & HSD BS-VI)	1.4.2018	Delhi

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.

**: CCEA approved on 12.10.2018 for B heavy molasses & 100% sugarcane juice and 27.06.2018 for C heavy molasses for the period 01.12.2018 to 30.11.2019.

Source: Petroleum Planning & Analysis Cell.

III.28 LNG Terminals Operational as on 31.03.2018

Terminal	Promoters	Capacity (MMTPA)	Capacity Utilization (%)	
(1)	(2)	(3)	2016-17	2017-18 (P)
Operational				
Dahej (Gujarat)	Petronet LNG Ltd. (PLL)	15	105.3	105.3
Hazira (Gujarat)	Hazira LNG Pvt. Ltd. (HLPL)	5	69.6	58.9
Dabhol (Maharashtra)	Ratnagiri Gas and Power Pvt. Ltd. (RGPPL- JV of GAIL & NTPC)	1.69*	57.1	64.9
Kochi (Kerala)	Petronet LNG Ltd. (PLL)	5	5.5	12.2

Note:
*To increase to 5 MMTPA with breakwater
Source: Petroleum Planning & Analysis Cell.

Chapter IV



Prices

Chapter Highlights

- Wholesale Price Index (WPI) inflation for all commodities increased by around 3% in 2017-18 as compared to 2016-17. Increase in crude oil and petroleum products WPI stood at 1.9% & 12.6% respectively whereas the same registered a negative growth of 5.3% for natural gas.
- Inflation was observed in LPG (10.2%), Petrol (7.9%), Naphtha (8%), Kerosene (23.5%), Aviation Turbine Fuel (9.4%), High Speed Diesel Oil (10%), Furnace Oil (10.7%), Bitumen (3.3%) and Petroleum Coke (24.2%) whereas deflation was observed in Lube Oil (2.8%) in 2017-18 vis-a-vis 2016-17.
- During 2017-18, the international crude oil price (Indian basket) dipped to US$50.57/bbl in May, 2017 and started increasing thereafter and reached at US$67.06/bbl in January, 2018. However, the average price was US $56.43/bbl during 2017-18.
- Share of petroleum sector in total subsidies has declined from 11.73% [₹ 27539 crore (actual)] in 2016-17 to 9.26% [₹ 24460 crore (RE)] in 2017-18 and is budgeted at 8.51% [₹ 24933 crore (B.E)] in 2018-19.
- Total under recovery on sensitive petroleum products during 2017-18 was ₹ 28249 crore, which is 20.16% higher than the under recovery in 2016-17 (₹ 23510 crore).
- Under recovery of CPSEs on PDS SKO reduced by 37.09% from ₹ 7606 crore in 2016-17 to ₹ 4785 crore in 2017-18 whereas that on Domestic LPG increased by 47.54% from ₹15904 crore in 2016-17 to ₹23464 crore in 2017-18.

IV.1 Wholesale Price Indices of Selected Petroleum Products

Base Year 2011-12=100

Items	Weight(%)	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crude Petroleum & Natural Gas	**2.4096**	**109.4**	**119.0**	**103.5**	**76.6**	**73.1**	**73.0**
LPG	0.64481	107.8	118.6	103.5	76.7	72.0	82.2
Petrol	1.60470	114.9	124.6	108.6	75.7	72.4	80.3
Naphtha	0.86678	109.8	119.4	103.0	66.9	66.5	74.5
Kerosene	0.18685	107.1	109.3	103.5	88.4	94.3	117.8
Aviation Turbine Fuel	0.31991	112.6	119.7	105.1	69.5	69.3	78.7
High Speed Diesel Oil	3.09548	111.6	126.3	114.8	73.4	74.4	84.4
Furnace Oil	0.66576	107.7	111.5	93.6	54.3	58.1	68.8
Lube Oil	0.29199	109.6	114.2	118.8	120.8	116.8	114.0
Bitumen	0.22677	101.3	112.1	106.1	77.1	68.0	71.3
Petroleum Coke	0.04663	99.4	92.8	94.3	78.3	93.0	117.2
Total Petroleum Products (Mineral Oils)	**7.94968**	**110.9**	**121.6**	**108.7**	**73.9**	**73.3**	**82.5**
Crude Petroleum	**1.94537**	**108.4**	**117.1**	**95.2**	**60.9**	**63.8**	**65.0**
Natural Gas	**0.46423**	**113.8**	**126.8**	**138.5**	**142.6**	**112.3**	**106.4**
All commodities	**100**	**106.9**	**112.5**	**113.9**	**109.7**	**111.6**	**114.9**

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

IV.2 Consumer and Producer Prices of Natural Gas

(in ₹/'000' 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)
01.04.2012	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
01.10.2015	10038	6023	10038	10038	10038	10000
01.04.2016	8138	4883	8138	8138	8138	10000
01.10.2016	6621	3973	6621	6621	6621	10000
01.04.2017	6483	3890	6483	6483	6483	10000
01.10.2017	7390	4434	7390	7390	7390	10000
01.04.2018	7895	4737	7895	7895	7895	10000

Notes:

1. 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 at USD 3.06/mmbtu during 01.04.2016 to 30.09.2016, USD 2.50/mmbtu during 01.10.2016 to 31.03.2017, USD 2.48/mmbtu during 01.04.2017 to 30.09.2017, USD 2.89/mmbtu during 01.10.2017 to 31.03.2018 and USD 3.06/mmbtu during 01.04.2018 to 30.09.2018 on gross calorific value.
2. Producer Price as well as Consumer price of natural gas produced by the NOCs including ONGC is fixed by the MoP&NG, Government of India from time to time. Till 31.10.2014, different gas prices were applicable for APM and non-APM customers. MoP&NG has notified "New Domestic Natural Gas Pricing Guidelines, 2014" on 25 Oct'14. These guidelines are effective from 01 Nov'14.
3. The above guidelines shall not be applicable to:
   i) The Gas to be produced from Discoveries in Deepwater, Ultra Deepwater, and High Pressure-High Temperature areas, in terms of MoP&NG letter dated 21.03.16 (Marketing including pricing freedom).
   ii) CBM gas, in terms of Government Notification dt. 11.04.17.

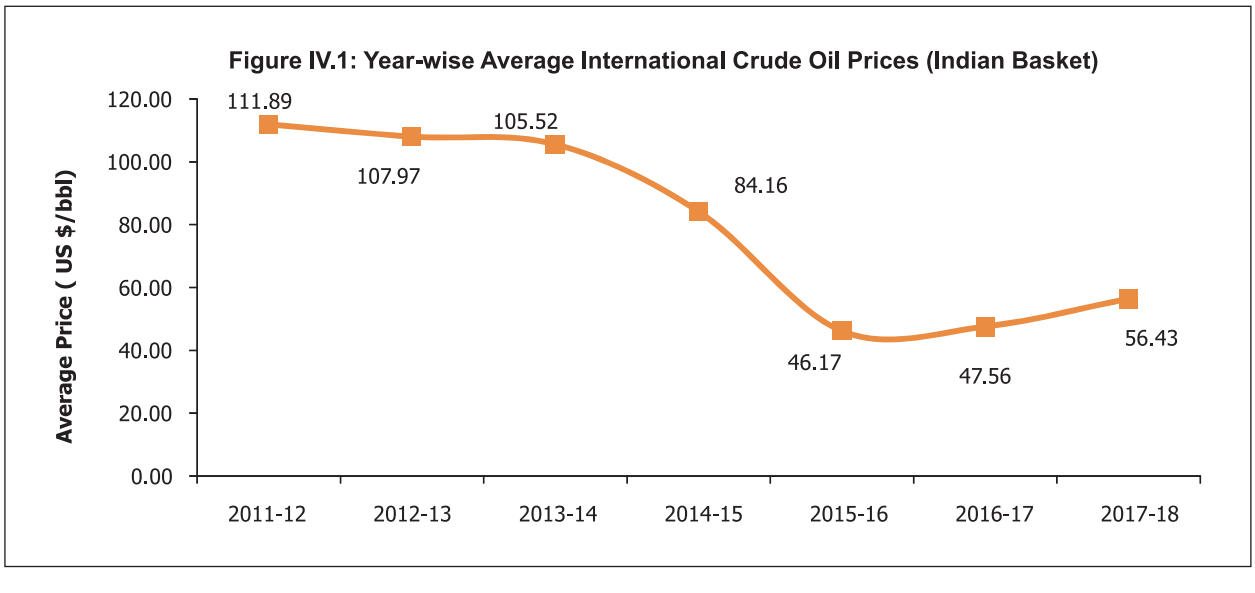
Source: ONGC, OIL

IV.3 Month-wise & Year-wise average International Crude Oil Prices (Indian Basket)

(in US$/bbl.)

Year/Month	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	% Growth in 2017-18 over 2016-17
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
April	118.64	117.97	101.57	105.56	59.07	39.88	52.49	31.62
May	110.80	108.05	101.10	106.85	63.82	45.01	50.57	12.36
June	109.99	94.51	101.11	109.05	61.75	46.96	46.56	-0.87
July	112.53	100.34	104.86	106.30	56.30	43.52	47.86	9.97
August	106.94	110.07	108.45	101.89	47.33	44.38	50.63	14.08
September	108.79	111.77	109.47	96.96	46.10	44.48	54.52	22.58
October	106.11	109.79	107.37	86.83	46.68	49.25	56.06	13.82
November	109.62	107.87	106.55	77.58	42.50	44.46	61.32	37.92
December	107.19	107.28	108.72	61.21	35.68	52.74	62.29	18.12
January	110.47	109.55	105.29	46.59	28.08	54.08	67.06	24.01
February	117.67	112.68	106.19	56.43	30.53	54.86	63.54	15.81
March	123.61	106.45	105.30	55.18	36.42	51.47	63.80	23.95
Year Average	**111.89**	**107.97**	**105.52**	**84.16**	**46.17**	**47.56**	**56.43**	**18.65**

Source: IOCL & PPAC



IV.4 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)
2011-12	111.89	121.60	125.38	125.99	898.17
2012-13	107.97	118.98	121.97	123.11	887.08
2013-14	105.52	114.31	119.41	118.80	881.25
2014-15	84.16	95.45	96.64	96.98	681.42
2015-16	46.17	61.72	55.02	55.71	394.08
2016-17	47.56	58.10	56.59	56.81	393.17
2017-18	56.43	67.83	68.19	67.65	485.92

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 72.38:28.97 for 2017-18; 71.03:28.97 for 2016-17; 72.28 : 27.72 for 2015-16; 72.04:27.96 for 2014-15; 69.9:30.1 for 2013-14; 68.2:31.8 for 2012-13 and 65.2:34.8 for 2011-12.
2. FOB price of kerosene (0.5% sulphur) and Diesel 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 01.04.2017 the Diesel price is for 0.005% Sulphur, from 02.01.2013 the Diesel price in Arab Gulf Market is for 0.05% Sulphur and for earlier years the price is for 0.5% Sulphur.

Source: IOCL & PPAC

IV. 5 Weighted Average Crude Oil Prices

(in ₹/MT)

Year		Basic Price	Royalty	OID Cess	Sales Tax/VAT/CST
(1)	(2)	(3)	(4)	(5)	(6)
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
2016-17	Offshore crude	26078	2157	4105	820
	Onshore crude	23831	3578	3778	1113
	Offshore and Onshore crude	25433	2565	4011	904
2017-18	Offshore crude	28378	2395	4541	931
	Onshore crude	26648	4027	4227	1237
	Offshore and Onshore crude	27866	2878	4448	1022

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. During 2016-17, no subsidy discount was extended by ONGC to refineries /OMCs.
4. Royalty and OID Cess are production levies and are part of cost.
5. NCCD @ ₹ 50/MT is also paid on crude oil & Education Cess @ 3% on OID Cess and NCCD were paid till 2014-15.
6. OID Cess in ₹/MT is worked out considering specific rate of ₹ 4,500/MT from 17.03.12 till Feb'16 and "20% ad-valorem" w.e.f. 01.03.2016.

Source: ONGC

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)
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	-
1.4.2014	₹ 1390.15/KL+ 0.883% of Product Billable Price	1186	01.04.2014	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 01.02.2016 01.03.2016 01.05.2016	45.83 45.83 45.83 45.83	22.67 22.67 22.67 22.67	0.33 0.22 0.13 0.15
01.06.2016	₹ 1750.29/KL + 0.883% of Product Billable Price	₹ 1302.06/KL + 0.286% of Product Billable Price	01.06.2016 01.07.2016 01.08.2016 01.09.2016 01.10.2016	45.83 45.83 45.83 45.83 45.83	22.67 22.67 22.67 22.67 22.67	0.18 0.16 0.09 0.06 0.09
05.10.2016	₹ 1868.14/KL + 0.875% of Product Billable Price	₹ 1389.35/KL + 0.28% of Product Billable Price	28.10.2016 01.11.2016	47.48 47.48	23.74 23.74	0.09 0.14
16.11.2016	₹ 2006.33/KL + 0.875% of Product Billable Price	₹ 1491.72/KL + 0.28% of Product Billable Price	01.12.2016 01.02.2017 01.03.2017	47.48 47.48 47.48	23.74 23.74 23.74	0.21 0.30 0.43
01.04.2017	₹ 2020.38/KL + 0.859% of Product Billable Price	₹ 1502.13/KL + 0.267% of Product Billable Price	01.04.2017 01.05.2017 01.06.2017	47.48 47.48 47.48	23.74 23.74 23.74	0.40 0.27 0.15
01.07.2018	₹ 2025.97/KL + 0.859% of Product Billable Price	₹ 1506.81/KL + 0.267% of Product Billable Price	01.07.2017	47.48	23.74	0.13
01.08.2018*	₹ 2674.74/KL + 0.859% of Product Billable Price	₹ 2031.38/KL + 0.257% of Product Billable Price	01.08.2017 01.09.2017 30.09.2017 01.10.2017 01.11.2017 01.01.2018 01.02.2018 01.03.2018 01.04.2018	47.48 47.48 48.89 48.89 48.89 48.89 48.89 48.89 48.89	23.74 23.74 24.20 24.20 24.20 24.20 24.20 24.20 24.20	0.06 0.16 0.16 0.23 0.36 0.35 0.34 0.28 0.23

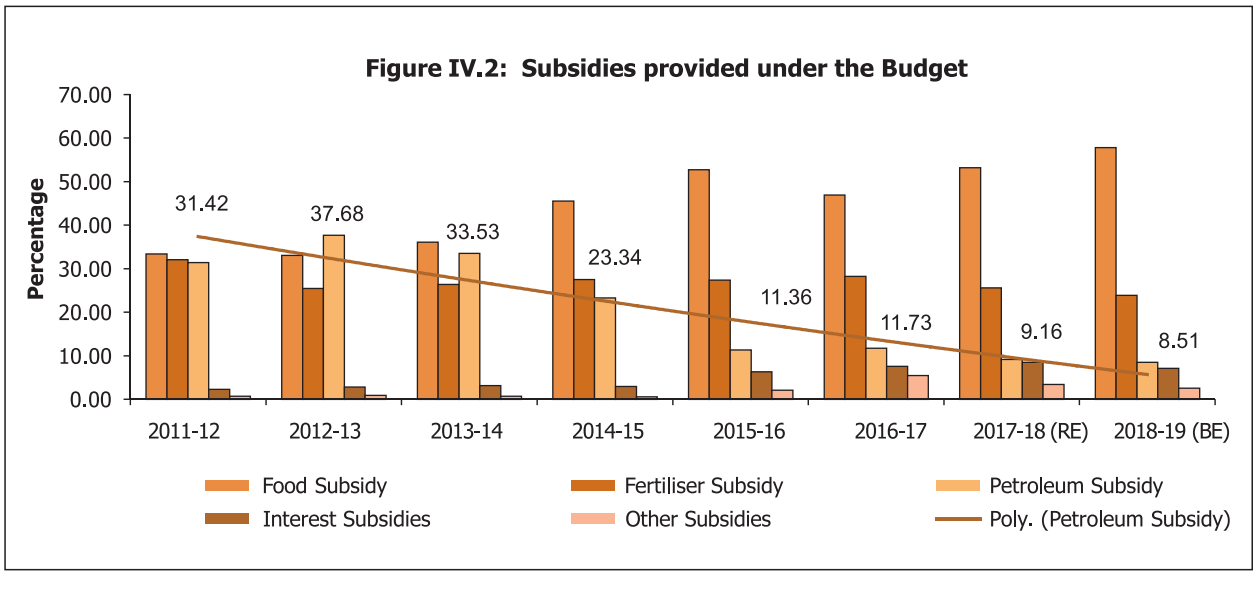
Note: *: In addition to above, effective 01.08.2017, slab based incentive is also given to eligible dealers through credit notes, Average slab based incentive for the month of May 2018 is ₹ 324.46/KL for both petrol and diesel.

Source: PPAC

IV.7 Subsidies provided under Budget of Government of India

Sector	Actual 2011-12	Actual 2012-13	Actual 2013-14	Actual 2014-15	Actual 2015-16	Actual 2016-17	Budget 2017-18	Revised 2017-18	Budget 2018-19
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(in ₹ crore)									
1. Food Subsidy	**72822**	**85000**	**92000**	**117671**	**139419**	**110173**	**145339**	**140282**	**169323**
2. Fertilisers	**70013**	**65613**	**67339**	**71076**	**72415**	**66313**	**70000**	**64974**	**70080**
(i) Indigenous (Urea) Fertilisers	20208	20000	26500	38200	-	-	-	-	-
(ii) Imported (Urea) Fertilisers	13716	15132	11538	12223	-	-	-	-	-
(iii) Nutrient Based Subsidy	-	-	-	-	21938	18843	20232	22252	25090
(iv) Sale of decontrolled fertiliser with concession to Farmers	36089	30480	29301	20653	-	-	-	-	-
(v) Urea Subsidy	-	-	-	-	50478	47470	49768	42722	44990
3. Petroleum Subsidy	**68484**	**96880**	**85378**	**60269**	**29999**	**27539**	**25000**	**24460**	**24933**
4. Interest Subsidies	**5049**	**7270**	**8137**	**7632**	**16730**	**17888**	**23204**	**23635**	**20917**
5. Other Subsidies	**1573**	**2316**	**1778**	**1610**	**5542**	**12896**	**9364**	**10774**	**7572**
Total Subsidies	**217941**	**257079**	**254632**	**258258**	**264106**	**234809**	**272907**	**264125**	**292825**
(as Percentage of Total Subsidy)									
1. Food Subsidy	33.41	33.06	36.13	45.56	52.79	46.92	53.26	53.11	57.82
2. Fertiliser Subsidy	32.12	25.52	26.45	27.52	27.42	28.24	25.65	24.60	23.93
3. Petroleum Subsidy	31.42	37.68	33.53	23.34	11.36	11.73	9.16	9.26	8.51
4. Interest Subsidies	2.32	2.83	3.20	2.96	6.33	7.62	8.50	8.95	7.14
5. Other Subsidies	0.72	0.90	0.70	0.62	2.10	5.49	3.43	4.08	2.59

Sources: Expenditure Budget 2018-19



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

(in ₹ crore)

Years	PDS SKO				Domestic LPG					Total
	Fiscal Subsidy[1]	DBTK Subsidy[2]	Under Recoveries to Oil Company	Total	Fiscal Subsidy	DBTL Subsidy[3]	PMUY Subsidy[4]	Under Recoveries to Oil Company	Total	(Subsidy and Under Recoveries)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2011-12	868	-	27352	28220	2155	-	-	29997	32152	60372
2012-13	746	-	29410	30156	2007	-	-	39558	41565	71721
2013-14	681	-	30574	31255	1920	3912	-	46458	52290	83545
2014-15	5	-	24799	24804	18	3971	-	36580	40569	65373
2015-16	-	-	11496	11496	0	22011	-	18	22029	33525
2016-17	860	11	7595	8466	2433	12905	2999	0	18337	26803
2017-18 (P)	-	113	4672	4785	-	20905	2559	-	23464	28249

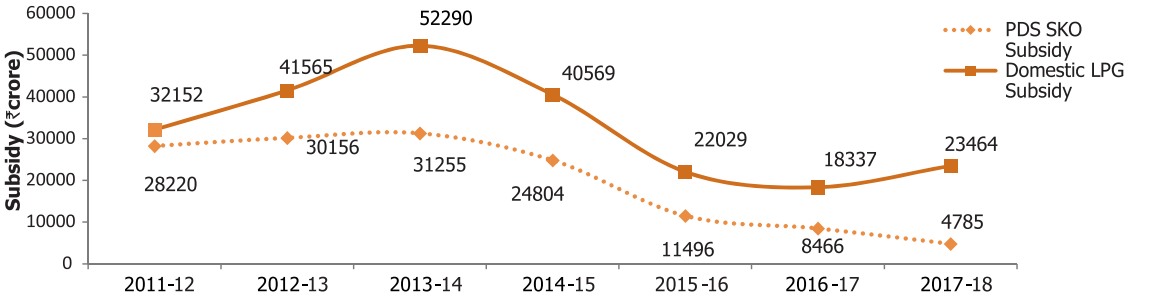
P: Provisional

Note:

1. Fiscal Subsidy includes subsidy under 'PDS Kerosene and Domestic LPG Subsidy Scheme, 2002', 'Freight Subsidy (For Far-Flung Areas) Scheme, 2002' on payment basis.
2. DBTK subsidy excludes cash incentive/assistance for establishment of institutional mechanism for direct transfer of subsidy paid to States/UTs.
3. DBTL subsidy includes one time incentive/project management expenditure.
4: PMUY subsidy includes project management expenditure & information, education and communication expenditure.

Source: Budget Documents and Petroleum Planning & Analysis Cell

Figure IV.3: 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						
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18(P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
PDS Kerosene[1]	27352	29410	30574	24799	11496	7606	4785
Domestic LPG[2]	29997	39558	50370	40551	22029	15904	23464
Diesel[3]	81192	92061	62837	10935	-	-	-
Total	**138541**	**161029**	**143781**	**76285**	**33525**	**23510**	**28249**

Note: The above does not include subsidy under Natural Gas subsidy scheme
P: Provisional
1. Including DBTK subsidy claims.
2. Including DBTL & PMUY subsidy claims.
3. Under recovery on Diesel is only upto 18th October, 2014.
Source: PPAC

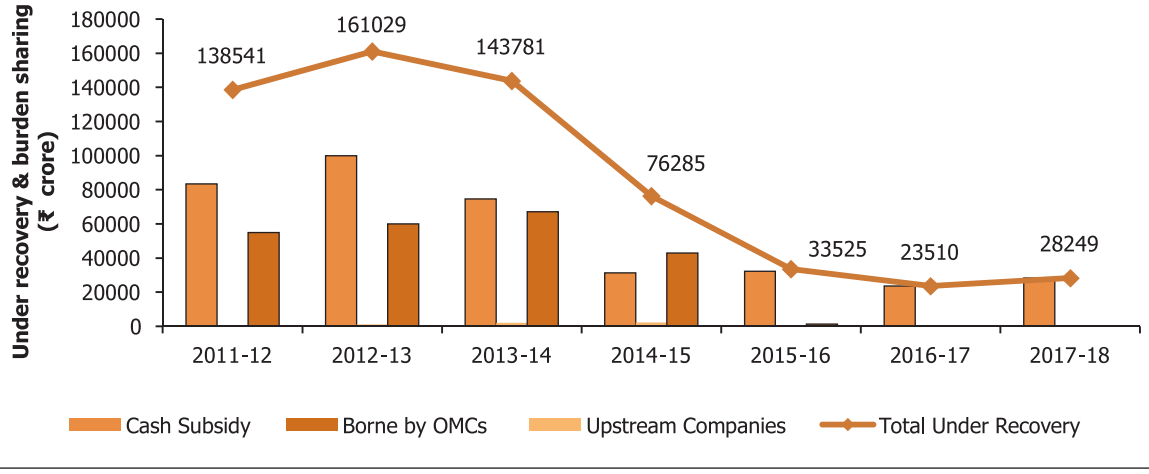
IV.10 Under Recovery and its Burden Sharing

(in ₹ crore)

Items	Under-Recovery & Burden Sharing						
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18(P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total Under Recovery	138541	161029	143781	76285	33525	23510	28249
Cash Subsidy[1]	83500	100000	74684	31279	32256	23510	28249
Borne by OMCs	41	1029	2076	2184	18	-	-
Upstream Companies[2]	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.4: Under recovery & its burden sharing



IV.11 Price Build-up of Selected Petroleum Products in Major Cities (As on 01.04.2018)

Elements/State	Delhi	Mumbai	Kolkata	Chennai
(1)	(2)	(3)	(4)	(5)
Liquefied Petroleum Gas (Domestic) (₹/14.2 Kg Cyl)				
Cost Price at LPG Bottling Plant	535.20	508.51	553.28	545.07
Add: Delivery Charges	10.00	10.00	10.00	10.00
Add: Octroi/Toll Tax	0.00	0.00	0.22	0.00
Add : Uncompensated Costs (Import Costs, Recovery for Non-revision, Rounding-off, Diff in SSC, Diff in TC, Diff in WC & Delivery Charges)	28.06	28.06	31.19	28.06
Market Determined Price	573.26	546.57	594.69	583.13
Add : GST (including GST on Distributor Commission)	31.12	29.78	32.18	31.61
Add : Distributor Commission	49.12	49.12	49.12	49.12
Retail Selling Price	**653.50**	**625.47**	**675.99**	**663.86**
Retail Selling Price (Rounded)	653.50	625.00	676.00	663.50
Less: Cash Compensation to Consumer under DBTL (including impact of uncompensated cost to OMCs)	162.15	135.96	181.67	184.06
Effective Cost to Consumer after Subsidy	**491.35**	**489.04**	**494.33**	**479.44**
Superior Kerosene Oil (₹/KL)				
Ex-Storage Price	Kerosene free state	20802.00	20802.00	20802.00
State Specific Cost		0.00	0.00	(1,668.00)
Siding Charge		0.00	19.37	0.00
Ass. Value		20802.00	20821.37	19134.00
Other State Levies		0.05	0.05	-6888.00
Sub Total		20802.05	20821.42	12246.00
GST %		5.00	5.00	5.00
Sales/GST Tax Amount		1040.10	1041.07	612.30
Sub Total		**21842.15**	**21862.49**	**12858.30**
Ex-Mi/ Depot Price/KL-Oil Co.		21842.15	21862.49	12858.30
Ex-Mi/ Depot Price/KL-St. Govt.		21842.15	21862.49	12858.30
Wholesales Margin		1,008.83	1,008.83	170.00
Transport Charges		456.80	816.60	119.17
Vat On Wholesale Margin		78.23	104.18	8.50
Handling Charges		99.00	258.21	0.00
Wholesales Price/KL		23485.01	24050.31	13155.97
Retailer Margin		450.00	1048.30	360.00
Handling Charges		0.00	708.10	0.00
Retailer Transportation		0.00	386.60	38.10
VAT On Retailer Margin		22.50	107.15	19.90
Retail Selling Price/KL		23957.51	26300.46	13573.97
RSP/Ltr		**23.96**	**26.30**	**13.60**

Contd...

IV.11 Price Build-up of Selected Petroleum Products in Major Cities (As on 01.04.2018) (Contd...)

Elements/State	Unit	Delhi	Mumbai	Kolkata	Chennai
(1)	(2)	(3)	(4)	(5)	(6)
Motor Spirit (₹/Litre)					
C&F (Cost & Freight) Price (Moving average basis)	$/bbl	76.53	76.53	76.53	76.53
Average Exchange rate	₹/$	65.02	65.02	65.02	65.02
Price Charged to Dealers (excluding Excise Duty and VAT)	₹/Ltr	34.98	35.15	37.9	34.8
Add : Excise Duty	₹/Ltr	19.48	19.48	19.48	19.48
Add : Dealer Commission (Average)	₹/Ltr	3.6	3.67	3.63	3.63
Add : VAT (including VAT on Dealer Commission)	₹/Ltr	15.67	23.29	15.43	18.57
Retail Selling Price - (Rounded)	**₹/Ltr**	**73.73**	**81.59**	**76.44**	**76.48**
High Speed Diesel Oil (₹/Litre)					
C&F (Cost & Freight) Price (Moving average basis)	$/bbl	80.8	80.8	80.8	80.8
Average Exchange rate	₹/$	65.02	65.02	65.02	65.02
Price Charged to Dealers (excluding Excise Duty and VAT)	₹/Ltr	37.21	37.22	39.36	37.08
Add : Excise Duty	₹/Ltr	15.33	15.33	15.33	15.33
Add : Dealer Commission (Average)	₹/Ltr	2.52	2.53	2.52	2.53
Add : VAT (including VAT on Dealer Commission)	₹/Ltr	9.52	13.69	10.06	13.18
Retail Selling Price - (Rounded)	**₹/Ltr**	**64.58**	**68.77**	**67.27**	**68.12**

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	Mumbai	Kolkata	Chennai
(1)	(2)	(3)	(4)	(5)
Motor Spirit (₹/Litre)				
01.04.2012	65.64	70.65	70.02	69.55
01.04.2013	68.30	75.20	75.78	71.42
01.04.2014	72.26	80.89	80.13	75.49
01.04.2015	60.49	68.04	67.67	63.26
01.04.2016	59.68	65.79	63.76	59.13
01.04.2017	66.29	72.66	68.97	69.28
01.04.2018	73.73	81.59	76.44	76.48
High Speed Diesel Oil (₹/Litre)				
01.04.2012	40.91	45.27	43.73	43.95
01.04.2013	48.63	54.87	52.85	51.77
01.04.2014	55.49	63.86	60.11	59.18
01.04.2015	49.71	57.02	54.28	52.91
01.04.2016	48.33	55.06	50.75	49.09
01.04.2017	55.61	61.27	57.86	58.82
01.04.2018	64.58	68.77	67.27	68.12
Superior Kerosene Oil (₹/Litre)				
01.04.2012	14.82	14.38	14.84	13.54
01.04.2013	14.96	14.71	14.84	13.69
01.04.2014	14.96	15.25	15.25	13.70
01.04.2015	14.96	15.24	16.08	13.69
01.04.2016	14.96	15.42	16.00	13.70
01.04.2017	-	19.03	20.19	13.60
01.04.2018	-	23.96	26.30	13.60
Liquefied Petroleum Gas (₹/14.2 Kg Cylinder)				
01.04.2012	399.00	414.00	405.00	393.50
01.04.2013	410.50	437.50	412.50	398.00
01.04.2014	414.00	451.50	416.00	401.00
01.04.2015	417.82	458.07	419.82	405.32
01.04.2016	419.13	455.99	421.13	406.63
01.04.2017	440.90	476.50	442.90	428.40
01.04.2018	491.35	489.04	494.33	479.44

Note :
(a) Selling price for Superior Kerosene Oil is for Public Distribution System (PDS)
(b) Delhi is declared as Kerosene free city, hence no PDS SKO rate declared.
Source: IOCL

Chapter V



Consumption

Chapter Highlights

- Total consumption of petroleum products in the country during 2017-18 was 204.92 million metric tonnes (MMT) which marked a growth of 5.3% over the consumption of 194.60 MMT during 2016-17.
- During 2017-18, Diesel (LDO+HSD) accounted for the highest consumption share (40%) followed by Petrol/Motor Spirit (13%), Petroleum Coke (13%), LPG (11%), Naphtha (6%) and Kerosene (4%).
- The share of public and private sector consumption in 2017-18 stood at 77% and 23% respectively as against 78% and 22% respectively in previous year.
- Highest consumption of LPG in 2017-18 was in domestic distribution sector (87%), naphtha in petrochemical sector (83%), kerosene mainly in domestic PDS (95%) and diesel in reseller/retail sector (86%).
- Highest market share in 2017-18 was captured by IOCL (39%) followed by BPCL (19%) and HPCL (17%). Market share of private companies stood at 23%.

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

(in '000' Tonnes)

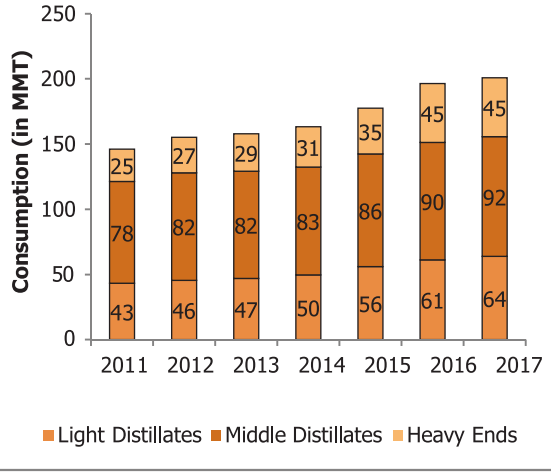
Products	2011	2012	2013	2014	2015	2016	2017 (P)	% to Total	% Growth
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Light Distillates	**43243**	**45581**	**47059**	**49735**	**55996**	**61182**	**63929**	**31.8**	**4.5**
LPG	15209	15645	15855	17671	19040	21231	22941	11.4	8.1
Motor Spirit	14736	15535	16891	18384	21089	23660	25393	12.6	7.3
Naphtha	11069	11898	11433	10965	12910	13493	12385	6.2	-8.2
Others	2229	2504	2879	2716	2958	2798	3209	1.6	14.7
Middle Distillates	**78062**	**82461**	**82125**	**82550**	**86399**	**90166**	**91681**	**45.6**	**1.7**
SKO	8434	7655	7249	7127	6887	5931	4086	2.0	-31.1
ATF	5465	5318	5449	5678	6095	6805	7432	3.7	9.2
HSDO	63231	68623	68641	69021	72665	76740	79303	39.5	3.3
LDO	442	392	384	354	403	458	476	0.2	4.1
Others	490	473	401	370	349	233	383	0.2	64.3
Heavy Ends	**24835**	**27187**	**28604**	**31025**	**35094**	**45050**	**45244**	**22.5**	**0.4**
Furnace Oil	7942	6548	5853	5464	6031	7382	6619	3.3	-10.3
LSHS	1849	1541	582	415	196	113	64	0.0	-43.0
Lubes/Greases	2579	3087	3180	3421	3366	3664	3639	1.8	-0.7
Bitumen/Asphalt	4657	4585	4986	5128	5570	6108	5839	2.9	-4.4
Petroleum Coke	5811	9127	11285	13842	17006	24414	25637	12.8	5.0
Wax	255	219	180	168	166	174	230	0.1	32.1
Others	1741	2080	2538	2587	2759	3195	3216	1.6	0.7
Total Consumption	**146139**	**155229**	**157788**	**163310**	**177489**	**196398**	**200853**	**100.0**	**2.3**
Refinery Boiler Fuel and Losses (RBF)	17072	18168	17557	17536	18349	20197	20910	-	3.53
Grand Total	**163211**	**173397**	**175345**	**180846**	**195838**	**216595**	**221764**	**-**	**2.39**

Note: P:Provisional

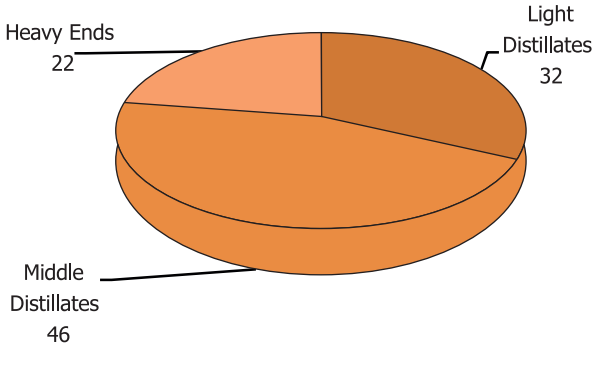
1. Consumption includes sales by oil companies, own consumption & direct private imports.
2. Growth rate in 2017 over 2016.
3. Total may not tally due to rounding off.

Source: Petroleum Planning & Analysis Cell.

Figure V.1(a): Consumption of Petroleum Products during 2011 to 2017



Figures V.1(b): Share of broad categories of Petroleum Products in total consumption during 2017 (%)



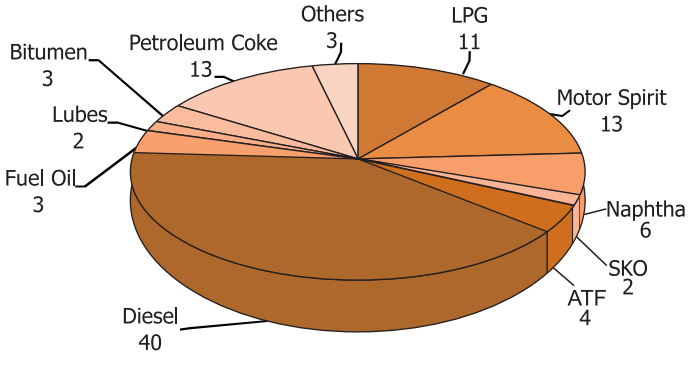
V.2 Product-wise Consumption of Petroleum Products (Financial Year-wise)

(in '000' Tonnes)

Products	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)	% to Total	% Growth
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Light Distillates	**43870**	**46273**	**47578**	**50944**	**57743**	**61441**	**65322**	**31.9**	**6.3**
LPG	15350	15601	16294	18000	19623	21608	23343	11.4	8.0
Motor Spirit	14992	15744	17128	19075	21847	23765	26175	12.8	10.1
Naphtha	11222	12289	11305	11082	13271	13241	12549	6.1	-5.2
Others	2306	2639	2851	2787	3002	2827	3254	1.6	15.1
Middle Distillates	**79415**	**82700**	**81830**	**82933**	**88517**	**89042**	**93526**	**45.6**	**5.0**
SKO	8229	7502	7165	7087	6826	5397	3845	1.9	-28.8
ATF	5536	5271	5505	5723	6262	6998	7623	3.7	8.9
HSDO	64750	69080	68364	69416	74647	76027	81073	39.6	6.6
LDO	415	399	386	365	407	449	524	0.3	16.6
Others	485	450	411	342	375	172	461	0.2	167.5
Heavy Ends	**24847**	**28084**	**28999**	**31643**	**38414**	**44114**	**46074**	**22.5**	**4.4**
Furnace Oil (FO)	7547	6290	5787	5584	6482	7046	6644	3.2	-5.7
LSHS	1759	1366	449	377	150	104	116	0.1	11.6
Fuel Oil (FO+LSHS)	9307	7656	6236	5961	6632	7150	6761	3.3	-5.5
Lubes/Greases	2633	3196	3305	3310	3571	3470	3779	1.8	8.9
Bitumen	4638	4676	5007	5073	5938	5936	6004	2.9	1.2
Petroleum Coke	6138	10135	11756	14557	19297	23964	26192	12.8	9.3
Waxes	269	194	177	156	173	182	254	0.1	39.0
Others	1863	2226	2519	2586	2802	3411	3084	1.5	-9.6
Total Consumption	**148132**	**157057**	**158407**	**165520**	**184674**	**194597**	**204922**	**100.0**	**5.3**
Refinery fuel and losses (RBF)	17295	18347	17868	17669	18773	20070	21163	-	5.45
Grand Total	**165427**	**175404**	**176274**	**183189**	**203447**	**214667**	**226085**	**-**	**5.32**

Note: P: Provisional
1. Consumption includes sales by oil companies, own consumption & direct private imports.
2. Growth rate in 2017-18 over 2016-17.
3. Total may not tally due to rounding off.
Source: Petroleum Planning & Analysis Cell.

Figure V.2: Share of different Petroleum Products in total consumption during 2017-18 (%)



V.3 Product-wise Consumption of Petroleum Products by Public & Private Sector

(in '000' Tonnes)

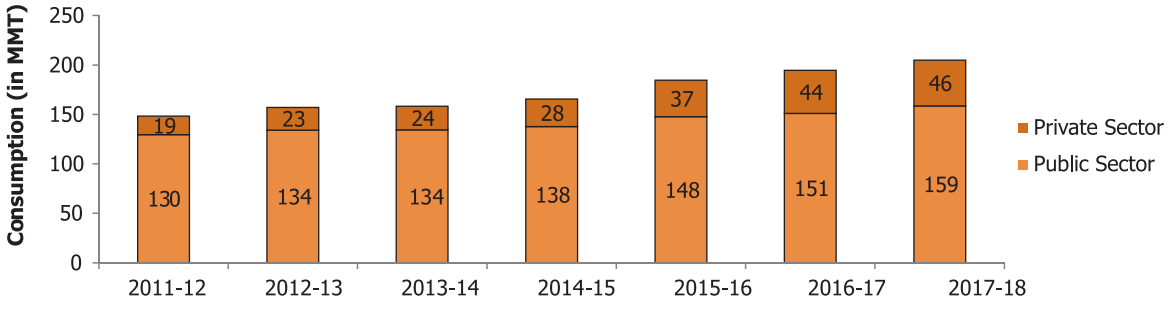
Products	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)	% to Total	% Growth
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
A. PUBLIC SECTOR									
LPG	14929	15202	15925	17571	19134	21179	22976	11.2	8.5
Motor Spirit	14724	15458	16727	18588	21079	22518	24330	11.9	8.0
Naphtha	4139	5197	5414	4814	4790	4905	5199	2.5	6.0
SKO	8229	7502	7165	7087	6826	5397	3845	1.9	-28.8
ATF	5369	5089	5304	5319	5629	6186	6988	3.4	13.0
HSDO	64662	69025	68200	68701	72092	71450	74380	36.3	4.1
LDO	415	399	386	365	407	449	519	0.3	15.6
Furnace Oil	6191	5250	4720	4790	5514	5905	5545	2.7	-6.1
LSHS	1759	1366	449	377	150	104	99	0.0	-5.2
Lubes/Greases	1206	1222	1218	1162	1312	1339	1345	0.7	0.4
Bitumen/Asphalt	4322	4372	4500	4366	4819	4721	4883	2.4	3.4
Petroleum Coke	1757	1807	2133	2391	3483	3952	5174	2.5	30.9
Paraffin Wax	61	54	53	56	58	90	95	0.0	5.4
Others	1770	2156	2083	2029	2241	2708	3293	1.6	21.6
Total (A)	**129532**	**134098**	**134277**	**137616**	**147535**	**150904**	**158671**	**77.4**	**5.1**
B. PRIVATE SECTOR									
LPG	421	398	369	429	489	429	367	0.2	-14.5
Motor Spirit	268	286	401	487	768	1247	1846	0.9	48.0
Naphtha	7083	7092	5891	6268	8481	8335	7350	3.6	-11.8
ATF	167	182	201	404	632	812	635	0.3	-21.7
HSDO	88	55	164	715	2555	4577	6693	3.3	46.2
Furnace Oil	1357	1041	1067	794	968	1142	1116	0.5	-2.2
Lubes/Greases	1427	1974	2087	2148	2259	2131	2434	1.2	14.2
Bitumen/Asphalt	316	304	506	707	1118	1214	1121	0.5	-7.7
Petroleum Coke	4381	8328	9622	12167	15815	20012	21019	10.3	5.0
Paraffin Wax	na	140	124	99	115	171	158	0.1	-7.5
Others	3093	3159	3697	3685	3938	3624	3511	1.7	-3.1
Total (B)	**18601**	**22959**	**24130**	**27904**	**37139**	**43693**	**46250**	**22.6**	**5.9**
TOTAL (A+B)	**148132**	**157057**	**158407**	**165520**	**184674**	**194597**	**204922**	**100.0**	**5.3**

Note: P: Provisional na: not available

1. Consumption includes sales by oil companies, own consumption & direct private imports.
2. Growth rate in 2017-18 over 2016-17.
3. Total may not tally due to rounding off.

Source: Petroleum Planning & Analysis Cell.

Figure V.3: Consumption of Petroleum Products by Public & Private Sector during 2011-12 to 2017-18



V.4 Sector-wise Consumption (end use) of Liquefied Petroleum Gas (LPG)

(in '000' Tonnes)

Sector		2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Domestic Distribution	13295.91	13568.03	14411.60	16040.39	17181.72	18871.36	20351.70
2	Non-Domestic/ Industry/ Commercial	1068.54	1167.58	1073.60	1050.98	1464.37	1775.91	2085.65
3	Transport	223.68	214.78	194.97	164.59	171.83	168.07	184.93
(i)	Auto LPG	222.84	214.00	194.27	163.83	170.91	167.28	184.25
(ii)	Railways	0.84	0.78	0.70	0.76	0.92	0.79	0.68
4	Power Generation	0.00	0.00	2.57	3.08	2.68	2.19	1.25
5	Agriculture Sector	4.76	3.73	3.95	6.09	7.13	7.75	7.46
6	Mining	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Manufacturing(Bulk LPG)	186.30	144.78	134.75	207.92	201.66	220.03	204.34
(i)	Chemicals	19.74	11.32	5.42	35.03	5.21	12.36	6.05
(ii)	Engineering	1.19	1.95	1.52	1.80	2.13	2.47	2.55
(iii)	Electronics	11.44	10.36	7.09	4.85	3.86	4.48	3.90
(iv)	Mechanical	23.34	18.57	14.86	13.90	12.38	13.21	13.92
(v)	Metallurgical	97.02	77.95	84.50	125.29	134.09	138.92	131.45
(vi)	Textiles	2.39	2.12	2.87	2.21	2.47	2.30	2.08
(vii)	Other Consumer/ Industrial Goods	31.18	22.51	18.49	24.84	41.51	46.30	44.40
8	Resellers/Retail	*	58.58	57.77	45.19	44.92	67.03	73.30
9	Miscellaneous (Bulk)	149.67	44.75	45.95	52.68	59.87	66.56	67.23
	Total Sales	**14928.86**	**15143.65**	**15867.38**	**17525.74**	**19089.26**	**21178.90**	**22976.54**
10	Pvt Imports	420.84	398.47	368.50	429.17	489.05	429.31	366.90
	Total Consumption	**15349.70**	**15600.70**	**16293.65**	**18000.10**	**19623.21**	**21608.21**	**23343.44**

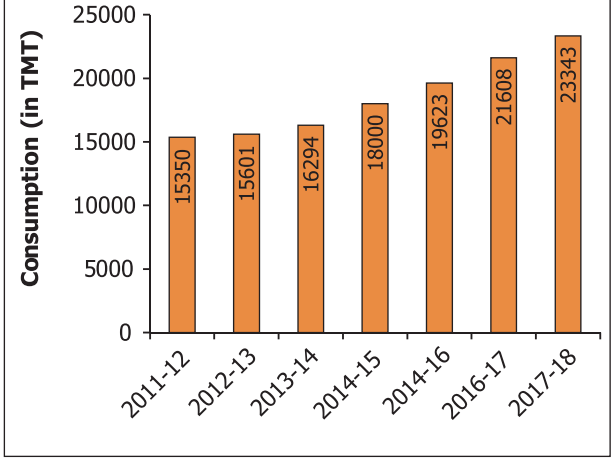
*: Included in Miscellaneous

P: Provisional

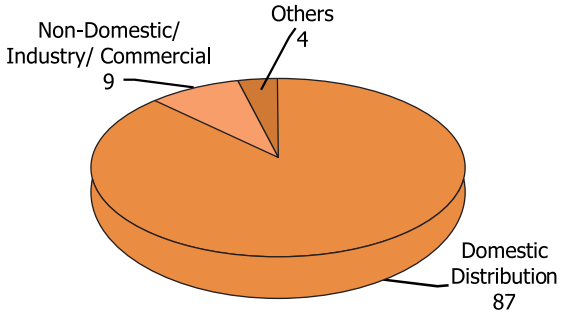
Note: Total may not tally due to rounding off.

Source: Petroleum Planning & Analysis Cell.

Figure V.4(a): LPG Consumption during 2011-12 to 2017-18



Figures V.4(b): Sector-wise Consumption of LPG during 2017-18 (%)

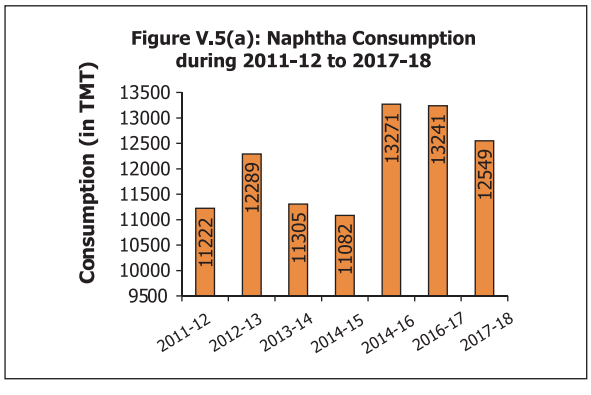


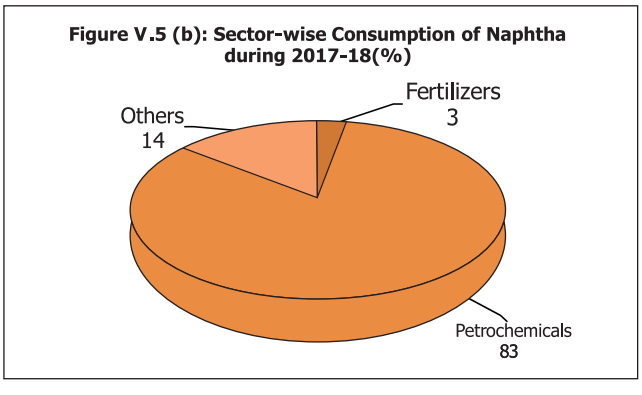
V.5 Sector-wise Consumption (end use) of Naphtha

(in '000' Tonnes)

Sector		2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Fertilizers	962.25	897.96	515.90	301.49	315.89	349.35	363.81
2	Petrochemicals	8140.82	9412.21	9463.94	9530.06	10350.23	10350.89	10362.17
3	Power	187.36	342.01	215.11	199.24	50.30	60.20	66.54
4	Steel Plants	0.19	0.00	0.00	0.00	0.00	0.00	0.00
5	Others	163.22	203.07	240.27	207.53	37.07	57.59	49.05
	Total Sales	**9453.84**	**10855.24**	**10435.22**	**10238.32**	**10753.48**	**10818.03**	**10841.56**
6	Pvt Imports	1767.66	1434.16	869.98	843.71	2517.36	2422.75	1707.39
Total Consumption		**11221.50**	**12289.40**	**11305.20**	**11082.03**	**13270.84**	**13240.78**	**12548.95**

P : Provisional
Note: Total may not tally due to rounding off.
Source: Petroleum Planning & Analysis Cell.



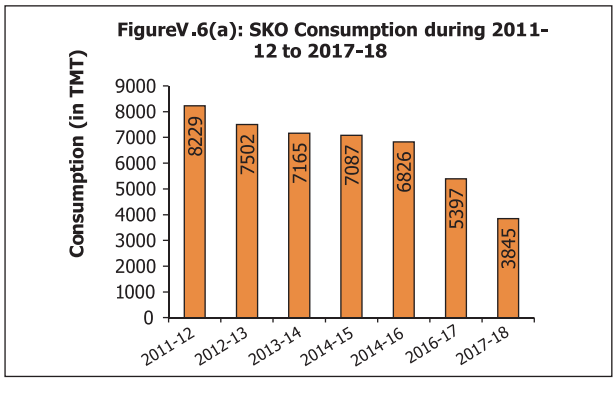


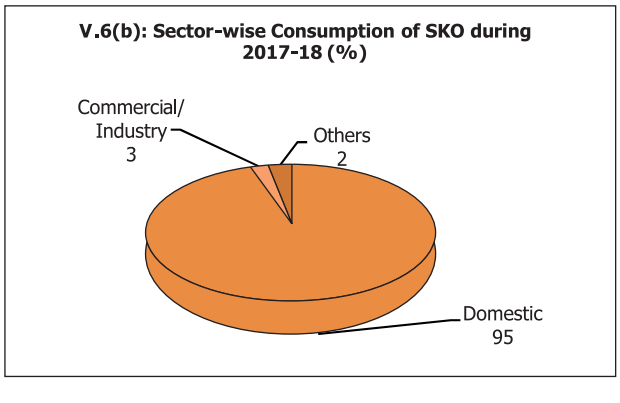
V.6 Sector-wise Consumption (end use) of Kerosene

(in '000' Tonnes)

Sector		2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Domestic	8045.00	7349.04	7008.86	6917.34	6648.94	5204.12	3644.15
2	Commercial/Industry	61.00	37.18	107.30	60.11	63.94	77.11	86.22
3	Others	123.00	115.28	48.61	109.26	113.43	115.58	114.75
Grand Total		**8229.00**	**7501.50**	**7164.77**	**7086.72**	**6826.31**	**5396.81**	**3845.12**

P : Provisional
Note: Total may not tally due to rounding off.
Source: Petroleum Planning & Analysis Cell.





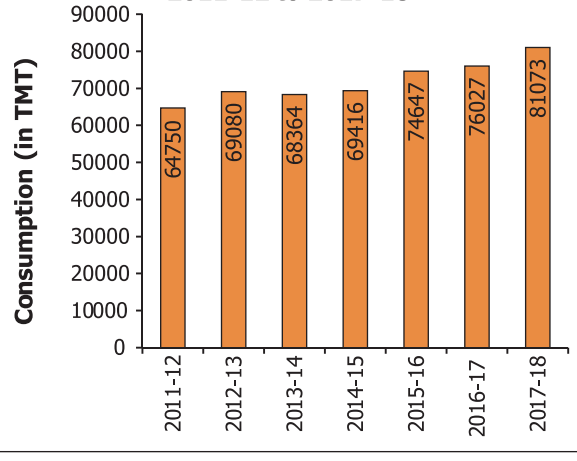
V.7 Sector-wise Consumption (end use) of High Speed Diesel (HSD) Oil

(in '000' Tonnes)

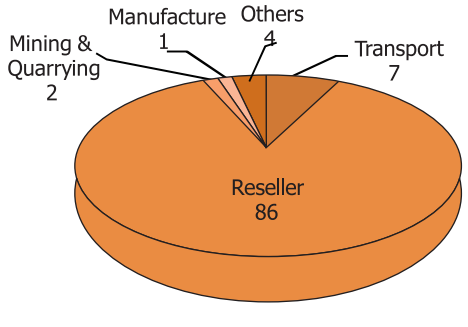
Sector		2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Transport	5528.77	5159.93	3203.10	4617.39	5764.59	5657.64	6015.17
(i)	Road Transport	2558.39	2207.17	205.85	1579.96	2671.28	2708.98	2727.46
(ii)	Aviation	1.37	1.36	1.23	1.23	1.26	2.20	2.77
(iii)	Shipping	539.75	413.09	365.21	343.50	366.19	295.82	647.22
(iv)	Railways	2429.26	2538.31	2630.80	2692.69	2725.85	2650.65	2637.73
2	Agriculture	683.59	617.31	429.24	574.93	629.84	607.09	609.35
3	Power Generation	168.20	214.34	204.42	197.23	223.94	208.25	210.71
4	Mining & Quarrying	1180.72	1073.28	873.12	998.18	1183.75	1223.98	1242.53
5	Manufacture Industry	1649.15	1627.59	686.93	793.77	1095.58	1032.69	1120.05
(i)	Iron & Steel(Metallurgy)	290.38	263.03	153.83	162.06	170.44	159.03	148.22
(ii)	Textile	156.23	241.77	46.33	58.78	46.02	35.31	30.99
(iii)	Cement	226.18	213.02	124.68	148.69	203.58	158.74	177.17
(iv)	Ceramic & Glass	20.58	62.09	5.50	8.12	8.48	7.67	7.56
(v)	Chemicals & Allied	153.11	183.20	103.38	103.27	109.50	110.17	119.00
(vi)	Aluminium	20.83	26.37	28.19	19.19	17.76	24.33	16.45
(vii)	Civil Engineering	418.62	316.08	68.32	135.63	298.62	317.15	406.51
(viii)	Elec./Electronics	38.62	54.17	26.48	18.38	24.08	14.90	12.90
(ix)	Mechanical	200.29	137.56	70.08	77.91	137.45	143.68	131.28
(x)	Fertilizers	10.06	8.62	14.83	5.95	6.62	5.61	5.03
(xi)	Other Consumer/ Industrial Goods	114.24	121.67	45.30	55.81	73.02	56.10	64.95
6	Resellers/Retail	53207.80	58021.31	61464.81	60402.94	63771.88	65089.36	69865.57
7	Miscellaneous	2262.00	2319.63	1425.67	1748.39	1922.10	2161.29	1927.39
	Total	**64680.24**	**69033.39**	**68287.28**	**69332.82**	**74591.68**	**75980.31**	**80990.77**
8	Pvt Imports	69.74	46.66	76.65	83.40	55.40	46.26	82.44
Total Consumption		**64749.98**	**69080.05**	**68363.92**	**69416.22**	**74647.07**	**76026.57**	**81073.21**

P : Provisional
Note: Total may not tally due to rounding off.
Source: Petroleum Planning & Analysis Cell.

Figure V.7(a): HSD Consumption during 2011-12 to 2017-18



V.7(b): Sector-wise Consumption of HSD during 2017-18 (%)



V.8 Sector-wise Consumption (end use) of Light Diesel Oil (LDO)

(in '000' Tonnes)

Sector		2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Transport	2.54	3.08	3.85	4.95	3.74	7.23	7.87
(i)	Road Transport	0.01	0.02	0.65	2.21	0.21	0.00	3.02
(ii)	Shipping	1.70	2.15	2.43	2.09	2.94	6.67	4.33
(iii)	Railways	0.83	0.90	0.76	0.65	0.59	0.56	0.51
2	Agriculture	1.40	1.32	1.35	1.06	1.26	2.02	9.16
3	Power Generation	126.66	142.36	131.77	132.18	154.21	174.35	142.59
4	Mining & Quarrying	2.32	2.43	3.44	3.80	2.23	2.30	6.60
5	Manufacture Industry	101.53	73.97	63.66	54.63	60.75	59.50	144.95
(i)	Civil Engineering	9.15	2.83	4.21	4.59	10.27	20.16	32.74
(ii)	Metallurgical	61.04	46.70	40.71	30.10	26.84	19.31	50.87
(iii)	Textile & Fibre	1.04	0.92	1.53	1.08	1.08	1.37	2.09
(iv)	Cement	0.00	1.23	0.00	1.19	1.25	1.67	7.95
(v)	Ceramic & Glass	0.02	0.00	0.01	0.01	0.04	0.13	0.43
(vi)	Chemicals & Allied	11.73	10.95	10.94	9.02	12.04	8.93	10.37
(vii)	Aluminium	4.84	3.04	3.75	6.91	3.32	3.91	31.69
(viii)	Elec./Electronics	0.09	0.08	0.05	0.00	0.24	0.07	0.37
(ix)	Mechanical	12.64	6.96	1.32	0.69	4.06	2.14	2.91
(x)	Other Consumer/ Industrial Goods	0.98	1.26	1.14	1.05	1.60	1.81	5.55
6	Resellers	*	0.76	0.69	3.81	1.11	1.04	2.37
7	Miscellaneous	180.34	174.64	181.56	164.83	183.77	202.54	210.04
	Total Sales	**414.78**	**398.54**	**386.32**	**365.26**	**407.06**	**448.98**	**523.59**
8	Pvt Imports	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Consumption	**414.78**	**398.54**	**386.32**	**365.26**	**407.06**	**448.98**	**523.59**

*: Included in Miscellaneous

P : Provisional

Note: Total may not tally due to rounding off.

Source: Petroleum Planning & Analysis Cell.

Figure V.8(a): LDO consumption during 2011-12 to 2017-18

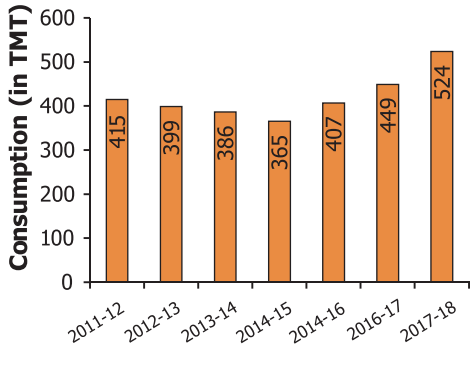
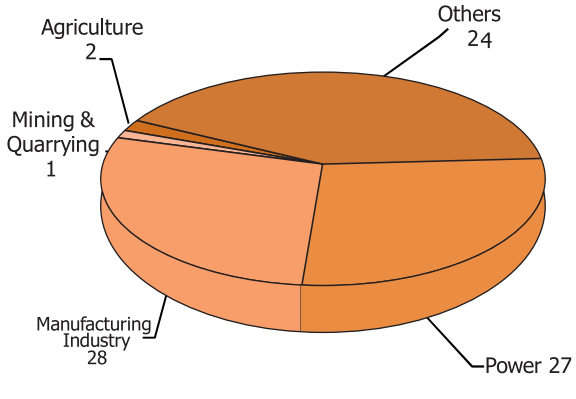


Figure V.8(b): Sector-wise consumption of LDO during 2017-18 (%)



V.9 Sector-wise Consumption (end use) of Furnace Oil

(in '000' Tonnes)

Sector		2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Transport	370.96	276.66	315.34	346.45	379.50	444.12	612.67
(i)	Road Transport	0.67	1.35	6.15	10.17	44.97	36.94	21.11
(ii)	Shipping	366.92	272.70	306.74	334.48	332.63	407.17	591.56
(iii)	Railways	3.38	2.60	2.45	1.80	1.90	0.02	0.00
(iv)	Other Transport (incl. Agri. Retail Trade)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Agriculture	70.37	79.16	74.53	55.62	56.62	51.41	47.28
3	Power Generation	646.56	586.79	535.68	445.77	430.36	360.95	305.79
4	Mining & Quarrying	45.24	12.45	38.48	45.10	52.66	71.45	62.33
5	Manufacturing Industry	2408.31	2018.99	1833.32	1748.42	2136.47	2491.75	2298.66
(i)	Civil Engineering	79.32	59.03	55.87	32.78	47.85	49.63	58.83
(ii)	Metallurgical	710.29	602.91	549.88	611.38	763.95	981.72	898.38
(iii)	Textile & Fibre	52.11	37.99	57.75	69.87	68.36	74.12	45.50
(iv)	Cement	39.43	27.78	13.08	12.73	14.66	11.99	13.61
(v)	Ceramic & Glass	221.54	145.67	123.25	87.91	142.72	171.04	133.44
(vi)	Chemicals & Allied	287.42	221.83	201.29	165.86	193.13	238.88	232.01
(vii)	Aluminium	219.56	233.09	231.61	232.26	218.48	258.28	223.38
(viii)	Electrical	13.10	30.35	7.30	1.65	1.32	1.62	0.87
(ix)	Mechanical	38.04	21.95	15.24	10.92	16.35	16.63	10.93
(x)	Fertilizers	458.13	475.21	408.08	393.28	476.45	487.71	513.65
(xi)	Other Consumer/ Industrial Goods	289.38	163.17	169.99	129.78	193.19	200.11	168.07
6	Resellers	*	351.28	309.09	196.87	270.18	357.27	319.24
7	Miscellaneous	3300.14	2356.88	1984.69	2175.37	2564.00	2485.35	2266.25
	Total Sales	**6841.58**	**5682.21**	**5091.14**	**5013.60**	**5889.81**	**6262.30**	**5912.22**
8	Pvt Imports	706.04	608.29	695.81	570.04	592.12	783.88	732.05
	Total Consumption	**7547.62**	**6290.50**	**5786.95**	**5583.64**	**6481.93**	**7046.18**	**6644.27**

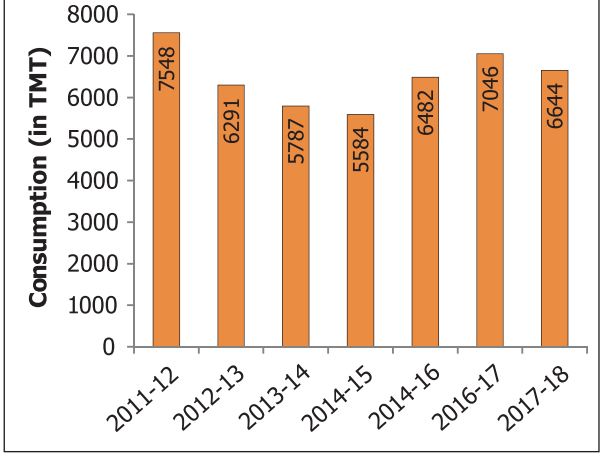
*: Includes in Miscellaneous

P: Provisional

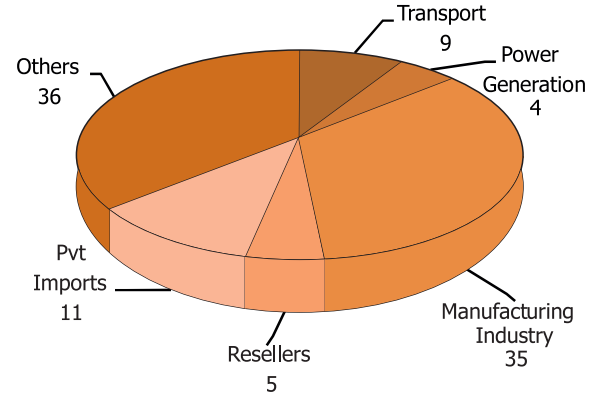
Note: Total may not tally due to rounding off.

Source: Petroleum Planning & Analysis Cell.

Figure V.9(a): Furnace Oil Consumption during 2011-12 to 2017-18



FigureV.9(b): Sector-wise consumption of Furnace Oil during 2017-18 (%)



V.10 Sector-wise Consumption (end use) of Low Sulphur Heavy Stock (LSHS/HHS)

(in '000' Tonnes)

Sector		2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Agriculture	0.17	0.00	0.00	0.00	0.00	0.00	1.18
2	Power Generation	399.19	438.98	328.14	226.18	50.70	16.43	0.00
3	Mining	0.92	0.00	0.00	0.00	0.00	0.00	0.31
4	Manufacturing Industry	1066.99	778.01	76.32	103.59	70.45	50.88	53.78
(i)	Civil Engineering	0.37	0.25	0.00	0.00	0.00	0.00	1.12
(ii)	Metallurgical	26.66	9.86	0.71	0.00	0.00	0.00	2.37
(iii)	Iron & Steel	56.87	52.22	58.06	55.32	46.27	45.91	37.88
(iv)	Textile & Fibre	0.11	0.31	0.00	0.00	0.00	0.00	0.35
(v)	Cement	0.75	0.61	0.04	0.00	0.20	0.00	0.37
(vi)	Chemicals & Allied	11.82	6.01	2.80	46.62	20.72	3.71	5.74
(vii)	Electrical	76.14	20.50	0.00	0.00	0.00	0.00	0.09
(viii)	Mechanical	2.19	1.58	0.05	0.05	0.00	0.00	0.07
(ix)	Fertilizers	889.51	684.93	14.66	1.60	3.27	1.27	0.49
(x)	Other Consumer/ Industrial Goods)	2.58	1.75	0.00	0.00	0.00	0.00	5.30
5	Miscellaneous	291.87	149.00	44.25	47.50	29.23	36.91	46.13
6	Resellers	0.00	0.00	0.00	0.00	0.00	0.00	14.87
	Total Sales	**1759.14**	**1365.99**	**448.71**	**377.26**	**150.38**	**104.23**	**116.27**
7	Pvt Imports	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Consumption		**1759.14**	**1365.99**	**448.71**	**377.26**	**150.38**	**104.23**	**116.27**

Note: Total may not tally due to rounding off. P : Provisional

Source: Petroleum Planning & Analysis Cell.

Figure V.10(a): LSHS/HHS consumption during 2011-12 to 2017-18

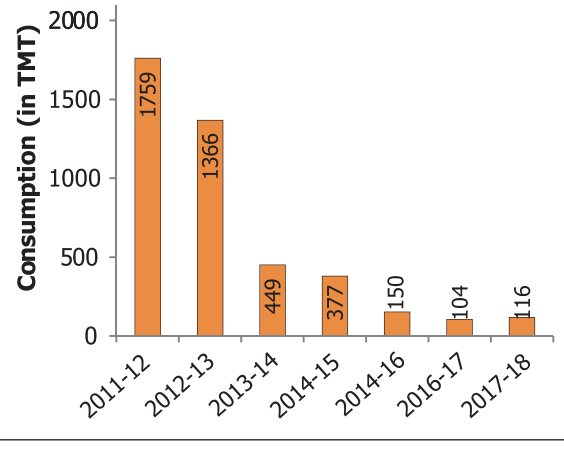
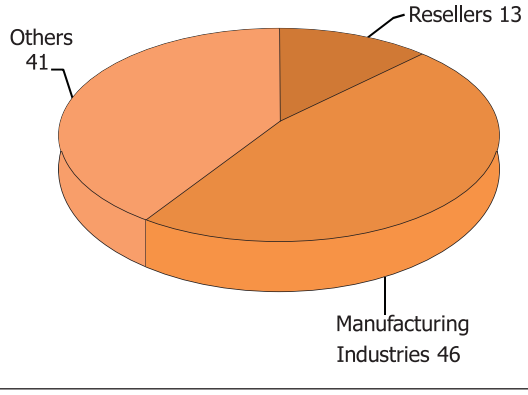


Figure V.10(b): Sector-wise consumption of LSHS/HHS during 2017-18 (%)



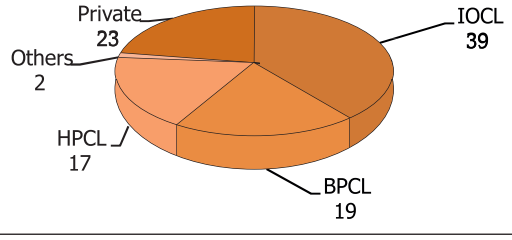
V.11 Consumption of Petroleum Products and Market Share of Oil Companies in India

(in '000' Tonnes)

Year	Consumption	IOCL	BPCL	HPCL	Others	Private	TOTAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
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	in TMT	75946	35514	33585	2490	37139	184674
	in %	41.1	19.2	18.2	1.3	20.1	100.0
2016-17	in TMT	77324	36376	34441	2763	43693	194597
	in %	39.7	18.7	17.7	1.4	22.5	100.0
2017-18 (P)	in TMT	80212	39524	35936	3000	46250	204922
	in %	39.1	19.3	17.5	1.5	22.6	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
3. Total may not tally due to rounding off.
Source: Petroleum Planning & Analysis Cell.

Figure V.11: Market share of oil companies in India during 2017-18 (%)



V.12 Deliveries made to International/Coastal Bunkers

(in '000' Tonnes)

Items	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
INTERNATIONAL BUNKERS							
F.O	874.8	691.1	304.9	398.9	436.8	523.5	389.7
H.S.D	26.5	25.0	28.5	32.4	35.0	39.9	29.9
L.D.O	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	**901.3**	**716.1**	**333.4**	**431.3**	**471.8**	**563.4**	**419.6**
COASTAL BUNKERS							
F.O	172.2	165.9	201.9	202.4	232.8	232.1	313.0
H.S.D	770.5	10.4	778.1	763.3	727.8	673.0	648.6
L.D.O	2.8	1.8	2.3	1.9	2.6	6.9	4.5
TOTAL	**945.5**	**178.1**	**982.3**	**967.6**	**963.2**	**911.9**	**966.0**
TOTAL BUNKERS							
F.O	1047.0	857.0	506.8	601.3	669.6	755.6	702.6
H.S.D	797.0	35.4	806.6	795.7	762.8	712.8	678.5
L.D.O	2.8	1.8	2.3	1.9	2.6	6.9	4.5
TOTAL	**1846.8**	**894.2**	**1315.7**	**1398.9**	**1435.0**	**1475.2**	**1385.6**

P : Provisional
Note: Total may not tally due to rounding off.
Source: Petroleum Planning & Analysis Cell.

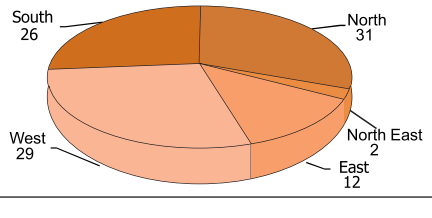
V.13 State-wise Consumption of Major Petroleum Products during 2017-18 (P)

(in '000' Tonnes)

Region/State	Naphtha	LPG	MS	SKO	ATF	HSD	LDO	F.O.	HHS/LSHS	Lubs/Grs	Bitumen	Others	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Region: North													
Jammu & Kashmir	0	189	249	127	45	685	2	3	0.02	9	53	84	1444
Punjab	0	874	847	2	135	3363	8	215	10	44	118	1171	6788
Rajasthan	1	1194	1440	88	157	5479	33	114	14	48	295	2406	11269
Uttar Pradesh	2	2924	2760	707	214	8608	87	188	13	69	661	659	16891
Haryana	3340	740	938	2	60	5147	24	83	10	51	156	423	10974
Himachal Pradesh	0	153	208	15	8	616	1	53	0	23	63	440	1578
Uttarakhand	0	268	287	14	12	713	2	93	3	20	35	79	1526
Chandigarh	0	55	105	0	23	130	1	9	0.1	2	6	96	427
Delhi	0	808	927	1	1942	1194	6	46	8	17	2	49	4999
North Total	**3344**	**7205**	**7760**	**956**	**2595**	**25934**	**163**	**804**	**58**	**281**	**1388**	**5408**	**55895**
Region: North East													
Arunachal Pradesh	0	20	40	12	1	146	0	0	0	1	22	0	242
Assam	148	373	357	192	139	925	3	4	0	30	30	311	2512
Manipur	0	28	54	15	5	102	0	0	0	0	3	0	207
Meghalaya	0	21	85	15	0	326	0	1	0	1	12	22	484
Mizoram	0	22	25	4	1	68	0	0	0	0	5	0	125
Nagaland	0	22	37	7	3	70	0	0	0	1	3	0	143
Tripura	0	44	48	23	7	100	0	0	0	1	13	0	235
Sikkim	0	14	18	11	0	69	0	2	0	0	4	0	117
North East Total	**148**	**544**	**664**	**278**	**156**	**1806**	**3**	**7**	**0**	**34**	**92**	**334**	**4066**
Region: East													
Bihar	0	1128	697	382	34	2279	30	23	0	13	192	194	4972
Odisha	0	534	704	190	77	2506	26	767	0	24	116	730	5674
West Bengal	767	1597	812	511	313	3391	55	401	0	67	196	141	8252
Jharkhand	0	294	425	137	47	1766	15	143	0	34	223	100	3184
Andaman & Nicobar	0	10	17	3	27	140	0	0	0	1	4	0	202
East Total	**767**	**3563**	**2655**	**1224**	**498**	**10081**	**127**	**1334**	**0**	**138**	**732**	**1165**	**22283**
Region: West													
Goa	0	66	175	1	142	329	0	36	0	4	12	15	779
Gujarat	5683	1041	1817	267	242	5281	20	778	1	89	592	3325	19135
Madhya Pradesh	0	914	1257	263	63	3563	23	111	0	39	262	902	7399
Maharashtra	371	2799	3226	305	1618	8673	89	841	13	329	532	1821	20615
Chhattisgarh	0	257	518	72	36	1650	36	171	0	19	198	630	3587
Dadra & Nagar Haveli	0	18	22	0	0	199	0	77	0	80	2	3	401
Daman & Diu	0	11	21	0	1	113	0	31	0	53	2	3	236
West Total	**6054**	**5107**	**7035**	**908**	**2101**	**19807**	**168**	**2044**	**14**	**613**	**1600**	**6700**	**52151**
Region: South													
Andhra Pradesh	30	1099	1062	23	70	3661	18	268	39	31	206	423	6930
Kerala	4	932	1381	67	474	2609	1	252	0	41	234	155	6148
Tamilnadu	194	2019	2421	205	530	6450	6	677	2	112	425	881	13922
Karnataka	300	1574	1974	104	543	6611	31	377	1	56	250	726	12549
Telangana	0	892	1092	79	365	3685	6	113	2	38	205	83	6562
Lakshadweep	0	0	0	1	0	13	0	0	0	0	0	0	15
Puducherry	0	43	130	1	0	333	0	37	0	2	3	6	554
South Total	**529**	**6558**	**8060**	**479**	**1983**	**23362**	**62**	**1724**	**44**	**279**	**1324**	**2274**	**46676**
Total	**10842**	**22976**	**26175**	**3845**	**7333**	**80991**	**524**	**5912**	**116**	**1345**	**5136**	**15880**	**181071**
Pvt. Imports	**1707**	**367**	**0**	**0**	**291**	**82**	**0**	**732**	**0**	**2434**	**869**	**17369**	**23851**
Total Consumption	**12549**	**23343**	**26175**	**3845**	**7623**	**81073**	**524**	**6644**	**116**	**3779**	**6004**	**33249**	**204922**

Note: Total may not tally due to rounding off.
P : Provisional
Source: Petroleum Planning & Analysis Cell.

Figure V.12: Region-wise Consumption of Petroleum Products (excluding private imports) in India during 2017-18 (%)



V.14 State-wise Per Capita Consumption of Petroleum Products

(Unit: Kg)

Sector	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Andhra Pradesh	124.5	129.5	126.3	127.0	125.2	133.3	140.3
Andaman & Nicobar	352.2	360.1	437.6	451.8	473.0	489.5	530.9
Arunachal Pradesh	104.9	114.5	123.8	128.5	144.5	162.7	175.4
Assam	56.7	54.1	60.3	61.1	68.0	71.7	80.6
Bihar	35.9	36.4	38.3	39.6	44.6	45.8	47.9
Chandigarh	291.5	259.1	335.9	384.1	417.4	367.9	404.5
Chhattisgarh	77.5	88.3	94.9	100.1	112.5	113.9	140.4
Dadra & Nagar Haveli	832.1	706.4	870.3	1097.9	1198.5	1278.4	1169.7
Daman & Diu	473.4	531.8	598.0	647.2	745.5	904.2	970.4
Delhi	256.3	247.1	256.1	269.6	298.3	291.4	298.4
Goa	724.9	659.9	446.5	470.8	500.7	534.8	534.5
Gujarat	270.1	285.3	282.0	291.9	314.3	314.5	316.9
Haryana	362.3	380.6	393.2	417.5	424.9	422.9	432.8
Himachal Pradesh	154.4	184.6	189.5	181.8	226.0	249.0	230.2
Jammu and Kashmir	96.1	98.2	98.3	95.7	106.9	100.3	115.1
Jharkhand	68.7	73.5	76.0	79.7	84.0	88.6	96.6
Karnataka	132.1	139.1	146.1	156.7	180.8	187.5	205.3
Kerala	147.9	158.4	158.5	161.4	166.3	171.5	184.0
Lakshadweep	219.2	198.1	206.0	228.9	232.7	213.8	225.7
Madhya Pradesh	71.6	80.4	83.6	88.6	96.5	95.9	101.9
Maharashtra	152.1	154.7	149.2	150.6	162.2	172.1	183.4
Manipur	49.4	57.4	60.3	63.7	66.0	59.9	76.2
Meghalaya	154.3	159.3	158.1	142.5	141.3	144.4	163.4
Mizoram	92.5	97.5	94.7	98.5	103.7	107.5	114.1
Nagaland	58.7	59.5	60.8	60.7	64.3	66.8	72.2
Odisha	79.9	81.5	87.6	93.6	106.4	123.4	135.2
Puducherry	441.0	414.6	362.1	369.0	418.5	436.0	445.2
Punjab	206.1	202.4	198.0	206.2	215.2	229.1	245.0
Rajasthan	126.3	147.0	154.9	158.5	163.5	160.1	164.2
Sikkim	154.6	149.9	156.8	152.9	164.9	171.7	192.7
Tamil Nadu	175.2	187.1	174.4	169.3	176.0	184.1	193.0
Telangana	-	-	-	136.5	161.7	173.8	186.0
Tripura	51.5	49.5	49.3	51.8	57.8	58.5	64.0
Uttar Pradesh	59.7	61.1	62.6	66.9	75.2	79.8	84.6
Uttarakhand	123.2	120.5	119.6	128.8	150.2	146.9	150.8
West Bengal	64.9	70.5	74.4	70.6	78.7	82.2	90.3
All India	**116.3**	**122.0**	**122.8**	**126.6**	**136.9**	**141.5**	**149.6**

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.
Source: Petroleum Planning and Analysis Cell.

V.15 Per Capita Consumption of Selected Petroleum Products

(in '000' Tonnes)

Product	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18(P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Naphtha	7.8	9.0	8.6	8.5	8.9	9.0	9.0
MS	12.4	13.0	14.2	15.8	18.1	19.6	21.6
SKO	6.8	6.2	5.9	5.9	5.6	4.5	3.2
HSDO	53.4	57.0	56.4	57.3	61.6	62.8	66.9
LDO	0.3	0.3	0.3	0.3	0.3	0.4	0.4
F.O (Regular)	5.7	4.7	4.2	4.1	4.9	5.2	4.9
LSHS/HHS	1.5	1.1	0.4	0.3	0.1	0.1	0.1
All India	**116.3**	**122.0**	**122.8**	**126.6**	**136.9**	**141.5**	**149.6**

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.
Source: Petroleum Planning and Analysis Cell.

V.16 Average Compound Annual Growth Rates (CAGR) of Consumption of Petroleum Products

(in Percentage)

Product	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
LPG	1.6	4.4	10.5	9.0	10.1	8.0
MS	5.0	8.8	11.4	14.5	8.8	10.1
Naphtha	9.5	-8.0	-2.0	19.8	-0.2	-5.2
ATF	-4.8	4.4	4.0	9.4	11.8	8.9
SKO	-8.8	-4.5	-1.1	-3.7	-20.9	-28.8
HSD	6.7	-1.0	1.5	7.5	1.8	6.6
LDO	-3.9	-3.1	-5.4	11.5	10.3	16.6
Lubes	21.4	3.4	0.1	7.9	-2.8	8.9
FO/LSHS	-17.7	-18.6	-4.4	11.3	7.8	-5.5
Bitumen	0.8	7.1	1.3	17.1	0.0	1.2
Others	41.4	13.2	15.3	25.6	19.1	8.8
Total Sales	**6.0**	**0.9**	**4.5**	**11.6**	**5.4**	**5.3**

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

Source: Petroleum Planning & Analysis Cell.

V.17 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
PETROLEUM COKE	Fuel grade Petcoke is used as fuel for cement kilns and electric power plants, Calcined Petcoke is used to manufacture energy as well as in the aluminium, graphite electrode, steel, titanium dioxide and other carbon consuming industries.
OTHER MINOR PRODUCTS (Benzene, 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 increased by 20.65% in value terms from ₹ 582529 crore in 2016-17 to ₹ 702837 crore in 2017-18. Increase in import quantity of crude oil, LNG and petroleum products has been around 2.73% from 268.85 MMT in 2016-17 to 276.20 MMT during 2017-18.
- Import of crude oil in the country during 2017-18 was 220.43 MMT which marked a growth of 3.04% over the imports of crude oil of 213.93 MMT during 2016-17. However, the increase was 20.37% in value terms over the same period.
- Availability of Petroleum Products has increased by 4.30% from 214.33 MMT in 2016-17 to 223.54 MMT in 2017-18.
- India's trade deficit was higher by 43.56% at ₹ 10,45,475 crore in 2017-18 from ₹ 7,28,237 crore during 2016-17.
- India's trade deficit with OPEC countries has increased by 33.35% from ₹313782 crore in 2016-17 to ₹418422 crore in 2017-18.
- Percentage of India's OPEC imports to India's total imports has reduced marginally from 23.9% in 2016-17 to 23.5% in 2017-18.

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								
2011-12	171729	672220	15849	68091	13214	31718	200793	772029
2012-13	184795	784652	16354	68852	13136	41902	214285	895406
2013-14	189238	864875	16697	75896	12995	53123	218930	993894
2014-15	189435	687416	21301	74644	14092	57384	224828	819445
2015-16	202850	416579	29456	65361	16142	45038	248448	526978
2016-17	213932	470159	36287	71566	18631	40804	268850	582529
2017-18 (P)	220434	565951	35892	86946	19870	49941	276195	702837
Exports								
2011-12	-	-	60837	284644	-	-	60837	284644
2012-13	-	-	63408	320090	-	-	63408	320090
2013-14	-	-	67864	368279	-	-	67864	368279
2014-15	-	-	63932	288580	-	-	63932	288580
2015-16	-	-	60539	176780	-	-	60539	176780
2016-17	-	-	65513	194893	-	-	65513	194893
2017-18 (P)	-	-	66757	225139	-	-	66757	225139
Net Imports								
2011-12	171729	672220	-44988	-216553	13214	31718	139956	487384
2012-13	184795	784652	-47054	-251238	13136	41902	150877	575317
2013-14	189238	864875	-51167	-292383	12995	53123	151066	625615
2014-15	189435	687416	-42631	-213936	14092	57384	160896	530865
2015-16	202850	416579	-31083	-111419	16142	45038	187910	350199
2016-17	213932	470159	-29226	-123327	18631	40804	203337	387637
2017-18 (P)	220434	565951	-30866	-138194	19870	49941	209438	477698

Note: Total may not tally due to rounding off. P: Provisional
Source: Petroleum Planning & Analysis Cell.

Figure VI.1: Production, Import and Import value of Crude Oil

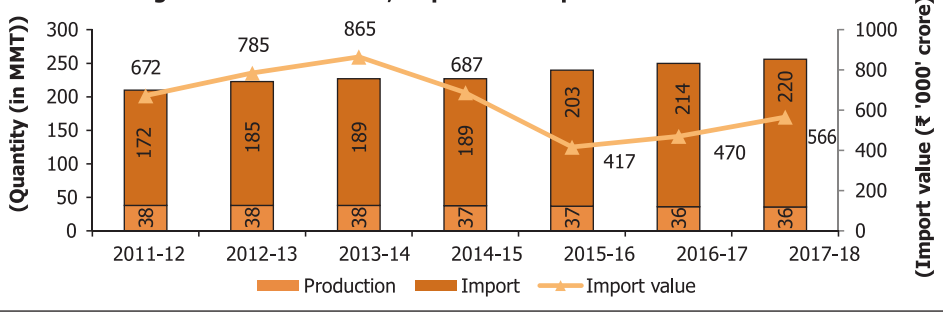
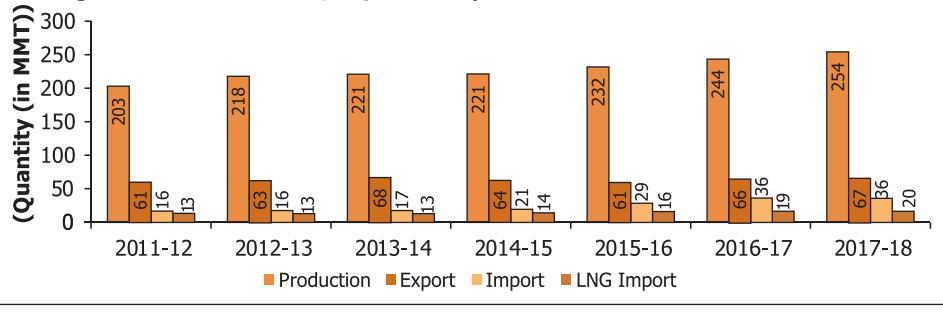


Figure VI.2: Production, Export & Import of Petroleum Products and LNG



VI.2 Availability of Crude Oil and Petroleum Products

(in TMT)

Items		2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18(P)
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)
A. Crude Oil								
Crude Oil	Production	38090	37862	37788	37461	36942	36009	35684
	Imports	171729	184795	189238	189435	202850	213932	220434
	Availability	209819	222657	227027	226896	239792	249941	256118
B. Natural Gas								
Natural Gas	Production	47559	40679	35407	33657	32249	31897	32649
	Imports	13214	13136	12995	14092	16142	18631	19870
	Availability	60773	53815	48401	47750	48391	50528	52519
C. Petroleum Products								
LPG	Production	9547	9825	10030	9840	10568	11326	12380
	Imports	5790	6301	6567	8313	8959	11097	11382
	Export	174	200	227	254	195	317	359
	Availability	15162	15925	16371	17900	19332	22106	23403
Motor Spirit	Production	27186	30118	30275	32325	35321	36593	37784
	Imports	654	147	235	372	1012	476	174
	Export	14524	16657	15247	16048	16817	15417	14035
	Availability	13316	13607	15264	16649	19517	21653	23922
Naphtha	Production	18825	19018	18505	17391	17861	19946	20006
	Imports	2091	1762	1020	1034	2931	2777	2150
	Export	10139	8647	8322	7008	7116	8727	8951
	Availability	10777	12133	11204	11416	13676	13996	13204
Kerosene	Production	7861	7971	7418	7559	7503	6041	4408
	Imports	564	0	0	30	41	0	0
	Export	34	23	15	15	10	15	17
	Availability	8391	7947	7403	7573	7534	6025	4391
ATF	Production	10065	10088	11220	11103	11789	13831	14594
	Imports	0	0	0	140	286	338	291
	Export	4561	4664	5745	5520	5686	7271	7183
	Availability	5504	5425	5475	5723	6388	6898	7702
Diesel	Production	83382	91502	94181	94785	99017	103113	108465
	Imports	1059	528	77	124	177	1008	1353
	Export	20491	22464	26469	25559	24037	27302	29676
	Availability	63950	69566	67789	69350	75157	76819	80143
Fuel Oils	Production	18433	15054	13405	11919	9727	9962	9486
	Imports	1203	1038	1331	902	1170	925	1273
	Export	7895	5922	6159	4762	2806	2248	2492
	Availability	11740	10170	8578	8059	8091	8639	8267
Lube Oils	Production	1028	896	941	946	1037	1029	1036
	Imports	1434	1977	2090	2148	2264	2131	2434
	Export	27	59	20	11	17	13	13
	Availability	2435	2814	3011	3083	3284	3147	3457
Bitumen	Production	4610	4670	4785	4632	5157	5185	5277
	Imports	78	102	246	517	879	951	869
	Export	5	87	95	94	101	38	64
	Availability	4683	4685	4936	5055	5935	6098	6081
Petroleum Coke	Production	7837	10943	12068	12448	13322	13936	14754
	Imports	1814	3339	3571	6165	10041	14416	13393
	Export	726	1317	1698	613	840	673	561
	Availability	8925	12965	13941	18000	22524	27679	27586
Others	Production	14429	17650	17927	18188	20622	22589	26215
	Imports	1163	1162	1559	1557	1694	2169	2573
	Export	2262	3367	3867	4047	2914	3495	3406
	Availability	13330	15445	15618	15698	19402	21263	25382
Total (Petroleum Products)	**Production**	**203202**	**217736**	**220756**	**221136**	**231923**	**243551**	**254405**
	Imports	**15849**	**16354**	**16697**	**21301**	**29456**	**36287**	**35892**
	Export	**60837**	**63408**	**67864**	**63932**	**60539**	**65513**	**66757**
	Availability	**158214**	**170683**	**169589**	**178505**	**200840**	**214325**	**223539**

Note: Total may not tally due to rounding off.
P: Provisional
Source: Oil Companies & Petroleum Planning & Analysis Cell.

VI. 3 Import / Export of Crude Oil and Petroleum Products

(Calendar Year-wise)

ITEM	2012			2013			2014			2015			2016			2017 (P)		
	Qty.	Value		Qty.	Value		Qty.	Value		Qty.	Value		Qty.	Value		Qty.	Value	
	TMT	₹ Crore	USD Million	TMT	₹ Crore	USD Million	TMT	₹ Crore	USD Million	TMT	₹ Crore	USD Million	TMT	₹ Crore	Million USD	TMT	₹ Crore	Million USD
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Imports																		
Crude Oil Import	**184173**	**783418**	**146882**	**189351**	**846591**	**144359**	**188772**	**798637**	**130998**	**196490**	**446469**	**69658**	**215376**	**415672**	**61889**	**216445**	**528345**	**81338**
Product Import																		
LPG	6556	33266	6247	6016	32802	5522	8050	41177	6774	8901	27110	4203	10197	26139	3870	11888	40241	6155
Petrol	147	891	160	235	1481	248	328	2115	346	984	4157	643	549	1854	274	174	581	91
Naphtha	1861	9731	1809	1177	6789	1138	623	3665	597	2797	9624	1492	2926	8243	1218	1879	6579	1002
Aviation Turbine Fuel	0	0	0	0	0	0	90	513	83	273	919	142	333	1010	149	273	1039	158
Kerosene	0	0	0	0	0	0	30	172	29	41	158	25	0	0	0	0	0	0
Diesel	783	4029	766	81	453	76	108	637	103	72	406	63	975	2685	399	1436	4476	688
Lubes	1885	10892	2022	1927	11664	1965	2329	14514	2362	2086	9480	1465	2257	8601	1270	2303	10274	1568
Fuel Oil	972	3939	741	1332	5622	936	1049	4546	759	948	2422	377	1150	1980	293	944	2384	365
Bitumen	100	263	50	171	528	91	433	1506	243	856	1979	307	887	1443	213	911	1725	263
Petcoke	3071	3139	581	3339	3719	623	5493	5217	845	8307	5497	851	14710	7220	1066	13558	10626	1623
Others[1]	1102	4760	886	1487	6590	1110	1599	6989	1133	1705	5167	800	2033	4810	712	2314	6836	1046
Product Import	**16477**	**70909**	**13261**	**15765**	**69648**	**11708**	**20131**	**81050**	**13274**	**26971**	**66918**	**10368**	**36016**	**63984**	**9465**	**35681**	**84762**	**12959**
Total Import	**200649**	**854328**	**160144**	**205116**	**916239**	**156067**	**208903**	**879687**	**144272**	**223461**	**513387**	**80026**	**251392**	**479657**	**71354**	**252126**	**613106**	**94297**
Product Export																		
LPG	195	1231	229	213	1393	236	239	1640	266	217	918	144	291	1023	151	348	1430	218
MS/ Petrol	16098	91260	17084	15874	95263	16317	15942	91334	14994	15893	59681	9300	16150	51224	7625	14262	53588	8226
Naphtha/ NGL	9035	44765	8420	8496	45965	7811	7397	38299	6267	6708	20160	3140	8417	21683	3220	8907	27885	4280
Aviation Turbine Fuel	4153	22225	4149	5716	32482	5524	5300	28108	4600	5253	16792	2621	7489	20813	3096	6968	23209	3564
SKO/ Kerosene	29	173	33	16	98	17	14	90	15	12	50	8	15	48	7	17	65	10
HSD/ Diesel	21294	111708	20908	25997	142665	24102	25756	130712	21417	23160	71693	11189	27892	73678	10963	28867	92679	14246
LDO	26	115	22	22	102	16	14	63	10	0	0	0	20	52	8	149	384	57
LOBS/ Lube Oil	75	470	85	19	150	24	12	93	18	19	130	21	13	110	16	13	111	17
Fuel Oil/LSHS	6480	22583	4271	6281	22573	3806	5187	17378	2832	3154	5592	874	2439	3786	560	2363	4756	731
Bitumen	65	215	40	108	363	61	74	216	35	107	206	31	57	52	9	61	109	17
Petcoke/CBFS	1129	2533	477	2111	4892	814	642	1824	298	669	599	93	608	830	124	692	688	106
Others[2]	2969	13529	2518	3842	18367	3122	3761	17977	2950	3419	10056	1575	2551	6631	986	3954	10396	1586
Total Product Export	**61548**	**310805**	**58236**	**68696**	**364314**	**61851**	**64337**	**327734**	**53703**	**58611**	**185878**	**28995**	**65942**	**179930**	**26765**	**66601**	**215300**	**33059**
Net Import	**139102**	**543522**	**101908**	**136419**	**551925**	**94216**	**144566**	**551953**	**90569**	**164850**	**327509**	**51031**	**185451**	**299727**	**44589**	**185525**	**397806**	**61239**

1: Other imports include Paraffin Wax, Petroleum Jelly, LSWR, Aviation Gas, MTBE, Reformate, etc.
2: Other exports include VGO, Benzene, MTO, Sulphur, etc.
Source: Petroleum Planning & Analysis Cell.

P: Provisional

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

(in TMT)

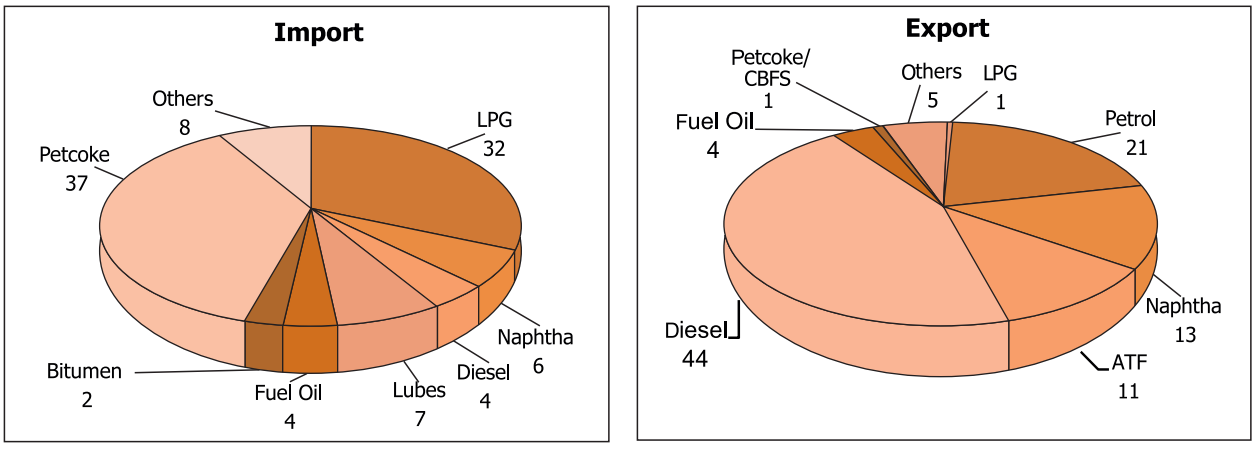
Items	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18(P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Imports							
Crude Oil Import	**171729**	**184795**	**189238**	**189435**	**202850**	**213932**	**220434**
Product Import							
LPG	5790	6301	6567	8313	8959	11097	11382
Petrol	654	147	235	372	1012	476	174
Naphtha	2091	1762	1020	1034	2931	2777	2150
Aviation Turbine Fuel (ATF)	0	0	0	140	286	338	291
Kerosene	564	0	0	30	41	0	0
Diesel	1059	528	77	124	177	1008	1353
Lubes	1434	1977	2090	2148	2264	2131	2434
Fuel Oil	1203	1038	1331	902	1170	925	1273
Bitumen	78	102	246	517	879	951	869
Petcoke	1814	3339	3571	6165	10041	14416	13393
Others[1]	1163	1162	1559	1557	1694	2169	2573
Total Product Import	**15849**	**16354**	**16697**	**21301**	**29456**	**36287**	**35892**
Total Import	**187579**	**201149**	**205935**	**210736**	**232306**	**250219**	**256325**
Product Export							
LPG	174	200	227	254	195	317	359
Petrol	14524	16657	15247	16048	16817	15417	14035
Naphtha	10139	8647	8322	7008	7116	8727	8951
Aviation Turbine Fuel (ATF)	4561	4664	5745	5520	5686	7271	7183
Kerosene	34	23	15	15	10	15	17
Diesel	20491	22464	26469	25559	24037	27302	29676
Lubes	27	59	20	11	17	13	13
Fuel Oil	7895	5922	6159	4762	2806	2248	2492
Bitumen	5	87	95	94	101	38	64
Petcoke/CBFS	726	1,317	1,698	613	840	673	561
Others[2]	2262	3367	3867	4047	2914	3495	3406
Total Export	**60837**	**63408**	**67864**	**63932**	**60539**	**65513**	**66757**
Net Import	**126741**	**137742**	**138071**	**146804**	**171768**	**184706**	**189568**
Net Product Export	**44988**	**47054**	**51167**	**42631**	**31083**	**29226**	**30866**

1. Other imports include Paraffin Wax, Petroleum Jelly, LSWR, Aviation Gas, MTBE & Reformate.
2. Other exports include VGO, Benzene, MTO & Sulphur.

P: Provisional

Source: Petroleum Planning & Analysis Cell.

Figure VI.3: Import & Export of Petroleum Products during 2017-18 (%)



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

(in ₹ Crore)

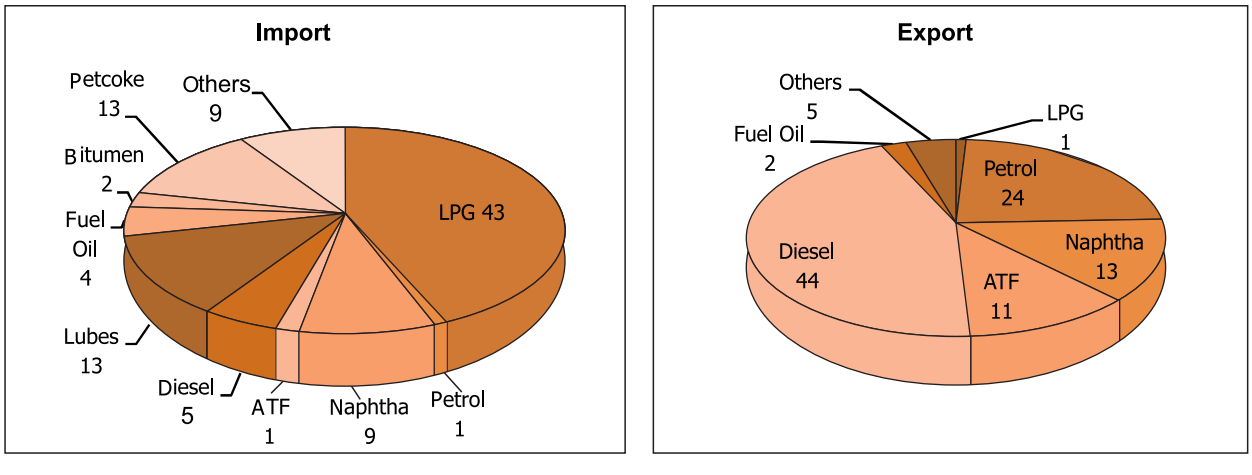
Import/Export	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18(P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Imports							
Crude Oil Import	**672220**	**784652**	**864875**	**687416**	**416579**	**470159**	**565951**
Product Import							
LPG	27019	31674	37213	36571	25778	32124	37861
Petrol	3311	891	1481	2301	4207	1617	581
Naphtha	9827	9272	6044	4592	9581	8374	7797
Aviation Turbine Fuel (ATF)	0	0	0	706	889	1109	1103
Kerosene	2710	0	0	172	158	0	0
Diesel	5039	2771	452	670	605	2959	4224
Lubes	8314	11339	12985	12702	9478	8625	11051
Fuel Oil	4392	4218	5759	3659	2380	1848	3468
Bitumen	197	272	801	1623	1832	1638	1672
Petcoke	2616	3414	4082	5383	5633	7929	11135
Others[1]	4666	5001	7080	6266	4821	5342	8053
Total Product Import	**68091**	**68852**	**75896**	**74644**	**65361**	**71566**	**86946**
Total Import	**740311**	**853504**	**940771**	**762060**	**481940**	**541725**	**652896**
Product Export							
LPG	947	1294	1589	1455	785	1168	1501
Petrol	73982	95346	92977	81971	59575	52920	54573
Naphtha	45620	43533	46059	31619	20057	24616	29075
Aviation Turbine Fuel (ATF)	21857	25223	33246	25413	16007	22294	25348
Kerosene	191	140	98	81	35	54	68
Diesel	104903	115554	148138	115149	66492	79857	99292
Lubes	181	381	138	100	127	104	118
Fuel Oil	25576	20415	22407	14251	4471	3930	5211
Bitumen	27	281	321	245	176	37	119
Petcoke/CBFS	1584	2636	3980	1806	750	804	686
Others[2]	9777	15286	19324	16490	8304	9109	9147
Total Export	**284644**	**320090**	**368279**	**288580**	**176780**	**194893**	**225139**
Net Import	**455667**	**533415**	**572492**	**473481**	**305160**	**346832**	**427757**
Net Product Export	**216553**	**251238**	**292383**	**213936**	**111419**	**123327**	**138194**

1. Other imports include Paraffin Wax, Petroleum Jelly, LSWR, Aviation Gas, MTBE & Reformate.
2. Other exports include VGO, Benzene, MTO & Sulphur.

P: Provisional

Source: Petroleum Planning & Analysis Cell.

Figure VI.4: Value of Import & Export of Petroleum Products during 2017-18 (%)



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

(in Million US$)

Import/Export	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18(P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Imports							
Crude Oil Import	**139690**	**144293**	**142962**	**112744**	**63972**	**70196**	**87776**
Product Import							
LPG	5584	5803	6144	5955	3922	4775	5848
Petrol	716	160	248	375	648	239	91
Naphtha	2022	1691	982	744	1463	1240	1205
Aviation Turbine Fuel(ATF)	0	0	0	114	135	163	170
Kerosene	597	0	0	29	25	0	0
Diesel	1096	507	74	108	92	438	653
Lubes	1708	2068	2122	2067	1439	1276	1702
Fuel Oil	912	778	942	599	363	273	536
Bitumen	40	50	132	262	279	242	258
Petcoke	542	623	664	870	853	1174	1715
Others[1]	972	911	1158	1015	733	793	1242
Total Product Import	**14189**	**12590**	**12466**	**12138**	**9952**	**10614**	**13420**
Total Import	**153879**	**156883**	**155427**	**124882**	**73924**	**80810**	**101196**
Product Export							
LPG	195	236	260	236	120	173	231
Petrol	15478	17528	15397	13454	9120	7895	8463
Naphtha	9482	7992	7584	5176	3071	3666	4505
Aviation Turbine Fuel(ATF)	4568	4645	5487	4155	2440	3324	3931
Kerosene	39	25	16	13	5	8	10
Diesel	21815	21253	24336	18865	10180	11905	15395
Lubes	36	65	27	16	20	15	18
Fuel Oil	5312	3757	3671	2321	688	583	805
Bitumen	6	52	52	40	27	6	18
Petcoke/CBFS	330	483	645	295	115	121	107
Others[2]	2057	2813	3190	2705	1275	1353	1406
Total Export	**59319**	**58848**	**60664**	**47277**	**27059**	**29049**	**34891**
Net Import	**94560**	**98035**	**94763**	**77605**	**46865**	**51760**	**66305**
Net Product Export	**45130**	**46258**	**48199**	**35139**	**17107**	**18436**	**21471**

1. Other imports include Paraffin Wax, Petroleum Jelly, LSWR, Aviation Gas, MTBE & Reformate.
2. Other exports include VGO, Benzene, MTO & Sulphur.

P: Provisional

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)
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	1716378	2490298	-773920	-9.5	-9.0	302488	587977	-285489	-12.2	-29.7	17.6	23.6
2016-17	1849429	2577666	-728237	7.8	3.5	303258	617040	-313782	0.3	4.9	16.4	23.9
2017-18 (P)	1955541	3001016	-1045475	5.7	16.4	285947	704370	-418422	-5.7	14.2	14.6	23.5

P: Provisional

Note: Currently, OPEC has total 15 Members Countries : Algeria (1969), Angola (2007), Congo (2018), Ecuador (1973), Equtl Guinea (2017), Gabon(2016), Iran(1960), Iraq(1960), Kuwait(1960), Libya(1962), Nigeria(1971), Qatar(1961), Saudi Arab(1960), UAE(1967), Venezuela(1960). Indonesia (1962) suspended its membership in January 2009, reactivated it again in January 2016, but decided to suspend its membership once more at the 171st Meeting of the OPEC Conference on 30 November 2016.

Source: Ministry of Commerce & Industry

Figure VI.5(a): India's Overall Trade

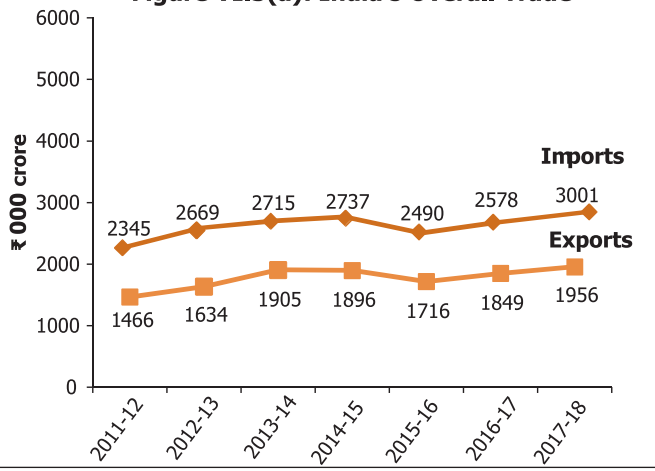
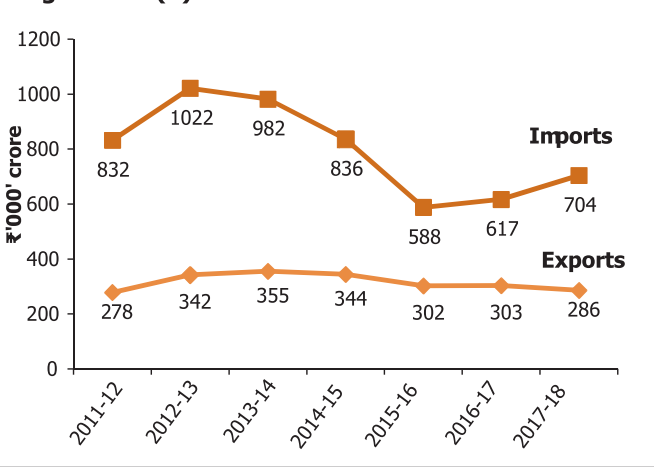


Figure VI.5(b): India's Trade with OPEC Countries



VI.8 Import Dependency

Elements	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18(P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Import dependence on crude oil (in MMT)							
Total Consumption	148.1	157.1	158.4	165.5	184.7	194.6	204.9
Indigenous crude oil processing	33.7	34.2	33.9	34.2	34.1	33.5	32.8
Products from Indigenous crude	31.5	31.9	31.6	32.0	31.8	31.3	30.6
Products from Fractionators	4.6	4.5	4.3	4.0	4.0	4.3	4.6
Total Indigenous production	36.1	36.4	35.9	35.9	35.8	35.6	35.2
Self Sufficiency (%)	24.4	23.2	22.7	21.7	19.4	18.3	17.2
Import Dependence (%)	75.6	76.8	77.3	78.3	80.6	81.7	82.8
Import dependence on natural gas (in BCM)							
Total Consumption	64.2	57.2	51.8	51.2	52.4	55.5	58.1
Indigenous gas production	46.4	39.8	34.6	32.7	31.1	30.9	31.7
Import of LNG	17.9	17.4	17.3	18.5	21.3	24.7	26.3
Self Sufficiency (%)	72.2	69.6	66.7	63.8	59.4	55.5	54.7
Import Dependence (%)	27.8	30.4	33.3	36.2	40.6	44.5	45.3
Import dependence on oil and oil equivalent gas (O+OEG)(in MMTOE)							
Total Consumption	223.0	225.5	221.6	228.6	250.4	264.1	277.7
Indigenous O+OEG production	85.1	78.8	73.0	71.2	69.6	69.0	69.5
Self Sufficiency (%)	38.1	34.9	33.0	31.2	27.8	26.1	25.0
Import Dependence (%)	61.9	65.1	67.0	68.8	72.2	73.9	75.0

Note: P: Provisional

1. SION norms has been taken as 93.3% of crude oil processed for working out products output from indigenous crude oil processed by refineries or vice versa.
2. For converting production of petroleum products from fractionators, SION norms has been taken as 93.3%.
3. Net production and consumption of natural gas is inclusive of internal gas consumption
4. 1 BCM of Natural gas =1 MMTOE

Source: Petroleum Planning & Analysis Cell.

VI.9 Annual Growth of Foreign Direct Investment Equity Inflows

Year	FDI Inflow						% of FDI in P&NG to Total FDI
	P&NG Sector					All Sectors	
	Refinery	Explo-ration	Transpor-tation	Others (Fuels)	Total		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(in ₹ Million)							
2011-12	93237.73	97.60	0.00	6216.33	99551.66	1651455.31	6.03
2012-13	9.17	120.00	0.00	11796.49	11925.66	1219067.30	0.98
2013-14	1892.62	0.00	0.13	4891.15	6783.90	1475177.76	0.46
2014-15	61188.64	81.26	0.60	3686.23	64956.73	1891071.26	3.43
2015-16	851.91	3587.60	0.00	2330.86	6770.37	2623215.61	0.26
2016-17	551.11	3825.40	0.00	7594.06	11970.57	2916963.33	0.41
2017-18 (P)	0.07	958.97	0.00	601.87	1560.93	2888885.01	0.05
(in US $ Million)							
2011-12	1890.20	2.03	0.00	137.75	2029.98	35120.80	5.78
2012-13	0.17	2.21	0.00	212.42	214.80	22423.58	0.96
2013-14	32.88	0.00	0.00	79.35	112.23	24299.33	0.46
2014-15	1018.56	1.31	0.01	59.14	1079.02	30930.50	3.49
2015-16	13.39	54.21	0.00	35.42	103.02	40000.98	0.26
2016-17	8.24	57.21	0.00	114.95	180.40	43478.27	0.41
2017-18 (P)	0.00	14.86	0.00	9.32	24.18	44856.75	0.05

P: Provisional

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

Chapter VII



Taxes & Duties

Chapter Highlights

- Central excise collection from Petroleum sector (Crude oil & Petroleum Products) during 2017-18 was at ₹ 210473 crore which was marginally lower 8.1% as compared to 2016-17 (₹ 229143 crore). More than half of the excise duty was contributed by high speed diesel oil 65% during 2017-18.
- Customs duties collected on crude petroleum & petroleum products for year 2017-18 at ₹ 11547 crore were 40% higher as compared to 2016-17 (₹8245).
- Oil Development Cess paid (accrual basis) by upstream companies was higher by 11.1% in 2017-18 (₹14527 crore) as compared to 2016-17 (₹13076 crore).
- Sales Tax payments collected on Crude Oil, Natural Gas & Petroleum Products during the year 2017-18 at ₹190695 crore, was 14.9% higher than the sales tax collected during 2016-17 (₹165922 crore). Total Sales Tax payments paid by CPSEs on Crude Oil, Natural Gas & Petroleum Products during the year 2017-18 at ₹171836 crore, was 15.9% higher than the sales tax collected during 2016-17 (₹148289 crore).

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

(in ₹ crore)

Products	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
A. Excise Duties						
Motor Spirit	25065	23404	29279	52297	67182	66991
Kerosene Oil	323	380	315	272	391	93
High Speed Diesel Oil	22865	27321	42592	101178	147915	136422
Light Diesel Oil	324	330	289	261	295	69
Furnace Oil	860	828	604	435	477	81
Petroleum Gases and Other Gaseous Hydrocarbons	1912	2017	1998	1903	2091	1416
Aviation Turbine Fuel	1097	1203	1063	1623	1521	1920
All others	11032	11751	10989	9558	9271	3480
Total (A)	**63478**	**67234**	**87130**	**167526**	**229143**	**210473**
B. Customs Duties						
Crude Petroleum	333	433	423	455	507	135
Petroleum Products	5040	6112	6686	5694	7738	11413
Total (B)	**5373**	**6545**	**7109**	**6149**	**8245**	**11547**
Grand Total (A+B)	**68851**	**73780**	**94239**	**173675**	**237389**	**222020**

Note: Excise and customs duty paid on crude oil and petroleum products on the basis of their respective Central Excise Tariff Heads (CETH) under chapter-27 excludes CETH 2701 to 2708 & 2716 which do not pertain to oil & gas sector.

P: Provisional

Source: Central Excise & Customs

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

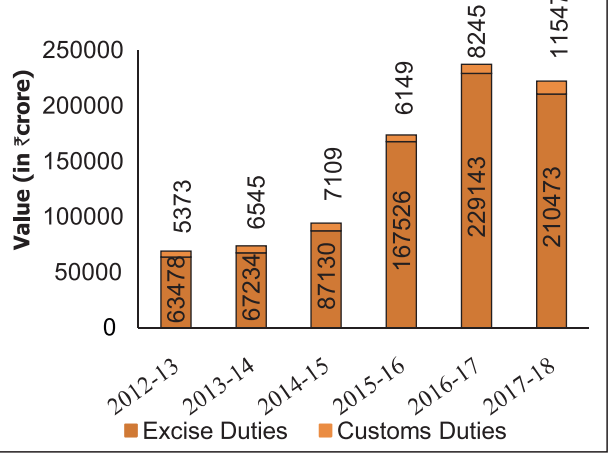
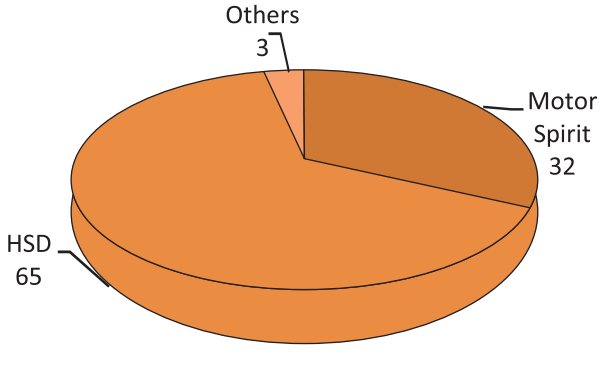


Figure VII.1 (b): Product-wise Distribution of Excise duty during 2017-18 (%)



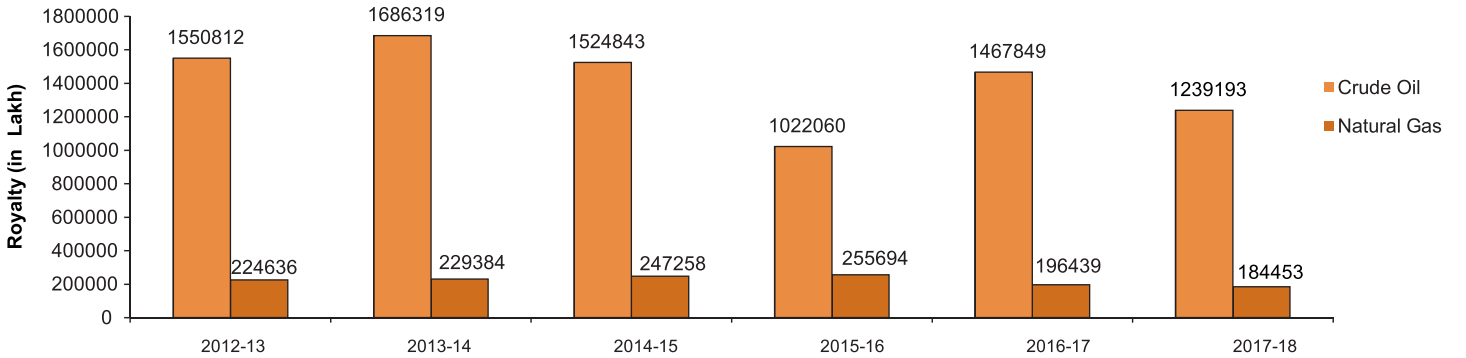
VII.2 Royalty and Oil Development Cess Paid by Oil Companies on Production of Crude Oil and Natural Gas

(in ₹ Lakh)

Year	Royalty on Crude Oil						Royalty 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)
2012-13	1101306	157874	18346	13	273273	1550812	12999	15720	17826	3978	174113	224636	1578081
2013-14	1225077	157254	19188	19	284781	1686319	15200	17412	20066	5039	171667	229384	1587526
2014-15	1138512	137151	40942	31	208207	1524843	18105	20952	16866	7231	184104	247258	1587408
2015-16	563502	136550	19384	41	302582	1022060	21337	22645	16828	9091	185793	255694	1540260
2016-17	819364	296399	29481	27	322578	1467849	16621	15808	12950	8096	142964	196439	1307617
2017-18 (P)	690052	172102	27299	26	349715	1239193	17270	16271	13630	9996	127286	184453	1452742

Note:
1. All figures including Oil Development Cess are on accrual basis
2.Total may not tally due to rounding off.
3. In FY 2015-16 included deposit of ₹ 62.26 crore towards differential Royalty to the State of Gujarat as per order of Hon'ble Supreme Court of India.
4. Excludes National Calamity Contingent Fund (NCCD) and Education cess.
5. Includes data royalty from CAIRN & RIL and excludes other Pvt. Oil companies.
Source: Oil & Natural Gas Corp. Ltd., Oil India Ltd. , Reliance Industries Ltd. and Cairn Oil & Gas.

Figure VII.2: Royalty paid on Crude Oil and Natural Gas



VII.3 Sales Tax Rates Applicable on Crude Oil, Natural Gas and Select Major Petroleum Products (As on 01.04.2018)

(in Percentage)

State/U.T	Crude Oil	Natural Gas	MS (Petrol)
(1)	(2)	(3)	(4)
Andaman & Nicobar Islands	6.0	10.0	6.0
Andhra Pradesh	5.0	14.5	31% + Rs. 4/-per litre
Arunachal Pradesh	4.0	20.0	20.0
Assam	5.0	14.5	32.66% or Rs. 14.00 Ltr, whichever is higher (w.e.f 14.06.2017)
Bihar	6.0	20.0	26% w.e.f. 10.08.2016 (Surcharge 30% on tax w.e.f. 02.02.16)
Chandigarh	4.0	5.0	19.74% +10 Rs per kl
Chattisgarh	5.0	25.0	25% + Rs. 2 per litre
Delhi	12.5	0.0	27.0
Goa	5.0	30.0	17% (sold by PSU OMC to Auth RO), others 20%
Gujarat	4.0%, add tax-1.0% on TTO	15.0	20%, cess-4% on turnover
Haryana	12.50%, additional tax on VAT 5%	12.50%, additional tax on VAT 5%	25%, additional tax on VAT
Himachal Pradesh	4.0	4.0	26.0
Jammu & Kashmir	5.0	14.5	MST 24.00%, cess Rs. 3/- per litre
Jharkhand	5.0	14.0	22% on the sale price or Rs. 15.00 per litre, which ever is higher + cess of Rs 1.00 per Ltr.
Karnataka	0.0	14.5%, for PNG 5.5%	30.0
Kerala	5.0	14.5% w.e.f 18.07.2016	31.80%, additional sales tax Rs 1/- per litre, SSC 1% on total tax
Madhya Pradesh	5.0	14.0	28% + Re. 4 per ltr addl Tax + cess 1% over turnover inc VAT & addl tax
Maharashtra	5.0	13.5	Within municipal limits of Thane, Mumbai, Navi Mumbai, Solapur, Amravati, Nagpur Aurangabad, Nandurbar 26.00%+Rs. 9/ltr, Others 25%+Rs. 9/Ltr
Manipur	5.0	13.5	25.0
Meghalaya	4.0	14.5	22%, surcharge 2% on tax (15.03.2016), partial exmption of Rs. 0.56 per Ltr withdrawn (15.03.16)
Mizoram	5.0	13.5	20.0
Nagaland	5.00%, surcharge on tax 5% (16.07.15)	5.00%, surcharge on tax 5% (16.07.15)	23.5%, Surcharge on tax 5%
Odisha	5.0	15.0	26.0
Puducherry	0.0	14.5	21.15
Punjab	4.5%, surcharge on tax 10%	14.30%, surcharge on tax 10%	28%, surcharge on tax 10.00%, cess Rs.2050 per kl
Rajasthan	5.5	5.5	30.00%, cess Rs.1500/-per KL OMC 5.50%
Sikkim	4.5	4.5	25%, cess Rs.3000 per Kl, Sikkim Consumer Welfare Fund Rs 100 per KL effective from 01.10.2016
Silvassa/Dadra Nagar Haveli	5.0	12.5	20.0
Tamil Nadu	5.0	5.0	34.0
Telangana	5.0	14.5	35.2
Tripura	5.0	14.5	20.0
Uttar Pradesh	4.0	21% additional tax on taxable turnover 5%	26.8% or Rs. 16.74 per litre whichever is higher
Uttarakhand	5.0	20%	25% or Rs. 17 per litre whichever is higher
West Bengal	5.0	5.0	25% or Rs.13.12/Ltr whichever is higher, cess Rs.1000 per Kl, additional tax on tax 20%, rebate available Rs. 17/Kl.

Contd...

VII.3 Sales Tax Rates Applicable on Crude Oil, Natural Gas and Select Major Petroleum Products (As on 01.04.2018) (Contd...)

(in Percentage)

State/U.T	HSD	ATF Domestic	ATF Bonded
(1)	(5)	(6)	(7)
Andaman & Nicobar Islands	6% (HSD for Ship @8%)	10.0	NA
Andhra Pradesh	22.25% + Rs. 4/-per litre	1.0	0.0
Arunachal Pradesh	12.5	20.0	Nil
Assam	23.66% or Rs 8.75/Ltr, whichever is higher. (w.e.f. 14.06.2017).	23.65% (w.e.f 14.06.2017)	Nil
Bihar	19% wef 10.08.2016 (surcharge 30% on tax w.e.f.02.02.16)	29.00% {ATF(Sch.Airlines):-5%}	
Chandigarh	11.4% (MST:-Rs 10/- Per KL)	20.00% (MST:-Rs 10/- per KL)	
Chattisgarh	25% + Re. 1 per ltr	25.0	25.0
Delhi	16.75% plus Rs. 250 per KL Air Ambience Cess	25.0	0.0
Goa	19.00%. (HSD from bond sold to foreign going vessels:- 4.00%)	18.0	18.0
Gujarat	20%, Cess-4% on turnover	ATF duty paid:-30% & 5%	38.0
Haryana	16.40 %, additional tax on VAT 5%	20%, additional tax on VAT 5%	0.0
Himachal Pradesh	15.0	26% for defence and scheduled Airlines and 1% for non scheduled airlines	
Jammu & Kashmir	MST 16.00%, Cess Rs. 1/- per Ltr.	GST 25%, Surcharge on Tax -5.00%	
Jharkhand	22% on the sale price or Rs. 8.37 per litr , which ever is higher + Cess of Rs 1.00 per Ltr.	4.0	4.0
Karnataka	19%, 4% for captive power, 1% for foreign going vessel	28.0	0.0
Kerala	24.52%, additional sales tax Rs 1/- per litre, SSC 1% on total tax	25%, additional tax 15% on tax, surcharge 1% on tax & addl tax	Nil
Madhya Pradesh	22% + Cess 1% over turnover inc. VAT	4% except for Indore & Bhopal @ 25%	
Maharashtra	Within municipal limits of Thane, Mumbai, Navi Mumbai, Solapur, Amravati, Nagpur, Aurangabad, Nandurbar 24.00%+Rs. 1/ltr, Others 21%+Rs. 1/ltr	ATF - duty paid Mumbai Pune:-25.00%, ATF - duty paid except Mumbai Pune 5.00%	30.0
Manipur	14.5	20.0	Nil
Meghalaya	13.50 %, Surcharge 2% on Tax	20.00% + 2% Surcharge	Nil
Mizoram	12.0	20.0	Nil
Nagaland	13.5%, surcharge on tax 5%	1%, Surcharge on tax 5%	Nil
Odisha	26.0	5.0	0.0
Puducherry	17.15	14.5	5.0
Punjab	13.4% for normal and 13% for branded (surcharge on tax:-10%), Cess - fuel-Rs 1050 per KL	13% (4% wef 11.03.2015)sold at the Airport in Punjab to Scheduled & for when Non Scheduled Airlines carrying passengers (Surcharge on Tax:-10.00%)	
Rajasthan	22.00%, cess Rs.1750/-per KL OMC 5.50%	A) 26% , B) 5.5% when airlines maintan hub or connect two cities of Rajasthan C) 10% on Sale of ATF to any airline for use in aircraft which connects any city of Rajasthan (other than Jaipur) by a scheduled commercial flight.	26.0
Sikkim	17.5% to others & 12.5% for retailers in sikkim, cess Rs.2500 per Kl, Sikkim Consumer Welfare Fund Rs 100 per Kl effective from 01.10.2016	25%, Cess Rs.3000 per Kl, Sikkim Consumer Welfare Fund Rs 100 per KL	NA
Silvassa/Dadra Nagar Haveli	15.0	20.0	20.0
Tamil Nadu	25.0	29.0	5.0
Telangana	27.0	16.0	0.0
Tripura	13.5	18.0	Nil
Uttar Pradesh	17.48% or Rs. 9.41 per litre whichever is higher	21%, in case of sale to civil aircrafts at Agra & Varanasi - 5%	21.0
Uttarakhand	17.48% or Rs. 9.41 per litre whichever is higher	20.0	20.0
West Bengal	17% or Rs. 7.70/Ltr whichever is higher, cess Rs.1000 per Kl, additional tax on tax 20%, rebate available Rs 290/Kl.	25.00% + 20% Add. Tax on tax. For Bagdogra AFS- nil	NA

Source:IOCL

VII.4: GST Rates applicable on Select Petroleum Products (As on 01.04.2018)

(in Percentage)

Product	For intra-state supply		For inter-state supply
	Central Tax	State / UT tax	Integrated Tax
Naphtha	9.0	9.0	18.0
Superior Kerosene Oil - PDS	2.5	2.5	5.0
Superior Kerosene Oil - Others	9.0	9.0	18.0
LPG - Domestic	2.5	2.5	5.0
LPG - Non-Domestic	9.0	9.0	18.0
Fuel Oil	9.0	9.0	18.0
IFO 180 CST & IFO 280 CST	2.5	2.5	5.0
Low Sulphur Heavy Stock	9.0	9.0	18.0
Light Diesel Oil	9.0	9.0	18.0
Lubes/Greases	9.0	9.0	18.0
Mineral Turpentine Oil	9.0	9.0	18.0
Sulphur	2.5	2.5	5.0
Asphalt / Bitumen	9.0	9.0	18.0

IFO: Intermediate Fuel Oil

Source: Indian Oil Corporation Ltd.

VII.5 Sales Tax/SGST/UTGST Payments on Crude oil, Natural Gas and Petroleum Products

(in ₹ Crore)

State/UT	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
States						
Andhra Pradesh	11187	12576	8776	7803	8923	10389
Arunachal Pradesh	39	54	57	68	27	68
Assam	1941	2161	2271	2152	2573	3268
Bihar	2532	2739	2805	3372	3960	4621
Chhattisgarh	1993	2402	2650	2621	3237	3733
Goa	379	388	478	534	650	668
Gujarat	13946	14460	15819	14707	15964	16103
Haryana	4032	4602	5126	5992	7017	8060
Himachal Pradesh	187	204	234	263	318	360
J & K	845	943	954	1005	1113	1372
Jharkhand	1478	1829	2080	2480	2971	3283
Karnataka	7127	8212	9102	9035	11570	13836
Kerala	4611	5177	5381	6122	6903	7438
Madhya Pradesh	5385	6298	6874	7686	9209	9417
Maharashtra	17156	19165	19700	19414	23159	27329
Manipur	82	102	117	115	117	164
Meghalaya	2	3	2	2	2	1
Mizoram	60	44	58	53	48	56
Nagaland	60	64	83	80	78	87
Odisha	2105	2550	2901	3062	4298	6926
Punjab	2946	3891	4202	5035	5993	6305
Rajasthan	6065	7403	8374	9232	10597	11876
Sikkim	48	66	74	98	105	113
Tamil Nadu	11383	12288	12314	11003	12583	16023
Telangana	0	0	4528	6395	7560	8867
Tripura	159	160	181	197	168	208
Uttar Pradesh	10157	11509	12503	14134	15771	17953
Uttarakhand	835	1050	1158	1338	1415	1342
West Bengal	4466	5141	4958	5106	5772	6594
Union Territories						
Andaman & Nicobar Islands	4	0	0	130	0	52
Chandigarh	71	74	84	76	55	55
Dadra Nagar Haveli/ Daman & Diu	109	113	140	144	152	75
Delhi	2581	3109	2799	3160	3591	4038
Puducherry	29	29	24	19	22	17
TOTAL	**114001**	**128808**	**136805**	**142633**	**165922**	**190695**

Note: Excludes entry tax, irrecoverable taxes and service tax on movement of goods/ supply of services etc. P:Provisional

Source: Based on 16 major oil companies (CPSEs/JVs and select Pvt oil companies)

VII.6 Sales Tax/SGST/UTGST Payment on Crude Oil, Natural Gas and Petroleum Products by CPSEs

(in ₹ Crore)

State/UT	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Crude Oil (includes Condensate)						
Andhra Pradesh	39	38	45	31	25	14
Assam	504	496	495	444	471	545
Bihar	0	0	0	0	0	0
Gujarat	276	102	237	418	487	549
Maharashtra	888	971	1114	1094	1197	1305
Tamil Nadu	52	55	47	31	33	43
Uttar Pradesh	0	0	0	0	0	0
Total (1)	**1760**	**1662**	**1938**	**2018**	**2214**	**2455**
2. Natural Gas						
Andhra Pradesh	198	208	104	136	134	187
Assam	139	155	204	247	182	180
Delhi	11	17	19	16	12	11
Gujarat	1714	2084	2271	2131	1678	2084
Haryana	126	127	144	104	93	113
Himachal Pradesh	0	0	0	0	0	0
Jharkhand	0	1	0	0	0	0
Kerala	0	11	0	0	11	148
Madhya Pradesh	216	229	201	195	133	121
Maharashtra	634	906	975	869	809	681
Punjab	21	145	103	64	13	2
Rajasthan	95	94	116	125	123	147
Tamil Nadu	51	62	67	58	36	43
Telangana	0	0	0	1	1	1
Tripura	41	44	53	59	42	44
Uttar Pradesh	1244	1230	1356	1288	1007	1270
Uttarakhand	2	5	8	10	4	6
West Bengal	0	0	0	0	0	0
Total (2)	**4491**	**5321**	**5622**	**5305**	**4277**	**5039**

Contd...

VII.6 Sales Tax/SGST/UTGST Payment on Crude Oil, Natural Gas and Petroleum Products by CPSEs (Contd...)

(in ₹ Crore)

State/UT	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
(1)	(2)	(3)	(4)	(5)	(6)	(7)
3. Pol Products						
Andaman and Nicobar Islands	4	0	0	130	0	52
Andhra Pradesh	10547	11931	8328	7291	8361	9602
Arunachal Pradesh	39	54	57	68	27	68
Assam	1276	1485	1545	1432	1853	2350
Bihar	2519	2726	2778	3319	3806	4362
Chandigarh	70	73	83	75	54	55
Chattishgarh	1984	2393	2638	2599	3160	3639
Daman & Diu	3	3	2	5	5	8
DNH (Silvasa)	2	5	9	21	18	32
Delhi	2540	3062	2754	3120	3555	4020
Goa	377	386	473	530	646	667
Gujarat	4895	4959	5529	5242	6544	7417
Haryana	3755	4318	4796	5600	6427	7319
Himachal Pradesh	164	181	213	249	303	345
J & K	845	943	954	1005	1113	1372
Jharkhand	1475	1825	2076	2468	2860	3087
Karnataka	7040	8122	8989	8839	11202	13234
Kerala	4580	5133	5347	6022	6678	7059
Madhya Pradesh	4172	4918	5394	6211	7208	7167
Maharashtra	15151	16791	17019	16473	19627	23644
Manipur	82	102	117	115	117	164
Meghalaya	2	3	2	2	2	1
Mizoram	60	44	58	53	48	56
Nagaland	60	64	83	80	78	87
Odisha	2083	2528	2879	3028	4177	6737
Puducherry	18	18	13	10	12	13
Punjab	2824	2878	3275	3674	4312	4839
Rajasthan	5215	6437	7508	8462	9438	10229
Sikkim	48	66	74	98	105	113
Tamil Nadu	11182	12074	12104	10623	11888	15102
Telangana	0	0	4443	6260	7334	8548
Tripura	119	115	127	138	126	164
Uttar Pradesh	8830	10194	11037	12370	13833	15288
Uttarakhand	808	1020	1124	1304	1367	1265
West Bengal	4440	5114	4895	4977	5512	6236
Total (3)	**97209**	**109966**	**116723**	**121761**	**141798**	**164343**
Grand Total (1+2+3)	**103460**	**116949**	**124283**	**129083**	**148289**	**171836**

Note: Excludes entry tax, irrecoverable taxes and service tax on movement of goods/ supply of services etc.
Source: CPSEs (ONGC, OIL, GAIL, IOCL, HPCL, BPCL, CPCL, MRPL, NRL, Balmer Lawrie)

VII.7 Central Excise and Customs Tariff as on 01.04.2018

(A) Non GST Products

Particulars	CUSTOMS			CENTRAL EXCISE		
	Basic Customs Duty	Additional Customs Duty (CVD)	Additional Customs Duty	Basic Excise Duty	Special Additional Excise Duty	Additional Excise Duty (Road and infrastructure Cess)
Crude Oil	NIL + Rs. 50/- +Rs.50/MT as NCCD	Nil	-	Nil+ Cess @ 20% MT as NCCD	-	-
Petrol	2.50%	Rs.4.48/Ltr. + Rs.7.00/ Ltr Special Additional Duty	Rs.8.00/Ltr.	Rs.4.48/Ltr	Rs.7.00/Ltr	Rs.8.00/Ltr.
Petrol (branded)	2.50%	Rs.5.66/Ltr. + Rs.7.00/ Ltr Special Additional Duty	Rs.8.00/Ltr.	Rs.5.66/Ltr	Rs.7.00/Ltr	Rs.8.00/Ltr.
High Speed Diesel	2.50%	Rs.6.33/Ltr+ Rs.1.00/ Ltr	Rs.8.00/Ltr.	Rs.6.33/Ltr	Rs.1.00/Ltr	Rs.8.00/Ltr.
High Speed Diesel (branded)	2.50%	Rs.8.69/Ltr+ Rs.1.00/ Ltr	Rs.8.00/Ltr.	Rs.8.69/Ltr	Rs.1.00/Ltr	Rs.8.00/Ltr.
Aviation Turbine Fuel	Nil	14%	-	14%	-	-
Liquefied Natural Gas	2.50%	Nil	-	Nil	-	-
Natural Gas [Gaseous state]	5.00%	Nil	-	Nil	-	-
Natural Gas [Compressed]	5.00%	14.00%	-	14.00%	-	-

(B) GST Products

Particulars		Customs (in %)	
		Basic	CVD (in lieu of IGST)
LPG	Domestic[3]	Nil	5
	Non - Domestic	5	18
Kerosene	PDS	Nil	5
	Non PDS	5	18
Naphtha	Fertilizer	Nil	18
	Non- Fertilizer	5	18
Butane / Propane	Domestic	Nil	5
	Non - Domestic	2.5	18
Bitumen & Asphalt		5	18
Furnace Oil	Fertilizer	Nil	18
	Non- Fertilizer	5	18
Light Diesel Oil		5	18
Low Sulphur Heavy Stock/ HPS & other Residues	Fertilizer	Nil	18
	Non- Fertilizer	5	18
Lube oil/greases		5	18
Petroleum Coke		10	18
Petroleum Jelly		5	18
Transformer Oil		5	18
Waxes - all types		5	18

Note: NCCD: National Calamity Contingent Duty.
1. In addition to the above , 10% Social Welfare Surcharge (3% in case of petrol and diesel) is also applicable on the total duties of Customs (excluding CVD in lieu of IGST).
2.In case of ATF , Basic Excise Duty /Additional Customs Duty (CVD) is 2% in place of 14%, for supply to Scheduled Commuter Airlines(SCA) from the Regional Connectivity Scheme (RCS) airports.
3. Basic Customs duty is Nil for import of domestic LPG sold to household consumers (including non-domestic exempted category) by CPSEs OMCs. Basic Customs duty rate is 5% for other importers of domestic LPG.
Source: PPAC

Chapter VIII



Manpower

Chapter Highlights

- Total manpower employed in oil and gas sector CPSEs stood at 1,07,872 as on 31.03.2018.
- Exploration & production vertical accounted for the highest manpower deployment (30%) followed by marketing (28%) and refinery (23%) as on 31.03.2018.
- Executive/Managerial categories employed the highest proportion of manpower (55%) followed by Workmen (32%), Supervisory (7%) and Clerical (6%) accounted for the balance as on 31.03.2018.
- ONGC and IOCL together accounted for over 61% of the total manpower employed in the oil & gas CPSEs as on 31.03.2018.

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

(in Number)

Category	2012	2013	2014	2015	2016	2017	2018 (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Exploration & Production	31823	31701	32388	32850	33455	33150	31822
Refining	26174	25988	25689	25233	24693	25038	25196
Marketing	32492	32732	32220	31094	31260	30698	29981
Pipelines	4653	4438	4985	5087	5384	5689	5869
Research & Development	1959	1943	2015	2126	2101	1986	1956
Others	16095	15969	15751	14329	13720	13492	13048
Grand Total	**113196**	**112771**	**113048**	**110719**	**110613**	**110053**	**107872**

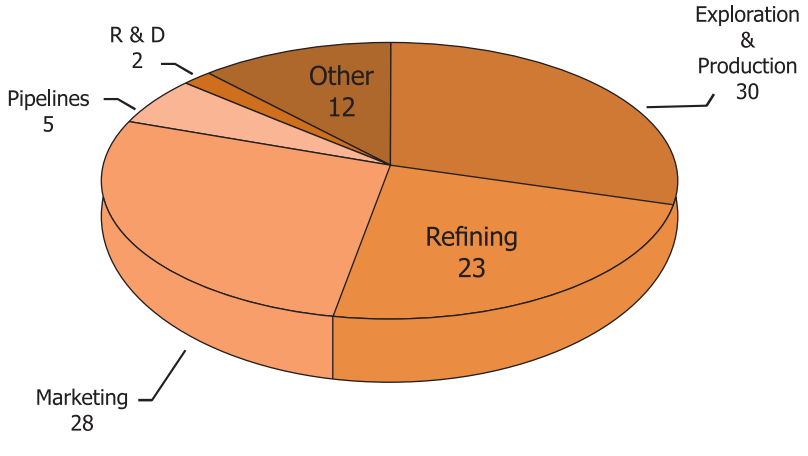
Notes:

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

2. Figures exclude 'Expatriates/Foreign Experts/on Contract' manpower

Source: Central Public Sector Enterprises

Figure VIII.1: Sector-wise manpower (in %)
(as on 31.03.2018)



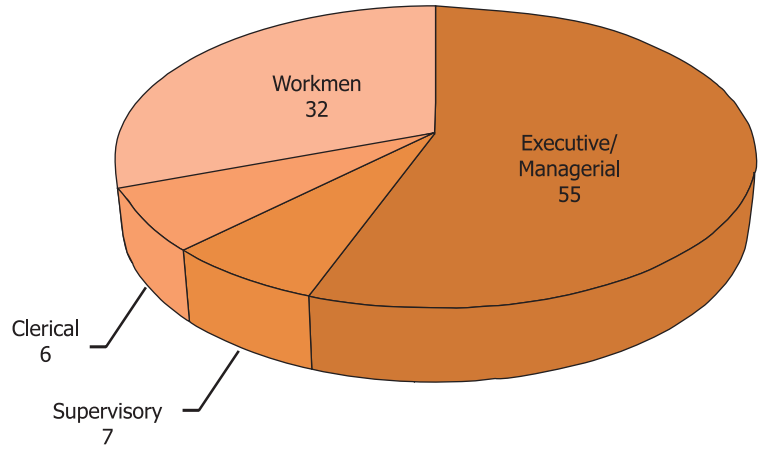
VIII.2 Category-wise manpower employed in oil & gas CPSEs in India

(in Number)

Category	2012	2013	2014	2015	2016	2017	2018 (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Executive/Managerial	59187	59472	60571	59598	59707	59962	59884
Supervisory	11367	11162	10773	10407	10047	9988	7480
Clerical	8033	7684	7218	7036	5710	5392	6329
Workmen	34609	34453	34486	33678	35149	34711	34179
Grand Total	**113196**	**112771**	**113048**	**110719**	**110613**	**110053**	**107872**

Notes:
1.The figures are as on 31st March of each year. P: Provisional
2. Figures exclude 'Expatriates/Foreign Experts/on Contract' manpower
Source: Central Public Sector Enterprises

Figure VIII.2: Category-wise manpower (in %)
(as on 31.03.2018)



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

(in Number)

Category	2012	2013	2014	2015	2016	2017	2018 (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.Exploration and Production							
1. Executive/Managerial	21270	20991	20940	20785	20258	19394	18573
2. Supervisory	2826	2702	2540	2538	2321	2157	1947
3. Clerical	1045	349	330	475	545	574	550
4. Workman	6682	7659	8578	9052	10331	11025	10752
Total	**31823**	**31701**	**32388**	**32850**	**33455**	**33150**	**31822**
2. Refining							
1. Executive/Managerial	9735	9918	10028	10080	10075	10410	10791
2. Supervisory	3673	3596	3491	3371	3144	2958	2808
3. Clerical	1902	1813	1645	1580	700	679	680
4. Workman	10864	10661	10525	10202	10774	10991	10917
Total	**26174**	**25988**	**25689**	**25233**	**24693**	**25038**	**25196**
3. Marketing							
1. Executive/Managerial	13875	13993	14762	14642	15202	15805	16159
2. Supervisory	3160	3168	3113	3101	3193	3515	1407
3. Clerical	3872	3720	3521	3334	3233	2870	3487
4. Workman	11585	11851	10824	10017	9632	8508	8928
Total	**32492**	**32732**	**32220**	**31094**	**31260**	**30698**	**29981**
4. Pipelines							
1. Executive/Managerial	-	-	-	-	3777	4081	4249
2. Supervisory	-	-	-	-	207	222	266
3. Clerical	-	-	-	-	164	162	345
4. Workman	-	-	-	-	1236	1224	1009
Total	**4653**	**4438**	**4985**	**5087**	**5384**	**5689**	**5869**
5. Research & Development							
1. Executive/Managerial	-	-	-	-	1768	1672	1659
2. Supervisory	-	-	-	-	101	91	83
3. Clerical	-	-	-	-	33	34	28
4. Workman	-	-	-	-	199	189	186
Total	**1959**	**1943**	**2015**	**2126**	**2101**	**1986**	**1956**
6. Others							
1. Executive/Managerial	-	-	-	-	8627	8600	8453
2. Supervisory	-	-	-	-	1081	1045	969
3. Clerical	-	-	-	-	1035	1073	1239
4. Workman	-	-	-	-	2977	2774	2387
Total	**16095**	**15969**	**15751**	**14329**	**13720**	**13492**	**13048**
Grand Total	**113196**	**112771**	**113048**	**110719**	**110613**	**110053**	**107872**

P: Provisional

Notes:

1. The figures are as on 31st March of each year.
2. Figures exclude 'Expatriates/Foreign Experts/on Contract' manpower

Source: Central Public Sector Enterprises

VIII.4: Sector-wise and category-wise manpower employed in oil & gas CPSEs as on 31.03.2018

(in Number)

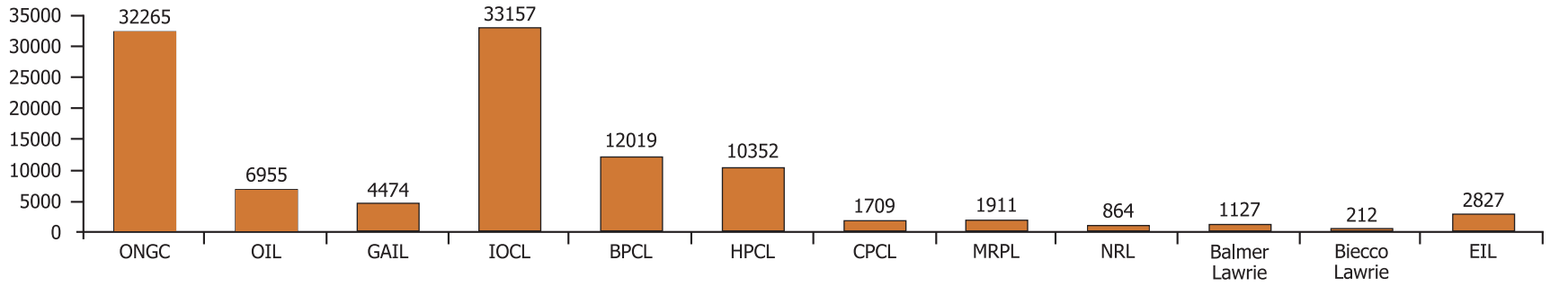
Sector/Category/CPSE	ONGC	OIL	GAIL	IOCL	BPCL	HPCL	CPCL	MRPL	NRL	Balmer Lawrie	Biecco Lawrie	EIL	Total (P)
Sector-wise manpower													
1. Exploration & Production	28193	3376	37	0	48	17	0	0	0	0	151	0	31822
2. Refining	201	0	0	13821	4338	2692	1638	1815	691	0	0	0	25196
3. Marketing	52	0	573	15822	7109	6187	20	96	77	0	11	34	29981
4. Pipelines	102	387	1599	3090	217	474	0	0	0	0	0	0	5869
5. Research & Development	1208	52	14	424	99	66	16	0	0	17	6	54	1956
6. Others	2509	3140	2251	0	208	916	35	0	96	1110	44	2739	13048
Total	**32265**	**6955**	**4474**	**33157**	**12019**	**10352**	**1709**	**1911**	**864**	**1127**	**212**	**2827**	**107872**
Category-wise manpower													
1. Executive/Managerial	20965	1568	3586	17122	5981	6069	203	818	438	477	50	2607	59884
2. Supervisory	1784	772	271	3599	0	0	629	105	0	213	0	107	7480
3. Clerical	570	607	560	1661	1421	1213	58	0	38	78	11	112	6329
4. Workmen	8946	4008	57	10775	4617	3070	819	988	388	359	151	1	34179
Total	**32265**	**6955**	**4474**	**33157**	**12019**	**10352**	**1709**	**1911**	**864**	**1127**	**212**	**2827**	**107872**

Notes: Figures exclude 'Expatriates/Foreign Experts/on Contract' manpower

P:Provisional

Source: Central Public Sector Enterprises

Figure VIII.3: Regular Manpower employed in CPSEs as on 31.03.2018



Chapter IX



Energy

Chapter Highlights

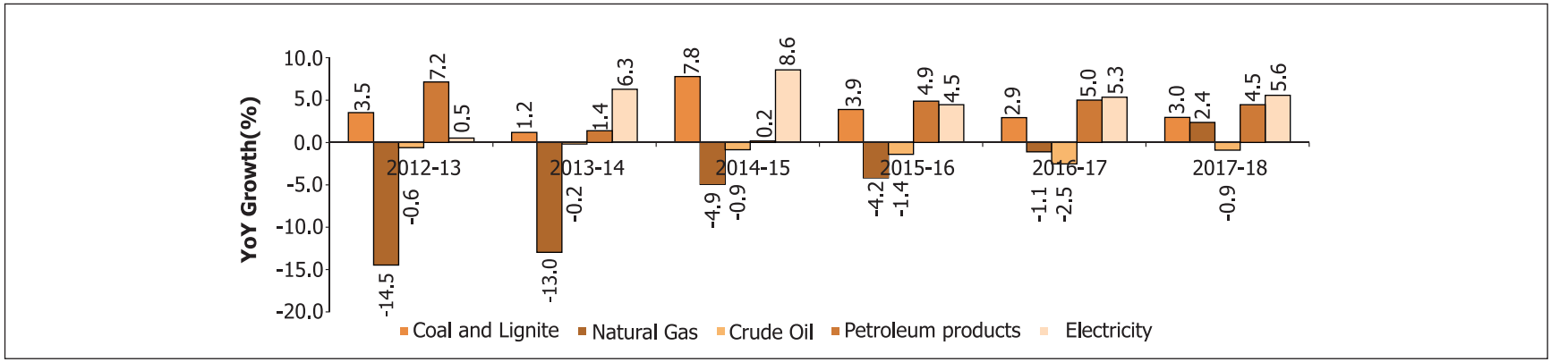
- Production of petroleum products was 254.41 MMT during 2017-18, which is 4.46% higher than the production in 2016-17 (243.55 MMT).
- Natural Gas Production during 2017-18 was 32.65 BCM, which is 2.35% more than the production in 2016-17 (31.90 BCM)
- Crude Oil Production during 2017-18 was 35.68 MMT, which is 0.92% less than the production in 2016-17 (36.01 BCM)
- Coal & Lignite production in the country during the year 2017-18 was 723.94 MMT as compared to 703.10 MMT in 2016-17, registering a growth of 2.96%.
- Gross Electricity Generation which increased from 1.407 billion GWh in 2016-17 to 1.486 billion GWh in 2017-18, achieved a growth rate of 5.61%.
- Gross Value Added [at constant prices(2011-12)] by petroleum and natural gas in economic activity was ₹4,25,400 crore in 2016-17 as compared to ₹3,69,842 crore in 2015-16, registering a growth of 15.02%.
- Contribution of petroleum and natural gas in total GVA at basic prices showed an increase from 3.52% in 2015-16 to 3.78% in 2016-17 [at constant prices (2011-12)].

IX.1 Gross Production of Various Energy Sources in India

Year	Coal & Lignite			Hydro-Carbon			Power					
	Coal	Lignite	Total	Natural Gas	Crude Oil	Petroleum Products	Utilities				Non-Utilities	Gross Electricity Generation
							Thermal	Hydro	Nuclear	RES		
	(Million Tonnes)			(MMSCM)	(TMT)		(GWh)					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
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	639.23	43.84	683.07	32249	36942	231923	943013	121377	37414	65781	168372	1335956
2016-17	657.87	45.23	703.10	31897	36009	243551	993516	122378	37916	81548	172046	1407404
2017-18 (P)	676.48	47.46	723.94	32649	35684	254405	1036412	126123	38346	101839	183000	1485721

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

Figure IX.1: YoY growth in gross production of various energy 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	2015-16	2016-17(P)	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17(P)
	at Current Prices						Constant Prices (2011-12)					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1.(a) Petroleum & Natural Gas	94476	111426	120334	116892	111913	120186	94476	101834	101298	112927	146227	164555
(b) Manufacture of coke and refined petroleum products	78462	148584	168740	226152	196370	235938	78462	136011	142692	208277	223615	260845
(c) Total	172938	260010	289074	343044	308283	356124	172938	237845	243990	321204	369842	425400
2.Railways	61150	72296	78724	92459	100436	106582	61150	69162	73685	80720	85452	84594
3.Transport by other means	337347	388023	427352	481455	521819	565586	337347	360142	382631	409551	436856	464456
4. Storage	5108	6165	6026	6407	6655	6888	5108	5715	5209	5529	6061	5869
5.Communication & Services related to broadcasting	125930	142969	177804	206442	243323	256518	125930	134504	156030	176047	206218	211274
6.Electricity	145194	168197	204852	220178	269997	276988	145194	148517	152873	163722	170123	180320
7. Gas	14666	15652	16868	15560	14626	19036	14666	14269	14131	12832	13213	14296
8.Water Supply	14710	17512	22062	28231	32089	45591	14710	15934	18343	22159	24009	32635
9.Other Utility Services	12098	13989	16373	18289	20266	21867	12098	12915	14253	15334	16853	17684
10.GVA at basic prices	8106946	9202692	10363153	11504279	12566646	13841591	8106946	8546275	9063649	9712133	10503348	11247629
11.Contribution of P& NG in total GVA at basic prices (%)	2.13	2.83	2.79	2.98	2.45	2.57	2.13	2.78	2.69	3.31	3.52	3.78
Growth Rate (%)												
1.(a) Petroleum & Natural Gas	-	17.94	7.99	-2.86	-4.26	7.39	-	7.79	-0.53	11.48	29.49	12.53
(b) Manufacture of coke and refined petroleum products	-	89.37	13.57	34.02	-13.17	20.15	-	73.35	4.91	45.96	7.36	16.65
(c) Total	-	50.35	11.18	18.67	-10.13	15.52	-	37.53	2.58	31.65	15.14	15.02
2.Railways	-	18.23	8.89	17.45	8.63	6.12	-	13.10	6.54	9.55	5.86	-1.00
3.Transport by other means	-	15.02	10.14	12.66	8.38	8.39	-	6.76	6.24	7.04	6.67	6.32
4. Storage	-	20.69	-2.25	6.32	3.87	3.50	-	11.88	-8.85	6.14	9.62	-3.17
5.Communication & Services related to broadcasting	-	13.53	24.37	16.11	17.87	5.42	-	6.81	16.00	12.83	17.14	2.45
6. Electricity	-	15.84	21.79	7.48	22.63	2.59	-	2.29	2.93	7.10	3.91	5.99
7.Gas	-	6.72	7.77	-7.75	-6.00	30.15	-	-2.71	-0.97	-9.19	2.97	8.20
8.Water Supply	-	19.04	25.98	27.96	13.66	42.08	-	8.32	15.12	20.80	8.35	35.92
9.Other Utility Services	-	15.63	17.04	11.70	10.81	7.90	-	6.75	10.36	7.58	9.91	4.93
10.GVA at basic prices	-	13.52	12.61	11.01	9.23	10.15	-	5.42	6.05	7.15	8.15	7.09

P: Provisional,
Source: Central Statistics Office, MoSPI

IX.3 Petroleum Energy in India (Calendar Year-wise)

Products	2011	2012	2013	2014	2015	2016	2017 (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Availability							
In Original Units (Million Tonnes)							
Kerosene	8.68	8.09	7.45	7.62	7.46	6.53	4.68
ATF	5.46	5.39	5.49	5.72	6.10	6.77	7.46
Diesel	63.12	68.94	67.49	69.38	73.71	76.31	78.99
Fuel Oils	12.41	10.32	8.84	8.17	8.07	8.99	8.02
Others[1]	45.27	45.13	47.84	51.49	56.48	62.21	68.09
Total	**134.95**	**137.87**	**137.10**	**142.37**	**151.83**	**160.81**	**167.23**
In Million Tonnes of Coal Equivalent Unit[2]							
Kerosene	17.36	16.18	14.90	15.24	14.92	13.06	9.36
ATF	10.92	10.78	10.98	11.44	12.20	13.54	14.92
Diesel	126.24	137.88	134.98	138.76	147.42	152.62	157.98
Fuel Oils	24.82	20.64	17.68	16.34	16.14	17.98	16.04
Others[1]	90.54	90.26	95.68	102.98	112.96	124.42	136.18
Total	**269.88**	**275.74**	**274.22**	**284.76**	**303.64**	**321.62**	**334.48**
In Million Tonnes of Coal Replacement Unit[2]							
Kerosene	69.44	64.72	59.60	60.96	59.68	52.24	37.44
ATF	40.95	40.43	41.18	42.90	45.75	50.78	55.95
Diesel	568.08	620.46	607.41	624.42	663.39	686.79	710.91
Fuel Oils	24.82	20.64	17.68	16.34	16.14	17.98	16.04
Others[1]	124.74	126.37	126.37	126.37	126.37	126.37	126.37
Total	**828.03**	**872.62**	**852.24**	**870.99**	**911.33**	**934.16**	**946.71**
Consumption[3]							
In Original Units (Million Tonnes)							
Kerosene	8.43	7.65	7.25	7.13	6.89	5.93	4.09
ATF	5.46	5.32	5.45	5.68	6.10	6.81	7.43
Diesel	63.67	69.02	69.03	69.38	73.07	77.20	79.78
Fuel Oils	9.79	8.09	6.43	5.88	6.23	7.50	6.68
Others[1]	47.02	49.35	50.30	53.59	58.48	65.09	69.24
Total	**132.01**	**139.42**	**138.46**	**141.65**	**150.75**	**162.52**	**167.23**
In Million Tonnes of Coal Equivalent Unit[2]							
Kerosene	16.87	15.31	14.50	14.25	13.77	11.86	8.17
ATF	10.93	10.64	10.90	11.36	12.19	13.61	14.86
Diesel	127.35	138.03	138.05	138.75	146.14	154.39	159.56
Fuel Oils	19.58	16.18	12.87	11.76	12.45	14.99	13.37
Others[1]	94.03	98.69	100.61	107.18	116.96	130.18	138.49
Total	**268.76**	**278.85**	**276.92**	**283.30**	**301.51**	**325.03**	**334.45**
In Million Tonnes of Coal Replacement Unit[2]							
Kerosene	67.48	61.24	58.00	57.01	55.09	47.45	32.69
ATF	40.98	39.88	40.87	42.58	45.71	51.04	55.74
Diesel	573.05	621.14	621.23	624.38	657.61	694.78	718.01
Fuel Oils	19.58	16.18	12.87	11.76	12.45	14.99	13.37
Others[1]	128.94	128.94	128.94	128.94	128.94	128.94	128.94
Total	**830.04**	**867.38**	**861.90**	**864.68**	**899.81**	**937.19**	**948.76**

Note: P: Provisional

1. Others 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.

Source: Oil Companies

IX.4 Petroleum Energy in India (Financial Year-wise)

Products	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18(P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Availability							
In Original Units (Million Tonnes)							
Kerosene	8.39	7.74	7.40	7.57	7.53	6.03	4.39
ATF	5.50	5.42	5.48	5.58	6.10	6.90	7.70
Diesel	63.95	69.86	67.79	69.35	75.16	76.82	80.14
Fuel Oils	11.74	10.17	8.58	8.06	8.09	8.64	8.27
Others[1]	45.77	47.88	49.50	52.22	57.62	63.83	68.49
Total	**135.36**	**141.08**	**138.75**	**142.78**	**154.51**	**162.21**	**168.99**
In Million Tonnes of Coal Equivalent Unit[2]							
Kerosene	16.78	15.48	14.80	15.14	15.06	12.06	8.78
ATF	11.00	10.84	10.96	11.16	12.20	13.80	15.40
Diesel	127.90	139.72	135.58	138.70	150.32	153.64	160.28
Fuel Oils	23.48	20.34	17.16	16.12	16.18	17.28	16.54
Others[1]	91.54	95.76	99.00	104.44	115.24	127.66	136.98
Total	**270.70**	**282.14**	**277.50**	**285.56**	**309.00**	**324.44**	**337.98**
In Million Tonnes of Coal Replacement Unit[2]							
Kerosene	67.12	61.92	59.20	60.56	60.24	48.24	35.12
ATF	41.25	40.65	41.10	41.85	45.75	51.75	57.75
Diesel	575.55	628.74	610.11	624.15	676.44	691.38	721.26
Fuel Oils	23.48	20.34	17.16	16.12	16.18	17.28	16.54
Others[1]	124.74	124.74	124.74	124.74	124.74	124.74	124.74
Total	**832.14**	**876.39**	**852.31**	**867.42**	**923.35**	**933.39**	**955.41**
Consumption[3]							
In Original Units (Million Tonnes)							
Kerosene	8.23	7.50	7.16	7.09	6.83	5.40	3.85
ATF	5.54	5.27	5.50	5.72	6.26	7.00	7.62
Diesel	65.16	69.48	68.75	69.78	75.05	76.48	81.60
Fuel Oils	9.31	7.66	6.24	5.96	6.63	7.15	6.76
Others[1]	47.64	49.69	51.29	54.74	60.24	65.44	70.68
Total	**135.87**	**139.60**	**138.94**	**143.30**	**155.02**	**161.46**	**170.51**
In Million Tonnes of Coal Equivalent Unit[2]							
Kerosene	16.46	15.00	14.33	14.17	13.65	10.79	7.69
ATF	11.07	10.54	11.01	11.45	12.52	14.00	15.25
Diesel	130.33	138.96	137.50	139.56	150.11	152.95	163.19
Fuel Oils	18.61	15.31	12.47	11.92	13.26	14.30	13.52
Others[1]	95.27	99.38	102.58	109.49	120.49	130.89	141.36
Total	**271.75**	**279.20**	**277.89**	**286.59**	**310.03**	**322.93**	**341.02**
In Million Tonnes of Coal Replacement Unit[2]							
Kerosene	65.83	60.01	57.32	56.69	54.61	43.17	30.76
ATF	41.52	39.53	41.28	42.92	46.96	52.48	57.17
Diesel	586.48	625.31	618.75	628.03	675.49	688.28	734.37
Fuel Oils	18.61	15.31	12.47	11.92	13.26	14.30	13.52
Others[1]	132.95	132.95	132.95	132.95	132.95	132.95	132.95
Total	**845.39**	**873.11**	**862.77**	**872.52**	**923.27**	**931.18**	**968.77**

Note: P: Provisional

1. Others 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.

Source: Oil Companies

Chapter X



CPSEs: Key Financial Indicators

Chapter Highlights

- Total budgeted Internal and Extra Budgetary Resources (IEBR) for petroleum and natural gas sector at ₹ 89335.09 crore in 2018-19, is 3.9% higher than that IEBR budgeted for the year 2017-18 (₹ 86027.28 crore).
- The dividend paid (payment-basis) by Oil & gas CPSEs under the Ministry of Petroleum and Natural Gas, to the Government of India for the year 2017-18 (₹ 14575.52 crore) is 25% lower than the dividend paid in 2016-17 (₹ 19425.32 crore).
- Total dividend paid by Oil & Gas CPSEs Total Stakeholder is ₹ 29891.1 crore for the year 2017-18 to the total stakeholders. IOCL paid the highest dividend (₹ 9711.81 crore) followed by ONGC (₹ 7764 crore) and BPCL (₹ 3181.57 crore) for the year 2017-18.
- Net Profit earned by CPSEs during the year 2017-18 was ₹ 69562.06 crore which was higher by 8.1% as compared to 2016-17 (₹ 64320.11 crore). IOCL earned highest profit (₹ 21346.12 crore) followed by ONGC (₹ 19945 crore) and BPCL (₹ 7919.34 crore).

X.1 Total Outlay & Actual Expenditure for P&NG Sector

(in ₹ crore)

CPSEs	2013-14	2014-15	2015-16	2016-17	2017-18		2018-19
	Actual	Actual	Actual	Actual	BE	Actual	BE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Internal & Extra Budget Resources (IEBR) by CPSEs							
OVL	35357.00	7171.55	6782.96	17616.99	7087.99	6797.98	5886.00
ONGC [1]	32469.54	29997.46	30110.43	28006.41	29967.82	72901.68	32077.12
OIL [2]	9350.97	3773.76	3622.25	11083.24	9252.34	8154.44	4299.99
GAIL [3]	4069.78	1632.18	1511.75	1814.05	2053.00	3680.46	4722.00
IOCL	16660.61	14313.68	11484.74	20736.93	20161.79	21457.20	22862.34
HPCL	2641.87	2669.61	1430.09	5757.26	7110.00	7209.72	8425.00
BPCL [4]	4373.58	6874.75	8287.00	16948.55	7100.64	8997.76	7400.00
MRPL	1448.74	2747.36	1502.03	616.40	1137.75	1281.76	744.00
CPCL	228.60	465.90	1272.00	1269.11	845.00	1020.32	1010.00
NRL [5]	372.14	102.77	70.27	503.35	1260.95	419.01	428.00
BALMER LAWRIE	119.55	79.79	45.37	73.75	50.00	83.18	125.00
EIL [6]	0.00	0.00	0.00	0.00	0.00	0.00	1355.64
Total (IEBR)	**107092.38**	**69828.81**	**66118.89**	**104426.04**	**86027.28**	**132003.51**	**89335.09**
Gross Budgetary Support Schemes (GBS)							
Rajiv Gandhi Instt. of Petroleum Technology (RGIPT)	0.00	0.00	48.00	100.00	135.10	121.75	0.00
Strategic Storage Programme for Storage of Crude Oil by ISPRL	0.00	0.00	1153.00	2001.00	2499.00	1121.28	700.00
ISPRL Phase-II (Construction of caverns)	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Indian Institute of Petroleum Energy (Petroleum University in Andhra Pradesh	0.00	0.00	0.00	32.00	145.20	1.00	32.00
Scheme for LPG Connection to Poor Households -PMUY (Ujjwala)	0.00	0.00	0.00	2500.00	2500.00	2251.81	3200.00
Establishment of RGIPT Centre, Assam	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Establishment of Centre of Excellence for Energy, Bangalore	0.00	0.00	0.00	0.00	1.00	0.00	2.00
Total (GBS)	**0.00**	**0.00**	**1201.00**	**4633.00**	**5282.30**	**3495.84**	**3936.00**

Note:

1. Includes payments for acquisition of GSPC's stake in DDW Field (₹ 7534.21 crore) and HPCL stake (₹ 36915 crore). Out of ₹ 36915 crore towards HPCL stake acquisition, ₹ 24876 crore is from domestic borrowings.
2. Out of total IEBR of ₹ 9252.34 crore, total CAPEX (including JV/Subsidiaries) investment is ₹ 4289.56 crore. Includes expenditure of ₹ 4755.41 crore on account of adjustments made for 2016-17 (CAPEX, dividend) and equity contribution on overseas subsidiaries for Russia and buyback of shares.
3. Total CAPEX in BE 2017-18 is ₹ 3253 crore which includes ₹ 1200 crore as GBS from Govt. of India for Jagdishpur-Haldia Pipeline Project. However, GAIL received ₹ 400 crore as Central grant (GBS) against a BE of ₹ 1200 crore and RE ₹ 435 crore, which is not included in actual expenditure (IEBR). GBS of ₹ 1674 crore is proposed for the projects in 2018-19.
4. ₹ 700 crore proposed for petrochemicals which was not accounted for in BE 2017-18 due to printing error, has been incorporated in RE for 2017-18, taking its total IEBR to ₹ 7800 crore.
5. Against total IEBR of ₹ 1260.95 crore, total CAPEX for 2017-18 was ₹ 375 crore.
6. Included first time for IEBR review

Source: Ministry of Petroleum and Natural Gas

X.2 Performance of CPSEs under the Ministry of Petroleum and Natural Gas during 2017-18

(in ₹ crore)

Performance Parameters	Unit	ONGC[1]	OVL	IOCL[2]	GAIL[3]	HPCL[4]	OIL[5]	BPCL[6]	CPCL[7]	MRPL	NRL[8]	EIL	Balmer Lawrie[9]	Biecco Lawrie[10]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Authorised Capital	₹ crore	15000.00	25000.00	15000.00	5000.00	2500.00	2000.00	2500.00	400.00	3000.00	1000.00	400.00	120.00	75.00
Paid up Capital	₹ crore	6416.62	15000.00	9711.81	2255.07	1523.82	756.60	2169.25	149.00	1752.66	735.63	315.96	114.00	74.76
Govt. equity in the CPSE	%	67.72	Nil	56.98	53.59	51.11	66.13	54.31	-	Nil	Nil	52.02	Nil	32.23
Gross Turnover	₹ crore	85004.00	13150.73	507654.41	53690.00	243226.66	10656.47	276400.89	44135.00	63067.07	15921.96	1787.58	1830.14	14.16
PAT	₹ crore	19945.00	981.45	21346.12	4618.41	6357.07	2667.93	7919.34	913.00	2224.12	2044.65	377.87	184.82	-17.71
Debt equity ratio	Ratio	0.13:1	0.98:1	0.53:1	0.06 : 1	0.43:1	0.40 : 1	0.68:1	1.14:1	0.43:1	0.06 :1	-	0.012:1	-0.35
Reserves & Surpluses	₹ crore	186968.00	31430.38	100692.33	32887.31	22409.78	27152.81	32185.12	3707.00	9280.41	4308.72	1951.92	1141.86	-153.64
Net worth	₹ crore	193385.00	46430.38	91663.70	35142.38	23948.21	22745.31	34060.68	3856.00	11033.07	5044.35	2267.87	1255.86	-78.87
Dividend Payable[11] (Accrual)	₹ crore	8470.00	300.00	11168.58	1618.60	2590.49	1172.73	4555.43	275.00	525.78	1360.92	252.77	137.86	0.00
Dividend as a %age of Equity	%	132.00	2.00	115.00	71.77	170.00	140.00	210.00	184.56	4.77	185.00	60.00	100.00	-
Dividend as a %age of PAT	%	42.47	31.00	52.32	35.05	40.75	44.00	52.16	30.00	23.64	66.56	50.00	61.68	-
EPS	₹	15.54	6.54	22.52	20.48	41.72	23.32	40.26	61.31	12.69	27.79	5.83	16.21	-2.37
Payout Ratio	%	42.47	31.00	52.32	35.05	40.75	44.00	52.16	30.00	23.64	66.56	0.50	61.68	-
Total outstanding loan	₹ crore	25593.00	45539.84	58029.91	2080.00	20990.88	9004.25	23350.67	4389.00	7950.17	325.24	-	14.90	27.81

Note:

1. Net worth including reserve for equity instruments through Other Comprehensive Income (OCI) of ₹ 21,574 crore
2. Includes ₹9,226.22 crore paid in the form of Interim Dividend and ₹1,942.36 crore payable in the form of Final Dividend for FY 17-18 subject to ratification at AGM.
3. In March, 2018, GAIL has issued Bonus shares in ratio of one equity share of ₹ 10 each for every three equity shares of ₹ 10 each held as result the Paid-up Equity Capital has increased from ₹ 1691.30 crore to ₹ 2255.07 crore by capitalising the General Reserves for ₹ 563.77 crore. (ii) Dividend paid/payable includes ₹ 1294 crore as interim dividend already paid and₹ 325 crore as final dividend payable for FY 2017-18 which is subject to approval of shareholders in AGM.
4. On January 31, 2018, based on the Share Purchase Agreement (SPA) entered into between Govt. of India and ONGC, 51.11% Equity Shares in the paid-up capital of HPCL have been acquired by ONGC. Interim dividend of ₹ 14.50 per share has been paid, final dividend of ₹ 2.50 per share is subject to approval in AGM.
5. OIL has declared dividend for 2017-18: Interim dividend of 140% on pre bonus equity share capital of ₹ 756.60 crore and Final dividend of 10% on post bonus equity share capital of ₹ 1134.90 crore.
6. (i) Paid up capital has been computed after adjusting treasury shares held by BPCL trust having face value of ₹ 202.37 crore. (ii) Dividend declared after netting off dividend on BPCL trust shares is ₹ 4130.45 crore. Dividend as a % of PAT will be 57.52% excluding the dividend on Trust shares adjustment.
7. Govt. of India transferred its entire shareholding of 7,72,65,200 Equity shares of ₹ 10/- each (51.89%) in favour of IOCL effective 29.03.2001.
8. (i) Govt. of India does not hold any shares in the company directly. Shareholding pattern of NRL is BPCL 61.65%, OIL 26% and Govt. of Assam 12.35%. (ii) For FY 2017-18, Interim dividend of ₹ 1177.01 crore was paid in FY 2017-18 and Final dividend of ₹ 183.91 crore for the year has been proposed for approval of the shareholders.
9. There is no direct holding by Govt. of India in BL. Balmer Lawrie Investments Ltd . (BLIL), a Govt. Company holds 61.8% of equity shares in BL. President of India holds 59.67% in BLIL.
10. Biecco Lawrie Limited is a loss making CPSE and is not to pay dividend during the financial year 2017-18
11. Dividend excludes Dividend Distribution Tax.

Source: Central Public Sector Enterprises

X.3 Dividend Paid (Payment-Basis) by CPSEs under the Ministry of Petroleum and Natural Gas

(in ₹ crore)

Name of Company	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Oil & Natural Gas Corp. Ltd.	**9411.00**	**8341.00**	**7914.00**	**4919.00**	**9518.00**	**7764.00**
on which						
Dividend to Central Government of India	6515.00	5764.00	5456.00	3391.00	6544.00	5275.00
Dividend to other Stakeholder	2896.00	2577.00	2458.00	1528.00	2974.00	2489.00
ONGC Videsh Ltd.	**-**	**-**	**-**	**-**	**210.00**	**300.00**
on which						
Dividend to other Stakeholder[1]	0.00	0.00	0.00	0.00	210.00	300.00
Indian Oil Corp. Ltd.	**1213.98**	**1505.33**	**2112.32**	**2937.82**	**10804.39**	**9711.81**
on which						
Dividend to Central Government of India	958.08	1188.02	1448.52	1720.80	6231.29	5535.19
Dividend to State Government	1.35	1.67	2.35	3.27	12.02	10.80
Dividend to other Stakeholder	254.55	315.64	661.45	1213.75	4561.08	4165.82
GAIL India Ltd.	**1230.43**	**1281.16**	**1128.87**	**697.66**	**1458.74**	**1750.50**
on which						
Dividend to Central Government of India	705.58	734.66	633.41	391.43	803.67	941.97
Dividend to other Stakeholder	524.85	546.50	495.46	306.23	655.07	808.53
Hindustan Petroleum Corp. Ltd.	**287.84**	**287.84**	**524.87**	**1456.10**	**3477.70**	**2321.29**
on which						
Dividend to Central Government of India	147.12	147.12	268.27	744.23	1777.50	57.12
Dividend to other Stakeholder[2]	140.72	140.72	256.60	711.87	1700.20	2264.17
Oil India Ltd.	**1683.19**	**1683.19**	**631.20**	**1082.05**	**1242.36**	**1418.63**
on which						
Dividend to Central Government of India	1248.00	1147.06	426.94	731.90	834.63	938.17
Dividend to other Stakeholder	435.19	536.13	204.26	350.15	407.73	480.46
Bharat Petroleum Corp. Ltd.	**397.70**	**795.39**	**1229.24**	**2783.87**	**5640.06**	**3181.57**
on which						
Dividend to Central Government of India	218.46	436.92	675.24	1529.22	3098.16	1728.77
Dividend to State Government	3.42	6.84	10.58	23.96	48.53	27.37
Dividend to other Stakeholder	175.82	351.63	543.42	1230.69	2493.37	1425.43
Chennai Petroleum Corp. Ltd.	**29.78**	**0.00**	**0.00**	**0.00**	**59.56**	**312.71**
on which						
Dividend to Central Government of India	0.00	0.00	0.00	0.00	0.00	0.00
Dividend to other Stakeholder	29.78	0.00	0.00	0.00	59.56	312.71
Mangalore Refinery & Petrochemicals Ltd.	**175.26**	**0.00**	**0.00**	**0.00**	**0.00**	**1051.56**
on which						
Dividend to other Stakeholder	175.26	0.00	0.00	0.00	0.00	1051.56
Numaligarh Refinery Ltd.	**73.56**	**73.56**	**117.70**	**551.72**	**993.10**	**1809.66**
on which						
Dividend to State Government	9.08	9.08	14.54	68.14	122.65	223.49
Dividend to other Stakeholder	64.48	64.48	103.16	483.58	870.45	1586.17
Engineers India Ltd.	**235.85**	**219.01**	**202.16**	**134.78**	**235.86**	**189.58**
on which						
Dividend to Central Government of India	189.63	162.91	140.24	86.76	136.07	99.30
Dividend to other Stakeholder	46.22	56.10	61.92	48.02	99.79	90.28
Balmer Lawrie Ltd.	**45.60**	**50.16**	**51.30**	**51.30**	**57.00**	**79.80**
on which						
Dividend to other Stakeholder	45.60	50.16	51.30	51.30	57.00	79.80
Total Dividend Paid[3]	**14784.19**	**14236.64**	**13911.66**	**14614.30**	**33696.77**	**29891.11**
on which						
Dividend to Central Government of India	9981.87	9580.69	9048.62	8595.34	19425.32	14575.52
Dividend to State Government	13.85	17.59	27.47	95.37	183.20	261.66
Dividend to other Stakeholder	4788.47	4638.36	4835.57	5923.59	14088.25	15053.93
Tax on Dividend	**2367.10**	**2405.97**	**2605.24**	**2891.28**	**6682.32**	**5307.03**
Total Dividend Paid incl. Dividend on Tax	**17151.29**	**16642.61**	**16516.90**	**17505.58**	**40379.09**	**35198.14**

Note: Biecco Lawrie Limited is a loss making CPSE and is not to pay dividend during the financial year 2017-18.

1. Dividend is paid to 100% holding company of ONGC Videsh Limited i.e. Oil and Natural Gas Corporation of India Limited. Dividend for the year 2017-18 is proposed.
2. Under FY 2017-18 dividend paid to Central Govt. ₹ 57.12 crore is pertaining to final dividend declared for year 2016-17. On January 31, 2018, 51.11% of HPCL shares held by Central Govt., were transferred to ONGC hence Interim dividend for 2017-18 was paid to ONGC.
3. Dividend paid excludes Dividend Distribution Tax.

Source: Central Public Sector Enterprises

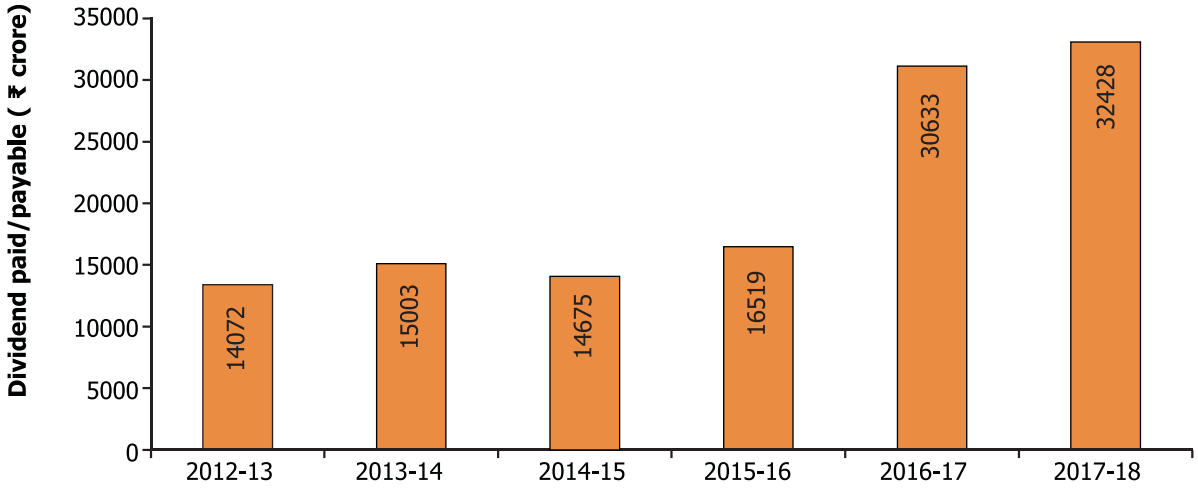
X.4 Dividend Payable (Accrual-Basis) by CPSEs under the Ministry of Petroleum and Natural Gas

(in ₹ crore)

Name of Company	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Oil & Natural Gas Corp. Ltd.	8128.00	8128.00	8128.00	7272.00	7764.00	8470.00
ONGC Videsh Ltd.	-	-	-	-	210.00	300.00
Indian Oil Corp. Ltd.	1505.33	2112.32	1602.45	3399.13	9226.22	11168.58
GAIL India Ltd.	1217.74	1319.21	761.08	697.66	1534.86	1618.60
Hindustan Petroleum Corp. Ltd.	287.83	524.87	829.64	1168.26	3047.65	2590.49
Oil India Ltd.	1803.41	1292.45	1202.28	961.83	1120.82	1172.73
Bharat Petroleum Corp. Ltd.	795.39	1229.24	1626.94	2241.56	4700.05	4555.43
Chennai Petroleum Corp. Ltd.	0.00	0.00	0.00	59.56	312.72	275.00
Mangalore Refinery & Petrochemicals Ltd.	0.00	0.00	0.00	0.00	1051.56	525.78
Numaligarh Refinery Ltd.	73.56	117.70	294.25	514.94	1368.27	1360.92
Engineers India Ltd.	202.16	219.01	168.47	134.78	200.07	252.77
Balmer Lawrie Ltd.	58.69	60.02	62.04	68.93	96.50	137.86
Biecco Lawrie Ltd.[1]	0.00	0.00	0.00	0.00	0.00	0.00
Total	**14072.11**	**15002.82**	**14675.15**	**16518.65**	**30632.72**	**32428.16**

Note:
1. Biecco Lawrie Limited is a loss making CPSE and is not to pay dividend during the financial year 2017-18
Source: Central Public Sector Enterprises

Figure X.1: Dividend payable by CPSEs under the Ministry of Petroleum and Natural Gas

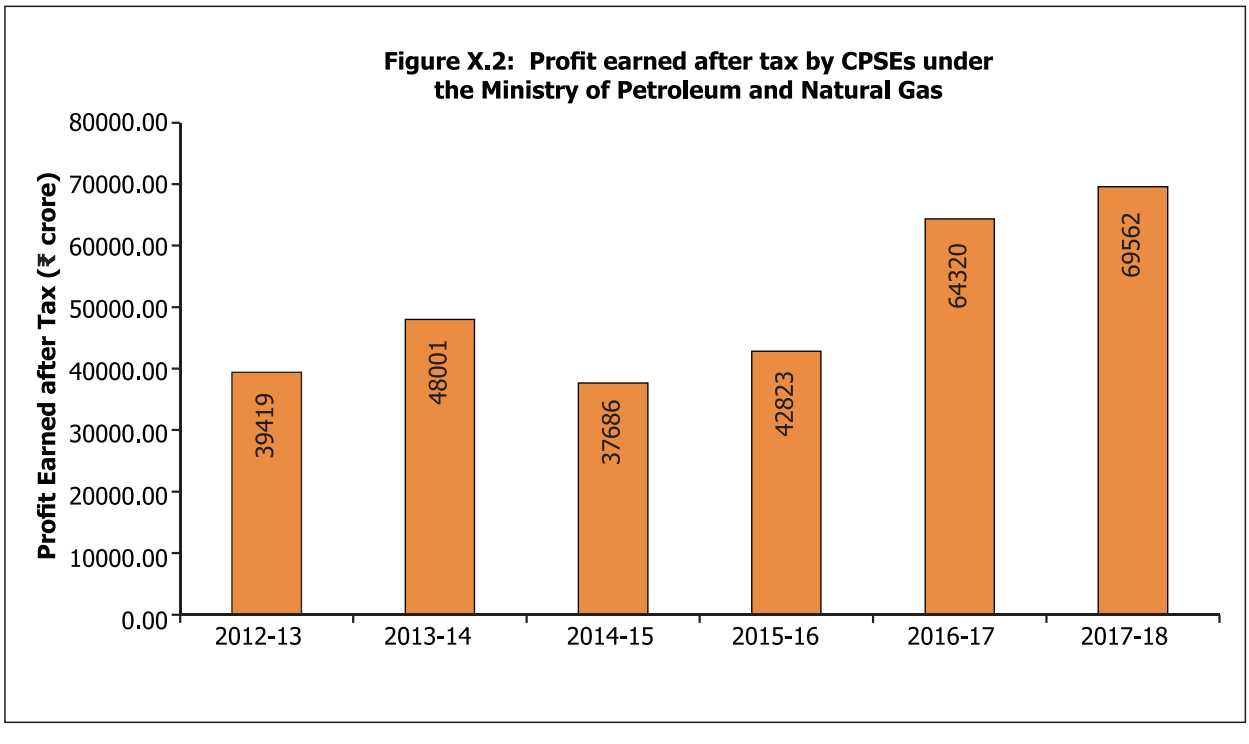


X.5 Profit earned after tax by CPSEs under the Ministry of Petroleum and Natural Gas

(in ₹ crore)

Name of CPSEs	Profit after tax during					
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Oil & Natural Gas Corporation Ltd.	20926.00	22095.00	17733.00	16004.00	17900.00	19945.00
ONGC (Videsh) Ltd.	3929.13	4445.32	1904.22	-3632.53	757.32	981.45
Indian Oil Corporation Ltd.	5005.17	7019.09	5273.03	11242.23	19106.40	21346.12
GAIL (India) Ltd.	4022.20	4375.27	3039.17	2226.43	3502.91	4618.41
Hindustan Petroleum Corporation Ltd.	904.71	1733.77	2733.26	3726.16	6208.80	6357.07
Oil India Ltd.	3589.34	2981.30	2510.20	2301.67	1548.68	2667.93
Bharat Petroleum Corporation Ltd.	2642.90	4060.88	5084.51	7431.88	8039.30	7919.34
Chennai Petroleum Corporation Ltd.	-1766.84	-303.85	-38.99	742.00	1030.00	913.00
Mangalore Refinery & Petrochemicals Ltd.	-756.91	601.18	-1712.23	1148.16	3643.69	2224.12
Numaligarh Refineries Ltd.	144.26	371.01	718.31	1209.82	2100.57	2044.64
Engineers India Ltd.	628.58	479.76	307.98	276.19	325.04	377.87
Balmer Lawrie Ltd.	162.77	156.67	147.44	164.35	170.42	184.82
Biecco Lawrie Ltd.	-11.95	-14.38	-13.74	-16.98	-13.02	-17.71
Total	**39419.36**	**48001.02**	**37686.16**	**42823.38**	**64320.11**	**69562.06**

Source: Central Public Sector Enterprises



X.6 Tax on Dividend paid by CPSEs under the Ministry of Petroleum and Natural Gas

(in ₹ crore)

Name of CPSEs	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Oil & Natural Gas Corporation Ltd.	1502.00	1397.00	1576.00	1000.00	1935.00	1152.00
ONGC (Videsh) Ltd.	-	-	-	-	42.75	N.A.
Indian Oil Corporation Ltd.	194.43	255.83	358.99	585.73	2177.10	1921.18
GAIL (India) Ltd.	203.03	224.20	153.56	142.03	295.35	352.53
Hindustan Petroleum Corporation Ltd.	46.69	48.92	89.20	296.43	707.98	472.56
Oil India Ltd.	273.06	287.05	125.30	220.28	252.91	288.51
Bharat Petroleum Corporation Ltd.	57.16	127.47	196.58	496.78	998.04	420.49
Chennai Petroleum Corporation Ltd.	4.83	0.00	0.00	0.00	12.13	63.66
Mangalore Refinery & Petrochemicals Ltd.	28.00	0.00	0.00	0.00	0.00	214.00
Numaligarh Refineries Ltd.	12.50	20.00	59.91	112.33	202.16	368.40
Engineers India Ltd.	38.00	37.00	37.00	27.00	47.00	37.00
Balmer Lawrie Ltd.	7.40	8.50	8.70	10.70	11.90	16.70
Total	**2367.10**	**2405.97**	**2605.24**	**2891.28**	**6682.32**	**5307.03**

Source: Central Public Sector Enterprises

N.A. : Not available

Chapter XI



International Petroleum Statistics

Chapter Highlights

- World's Proven Crude Oil reserves at end of 2017 are 1696.6 Thousand Million Barrels. Middle East with reserves of 807.7 Thousand Million Barrels has the highest share (47.6%), followed by Central & South America (19.5%). Asia Pacific region constitute a mere 2.8% of the total basket.
- Middle East with reserves of 79.1 Trillion cubic metres of Natural Gas has the highest share region wise (40.9%) in Proven Reserve of Natural Gas in world (193.5 Trillion cubic metres). Total Europe & CIS (62.2 Trillion cubic metres) followed by Asia Pacific (19.3 Trillion cubic metre) is having the second and third largest share region wise in World Natural gas reserves.
- World Production of Crude Oil was 4387.1 Million Tonnes during 2017, which is 0.2% higher than the Crude Oil production in 2016 (4377.1 Million Tonnes).
- Saudi Arabia had the largest share in crude oil production with 561.7 million tonnes (30.2%) for OPEC countries in 2017, followed by Iran & Iraq at 234.2 million tonnes (12.6%) and 221.5 million tonnes (11.9%) respectively.
- World Natural gas production in 2017 was 3164.6 Million Tonnes Oil Equivalent (MTOE) as compared to 3052.3 MTOE in 2016, registering a growth of 3.7%.
- Total Europe & CIS region accounted for 30.1% share (951.23 MTOE) in global consumption of natural gas at 3156 MTOE followed by North America at 25.7% (810.7 MTOE).
- World Oil Refining capacity at end of 2017 was 98139 thousand barrels/day registering a growth of over 0.6% over 2016. India with refining capacity of 4972 thousand barrels per day had a share of 5.1% in world refining capacity.
- India with a consumption of 221.76 Million tonnes is having the third largest share country wise in World Oil consumption (4469.7 Million tonnes).
- OPEC Countries are having a share of 55.6 % in world crude oil export for 2017.
- China is having the largest share (23.2%) in Global Primary energy consumption. India with consumption of 754 Million tonnes oil equivalent of primary energy is the third largest consumer of primary energy.

XI.1 (a) World Proven Oil Reserves

(in Thousand million barrels)

Country/ Region	2011	2012	2013	2014	2015	2016	2017	% share in 2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
US	39.8	44.2	48.5	55.0	48.0	50.0	50.0	2.9
Canada	174.2	173.7	173.0	172.2	171.5	170.6	168.9	10.0
Mexico	11.4	11.4	11.1	10.8	8.0	7.2	7.2	0.4
Total North America	**225.3**	**229.3**	**232.6**	**237.9**	**227.5**	**227.7**	**226.1**	**13.3**
Argentina	2.5	2.4	2.3	2.4	2.4	2.2	2.2	0.1
Brazil	15.0	15.3	15.6	16.2	13.0	12.6	12.8	0.8
Colombia	2.0	2.2	2.4	2.4	2.3	2.0	1.7	0.1
Ecuador	8.2	8.2	8.8	8.3	8.3	8.3	8.3	0.5
Peru	1.2	1.4	1.6	1.4	1.2	1.2	1.2	0.1
Trinidad & Tobago	0.8	0.8	0.8	0.8	0.7	0.2	0.2	*
Venezuela	297.6	297.7	298.4	300.0	300.9	301.8	303.2	17.9
Other S. & Cent. America	0.5	0.5	0.5	0.5	0.5	0.5	0.5	*
Total S. & Cent. America	**327.9**	**328.6**	**330.5**	**332.0**	**329.3**	**328.9**	**330.1**	**19.5**
Denmark	0.8	0.7	0.7	0.6	0.5	0.4	0.4	*
Italy	0.6	0.6	0.6	0.6	0.6	0.5	0.6	*
Norway	6.9	7.5	7.0	6.5	8.0	7.6	7.9	0.5
Romania	0.6	0.6	0.6	0.6	0.6	0.6	0.6	*
United Kingdom	3.1	3.0	3.0	2.8	2.5	2.3	2.3	0.1
Azerbaijan	7.0	7.0	7.0	7.0	7.0	7.0	7.0	0.4
Kazakhstan	30.0	30.0	30.0	30.0	30.0	30.0	30.0	1.8
Russian Federation	105.7	105.5	105.0	103.2	102.4	106.2	106.2	6.3
Turkmenistan	0.6	0.6	0.6	0.6	0.6	0.6	0.6	*
Uzbekistan	0.6	0.6	0.6	0.6	0.6	0.6	0.6	*
Other Europe & CIS	2.2	2.0	2.0	2.1	2.1	2.1	2.0	0.1
Total Europe & CIS	**158.0**	**158.2**	**157.2**	**154.6**	**154.9**	**157.9**	**158.2**	**9.3**
Iran	154.6	157.3	157.8	157.5	158.4	157.2	157.2	9.3
Iraq	143.1	140.3	144.2	143.1	142.5	148.8	148.8	8.8
Kuwait	101.5	101.5	101.5	101.5	101.5	101.5	101.5	6.0
Oman	5.5	5.5	5.0	5.2	5.3	5.4	5.4	0.3
Qatar	23.9	25.2	25.1	25.7	25.2	25.2	25.2	1.5
Saudi Arabia	265.4	265.9	265.8	266.6	266.5	266.2	266.2	15.7
Syria	2.5	2.5	2.5	2.5	2.5	2.5	2.5	0.1
United Arab Emirates	97.8	97.8	97.8	97.8	97.8	97.8	97.8	5.8
Yemen	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.2
Other Middle East	0.7	0.3	0.3	0.2	0.2	0.1	0.1	*
Total Middle East	**797.9**	**799.3**	**802.9**	**803.1**	**802.9**	**807.7**	**807.7**	**47.6**
Algeria	12.2	12.2	12.2	12.2	12.2	12.2	12.2	0.7
Angola	9.1	9.1	9.0	8.4	9.5	9.5	9.5	0.6
Chad	1.5	1.5	1.5	1.5	1.5	1.5	1.5	0.1
Rep. of Congo (Brazzaville)	1.6	1.6	1.6	1.6	1.6	1.6	1.6	0.1
Egypt	4.3	4.2	3.9	3.7	3.5	3.4	3.3	0.2
Equatorial Guinea	1.7	1.7	1.7	1.1	1.1	1.1	1.1	0.1
Gabon	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.1
Libya	48.0	48.5	48.4	48.4	48.4	48.4	48.4	2.9
Nigeria	36.2	37.1	37.1	37.4	37.1	37.5	37.5	2.2
South Sudan	n/a	3.5	3.5	3.5	3.5	3.5	3.5	0.2
Sudan	5.0	1.5	1.5	1.5	1.5	1.5	1.5	0.1
Tunisia	0.4	0.4	0.4	0.4	0.4	0.4	0.4	*
Other Africa	2.2	3.7	3.7	3.8	4.0	4.0	4.0	0.2
Total Africa	**124.2**	**127.0**	**126.5**	**125.5**	**126.3**	**126.5**	**126.5**	**7.5**

Contd...

XI.1 (a) World Proven Oil Reserves (Contd...)

(in Thousand million barrels)

Country/ Region	2011	2012	2013	2014	2015	2016	2017	% share in 2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Australia	3.9	3.9	4.0	4.0	4.0	4.0	4.0	0.2
Brunei	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.1
China	23.7	24.4	24.7	25.2	25.6	25.7	25.7	1.5
India	5.7	5.7	5.7	5.7	4.8	4.7	4.5	0.3
Indonesia	3.7	3.7	3.7	3.6	3.6	3.3	3.2	0.2
Malaysia	3.7	3.7	3.8	3.6	3.6	3.6	3.6	0.2
Thailand	0.5	0.4	0.5	0.4	0.4	0.3	0.3	*
Vietnam	4.4	4.4	4.4	4.4	4.4	4.4	4.4	0.3
Other Asia Pacific	1.1	1.1	1.3	1.3	1.3	1.2	1.2	0.1
Total Asia Pacific	**47.9**	**48.5**	**49.1**	**49.3**	**48.8**	**48.3**	**48.0**	**2.8**
Total World	**1681.3**	**1690.8**	**1698.7**	**1702.4**	**1689.6**	**1697.1**	**1696.6**	**100**

Notes: *: Less than 0.05 na: not available

1. Total proved reserves of oil - Generally taken to be those quantities that geological and engineering information indicate with reasonable certainty can be recovered in the future from known reservoirs under existing economic and operating conditions. The data series for total proved oil does not necessarily meet the definitions, guidelines and practices used for determining proved reserves at company level, for instance as published by the US Securities and Exchange Commission, nor does it necessarily represent BP's view of proved reserves by country.
2. 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 Russian reserves based on official data and Chinese reserves based on official data and 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.
3. Reserves include gas condensate and natural gas liquids (NGLs) as well as crude oil.
4. Total may not add up due to rounding off.

Source: BP Statistical Review of World Energy, June 2018.

Figure XI.1 (a): Trends in World Proven Crude Oil Reserves

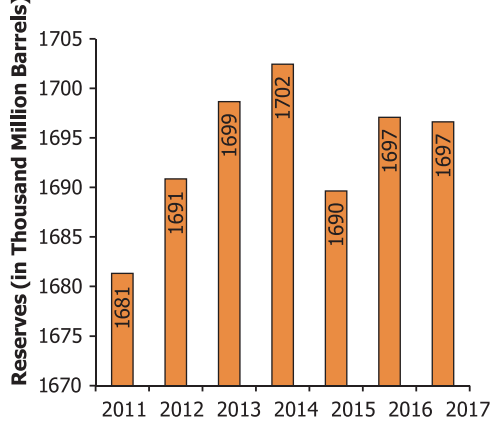
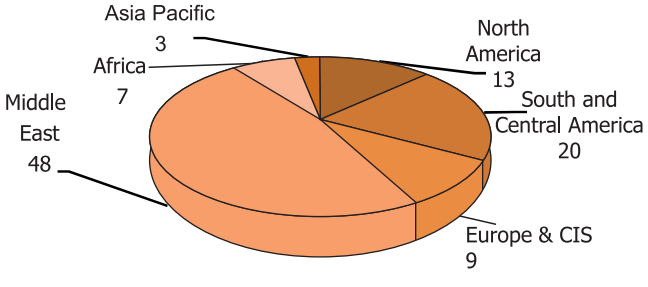


Figure XI.1(b): Region-wise Distribution of Proven Crude Oil reserves -2017 (%)



XI.1 (b) World Proven Natural Gas Reserves

(in Trillion cubic metres)

Country/ Region	2011	2012	2013	2014	2015	2016	2017	% share in 2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
US	9.1	8.4	9.2	10.0	8.3	8.7	8.7	4.5
Canada	1.8	1.9	1.9	1.9	2.1	2.0	1.9	1.0
Mexico	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.1
Total North America	**11.2**	**10.6**	**11.4**	**12.2**	**10.7**	**10.9**	**10.8**	**5.6**
Argentina	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2
Bolivia	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.1
Brazil	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.2
Colombia	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Peru	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.2
Trinidad & Tobago	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.1
Venezuela	6.1	6.2	6.2	6.2	6.3	6.4	6.4	3.3
Other S. & Cent. America	0.1	0.1	0.1	0.1	0.1	0.1	0.1	*
Total S. & Cent. America	**8.1**	**8.3**	**8.2**	**8.2**	**8.3**	**8.3**	**8.2**	**4.2**
Denmark	^	^	^	^	^	^	^	*
Germany	0.1	0.1	0.1	0.0	0.0	0.0	0.0	*
Italy	0.1	0.1	0.1	0.1	0.0	0.0	0.0	*
Netherlands	1.1	0.8	0.8	0.7	0.7	0.7	0.7	*
Norway	2.1	2.1	2.0	1.9	1.8	1.8	1.7	0.9
Poland	0.1	0.1	0.1	0.1	0.1	0.1	0.1	*
Romania	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
United Kingdom	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1
Azerbaijan	1.0	1.0	1.0	1.3	1.3	1.3	1.3	0.7
Kazakhstan	1.4	0.9	1.1	1.1	1.1	1.1	1.1	0.6
Russian Federation	34.5	34.6	34.9	35.0	35.0	34.8	35.0	18.1
Turkmenistan	19.5	19.5	19.5	19.5	19.5	19.5	19.5	10.1
Ukraine	0.7	1.2	1.1	1.1	1.1	1.1	1.1	0.5
Uzbekistan	1.3	1.3	1.2	1.2	1.2	1.2	1.2	0.6
Other Europe & CIS	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1
Total Europe & CIS	**62.3**	**62.2**	**62.4**	**62.6**	**62.4**	**62.0**	**62.2**	**32.1**
Bahrain	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1
Iran	33.1	33.3	33.5	33.5	33.0	33.2	33.2	17.2
Iraq	3.4	3.4	3.4	3.5	3.5	3.5	3.5	1.8
Israel	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.2
Kuwait	1.7	1.7	1.7	1.7	1.7	1.7	1.7	0.9
Oman	0.5	0.5	0.7	0.6	0.7	0.7	0.7	0.3
Qatar	25.9	25.8	25.5	25.4	25.1	24.9	24.9	12.9
Saudi Arabia	7.6	7.7	7.8	7.9	8.0	8.0	8.0	4.2
Syria	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.1
United Arab Emirates	5.9	5.9	5.9	5.9	5.9	5.9	5.9	3.1
Yemen	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.1
Other Middle East	^	^	^	^	^	^	^	*
Total Middle East	**79.1**	**79.2**	**79.4**	**79.5**	**78.8**	**78.8**	**79.1**	**40.9**

Contd...

XI.1 (b) World Proven Natural Gas Reserves (Contd...)

(in Trillion cubic metres)

Country/ Region	2011	2012	2013	2014	2015	2016	2017	% share in 2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Algeria	4.3	4.3	4.3	4.3	4.3	4.3	4.3	2.2
Egypt	2.1	2.0	1.8	1.8	1.8	1.8	1.8	0.9
Libya	1.5	1.5	1.4	1.4	1.4	1.4	1.4	0.7
Nigeria	4.9	4.9	4.9	5.1	5.0	5.2	5.2	2.7
Other Africa	1.2	1.2	1.2	1.1	1.1	1.1	1.1	0.6
Total Africa	**14.0**	**13.8**	**13.6**	**13.7**	**13.6**	**13.8**	**13.8**	**7.1**
Australia	3.6	3.6	3.6	3.6	3.6	3.6	3.6	1.9
Bangladesh	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1
Brunei	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.1
China	2.9	3.1	3.4	3.6	4.7	5.5	5.5	2.8
India	1.2	1.3	1.3	1.4	1.2	1.2	1.2	0.6
Indonesia	3.0	3.0	2.9	2.9	2.8	2.9	2.9	1.5
Malaysia	2.5	2.5	2.7	2.7	2.7	2.7	2.7	1.4
Myanmar	0.2	0.3	0.5	0.5	0.5	1.2	1.2	0.6
Pakistan	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.2
Papua New Guinea	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1
Thailand	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1
Vietnam	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.3
Other Asia Pacific	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.1
Total Asia Pacific	**16.0**	**16.2**	**16.8**	**17.0**	**17.7**	**19.2**	**19.3**	**10.0**
Total World	**190.8**	**190.3**	**191.9**	**193.2**	**191.5**	**193.1**	**193.5**	**100**

Notes: ^: Less than 0.05 *: Less than 0.05%

1. Total proved reserves of natural gas - Generally taken to be those quantities that geological and engineering information indicate with reasonable certainty can be recovered in the future from known reservoirs under existing economic and operating conditions. The data series for natural gas does not necessarily meet the definitions, guidelines and practices used for determining proved reserves at company level, for instance as published by the US Securities and Exchange Commission, nor does it necessarily represent BP's view of proved reserves by country.
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. As far as possible, the data above represents standard cubic metres (measured at 15ºC and 1013 mbar) and has been standardized using a Gross Calorific Value (GCV) of 40 MJ/m^3.
4. Total may not add up due to rounding off.

Source: BP Statistical Review of World Energy, June 2018.

Figure XI.2 (a) Trends in World Proven Natural Gas Reserves

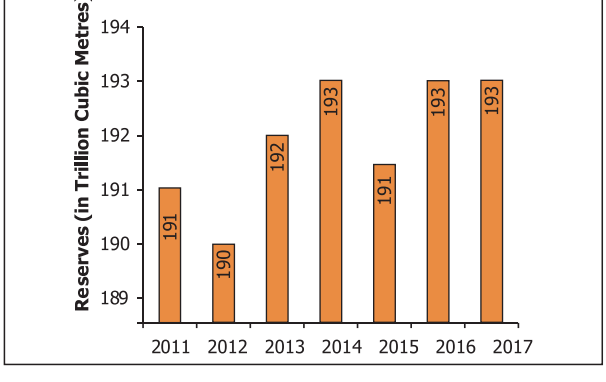
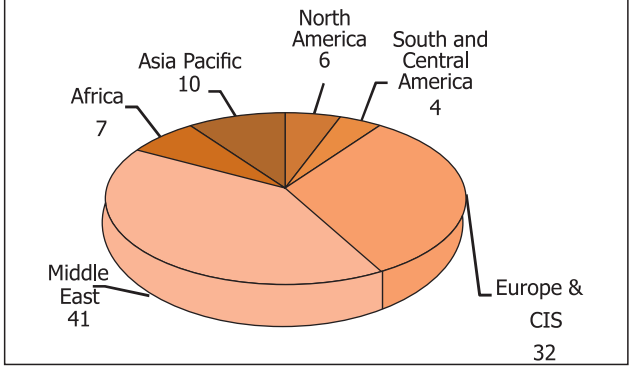


Figure XI.2(b): Region-wise Distribution of Proven Natural Gas Reserves- 2017(%)



XI.2 World Crude Oil Production

(in Million Tonnes)

Country/ Region	2011	2012	2013	2014	2015	2016	2017	% share in 2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
US	344.8	393.8	447.0	522.5	565.3	543.1	571.0	13.0
Canada	169.8	182.6	195.1	209.4	215.6	218.6	236.3	5.4
Mexico	144.5	143.9	141.8	137.1	127.5	121.4	109.5	2.5
Total North America	**659.1**	**720.3**	**783.9**	**869.0**	**908.4**	**883.0**	**916.8**	**20.9**
Argentina	31.2	30.9	30.3	29.8	30.1	29.0	27.4	0.6
Brazil	114.0	112.4	110.2	122.5	132.2	136.7	142.7	3.3
Colombia	48.2	49.9	52.9	52.2	53.0	46.8	44.8	1.0
Ecuador	26.8	27.1	28.2	29.8	29.1	29.5	28.5	0.6
Peru	6.7	6.7	7.1	7.3	6.2	5.3	5.4	0.1
Trinidad & Tobago	5.9	5.2	5.1	5.0	4.8	4.3	4.4	0.1
Venezuela	141.5	139.3	137.8	138.5	135.4	123.1	108.3	2.5
Other S. & Cent. America	7.1	7.4	7.6	8.0	7.6	7.0	6.8	0.2
Total S. & Cent. America	**381.5**	**378.9**	**379.2**	**393.1**	**398.4**	**381.9**	**368.3**	**8.4**
Denmark	10.9	10.0	8.7	8.1	7.7	6.9	6.7	0.2
Italy	5.3	5.4	5.5	5.8	5.5	3.8	4.1	0.1
Norway	93.7	87.3	83.2	85.3	87.9	90.4	88.8	2.0
Romania	4.2	4.0	4.1	4.1	4.0	3.8	3.6	0.1
United Kingdom	52.1	44.7	40.7	40.0	45.4	47.5	46.6	1.1
Azerbaijan	46.1	43.7	43.8	42.5	42.0	41.4	39.2	0.9
Kazakhstan	80.1	79.3	82.3	81.1	80.2	78.6	86.9	2.0
Russian Federation	519.6	526.9	532.3	535.1	541.9	555.9	554.4	12.6
Turkmenistan	10.6	11.0	11.3	11.7	12.7	12.3	12.4	0.3
Uzbekistan	3.6	3.2	2.9	2.8	2.7	2.6	2.5	0.1
Other Europe & CIS	18.4	18.4	18.9	18.7	18.2	17.4	16.9	0.4
Total Europe & CIS	**844.6**	**833.8**	**833.7**	**835.2**	**848.2**	**860.7**	**862.2**	**19.7**
Iran	213.0	180.7	169.9	174.3	180.5	216.8	234.2	5.3
Iraq	135.8	151.3	152.0	158.8	195.6	217.6	221.5	5.0
Kuwait	140.8	153.9	151.3	150.1	148.1	152.6	146.0	3.3
Oman	43.2	45.0	46.1	46.2	48.0	49.3	47.6	1.1
Qatar	78.0	82.5	84.5	83.8	82.1	82.5	79.9	1.8
Saudi Arabia	525.9	549.8	538.4	543.4	567.9	586.6	561.7	12.8
Syria	16.9	8.1	2.7	1.5	1.2	1.1	1.1	*
United Arab Emirates	149.8	156.5	161.8	163.2	175.0	181.6	176.3	4.0
Yemen	10.2	8.2	9.0	6.9	2.6	1.6	2.1	*
Other Middle East	9.9	9.0	10.3	10.5	10.5	10.6	10.9	0.2
Total Middle East	**1323.6**	**1345.1**	**1326.0**	**1338.8**	**1411.5**	**1500.3**	**1481.1**	**33.8**

Contd...

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

(in Million Tonnes)

Country/ Region/Year	2011	2012	2013	2014	2015	2016	2017	% share in 2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Algeria	71.7	67.2	64.8	68.8	67.2	68.4	66.6	1.5
Angola	82.0	85.3	85.7	81.6	87.0	86.3	81.8	1.9
Chad	6.0	5.3	4.8	4.7	5.8	5.4	5.4	0.1
Rep. of Congo (Brazzaville)	15.3	14.3	12.6	13.3	12.4	12.6	14.7	0.3
Egypt	34.6	34.7	34.4	35.1	35.4	33.8	32.2	0.7
Equatorial Guinea	14.5	15.5	13.6	13.7	12.5	10.7	9.5	0.2
Gabon	12.3	12.1	11.3	11.3	11.2	11.0	10.0	0.2
Libya	22.5	71.2	46.6	23.4	20.3	20.1	40.8	0.9
Nigeria	118.5	116.5	109.5	109.4	105.8	91.4	95.3	2.2
South Sudan	n/a	1.5	4.9	7.7	7.3	5.8	5.3	0.1
Sudan	14.3	5.1	5.8	5.9	5.4	5.1	4.2	0.1
Tunisia	3.6	3.8	3.5	3.3	2.9	2.8	2.4	0.1
Other Africa	9.8	9.8	11.2	11.6	13.7	12.8	15.1	0.3
Total Africa	**405.1**	**442.3**	**408.5**	**389.7**	**387.0**	**366.2**	**383.3**	**8.7**
Australia	21.5	21.4	17.8	19.1	17.0	15.5	14.8	0.3
Brunei	8.1	7.8	6.6	6.1	6.2	5.9	5.5	0.1
China	202.9	207.5	210.0	211.4	214.6	199.7	191.5	4.4
India	42.9	42.5	42.5	41.6	41.2	40.2	40.4	0.9
Indonesia	46.3	44.6	42.7	41.2	40.7	43.0	46.4	1.1
Malaysia	29.7	30.1	28.7	29.8	32.3	32.6	32.2	0.7
Thailand	15.4	16.6	16.5	16.2	17.0	17.5	16.8	0.4
Vietnam	15.8	17.4	17.4	18.0	19.5	18.0	16.1	0.4
Other Asia Pacific	13.0	12.6	12.0	13.6	13.3	12.5	11.8	0.3
Total Asia Pacific	**395.5**	**400.4**	**394.0**	**397.3**	**401.7**	**385.0**	**375.5**	**8.6**
Total World	**4009.5**	**4120.8**	**4125.3**	**4223.0**	**4355.2**	**4377.1**	**4387.1**	**100.0**

Notes: na: Not available *: Less than 0.05

1. 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
2. Total may not add up due to rounding off.

Source: BP Statistical Review of World Energy, June 2018.

Figure XI.3(a): Trends in World Crude Oil Production

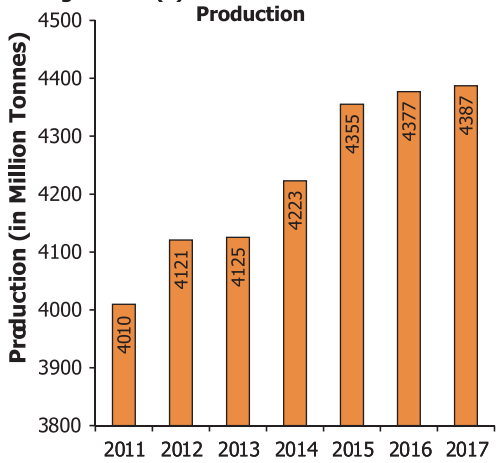
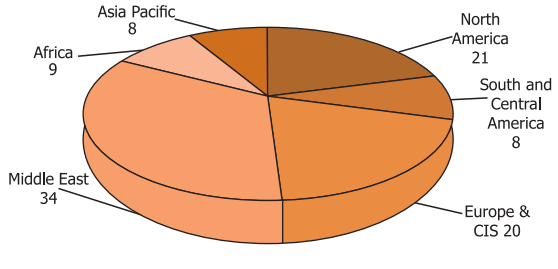


Figure XI.3(b): Region-wise Distribution of Crude Oil Production during 2017(%)



XI.3 Crude Oil Production by OPEC Member Countries

(in Million Tonnes)

OPEC Countries	2011	2012	2013	2014	2015	2016	2017	% share in 2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Algeria	71.7	67.2	64.8	68.8	67.2	68.4	66.6	3.6
Angola	82.0	85.3	85.7	81.6	87.0	86.3	81.8	4.4
Ecuador	26.8	27.1	28.2	29.8	29.1	29.5	28.5	1.5
Equatorial Guinea	-	-	-	-	-	-	9.50	0.5
Gabon	-	-	-	-	-	11.0	10.0	0.5
Iran	213.0	180.7	169.9	174.3	180.5	216.8	234.2	12.6
Iraq	135.8	151.3	152.0	158.8	195.6	217.6	221.5	11.9
Kuwait	140.8	153.9	151.3	150.1	148.1	152.6	146.0	7.8
Libya	22.5	71.2	46.6	23.4	20.3	20.1	40.8	2.2
Nigeria	118.5	116.5	109.5	109.4	105.8	91.4	95.3	5.1
Qatar	78.0	82.5	84.5	83.8	82.1	82.5	79.9	4.3
Saudi Arabia	525.9	549.8	538.4	543.4	567.9	586.6	561.7	30.2
United Arab Emirates	149.8	156.5	161.8	163.2	175.0	181.6	176.3	9.5
Venezuela	141.5	139.3	137.8	138.5	135.4	123.1	108.3	5.8
Total OPEC	**1706.4**	**1781.4**	**1730.4**	**1725.1**	**1794.0**	**1867.4**	**1860.3**	**100.0**

Notes:

1. Currently, OPEC has total 15 Members Countries : Algeria (1969), Angola (2007), Congo (2018), Ecuador (1973), Equtl Guinea ((2017), Gabon(2016), Iran(1960), Iraq(1960), Kuwait(1960), Libya(1962), Nigeria(1971), Qatar(1961), Saudi Arab(1960), UAE(1967), Venezuela(1960). Indonesia (1962) suspended its membership in January 2009, reactivated it again in January 2016, but decided to suspend its membership once more at the 171st Meeting of the OPEC Conference on 30 November 2016.
2. Total may not add up due to rounding off.

Source: BP Statistical Review of World Energy, June 2018.

Figure XI.4(a): Trends in Crude Oil Production by OPEC

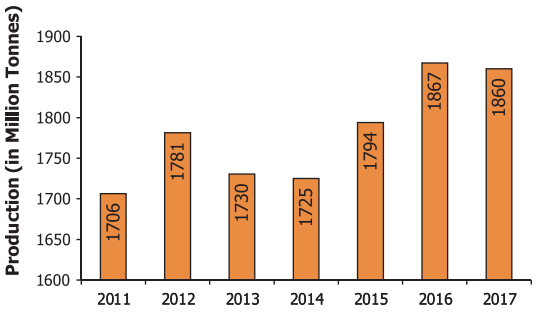
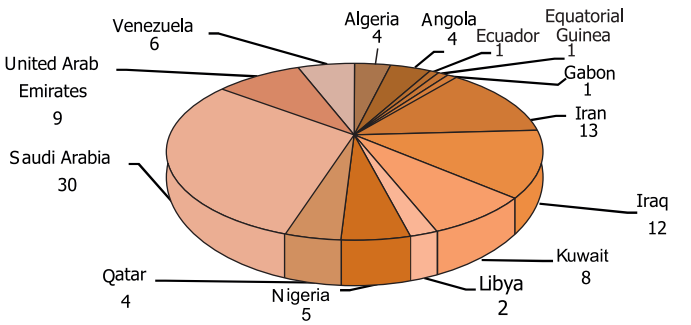


Figure XI.4(b): Country-wise Crude Oil Production by OPEC during 2017 (%)



XI.4 World Production of Natural Gas**

(in Million Tonnes Oil Equivalent)

Country/ Region	2011	2012	2013	2014	2015	2016	2017	% share in 2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
US	530.8	558.1	563.8	606.0	636.5	627.1	631.6	20.0
Canada	129.9	129.2	130.6	136.8	138.4	147.6	151.6	4.8
Mexico	44.8	43.7	45.1	44.1	41.2	37.5	35.0	1.1
Total North America	**705.5**	**731.1**	**739.6**	**786.9**	**816.2**	**812.2**	**818.2**	**25.9**
Argentina	32.4	31.5	29.7	29.7	30.5	32.1	31.9	1.0
Bolivia	12.9	14.7	16.8	17.4	16.8	15.1	14.7	0.5
Brazil	15.1	17.3	19.2	20.4	20.8	21.1	23.7	0.7
Colombia	9.1	9.9	11.4	10.6	10.0	9.4	8.7	0.3
Peru	9.9	10.3	10.7	11.3	10.9	12.1	11.2	0.4
Trinidad & Tobago	36.0	35.7	35.8	35.2	33.1	28.8	29.1	0.9
Venezuela	26.0	27.4	26.3	27.3	31.0	32.7	32.2	1.0
Other S. & Cent. America	2.6	2.4	2.2	2.1	2.4	2.5	2.4	0.1
Total S. & Cent. America	**144.0**	**149.4**	**152.1**	**154.0**	**155.5**	**153.7**	**153.9**	**4.9**
Denmark	5.9	5.2	4.3	4.1	4.1	4.0	4.3	0.1
Germany	9.0	8.1	7.4	7.0	6.5	6.0	5.5	0.2
Italy	7.0	7.1	6.4	5.9	5.6	4.8	4.6	0.1
Netherlands	57.7	57.4	61.8	52.1	39.0	36.1	31.5	1.0
Norway	86.4	97.9	92.8	92.9	99.9	99.6	106.0	3.3
Poland	3.8	3.9	3.8	3.7	3.7	3.6	3.5	0.1
Romania	8.7	8.7	8.6	8.8	8.8	7.8	8.9	0.3
United Kingdom	39.6	33.7	31.8	32.2	35.0	35.9	36.0	1.1
Azerbaijan	13.7	14.5	15.0	15.8	16.2	15.7	15.2	0.5
Kazakhstan	17.3	17.1	18.4	18.6	18.9	19.7	23.3	0.7
Russian Federation	530.4	517.5	528.4	508.3	502.5	506.7	546.5	17.3
Turkmenistan	53.5	56.0	56.1	60.3	62.6	57.6	53.3	1.7
Ukraine	16.8	16.7	17.3	17.4	16.2	16.4	16.7	0.5
Uzbekistan	46.4	46.3	46.3	46.6	47.0	45.7	45.9	1.5
Other Europe & CIS	8.1	7.4	6.4	5.7	5.4	7.7	8.0	0.3
Total Europe & CIS	**904.4**	**897.4**	**904.7**	**879.4**	**871.3**	**867.1**	**909.2**	**28.7**
Bahrain	10.9	11.2	12.0	12.6	12.7	12.6	13.0	0.4
Iran	135.4	140.7	141.3	157.4	164.6	174.7	192.5	6.1
Iraq	5.4	5.5	6.1	6.5	6.3	8.5	8.9	0.3
Kuwait	11.1	12.7	13.3	12.3	13.8	14.1	14.9	0.5
Oman	23.3	24.4	26.5	25.2	26.4	27.0	27.7	0.9
Qatar	129.3	139.8	144.2	145.4	150.7	152.2	151.1	4.8
Saudi Arabia	75.4	81.1	81.7	83.6	85.3	90.6	95.8	3.0
Syria	6.4	5.2	4.3	4.0	3.5	3.1	2.7	0.1
United Arab Emirates	43.9	45.5	45.8	45.5	50.5	51.2	52.0	1.6
Yemen	8.1	6.5	8.9	8.4	2.5	0.5	0.6	*
Other Middle East	3.6	2.2	5.4	6.3	6.9	7.8	8.2	0.3
Total Middle East	**452.7**	**474.8**	**489.4**	**507.2**	**523.1**	**542.4**	**567.4**	**17.9**

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

(in Million Tonnes Oil Equivalent)

Country/ Region	2011	2012	2013	2014	2015	2016	2017	% share in 2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Algeria	68.4	67.4	68.2	68.9	70.0	78.6	78.5	2.5
Egypt	50.9	50.4	46.4	40.4	36.6	34.6	42.1	1.3
Libya	6.4	10.0	10.5	10.2	10.6	9.7	9.9	0.3
Nigeria	33.1	35.4	29.6	36.8	40.9	36.7	40.6	1.3
Other Africa	15.4	15.5	15.9	16.2	16.9	18.4	22.4	0.7
Total Africa	**174.2**	**178.7**	**170.5**	**172.5**	**175.1**	**178.0**	**193.5**	**6.1**
Australia	47.9	51.2	53.1	57.3	65.4	82.9	97.6	3.1
Bangladesh	16.8	18.3	18.9	19.8	22.2	22.7	22.9	0.7
Brunei	10.7	10.5	10.2	9.9	10.5	10.1	10.3	0.3
China	91.3	95.9	104.7	112.8	116.7	118.6	128.3	4.1
India	37.8	32.9	27.4	26.0	25.1	23.5	24.5	0.8
Indonesia	71.1	67.3	66.7	65.7	65.5	60.8	58.4	1.8
Malaysia	57.6	59.5	62.7	61.9	63.5	65.0	67.4	2.1
Myanmar	10.8	10.8	11.1	14.2	16.5	15.7	15.5	0.5
Pakistan	30.4	31.5	30.6	30.1	30.1	29.8	29.8	0.9
Thailand	32.9	36.9	37.2	37.5	35.4	34.7	33.3	1.1
Vietnam	7.0	7.8	8.1	8.5	8.8	8.8	8.1	0.3
Other Asia Pacific	15.7	15.5	16.0	20.2	25.2	26.2	26.3	0.8
Total Asia Pacific	**430.0**	**438.0**	**446.8**	**463.8**	**485.0**	**498.9**	**522.4**	**16.5**
Total World	**2810.8**	**2869.4**	**2903.0**	**2963.8**	**3026.2**	**3052.3**	**3164.6**	**100.0**

Notes: *: Less than 0.05

1. Total may not add up due to rounding off.
2. **: Production includes natural gas produced for Gas-to-Liquids transformation and excludes gas flared or recycled.

Source: BP Statistical Review of World Energy, June 2018.

Figure XI.5(a): Trends in World Production of Natural Gas

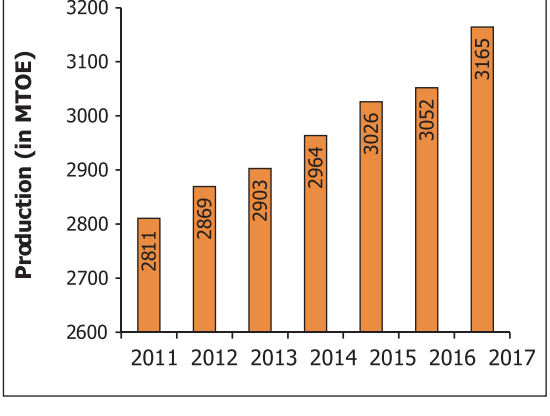
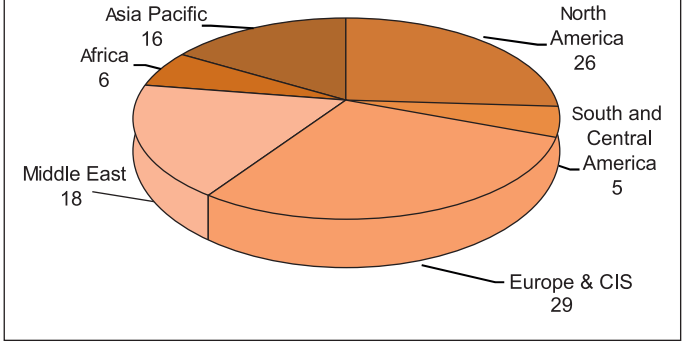


Figure XI.5(b): Region-wise distribution of Natural Gas Production during 2017 (%)



XI.5 World Consumption of Natural Gas

(in Million Tonnes Oil Equivalent)

Country/Region	2011	2012	2013	2014	2015	2016	2017	% share in 2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
US	566.0	591.7	607.9	621.0	639.4	645.1	635.8	20.1
Canada	82.2	79.8	84.3	88.8	88.5	94.1	99.5	3.2
Mexico	60.9	63.3	67.5	68.9	67.1	79.0	75.3	2.4
Total North America	**709.0**	**734.8**	**759.7**	**778.7**	**794.9**	**818.2**	**810.7**	**25.7**
Argentina	37.8	39.3	39.4	39.8	40.1	41.6	41.7	1.3
Brazil	24.0	28.5	33.6	35.6	37.5	32.4	33.0	1.0
Chile	5.0	4.6	4.6	3.8	4.1	5.1	5.2	0.2
Colombia	7.3	8.1	9.0	9.8	9.6	9.2	8.6	0.3
Ecuador	0.4	0.5	0.6	0.6	0.6	0.6	0.5	*
Peru	4.6	5.2	5.1	5.8	6.1	6.5	5.8	0.2
Trinidad & Tobago	19.5	18.6	18.7	18.4	18.0	16.0	15.9	0.5
Venezuela	28.0	29.3	28.3	28.2	31.4	33.0	32.4	1.0
Central America	-	-	-	-	-	-	-	-
Other Caribbean	2.4	2.8	3.1	3.2	3.2	3.2	3.0	0.1
Other South America	2.6	2.7	2.8	3.0	2.9	3.1	3.2	0.1
Total S. & Cent. America	**131.6**	**139.4**	**145.1**	**148.1**	**153.6**	**150.6**	**149.1**	**4.7**
Austria	7.6	7.3	7.0	6.4	6.8	7.1	7.7	0.2
Belgium	14.2	14.4	14.2	12.4	13.6	13.9	14.1	0.4
Bulgaria	2.6	2.5	2.4	2.4	2.6	2.7	2.8	0.1
Croatia	2.6	2.4	2.3	2.0	2.1	2.2	2.3	0.1
Cyprus	-	-	-	-	-	-	-	-
Czech Republic	6.8	6.9	6.9	6.2	6.5	7.0	7.2	0.2
Denmark	3.7	3.5	3.3	2.8	2.8	2.9	2.8	0.1
Estonia	0.5	0.5	0.5	0.4	0.4	0.4	0.4	*
Finland	3.1	2.7	2.6	2.3	1.9	1.7	1.6	0.1
France	37.0	38.2	38.8	32.6	35.1	38.3	38.5	1.2
Germany	69.5	69.7	73.1	63.5	66.2	73.0	77.5	2.5
Greece	4.0	3.6	3.2	2.4	2.6	3.4	4.1	0.1
Hungary	9.4	8.4	7.8	7.0	7.5	8.0	8.5	0.3
Iceland	-	-	-	-	-	-	-	-
Ireland	4.1	4.0	3.8	3.7	3.8	4.2	4.4	0.1
Italy	64.3	61.8	57.8	51.1	55.7	58.5	62.0	2.0
Latvia	1.3	1.2	1.2	1.1	1.1	1.1	1.0	*
Lithuania	2.7	2.7	2.2	2.1	2.1	1.8	1.9	0.1
Luxembourg	1.0	1.1	0.9	0.8	0.8	0.7	0.7	*
Macedonia	0.1	0.1	0.1	0.1	0.1	0.2	0.2	*
Netherlands	34.3	32.4	32.8	28.6	28.3	29.7	31.0	1.0
Norway	3.5	3.4	3.4	3.7	3.9	3.8	3.9	0.1
Poland	14.1	15.0	15.0	14.6	14.7	15.7	16.5	0.5
Portugal	4.5	3.9	3.7	3.5	4.1	4.4	5.3	0.2
Romania	11.1	10.8	9.8	9.5	9.0	8.9	10.2	0.3
Slovakia	4.6	4.4	4.8	3.8	3.9	3.9	3.9	0.1
Slovenia	0.7	0.7	0.7	0.6	0.7	0.7	0.7	*
Spain	28.9	28.6	26.1	23.7	24.5	25.0	27.5	0.9
Sweden	1.1	0.9	0.9	0.8	0.8	0.8	0.7	*
Switzerland	2.4	2.6	2.8	2.4	2.6	2.7	2.7	0.1
Turkey	36.0	37.2	37.8	40.1	39.5	38.2	44.4	1.4
United Kingdom	70.4	66.1	65.6	60.2	61.7	69.6	67.7	2.1
Azerbaijan	7.7	8.0	8.1	8.5	9.6	9.4	9.1	0.3
Belarus	16.6	16.8	16.8	16.0	15.0	15.2	15.5	0.5
Kazakhstan	10.5	11.1	11.7	12.9	13.2	13.6	14.0	0.4
Russian Federation	374.5	369.4	363.8	364.2	352.2	361.3	365.2	11.6
Turkmenistan	21.2	23.7	20.6	23.0	26.5	26.5	24.4	0.8
Ukraine	48.3	44.6	38.9	33.1	25.9	26.1	25.6	0.8
Uzbekistan	38.0	37.5	37.3	39.0	41.7	35.8	35.8	1.1
Other Europe & CIS	8.3	8.5	8.0	8.1	8.5	8.7	9.3	0.3
Total Europe & CIS	**971.2**	**956.8**	**936.6**	**895.6**	**897.8**	**927.3**	**951.2**	**30.1**

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

(in Million Tonnes Oil Equivalent)

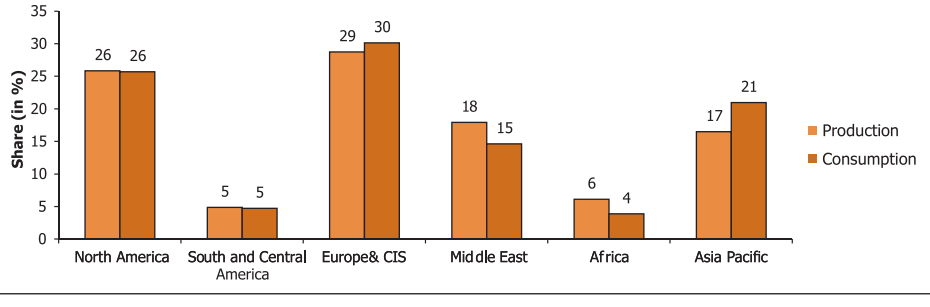
Country/Region	2011	2012	2013	2014	2015	2016	2017	% share in 2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Iran	137.4	136.8	137.9	155.6	165.0	173.1	184.4	5.8
Iraq	5.4	5.5	6.1	6.5	6.3	8.5	10.3	0.3
Israel	4.1	2.1	5.7	6.2	6.9	8.0	8.5	0.3
Kuwait	13.6	15.1	15.3	15.1	17.5	18.1	19.0	0.6
Oman	15.6	16.9	18.6	18.3	19.8	19.7	20.0	0.6
Qatar	23.5	29.0	30.1	33.4	37.9	37.1	40.8	1.3
Saudi Arabia	75.4	81.1	81.7	83.6	85.3	90.6	95.8	3.0
United Arab Emirates	53.0	55.0	55.4	54.5	61.0	62.3	62.1	2.0
Other Middle East	19.1	17.7	18.0	18.0	19.3	20.3	20.4	0.6
Total Middle East	**347.1**	**359.1**	**368.9**	**391.2**	**418.9**	**437.6**	**461.3**	**14.6**
Algeria	23.0	25.7	27.6	31.0	32.6	33.2	33.4	1.1
Egypt	41.1	43.5	42.6	39.7	39.6	42.4	48.1	1.5
Morocco	0.8	1.0	1.0	1.0	1.0	1.0	1.0	*
South Africa	3.7	3.7	3.5	3.7	3.8	4.0	3.9	0.1
Eastern Africa	0.8	0.9	1.0	1.1	1.4	1.7	1.9	0.1
Middle Africa	2.6	2.7	2.2	2.4	2.7	3.2	3.4	0.1
Western Africa	12.5	12.9	11.9	16.4	20.9	18.6	19.2	0.6
Other Northern Africa	8.7	9.4	10.6	9.7	9.5	10.4	11.0	0.3
Other Southern Africa	-	-	-	-	-	-	-	-
Total Africa	**93.1**	**99.9**	**100.3**	**105.0**	**111.4**	**114.5**	**121.9**	**3.9**
Australia	30.3	30.4	32.0	34.5	36.2	35.9	36.0	1.1
Bangladesh	16.8	18.3	18.9	19.8	22.2	22.7	22.9	0.7
China	116.2	129.7	147.8	162.0	167.4	180.1	206.7	6.6
China Hong Kong SAR	2.5	2.3	2.2	2.1	2.7	2.7	2.7	0.1
India	52.7	48.7	42.8	42.7	39.9	43.7	46.6	1.5
Indonesia	36.7	36.9	35.6	35.7	35.3	32.9	33.7	1.1
Japan	95.0	105.3	105.2	103.6	102.1	100.1	100.7	3.2
Malaysia	32.9	36.1	38.3	38.4	37.8	36.1	36.8	1.2
New Zealand	3.5	3.8	4.0	4.4	4.0	4.2	4.2	0.1
Pakistan	30.4	31.5	30.6	30.1	31.4	32.9	35.0	1.1
Philippines	3.3	3.1	2.9	3.0	2.9	3.3	3.2	0.1
Singapore	7.1	7.7	8.6	8.9	10.0	10.2	10.6	0.3
South Korea	41.7	45.2	47.3	43.0	39.3	41.0	42.4	1.3
Sri Lanka	-	-	-	-	-	-	-	-
Taiwan	14.0	14.7	14.7	15.5	16.5	17.2	19.1	0.6
Thailand	38.1	41.8	42.0	42.9	43.8	43.5	43.1	1.4
Vietnam	7.0	7.8	8.1	8.5	8.8	8.8	8.1	0.3
Other Asia Pacific	6.5	7.3	7.4	8.7	10.3	9.8	10.0	0.3
Total Asia Pacific	**534.7**	**570.6**	**588.4**	**603.7**	**610.6**	**625.1**	**661.8**	**21.0**
Total World	**2786.8**	**2860.8**	**2899.0**	**2922.3**	**2987.3**	**3073.2**	**3156.0**	**100.0**

Notes: *:Less than 0.05

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.
3. Total may not add up due to rounding off.

Source: BP Statistical Review of World Energy, June 2018

Figure XI.6: Region-wise Production and Consumption of Natural Gas during 2017



XI.6 Productivity of Producing Wells in OPEC Member Countries

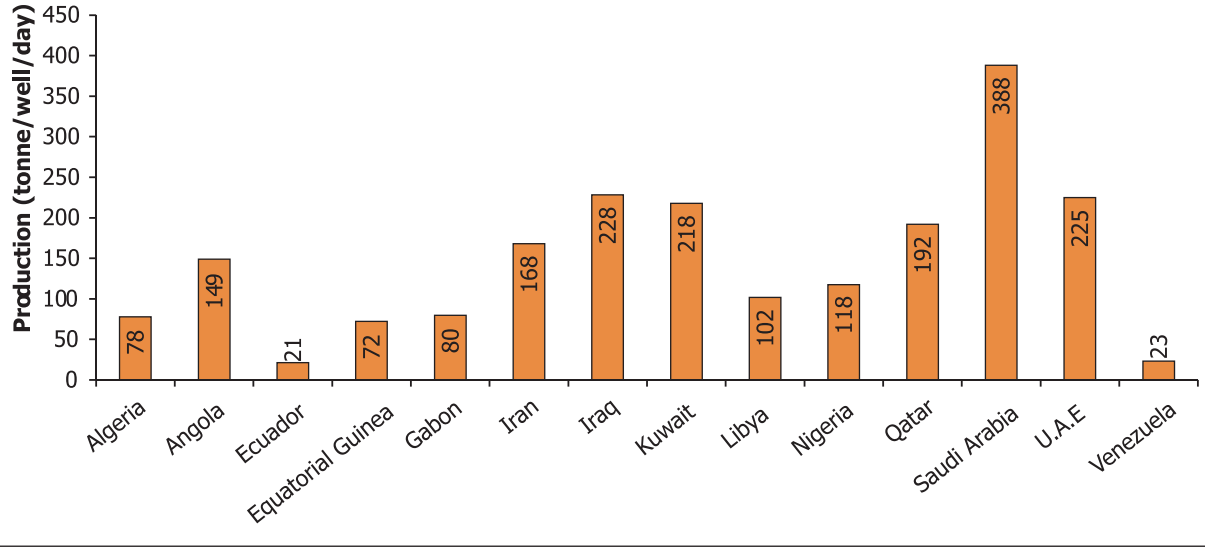
Country	2016			2017		
	Wells (Nos.)	Average Daily Production ('000' bbl)	Production t/w/d	Wells (in Nos)	Average Daily Production ('000' bbl)	Production t/w/d
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Algeria	1936	1146.3	80.5	1847	1058.7	78.0
Angola	1572	1721.6	148.9	1492	1632.2	148.8
Ecuador	3496	549.0	21.4	3399	531.3	21.3
Equatorial Guinea	-	-	-	242	128.6	72.3
Gabon	396	220.2	75.6	358	210.1	79.8
Iran	2886	3651.3	172.1	3130	3867.3	168.0
Iraq	2629	4647.8	240.4	2662	4468.7	228.3
Kuwait*	1780	2954.3	225.7	1689	2704.2	217.7
Libya	521	390.2	101.9	1091	817.3	101.9
Nigeria	1668	1427.3	116.4	1777	1535.6	117.5
Qatar	460	651.5	192.6	425	600.0	192.0
Saudi Arabia*	3648	10460.2	390.0	3489	9959.2	388.2
U.A.E	1835	3088.3	228.9	1795	2966.5	224.8
Venezuela	13395	2372.5	24.1	11915	2034.8	23.2
Total OPEC	**36222**	**33280.5**	**125.0**	**35069**	**32514.6**	**126.1**

*: Figures include share of production and producing wells from Neutral Zone. t/w/d: tonne/well/day

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

Source : OPEC Annual Statistical Bulletin, 2018

Figure XI.7: Productivity of producing wells in OPEC member countries during 2017



XI.7 World Oil Refining Capacity

(in '000' barrels daily^)

Country/ Region	2011	2012	2013	2014	2015	2016	2017	% share in 2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
US	17322	17824	17925	17889	18315	18621	18567	18.9
Canada	2005	2015	1929	1929	1931	1934	1968	2.0
Mexico	1606	1606	1606	1522	1522	1522	1546	1.6
Total North America	**20932**	**21444**	**21460**	**21340**	**21768**	**22077**	**22081**	**22.5**
Argentina	625	657	657	657	657	657	657	0.7
Brazil	2014	2004	2097	2238	2281	2289	2285	2.3
Chile	250	254	254	258	258	258	258	0.3
Colombia	336	336	336	336	421	421	421	0.4
Curacao	320	320	320	320	320	320	320	0.3
Ecuador	175	175	175	175	175	175	175	0.2
Netherlands Antilles	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Peru	252	252	253	253	253	253	253	0.3
Trinidad & Tobago	165	165	165	165	165	165	165	0.2
Venezuela	1303	1303	1303	1303	1303	1303	1303	1.3
Other S. & Cent. America	1013	356	361	376	384	384	384	0.4
Total S. & Cent. America	**6453**	**5822**	**5921**	**6081**	**6217**	**6225**	**6221**	**6.3**
Austria	193	193	193	193	193	193	193	0.2
Belgium	788	753	776	776	776	776	776	0.8
Bulgaria	195	195	195	195	195	195	195	0.2
Czech Republic	193	175	175	175	175	175	175	0.2
Denmark	181	181	181	180	180	180	181	0.2
Finland	261	261	261	261	261	261	261	0.3
France	1610	1513	1375	1375	1375	1245	1245	1.3
Germany	2077	2097	2061	2077	2049	2051	2069	2.1
Greece	495	498	498	498	528	528	528	0.5
Hungary	165	165	165	165	165	165	165	0.2
Ireland	75	75	75	75	75	75	75	0.1
Italy	2276	2098	1861	1900	1900	1900	1900	1.9
Lithuania	241	241	241	241	241	241	241	0.2
Netherlands	1276	1274	1274	1274	1293	1293	1294	1.3
Norway	329	342	342	342	342	342	342	0.3
Poland	580	582	582	582	581	581	559	0.6
Portugal	306	330	330	330	330	330	330	0.3
Romania	229	214	235	228	239	256	247	0.3
Slovakia	122	122	122	122	122	122	122	0.1
Spain	1542	1546	1546	1546	1562	1562	1562	1.6
Sweden	454	454	454	454	454	454	454	0.5
Switzerland	140	106	140	140	68	68	68	0.1
Turkey	596	596	596	596	596	596	596	0.6
United Kingdom	1787	1526	1498	1337	1337	1227	1227	1.3
Azerbaijan	205	205	205	205	205	205	205	0.2
Belarus	460	460	460	460	460	460	470	0.5
Kazakhstan	330	330	350	350	350	350	360	0.4
Russian Federation	5721	5816	6279	6407	6513	6583	6584	6.7
Turkmenistan	251	251	251	251	271	271	271	0.3
Ukraine	474	248	262	240	240	240	240	0.2
Uzbekistan	232	232	232	232	232	232	232	0.2
Other Europe & CIS	414	436	387	404	413	413	413	0.4
Total Europe & CIS	**24199**	**23514**	**23602**	**23611**	**23722**	**23571**	**23579**	**24.0**

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

(in '000' barrels daily^)

Country/ Region	2011	2012	2013	2014	2015	2016	2017	% share in 2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Bahrain	260	260	260	260	260	260	260	0.3
Iran	1860	1952	1985	1985	1985	1985	2105	2.1
Iraq	935	971	823	931	903	919	919	0.9
Israel	292	292	294	301	301	301	301	0.3
Kuwait	936	936	936	936	936	936	736	0.7
Oman	222	222	222	222	222	222	304	0.3
Qatar	283	283	283	283	283	429	429	0.4
Saudi Arabia	2107	2107	2507	2899	2899	2899	2821	2.9
United Arab Emirates	705	710	710	726	1147	1147	1147	1.2
Other Middle East	496	496	382	382	382	382	496	0.5
Total Middle East	**8096**	**8229**	**8402**	**8925**	**9318**	**9480**	**9518**	**9.7**
Algeria	652	652	647	651	651	651	651	0.7
Egypt	810	810	810	810	810	810	810	0.8
Morocco	131	201	201	201	201	201	201	0.2
Nigeria	336	342	342	345	345	345	345	0.4
South Africa	520	520	520	520	520	520	520	0.5
Other Africa	780	910	930	930	930	930	910	0.9
Total Africa	**3229**	**3435**	**3449**	**3457**	**3457**	**3457**	**3437**	**3.5**
Australia	742	663	662	536	443	452	454	0.5
Bangladesh	39	40	43	43	43	43	43	*
China	12296	12962	13594	14534	14306	14177	14513	14.8
India	3795	4279	4319	4319	4307	4620	4972	5.1
Indonesia	1099	1099	1099	1099	1111	1111	1111	1.1
Japan	4274	4254	4123	3749	3721	3600	3343	3.4
Malaysia	601	606	612	612	612	618	625	0.6
New Zealand	136	136	136	136	136	136	136	0.1
Pakistan	277	275	390	390	389	389	401	0.4
Philippines	261	261	270	271	271	271	271	0.3
Singapore	1427	1422	1414	1514	1514	1514	1514	1.5
South Korea	2864	2878	2878	3123	3123	3246	3246	3.3
Taiwan	1197	1197	1197	1197	988	988	1083	1.1
Thailand	1230	1230	1237	1252	1252	1235	1235	1.3
Vietnam	159	159	159	159	159	163	167	0.2
Other Asia Pacific	178	178	184	191	191	191	191	0.2
Total Asia Pacific	**30575**	**31639**	**32316**	**33125**	**32564**	**32753**	**33303**	**33.9**
Total World	**93484**	**94083**	**95150**	**96540**	**97046**	**97562**	**98139**	**100**

^: Atmospheric distillation capacity at year end on a calendar-day basis.

n/a: not available.

*: Less than 0.05

Source: BP Statistical Review of World Energy, June 2018

XI.8 World Refinery Crude Throughput

(in '000' barrels daily)

Country/ Region	2011	2012	2013	2014	2015	2016	2017	% share in 2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
US	14806	14999	15312	15848	16188	16187	16593	20.3
Canada	1680	1751	1719	1640	1635	1594	1754	2.1
Mexico	1166	1199	1224	1155	1064	933	767	0.9
Total North America	**17652**	**17949**	**18255**	**18643**	**18887**	**18714**	**19114**	**23.3**
Argentina	516	530	527	526	536	511	500	0.6
Brazil	1813	1889	2035	2085	1972	1812	1741	2.1
Chile	173	164	174	174	165	163	172	0.2
Colombia	306	305	284	247	244	339	354	0.4
Curacao	164	165	170	189	178	156	95	0.1
Ecuador	156	152	141	125	121	150	156	0.2
Netherlands Antilles	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Peru	189	189	183	185	182	186	217	0.3
Trinidad & Tobago	137	107	132	105	125	148	131	0.2
Venezuela	991	936	952	920	863	654	513	0.6
Other S. & Cent. America	712	325	297	283	280	275	234	0.3
Total S. & Cent. America	**5157**	**4761**	**4895**	**4839**	**4666**	**4395**	**4113**	**5.0**
Austria	168	170	174	173	179	164	163	0.2
Belgium	598	634	555	645	644	640	685	0.8
Bulgaria	102	118	113	104	121	125	136	0.2
Czech Republic	143	145	134	151	145	109	158	0.2
Denmark	137	153	144	139	147	140	151	0.2
Finland	225	215	227	225	197	226	226	0.3
France	1313	1138	1117	1096	1152	1122	1148	1.4
Germany	1876	1901	1857	1833	1875	1887	1878	2.3
Greece	331	410	399	416	436	464	480	0.6
Hungary	132	122	120	131	130	133	131	0.2
Ireland	59	61	57	55	68	64	64	0.1
Italy	1570	1475	1259	1198	1347	1293	1392	1.7
Lithuania	189	181	192	160	170	187	192	0.2
Netherlands	1115	1110	1065	1090	1157	1171	1179	1.4
Norway	289	287	292	274	293	230	311	0.4
Poland	482	505	488	486	532	517	508	0.6
Portugal	206	221	239	217	278	279	290	0.4
Romania	194	182	189	194	208	228	225	0.3
Slovakia	120	108	116	105	119	115	112	0.1
Spain	1051	1186	1168	1185	1306	1302	1325	1.6
Sweden	374	417	332	380	401	395	392	0.5
Switzerland	87	68	97	98	56	59	57	0.1
Turkey	394	398	421	406	526	531	542	0.7
United Kingdom	1433	1348	1197	1125	1118	1071	1064	1.3
Azerbaijan	127	124	132	135	130	120	117	0.1
Belarus	411	434	425	448	462	372	362	0.4
Kazakhstan	326	331	341	361	342	339	355	0.4
Russian Federation	5185	5438	5636	5926	5773	5715	5708	7.0
Turkmenistan	165	157	146	136	127	118	125	0.2
Ukraine	206	108	85	69	64	62	66	0.1
Uzbekistan	69	62	58	55	51	51	52	0.1
Other Europe & CIS	160	134	140	133	150	157	171	0.2
Total Europe & CIS	**19239**	**19342**	**18914**	**19148**	**19705**	**19387**	**19763**	**24.1**

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

(in '000' barrels daily)

Country/ Region	2011	2012	2013	2014	2015	2016	2017	% share in 2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Bahrain	259	263	264	257	256	247	249	0.3
Iran	1873	1932	1999	1932	1867	1882	1968	2.4
Iraq	543	579	598	487	409	440	527	0.6
Israel	218	219	221	230	236	223	224	0.3
Kuwait	852	916	873	879	905	841	701	0.9
Oman	201	193	187	180	190	178	204	0.2
Qatar	278	292	270	261	253	280	379	0.5
Saudi Arabia	1884	1953	1876	2201	2447	2651	2802	3.4
United Arab Emirates	635	638	650	659	929	1000	1008	1.2
Other Middle East	349	268	238	237	182	144	166	0.2
Total Middle East	**7091**	**7253**	**7176**	**7323**	**7673**	**7886**	**8228**	**10.0**
Algeria	520	478	492	615	591	584	573	0.7
Egypt	523	534	514	530	530	509	508	0.6
Morocco	103	111	111	104	53	-	-	0.0
Nigeria	108	92	97	64	22	62	67	0.1
South Africa	383	403	413	431	443	464	447	0.5
Other Africa	518	584	594	445	459	456	453	0.6
Total Africa	**2155**	**2202**	**2221**	**2189**	**2096**	**2074**	**2049**	**2.5**
Australia	627	600	588	538	427	433	419	0.5
Bangladesh	27	24	27	24	25	23	28	*
China	8686	9199	9599	10155	10684	11084	11656	14.2
India	4085	4302	4462	4475	4561	4930	5010	6.1
Indonesia	880	820	822	848	836	885	887	1.1
Japan	3410	3400	3453	3289	3258	3280	3215	3.9
Malaysia	516	575	558	553	514	543	565	0.7
New Zealand	108	109	105	101	109	108	108	0.1
Pakistan	193	192	223	232	257	242	261	0.3
Philippines	190	170	158	168	212	216	211	0.3
Singapore	1035	1020	936	871	937	965	1068	1.3
South Korea	2533	2582	2484	2516	2784	2928	3061	3.7
Taiwan	809	897	847	850	838	861	848	1.0
Thailand	937	978	1078	1029	1132	1096	1064	1.3
Vietnam	137	130	140	121	146	145	144	0.2
Other Asia Pacific	100	89	97	95	88	105	102	0.1
Total Asia Pacific	**24270**	**25086**	**25576**	**25865**	**26808**	**27843**	**28647**	**35.0**
Total World	**75564**	**76593**	**77038**	**78009**	**79836**	**80299**	**81914**	**100**

Note:
1. Atmospheric distillation capacity on a calendar-day basis.
2. Total may not add up due to rounding off.

*: Less than 0.05%

n/a not available.

Source: BP Statistical Review of World Energy, June 2018

XI.9 Country-wise World Oil Consumption**

(in Million Tonnes)

Country/ Region	2011	2012	2013	2014	2015	2016	2017	% share in 2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
US	834.9	817.0	832.1	838.1	856.5	865.1	870.1	19.5
Canada	104.3	102.3	103.5	103.7	100.3	102.2	103.6	2.3
Mexico	91.0	92.9	90.3	85.9	84.9	86.1	82.7	1.8
Total North America	**1030.2**	**1012.2**	**1025.9**	**1027.7**	**1041.7**	**1053.3**	**1056.4**	**23.6**
Argentina	28.3	29.6	31.9	31.5	32.5	31.9	30.9	0.7
Brazil	131.9	135.1	145.0	151.4	148.2	139.9	139.6	3.1
Chile	17.6	17.5	16.8	16.3	16.5	17.4	17.6	0.4
Colombia	12.8	13.9	13.9	14.8	15.4	15.9	16.0	0.4
Ecuador	10.5	10.9	11.6	12.2	11.8	11.1	10.8	0.2
Peru	9.5	9.6	10.1	10.0	10.6	11.3	11.5	0.3
Trinidad & Tobago	2.1	2.0	2.3	2.1	2.2	2.2	2.1	*
Venezuela	34.6	37.2	36.7	33.6	29.6	25.0	23.2	0.5
Central America	18.1	18.2	18.2	18.8	19.9	20.9	21.4	0.5
Other Caribbean	35.8	34.2	32.6	32.3	33.7	34.3	34.3	0.8
Other South America	8.7	9.2	9.1	9.2	9.2	9.4	9.5	0.2
Total S. & Cent. America	**309.6**	**317.4**	**328.1**	**332.1**	**329.7**	**319.2**	**317.0**	**7.1**
Austria	12.7	12.5	12.7	12.5	12.6	12.8	12.9	0.3
Belgium	30.5	29.6	30.1	29.7	31.0	31.4	31.2	0.7
Bulgaria	3.8	3.9	3.6	3.9	4.4	4.4	4.8	0.1
Croatia	3.5	3.2	3.1	3.2	3.3	3.3	3.2	0.1
Cyprus	2.8	2.6	2.3	2.3	2.4	2.6	2.6	0.1
Czech Republic	9.0	9.0	8.5	9.1	8.9	8.3	9.4	0.2
Denmark	8.3	7.8	7.7	7.8	7.9	8.1	8.0	0.2
Estonia	1.3	1.6	1.6	1.5	1.4	1.4	1.4	*
Finland	9.7	9.1	9.0	8.6	9.3	9.7	9.4	0.2
France	83.0	80.3	79.3	76.9	76.7	76.3	76.9	1.7
Germany	112.0	111.4	113.4	110.4	110.0	112.3	114.7	2.6
Greece	17.0	15.3	14.5	14.4	14.9	15.3	15.3	0.3
Hungary	6.4	6.0	5.9	6.6	7.0	7.1	7.6	0.2
Iceland	0.7	0.7	0.7	0.8	0.8	0.8	0.9	*
Ireland	6.9	6.5	6.6	6.5	6.8	7.1	7.1	0.2
Italy	70.5	64.2	59.4	55.8	57.6	57.9	58.6	1.3
Latvia	1.6	1.6	1.6	1.6	1.7	1.8	1.8	*
Lithuania	2.6	2.7	2.6	2.6	2.8	3.0	3.0	0.1
Luxembourg	2.9	2.8	2.7	2.6	2.6	2.6	2.7	0.1
Macedonia	0.9	0.8	0.8	0.8	0.9	0.9	0.9	*
Netherlands	46.1	43.7	41.4	39.6	38.7	39.9	39.6	0.9
Norway	10.6	10.5	10.8	10.2	10.3	9.8	9.8	0.2
Poland	27.5	26.6	24.7	24.8	25.8	28.1	30.4	0.7
Portugal	12.1	11.0	11.3	11.1	11.5	11.7	12.2	0.3
Romania	9.1	9.2	8.4	9.0	9.2	9.7	9.8	0.2
Slovakia	3.9	3.6	3.6	3.4	3.7	3.8	4.2	0.1
Slovenia	2.6	2.5	2.4	2.4	2.3	2.5	2.5	0.1
Spain	68.8	64.7	59.3	59.0	61.2	63.2	63.6	1.4
Sweden	14.9	14.8	14.5	14.6	14.1	15.0	15.1	0.3
Switzerland	11.0	11.2	11.8	10.6	10.7	10.2	10.5	0.2
Turkey	31.1	33.1	36.0	36.7	43.7	46.7	48.3	1.1
United Kingdom	73.6	71.4	70.3	70.1	71.7	73.2	73.2	1.6
Azerbaijan	4.0	4.2	4.5	4.4	4.5	4.5	4.2	0.1
Belarus	8.6	10.4	7.1	8.1	6.9	6.7	6.6	0.1
Kazakhstan	11.5	11.5	12.1	12.1	13.0	13.8	14.1	0.3
Russian Federation	142.2	144.6	144.3	152.4	144.9	147.5	147.8	3.3
Turkmenistan	5.8	6.0	6.2	6.5	6.5	6.8	7.0	0.2
Ukraine	13.1	12.5	11.9	10.2	9.0	9.5	9.6	0.2
Uzbekistan	3.4	3.0	2.9	2.7	2.7	3.1	3.1	0.1
Other Europe & CIS	19.2	18.9	18.5	18.2	18.9	20.3	20.5	0.5
Total Europe & CIS	**905.2**	**885.3**	**868.3**	**863.7**	**872.4**	**893.1**	**904.5**	**20.2**

Contd...

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

(in Million Tonnes)

Country/ Region	2011	2012	2013	2014	2015	2016	2017	% share in 2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Iran	84.0	85.5	93.4	90.2	80.3	77.3	81.0	1.8
Iraq	30.0	32.0	34.4	32.8	33.4	36.9	38.4	0.9
Israel	11.8	13.9	11.5	9.6	10.3	10.4	11.2	0.3
Kuwait	19.3	21.6	22.5	19.1	19.8	19.7	19.3	0.4
Oman	6.6	7.2	8.4	8.6	8.7	9.1	9.0	0.2
Qatar	8.0	8.2	9.3	9.8	10.7	11.8	12.3	0.3
Saudi Arabia	139.1	146.1	146.5	160.9	167.3	167.2	165.8	3.7
United Arab Emirates	33.7	35.1	38.7	39.2	41.8	43.9	43.1	1.0
Other Middle East	33.5	31.0	29.5	29.9	27.0	24.7	24.4	0.5
Total Middle East	**366.0**	**380.7**	**394.2**	**400.2**	**399.2**	**401.0**	**404.4**	**9.0**
Algeria	15.8	16.8	17.6	18.3	19.3	18.9	18.7	0.4
Egypt	33.7	35.3	35.7	38.3	39.8	40.7	38.4	0.9
Morocco	13.1	13.2	13.3	12.5	12.3	12.6	12.9	0.3
South Africa	25.8	26.6	27.3	27.2	28.3	27.8	27.9	0.6
Eastern Africa	21.6	21.9	23.0	24.0	26.2	28.3	29.6	0.7
Middle Africa	9.9	10.4	11.5	12.2	12.3	12.6	12.6	0.3
Western Africa	24.3	25.8	27.6	25.9	26.2	28.0	31.5	0.7
Other Northern Africa	12.5	16.0	16.9	17.2	15.2	14.3	14.9	0.3
Other Southern Africa	2.3	2.4	2.5	2.6	2.7	2.8	2.8	0.1
Total Africa	**159.1**	**168.5**	**175.4**	**178.2**	**182.4**	**185.9**	**189.3**	**4.2**
Australia	46.1	47.5	47.8	48.5	47.7	48.3	50.2	1.1
Bangladesh	5.1	5.4	5.3	5.8	6.2	6.6	7.3	0.2
China	465.1	487.1	508.1	528.0	561.8	574.0	595.5	13.3
China Hong Kong SAR	18.0	17.2	17.6	16.6	18.3	18.9	21.4	0.5
India	163.0	173.6	175.3	180.8	195.8	216.6	221.8	5.0
Indonesia	73.1	75.2	75.8	76.2	70.3	70.8	73.7	1.6
Japan	203.7	217.7	207.4	197.0	189.5	184.4	181.3	4.1
Malaysia	31.5	32.8	34.9	34.9	34.3	34.9	35.1	0.8
New Zealand	7.0	7.0	7.1	7.2	7.5	7.6	8.2	0.2
Pakistan	20.7	20.0	21.9	22.6	24.6	27.5	28.3	0.6
Philippines	13.8	14.4	15.1	16.1	18.3	19.7	20.7	0.5
Singapore	63.7	63.4	64.2	65.8	69.5	72.2	74.8	1.7
South Korea	105.8	108.8	108.3	107.9	113.8	122.5	122.6	2.7
Sri Lanka	4.4	4.6	3.8	4.2	4.5	4.8	5.1	0.1
Taiwan	44.5	44.6	45.1	46.5	46.2	46.5	47.2	1.1
Thailand	49.7	52.3	54.5	54.9	57.2	58.8	60.6	1.4
Vietnam	16.7	16.8	18.2	18.8	19.9	21.0	22.1	0.5
Other Asia Pacific	15.1	15.4	17.2	19.0	20.7	20.9	22.4	0.5
Total Asia Pacific	**1347.0**	**1403.8**	**1427.6**	**1450.8**	**1506.3**	**1556.1**	**1598.0**	**35.8**
Total World	**4117.1**	**4167.9**	**4219.5**	**4252.6**	**4331.6**	**4408.6**	**4469.7**	**100**

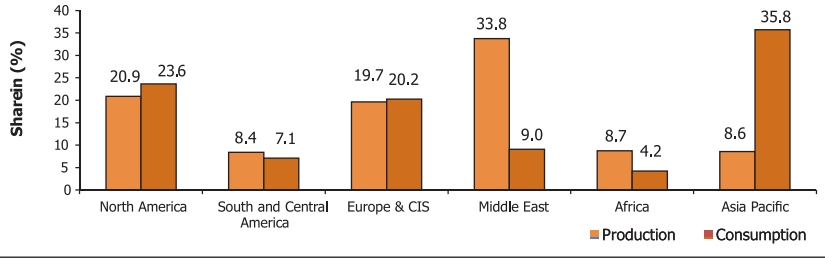
*: Less then 0.05

**: Inland demand plus international aviation and marine bunkers and refinery fuel and loss. Consumption of biogasoline (such as ethanol), biodiesel and derivatives of coal and natural gas are also included.

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 2018

Figure XI.8: Region-wise Share in Production and Consumption of Crude Oil during 2017 (%)



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

(in '000' barrels daily)

Country/ Region	2011	2012	2013	2014	2015	2016	2017	% share in 2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
North America								
Light distillates	10697	10572	10778	10841	11092	11287	11260	11.5
Middle distillates	6694	6409	6519	6801	6813	6759	6933	7.1
Fuel oil	745	662	576	447	418	474	529	0.5
Others	5193	5272	5506	5376	5495	5544	5497	5.6
Total North America	**23329**	**22915**	**23379**	**23465**	**23818**	**24065**	**24219**	**24.7**
Of Which: US								
Light distillates	9022	8932	9125	9164	9413	9547	9558	9.7
Middle distillates	5518	5278	5371	5632	5657	5603	5746	5.9
Fuel oil	459	367	317	256	258	325	358	0.4
Others	3883	3913	4147	4054	4203	4212	4218	4.3
Total US	**18882**	**18490**	**18961**	**19106**	**19531**	**19687**	**19880**	**20.2**
South and Central America								
Light distillates	1936	1981	2084	2145	2203	2166	2174	2.2
Middle distillates	2487	2604	2729	2743	2729	2650	2671	2.7
Fuel oil	738	737	712	734	717	654	614	0.6
Others	1409	1420	1462	1436	1372	1341	1335	1.4
Total S. & Cent. America	**6570**	**6742**	**6987**	**7058**	**7021**	**6811**	**6794**	**6.9**
Europe & CIS								
Light distillates	4449	4326	4274	4214	4131	4148	4211	4.3
Middle distillates	8981	8863	8883	8810	9095	9277	9572	9.7
Fuel oil	1632	1502	1391	1386	1253	1315	1283	1.3
Others	4031	3958	3890	3962	4096	4198	4195	4.3
Total Europe & CIS	**19093**	**18649**	**18439**	**18372**	**18576**	**18939**	**19262**	**19.6**
Middle East								
Light distillates	1756	1837	1910	1981	2026	2055	2145	2.2
Middle distillates	2392	2488	2622	2526	2418	2302	2295	2.3
Fuel oil	1951	1991	2067	2172	2215	2137	2108	2.1
Others	2172	2280	2272	2354	2370	2666	2742	2.8
Total Middle East	**8271**	**8595**	**8870**	**9032**	**9029**	**9161**	**9290**	**9.5**
Africa								
Light distillates	816	867	885	906	970	1046	1103	1.1
Middle distillates	1608	1678	1807	1845	1881	1864	1929	2.0
Fuel oil	392	438	433	432	428	419	387	0.4
Others	572	586	599	602	598	621	628	0.6
Total Africa	**3388**	**3569**	**3724**	**3785**	**3877**	**3950**	**4047**	**4.1**

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

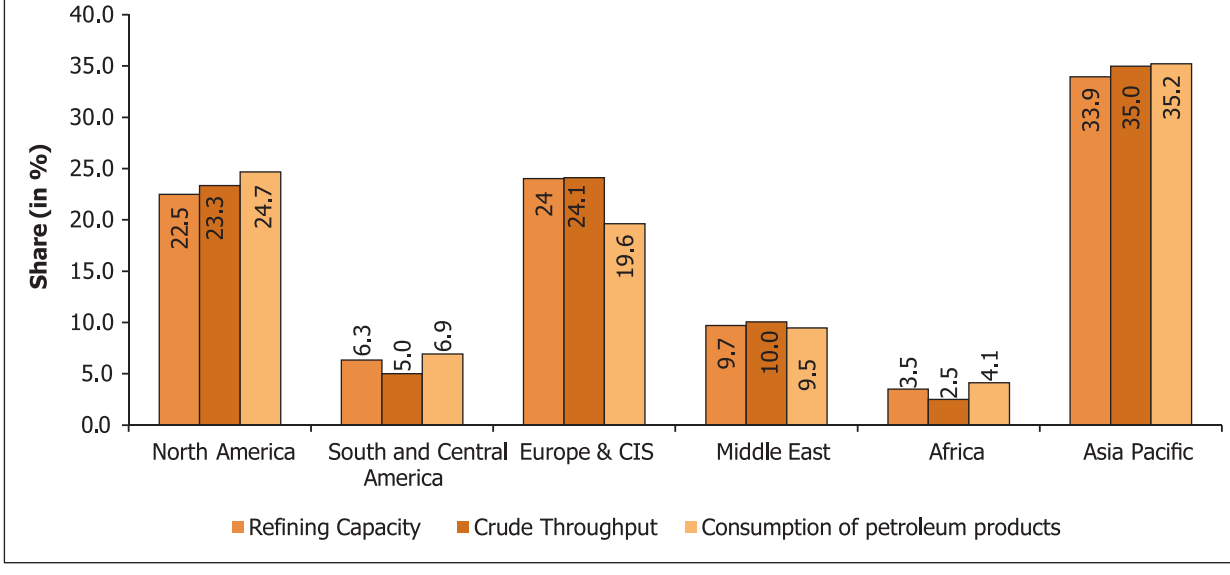
(in '000' barrels daily)

Country/ Region	2011	2012	2013	2014	2015	2016	2017	% share in 2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Asia Pacific								
Light distillates	8525	8954	9482	9806	10596	10952	11304	11.5
Middle distillates	10345	10780	10987	11085	11334	11498	11907	12.1
Fuel oil	3114	3218	2984	2823	2809	2844	2770	2.8
Others	6927	7086	7236	7560	7782	8269	8593	8.8
Total Asia Pacific	**28911**	**30038**	**30689**	**31274**	**32521**	**33562**	**34574**	**35.2**
World								
Light distillates	28178	28537	29413	29892	31018	31655	32198	32.8
Middle distillates	32507	32823	33547	33809	34271	34350	35307	36.0
Fuel oil	8572	8548	8163	7994	7840	7843	7690	7.8
Others	20305	20601	20964	21291	21713	22640	22990	23.4
Total World	**89561**	**90509**	**92088**	**92986**	**94843**	**96488**	**98186**	**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.
5. Total may not add up due to rounding off.

Source: BP Statistical Review of World Energy, June 2018

Figure XI.9: Region-wise Share in Refining Capacity, Crude Throughput & Consumption of Petroleum Products during 2017 (%)



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

(in Million Tonnes)

Country/Region	2016				2017 (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	883.0	1053.3	-170.3	-16.2	916.8	1056.4	-139.6	-13.2
South & Central America	381.9	319.2	62.7	19.6	368.3	317.0	51.2	16.2
Middle East	1500.3	401.0	1099.3	274.2	1481.1	404.4	1076.7	266.2
Africa	366.2	185.9	180.3	97.0	383.3	189.3	194.0	102.5
Asia Pacific	385.0	1556.1	-1171.1	-75.3	375.5	1598.0	-1222.5	-76.5
of which India	40.2	216.6	-176.4	-81.4	40.4	221.8	-181.3	-81.8
Japan	-	184.4	-	-	-	181.3	-	-
China	199.7	574.0	-374.3	-65.2	191.5	595.5	-403.9	-67.8
Australia	15.5	48.3	-32.8	-67.9	14.8	50.2	-35.3	-70.4
Europe & CIS	860.7	893.1	-32.3	-3.6	862.2	904.5	-42.4	-4.7
Total World	**4377.1**	**4408.6**	**-31.5**	**-0.7**	**4387.1**	**4469.7**	**-82.5**	**-1.8**

P: Provisional
Source : BP Statistical Review of World Energy, June 2018

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

(in Million Tonnes)

Region/Country	2016				2017 (P)			
	Imports		Exports		Imports		Exports	
	Crude	Product	Crude	Product	Crude	Product	Crude	Product
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
US	392.0	105.8	27.6	207.2	394.1	103.5	45.8	221.0
Canada	31.2	32.1	163.0	29.9	29.7	31.2	173.3	34.5
Mexico	*	38.0	59.6	8.8	*	43.9	57.3	6.2
S. & Cent. America	24.8	90.9	176.2	29.5	23.1	102.9	168.8	28.8
Europe	489.7	192.3	18.2	124.8	516.0	176.9	23.6	134.2
Russia	0.2	1.4	272.2	139.2	0.6	1.2	277.2	145.6
Other CIS	18.2	10.6	82.7	9.1	18.3	13.7	90.0	8.0
Iraq	*	1.7	179.0	1.4	*	1.3	189.0	5.1
Kuwait	*	0.7	103.2	25.6	*	0.7	101.6	23.5
Saudi Arabia	*	4.4	375.5	47.7	*	5.9	357.5	50.7
United Arab Emirates	1.1	12.5	124.4	60.6	1.3	21.8	125.7	65.8
Other Middle East	26.5	17.4	202.1	44.9	27.2	18.7	215.4	48.9
North Africa	4.3	38.1	58.5	25.2	5.2	34.3	81.2	25.1
West Africa	0.6	26.1	212.2	7.0	0.3	31.6	214.2	8.1
East & S. Africa	21.2	27.1	7.0	2.5	17.2	31.0	7.4	2.2
Australasia	20.7	29.2	10.6	4.0	21.5	31.2	9.9	2.6
China	382.6	74.4	2.7	45.9	422.1	84.4	4.7	48.0
India	214.0	30.0	*	49.2	211.1	33.9	*	56.2
Japan	168.0	39.1	*	14.4	162.5	42.1	0.1	15.9
Singapore	48.1	121.7	0.7	94.5	53.7	128.5	1.7	95.9
Other Asia Pacific	272.6	181.7	41.0	103.6	280.2	196.6	39.9	108.9
Total World	**2116.1**	**1075.2**	**2116.2**	**1075.2**	**2184.2**	**1135.1**	**2184.2**	**1135.1**

P: Provisional
*: Less than 0.05.
Note: Bunkers are not included as exports. Intra-area movements (for example, between countries in Europe) are excluded Crude imports and exports include condensates.
CIS: Commonwealth of Independent States
Source : BP Statistical Review of World Energy, June 2018

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

(in '000' barrels/day)

Country	2011	2012	2013	2014	2015	2016	2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Crude Oil						
Algeria	843	809	744	623	642	668	633
Angola	1546	1663	1669	1608	1711	1670	1577
Ecuador	334	358	388	422	433	415	385
Equatorial Guinea	-	-	207	197	182	158	128
Gabon	235	224	208	207	206	205	188
Iran	2537	2102	1215	1109	1081	1922	2125
Iraq	2166	2423	2390	2516	3005	3804	3802
Kuwait	1816	2070	2059	1995	1964	2128	2010
Libya	300	962	836	329	288	350	792
Nigeria	2377	2368	2193	2120	2114	1738	1811
Qatar	588	588	599	596	491	503	466
Saudi Arabia	7218	7557	7571	7154	7163	7463	6968
U.A.E	2457	2445	2701	2497	2442	2408	2379
Venezuela	1553	1725	1528	1965	1974	1835	1596
Total	**23970**	**25294**	**24308**	**23337**	**23697**	**25267**	**24861**
	Refined Petroleum Products						
Algeria	492	449	453	583	605	541	570
Angola	31	30	32	31	37	54	17
Ecuador	29	27	20	8	16	31	42
Equatorial Guinea	-	-	-	-	-	-	-
Gabon	-	5	11	11	11	10	12
Iran	441	456	394	470	514	898	993
Iraq	1	2	12	9	14	37	20
Kuwait	759	804	805	751	739	707	428
Libya	21	53	86	17	22	23	24
Nigeria	24	21	23	49	18	18	19
Qatar	510	466	511	522	521	568	639
Saudi Arabia	902	862	794	988	1155	1503	1438
U.A.E	604	276	280	256	415	630	654
Venezuela	786	675	713	312	318	263	212
Total	**4601**	**4126**	**4135**	**4007**	**4384**	**5284**	**5068**

Note:
1. Includes changes in the quantity of oil in transit, movements not otherwise shown, unspecified use, etc.
2. Gabon and Equatorial Guinea have joined OPEC in 2016 and 2017 respectively.
Source: OPEC Annual Statistical Bulletins, 2018

Figure XI.10(a): Export of Crude Oil and Refining Petroleum Products by OPEC

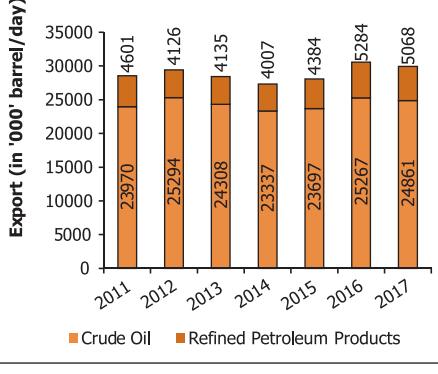
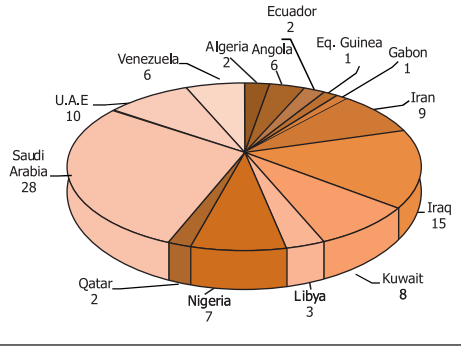


Figure XI.10(b): Country-wise Export of Crude Oil by OPEC during 2017 (%)



XI.14 World Imports of Natural Gas by Country

(in Million Standard Cubic Metres)

Country/Region	2011	2012	2013	2014	2015	2016	2017 (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
North America	**127975**	**118033**	**108349**	**98218**	**96592**	**105812**	**110347**
Canada	29740	29180	26699	21890	19627	20679	24260
United States	98235	88853	81650	76328	76965	85133	86087
Latin America	**43529**	**52664**	**55540**	**55903**	**56715**	**54228**	**47254**
Argentina	7560	8700	11750	11230	10667	11573	12178
Brazil	10480	13730	16770	17480	18981	13381	10774
Chile	3920	3830	3778	3715	3494	4380	4375
Mexico	18060	21827	18531	19698	20393	23341	18353
Venezuela	1797	1877	1821	950	400	-	-
Others	1712	2700	2890	2830	2780	1554	1574
Eastern Europe & CIS	**155380**	**137130**	**127620**	**112040**	**98820**	**95588**	**103954**
Belarus	21850	20252	18570	18420	17300	17200	17500
Hungary	6910	6060	6130	7100	5510	6250	9259
Kazakhstan	6590	3930	5280	4840	4700	5230	5134
Poland	11170	11270	12690	12000	10916	12498	12714
Russia	33110	33770	28010	24150	18000	15910	15686
Ukraine	42000	30890	26080	19200	16520	11100	13619
Others	33750	30958	30860	26330	25874	27399	30042
Western Europe	**420478**	**414350**	**432659**	**416482**	**453396**	**483395**	**513768**
Austria	9780	7810	6390	7800	6040	7400	8212
Belgium	29920	28580	31850	29780	34977	39431	42739
France	47400	44940	47873	45134	44711	46444	48260
Germany	89310	90530	96200	92550	103040	112200	114089
Italy	69930	67802	61953	55758	61200	65285	69622
Netherlands	14300	15390	15560	16470	26061	29467	33443
Spain	35520	36754	35399	36383	32391	32405	34622
Turkey	42560	44300	45270	49262	48427	46352	55121
United Kingdom	52838	49100	48944	43405	45062	48457	47623
Others	28920	29144	43220	39940	51487	55954	60038
Middle East	**44674**	**38596**	**41573**	**35597**	**44492**	**47698**	**43869**
Iran, I.R.	11659	6720	5329	4422	9015	9246	4731
Iraq	-	-	-	-	-	-	1456
Jordan	830	587	1180	300	2373	4449	4499
Kuwait	688	688	3517	3025	3852	4311	4781
Oman	1950	1950	1950	1970	1988	1974	1972
United Arab Emirates	28275	28201	29047	25800	27100	27479	26030
Others	1272	450	550	80	164	238	400
Africa	**6296**	**6580**	**7635**	**8290**	**11978**	**18122**	**16841**
Egypt	-	-	-	-	3608	9742	8001
Morocco	786	660	1055	1000	1000	1050	1040
South Africa	3300	3600	3720	3800	3800	3960	4077
Tunisia	1380	1890	2260	2890	2970	3270	3614
Others	830	430	600	600	600	100	109
Asia Pacific	**241180**	**272823**	**296011**	**304579**	**301442**	**320779**	**350388**
Australia	-	-	6466	6282	7279	6921	6200
China	30490	39700	51240	57650	59645	72815	90874
India	16390	17920	17380	18550	18673	24686	27570
Japan	104000	122243	125098	127521	122534	120073	120501
South Korea	48780	48120	53157	49086	43428	44171	48651
Malaysia	1990	2340	3260	4630	3266	2167	2600
Pakistan	-	-	-	-	1372	4460	5200
Singapore	8460	8310	11960	12390	12373	12812	13374
Thailand	9580	9760	10360	10480	13487	12758	14107
Others	21490	24430	17090	17990	19385	19917	21311
Total World	**1039512**	**1040176**	**1061752**	**1022819**	**1051457**	**1107501**	**1169580**

Note: Data may include re-exports and volumes of natural gas in transit. P: Provisional

Source: OPEC Annual Statistical Bulletins, 2016, 2017 & 2018

XI.15 World Imports of Petroleum Products by Country

(in '000' barrels/day)

Country/Year	2011	2012	2013	2014	2015	2016	2017(P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
NORTH AMERICA	**2818**	**2288**	**2347**	**2139**	**2327**	**2451**	**2433**
Canada	317	217	218	242	241	246	270
United States	2501	2071	2129	1897	2086	2205	2163
LATIN AMERICA	**2424**	**2341**	**2306**	**2465**	**2688**	**2777**	**3011**
Brazil	683	568	544	611	556	551	698
Chile	na	138	140	135	154	156	160
Ecuador	104	118	133	157	152	123	134
Mexico	660	647	560	616	712	745	848
Panama	51	61	59	62	58	66	63
Venezuela	68	145	133	158	187	160	165
Others	859	665	737	725	870	976	943
Eastern Europe and Eurasia	**868**	**814**	**805**	**866**	**907**	**1040**	**1116**
Bulgaria	26	31	32	34	38	39	43
Hungary	46	104	45	48	57	66	85
Poland	130	176	108	121	127	170	210
Ukraine	-	-	153	169	163	196	201
Others	667	504	467	495	522	570	577
WESTERN EUROPE	**6742**	**6707**	**7039**	**7026**	**7319**	**7699**	**7804**
Belgium	428	389	546	490	547	553	576
France	815	900	881	897	857	826	862
Germany	702	689	802	792	800	827	900
Italy	233	206	260	253	262	325	347
Netherlands	1753	1871	1843	1793	1901	1932	1927
Spain	na	329	284	330	322	364	401
Turkey	na	445	461	480	498	523	556
United Kingdom	495	538	595	608	652	734	695
Others	2317	1341	1366	1384	1480	1616	1542
MIDDLE EAST	**981**	**1475**	**1556**	**1665**	**1844**	**1849**	**1863**
Iran	30	6	15	40	53	62	96
Iraq	63	103	84	99	81	92	116
Kuwait	na	na	0	0	0	0	1
Qatar	na	0	6	5	33	21	21
Saudi Arabia	197	320	482	465	588	591	487
United Arab Emirates	na	290	292	350	358	340	278
Others	691	756	677	706	732	743	866
AFRICA	**1552**	**1682**	**1591**	**1652**	**1916**	**1906**	**1885**
Algeria	43	94	102	55	83	73	75
Angola	64	92	89	99	135	76	71
Egypt	186	240	178	186	367	351	318
Equatorial Guinea	-	-	4	7	8	6	6
Gabon	na	8	6	6	6	6	6
Libya	93	86	127	114	106	108	131
Morocco	163	161	166	163	161	257	265
Nigeria	412	352	331	439	441	423	392
Tunisia	73	61	61	68	81	75	83
Others	518	589	527	516	528	531	540
Asia and Pacific	**8446**	**8417**	**8851**	**9126**	**9763**	**10058**	**10727**
Australia	337	379	423	430	546	553	608
China	1011	1018	1093	958	1151	1220	1369
India	394	405	372	488	637	814	844
Indonesia	435	467	461	555	506	499	586
Japan	1026	1089	1003	993	973	869	924
Malaysia	na	382	505	546	583	646	727
Singapore	2513	2168	2273	2354	2536	2473	2635
South Korea	763	853	899	886	844	901	869
Others	1967	1657	1821	1918	1988	2083	2167
TOTAL WORLD	**23831**	**23723**	**24496**	**24939**	**26763**	**27779**	**28838**

Note: Data may include re-exports and volumes of oil in transit. P: Provisional na: not available
Source : OPEC Annual Statistical Bulletins, 2016, 2017 & 2018

XI.16 World Crude Oil Export by Country

(in '000' barrels/day)

Country/Year	2011	2012	2013	2014	2015	2016	2017(P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
NORTH AMERICA	**1731**	**1824**	**2193**	**2627**	**2766**	**3333**	**4030**
Canada	1684	1757	2059	2276	2301	2742	2912
United States	47	67	134	351	465	591	1118
LATIN AMERICA	**4600**	**4579**	**4336**	**4953**	**5211**	**5119**	**5043**
Brazil	na	488	366	517	736	891	1127
Columbia	558	555	703	722	736	614	581
Ecuador	334	358	388	422	433	415	385
Mexico	1420	1333	1271	1220	1247	1274	1265
Trinidad and Tobago	40	31	38	34	29	28	24
Venezuela	1553	1725	1528	1965	1974	1835	1596
Others	695	89	42	73	55	62	65
EASTERN EUROPE & EURASIA	**7011**	**6968**	**6780**	**6525**	**6907**	**7089**	**7166**
Azerbaijan	na	698	692	669	663	655	615
Kazakhstan	na	1365	1277	1251	1229	1232	1371
Russia	4786	4757	4689	4488	4897	5081	5062
Others	2225	147	122	117	117	122	119
WESTERN EUROPE	**2176**	**2038**	**1969**	**1892**	**1949**	**2096**	**2187**
Norway	1423	1303	1199	1203	1235	1373	1362
United Kingdom	563	576	614	571	595	620	693
Others	190	159	156	118	120	103	132
MIDDLE EAST	**17772**	**18077**	**17497**	**16793**	**17037**	**19321**	**18746**
Iran	2537	2102	1215	1109	1081	1922	2125
Iraq	2166	2423	2390	2516	3005	3804	3802
Kuwait	1816	2070	2059	1995	1964	2128	2010
Oman	742	768	838	804	788	888	803
Qatar	588	588	599	596	491	503	466
Saudi Arabia	7218	7557	7571	7154	7163	7463	6968
United Arab Emirates	2457	2445	2701	2497	2442	2408	2379
Others	248	123	124	123	104	206	193
AFRICA	**6636**	**6994**	**6976**	**6261**	**6410**	**6000**	**6273**
Algeria	843	809	744	623	642	668	633
Angola	1546	1663	1669	1608	1711	1670	1577
Congo	264	252	241	261	227	254	261
Egypt	83	91	97	117	156	165	139
Equatorial Guinea			207	197	182	158	128
Gabon	235	224	208	207	206	205	188
Libya	300	962	836	329	288	350	792
Nigeria	2377	2368	2193	2120	2114	1738	1811
Sudan	363	60	133	168	166	162	141
Others	625	565	649	631	717	629	602
ASIA AND PACIFIC	**1291**	**1239**	**1077**	**1151**	**1271**	**1291**	**1309**
Australia	272	261	206	244	222	200	179
Brunei	154	139	115	108	112	105	98
China	51	49	32	12	57	58	98
Indonesia	257	229	229	256	315	335	344
Malaysia	280	268	209	229	312	325	339
Vietnam	165	185	170	173	144	146	130
Others	113	109	117	128	109	123	121
TOTAL WORLD	**41218**	**41718**	**40828**	**40202**	**41552**	**44249**	**44753**
OPEC	23970	25294	24308	23337	23697	25267	24861
OPEC (%)	58	61	60	58	57	57	56

na: not available

P: Provisional

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, 2016, 2017 & 2018

XI.17 World Exports of Refined Products by Country

(in '000' barrels/day)

Country/Year	2011	2012	2013	2014	2015	2016	2017(P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
NORTH AMERICA	**3329**	**3605**	**3992**	**4288**	**4757**	**5106**	**5716**
Canada	390	468	505	464	484	436	491
United States	2939	3137	3487	3824	4273	4670	5225
LATIN AMERICA	**1856**	**1627**	**1669**	**1195**	**1193**	**1228**	**1122**
Brazil	140	163	151	153	125	124	133
Ecuador	29	27	20	8	16	31	42
Mexico	198	143	183	201	196	180	151
Trinidad and Tobago	114	70	92	70	92	121	118
Venezuela	786	675	713	312	318	263	212
Others	589	549	511	451	447	508	465
EASTERN EUROPE & EURASIA	**3137**	**3195**	**3664**	**3918**	**3808**	**3630**	**3564**
Romania	68	67	68	87	88	96	89
Russia	1927	2259	2469	2611	2726	2502	2479
Others	1142	869	1128	1220	994	1032	996
WESTERN EUROPE	**6026**	**6358**	**6355**	**6359**	**6934**	**7086**	**7436**
Belgium	386	390	494	524	532	538	624
France	440	426	406	411	440	428	435
Germany	371	384	414	434	453	466	483
Italy	544	586	490	418	565	582	634
Netherlands	2033	2113	2079	2081	2245	2304	2335
Norway	na	378	360	372	402	352	433
Spain	na	349	369	385	412	423	471
Sweden	na	266	192	246	298	321	350
United Kingdom	584	569	553	484	485	523	506
Others	1668	897	998	1004	1102	1150	1166
MIDDLE EAST	**3669**	**3271**	**3119**	**3320**	**3667**	**4631**	**4489**
Bahrain	242	246	247	248	249	230	241
Iran	441	456	394	470	514	898	993
Iraq	1	2	12	9	14	37	20
Kuwait	759	804	805	751	739	707	428
Qatar	510	466	511	522	521	568	639
Saudi Arabia	902	862	794	988	1155	1503	1438
United Arab Emirates	604	276	280	256	415	630	654
Others	209	158	76	75	60	58	77
AFRICA	**786**	**774**	**841**	**916**	**909**	**856**	**826**
Algeria	492	449	453	583	605	541	570
Angola	31	30	32	31	37	54	17
Egypt	70	57	47	45	47	36	31
Gabon	6	5	11	11	11	10	12
Libya	21	53	86	17	22	23	24
Nigeria	24	21	23	49	18	18	19
Others	142	159	188	180	170	173	153
ASIA AND PACIFIC	**6372**	**6380**	**6810**	**6786**	**7033**	**7709**	**8000**
Australia	56	64	57	56	47	51	46
China	610	570	666	693	836	1089	1169
India	1267	1289	1475	1374	1245	1402	1412
Indonesia	84	71	87	89	89	83	80
Japan	476	440	513	509	560	595	575
Malaysia	310	402	474	473	438	570	627
Singapore	1964	1731	1730	1761	1871	1995	2087
South Korea	1101	1193	1162	1206	1280	1313	1369
Others	504	622	646	625	667	613	635
TOTAL WORLD	**25174**	**25209**	**26450**	**26781**	**28300**	**30246**	**31152**

na: not available

P: Provisional

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

Source: OPEC Annual Statistical Bulletins, 2016, 2017 & 2018

XI.18 International Petroleum Crude Price Index

Petroleum Spot	2011	2012	2013	2014	2015	2016	2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
U.K. Dated BRENT 38.0/0.26	533.08	534.32	519.96	474.29	250.89	209.48	48.53
USA WEST TAXAS INTERMEDIATE, 40.0/0.4	388.35	384.71	400.49	381.28	199.22	176.90	54.01
UAE DUBAI FATEH 32.5/1.43	521.15	535.18	517.42	474.53	249.95	203.09	48.67
IRAN LIGHT 33.9/1.4	524.66	531.93	519.33	471.22	249.03	201.84	47.69
INDONESIA MINAS 33.0/0.1	493.51	501.29	461.78	424.25	211.39	176.74	42.02
NIGERIA BONNY LIGHT, 36.7/0.1	472.48	470.45	463.37	419.50	225.21	180.88	48.02
MEXICO ISTHUMAS, 31.8/1.51	479.09	483.22	476.92	424.72	231.93	192.15	51.24
RUSSIA URALS 36.1/2.52	484.43	490.20	479.15	435.14	230.26	187.05	48.21
MALAYSIA TAPIS 44.3/0.2	435.34	434.71	425.08	383.31	207.17	169.79	48.12
SAUDI ARABIA ARAB HEAVY, 28.0/3.0	554.40	577.09	553.49	499.09	250.45	204.85	47.05

Base year (1990 =100)
Note : The number adjacent to the crude names show the API gravities and percentage of sulphur by weight.
Source : OPEC Annual Statistical Bulletins, 2016, 2017 & 2018

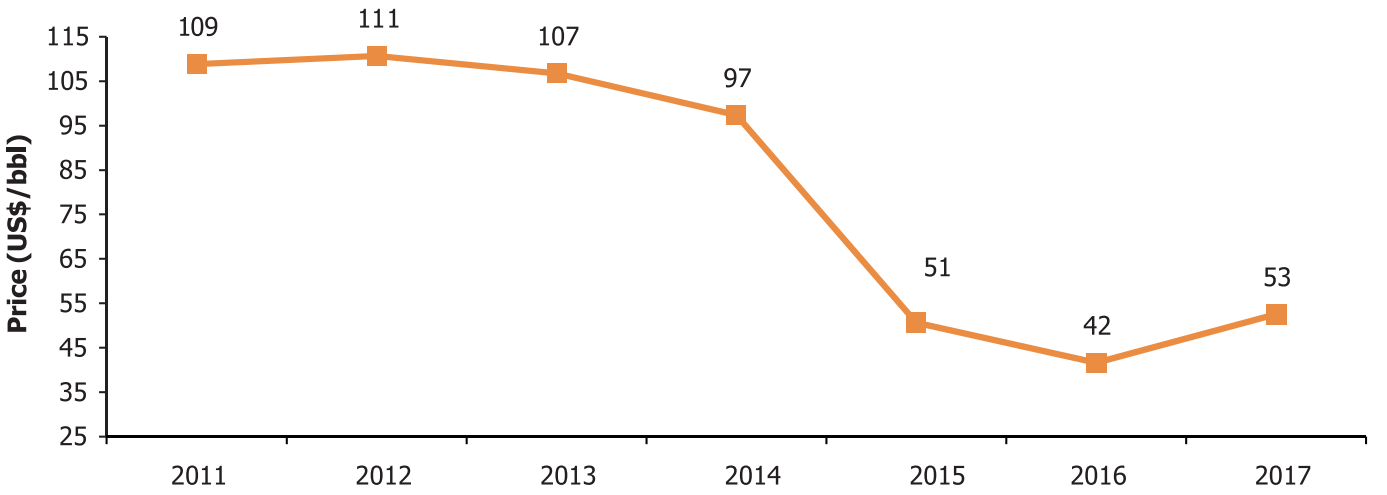
XI.19 Spot prices of key OPEC crude

(US $/bbl)

Period	Country/Crude Name										
	Kuwait	Libya	Nigeria	Qatar	Saudi Arabia	UAE	Indonesia	Iran		Iraq	Oman
	Kuwait Export	Brega	Forcados	Dukhan	Arab Heavy	Murban	Minas	Iran Light	Iran Heavy	Basrah Light	Oman
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
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	114.21	110.34	108.32	111.76	116.60	109.79	109.06	107.96	109.35
2013	105.04	108.88	111.95	107.05	103.89	108.21	107.41	107.19	105.73	103.60	105.51
2014	95.32	98.79	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
2016	39.30	43.73	43.70	43.69	38.45	44.83	41.11	41.66	39.57	39.53	41.96
2017	51.60	53.62	54.58	54.12	50.96	54.82	48.99	52.36	51.71	51.87	53.32

Source : OPEC Annual & Monthly Statistical Bulletins 2018

Figure XI.11: Trends in average international crude oil spot price



XI.20 Crude Oil Spot Prices

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

Crude	Country	2011	2012	2013	2014	2015	2016	2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Brent	UK(North Sea)	111.21	111.68	108.68	98.94	52.37	43.72	54.16
WTI	U.S.A	95.04	94.12	98.03	93.28	48.71	43.33	50.78
WTS	U.S.A	92.99	88.71	95.41	87.33	48.97	42.49	49.81
Light Lui.	Louisiana	112.38	111.69	107.39	96.90	52.35	45.02	54.01
Dubai	UAE	106.33	109.02	105.44	96.52	50.84	41.46	53.15
Iran Light	Iran	109.08	109.81	107.40	96.87	51.12	41.66	52.36
Iran Heavy	Iran	107.11	108.19	105.63	95.02	49.72	40.02	50.44
Urals	Russia	109.61	110.85	108.39	97.97	51.50	42.11	53.26
Minas	Indonesia	114.41	116.26	110.08	100.30	52.52	41.20	49.07
Tapis	Malaysia	119.30	117.00	115.10	102.83	54.50	45.77	56.37

Source : Energy Prices and Taxes, Second Quarter of 2018, International Energy Agency Publication.

XI.21 Petroleum Products Spot Prices

(in US $/bbl)

Product	2011	2012	2013	2014	2015	2016	2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
NW EUROPE							
Gasoline	116.42	122.89	116.69	108.16	67.03	54.02	65.52
Gas Oil	125.02	128.03	123.40	112.63	65.48	52.37	64.68
Jet/Kerosene	127.42	129.00	124.12	113.87	65.32	53.00	65.92
Naphtha	104.56	105.37	101.44	93.95	51.79	42.90	54.19
LSFO	100.38	105.12	96.43	86.96	41.01	34.24	48.72
HSFO	94.51	97.65	91.47	81.04	37.85	30.62	45.63
U.S.A							
Gasoline	123.86	131.91	127.42	117.36	77.29	62.75	73.82
Gas Oil	122.41	125.43	120.40	109.09	60.84	49.72	61.62
Jet/Kerosene	125.92	128.22	122.67	113.30	63.86	52.43	65.40
Naphtha	100.48	98.05	94.47	87.61	47.66	41.29	51.03
LSFO	100.38	na	na	na	na	na	na
HSFO	95.72	99.32	92.96	82.82	40.73	32.12	46.03
SINGAPORE							
Gasoline	119.81	123.44	118.98	110.75	69.09	56.20	67.96
Gas Oil	126.25	128.08	123.24	112.53	64.47	52.24	65.65
Jet/Kerosene	125.70	126.81	122.87	112.40	64.69	53.00	65.28
Naphtha	102.75	103.73	101.20	94.43	52.88	42.81	53.99
LSFO	109.75	115.43	106.16	98.55	48.07	39.64	52.48
HSFO	114.76	118.22	111.96	104.93	56.38	na	na

na: not available

Source : Energy Prices and Taxes, Second Quarter of 2018, International Energy Agency Publication.

XI. 22 Natural Gas Prices for Industry and Household Use

USD/MWh (GCV basis) (using PPPs)

Country/Year	2011	2012	2013	2014	2015	2016	2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FOR INDUSTRIAL USE							
Austria	na	45.8	46.2	43.3	47.3	43.4	38.6
Belgium	42.0	44.4	47.0	37.2	36.6	30.4	30.1
Canada	12.3	9.6	11.6	14.4	10.4	14.6	na
Czech Repubic	67.2	71.7	72.4	69.9	63.7	56.9	53.6
Denmark	39.8	39.0	42.6	35.9	33.9	27.5	31.3
Estonia	55.7	68.1	68.0	67.8	56.2	43.6	49.2
Finland	42.3	46.1	46.3	44.4	41.0	39.5	45.6
France	44.2	48.2	51.2	48.9	46.7	40.8	43.6
Germany	45.8	44.1	48.5	43.7	39.5	33.9	30.7
Greece	56.4	75.9	72.8	69.7	54.5	41.9	na
Hungary	70.4	85.6	81.6	92.0	71.7	59.0	52.1
Ireland	37.9	43.1	48.0	44.7	39.8	38.1	39.8
Italy	46.6	57.0	57.6	51.8	50.7	45.8	na
Japan	52.2	58.9	69.4	74.2	56.2	41.2	na
Korea	76.4	81.0	83.5	87.3	64.6	54.3	56.2
Luxembourg	39.8	42.5	45.0	38.2	42.8	31.4	28.8
Netherlands	33.1	36.5	39.4	38.2	35.0	30.2	29.9
New Zealand	18.4	18.8	20.0	18.6	17.3	15.0	17.0
Poland	69.9	79.6	75.8	78.2	67.4	52.1	53.6
Portugal	57.7	67.7	71.9	75.2	67.6	52.6	47.2
Slovak Republic	71.3	81.0	75.7	68.6	66.4	62.3	59.2
Slovenia	67.2	82.5	73.9	66.0	57.2	48.6	46.0
Spain	38.0	49.2	51.1	50.6	44.9	36.0	36.3
Sweden	49.6	49.5	48.3	43.2	41.8	36.3	38.2
Switzerland	46.0	49.6	51.0	52.5	51.0	49.5	49.2
Turkey	58.4	72.3	77.6	76.8	73.8	66.6	58.3
U.K	31.4	34.6	38.5	34.8	31.2	26.3	27.8
U.S.A	16.9	12.8	15.3	18.3	12.9	11.6	13.7
OECD Total	**31.1**	**31.2**	**34.3**	**34.6**	**28.6**	**24.6**	**24.3**
FOR HOUSEHOLD USE							
Austria	79.8	90.2	93.7	91.4	88.7	84.3	87.2
Belgium	82.6	87.3	83.1	82.8	78.0	68.4	67.4
Canada	29.6	27.6	28.5	31.5	27.5	28.4	na
Chile	191.5	175.0	158.6	159.5	144.6	150.8	159.8
Czech Repubic	109.8	128.7	128.4	125.8	126.5	120.7	118.6
Denmark	102.7	95.2	99.9	90.8	79.7	73.8	85.0
Estonia	84.6	98.2	95.7	91.9	76.9	60.3	74.2
France	74.4	80.8	88.8	94.0	92.0	86.4	89.4
Germany	84.4	89.3	92.0	92.8	90.6	88.0	85.3
Greece	108.9	156.9	180.8	172.4	166.4	149.8	na
Hungary	102.9	108.2	102.9	88.1	83.5	81.4	81.4
Ireland	69.7	82.0	90.1	92.8	89.3	88.9	86.2
Italy	101.2	111.3	119.2	116.3	111.3	108.4	na
Japan	122.9	129.8	140.8	147.0	133.5	117.5	na
Korea	90.1	95.6	99.4	103.9	82.6	73.0	74.8
Lexembourg	58.8	64.0	66.4	58.9	54.4	48.7	45.5
Mexico	59.3	50.7	55.9	58.5	50.5	52.0	na
Netherlands	83.2	93.1	97.9	95.6	90.8	92.2	93.4
New Zealand	88.4	88.9	94.2	92.0	90.8	94.3	86.6
Poland	119.5	127.9	122.0	129.6	126.2	111.1	107.5
Portugal	108.2	131.4	151.6	179.5	166.5	147.4	134.9
Slovak Republic	97.8	105.5	108.3	109.8	106.2	96.2	92.6
Slovania	113.8	126.3	116.6	112.9	104.9	97.1	89.5
Spain	89.8	114.1	124.7	135.3	132.7	120.9	126.7
Sweden	120.0	122.7	123.3	121.0	120.4	118.5	123.4
Switzerland	68.2	73.9	76.5	80.4	78.0	78.1	76.9
Turkey	73.2	88.3	93.8	94.2	92.3	86.5	79.4
U.K	59.5	64.9	69.6	73.3	69.1	62.3	61.4
U.S.A	36.4	35.3	34.0	36.1	34.2	33.2	36.1
OECD Total	**61.1**	**66.5**	**66.4**	**65.5**	**64.0**	**62.3**	**59.3**

GCV: Gross Calorific Value. MWh: megawatt hour PPP: Purchasing Power Parity na: not available

Source: International Energy Agency's "Energy Prices and Taxes" Second Quarter of 2018.

XI. 23 Crude Oil Import Costs

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

Country	2011	2012	2013	2014	2015	2016	2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
IEA[1]	107.61	109.15	105.84	97.43	50.88	40.86	52.05
IEA Europe[1]	110.54	111.58	108.93	98.89	51.83	42.18	53.26
Australia	115.66	117.78	114.19	107.05	57.90	46.87	56.99
Austria	110.92	112.50	110.63	103.81	55.52	42.89	54.73
Belgium	110.50	110.83	108.45	98.49	51.65	42.06	53.01
Canada	110.80	110.61	108.60	98.60	53.48	43.60	54.30
France	111.78	112.01	109.56	99.40	53.14	43.48	54.47
Germany	110.63	112.21	109.62	99.76	52.65	42.80	54.02
Greece	109.41	111.92	107.61	95.55	49.32	40.08	50.81
Italy	110.23	112.18	109.98	99.09	52.06	42.33	53.17
Japan	109.30	114.75	110.61	104.16	54.20	41.79	54.42
Korea	108.63	113.24	108.59	101.24	53.32	41.00	53.47
Netherlands	109.19	111.54	108.55	99.22	51.66	41.62	52.63
New Zealand	112.38	117.70	113.43	105.96	57.99	44.91	55.91
Spain	108.50	109.48	106.77	97.07	49.51	40.08	51.69
Sweden	110.67	112.36	109.10	97.75	51.19	42.41	54.17
U.K	113.49	112.62	110.27	100.07	53.81	44.62	54.69
U.S.A	102.43	101.16	97.25	89.43	45.81	37.94	48.12

Note: CIF: Cost Insurance Freight

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. Data for Mexico is not available. For reasons like confidentiality, data for some countries is not listed separately.

Source: International Energy Agency's "Energy Prices and Taxes" Second Quarter of 2018.

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)
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	109.76	112.00	113.08	112.82	111.73	109.86
March	122.83	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	107.80
2014						
January	105.33	103.79	110.26	105.74	102.21	104.01
March	105.63	103.05	109.50	104.80	101.63	104.32
June	110.27	106.56	114.36	108.61	104.50	108.03
September	96.41	95.30	98.07	97.23	93.73	96.47
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
March	54.79	50.52	56.75	52.20	49.34	54.66
June	62.28	59.29	62.19	60.94	58.01	61.76
September	46.16	43.96	48.01	45.56	43.37	45.38
December	35.98	31.49	38.16	33.70	30.15	34.59
2016						
January	28.34	23.92	30.40	26.35	22.50	26.81
February	30.16	26.77	32.24	28.77	26.15	29.44
March	36.08	32.99	38.53	34.74	32.76	35.15
April	39.09	36.33	41.51	38.22	35.92	39.00
May	44.65	41.60	46.85	43.48	40.69	44.29
June	46.38	44.50	48.48	46.28	43.68	46.25
July	43.54	41.37	45.30	43.14	40.40	42.64
August	43.66	41.88	46.35	43.47	41.00	43.58
September	44.23	41.22	47.77	42.70	40.34	43.67
October	47.99	47.04	50.83	48.26	46.26	48.94
November	43.45	42.14	45.20	43.32	40.96	43.98
December	51.85	50.93	53.91	51.92	49.70	52.08
2017						
January	52.35	51.48	54.98	52.29	50.56	53.71
February	52.35	52.85	55.24	53.63	51.97	54.41
March	49.13	49.87	51.91	50.68	48.86	51.21
April	50.04	50.81	53.02	51.64	49.97	52.31
May	47.34	48.65	50.77	49.30	47.92	50.47
June	43.85	44.37	46.92	45.21	43.64	46.38
July	47.03	46.19	48.66	47.12	45.76	47.59
August	50.85	48.70	51.69	49.63	48.55	50.24
September	54.45	52.23	56.55	53.29	51.78	53.51
October	56.25	54.50	57.97	55.73	53.99	55.63
November	62.12	59.58	63.29	61.08	59.03	60.81
December	63.37	60.94	64.64	62.50	60.47	61.61

Source: OPEC Bulletins, 2017 & 2018

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

(in U$/bbl)

Market/Product/Year	2016					2017											
	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	35.13	38.53	45.89	43.57	50.90	55.06	54.82	50.70	51.54	48.43	44.69	47.29	51.00	55.76	57.45	63.44	63.79
South European Market, FOB Italy	33.42	37.76	45.11	43.20	49.70	54.21	54.46	49.55	50.67	47.31	43.57	46.31	50.46	54.97	56.67	62.85	62.72
Singapore Cargoes	36.78	39.20	45.56	42.54	51.51	55.71	56.58	50.82	52.31	48.71	44.94	45.92	50.58	55.20	57.79	64.67	65.21
Middle East Gulf Market, FOB	34.96	38.18	44.82	42.07	50.85	54.42	55.08	49.65	51.07	47.55	43.92	45.16	49.48	54.09	56.49	62.97	63.31
GASOLINE																	
North European Market, FOB, (regular unleaded)	53.41	54.82	70.22	66.62	71.37	73.82	75.66	70.06	75.36	72.61	69.62	70.31	75.17	79.57	76.10	82.88	80.40
South European Market, FOB Italy (premium) 50ppm	47.01	47.68	62.71	59.38	64.86	66.95	68.26	62.59	67.89	63.74	59.92	61.17	66.85	71.24	68.30	72.97	72.85
US East Coast, New York (regular unleaded 87)	46.88	50.34	62.59	61.62	68.59	67.54	64.75	62.83	67.65	64.47	60.62	65.78	70.86	77.64	71.96	77.29	73.63
Singapore Cargoes(Premium Unl. 95)	50.33	52.68	59.05	58.00	66.68	69.47	69.90	64.28	67.66	64.40	59.78	61.76	67.51	70.43	70.04	75.59	75.32
Singapore Cargoes(Premium Unl. 92)	47.04	49.58	56.49	55.38	64.25	66.77	67.54	61.94	64.81	61.68	57.41	59.02	64.70	67.55	67.37	73.07	73.26
JET KERO																	
North European Market, FOB Rotterdam	38.11	47.13	59.37	55.93	64.89	65.05	66.13	62.21	64.21	61.13	57.81	61.17	65.71	70.72	71.36	78.12	77.64
US East Coast, New York	40.13	47.68	59.83	57.81	63.94	65.12	67.20	62.20	64.80	60.71	56.52	62.55	69.45	76.57	71.93	77.53	81.35
Singapore Cargoes	37.93	47.40	58.27	55.07	64.10	65.17	66.26	61.93	63.88	60.82	57.03	59.77	63.11	68.08	68.36	74.02	75.45
Middle East Gulf Market, FOB	35.75	45.54	56.70	53.61	62.65	63.50	64.70	60.26	62.46	59.42	55.62	58.28	61.43	66.24	66.71	72.35	73.74
GAS OIL/Diesel																	
North European Market, FOB Rotterdam	39.21	47.43	58.80	55.92	64.50	65.60	66.35	62.29	64.11	61.11	57.06	60.90	64.70	71.33	71.69	75.35	76.56
South European Market, FOB Italy	39.48	48.28	60.35	57.04	65.41	66.54	67.52	63.15	65.24	62.28	58.01	62.06	65.54	71.77	72.03	76.17	77.24
US East Coast, New York	39.14	43.56	58.10	54.94	62.91	64.13	64.43	60.48	61.79	59.10	54.86	58.03	61.59	68.78	68.26	75.33	77.66
Singapore Cargoes	36.16	45.52	58.14	54.62	62.91	65.15	66.76	62.94	64.68	61.19	57.54	61.05	63.51	68.49	68.61	73.14	75.27
Middle East Gulf Market, FOB	33.85	43.56	56.47	53.08	61.39	63.38	65.11	61.19	63.16	59.70	56.05	59.47	61.73	66.55	66.85	71.37	73.46
FUEL OIL																	
North European Market (1%s)	19.85	24.83	37.81	39.48	46.70	50.60	49.73	44.86	46.95	46.26	43.95	45.03	46.64	49.82	50.61	55.64	54.46
North European Market (3.5%s)	15.08	21.32	32.24	34.97	42.28	43.03	43.13	39.94	41.71	40.64	39.68	42.23	44.06	47.00	47.35	51.68	51.21
South European Market,(1%s) FOB Italy	21.22	24.63	36.97	40.02	48.84	52.19	50.41	46.24	48.03	47.10	45.56	45.35	46.70	49.97	51.51	56.06	55.51
South European Market,(3.5%s) FOB Italy	18.35	23.44	34.59	37.45	44.01	45.77	45.75	42.34	43.95	42.85	42.13	43.60	44.94	48.10	48.88	53.14	52.65
US East Coast, New York (0.3%S)	32.01	35.61	48.86	47.63	55.97	59.23	59.44	53.62	55.17	52.99	50.63	53.78	53.97	58.56	59.19	64.25	63.83
Singapore Cargoes (380 Cst)	22.77	27.07	36.68	38.72	49.47	50.47	49.07	45.64	47.34	46.01	44.60	45.58	47.08	50.55	51.72	56.67	56.20
Singapore Cargoes (180 Cst)	26.77	28.20	38.62	41.11	51.68	55.05	54.59	50.74	52.47	51.58	50.17	50.45	51.91	55.73	57.07	62.02	62.10
Middle East Gulf Market, (180 Cst)	20.87	24.90	35.55	38.63	48.61	49.35	48.24	44.63	46.58	45.93	44.21	45.09	46.22	49.59	50.43	55.29	55.06

Source : OPEC Monthly Statistical Bulletins, 2017 & 2018

XI.26 World Survey of Selected Petroleum Products Prices in 2017

Country	US $ Exchange Rate in National Currencies	Automotive Diesel Oil Non-commercial use (US$/Ltr) (using PPPs)	Heavy/High Sulphur Fuel Oil (for Industry) (US$/tonne)	Light Fuel Oil	
				For Household Use	For Industry Use
(1)	(2)	(3)	(4)	(5)	(6)
Australia	1.305	..	..	..	..
Austria	0.887	1.152	x	773.4	664.8
Belgium	0.887	1.357	x	638.5	527.7
Canada	1.298	0.697	360.0	752.5	525.1
Chile	648.680	..	..	855.8	..
Czech Republic	23.385	1.890	c	731.1	527.9
Denmark	6.602	1.009	..	1302.9	742.1
Estonia	0.887	1.774	..	801.5	667.9
Finland	0.887	1.162	..	991.0	779.2
France	0.887	1.284	..	832.6	633.6
Germany	0.887	1.275	..	642.8	507.8
Greece	0.887	1.703	..	979.4	789.8
Hungary	274.500	2.044	..	x	..
Iceland	106.820	..	..	..	..
Ireland	0.887	1.254	785.4	710.7	626.2
Israel	3.599	c	c	1646.4	c
Italy	0.887	1.592	..	1316.7	1079.3
Japan	112.180	0.992	..	695.8	601.2
Korea	1131.000	..	462.9	754.5	x
Latvia	0.887	1.726	..	767.3	634.1
Luxembourg	0.887	0.955	x	606.7	544.6
Mexico	18.871	1.535	256.9	x	353.6
Netherlands	0.887	1.248	x	1137.1	939.8
New Zealand	1.407	0.535	413.8	..	484.7
Norway	8.271	1.053	x	1210.1	968.0
Poland	3.779	2.020	334.9	772.8	623.0
Portugal	0.887	1.933	x	1187.1	..
Slovak Republic	0.887	1.962	x	..	x
Slovenia	0.887	1.603	x	910.5	746.3
Spain	0.887	1.387	..	737.9	609.8
Sweden	8.547	1.250	x	..	807.4
Switzerland	0.985	1.018	x	801.5	692.1
Turkey	3.649	3.406	609.5	1066.8	..
U.K	0.777	1.423	x	649.8	617.9
U.S.A	1.000	0.701	359.9	694.7	422.6

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

Source : International Energy Agency's "Energy Prices and Taxes" 2nd Quarter of 2018.

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

(U.S.C./U.S GALLON)(as on 1st April 2018)

Countries / Ports	2012	2013	2014	2015	2016	2017	2018
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
France							
Paris	341.81	314.42	303.58	183.00	125.31	160.03	206.93
Germany							
Frankfurt	341.02	303.55	298.08	178.60	121.17	157.83	206.85
Italy							
Rome	na	na	na	190.71	127.15	162.60	207.92
Kenya							
Nairobi	347.24	na	na	na	na	na	na
Malaysia							
Kualalampur	330.97	293.61	290.47	170.00	117.39	151.96	na
Singapore							
Paya Lebar/Changi	326.91	289.58	285.65	165.17	115.15	147.34	197.17
U.A.E							
Abu Dhabi	343.83	307.63	300.99	178.37	133.35	163.53	209.45
Dubai	333.84	301.75	292.99	170.37	127.15	157.33	206.89
U.K							
London(Heathrow)	342.35	304.94	303.29	183.49	127.39	160.76	204.46
Kuwait	309.81	280.94	274.67	166.90	120.45	152.26	188.5
New York	356.19	303.13	304.34	172.75	117.86	158.27	208.06
Japan							
Tokyo	346.63	314.95	303.54	180.31	126.26	162.11	190.33
India							
Mumbai	392.82	323.15	316.85	207.25	164.18	202.54	227.54
Delhi	392.40	322.80	315.32	205.06	129.84	165.94	211.9
Madras	390.71	324.01	317.61	208.31	142.64	178.95	220.64

Note: Prices are Air India Contract prices, barring Italy
na : not available
Source : Air India

XI. 28 Oil Trade Movements

(in '000' barrels daily)

Country/ Region	2011	2012	2013	2014	2015	2016	2017	% share in 2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Imports								
US	11338	10587	9859	9241	9451	10056	10077	14.9
Europe	12272	12569	12815	12855	13877	13817	14060	20.8
China	6295	6675	6978	7398	8333	9214	10241	15.2
India	3823	4168	4370	4155	4380	4912	4947	7.3
Japan	4494	4743	4637	4383	4332	4180	4142	6.1
Rest of World	17717	17862	20085	21261	22103	22617	24125	35.7
Total World	55938	56604	58744	59293	62477	64795	67592	100
Exports								
US	2495	2682	3563	4033	4521	4873	5540	8.2
Canada	2798	3056	3296	3536	3836	3887	4201	6.2
Mexico	1487	1366	1347	1293	1323	1376	1279	1.9
South & Cent. America	3755	3830	3790	3939	4107	4144	3993	5.9
Europe	2106	2193	2578	2512	2968	2966	3281	4.9
Russia	7448	7457	7948	7792	8313	8354	8611	12.7
Other CIS	2080	1848	2102	2012	2021	1847	1974	2.9
Saudi Arabia	8120	8468	8365	7911	7968	8515	8238	12.2
Middle East (ex Saudi Arabia)	12188	11742	12242	12699	13537	14950	15680	23.2
North Africa	1951	2602	2127	1743	1701	1697	2155	3.2
West Africa	4759	4724	4590	4849	4880	4396	4470	6.6
Asia Pacific (ex Japan)	6088	6299	6307	6450	6780	7297	7641	11.3
Rest of World	663	338	491	524	525	494	528	0.8
Total World	**55938**	**56604**	**58744**	**59293**	**62477**	**64795**	**67592**	**100**

Note:
1. Annual changes and shares of total are calculated using thousand barrels daily figures.
2.Bunkers are not included as exports. Intra-area movements (for example, between countries in Europe) are excluded.
3. North and West African exports excludes intra-Africa trade prior to 1993.
Source: BP Statistical Review of World Energy, June 2018

XI.29 World Primary Energy Consumption by Fuel during 2017

(in Million Tonnes Oil Equivalent)

Country	Oil	Natural Gas	Coal	Nuclear Energy	Hydro electricity	Renew-ables	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
US	913.3	635.8	332.1	191.7	67.1	94.8	2234.9
Canada	108.6	99.5	18.6	21.9	89.8	10.3	348.7
Mexico	86.8	75.3	13.1	2.5	7.2	4.4	189.3
Total North America	**1108.6**	**810.7**	**363.8**	**216.1**	**164.1**	**109.5**	**2772.8**
Argentina	31.6	41.7	1.1	1.4	9.4	0.7	85.9
Brazil	135.6	33.0	16.5	3.6	83.6	22.2	294.4
Chile	18.3	5.2	6.7	-	5.1	3.0	38.3
Colombia	16.7	8.6	4.0	-	13.0	0.4	42.6
Ecuador	11.3	0.5	-	-	4.5	0.1	16.5
Peru	12.1	5.8	1.0	-	6.5	0.6	25.9
Trinidad & Tobago	2.2	15.9	-	-	-	^	18.1
Venezuela	24.2	32.4	0.3	-	17.4	^	74.2
Other S. & Cent. America	66.8	6.1	3.2	-	22.9	5.6	104.7
Total S. & Cent. America	**318.8**	**149.1**	**32.7**	**5.0**	**162.3**	**32.6**	**700.6**
Austria	13.4	7.7	3.2	-	8.8	2.8	35.9
Belgium	32.2	14.1	2.9	9.5	0.1	3.5	62.3
Czech Republic	9.8	7.2	16.0	6.4	0.4	1.7	41.6
Finland	9.7	1.6	4.1	5.1	3.3	3.7	27.6
France	79.7	38.5	9.1	90.1	11.1	9.4	237.9
Germany	119.8	77.5	71.3	17.2	4.5	44.8	335.1
Greece	15.5	4.1	4.9	-	0.9	2.2	27.6
Hungary	7.9	8.5	2.3	3.6	^	0.7	23.2
Italy	60.6	62.0	9.8	-	8.2	15.5	156.0
Netherlands	40.8	31.0	9.1	1.2	^	4.0	86.1
Norway	10.1	3.9	0.8	-	32.0	0.7	47.5
Poland	31.6	16.5	48.7	-	0.6	4.8	102.1
Portugal	12.5	5.3	3.5	-	1.3	3.7	26.4
Romania	10.0	10.2	5.7	2.6	3.2	2.2	33.9
Switzerland	10.9	2.7	0.1	4.6	7.2	0.8	26.4
Spain	64.8	27.5	13.4	13.1	4.2	15.7	138.8
Sweden	15.6	0.7	1.9	14.9	14.6	6.8	54.4
Turkey	48.8	44.4	44.6	-	13.2	6.6	157.7
United Kingdom	76.3	67.7	9.0	15.9	1.3	21.0	191.3
Azerbaijan	4.4	9.1	^	-	0.4	^	13.9
Belarus	6.7	15.5	0.9	-	0.1	0.1	23.2
Kazakhstan	14.6	14.0	36.2	-	2.5	0.1	67.4
Russian Federation	153.0	365.2	92.3	46.0	41.5	0.3	698.3
Turkmenistan	7.3	24.4	-	-	-	^	31.7
Ukraine	10.0	25.6	24.6	19.4	2.0	0.4	81.9
Uzbekistan	3.3	35.8	1.2	-	2.7	^	43.0
Other Europe & CIS	65.3	30.4	38.0	8.7	22.7	11.0	176.1
Total Europe & CIS	**934.6**	**951.3**	**453.4**	**258.4**	**187.1**	**162.7**	**2947.5**

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XI.29 World Primary Energy Consumption by Fuel during 2017 (Contd...)

(in Million Tonnes Oil Equivalent)

Country	Oil	Natural Gas	Coal	Nuclear Energy	Hydro electricity	Renew-ables	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Iran	84.6	184.4	0.9	1.6	3.7	0.1	275.4
Iraq	38.5	10.3	-	-	0.5	^	49.2
Israel	11.7	8.5	5.2	-	^	0.4	25.8
Kuwait	20.0	19.0	0.2	-	-	^	39.3
Oman	9.3	20.0	0.1	-	-	^	29.4
Qatar	13.3	40.8	-	-	-	^	54.1
Saudi Arabia	172.4	95.8	0.1	-	-	^	268.3
United Arab Emirates	45.0	62.1	1.6	-	-	0.1	108.7
Other Middle East	25.2	20.4	0.4	-	0.3	0.6	46.9
Total Middle East	**420.0**	**461.3**	**8.5**	**1.6**	**4.5**	**1.4**	**897.2**
Algeria	19.5	33.4	^	-	^	0.1	53.2
Egypt	39.7	48.1	0.2	-	3.0	0.6	91.6
Morocco	13.1	1.0	4.5	-	0.3	0.8	19.6
South Africa	28.8	3.9	82.2	3.6	0.2	2.0	120.6
Other Africa	95.2	35.5	6.2	-	25.6	2.1	164.5
Total Africa	**196.3**	**121.9**	**93.1**	**3.6**	**29.1**	**5.5**	**449.5**
Australia	52.4	36.0	42.3	-	3.1	5.7	139.4
Bangladesh	7.5	22.9	2.3	-	0.2	0.1	33.0
China	608.4	206.7	1892.6	56.2	261.5	106.7	3132.2
China Hong Kong SAR	21.9	2.7	6.3	-	-	^	30.9
India	222.1	46.6	424.0	8.5	30.7	21.8	753.7
Indonesia	77.3	33.7	57.2	-	4.2	2.9	175.2
Japan	188.3	100.7	120.5	6.6	17.9	22.4	456.4
Malaysia	36.9	36.8	20.0	-	5.6	0.4	99.6
New Zealand	8.5	4.2	1.2	-	5.7	2.4	22.1
Pakistan	29.2	35.0	7.1	1.8	7.0	0.8	80.9
Philippines	21.7	3.2	13.1	-	2.2	3.1	43.3
Singapore	75.3	10.6	0.4	-	-	0.3	86.5
South Korea	129.3	42.4	86.3	33.6	0.7	3.6	295.9
Sri Lanka	5.3	-	1.4	-	0.9	0.1	7.7
Taiwan	49.2	19.1	39.4	5.1	1.2	1.2	115.1
Thailand	63.9	43.1	18.3	-	1.1	3.4	129.7
Vietnam	23.0	8.1	28.2	-	15.9	0.1	75.3
Other Asia Pacific	23.3	10.0	19.4	-	13.7	0.1	66.5
Total Asia Pacific	**1643.4**	**661.8**	**2780.0**	**111.7**	**371.6**	**175.1**	**5743.6**
Total World	**4621.9**	**3156.0**	**3731.5**	**596.4**	**918.6**	**486.8**	**13511.3**

Note: ^: less than 0.05

1. In this review, primary energy comprises commercially traded fuels, including modern renewables used to generate electricity.
2. Total may not add up due to rounding off.

Source: BP Statistical Review of World Energy, June 2018

Figure XI.12 (a): Region-wise Primary Energy Consumption during 2017 (%)

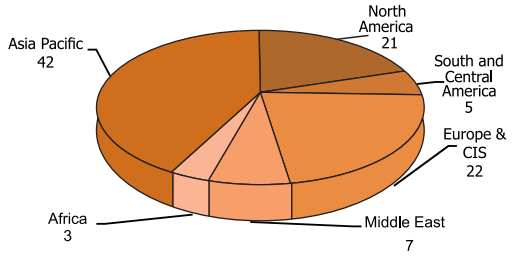
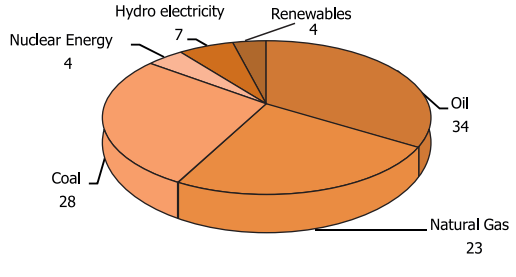


Figure XI.12 (b): Share of various energy sources in world primary energy consumption during 2017 (%)



XI.30 Per Capita Primary Energy Consumption-some International Comparisons during 2017

(in Kg. Oil Equivalent)

Country	Oil	Natural Gas	Coal	Nuclear Energy	Hydro electricity	Renew-ables	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
US	2806.7	1953.9	1020.6	589.2	206.2	291.3	6868.0
Canada	2958.4	2711.8	506.4	596.3	2447.0	281.2	9501.1
Mexico	671.6	583.0	101.4	19.1	55.5	34.3	1464.8
Total North America	**2256.6**	**1650.0**	**740.5**	**439.8**	**334.0**	**223.0**	**5643.8**
Argentina	714.4	940.9	24.0	32.0	212.4	15.4	1939.1
Brazil	652.1	158.6	79.5	17.2	402.1	106.6	1416.1
Chile	997.0	280.3	365.3	0.0	274.8	165.5	2082.9
Colombia	338.9	174.6	80.1	0.0	263.2	8.1	864.9
Ecuador	671.7	31.2	0.0	0.0	270.6	7.7	981.2
Peru	379.5	182.3	30.7	0.0	204.4	17.4	814.3
Trinidad & Tobago	1577.3	11335.7	0.0	0.0	0.0	0.6	12913.7
Venezuela	770.8	1030.9	8.3	0.0	552.8	0.1	2363.0
Other S. & Cent. America	596.1	54.9	28.7	0.0	204.3	50.4	934.4
Total S. & Cent. America	**621.1**	**290.5**	**63.7**	**9.7**	**316.2**	**63.5**	**1364.8**
Austria	1519.9	880.0	358.0	0.0	1005.3	321.5	4084.6
Azerbaijan	445.0	919.5	0.1	0.0	39.9	3.3	1407.7
Belarus	709.9	1628.9	90.3	0.0	5.3	6.4	2440.8
Belgium	2848.7	1246.4	256.8	845.1	5.5	308.5	5511.0
Czech Republic	924.9	679.3	1513.0	605.0	39.9	165.0	3927.1
Finland	1759.6	286.9	748.9	934.3	608.5	673.0	5011.2
France	1226.8	591.9	139.4	1386.7	171.3	144.4	3660.6
Germany	1442.2	932.9	857.7	206.7	53.6	539.3	4032.4
Greece	1447.9	387.5	454.9	0.0	85.2	207.5	2583.1
Hungary	809.6	871.5	234.1	371.7	5.1	75.0	2366.9
Italy	1001.0	1024.8	162.0	0.0	135.6	255.7	2579.0
Kazakhstan	813.8	778.3	2009.6	0.0	140.4	4.8	3747.0
Netherlands	2386.2	1813.1	533.3	70.6	0.8	231.5	5035.5
Norway	1903.4	734.1	145.9	0.0	6037.7	133.5	8954.5
Poland	823.5	428.6	1267.2	0.0	15.1	124.8	2659.3
Portugal	1216.8	513.4	340.6	0.0	126.4	362.7	2560.0
Romania	508.3	521.7	289.7	132.9	165.1	112.7	1730.4
Russian Federation	1042.2	2487.9	628.9	313.1	282.5	1.8	4756.5
Spain	1390.0	590.5	288.6	282.1	89.7	337.6	2978.6
Sweden	1541.6	67.5	190.0	1471.3	1450.1	668.6	5389.1
Switzerland	1285.0	318.6	13.4	537.9	852.6	97.3	3105.0
Turkey	603.4	549.0	551.2	0.0	163.5	82.1	1949.2
Turkmenistan	1256.6	4209.1	0.0	0.0	0.0	0.3	5466.0
Ukraine	235.5	605.2	581.2	457.8	46.3	9.2	1935.2
United Kingdom	1153.1	1023.3	135.8	240.4	20.3	317.6	2890.5
Uzbekistan	101.1	1105.0	37.1	0.0	84.2	0.0	1327.4
Other Europe & CIS	822.4	382.6	478.3	109.9	286.1	139.0	2218.3
Total Europe & CIS	**1024.4**	**1042.6**	**497.0**	**283.2**	**205.0**	**178.3**	**3230.4**

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XI.30 Per Capita Primary Energy Consumption-some International Comparisons during 2017 (Contd...)

(in Kg. Oil Equivalent)

Country	Oil	Natural Gas	Coal	Nuclear Energy	Hydro electricity	Renew-ables	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Iran	1049.7	2287.6	11.4	19.9	46.0	1.7	3416.3
Iraq	981.0	262.4	0.0	0.0	12.6	0.4	1256.3
Israel	1407.0	1026.6	630.4	0.0	0.7	48.0	3112.8
Kuwait	4885.9	4646.1	38.4	0.0	0.0	3.3	9573.7
Qatar	4943.8	15092.9	0.0	0.0	0.0	17.5	20054.1
Saudi Arabia	5286.8	2938.9	3.0	0.0	0.0	0.9	8229.7
United Arab Emirates	4786.2	6601.4	166.6	0.0	0.0	12.8	11567.1
Other Middle East	469.0	549.4	7.0	0.0	4.4	8.0	1037.9
Total Middle East	**1676.6**	**1841.5**	**33.9**	**6.4**	**18.1**	**5.4**	**3581.8**
Algeria	463.0	792.3	1.2	0.0	0.3	2.8	1259.5
Egypt	424.9	515.3	1.8	0.0	32.4	6.6	981.0
South Africa	443.8	59.3	1264.6	54.9	3.0	30.4	1856.0
Other Africa	103.1	34.7	10.1	0.0	24.6	2.7	175.2
Total Africa	**157.0**	**97.4**	**74.4**	**2.8**	**23.2**	**4.4**	**359.3**
Australia	2137.7	1469.2	1725.8	0.0	126.5	232.3	5691.4
Bangladesh	45.4	138.8	14.2	0.0	1.4	0.4	200.3
China	438.7	149.1	1364.7	40.5	188.6	77.0	2258.6
China Hong Kong SAR	2737.4	339.1	784.3	0.0	0.0	3.0	3863.7
India	164.2	34.5	313.4	6.3	22.7	16.1	557.2
Indonesia	292.6	127.6	216.5	0.0	15.7	11.2	663.6
Japan	1486.5	794.6	951.3	51.9	141.5	176.7	3602.5
Malaysia	1166.2	1165.2	633.0	0.0	177.4	11.2	3153.0
New Zealand	1774.8	870.1	260.4	0.0	1188.8	507.2	4601.2
Pakistan	146.5	175.8	35.6	9.2	35.0	4.1	406.1
Philippines	206.6	30.9	124.4	0.0	20.7	29.3	411.9
Singapore	13204.3	1853.6	69.6	0.0	0.0	44.6	15172.1
South Korea	2515.5	825.9	1679.1	653.4	13.2	70.6	5757.7
Sri Lanka	247.7	0.0	64.4	0.0	42.5	6.3	360.9
Taiwan	2083.5	807.5	1670.7	215.2	52.1	49.6	4878.5
Thailand	967.3	651.5	277.3	0.0	16.0	50.8	1962.9
Vietnam	245.7	86.7	300.9	0.0	169.6	1.0	803.9
Other Asia Pacific	127.3	54.5	105.9	0.0	75.0	0.8	363.5
Total Asia Pacific	**399.6**	**160.9**	**675.9**	**27.2**	**90.3**	**42.6**	**1396.5**
Total World	**613.3**	**418.8**	**495.2**	**79.1**	**121.9**	**64.6**	**1792.9**

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.
3. Population 2017 data have been taken from "Population Reference Bureau".
Source: BP Statistical Review of World Energy, June 2018

XI.31 Per Capita Consumption of Main Petroleum Products Some International Comparisons during 2017

(in Kg. Oil Per Capita)

Country/Area	Light Distillates	Middle Distillates	Fuel Oil	Others	Total
(1)	(2)	(3)	(4)	(5)	(6)
USA	1458.1	876.6	54.6	643.5	3032.7
Europe	265.2	760.5	89.1	271.0	1385.8
Middle East	425.1	454.8	417.7	543.4	1840.9
China	147.0	154.3	20.5	136.3	458.1
Japan	623.3	507.8	111.7	320.1	1562.5
India	32.4	69.0	4.5	66.3	172.2
OECD	675.8	680.1	73.8	373.9	1803.7

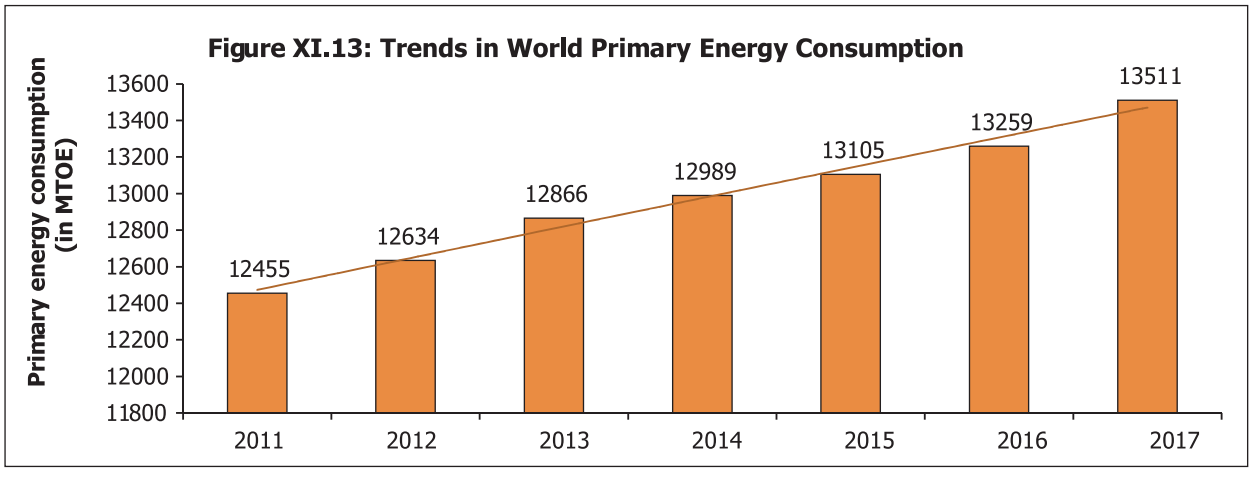
Note: Population 2017 data have been taken from "Population Reference Bureau".
Source : B.P Statistical Review of World Energy, June 2018

XI.32 Trends in World Primary Energy Consumption by Fuel

(Million Tonnes Oil Equivalent)

Year	Oil	Natural Gas	Coal	Nuclear Energy	Hydro electricity	Renewables	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2011	4125.7	2926.3	3807.2	600.1	792.3	203.6	12455.3
2012	4176.2	3010.5	3817.3	559.2	832.1	238.5	12633.8
2013	4220.9	3054.4	3887.0	563.9	859.2	280.7	12866.0
2014	4254.8	3073.0	3889.4	575.0	879.3	317.3	12988.8
2015	4341.0	3146.7	3784.7	582.7	883.2	366.7	13105.0
2016	4557.3	3073.2	3706.0	591.2	913.3	417.4	13258.5
2017 (P)	4621.9	3156.0	3731.5	596.4	918.6	486.8	13511.2

Note: Primary energy comprises commercially-traded fuels, including modern renewables used to generate electricity. P: Provisional
Source : BP Statistical Review of World Energy, June 2018



XI.33 Primary Energy Consumption in Select Countries of the World

(in Million Tonnes Oil Equivalent)

Country/Year	2011	2012	2013	2014	2015	2016	2017	% share in 2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
US	2216.7	2161.0	2221.1	2246.2	2227.0	2228.0	2234.9	16.5
Canada	323.2	319.9	331.5	335.4	331.1	339.0	348.7	2.6
Mexico	183.1	184.2	185.7	185.2	181.6	194.9	189.3	1.4
Total North America	**2722.9**	**2665.1**	**2738.3**	**2766.8**	**2739.7**	**2761.9**	**2772.8**	**20.5**
Argentina	78.9	81.2	84.5	84.6	86.4	86.6	85.9	0.6
Brazil	276.6	283.5	294.3	301.8	299.1	293.0	294.4	2.2
Chile	34.5	35.3	35.7	35.1	35.9	37.6	38.3	0.3
Colombia	35.6	38.3	38.8	40.7	41.5	42.1	42.6	0.3
Ecuador	13.9	14.7	15.2	16.0	15.9	15.8	16.5	0.1
Peru	20.3	21.2	21.9	22.6	23.8	25.3	25.9	0.2
Trinidad & Tobago	21.6	20.6	21.1	20.5	20.3	18.2	18.1	0.1
Venezuela	82.8	86.4	85.4	81.1	78.8	74.3	74.2	0.5
Central America	25.5	26.3	26.4	27.3	29.6	31.2	32.5	0.2
Other Caribbean	41.7	40.5	39.6	39.5	40.8	41.7	41.6	0.3
Other South America	27.4	28.3	29.2	28.7	28.9	31.0	30.6	0.2
Total S.&Cent. America	**658.9**	**676.5**	**692.0**	**697.7**	**701.1**	**696.8**	**700.6**	**5.2**
Austria	33.4	35.0	34.8	33.7	33.7	34.9	35.9	0.3
Belgium	61.9	59.5	60.9	56.8	58.0	62.4	62.3	0.5
Bulgaria	19.2	18.1	16.7	17.9	19.1	18.0	18.8	0.1
Croatia	8.1	7.5	8.2	8.2	7.8	8.1	7.5	0.1
Cyprus	2.9	2.7	2.4	2.4	2.5	2.7	2.8	^
Czech Republic	42.6	42.2	42.1	40.5	40.5	39.8	41.6	0.3
Denmark	18.7	17.3	18.1	17.5	16.9	17.4	17.3	0.1
Estonia	6.2	6.3	6.8	6.5	6.1	6.0	6.8	0.1
Finland	29.3	28.4	28.0	27.0	27.6	28.3	27.6	0.2
France	247.2	247.4	250.3	240.6	242.3	238.9	237.9	1.8
Germany	317.0	321.3	330.7	317.2	323.3	328.2	335.1	2.5
Greece	31.0	29.5	28.0	26.4	26.6	26.6	27.6	0.2
Hungary	22.9	21.3	20.3	20.3	21.4	22.0	23.2	0.2
Iceland	4.7	4.8	4.9	5.0	5.2	5.2	5.3	^
Ireland	14.4	14.2	14.0	13.9	14.8	15.4	15.6	0.1
Italy	171.0	164.6	158.0	149.1	152.2	153.8	156.0	1.2
Latvia	3.7	3.9	3.7	3.4	3.5	3.8	4.2	^
Lithuania	5.9	5.9	5.4	5.2	5.5	5.6	5.7	^
Luxembourg	4.1	4.1	3.9	3.7	3.6	3.5	3.7	^
Macedonia	2.8	2.6	2.5	2.3	2.4	2.4	2.3	^
Netherlands	92.9	89.4	87.3	82.2	83.3	85.2	86.1	0.6
Norway	42.8	47.6	44.8	46.3	47.0	47.3	47.5	0.4
Poland	100.6	97.6	97.9	94.3	95.3	99.5	102.1	0.8
Portugal	24.6	22.5	24.6	24.8	24.7	26.8	26.4	0.2
Romania	34.9	33.7	31.3	32.7	32.8	32.8	33.9	0.3
Slovakia	16.9	16.3	16.9	15.6	15.8	15.8	16.2	0.1
Slovenia	7.1	6.9	6.8	7.0	6.4	6.9	6.9	0.1
Spain	143.8	143.0	135.7	133.3	135.3	136.7	138.8	1.0
Sweden	51.8	55.1	51.9	52.1	53.4	52.8	54.4	0.4
Switzerland	27.7	29.3	30.2	28.9	28.3	27.3	26.4	0.2
Turkey	115.1	122.3	121.6	125.6	137.5	144.4	157.7	1.2
United Kingdom	202.0	204.5	203.7	192.0	194.4	192.2	191.3	1.4
Azerbaijan	12.5	12.8	13.2	13.5	14.7	14.6	13.9	0.1
Belarus	26.0	28.0	25.0	25.0	22.7	22.8	23.2	0.2
Kazakhstan	60.5	62.7	63.5	64.4	63.1	64.5	67.4	0.5
Russian Federation	691.7	694.7	683.9	689.6	676.8	689.6	698.3	5.2
Turkmenistan	27.2	29.9	27.0	29.7	33.2	33.7	31.7	0.2
Ukraine	126.3	123.1	115.2	101.6	84.0	86.1	81.9	0.6
Uzbekistan	44.9	44.4	44.0	45.6	48.4	42.8	43.0	0.3
Other Europe & CIS	58.7	57.6	59.0	56.3	59.2	62.1	62.8	0.5
Total Europe & CIS	**2955.1**	**2958.4**	**2923.2**	**2858.3**	**2869.4**	**2906.6**	**2947.5**	**21.8**

Contd...

XI.33 Primary Energy Consumption in Select Countries of the World (Contd...)

(in Million Tonnes Oil Equivalent)

Country/Year	2011	2012	2013	2014	2015	2016	2017	% share in 2017
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Iran	228.6	229.9	240.6	255.1	254.1	259.8	275.4	2.0
Iraq	36.7	39.0	42.0	40.2	40.3	46.1	49.2	0.4
Israel	24.2	25.3	24.9	23.3	24.6	24.9	25.8	0.2
Kuwait	33.6	37.3	38.7	35.2	38.2	38.8	39.3	0.3
Oman	22.5	24.5	27.4	27.3	28.9	29.2	29.4	0.2
Qatar	32.3	38.1	40.4	44.1	49.6	49.9	54.1	0.4
Saudi Arabia	219.8	233.1	234.0	250.6	258.7	264.5	268.3	2.0
United Arab Emirates	88.2	92.7	97.3	97.2	106.3	109.6	108.7	0.8
Other Middle East	54.8	51.1	49.9	50.1	47.8	46.8	46.9	0.3
Total Middle East	**740.9**	**771.1**	**795.3**	**823.1**	**848.3**	**869.7**	**897.2**	**6.6**
Algeria	39.9	43.6	46.2	50.4	53.0	53.0	53.2	0.4
Egypt	79.7	83.8	83.2	82.9	84.4	88.2	91.6	0.7
Morocco	17.5	17.8	18.2	18.4	18.9	19.1	19.6	0.1
South Africa	124.8	123.0	123.8	125.5	120.6	123.0	120.6	0.9
Eastern Africa	39.3	40.0	43.4	47.9	49.8	51.1	53.4	0.4
Middle Africa	16.8	17.4	18.5	19.8	20.5	21.6	23.0	0.2
Western Africa	42.1	44.2	44.9	48.0	52.2	52.1	56.5	0.4
Other Northern Africa	21.7	25.9	28.0	27.5	25.2	25.2	26.5	0.2
Other Southern Africa	3.8	4.2	4.3	4.7	4.8	4.8	5.2	^
Total Africa	**385.6**	**399.8**	**410.6**	**425.1**	**429.4**	**438.0**	**449.5**	**3.3**
Australia	133.5	132.0	132.9	135.1	138.0	139.5	139.4	1.0
Bangladesh	23.0	25.0	25.5	26.8	31.1	31.9	33.0	0.2
China	2690.1	2799.1	2907.0	2973.5	3009.8	3047.2	3132.2	23.2
China Hong Kong SAR	28.4	27.3	28.0	27.3	28.1	28.8	30.9	0.2
India	570.7	600.3	623.6	666.8	686.9	722.3	753.7	5.6
Indonesia	164.6	173.2	177.6	166.0	165.4	167.4	175.2	1.3
Japan	477.8	475.0	471.3	456.7	453.0	451.2	456.4	3.4
Malaysia	82.9	89.1	93.1	93.9	95.1	97.6	99.6	0.7
New Zealand	19.8	20.0	20.2	21.1	21.3	21.7	22.1	0.2
Pakistan	63.5	64.1	64.8	66.7	70.2	76.5	80.9	0.6
Philippines	29.9	30.9	33.1	34.9	38.3	40.6	43.3	0.3
Singapore	71.3	71.6	73.6	75.8	80.6	83.6	86.5	0.6
South Korea	273.0	276.3	276.7	279.3	284.9	292.2	295.9	2.2
Sri Lanka	5.9	6.0	6.1	6.4	7.4	7.4	7.7	0.1
Taiwan	110.3	110.1	111.9	114.4	112.9	114.0	115.1	0.9
Thailand	109.1	116.7	118.7	122.1	124.9	126.9	129.7	1.0
Vietnam	51.0	53.4	57.2	62.7	68.8	73.6	75.3	0.6
Other Asia Pacific	46.0	48.1	48.6	53.3	55.5	63.1	66.5	0.5
Total Asia Pacific	**4951.1**	**5118.2**	**5269.9**	**5382.9**	**5472.4**	**5585.5**	**5743.6**	**42.5**
Total World	**12414.4**	**12589.0**	**12829.3**	**12953.9**	**13060.2**	**13258.5**	**13511.2**	**100.0**

Notes: ^: less than 0.05

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. Growth rates are adjusted for leap years.
4. Total may not add up due to rounding off.

Source: BP Statistical Review of World Energy, June 2018

XI.34 Economic Indicators of OPEC nations during 2017

Country	Population	GDP at market prices	Per capita GDP	Petroleum Exports	Total Export	Petroleum Exports as % of total	Proven crude oil reserves	Gas Reserves	Producing Oil wells	Crude Refining Capacity	Exports of Refined Products
	(Million)	(Mn. $)	(US $)	(Mn. $)	(Mn. $)	Exports	(Bn.bbls)	(BCM)	Nos.	(000' b/cd)	(000' b/d)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Algeria	41.72	174099	4173	22353	39312	56.86	12.20	4504	1847	651	570
Angola	28.36	124209	4380	31550	34471	91.53	8.38	422	1492	80	17
Ecuador	16.78	100472	5989	6914	21559	32.07	8.27	11	3399	188	42
Equatorial Guinea	1.27	10725	8460	4689	5659	82.86	1.10	145	242	-	-
Gabon	1.93	15206	7894	3695	5477	67.46	2.00	26	358	24	12
Iran	81.16	447048	5508	52728	110764	47.60	155.60	33810	3130	1901	993
Iraq	38.96	191216	4908	59730	63314	94.34	147.22	3744	2662	640	20
Kuwait	4.49	120351	26775	50683	55338	91.59	101.50	1784	1689	762	428
Libya	6.47	43774	6769	15014	18379	81.69	48.36	1505	1091	380	24
Nigeria	197.70	371886	1881	38607	46680	82.71	37.45	5627	1777	446	19
Qatar	2.69	167146	62196	35496	84906	41.81	25.24	23861	425	433	639
Saudi Arabia	32.55	683827	21007	159742	231485	69.01	266.26	8715	3489	2886	1438
U.A.E	9.99	377435	37794	65641	313504	20.94	97.80	6091	1795	1124	654
Venezuela	31.44	254627	8098	31449	32075	98.05	302.81	5707	11915	1891	212
Total	**495.50**	**3082021**	**6220**	**578292**	**1062923**	**54.41**	**1214.21**	**95951**	**35069**	**11406**	**5068**

Note: Totals may not add up due to independent rounding.
Source : OPEC Annual Statistical Bulletin, 2018

Appendix



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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
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.
NEL	Nyara Energy Ltd. (Formerly known as Essar Oil 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

Contd...

(IV) Others (Contd...)	
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
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

Contd...

(IV) Others (Contd...)	
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 (mm2).
1 Square Foot	0.0929030 Square Metre (m2).
1 Square Yard	9 Square Feet.
	0.836127 Square Metre (m2).
1 Square Metre	10.7639 Square Feet.
	1.19599 Square Yards.
1 Acre	4840 Square Yards
	4046.86 Sq. Metres (m2)
	0.404686 Hectares.
1 Hectare	10,000 Square Metres (m2).
	2.47105 Acres.
	0.01 Square Kilometre (km2)
1 Square Kilometre	100 Hectares.
	0.386102 Square Mile.
1 Square Mile	640 Acres.
	258.999 Hectares
	2.58999 Square Kilometre (km2).

(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

Contd...

(VIII) Energy and Power (Contd...)	
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 (cm3)
1 Pint	0.568261 Cubic Decimetres (dm3) or Litres.
1 Litre	61.024 Cubic Inches
	1.75975 Pints
	1 Cubic Decimeter (dm3)
	0.264172 American Gallons
	0.219963 Imperial Gallons
	0.0353147 Cubic Foot
1 Hectolitre	100 Cubic Decimetres (dm3) 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 (M3)
1 Imperial Gallon	277.420 Cubic Inches
	4.54609 Cubic Decimetres (dm3) or Litres
	1.20095 American Gallon
	0.160544 Cubic Foot
	0.02894 American Barrel
	0.00454609 Cubic Metre (m3)

Contd...

(IX) Cubic Measures Volume (Contd...)	
1 Cubic Foot	28.3168 Cubic Decimetres (dm3) or Litres
	7.48052 American Gallons
	6.22883 Imperial Gallons
	0.17811 American Barrel
	0.0283168 Cubic Metre (m3)
1 Americal Barrel	9702 Cubic Inches
	158.987 Cubic Decimetres (dm3) or Litres
	42 American Gallons
	34.9726 Imperial Gallons
	5.6146 Cubic Feet
	0.158987 Cubic Metre (M3)
1 Cubic Metres	1000 Litres.
	264.172 American Gallons
	219.969 Imperial Gallons
	35.3147 Cubic Feet
1 Kilolitre	1000 Cubic Decimetres (dm3) 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 Tones	Tonnes per K.L	American Barrels to Metric Tones
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

Contd...

(X) Product Conversion Factor (Contd...)
(Conversion Factor from Volume to Tonnes at Natural Temp.)

Product	Litres to Metric Tones	Tonnes per K.L	American Barrels to Metric Tones
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 150 C to 29.50 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	365 Days a Year
1 Cubic Metre	= 35.31 Cubic feet	
1 BCM(Billion Cubic Metre) / Year of gas (consumption or production)	= 2.74 MMSCMD	
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 18gm/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 Conversion

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	strillion 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

Contd...

(XV) Other Conversion (Contd...)

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

Calorific equivalents	
One tonne of oil equivalent equals approximately:	
Heat units	10million 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.

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

(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 Productsto 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. 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/m3 (st.) i.e. in Kcal per cubic metre of gas under standard conditions at 150 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)	12 thousand million KWH
(1 Kwh=860 KCal)	

(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)
2011	45.27	44.71	45.78	50.93	46.67	2011-12	47.95
2012	50.31	54.22	55.24	54.14	53.48	2012-13	54.45
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	61.15
2015	62.24	63.50	64.91	65.92	64.14	2015-16	65.46
2016	67.50	66.93	66.96	67.46	67.21	2016-17	67.09
2017	67.01	64.46	64.29	64.74	65.12	2017-18	64.45
2018	**64.31**	**67.04**	**-**	**-**	**-**	**2018-19**	**-**

Source: RBI

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