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READY RECKONER

Oil Industry Information at a Glance

Petroleum Planning & Analysis Cell

(Ministry of Petroleum & Natural Gas)

November 2017



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Suggestions & Feedback

Readers are invited to send their suggestions & feedback for improvement of the Ready Reckoner to:

Rohit Dawar, Additional Director I/C (D&ES)

Petroleum Planning & Analysis Cell (PPAC)

(Ministry of Petroleum & Natural Gas, Govt. of India)

SCOPE Complex, 2nd Floor, Core 8,

Lodhi Road, New Delhi-110003

Email: rdawar@ppac.gov.in

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Disclaimer

While every care is taken to check the accuracy of data & information included in the Ready Reckoner, PPAC would not be held responsible for any loss, damage etc. due to action taken by any one based on information contained in this publication.

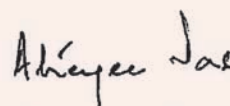
Preface

Keeping in view that timely availability of complete data set of a sector is a valuable input for planners, policy makers and industry for planning future activities and facilitating academic and policy research, the half-yearly edition of the Ready Reckoner, is being released. The Ready Reckoner provides a single comprehensive reference set of data relating to the oil and gas sector, covering the period April to September 2017.

The Ready Reckoner is also available on the PPAC website (www.ppac.gov.in) and PPAC mobile app (PPACE available on Google Play Store and Apple Store). The coverage of data in the Ready Reckoner for some of the tables is restricted to a shorter time period, while longer historical data series have been provided on the website.

The Ready Reckoner is a cooperative effort. All Divisions of PPAC have made valuable contribution to bring out this edition. For enabling timely publication of the Ready Reckoner, cooperation of the oil and gas industry is acknowledged.

PPAC constantly strives to enhance the coverage and usefulness of this Ready Reckoner. We warmly welcome suggestions for enriching its contents.



Atreyee Das

Director General

Petroleum Planning & Analysis Cell (PPAC)
(Ministry of Petroleum & Natural Gas)

New Delhi
November 16, 2017



Petroleum Planning & Analysis Cell

(Ministry of Petroleum & Natural Gas)

Vision & Mission

Vision

To be the most authentic official source for data and policy analysis on the hydrocarbon sector in the country.

Mission

1. To strengthen the existing data system in PPAC by adopting the latest techniques and best practices.
2. To render effective assistance to the Ministry of Petroleum & Natural Gas in the discharge of its responsibilities, particularly pricing of petroleum products and administration of subsidy schemes.
3. To monitor and analyze developments in the domestic oil and gas sector.
4. To undertake analysis of domestic and international energy markets.
5. To develop a cooperative framework for exchange of information and conduct of studies with other countries and international organizations in the energy sector.

Objectives

1. To ensure effective administration of the subsidy schemes notified by the Government
2. To monitor and analyze trends in prices of crude oil, petroleum products and natural gas and their impact on the oil companies and consumers, and prepare appropriate technical inputs for policy making.
3. To monitor developments in the domestic market and analyze options for policy changes in pricing, transportation and distribution of petroleum products.
4. To collect, compile and disseminate data on the domestic oil and gas sector in a continuous manner and maintain the data bank.
5. To ensure quality of data in terms of prescribed parameters such as accuracy, completeness and timeliness.
6. To prepare periodic reports on various aspects of oil and gas sector.

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Chapter-1

General

Table 1.1 : Selected indicators of the Indian economy

General									
Sl. no.	Particulars	Source	Unit/ Base	2013-14	2014-15	2015-16	2016-17	Apr-Sep 2016	Apr-Sep 2017 (P)
1	Population (as on 1st March 2011)	Census of India	Billion	1.2	-	-	-	-	-
2	GDP at factor cost (constant prices)	MOC&I	(GR.%)	6.4	7.5	8.0	7.1 (PE)	7.9 (Q1)	5.7 (Q1) (E)
3	Agricultural production (foodgrains)	MoA	Million tonne	265.0	252.0	251.6	275.7 (4 th AE)	135.0 (1 st AE)	134.7 (1 st AE)
			(GR.%)	3.1	-4.9	-0.2	9.6	8.9	-0.3
4	Index of Industrial Production*	MOSPI	(GR.%) 2011-12=100	3.3	4.0	3.3	4.6	5.8	2.5
5	Imports	MOC&I	\$ Billion	450.2	448.0	381.0	384.4	175.3	219.3
6	Exports	MOC&I	\$ Billion	314.4	310.3	262.3	275.9	132.0	147.2
7	Trade balance	MOC&I	\$ Billion	-135.8	-137.7	-118.7	-108.5	-43.4	-72.1
8	Wholesale Price Index (all commodities) (average)	MOC&I	2011-12=100	112.5	113.9	109.7	111.6	110.9	113.6
9	All India Consumer Price Index (average):								
	i) Industrial workers	Labour Bureau, Govt. of India	2001=100	236.0	250.8	265.0	275.9	276.3	281.7
	ii) Agricultural labourers		1986-87=100	749.8	799.5	834.9	869.8	867.2	881.7
	iii) Rural labourers		1986-87=100	750.5	802.2	839.4	875.0	872.2	887.8
10	Foreign exchange reserves- Total#	RBI	\$ Billion	303.7	341.4	355.6	370.0	372.0	399.7
11	Outstanding external liabilities (as of end of financial year)	MOF	₹ Crore	1,84,581	1,97,514	2,10,262	2,25,135 (RE)	-	2,40,924 (BE)
12	Outstanding internal debt (as of end of financial year)	MOF	₹ Crore	54,84,548	60,44,707	66,91,409	72,15,439 (RE)	-	77,21,782 (BE)
13	Central plan outlay	MOF	₹ Crore	6,03,573 (Actual)	4,20,882 (Actual)	-	-	-	-
14	Centrally Sponsored Schemes & other transfers	MOF	₹ Crore			3,41,630 (Actual)	3,97,696 (RE)		4,23,328 (BE)
15	Gross fiscal deficit	MOF	%	-4.5	-4.1	-3.9	-3.5 (RE)	-	-3.2 (BE)

Note : (P): Provisional, *Revision in base year of all India index of Industrial Production from 2004-05 to 2011-12, #as of March 28, 2014, March 27, 2015, March 25, 2016, March 31, 2017, Sep 30, 2016 & Sep 29, 2017, RBI: Reserve Bank of India, MoF: Ministry of Finance, MOC&I: Ministry of Commerce & Industry, MoA: Ministry of Agriculture, E: Estimates, PE: Provisional Estimates, BE: Budget Estimate, AE: Advance Estimates, RE: Revised Estimates, MOSPI- Ministry of Statistics and Programme Implementation

Petroleum									
Sl. no.	Particulars	Source	Unit/ Base	2013-14	2014-15	2015-16	2016-17	Apr-Sep 2016	Apr-Sep 2017 (P)
1	Crude oil production in India	ONGC/OIL/DGH	MMT	37.8	37.5	36.9	36.0	18.1	18.0
2	Consumption of petroleum products in India	OMCs/PPAC	MMT	158.4	165.5	184.7	194.6	97.2	98.7
3	Petroleum products production in India	Oil Cos	MMT	220.7	221.1	231.9	243.5	120.1	122.7
4	Imports & exports								
	Crude oil imports	Oil Cos	\$ Billion	143.0	112.7	64.0	70.2	32.2	37.6
	Petroleum products imports	Oil Cos & DGCIS	\$ Billion	12.5	12.1	10.0	10.6	4.8	6.0
	Total petroleum imports (crude oil + petroleum products)	Oil Cos & DGCIS	\$ Billion	155.4	124.9	73.9	80.8	37.0	43.5
	Petroleum products exports	Oil Cos	\$ Billion	60.7	47.3	27.1	29.0	13.5	15.5
5	Gross petroleum imports as % of India's gross imports in value terms	MOC&I/PPAC	%	34.5	27.9	19.4	21.0	21.1	19.8
6	Gross petroleum exports as % of India's gross exports in value terms	MOC&I/PPAC	%	19.3	15.2	10.3	10.5	10.2	10.5
7	Import dependency (based on consumption)	PPAC	%	77.3	78.3	80.6	81.7	81.9	82.3

Note : OMCs: Oil Marketing Companies, PPAC: Petroleum Planning & Analysis Cell

Natural gas									
Sl. no.	Particulars	Source	Unit/ Base	2013-14	2014-15	2015-16	2016-17(P)	Apr-Sep 2016	Apr-Sep 2017
1	Gross Production	ONGC/OIL/DGH	MMSCMD	97.0	92.2	88.1	87.4	85.9	89.7
2	Net Production (net of flare and loss)	ONGC/OIL/DGH	MMSCMD	94.7	89.6	85.1	84.5	83.0	87.2
3	*LNG Import	LNG importing Cos	MMSCMD	47.1	50.8	58.4	67.6	69.1	68.0
4	Total Consumption including internal use (Net Production+ LNG import)		MMSCMD	141.8	140.4	143.5	152.1	152.1	155.2
5	Import dependency (based on consumption)	PPAC	%	33.2	36.2	40.7	44.5	45.4	43.8

Note : *LNG imports include both term and spot cargo, MMSCMD : Million Standard Cubic Meter per Day

Table 1.2 : Global energy consumption, 2016

Sl.no.	Country	Oil	Natural Gas	Coal	Nuclear Energy	Hydro Electricity	Renewables	Total Energy
		(Mtoe)	(Mtoe)	(Mtoe)	(Mtoe)	(Mtoe)	(Mtoe)	(Mtoe)
	World	4418.2	3204.1	3732.0	592.1	910.3	419.6	13276.3
	% Share	33.3	24.1	28.1	4.5	6.9	3.2	100.0
	Per Capita Consumption (Toe)	0.60	0.44	0.51	0.08	0.12	0.06	1.81
1	China	578.7	189.3	1887.6	48.2	263.1	86.1	3053.0
	% Share	19.0	6.2	61.8	1.6	8.6	2.8	100.0
	Per Capita Consumption (Toe)	0.42	0.14	1.38	0.04	0.19	0.06	2.23
2	USA	863.1	716.3	358.4	191.8	59.2	83.8	2272.7
	% Share	38.0	31.5	15.8	8.4	2.6	3.7	100.0
	Per Capita Consumption (Toe)	2.69	2.23	1.12	0.60	0.18	0.26	7.07
3	India	212.7	45.1	411.9	8.6	29.1	16.5	723.9
	% Share	29.4	6.2	56.9	1.2	4.0	2.3	100.0
	Per Capita Consumption(Toe)	0.16	0.03	0.31	0.01	0.02	0.01	0.55
4	Russian Federation	148.0	351.8	87.3	44.5	42.2	0.2	673.9
	% Share	22.0	52.2	13.0	6.6	6.3	0.02	100.0
	Per Capita Consumption (Toe)	1.03	2.44	0.61	0.31	0.29	0.001	4.68
5	Japan	184.3	100.1	119.9	4.0	18.1	18.8	445.3
	% Share	41.4	22.5	26.9	0.9	4.1	4.2	100.0
	Per Capita Consumption (Toe)	1.45	0.79	0.94	0.03	0.14	0.15	3.51
6	Canada	100.9	89.9	18.7	23.2	87.8	9.2	329.7
	% Share	30.6	27.3	5.7	7.0	26.6	2.8	100.0
	Per Capita Consumption (Toe)	2.82	2.51	0.52	0.65	2.45	0.26	9.20
7	Germany	113.0	72.4	75.3	19.1	4.8	37.9	322.5
	% Share	35.0	22.5	23.3	5.9	1.5	11.7	100.0
	Per Capita Consumption (Toe)	1.38	0.89	0.92	0.23	0.06	0.46	3.95
8	Brazil	138.8	32.9	16.5	3.6	86.9	19.0	297.8
	% Share	46.6	11.1	5.5	1.2	29.2	6.4	100.0
	Per Capita Consumption (Toe)	0.67	0.16	0.08	0.02	0.42	0.09	1.43
9	South Korea	122.1	40.9	81.6	36.7	0.6	4.3	286.2
	% Share	42.7	14.3	28.5	12.8	0.2	1.5	100.0
	Per Capita Consumption (Toe)	2.41	0.81	1.61	0.72	0.01	0.09	5.65
10	Iran	83.8	180.7	1.7	1.4	2.9	0.1	270.7
	% Share	31.0	66.8	0.6	0.5	1.1	0.04	100.0
	Per Capita Consumption(Toe)	1.06	2.28	0.02	0.02	0.04	0.001	3.42
11	Saudi Arabia	167.9	98.4	0.1	0.0	0.0	0.02	266.5
	% Share	63.0	36.9	0.04	-	-	0.01	100.0
	Per Capita Consumption(Toe)	5.32	3.12	0.003	-	-	0.001	8.45
12	France	76.4	38.3	8.3	91.2	13.5	8.2	235.9
	% Share	32.4	16.2	3.5	38.7	5.7	3.5	100.0
	Per Capita Consumption(Toe)	1.15	0.58	0.12	1.37	0.20	0.12	3.54
13	Mexico	82.8	80.6	9.8	2.4	6.8	4.1	186.5
	% Share	44.4	43.2	5.3	1.3	3.6	2.2	100.0
	Per Capita Consumption(Toe)	0.65	0.63	0.08	0.02	0.05	0.03	1.47
14	United Kingdom	73.1	69.0	11.0	16.2	1.2	17.5	188.1
	% Share	38.9	36.7	5.8	8.6	0.6	9.3	100.0
	Per Capita Consumption(Toe)	1.12	1.06	0.17	0.25	0.02	0.27	2.89
15	Indonesia	72.6	33.9	62.7	0.0	3.3	2.6	175.0
	% Share	41.5	19.4	35.8	-	1.9	1.5	100.0
	Per Capita Consumption(Toe)	0.28	0.13	0.24	-	0.01	0.01	0.68


Source: BP Statistical Review of World Energy, June 2017

Note: Oil consumption is measured in million tonnes; other fuels in million tonnes of oil equivalent. For calculation of per capita consumption population figures have been taken from World Bank International Data Base for 2015.

Mtoe: Million tonnes oil equivalent, Toe: Tonne oil equivalent



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The background of the top half of the page is a photograph of a large offshore oil rig at sea. The rig is a complex of steel structures, including a tall derrick with a flame at the top, and various cranes and pipes. The rig is supported by a red hull. The sky is a mix of blue and white, suggesting a clear day with some clouds. The water is a deep blue.

Chapter-2

Exploration & Crude Production



Table 2.1 : Crude oil proved reserves

Sl.no.	Country	At the end 2016		
		Thousand million tonnes	Thousand million barrels	Reserves /Production ratio
1	Venezuela	47.0	300.9	341.1
2	Saudi Arabia	36.6	266.5	59.0
3	Canada	27.6	171.5	105.1
4	Iran	21.8	158.4	94.1
5	Iraq	20.6	153.0	93.6
6	Russian Federation	15.0	109.5	26.6
7	Kuwait	14.0	101.5	88.0
8	United Arab Emirates	13.0	97.8	65.6
9	US	6.3	48.4	310.1
10	Libya	5.8	48.0	10.6
11	Nigeria	5.0	37.1	49.3
12	Kazakhstan	3.9	30.0	49.0
13	Qatar	3.5	25.7	17.5
14	China	2.6	25.2	36.3
15	Brazil	1.8	12.6	13.3
16	Angola	1.6	11.6	17.5
17	Algeria	1.5	12.2	21.1
18	Mexico	1.2	8.0	40.1
19	Ecuador	1.1	8.0	8.9
20	Norway	1.0	7.0	23.1
21	Azerbaijan	0.9	7.6	10.4
22	India	0.7	5.4	14.6
23	Oman	0.6	4.7	14.9
24	Vietnam	0.6	4.4	36.2
25	Indonesia	0.5	3.7	43.2
26	South Sudan	0.5	3.5	80.9
27	Malaysia	0.5	3.6	14.0
28	Egypt	0.5	3.5	13.7
29	Australia	0.5	3.3	10.3
30	Yemen	0.4	4.0	30.3
	Sub total	236.6	1676.3	
	Others	4.1	30.3	
	Total World	240.7	1706.7	50.6
	of which: OECD	36.6	244.0	28.8
	Non-OECD	204.1	1462.7	57.9
	OPEC	171.2	1220.5	84.7
	Non-OPEC	69.6	486.2	25.2
	European Union	0.7	5.1	9.3
	Commonwealth of Independent States (CIS)	20.1	148.2	28.6
	Canadian oil sands: Total	26.9	165.3	
	of which: Under active development	3.9	24.0	
	Venezuela: Orinoco Belt	35.7	222.3	

Source: BP Statistical review of World Energy, June 2017 which includes data from ICIS.

Note: Total proved reserves of oil - Generally taken to be those quantities that geological and engineering information indicates with reasonable certainty can be recovered in the future from known reservoirs under existing economic and operating conditions. 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.

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.

Reserves include gas condensate and natural gas liquids (NGLs) as well as crude oil.

Table 2.2 : Crude oil production, 2016

Sl.no.	Country	Production*	
		Million tonnes	Million barrels daily
1	Saudi Arabia	585.7	12.3
2	Russian Federation	554.3	11.2
3	US	543.0	12.4
4	Iraq	218.9	4.5
5	Canada	218.2	4.5
6	Iran	216.4	4.6
7	China	199.7	4.0
8	United Arab Emirates	182.4	4.1
9	Kuwait	152.7	3.2
10	Brazil	136.7	2.6
11	Venezuela	124.1	2.4
12	Mexico	121.4	2.5
13	Nigeria	98.8	2.1
14	Norway	90.4	2.0
15	Angola	87.9	1.8
16	Qatar	79.4	1.9
17	Kazakhstan	79.3	1.7
18	Algeria	68.5	1.6
19	Oman	49.3	1.0
20	Colombia	48.8	0.9
21	United Kingdom	47.5	1.0
22	Indonesia	43.0	0.9
23	Azerbaijan	41.0	0.8
24	India	40.2	0.9
25	Egypt	33.8	0.7
26	Malaysia	32.7	0.7
27	Ecuador	29.3	0.5
28	Argentina	28.8	0.6
29	Libya	20.0	0.4
30	Thailand	17.6	0.5
	Sub total	4189.9	88.1
	Others	192.5	4.0
	Total World	4382.4	92.2
	of which: OECD	1060.0	23.1
	Non-OECD	3322.4	69.0
	OPEC	1864.2	39.4
	Non-OPEC	2518.2	52.8
	European Union	70.8	1.5
	Commonwealth of Independent States (CIS)	694.5	14.1

Source: BP Statistical Review of World Energy, June 2017 which includes data from ICIS.

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

Table 2.3 : Crude oil consumption, 2016

Sl. no.	Country	Consumption *	
		Million tonnes	Thousand barrels daily
1	US	863.1	19631
2	China	578.7	12381
3	India	212.7	4489
4	Japan	184.3	4037
5	Saudi Arabia	167.9	3906
6	Russian Federation	148.0	3203
7	Brazil	138.8	3018
8	South Korea	122.1	2763
9	Germany	113.0	2394
10	Canada	100.9	2343
11	Iran	83.8	1848
12	Mexico	82.8	1869
13	France	76.4	1602
14	United Kingdom	73.1	1597
15	Indonesia	72.6	1615
16	Singapore	72.2	1382
17	Spain	62.5	1268
18	Thailand	59.0	1382
19	Italy	58.1	1232
20	Australia	47.8	1036
21	Taiwan	46.7	1046
22	United Arab Emirates	43.5	987
23	Turkey	41.2	886
24	Egypt	40.6	853
25	Netherlands	39.9	851
26	Malaysia	36.3	829
27	Argentina	31.9	687
28	Belgium	31.8	675
29	Venezuela	28.7	611
30	Pakistan	27.5	566
	Sub total	3685.9	80988
	Others	732.3	15570
	Total World	4418.2	96558
	of which: OECD	2086.8	46217
	Non-OECD	2331.4	50341
	European Union	613.3	12942
	CIS countries	195.5	4223

* 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.

Source: BP Statistical Review of World Energy, June 2017

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.

Table 2.4 : Crude Oil: Refinery capacities*

(Thousand barrels daily)					
Sl.no.	Country	2006	2016	Addition	% Change
1	US	17443	18621	1178	6.8
2	China	8508	14177	5669	66.6
3	Russian Federation	5524	6418	894	16.2
4	India	2872	4620	1749	60.9
5	Japan	4588	3600	-988	-21.5
6	South Korea	2633	3234	600	22.8
7	Saudi Arabia	2107	2899	792	37.6
8	Brazil	1942	2289	347	17.9
9	Germany	2390	2024	-366	-15.3
10	Iran	1772	1985	213	12.0
11	Canada	1914	1967	53	2.7
12	Italy	2526	1915	-611	-24.2
13	Spain	1362	1562	201	14.7
14	Mexico	1463	1522	59	4.0
15	Singapore	1422	1514	92	6.5
16	Venezuela	1294	1303	9	0.7
17	Netherlands	1274	1293	19	1.5
18	Thailand	1100	1235	135	12.3
19	United Kingdom	1836	1227	-608	-33.2
20	France	1959	1224	-735	-37.5
21	Indonesia	1157	1155	-2	-0.2
22	United Arab Emirates	620	1143	523	84.4
23	Taiwan	1140	988	-152	-13.3
24	Kuwait	936	936	0	0.0
25	Iraq	743	919	176	23.7
26	Egypt	810	810	0	0.0
27	Belgium	766	776	10	1.3
28	Argentina	617	657	40	6.5
29	Algeria	443	651	208	46.9
30	Turkey	613	613	0	0.0
	Sub total	73775	83277	9502	12.9
	Others	14445	14153	-292	-2.0
	Total World	88220	97430	9211	10.4
	of which: OECD	45396	44105	-1291	-2.8
	Non-OECD	42824	53325	10501	24.5
	European Union	15991	13882	-2109	-13.2
	Commonwealth of independent states (CIS)	7537	8221	684	9.1

Source: BP Statistical Review of World Energy, June 2017 which includes data from ICIS.

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

Table 2.5 : Indigenous crude oil production

(Million metric tonne)						
Particulars	2013-14	2014-15	2015-16	2016-17	Apr-Sep 2016	Apr-Sep 2017 (P)
PSU companies						
ONGC	20.4	20.8	21.1	20.9	10.4	10.6
OIL	3.5	3.4	3.2	3.3	1.6	1.7
PSU total	23.9	24.2	24.3	24.1	12.0	12.3
PSU total (crore barrels)	17.5	17.8	17.8	17.7	8.8	9.0
Under PSC contracts						
PSC total	12.0	11.7	11.2	10.4	5.4	4.9
PSC total (crore barrels)	8.8	8.5	8.2	7.6	3.9	3.6
Total crude oil	35.9	35.9	35.5	34.5	17.3	17.2
Condensate	1.9	1.6	1.4	1.5	0.7	0.8
Total (crude oil + condensate)	37.8	37.5	36.9	36.0	18.1	18.0
Total (crude oil + condensate) (crore barrels)	27.7	27.5	27.1	26.4	13.2	13.2

Source: Oil Companies and DGH

Table 2.6 : Self sufficiency in petroleum products

(Million metric tonne)						
Particulars	2013-14	2014-15	2015-16	2016-17	Apr-Sep 2016	Apr-Sep 2017 (P)
i) Indigenous crude oil processing	33.9	34.2	34.1	33.5	16.7	16.4
a) Products from indigeneous crude	31.6	32.0	31.8	31.3	15.5	15.3
b) Products from fractionators (including LPG and Gas)	4.3	4.0	4.0	4.3	2.1	2.2
ii) Total production from indigenous crude, condensate (a+b)	35.9	35.9	35.8	35.6	17.6	17.5
iii) Total domestic consumption	158.4	165.5	184.7	194.6	97.2	98.7
Percentage of self sufficiency (ii/iii)	22.7	21.7	19.4	18.3	18.1	17.7

Source: Oil companies

Note:

1. Production of petroleum products from indigenous crude considered at 93.3% of indigenous crude oil processing.
2. The balance demand of petroleum products is met through import of crude oil and POL products.

Table 2.7 : Status of blocks under NELP (2017-18)

Round	Offered	Awarded				Relinquished				Operational			
		Deep water	Shallow water	Onland	Total	Deep water	Shallow water	Onland	Total	Deep water	Shallow water	Onland	Total
NELP-I	48	7	16	1	24	5	15	1	21	2	1	0	3
NELP-II	25	8	8	7	23	8	7	5	20	0	1	2	3
NELP-III	27	9	6	8	23	9	5	5	19	0	1	3	4
NELP-IV	24	10	-	10	20	10	-	6	16	0	0	4	4
NELP-V	20	6	2	12	20	6	1	8	15	0	1	4	5
NELP-VI	55	21	6	25	52	21	3	18	42	0	3	7	10
NELP-VII	57	11	7	23	41	11	4	14	29	0	3	9	12
NELP-VIII	70	8	11	13	32	8	5	7	20	0	6	6	12
NELP-IX	34	1	3	15	19	1	2	1	4	0	1	14	15
TOTAL	360	81	59	114	254	79	42	65	186	2	17	49	68

Source: (DGH)

Table 2.8 : Hydrocarbon reserves in India

(Million metric tonne)						
Details of reserves in India as of 01.04.2017	Initial in place			Ultimate reserves		
	Oil	Gas	O+OEG	Oil	Gas	O+OEG
ONGC	5350	2527	7878	1520	1344	2864
OIL	807	374	1133	249	213	433
Pvt./JV	1008	1467	2476	228	819	1046
Total	7165	4369	11486	1997	2375	4343
	Accretion of initial in place			Accretion ultimate reserves		
ONGC	64	54	118	13	30	43
OIL	7	8	14	1	7	8
Pvt./JV	11	104	116	3	50	52
Total	83	166	248	17	87	102

Source: DGH

Note: O+OEG: Oil and Oil Equivalent of Gas

Table 2.9 : Domestic oil & gas production vis a vis overseas production

Year	2013-14	2014-15	2015-16	2016-17	Apr-Sep 2016	Apr-Sep 2017 (P)
Total domestic production (MMTOE)	73.2	71.1	69.2	67.9	33.8	34.4
Overseas production (MMTOE)	8.8	9.8	10.1	16.1	6.1	9.5
Overseas production as percentage of domestic production	12.1	13.8	14.6	23.8	18.0	27.6

Source: ONGC Videsh Ltd., OIL, GAIL, IOCL and HPCL

Table 2.10 : Coal Bed Methane (CBM) Gas development in India

Prognosticated CBM resources	92	TCF
Established CBM resources	9.9	TCF
Total available coal bearing area	26000	Sq.KM
Blocks awarded*	33	Nos.
Commercial production of CBM Gas (April - September 2017)	1.82	MMSCMD

Source : DGH

*CBM blocks have been awarded in the states of Andhra Pradesh, Assam, Chhattisgarh, Gujarat, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu and West Bengal.

Table 2.11 : Status of Shale Gas and oil development in India

a) Policy Guidelines for Exploration and exploitation of Shale gas and oil	Shale gas policy was announced in October 2013. ONGC and Oil India Limited (OIL) have been allotted 50 and 6 blocks respectively for carrying out Phase-I shale gas assessment studies.
b) OIL : Activities during 2016-17	<p>OIL has drilled one well in Jaisalmer basin. Four runs of conventional coring were completed within Baisakhi-Bedeshir Shale Section. Canister Core gas desorption, Residual/ Crush Gas, Gas composition, Spectral Gamma Ray, CT scanning, Rock Eval Pyrolysis, Vitrinite Relectance, organic richness and source rock (VRo) analysis, Cluster Analysis have been completed till March 2017.</p> <p>OIL has released three locations in Assam - DIBK Dibrugarh, DHS Dumdum and CAC Chabua PMLs (petroleum mining lease). Two more locations were released by OIL in Arunachal Pradesh - DML-2 Demoali and Jairampur Extn. PELs (petroleum exploration licenses).</p>
c) ONGC: Activities during 2016-17	<p>ONGC has released three pilot shale gas/ oil locations and completed drilling of four dual objective wells in north Cambay basin. Total 20 conventional cores in Cambay Shale section were collected for shale specific studies. Hydro-fracturing is in progress in three hydro-fracturing objects and activities are in different stages of progress.</p> <p>The drilled wells have given information about various properties of the shale formations. Most of the blocks in the four basins (Cambay, KG, Cauvery, Assam & Assam Arakan) are prospective mainly for shale oil. Area prospective for shale gas in most of the blocks is likely to be limited.</p> <p>ONGC drilled first shale gas well in Jambusar field. Another shale gas well was drilled in Gandhar Ext-II in Gandhar area. Hydro-fracturing was carried out in one of the identified intervals (Object-II) of well in Jambusar field. The well produced 191 m³ of liquid which included 19 m³ of oil and 172 m³ of water during different stages of extended testing. It established unconventional Shale Oil reservoir for the first time in an Indian Basin.</p> <p>Oil indication is encouraging and prevalence of unconventional petroleum system in the Broach sub-basin seems to be an attractive proposition for shale oil exploration. A proper quantitative estimation of oil-in-place will require the results from other wells which have been drilled in the same area of Cambay basin and which are identified for hydrofracturing.</p>

Source: DGH



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Chapter-3 Natural Gas



Table 3.1 : World top 30 natural gas reserve countries

		(Billion cubic metre)	
Sl. no.	Country	2015	2016
1	Iran	33500	33500
2	Russian Federation	32271	32271
3	Qatar	24299	24299
4	Turkmenistan	17479	17479
5	US	8714	8714
6	Saudi Arabia	8427	8427
7	United Arab Emirates	6091	6091
8	Venezuela	5702	5702
9	China	4797	5366
10	Nigeria	5284	5284
11	Algeria	4504	4504
12	Iraq	3694	3694
13	Australia	3471	3471
14	Indonesia	2775	2866
15	Canada	2171	2171
16	Egypt	1846	1846
17	Kuwait	1784	1784
18	Norway	1857	1763
19	Libya	1505	1505
20	India	1252	1227
21	Myanmar	528	1189
22	Malaysia	1169	1169
23	Azerbaijan	1148	1148
24	Uzbekistan	1086	1086
25	Kazakhstan	962	962
26	Oman	705	705
27	Netherlands	697	697
27	Vietnam	617	617
29	Ukraine	604	591
30	Pakistan	453	453
	Sub total	179393	180583
	Others	6026	5991
	Total World	185419	186574
	of which: OECD	17938	17813
	Non-OECD	167480	168761
	European Union	1302	1282
	CIS	53583	53570

Source: BP Statistical Review of World Energy, June 2017

Table 3.2 : World top 30 natural gas producing countries

(Billion cubic metre)			
SL. no.	Country	2015	2016
1	US	766.2	749.2
2	Russian Federation	575.1	579.4
3	Iran	189.4	202.4
4	Qatar	178.5	181.2
5	Canada	149.1	152.0
6	China	136.1	138.4
7	Norway	117.2	116.6
8	Saudi Arabia	104.5	109.4
9	Algeria	84.6	91.3
10	Australia	72.6	91.2
11	Malaysia	71.2	73.8
12	Indonesia	75.0	69.7
13	Turkmenistan	69.6	66.8
14	Uzbekistan	57.7	62.8
15	United Arab Emirates	60.2	61.9
16	Mexico	54.1	47.2
17	Nigeria	50.1	44.9
18	Egypt	44.3	41.8
19	Pakistan	42.0	41.5
20	United Kingdom	39.6	41.0
21	Netherlands	43.3	40.2
22	Thailand	39.3	38.6
23	Argentina	36.5	38.3
24	Oman	34.7	35.4
25	Trinidad & Tobago	39.6	34.5
26	Venezuela	32.4	34.3
27	India	29.3	27.6
28	Bangladesh	26.9	27.5
29	Brazil	23.1	23.5
30	Kazakhstan	19.0	19.9
	Sub total	3261.2	3282.3
	Others	269.3	269.3
	Total World	3530.6	3551.6
	of which: OECD	1284.5	1281.6
	Non-OECD	2246.1	2270.0
	European Union	119.8	118.2
	CIS	757.6	764.3

Source: BP Statistical Review of World Energy, June 2017

Table 3.3 : World top 30 natural gas consuming countries

		(Billion cubic metre)	
Sl. no.	Country	2015	2016
1	US	773.2	778.6
2	Russian Federation	402.8	390.9
3	China	194.8	210.3
4	Iran	190.8	200.8
5	Japan	113.4	111.2
6	Saudi Arabia	104.5	109.4
7	Canada	102.5	99.9
8	Mexico	87.1	89.5
9	Germany	73.5	80.5
10	United Kingdom	68.1	76.7
11	United Arab Emirates	73.8	76.6
12	Italy	61.4	64.5
13	Other Middle East	51.0	52.3
14	Uzbekistan	50.2	51.4
15	Egypt	47.8	51.3
16	India	45.7	50.1
17	Argentina	48.2	49.6
18	Thailand	48.7	48.3
19	Pakistan	43.5	45.5
20	South Korea	43.6	45.5
21	Malaysia	41.8	43.0
22	France	38.9	42.6
23	Turkey	43.6	42.1
24	Qatar	43.9	41.7
25	Australia	42.9	41.1
26	Algeria	39.4	40.0
27	Indonesia	40.4	37.7
28	Brazil	41.7	36.6
29	Venezuela	34.5	35.6
30	Netherlands	31.5	33.6
	Sub total	3023.4	3076.8
	Others	456.8	466.1
	Total World	3480.1	3542.9
	of which: OECD	1611.4	1644.1
	Non-OECD	1868.7	1898.8
	European Union	399.1	428.8
	Former Soviet Union	555.4	546.7

Source: BP Statistical Review of World Energy, June 2017

Table 3.4 : Natural gas at a glance

(MMSCMD)						
Particulars	2013-14	2014-15	2015-16	2016-17	Apr-Sep 2016	Apr-Sep 2017 (P)
Gross Production	97.0	92.2	88.1	87.4	85.9	89.7
Net Availability (net of flare and loss)	94.7	89.6	85.1	84.5	83.0	87.2
*LNG Import	47.1	50.8	58.4	67.6	69.1	68.0
Total Consumption including internal use (Net Availability + LNG import)	141.8	140.4	143.5	152.1	152.1	155.2
Total Consumption (in BCM)	51.8	51.2	52.5	55.5	27.8	28.4
Total Consumption (in MMSCM)	51757	51238	52517	55534	27843	28400

Table 3.5 : PNG data as on 01.10.2017

State	Geographical area covered	Entity	PNG connections		
			Domestic	Industrial	Commercial
Delhi / NCR	National Capital Territory of Delhi (Including Noida and Ghaziabad)	Indraprastha Gas Ltd.	802939	1071	2043
Maharashtra	Mumbai, Thane, Mira-Bhayender, Navi Mumbai, Pune, Kalyan, Ambernath, Panvel, Bhiwandi	Mahanagar Gas Ltd., Maharashtra Natural Gas Ltd., Gujarat Gas Ltd.	1089574	205	3578
Gujarat	Gandhinagar, Mehsana, Sabakantha, Nadiad, Halol, Hazira, Rajkot, Khambhat, Palej, Valsad, Navsari, Surendra Nagar, Ahmedabad, Vadodara, Surat, Ankeleswar, Bhavnara, Anand.	Sabarmati Gas Ltd., Gujarat Gas Ltd., Hindustan Petroleum Corporation Ltd., Vadodara Gas Ltd, Adani Gas Ltd., Charotar Gas Sahkari Mandali Ltd.	1745731	4417	17439
Uttar Pradesh	Merrut, Mathura, Agra, Firozabad, Kanpur, Bareilly, Lucknow, Moradabad, Khurja, 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.	65593	509	317
Tripura	Agartala	Tripura Natural Gas Company Ltd.	30961	50	399
Madhya Pradesh	Dewas, Indore, Ujjain, Gwalior	GAIL Gas Ltd., Aavantika Gas Ltd.	19193	110	82
Rajasthan	Kota	GAIL Gas Ltd.	235	15	2
Assam	Tinsukia, Dibrugarh, Sibsagar, Jorhat	Assam Gas Co. Ltd.	30804	404	1036
Andhra Pradesh/ Telangana	Kakinada, Hyderabad, Vijayawada, Kovvur	Bhagyanagar Gas Ltd., Godavari Gas Pvt. Ltd.	10348	6	47
Haryana	Sonepat, Gurgaon, Faridabad	GAIL Gas Ltd, Adani Gas Ltd., Haryana City Gas Distribution Ltd.	66363	273	197
Karnataka	Bengaluru	GAIL Gas Ltd.	3744	12	26
Chandigarh	Chandigarh	Indian Oil-Adani Gas Pvt. Ltd.	4346	0	0
Kerala	Ernakulam	Indian Oil-Adani Gas Pvt. Ltd.	691	0	3
Dadra & Nagar Haveli	Dadra & Nagar Haveli	Gujarat Gas Ltd.	169	6	8
Daman and Diu	Daman and Diu	Indian Oil-Adani Gas Pvt. Ltd.	68	1	3
		Total	3870759	7079	25180

Source : CGD companies

Table 3.6: CNG activities in India as on 01.10.2017

(Sales in TMT)								
State	Company name	No. of companies	2013-14	2014-15	2015-16	2016-17	Apr-Sep 2016	Apr-Sep 2017 (P)
Gujarat	Adani Energy Ltd., Gujarat Gas Ltd., (An amalgamated entity of Gujarat State Petroleum Corporation Gas Company Ltd. and Gujarat Gas Company Ltd.), Sabarmati Gas Ltd. (SGL), Hindustan Petroleum Corporation Ltd. (HPCL), Vadodara Gas Ltd. (JV of GAIL Gas Ltd. and Vadodara Mahanagar Seva Sadan), Charotar Gas Sakhari Mandali Ltd.	6	464	476	503	546	268	298
Delhi	Indraprastha Gas Ltd. (IGL), New Delhi	1	698	717	738	804	400	435
Rajasthan (Kota)	Rajasthan State Gas Limited	1	2	3	4	4	2	2
Maharashtra	Mahanagar Gas Ltd. (MGL) Mumbai and Maharashtra Natural Gas Ltd.(MNGL), Pune	2	476	531	565	593	296	311
Andhra Pradesh / Telangana	Bhagyanagar Gas Ltd. (BGL) and Hyderabad Godavari Gas Pvt. Ltd., Hyderabad	2	25	26	27	29	14	15
Uttar Pradesh	Green Gas Ltd., Lucknow, Central UP Gas Ltd., Kanpur, Siti Energy Ltd., GAIL Gas Ltd., Sanwaria Gas Ltd., Indraprastha Gas Ltd., Adani Gas Ltd., Indian Oil-Adani Gas Pvt. Ltd.	8	163	185	212	245	120	141
Tripura	Tripura Natural Gas Co. Ltd. (TNGCL), Agartala	1	7	10	11	12	6	7
Madhya Pradesh	Aavantika Gas Ltd. (Indore) and GAIL Gas Ltd.	2	16	17	19	22	11	12
Haryana	Haryana City Gas Ltd., GAIL Gas Ltd. and Adani Gas Ltd.	3	78	72	75	109	52	70
West Bengal	Great Eastern Energy Corporation Ltd.	1	1	1	1	2	1	0
Karnataka	GAIL Gas Ltd.	1	0	0	0	0	0	0
Chandigarh	Indian Oil-Adani Gas Pvt. Ltd.	1	0	0	0	0	0	2
Total		21*	1928	2037	2155	2365	1170	1294

Source : CGD companies

Note : *GAIL Gas Ltd. is operating in five States, Adani Gas in three States, Bhagyanagar Gas Ltd, Indraprastha Gas Ltd. and Indian Oil-Adani Gas Pvt. Ltd. are operating in two States. Hence, their number is taken once only.

Table 3.7: CNG stations and vehicles as on 01.10.2017

State	Company name	No. of CNG stations	No. of CNG vehicles
Gujarat	Adani Energy Ltd., Gujarat Gas Ltd., (An amalgamated entity of Gujarat State Petroleum Corporation Gas Company Ltd. and Gujarat Gas Company Ltd.), Sabarmati Gas Ltd., Hindustan Petroleum Corporation Ltd., Vadodara Gas Ltd. (JV of GAIL Gas Ltd. and Vadodara Mahanagar Seva Sadan), Charotar Gas Sakhari Mandali Ltd.	403	872370
Delhi / NCR	Indraprastha Gas Ltd. (IGL), New Delhi	423	987817
Maharashtra	Mahanagar Gas Ltd. (MGL), Mumbai, Maharashtra Natural Gas Ltd. (MNGL), Pune	253	740058
Andhra Pradesh / Telangana	Bhagyanagar Gas Ltd.(BGL), Hyderabad, Godavari Gas Pvt. Ltd.Hyderabad	47	40183
Rajasthan	Rajasthan State Gas Limited	3	6421
Uttar Pradesh	Green Gas Ltd., Lucknow, Central UP Gas Ltd., Kanpur, Siti Energy Ltd., Adani Energy Ltd., GAIL Gas Ltd., Sanwaria Gas Ltd., Indian Oil-Adani Gas Pvt. Ltd.	62	124242
Tripura	Tripura Natural Gas Co. Ltd., Agartala	6	10110
Madhya Pradesh	Aavantika Gas Ltd. Indore, GAIL Gas Ltd.	26	26319
Haryana	Haryana City Gas Ltd, GAIL Gas Ltd., Adani Gas Ltd.	37	125227
West Bengal	Great Eastern Energy Corporation Ltd.	7	3274
Karnataka	Gail Gas Ltd.	3	224
Chandigarh	Indian Oil-Adani Gas Pvt. Ltd.	2	1500
Daman	Indian Oil-Adani Gas Pvt. Ltd.	1	250
All India		1273	2937995

Source : CGD companies, RTO

Table 3.8 : LNG terminals (Operational)

Sl. no.	Name of terminal	Promoters	Capacity (MMTPA)	Capacity Utilization (%) (Apr-Sep 2017)
1	Dahej (Gujarat)	Petronet LNG Ltd. (PLL)	15 MMTPA	101.7
2	Hazira (Gujarat)	Hazira LNG Pvt. Ltd. (HLPL)	5 MMTPA	56.5
3	Dabhol (Maharashtra)	Ratnagiri Gas and Power Pvt. Ltd. (RGPPL- JV of GAIL & NTPC)	1.69 MMTPA presently without breakwater to be increased to 5 MMTPA	13.8
4	Kochi (Kerala)	Petronet LNG Ltd. (PLL)	5 MMTPA	13.8

Source: LNG operating companies

Table 3.9 : Domestic natural gas price and gas price ceiling

Period	Domestic natural gas price in US\$/MMBTU (GCV basis)*	Gas price ceiling in US\$/MMBTU (GCV basis)**
November 2014 - March 2015	5.05	-
April 2015 - September 2015	4.66	-
October 2015 - March 2016	3.82	-
April 2016 - September 2016	3.06	6.61
October 2016 - March 2017	2.50	5.30
April 2017-September 2017	2.48	5.56
October 2017 - March 2018	2.89	6.30

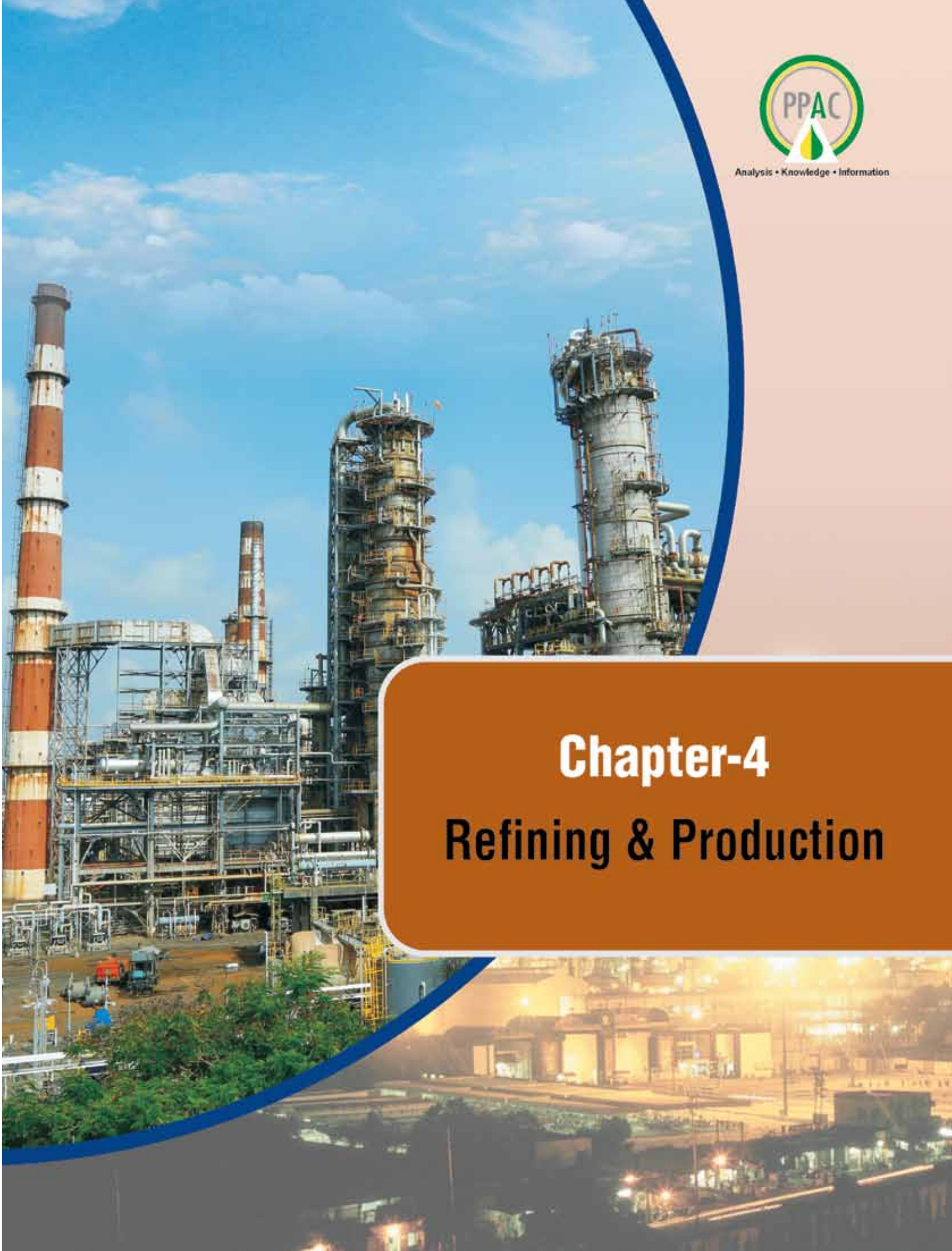
Note:

* As per the "New Domestic Natural Gas Pricing Guidelines, 2014" issued by Ministry of Petroleum & Natural Gas dated October 25, 2014

** As per the notification issued by Ministry of Petroleum and Natural Gas dated 21.03.2016 on marketing including pricing freedom for the gas to be produced from discoveries in Deepwater, Ultra Deepwater and High Pressure-High Temperature areas.



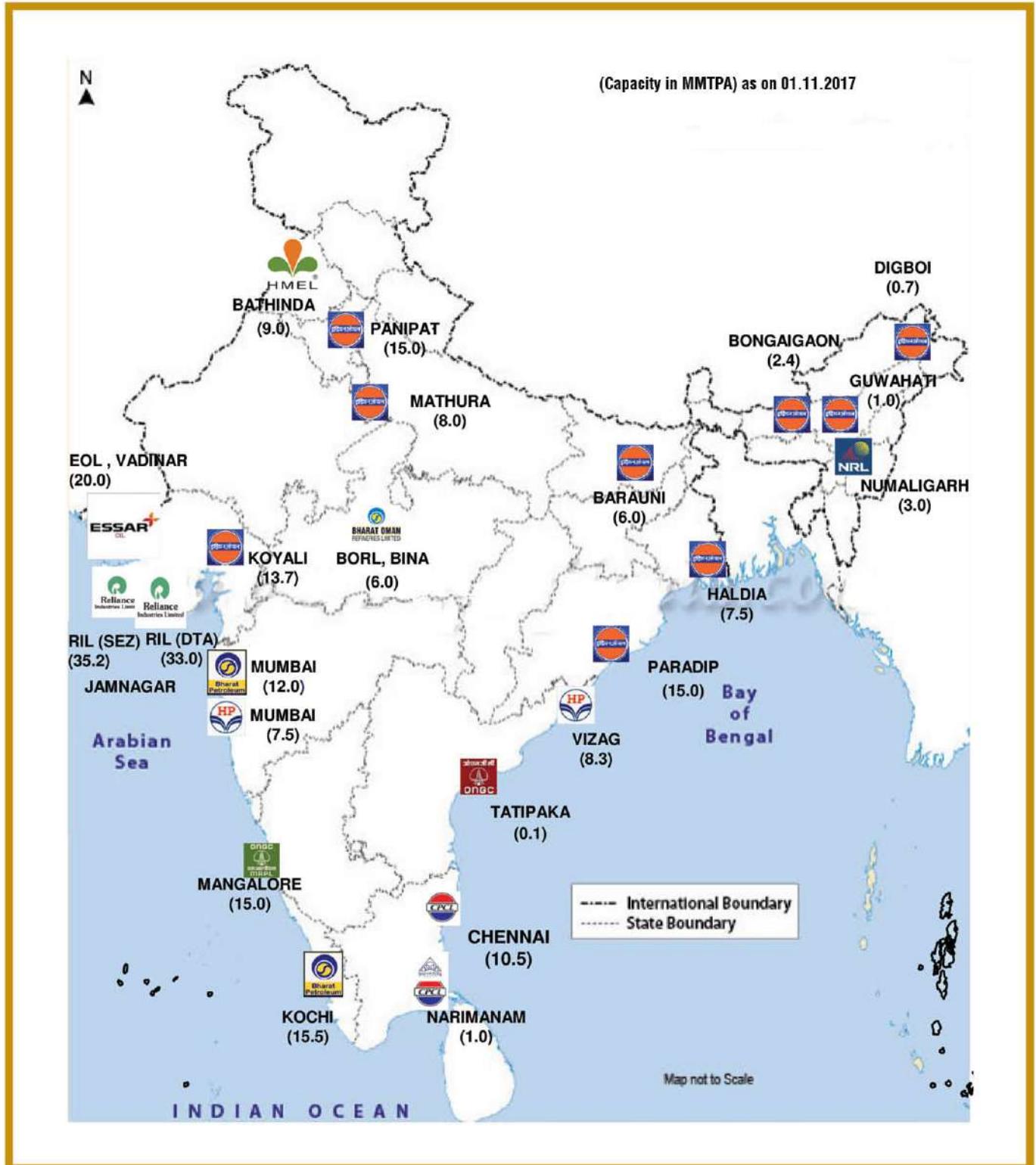
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Chapter-4

Refining & Production

Map of Refineries in India



Simplified block flow diagram of a typical refinery

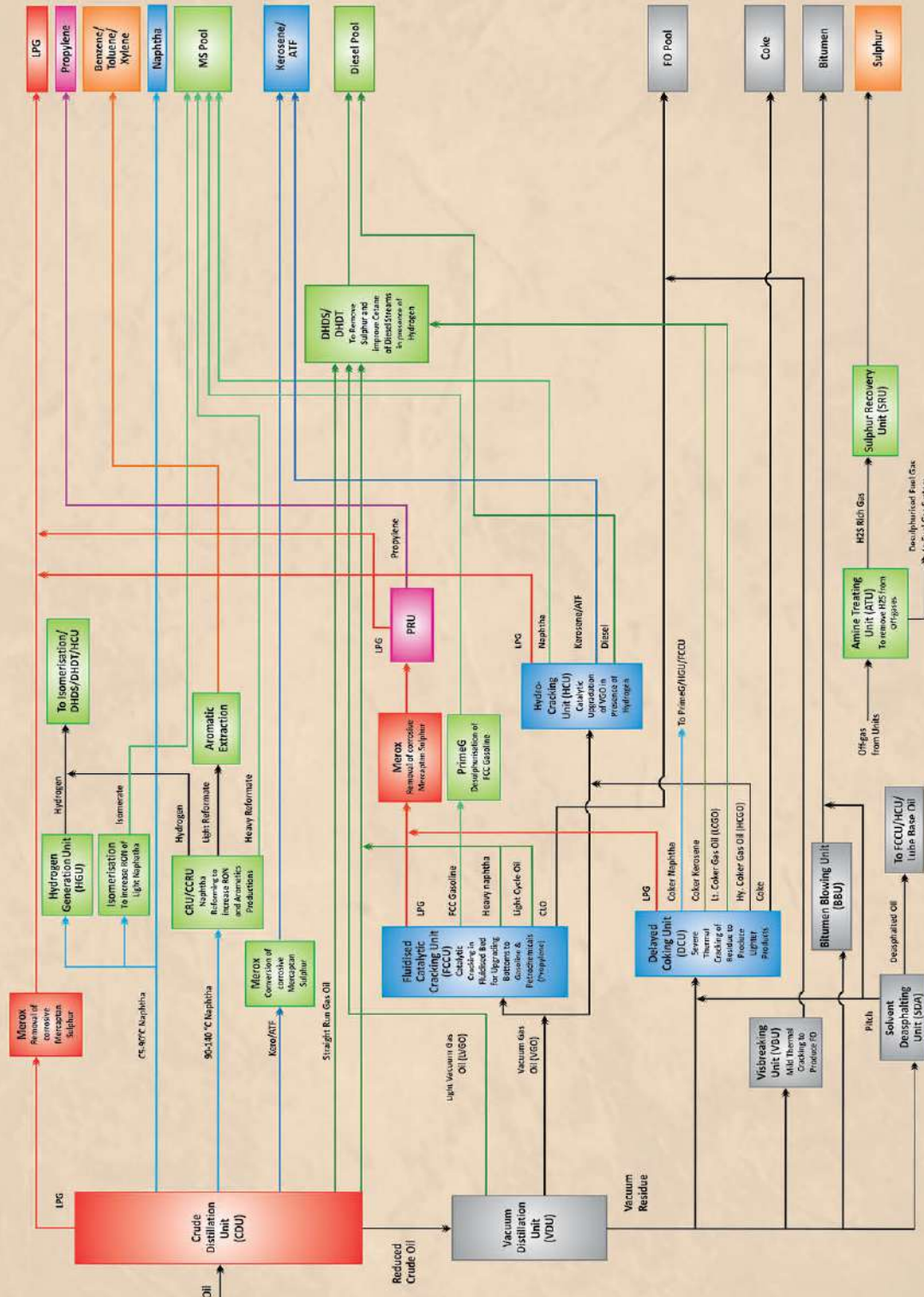


Table 4.1 : Refineries: Installed capacity and crude oil processing

Sl. no.	Refinery	Installed capacity (MMTPA)					Crude oil processing (MMT)					
		01.04.2013	01.04.2014	01.04.2015	01.04.2016	01.04.2017	2013-14	2014-15	2015-16	2016-17	Apr-Sep 2016	Apr-Sep 2017 (P)
1	Barauni	6.0	6.0	6.0	6.0	6.0	6.5	5.9	6.5	6.5	3.3	2.5
2	Koyali	13.7	13.7	13.7	13.7	13.7	13.0	13.3	13.8	14.0	7.3	6.3
3	Haldia	7.5	7.5	7.5	7.5	7.5	8.0	7.7	7.8	7.7	4.0	4.1
4	Mathura	8.0	8.0	8.0	8.0	8.0	6.6	8.5	8.9	9.2	4.6	4.3
5	Panipat	15.0	15.0	15.0	15.0	15.0	15.1	14.2	15.3	15.6	7.7	7.5
6	Guwahati	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.4	0.5
7	Digboi	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.5	0.3	0.3
8	Bongaigaon	2.4	2.4	2.4	2.4	2.4	2.3	2.4	2.4	2.5	1.2	1.2
9	Paradip	-	-	-	15.0	15.0	-	-	1.8	8.2	2.8	6.9
	IOCL total	54.2	54.2	54.2	69.2	69.2	53.1	53.6	58.0	65.2	31.7	33.6
10	Mumbai	6.5	6.5	6.5	6.5	7.5	7.7	7.4	8.0	8.5	4.1	4.3
11	Visakh	8.3	8.3	8.3	8.3	8.3	7.8	8.8	9.2	9.3	4.4	4.9
12	HMEL-Bathinda	9.0	9.0	9.0	9.0	9.0	9.3	7.3	10.7	10.5	5.5	2.9
	HPCL total	23.8	23.8	23.8	23.8	24.8	24.8	23.5	27.9	28.3	14.0	12.0
13	Mumbai	12.0	12.0	12.0	12.0	12.0	12.7	12.8	13.4	13.5	7.1	6.7
14	Kochi	9.5	9.5	9.5	9.5	12.4	10.3	10.4	10.7	11.8	5.5	6.5
15	BORL-Bina	6.0	6.0	6.0	6.0	6.0	5.4	6.2	6.4	6.4	3.3	3.6
	BPCL total	27.5	27.5	27.5	27.5	30.4	28.4	29.4	30.5	31.7	15.9	16.9
16	Manali	10.5	10.5	10.5	10.5	10.5	10.1	10.2	9.1	9.8	5.3	5.0
17	CBR	1.0	1.0	1.0	1.0	1.0	0.6	0.5	0.5	0.5	0.3	0.2
	CPCL total	11.5	11.5	11.5	11.5	11.5	10.6	10.8	9.6	10.3	5.6	5.2
18	Numaligarh	3.0	3.0	3.0	3.0	3.0	2.6	2.8	2.5	2.7	1.2	1.4
19	Tatipaka	0.07	0.07	0.07	0.07	0.07	0.07	0.05	0.07	0.09	0.04	0.04
20	MRPL-Mangalore	15.0	15.0	15.0	15.0	15.0	14.6	14.6	15.5	16.0	7.7	7.5
	ONGC total	15.1	15.1	15.1	15.1	15.1	14.7	14.7	15.6	16.1	7.7	7.6
21	RIL-Jamnagar (DTA)	33.0	33.0	33.0	33.0	33.0	30.3	30.9	32.4	32.8	16.6	16.4
22	RIL-Jamnagar (SEZ)	27.0	27.0	27.0	27.0	27.0	37.7	37.2	37.1	37.4	18.3	19.1
23	EOL-Vadinar	20.0	20.0	20.0	20.0	20.0	20.2	20.5	19.1	20.9	10.5	10.4
	All India	215.1	215.1	215.1	230.1	234.0	222.5	223.3	232.9	245.4	121.5	122.5

Source: Oil companies

MMTPA: Million Metric Tonne per Annum, MMT: Million Metric Tonne

Table 4.2 : High Sulphur (HS) & Low Sulphur (LS) crude oil processing

(Million metric tonne)							
Sl. no.	Type of crude	2013-14	2014-15	2015-16	2016-17	Apr-Sep 2016	Apr-Sep 2017 (P)
1	HS crude	160.2	161.4	166.1	177.4	87.5	90.4
2	LS crude	62.2	61.9	66.7	67.9	34.0	32.1
	Total crude	222.5	223.3	232.9	245.4	121.5	122.5
	Share of HS crude in total crude processing	72.0%	72.3%	71.3%	72.3%	72.0%	73.8%

Source: Oil companies

Table 4.3 : Imported crude & indigenous crude oil processing

(Million metric tonne)							
Sl. no.	Indigenous/ Imported crude	2013-14	2014-15	2015-16	2016-17	Apr-Sep 2016	Apr-Sep 2017 (P)
1	Imported crude	188.6	189.0	198.7	211.8	104.8	106.1
2	Indigenous crude	33.9	34.2	34.1	33.5	16.7	16.4
	Total crude	222.5	223.3	232.9	245.4	121.5	122.5
	Share of imported crude in total crude processing	84.8%	84.7%	85.3%	86.3%	86.3%	86.7%

Source: Oil companies

Table 4.4 : Production of petroleum products

(Million metric tonne)						
	2013-14	2014-15	2015-16	2016-17	Apr-Sep 2016	Apr-Sep 2017 (P)
A) From crude oil/ refineries						
Light ends	62.6	64.6	70.6	75.0	36.5	40.2
of which: LPG	7.9	7.7	8.6	9.2	4.3	4.7
MS	30.3	32.2	35.3	36.6	17.9	18.5
Naphtha	17.0	16.2	16.8	18.6	9.0	9.2
Others	7.4	8.5	9.9	10.7	5.3	7.8
Middle distillates	117.3	117.5	122.9	127.9	63.4	63.3
of which: SKO	7.4	7.6	7.4	5.9	3.3	2.2
ATF	11.2	11.1	11.8	13.8	6.7	6.9
HSD	93.8	94.3	98.6	102.1	50.2	52.3
LDO	0.4	0.4	0.4	0.6	0.2	0.2
Others	4.6	4.2	4.7	5.4	2.9	1.7
Heavy ends	36.6	34.9	34.4	36.3	18.1	16.9
of which: Furnace Oil	13.0	11.5	10.3	11.8	6.0	5.3
LSHS	0.5	0.7	0.4	0.3	0.1	0.1
Lube Oil	0.9	0.9	1.0	1.0	0.5	0.5
Bitumen	4.8	4.7	5.2	5.2	2.4	2.3
RPC/Petcoke	11.3	11.7	13.3	12.9	6.2	6.8
Others	6.1	5.5	4.2	5.2	2.8	2.0
Sub total (A)	216.4	217.1	227.9	239.2	118.1	120.5
B) From natural gas/ fractionators						
Sub total (B)	4.3	4.0	4.0	4.3	2.1	2.2
of which: LPG	2.1	2.2	2.0	2.1	1.0	1.1
Naphtha	1.5	1.2	1.1	1.2	0.6	0.6
SKO	0.1	0.1	0.1	0.03	0.02	0.02
HSD	0.02	0.01	0.01	0.01	0.004	0.005
Others	0.6	0.5	0.8	1.0	0.4	0.5
Total indigenous production (A +B)	220.7	221.1	231.9	243.5	120.1	122.7

Source: Oil companies

Table 4.5 : Production of petroleum products : All sources

(Million metric tonne)						
Major products	2013-14	2014-15	2015-16	2016-17	Apr-Sep 2016	Apr-Sep 2017 (P)
HSD	93.8	94.3	98.6	102.1	50.2	52.3
MS	30.3	32.2	35.3	36.6	17.9	18.5
Naphtha	18.5	17.5	17.9	19.7	9.6	9.8
FO	13.0	11.5	10.3	11.8	6.0	5.3
ATF	11.2	11.1	11.8	13.8	6.7	6.9
LPG	10.0	9.8	10.6	11.3	5.3	5.8
SKO	7.4	7.6	7.5	6.0	3.4	2.2
Bitumen	4.8	4.7	5.2	5.2	2.4	2.3
LSHS	0.5	0.7	0.4	0.3	0.1	0.1
Lubes	0.9	0.9	1.0	1.0	0.5	0.5
LDO	0.4	0.4	0.4	0.6	0.2	0.2
RPC/Petcoke	11.3	11.7	13.3	12.9	6.2	6.8
Others#	18.6	18.7	19.6	22.3	11.5	12.0
Total	220.7	221.1	231.9	243.5	120.1	122.7

Source: Oil companies

Note : # Others include products like Propylene, Solvents (Hexane, Benzene, Toluene, Xylene and Specialty solvents), Reformate, Mineral Turpentine Oil, Carbon Black Feed Stock, Waxes, Sulphur etc.

Table 4.6 : Production vs consumption of petroleum products

(Million metric tonne)			
Year	Consumption \$	Production from refineries & other sources*	Surplus (+) / Deficit (-)
	(A)	(B)	(B)-(A)
1997-98	84.3	64.7	-19.6
1998-99	90.6	68.4	-22.2
1999-00	97.1	82.9	-14.2
2000-01	100.1	99.6	-0.5
2001-02	100.4	104.3	3.9
2002-03	104.1	108.7	4.5
2003-04	107.8	117.6	9.9
2004-05	111.6	123.3	11.6
2005-06	113.2	124.6	11.4
2006-07	120.7	140.6	19.9
2007-08	128.9	150.4	21.5
2008-09	133.6	157.9	24.3
2009-10	137.8	185.5	47.7
2010-11	141.0	196.2	55.2
2011-12	148.1	204.5	56.3
2012-13	157.1	218.2	61.2
2013-14	158.4	220.7	62.3
2014-15	165.5	221.1	55.6
2015-16	184.7	231.9	47.2
2016-17	194.6	243.5	48.9
Apr-Sep 2016	97.2	120.1	22.9
Apr-Sep 2017 (P)	98.7	122.7	24.0

Note:

\$ includes direct imports by private parties

*Fractionators and gas processing plants

Table 4.7 : Gross Refining Margins (GRM) of Refineries

(\$/bbl)

Company	Refinery	2013-14	2014-15	2015-16	2016-17	H1, 2016-17	H1, 2017-18
PSU refineries							
IOCL	Barauni	6.68	(1.20)	2.93	6.52	6.17	2.50
	Koyali	4.52	4.79	6.80	7.55	7.22	7.74
	Haldia	2.84	(1.51)	3.96	6.80	6.94	3.97
	Mathura	2.10	(2.19)	3.30	7.01	6.11	4.34
	Panipat	3.62	(1.97)	4.15	7.95	7.33	4.86
	Guwahati	6.38	8.68	15.88	22.14	22.44	20.97
	Digboi	15.41	13.73	16.17	24.49	22.74	23.39
	Bongaigaon	6.71	(0.26)	11.09	20.15	18.12	16.50
	Paradip	NA	NA	(0.65)	4.22	1.43	5.80
	Average	4.24	0.27	5.06	7.77	7.19	6.08
BPCL	Kochi	4.80	3.17	6.87	5.16	4.50	7.25
	Mumbai	3.95	3.97	6.37	5.36	4.61	5.69
	Average	4.33	3.62	6.59	5.26	4.56	6.48
HPCL	Mumbai	5.38	4.88	8.09	6.95	5.89	7.89
	Visakh	1.50	1.12	5.46	5.51	4.40	5.75
	Average	3.43	2.84	6.68	6.20	5.12	6.75
CPCL	Chennai	4.08	1.97	5.27	6.05	5.59	5.67
MRPL	Mangalore	2.67	(0.64)	5.20	7.75	7.26	6.30
NRL	Numaligarh	12.09	16.67	23.68	28.56	28.24	29.13
JV refineries							
BORL	Bina	7.70	6.10	11.70	11.80	11.50	10.60
Private refineries							
RIL	Jamnagar	8.10	8.60	10.80	11.00	10.80	11.90
Essar	Vadinar	7.98	8.37	10.81	9.14	*	*
Singapore		5.62	6.36	7.52	5.83	5.06	7.34

Source:

Indian refineries - published results/ information provided by oil companies

Singapore - Reuters

* Not available

Table 4.8 : GRM of North East refineries excluding excise duty benefit

(\$/bbl)							
Company	Refinery	2013-14	2014-15	2015-16	2016-17	H1, 2016-17	H1, 2017-18
IOCL	Guwahati	0.88	0.96	1.26	1.12	1.15	2.82
	Digboi	8.50	5.42	4.16	7.73	6.84	5.61
	Bongaigaon	2.34	(6.51)	0.08	6.03	5.17	2.30
NRL	Numaligarh	6.98	9.46	8.06	8.50	8.40	8.54

Source: Information provided by oil companies

Table 4.9 : Distillate yield of PSU refineries

(Distillate %)						
Company	Refinery	2012-13	2013-14	2014-15	2015-16	2016-17
IOCL	Barauni	86.1	87.9	87.3	88.7	85.3
	Koyali	78.0	78.4	80.1	83.1	81.0
	Haldia	69.3	68.5	69.0	69.6	66.7
	Mathura	73.3	68.9	71.9	74.7	73.6
	Panipat	82.0	82.0	82.4	83.8	84.1
	Guwahati	79.7	83.1	81.1	80.8	83.5
	Digboi	73.7	73.5	74.8	69.7	75.3
	Bongaigaon	82.3	85.9	84.0	84.5	83.8
	Paradip	-	-	-	-	75.3
CPCL	Manali	68.0	72.1	71.5	71.4	71.6
	CBR	87.5	85.1	71.6	79.3	78.2
HPCL	Mumbai	74.6	72.6	75.9	76.0	77.6
	Visakh	72.1	75.7	78.8	75.7	74.0
BPCL	Mumbai	80.5	81.0	81.8	84.3	86.1
	Kochi	78.9	81.9	84.7	85.7	85.2
NRL	Numaligarh	91.1	92.2	90.7	89.9	90.5
MRPL	Mangalore	76.5	74.6	72.3	76.9	77.4
PSU oil cos. average		77.3	77.7	78.3	79.9	79.3

Source : CHT

Table 4.10 : Fuel & Loss

(Million metric tonne)

Sl. no.	Company	Refinery	2013-14		2014-15		2015-16		2016-17		Apr-Sep 2016			Apr-Sep 2017 (P)						
			Crude T'put + other inputs	Fuel & Loss		Crude T'put + other inputs	Fuel & Loss		Crude T'put + other inputs	Fuel & Loss		Crude T'put + other inputs	Fuel & Loss		Crude T'put + other inputs	Fuel & Loss				
				Qty	%		Qty	%		Qty	%		Qty	%		Qty	%	Qty	%	
1	IOCL	Barauni	6.5	0.6	9.0	6.0	0.5	9.1	6.6	0.6	8.7	6.6	0.6	9.2	3.4	0.3	9.0	2.6	0.2	9.5
2		Koyali	13.5	1.3	9.3	13.8	1.3	9.2	14.4	1.3	8.8	14.6	1.3	9.0	7.6	0.7	8.9	6.7	0.6	9.4
3		Haldia	8.0	0.7	9.2	7.7	0.7	8.7	7.8	0.7	8.7	7.7	0.7	8.8	4.1	0.4	8.8	4.1	0.3	8.3
4		Mathura	7.0	0.6	8.5	8.9	0.7	7.8	9.3	0.7	7.7	9.7	0.7	7.5	4.8	0.4	7.7	4.6	0.3	7.3
5		Panipat	16.3	1.5	9.2	15.7	1.4	9.2	16.8	1.5	8.8	17.2	1.5	8.4	8.5	0.7	8.4	8.2	0.7	8.3
6		Guwahati	1.2	0.1	9.9	1.2	0.1	10.2	1.2	0.1	9.6	1.2	0.1	9.4	0.6	0.1	9.3	0.6	0.1	10.0
7		Digboi	0.7	0.1	9.1	0.7	0.1	9.3	0.6	0.1	10.2	0.6	0.1	11.7	0.3	0.03	11.9	0.4	0.04	10.3
8		Bongaigaon	2.3	0.2	9.7	2.4	0.2	9.1	2.4	0.2	8.5	2.5	0.2	8.3	1.2	0.1	8.2	1.2	0.1	8.5
9		Paradip	-	-	-	-	-	-	1.9	0.5	24.2	8.3	1.3	15.9	2.8	0.5	19.3	6.9	0.8	11.0
		IOCL Total	55.5	5.1		56.4	5.0		61.0	5.6		68.4	6.5		33.2	3.2		35.3	3.2	
10	HPCL	Mumbai	7.8	0.5	6.9	7.5	0.6	7.4	8.0	0.6	7.8	8.5	0.6	7.2	4.1	0.3	7.3	4.3	0.3	7.3
11		Visakh	7.8	0.6	7.5	8.8	0.7	7.4	9.2	0.7	7.7	9.3	0.7	7.3	4.4	0.3	7.4	4.9	0.3	6.7
12		HMEL-Bathinda	9.3	0.6	6.4	7.4	0.5	6.5	10.8	0.7	6.3	10.6	0.7	6.3	5.5	0.3	6.1	2.9	0.2	6.8
		HPCL Total	24.9	1.7		23.7	1.7		28.0	2.0		28.4	2.0		14.1	1.0		12.1	0.8	
13	BPCL	Mumbai	13.1	0.7	5.1	12.9	0.6	4.7	13.4	0.6	4.4	13.6	0.6	4.4	7.1	0.3	4.3	6.8	0.3	4.5
14		Kochi	10.3	0.6	6.3	10.4	0.7	6.3	10.8	0.6	5.9	12.0	0.7	6.0	5.6	0.3	5.9	6.8	0.5	6.6
15		BORL-Bina	5.4	0.5	8.6	6.2	0.5	7.7	6.4	0.5	7.0	6.4	0.6	8.8	3.3	0.3	8.4	3.6	0.3	9.4
16	Numaligarh	2.8	0.3	9.5	3.0	0.3	9.4	2.8	0.3	9.2	3.0	0.3	9.8	1.4	0.1	9.4	1.6	0.2	9.9	
		BPCL Total	31.6	2.0		32.6	2.0		33.4	1.9		34.9	2.2		17.3	1.0		18.9	1.3	
17	CPCL	Manali	10.1	0.9	9.0	10.3	0.9	8.8	9.2	0.9	9.5	9.8	0.9	9.3	5.3	0.5	9.2	5.0	0.5	9.4
18		CBR	0.6	0.03	4.5	0.6	0.02	4.1	0.6	0.03	4.4	0.6	0.03	4.6	0.3	0.01	4.4	0.2	0.01	4.8
		CPCL Total	10.7	0.9		10.9	0.9		9.8	0.9		10.4	0.9		5.6	0.5		5.3	0.5	
19	ONGC	Tatipaka	0.1	0.001	1.3	0.1	0.001	1.4	0.1	0.001	1.7	0.1	0.003	3.7	0.04	0.002	3.9	0.04	0.002	4.2
20		MRPL-Mangalore	14.6	1.1	7.9	14.7	1.5	10.1	15.7	1.5	9.7	16.3	1.6	10.1	7.8	0.8	10.1	7.6	0.8	10.2
		ONGC Total	14.7	1.2		14.8	1.5		15.8	1.5		16.3	1.6		7.8	0.8		7.6	0.8	
21	RIL	Jamnagar (DTA)	33.5	2.6	7.7	33.3	2.3	6.9	35.1	2.6	7.4	35.9	2.5	6.9	18.2	1.2	6.9	17.7	1.3	7.5
22		Jamnagar (SEZ)	43.1	3.3	7.7	42.8	3.2	7.5	44.2	3.4	7.8	44.8	3.3	7.5	22.3	1.7	7.6	23.6	1.9	7.9
23	EOL	Vadinar	20.6	1.0	5.0	20.9	1.1	5.2	19.4	1.1	5.7	21.3	1.2	5.5	10.7	0.6	5.5	10.5	0.6	5.6
		Total	234.5	17.9		235.4	17.8		246.8	19.1		260.4	20.2		129.3	10.0		131.0	10.4	

Source: Oil companies

Table 4.11 : Specific energy consumption (MBN number) of PSU refineries

(MBTU/Bbl/NRGF)

Company	Refinery	2012-13	2013-14	2014-15	2015-16 (New MBN)	2016-17 (New MBN)
IOCL	Barauni	58.1	60.5	61.8	81.0	80.8
	Koyali	58.0	59.4	57.1	75.8	75.3
	Haldia	54.9	52.7	51.2	80.1	83.2
	Mathura	59.0	60.5	60.0	73.6	72.5
	Panipat	50.6	49.9	49.0	70.3	65.1
	Guwahati	65.0	58.6	63.7	121.9	114.0
	Digboi	65.0	61.5	60.8	112.4	114.5
	Bongaigaon	74.9	72.9	69.0	91.3	90.5
	Paradip	-	-	-	-	118.2
CPCL	Manali	67.9	64.0	64.5	96.1	92.8
	CBR	102.3	123.2	118.6	113.1	117.8
HPCL	Mumbai	82.6	75.4	79.8	90.5	87.9
	Visakh	85.0	83.6	83.7	81.6	78.8
BPCL	Mumbai	65.5	66.6	69.2	75.1	71.1
	Kochi	79.4	77.4	79.8	77.8	86.2
NRL	Numaligarh	53.3	53.5	51.5	71.1	72.3
MRPL	Mangalore	61.0	60.9	67.5	80.3	80.3
PSU oil cos. average		62.7	61.9	62.9	79.7	81.6 / 78.5 *

 Source: CHT
 *excluding Paradip

Table 4.12 : Import / export of crude oil and petroleum products

Import / export	Crude oil & petroleum products	2013-14			2014-15			2015-16			2016-17			Apr-Sep 2016			Apr-Sep 2017 (P)		
		Quantity	Value		Quantity	Value		Quantity	Value		Quantity	Value		Quantity	Value		Quantity	Value	
		Million tonne	US\$ (Billion)	₹ (Crores)	Million tonne	US\$ (Billion)	₹ (Crores)	Million tonne	US\$ (Billion)	₹ (Crores)	Million tonne	US\$ (Billion)	₹ (Crores)	Million tonne	US\$ (Billion)	₹ (Crores)	Million tonne	US\$ (Billion)	₹ (Crores)
I M P O R T	Crude oil	189.2	143.0	864875	189.4	112.7	687416	202.9	64.0	416579	213.9	70.2	470159	106.9	32.2	215730	106.8	37.6	241877
	Products																		
	LPG	6.6	6.1	37213	8.3	6.0	36571	9.0	3.9	25778	11.1	4.8	32124	4.8	1.7	11526	5.2	2.3	14943
	Petrol	0.2	0.2	1481	0.4	0.4	2301	1.0	0.6	4207	0.5	0.2	1617	0.4	0.2	1498	0.2	0.1	581
	Naphtha	1.0	1.0	6044	1.0	0.7	4592	2.9	1.5	9581	2.8	1.2	8374	1.5	0.6	4323	0.7	0.4	2570
	Aviation Turbine Fuel	0.0	0.0	0	0.1	0.1	706	0.3	0.1	889	0.3	0.2	1109	0.2	0.1	552	0.1	0.1	492
	Kerosene	0.0	0.0	0	0.03	0.03	172	0.04	0.02	158	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0
	Diesel	0.1	0.1	452	0.1	0.1	670	0.2	0.1	605	1.0	0.4	2959	0.7	0.3	1980	1.2	0.6	3798
	Lubes	2.1	2.1	12985	2.1	2.1	12702	2.3	1.4	9478	2.1	1.3	8625	1.1	0.6	4308	1.2	0.8	5137
	Fuel Oil/LSHS	1.3	0.9	5759	0.9	0.6	3659	1.2	0.4	2380	0.9	0.3	1848	0.5	0.1	908	0.5	0.2	1060
	Bitumen	0.2	0.1	801	0.5	0.3	1623	0.9	0.3	1832	1.0	0.2	1638	0.4	0.1	666	0.4	0.1	734
	Petcoke	3.6	0.7	4082	6.2	0.9	5383	10.0	0.9	5633	14.4	1.2	7929	8.3	0.6	3795	6.9	0.8	5440
	Others**	1.6	1.2	7080	1.6	1.0	6266	1.7	0.7	4821	2.2	0.8	5342	1.2	0.4	2774	1.4	0.6	3790
	Total product import	16.7	12.5	75896	21.3	12.1	74644	29.5	10.0	65361	36.3	10.6	71566	19.2	4.8	32330	17.8	6.0	38546
	Total import (crude oil + product)	205.9	155.4	940771	210.7	124.9	762060	232.3	73.9	481940	250.2	80.8	541725	126.1	37.0	248059	124.6	43.5	280423
Products																			
LPG	0.2	0.3	1589	0.3	0.2	1455	0.2	0.1	785	0.3	0.2	1168	0.2	0.1	523	0.2	0.1	633	
Petrol	15.2	15.4	92977	16.0	13.5	81971	16.8	9.1	59575	15.4	7.9	52920	8.2	3.9	26232	7.2	4.0	25453	
Naphtha	8.3	7.6	46059	7.0	5.2	31619	7.1	3.1	20057	8.7	3.7	24616	4.2	1.6	10625	4.4	1.9	12526	
Aviation Turbine Fuel	5.7	5.5	33246	5.5	4.2	25413	5.7	2.4	16007	7.3	3.3	22294	3.6	1.5	10297	3.3	1.6	10319	
Kerosene	0.02	0.02	98	0.02	0.01	81	0.01	0.01	35	0.02	0.01	54	0.01	0.004	26	0.01	0.005	32	
Diesel	26.5	24.3	148138	25.6	18.9	115149	24.0	10.2	66492	27.3	11.9	79857	13.8	5.6	37547	14.2	6.7	43026	
LDO	0.03	0.02	135	0.01	0.005	28	0.0	0.0	0.0	0.2	0.1	399	0.0	0.0	0	0.01	0.003	17	
Lubes	0.02	0.03	138	0.01	0.02	100	0.02	0.02	127	0.01	0.02	104	0.01	0.01	58	0.01	0.01	62	
Fuel Oil/LSHS	6.2	3.7	22407	4.8	2.3	14251	2.8	0.7	4471	2.2	0.6	3930	1.1	0.3	1762	1.4	0.4	2781	
Bitumen	0.1	0.1	321	0.1	0.04	245	0.1	0.03	176	0.04	0.01	37	0.03	0.003	21	0.04	0.01	67	
Petcoke / CBFS	1.7	0.6	3980	0.6	0.30	1806	0.8	0.12	750	0.67	0.1	804	0.2	0.04	275	0.29	0.05	336	
Others***	3.8	3.2	19189	4.0	2.7	16462	2.9	1.3	8304	3.3	1.3	8710	1.1	0.4	2992	1.8	0.7	4693	
Total product export	67.9	60.7	368279	63.9	47.3	288580	60.5	27.1	176780	65.5	29.0	194893	32.4	13.5	90358	32.8	15.5	99944	
Net import	138.1	94.8	572492	146.8	77.6	473481	171.8	46.9	305160	184.7	51.8	346832	93.8	23.5	157701	91.8	28.0	180479	
Net product export	51.2	48.2	292383	42.6	35.1	213936	31.1	17.1	111419	29.2	18.4	123327	13.1	8.7	58028	15.0	9.6	61398	

Source: Oil companies & DGCIS

Note:

- *Import does not include LNG imports
- **Other imports include Paraffin Wax, Petroleum Jelly, LSWR, Aviation Gas, MTBE & Reformate etc.
- ***Other exports include VGO, Benzene, Hexane, MTO, Sulphur etc.
4. "Others" in exports include RIL-SEZ exports of "Others" with unspecified heavy ends

Table 4.13 : Exchange rates of Indian Rupee (₹)

Year	US dollar (\$)	British pound (£)	Euro (€)	Japanese yen (¥)
Indian rupee (₹) / foreign currency				
2002-03	48.41	74.84	48.07	0.40
2003-04	45.92	77.74	54.01	0.41
2004-05	44.95	82.95	56.55	0.42
2005-06	44.28	79.02	53.88	0.39
2006-07	45.29	85.72	58.11	0.39
2007-08	40.24	80.80	56.99	0.35
2008-09	45.91	78.45	65.14	0.46
2009-10	47.42	75.88	67.08	0.51
2010-11	45.58	70.88	60.21	0.53
2011-12	47.95	76.40	65.90	0.61
2012-13	54.45	86.02	70.06	0.66
2013-14	60.50	96.23	81.14	0.60
2014-15	61.15	98.56	77.47	0.56
2015-16	65.46	98.76	72.31	0.55
2016-17	67.09	87.71	73.61	0.62
2017-18 (up to 31.10.2017)	64.47	83.69	73.74	0.58
2017 : Month wise				
Jan-17	68.08	83.86	72.33	0.59
Feb-17	67.08	83.82	71.46	0.59
Mar-17	65.88	81.24	70.34	0.58
Apr-17	64.51	81.54	69.17	0.59
May-17	64.42	83.21	71.23	0.57
Jun-17	64.44	82.51	72.41	0.58
Jul-17	64.46	83.75	74.20	0.57
Aug-17	63.97	83.04	75.60	0.58
Sep-17	64.44	85.73	76.79	0.58
Oct-17	65.08	85.92	76.48	0.58

Source: Reserve Bank of India (RBI) website.

Note : The rates are average for the period.



Analysis • Knowledge • Information



Chapter-5

Major Pipelines in India



Map of Pipeline Network in India



Table 5.1 : Gas pipeline network as on 01.10.2017

Network/Region	Entity	Length (Kms)	Design capacity (mmscmd)	Pipeline size	Average flow Apr-Sep 2017(P) (mmscmd)	% Capacity utilisation Apr-Sep 2017
Hazira-Vijaipur-Jagdishpur Pipeline/Gas rehabilitation and expansion project pipeline/ Dahej-Vijaipur Pipeline & spur/ Vijaipur-Dadri Pipeline	GAIL	4659	53.0	36"	31.15	58.77
DVPL-GREP upgradation (DVPL-2 & VDPL)	GAIL	1119	54.0	48"	33.13	61.35
*Chhainsa-Jhajjar-Hissar Pipeline (CJPL) (Including spur lines) commisioned up to Sultanpur, Jhajjar-Hissar under hold (111 Km)	GAIL	265	5.0	36" /16"	1.05	21.00
Dahej-Uran-Panvel Pipeline (DUPL/ DPPL) including spur lines	GAIL	875	19.9	30"/18"	15.39	77.34
*Dadri- Bawana-Nangal Pipeline (DBPL), Dadri-Bawana: 106 Km, Bawana-Nangal: 501 KM, spur line of BNPL: 196 Km	GAIL	835	31.0	36"/30"/ 24"/18"	5.77	18.61
Dabhol-Bengaluru Pipeline (Including spur) Phase -1- 997 km, Phase 2 - 114.6 km	GAIL	1112	16.0	36"/4"	1.26	7.88
Kochi-Kootanad-Bengaluru-Mangalore (Phase-1)	GAIL	48	6.0	16"/4"	2.97	49.50
Assam (Lakwa)	GAIL	8	2.5	24"	0.39	15.60
Tripura (Agartala)	GAIL	61	2.3	12"	1.22	53.04
Ahmedabad	GAIL	133	2.9	12"	0.25	8.59
Rajasthan (Focus Energy)	GAIL	151	2.4	12"	1.44	61.28
Bharuch, Vadodara (Undera) including RLNG+RIL	GAIL	538	15.4	24"/16"	3.65	23.67
Mumbai	GAIL	129	7.0	26"	6.02	85.63
KG Basin (including RLNG+RIL)	GAIL	881	16.0	18"	5.24	32.76
Cauvery Basin	GAIL	278	8.7	18"	3.32	38.33
East- West Pipeline (RGTIL)	Reliance	1480	80.0	48"	15.00	18.75
Shahdol-Phulpur Pipeline (RGPL)	Reliance	304	3.5	16"	0.29	8.29
GSPL network including spur lines	GSPL	2613	43.0	Assorted	29.24	68.00
Assam Regional Network	AGCL, DNPL	817	3.2	16" and others	1.64	50.69
Dadri-Panipat	IOCL	140	9.5	30"/10"	4.33	45.55
Uran-Trombay	ONGC	24	6.0	20"	3.50	58.31
Total		16470	387.3			

Source : Pipeline operating companies

Note :

*CJPL and DBPL pipelines are the extension of DVPL-2 / VDPL

Table 5.2 : Gas pipeline under execution / construction (as on 01.10.2017)

Sl. no.	Network/Region	Entity	Length in Kms	Design capacity (mmscmd)	Pipeline size	Status of pipeline laid (Km)
1	Kochi - Kottanad - Bengaluru - Mangalore	GAIL(India) Ltd.	1056	16.0	24"/18"/12"	70.8
2	Dabhol -Bengaluru (DBPL) Spur Lines, Phase-2	GAIL(India) Ltd.	302	16.0	36"/30"/24"/18"	0
3	Surat - Paradip*	GAIL(India) Ltd.	2112	74.8	36"/24"/18"	0
4	Jagdishpur- Haldia-Bokaro-Dhamra (JHBDPL) (Phase-I, 755 Km, 7.44 MMSCMD Capacity)	GAIL(India) Ltd.	2539	16.0	30"/24"/18"/12"/8"/4"	189.4
5	Mallavaram - Bhilwada*	GSPC India Transco Ltd.	2042	78.3	42"/36"/30"/24"/18"/12"	0
6	Mehsana - Bathinda *	GSPC India Gasnet Ltd.	2052	77.1	36"/24"/18"/12"	0
7	Bathinda -Jammu-Srinagar*	GSPC India Gasnet Ltd.	725	42.4	24"/18"/16"/12"/8"/6"	0
8	Kakinada - Vizag-Srikakulam *	AP Gas Distribution Corporation.	391	90.0	24"/18"	0
9	Ennore- Nellore*	Gas Transmission India Pvt. Ltd.	250	36.0	24"/18"	0
10	Ennore-Thiruvallur-Bengaluru-Puducherry-Nagapattinam-Madurai-Tuticorin*	Indian Oil Corporation Ltd.	1385	84.7	28"/24"/16"/12"/10"	0
11	Jaigarh-Mangalore*	H-Energy Pvt. Ltd.	635	17.0	24"	0
	Total		13489			

Source : PNGRB, GAIL (India) Ltd, Pipeline authorized companies

*Competitive bidding.

Table 5.3 : Major crude oil pipelines in India

Onshore / Offshore Oil Pipelines					
Existing pipelines	Oil company	Length in Kms	Annual capacity 2017-18	Actual utilisation upto September 2017 (P)	Utilisation %
			(MMT)	(MMT)	
CTF (Central Tank Farm) Kalol to CTF Nawagam - New (New line commissioned in Aug'2010)	ONGC	63	3.1	0.5	15.7
Nawagam-Koyali (18" line)		78	5.4	1.1	20.4
Nawagam-Koyali (14" line) (1)		78	3.3	0.7	20.4
MHN-NGM (Mehsana-Nawagam) trunk line - New (New crude oil trunk line commissioned. Under operation since Dec'2010)		77	2.3	1.0	45.8
CTF (Central Tank Farm), Ankleshwar to Koyali oil pipeline (AKCL- Ankleshwar Koyali Crude Line) excluding Cambay(2)		95	2.2	0.5	20.8
CTF (Central Tank Farm), Ankleshwar to CPF (Central Processing Facility), Gandhar (3)		44	0.4	0.0	0.0
CPF (Central Processing Facility), Gandhar to Saraswani 'T' point (4)		57	1.8	0.3	17.5
Akholjuni- Koyali oil pipe line (Commissioned in July 2010). Akholjuni to Laxmipura T' point		66	0.5	0.1	19.1
Lakwa-Moran oil line (New) (5)		18	1.5	0.0	3.1
Lakwa-Moran oil line (Old)		15	1.5	0.2	10.9
Geleki-Jorhat oil line		49	1.5	0.2	14.2
Borholla- Jorhat oil line		43	0.6	0.1	12.3
NRM (Narimanam) to CPCL (Chennai Petroleum Corporation Limited)		5	0.7	0.2	23.1
KSP-WGGS to TPK Refinery (Kesnapalli-West-Group Gathering Station to Tatipaka)		14	0.1	0.0	15.8
GMAA EPT (Gopavaram Early Production Terminal) to S. Yanam Unloading Terminal (3.5 Km long and 4"). New line commissioned on 28.07.10		4	0.1	0.0	27.5
Mumbai High - Uran - Trunk (MUT) 30" pipeline		204	15.6	5.1	32.4
Heera - Uran - Trunk (HUT) 24" pipeline		81	11.5	1.6	13.7
Bombay-Uran Trunk (BUT) 30" pipeline		203	6.4	0.0	0.0
Salaya-Mathura pipeline (SMPL) (1)	IOCL	2660	25.0	11.9	47.6
Paradip-Haldia-Barauni pipeline (PHBPL) (2)		1447	15.2	8.0	52.5
Mundra-Panipat pipeline		1194	8.4	4.1	49.0
Duliajan-Digboi-Bongaigaon-Barauni pipeline	OIL	1193	8.4	3.3	39.3
Mangla-Bhogat pipeline	CAIRN	660	8.7	3.8	44.1
Mundra- Bathinda pipeline	HMPL	1017	9.0	2.7	30.4
Vadinar-Bina pipeline	BPCL / BORL	937	6.0	3.6	59.8
Total:		10299	139.2	49.0	35.2

Source: Oil companies

Note:

ONGC:

- ONGC: 78 km X 14" Nawagam-Koyali line was given on lease to IOC in 2000 and was handed back to ONGC on 1st April 2010. The line was restored and re-commissioned in October 2012.
- 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.
- Crude oil from CTF Ankleshwar was being dispatched to CPF, Gandhar through 8" X 44.30 km pipeline up to 25.8.2013. Crude oil dispatched includes crude oil of PSC and JV also. After damage / rupture of 8" CTF to CPF line on 25.08.2013, this line is not in use.
- Length and capacity includes length capacity of branch lines from GNAQ (well) and Dabka meeting at Magnad 'T' point and Mobha 'T' point respectively.
- New 12" Lakwa-Moran Oil Line commissioned on 22.08.16.

IOCL:

- 434 km added in SMPL since 1st April 2016 by commissioning of SMPL- Surendranagar Viramgam loopline on 7.8.16, Viramgam - Sidhpur section on 14.8.16, Abu road - Rajola section on 21.3.17 and Sidhpur Abu road section on 29.4.17 along with capacity augmentation from 21 MMTPA to 25 MMTPA on 7.8.16.
- Capacity augmented from 11 MMTPA to 15.2 MMTPA with commissioning of Balasore pump station on 29.3.17.

Table 5.4 : Major petroleum products pipelines in India

Pipeline	Oil company	Length in KMs	Annual capacity 2017-18	Actual utilisation upto September 2017 (P)	% Utilisation	
			(MMT)	(MMT)		
Petroleum products pipelines						
Barauni - Kanpur pipeline	IOCL	856	3.5	1.0	28.7	
Guwahati - Siliguri pipeline		435	1.4	0.8	58.9	
Haldia-Barauni pipeline		526	1.3	0.8	67.8	
Haldia-Mourigram-Rajbandh pipeline		277	1.4	1.0	71.0	
Koyali-Ahmedabad pipeline		116	1.1	0.1	6.9	
Koyali-Sanganer pipeline KSPL (1)		1300	4.6	2.1	44.6	
Koyali-Ratlam pipeline		265	2.0	0.8	41.3	
Koyali-Dahej pipeline		197	2.6	0.3	11.7	
Mathura-Tundla pipeline		56	1.2	0.2	23.0	
Mathura-Bharatpur pipeline		21		0.1		
Mathura-Delhi pipeline		147	3.7	1.4	38.3	
Panipat-Amabala-Jalandhar (Including Kurukshetra-Roorkee-Najibabad branch line)		434	3.5	1.5	43.3	
Panipat-Delhi (Including Sonapat-Meerut branch line) pipeline		189	3.0	0.5	16.8	
Panipat Bijwasan ATF pipeline (2)		111				
Panipat-Bathinda pipeline		219	1.5	0.7	49.8	
Panipat-Rewari pipeline		155	2.1	0.9	40.7	
Chennai-Trichy-Madurai pipeline		683	2.3	1.4	62.7	
Chennai - Meenambakkam ATF pipeline		95	0.2	0.1	58.9	
Chennai-Bengaluru pipeline		290	2.5	0.8	33.1	
Digboi - Tinsukia pipeline		75	1.0	0.3	26.3	
Devangonhi - Devanhalli pipeline		36	0.7	0.1	16.5	
Paradip Raipur Ranchi pipeline(PRRPL) (3)		1073	5.0	1.6	32.6	
Mumbai-Manmad-Bijwasan pipeline (MMBPL)		BPCL	1389	6.0	3.4	57.0
Bina-Kota pipeline (BKPL)			259	4.4	1.8	41.6
ATF P/L Mumbai Refinery (MR)-Santacruz			15	1.4	0.5	32.3
ATF P/L Kochi Refinery (KR)-Kochi Airport			34	0.6	0.2	28.6
Kota - Jobner branch pipeline(1)	211		1.7	0.3	16.0	
Cochin-Coimbatore-Karur (CCK) pipeline	Petronet CCK	293	3.3	1.3	40.8	
Mumbai-Pune-Solapur pipeline	HPCL	508	4.3	2.5	57.0	
Vizag-Vijaywada-Secunderabad pipeline		572	5.4	2.9	53.1	
Mundra-Delhi pipeline		1054	5.0	2.2	44.6	
Ramanmandi-Bahadurgarh pipeline		243	4.7	1.1	24.3	
Ramanmandi-Bathinda pipeline		30	1.1	0.4	35.4	
Awa-Salawas pipeline (1)		93	2.3	0.4	15.3	
Bahadurgarh-Tikrikalan pipeline		14	0.8	0.3	36.3	
Rewari- Kanpur Pipeline(1)		443	8.0	0.9	11.3	
ATF pipeline from Mumbai Refinery to Mumbai Airport		20	1.1	0.4	39.3	
Mangalore-Hassan-Bengaluru (MHB) pipeline		Petronet MHB	363	2.1	1.7	80.0
Numaligarh-Siliguri pipeline	OIL	654	1.7	0.9	53.0	
LPG pipelines						
Panipat-Jalandhar pipeline	IOCL	274	0.7	0.3	38.4	
Mumbai-Uran pipeline	BPCL	28	0.8	0.2	20.0	
Jamnagar-Loni pipeline	GAIL	1414	2.5	1.3	52.0	
Vizag-Secunderabad pipeline		618	1.3	0.5	37.7	
Mangalore-Hassan-Mysore-Solur LPG (2)	HPCL	356	1.9	0.3	17.8	

Source: Oil companies

Note:

IOCL

1) Koyali-Sanganer pipeline (KSPL) length of 11.3 Km added after Koyali Viramgam section replacement on 1.8.2017.

2) Bijwasan Panipat Naphtha pipeline has been converted into ATF service in June 2016 and renamed as Panipat Bijwasan ATF pipeline

3) 752 Km added in PRRPL since 1st April 2016 by commissioning of PRRPL - Jatni Sambalpur section on 9.1.17, Sambalpur Jharsuguda on 16.1.17, Sambalpur Saraipalli on 21.1.17, Saraipalli Raipur on 24.1.17, Saraipalli Korba section on 30.1.17 and Jharsuguda Khunti section on 18.7.17

BPCL

1) Kota-Jobner Pipeline is a branch pipeline of Mumbai Manmad Bijwasan pipeline with annual capacity of 1.7 MMTPA.Throughput of this pipeline is included in MMBPL & BKPL pipelines

HPCL

(1) Awa Salawas Pipeline & Rewari Kanpur Pipeline are branchlines. Throughput of the same are included in Mundra Delhi Pipeline/Ramanmandi Bahadurgarh Pipeline.

(2) Mangalore Hassan Mysore Solur LPG Pipeline was commissioned on 23.10.2016



Analysis • Knowledge • Information

 Forecast

 Plan

 Sales Targets

Budget



Chapter-6

Sales



Table 6.1 : Consumption of petroleum products

(Million metric tonnes)

Products	11 th Plan					12 th Plan					Apr-Sep 2017 (P)
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	
LPG	12.0	12.2	13.1	14.3	15.3	15.6	16.3	18.0	19.6	21.6	11.3
MS	10.3	11.3	12.8	14.2	15.0	15.7	17.1	19.1	21.8	23.8	13.0
Naphtha	13.3	13.9	10.1	10.7	11.2	12.3	11.3	11.1	13.3	13.2	5.9
ATF	4.5	4.4	4.6	5.1	5.5	5.3	5.5	5.7	6.3	7.0	3.7
SKO	9.4	9.3	9.3	8.9	8.2	7.5	7.2	7.1	6.8	5.4	2.0
HSD	47.7	51.7	56.2	60.1	64.8	69.1	68.4	69.4	74.6	76.0	39.6
LDO	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.2
Lubes	2.3	2.0	2.5	2.4	2.6	3.2	3.3	3.3	3.6	3.5	1.7
FO/LSHS	12.7	12.6	11.6	10.8	9.3	7.7	6.2	6.0	6.6	7.2	3.4
Bitumen	4.5	4.7	4.9	4.5	4.6	4.7	5.0	5.1	5.9	5.9	2.4
Petcoke	5.9	6.2	6.6	5.0	6.1	10.1	11.8	14.6	19.3	24.0	11.7
Others	5.6	4.7	5.4	4.6	4.9	5.5	6.0	5.9	6.4	6.6	3.7
All India	128.9	133.6	137.8	141.0	148.1	157.1	158.4	165.5	184.7	194.6	98.7
Growth (%)	6.8	3.6	3.2	2.3	5.0	6.0	0.9	4.5	11.6	5.4	1.5

Source: Oil Companies and Directorate General of Commercial Intelligence and Statistics (DGCIS)
(Oil company sales + private imports = consumption)

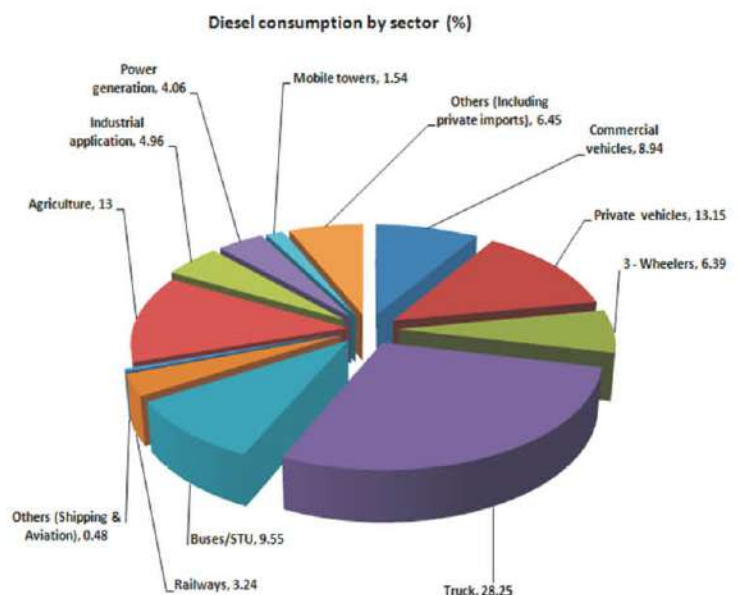
Table 6.2 : Petroleum products demand & Gross Domestic Product (GDP) during Plan periods

Plan period	7 th Plan (1985-90)	8 th Plan (1992-97)	9 th Plan (1997-02)	10 th Plan (2002-07)	11 th Plan (2007-12)	12 th Plan (2012-17)
POL demand CAGR (%)	6.9	6.8	4.9	3.8	4.2	5.6
GDP growth CAGR (%)	6.0	6.8	5.5	7.7	7.9	6.9

Note: As per new series

End-use analysis of HSD sales (as of 2012-13)

Sl. no.	End-use sectors	% of Total sales *
(I)	(II)	(III)
1	Transport, of which	70.00
a	Commercial vehicles	8.94
b	Private vehicles	13.15
c	3 - Wheelers	6.39
d	Truck	28.25
e	Buses/STU	9.55
f	Railways	3.24
g	Others (Shipping & Aviation)	0.48
2	Agriculture	13.00
3	Industrial application	4.96
4	Power generation	4.06
5	Mobile towers	1.54
6	Others (Including private imports)	6.45
	Total	100.0



* Figures include consumption through retail & direct sales. End use sector wise break up as per PPAC survey and direct sales as reported by oil companies for the year 2012-13.

Table 6.3 : State-wise sales of selected petroleum products : Apr-Sep 2017 (P)

(Sales figures in thousand metric tonnes)										
State/UT	LPG		MS		SKO		HSD		Total (All products)*	
	Sales	Per capita sales (Kg)	Sales	Per capita sales (Kg)	Sales	Per capita sales (Kg)	Sales	Per capita sales (Kg)	Total sales	Per capita sales (Kg)
Chandigarh	26.2	24.8	50.8	48.1	0.1	0.1	55.6	52.8	225.6	213.9
Delhi	378.0	22.6	477.6	28.5	0.5	0.0	614.7	36.7	2498.2	149.1
Haryana	336.7	13.3	479.8	18.9	1.6	0.1	2623.9	103.5	5450.9	215.0
Himachal Pradesh	75.0	10.9	105.1	15.3	6.5	0.9	319.2	46.5	715.6	104.4
Jammu and Kashmir	92.7	7.4	128.4	10.2	64.3	5.1	362.5	28.9	741.9	59.1
Punjab	401.5	14.5	428.6	15.5	1.1	0.0	1711.0	61.8	3254.0	117.5
Rajasthan	573.3	8.4	724.0	10.6	42.5	0.6	2739.1	39.9	5891.9	85.9
Uttar Pradesh	1420.2	7.1	1379.6	6.9	362.4	1.8	4092.8	20.5	8216.7	41.2
Uttarakhand	128.8	12.7	144.4	14.3	10.6	1.0	345.7	34.2	720.5	71.2
SUB TOTAL NORTH	3432.2	9.3	3918.2	10.6	489.5	1.3	12864.5	34.9	27715.3	75.2
Andaman & Nicobar Islands	4.8	12.5	8.0	21.1	1.6	4.3	67.7	178.3	94.6	249.1
Bihar	552.2	5.3	354.4	3.4	234.6	2.3	1119.3	10.8	2479.8	23.9
Jharkhand	143.6	4.4	210.2	6.4	69.8	2.1	843.0	25.6	1519.2	46.1
Odisha	266.0	6.3	348.2	8.3	95.8	2.3	1209.3	28.8	2771.9	66.1
West Bengal	786.4	8.6	404.9	4.4	235.5	2.6	1632.3	17.9	4135.9	45.3
SUB TOTAL EAST	1753.0	6.5	1325.7	4.9	637.2	2.4	4871.6	18.0	11001.4	40.7
Arunachal Pradesh	9.7	7.0	18.8	13.6	5.4	3.9	66.0	47.7	108.6	78.5
Assam	175.0	5.6	170.8	5.5	95.8	3.1	422.9	13.6	1188.2	38.1
Manipur	11.8	4.3	25.8	9.5	7.8	2.9	44.8	16.4	94.0	34.5
Meghalaya	10.3	3.5	40.8	13.8	7.6	2.5	142.6	48.1	213.9	72.2
Mizoram	10.2	9.3	12.4	11.4	1.9	1.7	29.3	26.8	55.5	50.9
Nagaland	10.9	5.5	17.9	9.1	3.5	1.8	31.2	15.7	65.3	32.9
Sikkim	7.0	11.5	8.7	14.3	4.8	7.9	34.3	56.4	56.4	92.9
Tripura	20.6	5.6	23.2	6.3	11.4	3.1	43.4	11.8	105.8	28.8
SUB TOTAL NORTH EAST	255.4	5.6	318.4	7.0	138.2	3.0	814.3	17.9	1887.6	41.4
Chhattisgarh	123.7	4.8	254.9	10.0	36.6	1.4	788.0	30.9	1716.6	67.2
Dadra & Nagar Haveli	8.8	25.7	10.7	31.2	0.2	0.6	104.7	305.3	198.7	579.6
Daman & Diu	5.3	21.7	11.0	45.2	0.1	0.3	53.8	221.4	110.0	452.9
Goa	31.6	21.7	83.1	57.0	0.6	0.4	155.6	106.7	357.8	245.5
Gujarat	494.7	8.2	889.8	14.7	135.9	2.3	2496.1	41.3	8966.5	148.5
Madhya Pradesh	442.2	6.1	622.4	8.6	132.9	1.8	1641.3	22.6	3389.0	46.7
Maharashtra	1340.1	11.9	1602.1	14.3	156.4	1.4	4138.2	36.8	9868.0	87.8
SUB TOTAL WEST	2446.4	9.0	3473.9	12.7	462.8	1.7	9377.6	34.4	24606.5	90.2
Andhra Pradesh	528.4	10.7	522.8	10.6	21.8	0.4	1848.5	37.4	3406.8	69.0
Karnataka	765.7	12.5	967.0	15.8	52.5	0.9	3140.8	51.4	5916.2	96.8
Kerala	460.0	13.8	682.5	20.4	34.7	1.0	1280.0	38.3	2983.5	89.4
Lakshadweep	0.1	2.2	0.0	0.0	0.2	3.4	7.0	108.2	7.4	114.9
Puducherry	20.5	16.4	66.5	53.4	0.5	0.4	175.7	141.2	287.5	231.0
Tamil Nadu	965.1	13.4	1209.9	16.8	105.3	1.5	3344.0	46.4	6908.8	95.8
Telangana	424.9	12.0	539.0	15.3	41.2	1.2	1823.0	51.7	3214.5	91.1
SUB TOTAL SOUTH	3164.6	12.5	3987.7	15.8	256.1	1.0	11618.9	46.0	22724.6	90.0
All India	11051.7	9.1	13024.0	10.8	1983.8	1.6	39546.9	32.7	87935.4	72.7

Source: Oil companies

Note:

* Total (all product) sales include other petroleum products such as Naphtha, FO, ATF, Lubricants, Bitumen etc.

- Per capita sales figures are based on provisional sales figures for the period April 2017-September 2017

- Population figures have been taken from Census of India, 2011

Highest per capita

Table 6.4 : PDS SKO allocation

(Kilo litre)						
State/UT	2013-14	2014-15	2015-16	2016-17	Apr-Sep 2016	Apr-Sep 2017
Chandigarh	3528	3324	2988	0	0	0
Delhi	21636	0	0	0	0	0
Haryana	91260	90144	88344	66252	40956	0
Himachal Pradesh	24660	24636	24144	18120	11184	7248
Jammu & Kashmir	94698	90198	81180	73056	32760	25500
Punjab	90132	89664	85380	74334	39528	0
Rajasthan	508764	505284	495180	371400	229344	129984
Uttar Pradesh	1590000	1589388	1557600	1168212	721380	467280
Uttarakhand	36168	35916	35196	31692	16308	12672
SUB TOTAL NORTH	2460846	2428554	2370012	1803066	1091460	642684
Andaman & Nicobar Islands	6912	6408	5772	5160	2688	2064
Bihar	814068	812964	796704	710736	368976	302064
Jharkhand	268704	267936	262572	219696	121632	93384
Odisha	398988	397680	389724	292296	180504	124224
West Bengal	963528	962580	943332	788868	436860	352008
SUB TOTAL EAST	2452200	2447568	2398104	2016756	1110660	873744
Arunachal Pradesh	11479	11460	10320	9288	4776	3960
Assam	327966	327924	321372	289248	148848	122928
Manipur	24967	24960	23388	21060	10860	8952
Meghalaya	25943	25944	25428	22884	11772	9720
Mizoram	7800	7416	6672	6012	3084	2400
Nagaland	17100	17088	16752	15084	7764	6408
Sikkim	6348	6348	5712	4296	2640	1728
Tripura	39179	39180	38400	34560	17784	14688
SUB TOTAL NORTH EAST	460782	460320	448044	402432	207528	170784
Chhattisgarh	180072	175788	172272	135384	79800	57528
Dadra & Nagar Haveli	2280	2040	1836	1656	864	288
Daman & Diu	876	876	828	756	396	132
Goa	5244	5244	5136	4620	2388	1152
Gujarat	673416	670752	657336	493008	304392	172560
Madhya Pradesh	625668	625572	589824	442368	273168	176952
Maharashtra	730464	695844	626256	563640	290040	197280
SUB TOTAL WEST	2218020	2176116	2053488	1641432	951048	605892
Andhra Pradesh	465996	320580	266676	225696	123480	56424
Karnataka	522888	522768	509832	287532	194532	78000
Kerala	120192	120180	117780	88344	54528	30912
Lakshadweep	1008	1008	984	936	936	768
Puducherry	4440	4344	4260	3840	1968	800
Tamil Nadu	348696	348696	341724	307560	158280	107640
Telangana	-	145404	174480	155436	80796	54408
SUB TOTAL SOUTH	1463220	1462980	1415736	1069344	614520	328952
All India	9055068	8975538	8685384	6933030	3975216	2622056

Source: MoP&NG

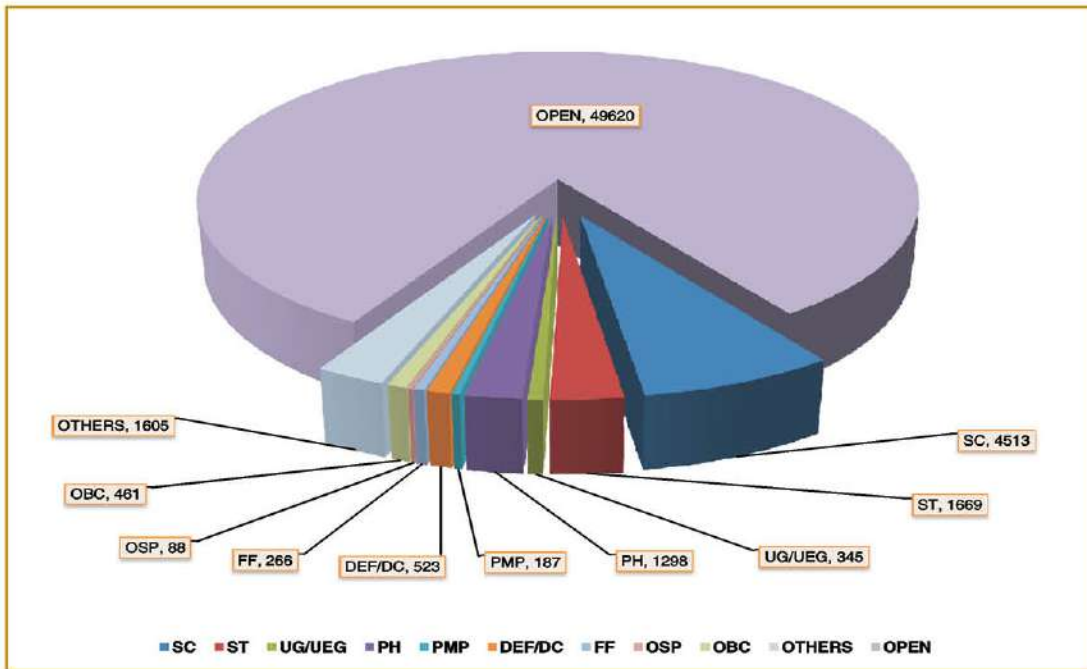
Note: Delhi and Chandigarh have been declared Kerosene free from Q3, 2013-14 and Q1, 2016-17 respectively. Panjab and Haryana have been declared Kerosene free from Q1, 2017-18. SKO allocation of Puducherry and Andhra Pradesh has been reduced to "Zero" w.e.f. 1.09.2017 and 1.10.2017 respectively.

Table 6.5 : Oil industry Retail Outlets & SKO / LDO agencies

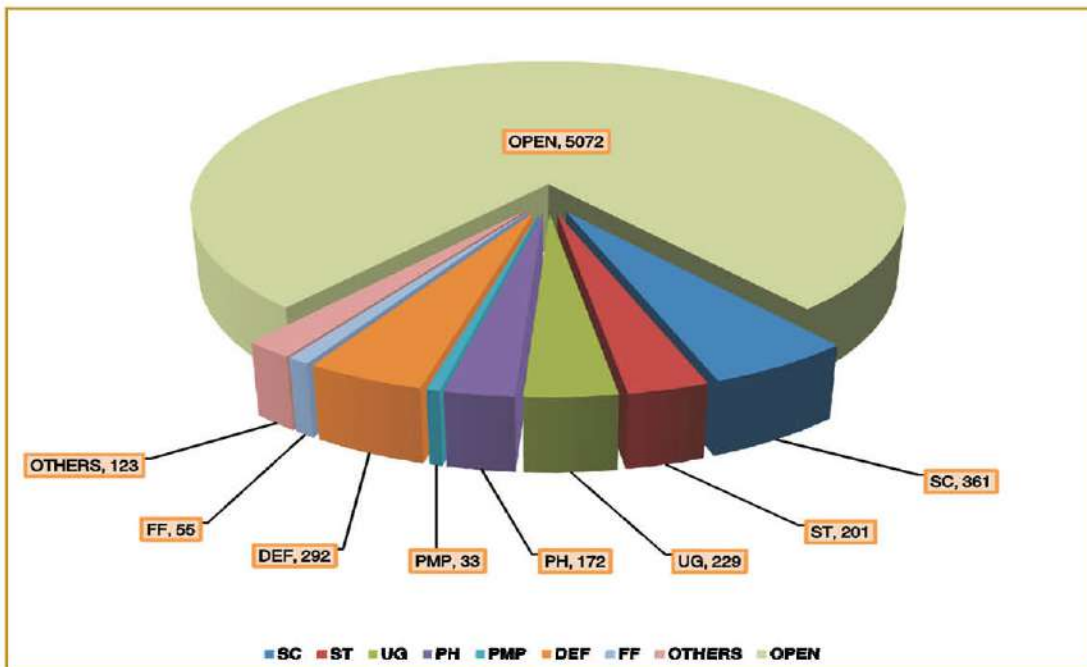
State/UT	No. of Retail Outlets (as on)						No. of SKO/LDO agencies (as on)					
	01.04.2013	01.04.2014	01.04.2015	01.04.2016	01.04.2017	01.10.2017 (P)	01.04.2013	01.04.2014	01.04.2015	01.04.2016	01.04.2017	1.10.2017 (P)
Chandigarh	41	41	41	41	41	41	12	12	12	12	12	12
Delhi	408	403	394	395	396	396	116	116	117	116	116	116
Haryana	2151	2333	2419	2534	2726	2786	143	142	141	141	141	141
Himachal Pradesh	359	361	382	396	414	423	26	26	26	26	26	26
Jammu and Kashmir	453	469	475	485	494	496	47	47	47	47	47	47
Punjab	3193	3229	3248	3316	3380	3404	242	241	241	239	237	237
Rajasthan	3135	3327	3465	3736	4116	4261	251	250	252	250	250	250
Uttar Pradesh	5680	6013	6247	6616	7069	7165	695	695	696	696	696	696
Uttarakhand	483	505	514	551	570	578	72	72	73	73	73	73
SUB TOTAL NORTH	15903	16681	17185	18070	19206	19550	1604	1601	1605	1600	1598	1598
Andaman & Nicobar Islands	9	9	9	10	12	13	2	2	2	2	2	2
Bihar	2167	2316	2385	2511	2604	2622	373	372	372	372	372	372
Jharkhand	1027	1062	1082	1151	1189	1196	86	86	87	87	87	87
Odisha	1369	1438	1464	1560	1639	1654	177	177	177	177	177	177
West Bengal	2120	2183	2178	2244	2299	2306	469	469	458	458	458	458
SUB TOTAL EAST	6692	7008	7118	7476	7743	7791	1107	1106	1096	1096	1096	1096
Arunachal Pradesh	70	71	71	71	74	75	33	33	33	33	33	33
Assam	720	753	759	788	828	837	359	359	359	359	359	359
Manipur	73	80	83	85	85	87	36	36	36	36	36	36
Meghalaya	170	175	179	190	198	199	35	35	35	35	35	35
Mizoram	30	32	33	36	37	37	19	19	19	19	19	19
Nagaland	68	68	68	69	70	70	19	19	19	19	19	19
Sikkim	43	44	46	47	50	50	12	12	12	12	12	12
Tripura	56	63	64	67	68	68	40	40	40	40	40	40
SUB TOTAL NORTH EAST	1230	1286	1303	1353	1410	1423	553	553	553	553	553	553
Chhattisgarh	886	998	1040	1108	1176	1194	109	109	108	108	108	108
Dadra & Nagar Haveli	21	27	31	31	31	31	2	2	2	2	2	2
Daman & Diu	25	31	31	31	32	32	5	5	5	5	5	5
Goa	104	109	111	114	115	115	21	21	22	22	22	22
Gujarat	2770	2910	3050	3384	3765	3865	493	493	480	480	478	477
Madhya Pradesh	2630	2873	3005	3269	3528	3587	279	279	285	284	284	284
Maharashtra	4644	5025	5207	5419	5684	5776	775	774	769	767	767	767
SUB TOTAL WEST	11080	11973	12475	13356	14331	14600	1684	1683	1671	1668	1666	1665
Andhra Pradesh	4502	4710	2811	3004	3197	3251	603	603	394	394	394	394
Karnataka	3306	3621	3737	3836	4027	4075	325	322	325	324	323	319
Kerala	1880	1900	1932	2009	2048	2064	242	242	237	237	237	237
Lakshadweep	0	0	0	0	0	0	0	0	0	0	0	0
Puducherry	144	150	153	156	160	164	8	8	8	8	8	8
Tamil Nadu	4340	4541	4616	4702	5039	5176	465	465	468	466	466	466
Telangana	0	0	2088	2228	2434	2481	0	0	202	202	202	202
SUB TOTAL SOUTH	14172	14922	15337	15935	16905	17211	1643	1640	1634	1631	1630	1626
All India	49077	51870	53418	56190	59595	60575	6591	6583	6559	6548	6543	6538

Source: Oil companies (Includes dealers of private oil companies)

Category wise retail outlets as on 01.10.2017 : Total nos. 60575



Category wise SKO/LDO dealers as on 01.10.2017 : Total nos. 6538



Source: Oil companies

Note:

- (1) SC: Scheduled Caste; ST: Scheduled Tribe; UG: Unemployed Graduate; UEG: Unemployed Engineering Graduate; PH: Physically Handicapped; DEF: Defence Category; FF: Freedom Fighter; OSP: Outstanding Sports Persons; OBC: Other Backward Classes; PMP: Para Military/Police/Govt. Personnel; Others: Includes Social Worker Category, Dealerships given on compassionate grounds/ under discretionary quota, 2/3 wheeler outlets and Company Owned and Operated outlets, Operation Vijay.
- (2) Open category also includes private Retail Outlets for which category-wise breakup is not available.

Table 6.6 : Industry marketing infrastructure as on 01.10.2017 (P)

Particulars	IOCL	BPCL	HPCL	RIL	ESSAR	Shell	Others	Total
POL terminal/depots (Nos.)	129	83	81	18\$	2		6*	319
Aviation fuel stations (Nos.)	105	50	38	28			1@	222
Retail Outlets (total) (Nos.)	26429	14137	14628	1400	3888	89	4^	60575
Out of which, Rural ROs (Nos)	7201	2542	3142	127	1333	11		14356
SKO/LDO agencies (Nos.)	3899	1001	1638					6538
LPG distributors (total) (Nos.) (PSUs only)	9808	4783	4632					19223
Out of which, Durgam Kshetriya Vitrak (Nos.)	1601	864	878					3343
LPG bottling plants (Nos.) (PSUs only)	91	50	47				1#	189
LPG bottling capacity (TMTPA) (PSUs only)	9025	3693	3762				24~	16504
LPG registered domestic consumers (Nos. crore) (PSUs only)	12.12	6.40	6.59					25.11

Source: Oil companies

Note:

\$ RIL- 5 Terminals and 13 mini Depots

* MRPL-4 and NRL-2; @ Shell MRPL-1; ^ MRPL-4

NRL-1; ~ NRL-24

Table 6.7 : Break-up of consumption data (PSU and Pvt.)

(Thousand metric tonne)

Product	2014-15			2015-16			2016-17			Apr-Sep 2016			Apr-Sep 2017 (P)		
	PSU	Private	Total	PSU	Private	Total	PSU	Private	Total	PSU	Private	Total	PSU	Private	Total
LPG	17571	429	18000	19134	489	19623	21179	429	21608	10033	223	10257	11052	218	11269
MS	18588	487	19075	21079	768	21847	22518	1247	23765	11289	572	11862	12176	848	13024
Naphtha	4814	6268	11082	4790	8481	13271	4905	8335	13241	2509	4313	6822	2575	3361	5936
ATF	5319	404	5723	5629	632	6262	6186	812	6998	2966	402	3368	3342	322	3663
SKO	7087	0	7087	6826	0	6826	5397	0	5397	3079	0	3079	1984	0	1984
HSD	68701	715	69416	72092	2555	74647	71450	4577	76027	35341	1924	37265	36449	3132	39581
LDO	365	0	365	407	0	407	449	0	449	220	0	220	224	0	224
Lubes	1162	2148	3310	1312	2259	3571	1339	2131	3470	637	1106	1743	582	1096	1678
FO/LSHS	5167	794	5961	5665	968	6632	6009	1142	7150	3122	617	3739	2800	601	3401
Bitumen	4366	707	5073	4819	1118	5938	4721	1214	5936	2053	523	2577	1891	545	2436
PetCoke	2391	12167	14557	3483	15815	19297	3952	20012	23964	1701	11256	12957	2322	9416	11737
Others	2085	3785	5870	2299	4053	6352	2799	3795	6593	1266	2037	3302	1690	2030	3720
Total	137616	27904	165520	147535	37139	184674	150904	43693	194597	74217	22974	97191	77086	21569	98655

Source: Oil companies

Note : Private consumption also include private imports



Analysis • Knowledge • Information

Chapter-7

LPG

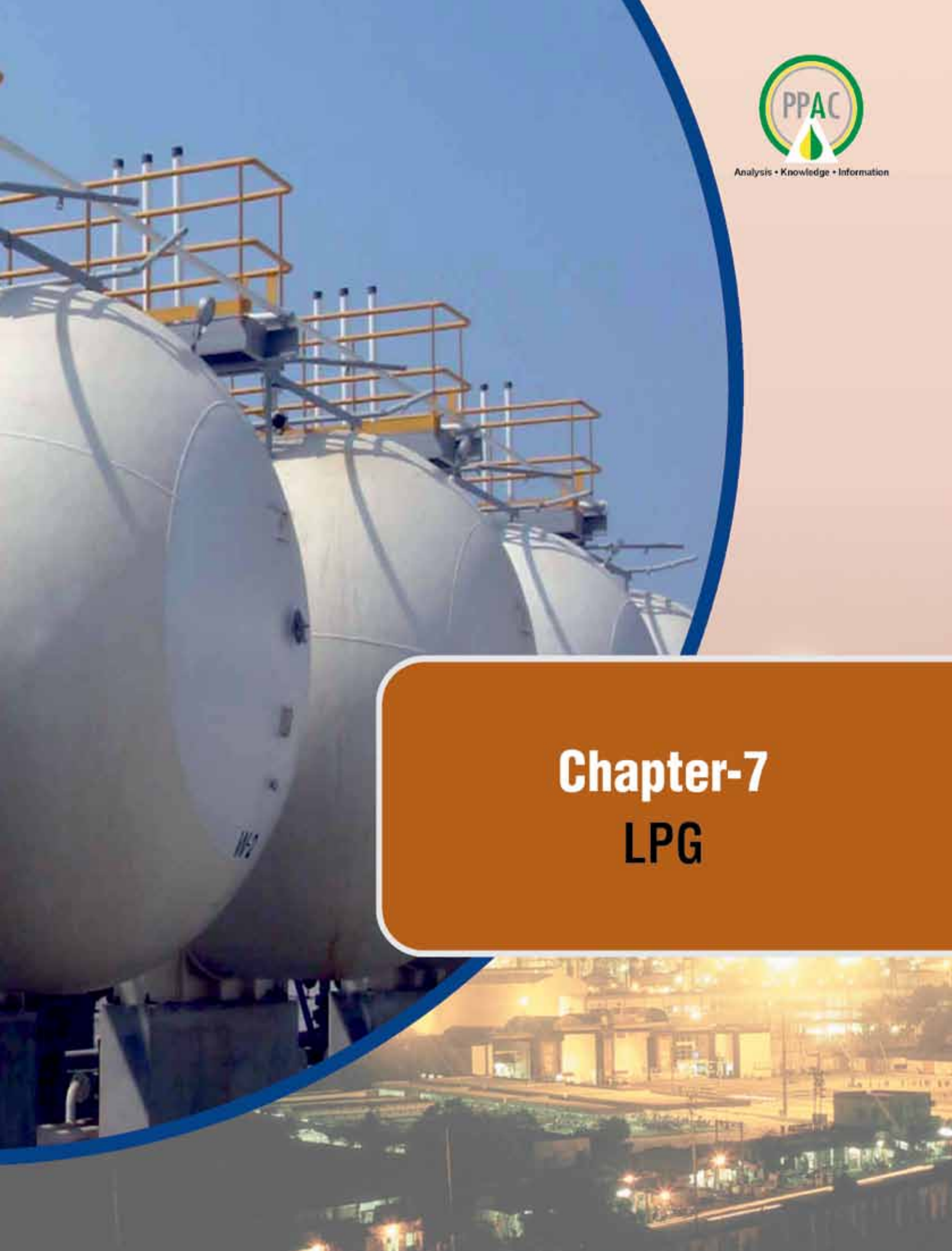


Table 7.1 : LPG marketing at a glance

(Thousand metric tonne)						
Particulars	2013-14	2014-15	2015-16	2016-17	Apr-Sep 2016	Apr-Sep 2017 (P)
LPG Production	10032	9840	10600	11252	5301	5802
LPG Consumption	16294	18000	19623	21608	10257	11269
PSU Sales	15925	17571	19134	21179	10033	11052
Domestic	14412	16040	17182	18871	8943	9795
Non-Domestic	1074	1051	1464	1776	831	976
Bulk	246	316	317	364	178	188
Auto LPG	194	164	171	167	82	93
Imports						
PSU Imports	6199	7884	8470	10668	4593	4985
Private Imports	369	429	489	429	223	218
(Number in lakhs)						
Enrolment (domestic)	159.1	163.4	204.5	331.7	140.2	168.2
As on	1.4.2014	1.4.2015	1.4.2016	1.4.2017	1.10.2016	1.10.2017
LPG Customers (registered)	1682.6	1840.1	2041.1	2371.4	2180.6	2537.8
of which						
Domestic customers	1662.6	1819.0	2017.9	2346.1	2156.4	2511.3
Non-domestic customers	20.1	21.1	23.3	25.3	24.2	26.5
LPG Active domestic customers	-	1485.6	1662.5	1987.6	1810.2	2140.4
DBC Customers (registered)	827.4	917.0	1019.0	1089.3	1056.4	1123.2
(Nos.)						
LPG Distributors	13896	15930	17916	18786	18214	19223
of which						
Shehri Vitrak	7172	7334	7492	7677	7558	7739
Rurban Vitrak	1885	2263	2852	3152	2948	3302
Gramin & Durgam Kshetriya Vitrak	4839	6333	7572	7957	7708	8182
Auto LPG dispensing stations (ALDS)	678	681	676	675	677	677
LPG Markets (excluding RGGLVY)	5245	5485	5805	6015	5880	6176
(Thousand metric tonne per annum)						
Bottling capacity (rated)	13515	14044	15172	16264	15502	16504
(Thousand metric tonne)						
Gross tankage	777	781	869	878	874	881

Source: Oil companies & Directorate General of Commercial Intelligence and Statistics (DGCIS)

Note:

1. Data in respect of enrolment, customers, distributors, ALDS and rated bottling capacity pertains to PSU OMCs only.
2. Gross tankage includes LPG tankage at all refineries and fractionators, PSU OMCs bottling plants and LPG tankage available to PSU OMCs at import locations.
3. MOPNG vide letter no. P-20019/2/2016-LPG dated 23 June 2016 had issued unified guidelines for selection of LPG distributors. In the said guidelines, LPG distributor categories have been redefined. The historical data on LPG distributors has been rearranged in line with the new classification for comparison.

Table 7.2 : Number of LPG distributors as on 01.10.2017 (P)
Figures in Numbers

State/UT	Sheheri Vitrak	Rurban Vitrak	Gramin Vitrak	Durgam Kshetriya Vitrak	Total
Chandigarh	27	0	0	0	27
Delhi	320	0	0	0	320
Haryana	248	90	132	37	507
Himachal Pradesh	69	12	64	22	167
Jammu & Kashmir	128	39	33	50	250
Punjab	335	205	178	63	781
Rajasthan	418	156	318	179	1071
Uttar Pradesh	987	649	966	437	3039
Uttarakhand	109	100	31	17	257
Sub Total North	2641	1251	1722	805	6419
Arunachal Pradesh	5	5	24	29	63
Assam	129	106	136	87	458
Manipur	15	13	15	40	83
Meghalaya	22	9	9	10	50
Mizoram	11	6	12	25	54
Nagaland	15	11	11	24	61
Sikkim	8	1	3	3	15
Tripura	17	9	26	11	63
Sub Total North-East	222	160	236	229	847
Andaman & Nicobar Islands	0	2	3	0	5
Bihar	238	231	376	245	1090
Jharkhand	161	38	77	122	398
Odisha	172	86	117	214	589
West Bengal	397	139	316	195	1047
Sub Total East	968	496	889	776	3129
Chhattisgarh	103	73	57	193	426
Dadra & Nagar Haveli	2	0	0	0	2
Daman & Diu	3	0	0	0	3
Goa	44	2	5	0	51
Gujarat	416	109	122	121	768
Madhya Pradesh	464	212	137	437	1250
Maharashtra	974	169	391	237	1771
Sub Total West	2006	565	712	988	4271
Andhra Pradesh	314	182	291	114	901
Karnataka	516	124	212	173	1025
Kerala	225	119	224	33	601
Lakshadweep	1	0	0	0	1
Puducherry	15	9	2	1	27
Tamil Nadu	558	305	307	130	1300
Telangana	273	91	244	94	702
Sub Total South	1902	830	1280	545	4557
All India	7739	3302	4839	3343	19223

Source: PSU OMCs (IOCL, BPCL and HPCL)

Note: MOPNG vide letter no. P-20019/2/2016-LPG dated 23 June 2016 has issued unified guidelines for selection of LPG distributors. In the said guidelines, LPG distributor categories have been redefined as above.

Table 7.3 : LPG domestic customer population (registered) of PSU OMCs as on 01.10.2017 (P)

(Number in lakhs)		
State/UT	Total	Double bottle connection (DBC)
Chandigarh	4.31	2.84
Delhi	65.67	43.34
Haryana	67.86	37.85
Himachal Pradesh	21.37	12.00
Jammu & Kashmir	29.14	15.34
Punjab	91.15	46.96
Rajasthan	129.90	68.63
Uttar Pradesh	343.49	117.87
Uttarakhand	29.59	14.06
Sub Total North	782.47	358.89
Arunachal Pradesh	2.88	2.11
Assam	47.00	18.42
Manipur	4.80	3.40
Meghalaya	2.25	1.36
Mizoram	3.18	2.26
Nagaland	2.68	2.16
Sikkim	1.82	1.00
Tripura	5.76	2.82
Sub Total North East	70.36	33.53
Andaman & Nicobar Islands	1.05	0.95
Bihar	129.65	41.18
Jharkhand	34.45	14.34
Odisha	59.32	19.02
West Bengal	182.33	61.69
Sub Total East	406.80	137.18
Chhattisgarh	41.09	14.97
Dadra & Nagar Haveli	0.91	0.57
Daman & Diu	0.76	0.44
Goa	5.99	4.61
Gujarat	102.62	65.55
Madhya Pradesh	119.18	45.10
Maharashtra	269.42	132.41
Sub Total West	539.98	263.64
Andhra Pradesh	158.87	43.84
Karnataka	140.40	79.76
Kerala	92.80	66.13
Lakshadweep	0.05	0.04
Puducherry	4.06	2.28
Tamil Nadu	202.23	100.84
Telangana	113.27	37.05
Sub Total South	711.68	329.94
All India	2511.29	1123.18

Source: PSU OMCs (IOCL, BPCL and HPCL)

Table 7.4: LPG coverage (estimated) as on 01.10.2017 (P)

(Number in lakhs)				
State/UT	No. of households Census 2011	Estimated house-holds as on 01.10.2017	Active connections as on 01.10.2017	LPG coverage (%)
Chandigarh	2.35	2.62	2.72	103.8
Delhi	33.41	38.07	48.20	126.6
Haryana	47.18	53.36	56.73	106.3
Himachal Pradesh	14.77	16.02	14.49	90.4
Jammu & Kashmir	20.15	23.28	21.68	93.1
Punjab	54.10	59.05	71.50	121.1
Rajasthan	125.81	143.46	117.41	81.8
Uttar Pradesh	329.24	373.03	289.71	77.7
Uttarakhand	19.97	22.44	21.95	97.8
Sub Total North	646.98	731.32	644.38	88.1
Arunachal Pradesh	2.62	3.06	2.04	66.5
Assam	63.67	70.84	36.44	51.4
Manipur	5.07	5.69	3.68	64.6
Meghalaya	5.38	6.37	1.58	24.8
Mizoram	2.21	2.55	2.50	97.8
Nagaland	4.00	3.98	1.88	47.3
Sikkim	1.28	1.39	1.20	86.6
Tripura	8.43	9.25	4.61	49.8
Sub Total North East	92.66	103.14	53.93	52.3
Andaman & Nicobar Islands	0.93	0.97	0.72	74.2
Bihar	189.41	221.08	119.09	53.9
Jharkhand	61.82	70.93	29.68	41.8
Odisha	96.61	105.52	51.98	49.3
West Bengal	200.67	218.90	169.52	77.4
Sub Total East	549.44	617.40	371.00	60.1
Chhattisgarh	56.23	64.59	36.08	55.9
Dadra & Nagar Haveli	0.73	1.00	0.81	80.8
Daman & Diu	0.60	0.82	0.57	70.0
Goa	3.23	3.40	4.64	136.4
Gujarat	121.82	137.30	83.18	60.6
Madhya Pradesh	149.68	169.68	101.08	59.6
Maharashtra	238.31	263.41	233.85	88.8
Sub Total West	570.59	640.19	460.21	71.9
Andhra Pradesh	126.04	135.17	130.19	96.3
Karnataka	131.80	145.33	124.85	85.9
Kerala	77.16	79.65	81.54	102.4
Lakshadweep	0.11	0.11	0.04	36.2
Puducherry	3.01	3.57	3.50	98.0
Tamil Nadu	184.93	203.92	178.72	87.6
Telangana	84.21	90.30	92.03	101.9
Sub Total South	607.26	658.06	610.87	92.8
All India	2466.93	2750.12	2140.39	77.8

Source: PSU OMCs (IOCL, BPCL and HPCL)

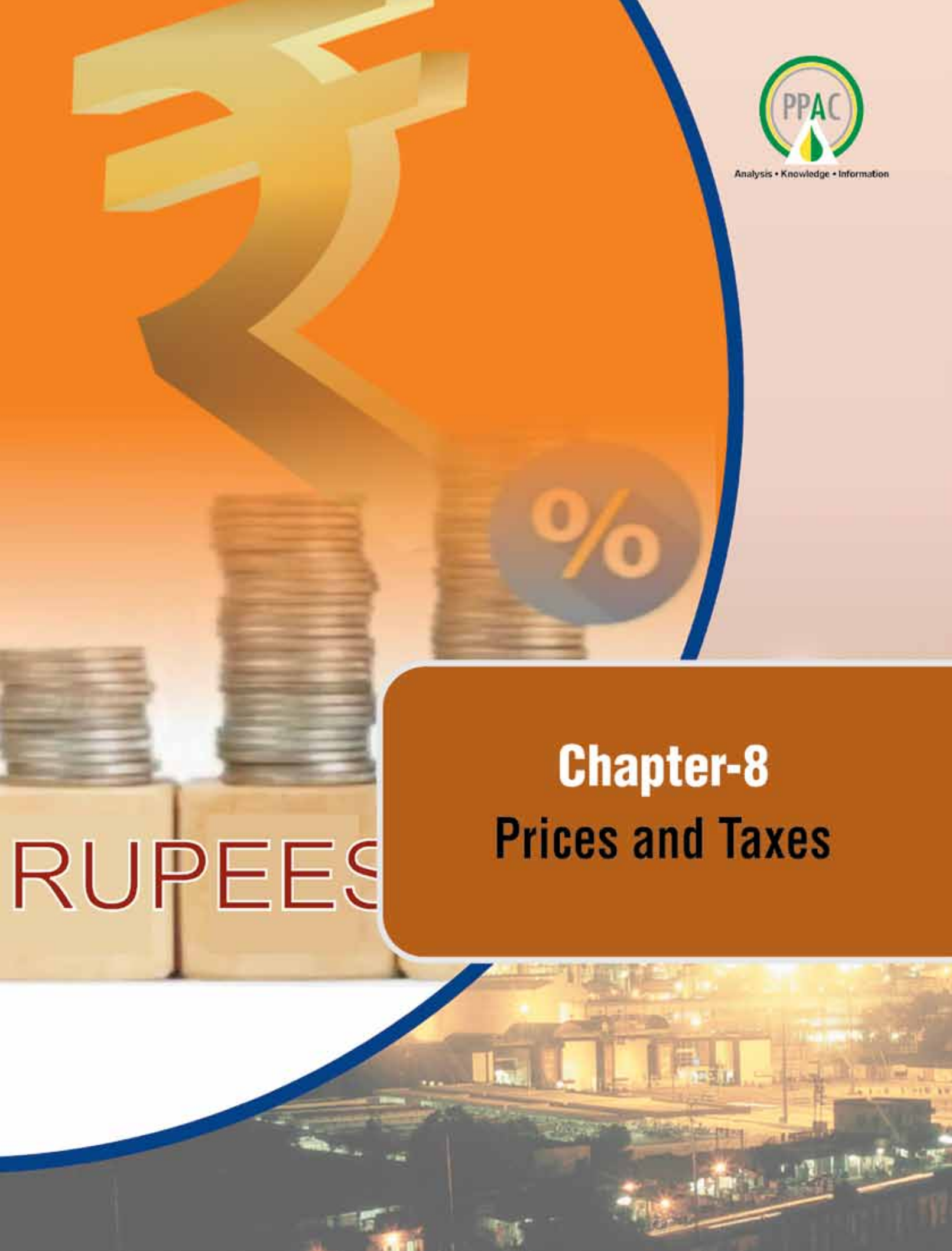
Table 7.5 : LPG domestic customers enrolment (14.2 kg/5 kg) by PSU OMCs
(Number in lakhs)

State/UT	2016-17			Apr-Sep 2017		
	14.2 Kg	5 Kg	Total	14.2 Kg	5 Kg	Total
Chandigarh	0.14	0.0000	0.14	0.05	0.0000	0.05
Delhi	1.90	0.0003	1.90	0.85	0.0001	0.85
Haryana	7.10	0.0000	7.10	2.82	0.0000	2.82
Himachal Pradesh	0.71	0.0000	0.71	0.55	0.0000	0.55
Jammu & Kashmir	3.84	0.0016	3.84	1.92	0.0009	1.92
Punjab	7.39	0.0004	7.39	2.71	0.0001	2.71
Rajasthan	22.46	0.0002	22.46	8.21	0.0001	8.21
Uttar Pradesh	77.33	0.0239	77.35	18.51	0.0049	18.52
Uttarakhand	2.55	0.0000	2.55	0.96	0.0000	0.96
Sub Total North	123.40	0.0265	123.42	36.57	0.0060	36.58
Arunachal Pradesh	0.16	0.0000	0.16	0.12	0.0000	0.12
Assam	3.64	0.0000	3.64	4.07	0.0001	4.07
Manipur	0.28	0.0000	0.28	0.33	0.0000	0.33
Meghalaya	0.12	0.0000	0.12	0.16	0.0000	0.16
Mizoram	0.07	0.0000	0.07	0.04	0.0000	0.04
Nagaland	0.14	0.0001	0.14	0.11	0.0000	0.11
Sikkim	0.08	0.0000	0.08	0.06	0.0000	0.06
Tripura	0.39	0.0000	0.39	0.25	0.0000	0.25
Sub Total North East	4.88	0.0001	4.88	5.13	0.0001	5.13
Andaman & Nicobar Islands	0.08	0.0000	0.08	0.03	0.0000	0.03
Bihar	33.45	0.0053	33.45	20.40	0.0025	20.41
Jharkhand	7.10	0.0006	7.10	3.99	0.0002	3.99
Odisha	12.75	0.0144	12.76	7.48	0.0013	7.48
West Bengal	36.15	0.0002	36.15	24.80	0.0000	24.80
Sub Total East	89.53	0.0204	89.55	56.70	0.0040	56.70
Chhattisgarh	12.17	0.0003	12.17	5.35	0.0003	5.35
Dadra & Nagar Haveli	0.07	0.0000	0.07	0.10	0.0000	0.10
Daman & Diu	0.04	0.0000	0.04	0.02	0.0000	0.02
Goa	0.20	0.0001	0.21	0.09	0.0000	0.09
Gujarat	11.01	0.0000	11.01	6.28	0.0000	6.28
Madhya Pradesh	26.04	0.0004	26.04	7.61	0.0037	7.61
Maharashtra	22.97	0.0005	22.97	13.64	0.0002	13.64
Sub Total West	72.49	0.0012	72.50	33.09	0.0041	33.09
Andhra Pradesh	10.67	0.0000	10.67	13.39	0.4739	13.86
Karnataka	9.72	0.0072	9.73	10.07	0.0021	10.07
Kerala	3.14	0.0000	3.14	1.71	0.0000	1.71
Lakshadweep	0.00	0.0000	0.00	0.00	0.0000	0.00
Puducherry	0.12	0.0000	0.12	0.07	0.0000	0.07
Tamil Nadu	11.73	0.0000	11.73	8.02	0.0000	8.02
Telangana	6.00	0.0001	6.00	2.93	0.0000	2.93
Sub Total South	41.38	0.0074	41.39	36.20	0.4760	36.67
All India	331.68	0.0557	331.73	167.69	0.4903	168.18

Source: PSU OMCs (IOCL, BPCL and HPCL)



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Chapter-8

Prices and Taxes

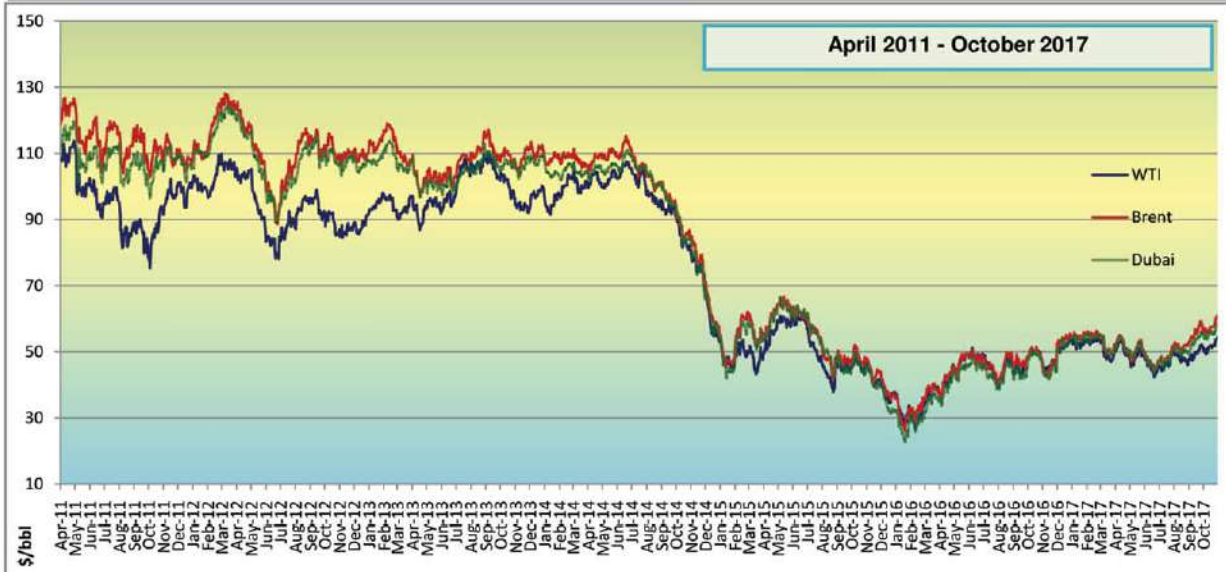
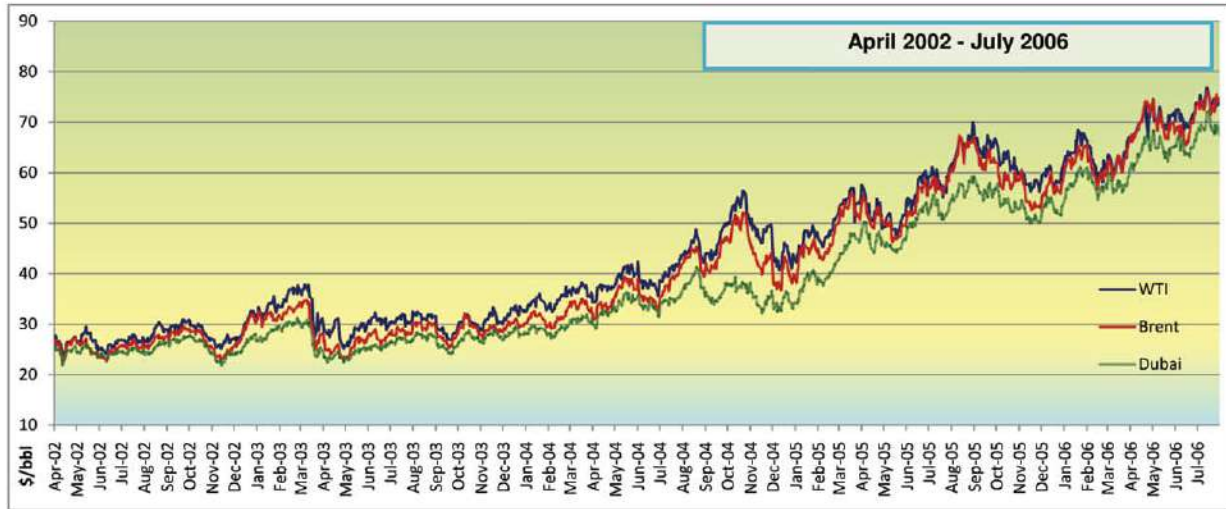
RUPEES

Table 8.1 : Price of crude oil in India

Year	Indian basket crude oil (\$/bbl)
2002-03	26.60
2003-04	27.98
2004-05	39.21
2005-06	55.72
2006-07	62.46
2007-08	79.25
2008-09	83.57
2009-10	69.76
2010-11	85.09
2011-12	111.89
2012-13	107.97
2013-14	105.52
2014-15	84.16
2015-16	46.18
2016-17	47.56
2017-18 (up to 31.10.2017)	51.20
2017 : Month wise	
Jan-17	54.08
Feb-17	54.86
Mar-17	51.47
Apr-17	52.49
May-17	50.57
Jun-17	46.56
Jul-17	47.86
Aug-17	50.63
Sep-17	54.52
Oct-17	56.06

Note : The Indian basket of Crude Oil (for 2017-18) represents a derived basket comprising of Sour grade (Oman & Dubai average) and Sweet grade (Brent Dated) of Crude oil processed in Indian refineries in the ratio of 72.38:27.62 during 2016-17.

Trend in prices of International benchmark crude oils



Trend in price of Indian basket crude oil and petroleum products in international markets

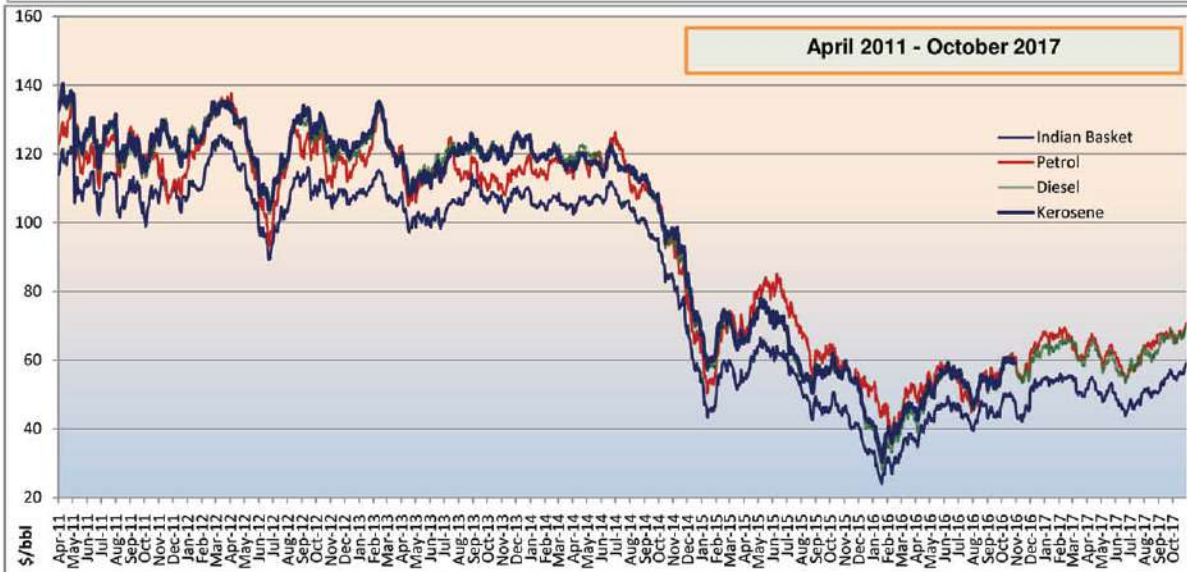


Table 8.2 : Price build-up of PDS SKO at Mumbai

Sl. no.	Elements	Unit	Effective 15.11.2017
1*	FOB Price at Arab Gulf of jet / kero (kerosene)	\$/bbl	67.34
2*	Add: Ocean freight from AG to Indian ports	\$/bbl	1.38
3	C&F (cost & freight) price	\$/bbl	68.72
	or	₹/litre	27.78
4*	Import charges (insurance/ocean loss/ LC charge/port dues)	₹/litre	0.22
5*	Customs duty	₹/litre	NIL
6*	Import Parity Price (IPP) (at 29.5^a C) (sum of 3 to 5)	₹/litre	28.00
7*	Refinery Transfer Price (RTP) for PDS Kerosene** (price paid by the oil marketing companies to refineries)	₹/litre	28.00
8*	Add : Inland freight and delivery charges	₹/litre	0.77
9*	Add : Marketing cost of OMCs	₹/litre	0.37
10*	Add : Marketing margin of OMCs	₹/litre	0.23
11	Total cost price (sum of 7 to 10) (Before GST and wholesale & retail dealer commission)	₹/litre	29.37
12*	Less: Under-recovery to OMCs	₹/litre	10.31
13	Price charged to dealers (depot price) (11-12) (Excluding GST)	₹/litre	19.05
14*	Add : Wholesale & retail dealer commission and other charges fixed by state Government	₹/litre	1.80
15*	Add : GST (including GST on wholesale & retail dealer commission) @5%	₹/litre	1.04
16	Retail Selling Price (RSP) at Mumbai *** (sum of 13 to 15)	₹/litre	21.89

* The explanatory notes are given in Table 8.3.

**Monthly RTP is weighted average of all Indian pricing ports.

*** The price revision is subject to notification from the state Govt.

Table 8.3 : Element wise explanation of price build up of PDS kerosene

Sl. no.	Elements	Description
1	FOB price	FOB (free on board) daily quotes of jet/kerosene at Arab Gulf including premium / discount published by Platts and Argus publications are averaged for the previous month.
2	Ocean freight	Ocean freight from Arab Gulf to destination Indian ports as per World Scale freight rates adjusted for AFRA.
4	Import charges	Import charges comprises of insurance, ocean loss, LC charges & port dues applicable on import of product.
5	Customs duty	Customs duty on PDS kerosene is nil.
6	Import Parity Price (IPP)	IPP represents the price that importers would pay in case of actual import of kerosene at the respective Indian ports.
7	Refinery Transfer Price (RTP)	RTP based on Import Parity Price is the price paid by OMCs to refineries.
8	Inland freight & delivery charges	It comprises of average freight from ports to inland locations and delivery charges.
9 & 10	Marketing cost & margin	Marketing cost & margin are as fixed in the 'PDS Kerosene and LPG (Domestic) Subsidy Scheme, 2002'.
12	Under recovery to OMCs	Difference between desired price (based on import parity) and actual selling price (excluding GST, wholesale & retail dealer commission and other charges) represents under-recoveries to OMCs.
14	Wholesale & retail dealer commission and other charges fixed by state Government	Commission fixed for wholesale & retail dealer and other charges like delivery charges by district authorities / state Government.
15	GST	GST Rate as applicable on PDS SKO is 5%.

Table 8.4 : Price build-up of domestic LPG at Delhi

Sl. no.	Elements	Unit	Effective 01.11.2017
1*	FOB Price at Arab Gulf (AG) of LPG	\$/MT	564.88
2*	Add: Ocean freight from AG to Jamnagar	\$/MT	16.05
3	C&F (Cost & Freight) price	\$/MT	580.92
	or	₹/cylinder	537.47
4*	Import charges (insurance/ocean loss/ LC charge/port dues)	₹/cylinder	4.89
5*	Customs Duty	₹/cylinder	NIL
6*	Import Parity Price (IPP) (sum of 3 to 5)	₹/cylinder	542.36
7*	Refinery Transfer Price (RTP) for domestic LPG (price paid by the oil marketing companies to refineries)	₹/cylinder	542.36
8*	Add: Storage / distribution cost & return on investment	₹/cylinder	9.82
9*	Add: Bottling charges	₹/cylinder	20.58
10*	Add: Charges for cylinder cost	₹/cylinder	18.11
11*	Add: Inland freight	₹/cylinder	30.56
12	Bottling plant cost before stock loss and working capital (sum of 7 to 11)	₹/cylinder	621.43
13*	Add: Cost of working capital	₹/cylinder	2.81
14	Cost price at LPG bottling plant (sum of 12 to 13)	₹/cylinder	624.23
15*	Add: Delivery charges	₹/cylinder	10.00
16*	Add : Uncompensated Costs	₹/cylinder	23.63
17	Market determined price (sum of 14 to 16)	₹/cylinder	657.86
18*	Add : GST(including GST on Distributor Commission) @5%	₹/cylinder	35.36
19*	Add : Distributor commission	₹/cylinder	49.25
20	Retail Selling Price (RSP) (sum of 17 to 19)	₹/cylinder	742.47
21	RSP at Delhi (Rounded)	₹/cylinder	742.00
22*	Less: Cash compensation on LPG by Government to consumers under DBTL	₹/cylinder	222.68
23*	Less: Cash compensation on LPG by OMCs, towards 'Uncompensated Costs' charged in the current RSP, to consumers	₹/cylinder	23.63
24	Effective cost to consumer after subsidy (21-22-23)	₹/cylinder	495.69

* The explanatory notes are given in table 8.5.

Table 8.5 : Element wise explanation of price build up of domestic LPG

Sl. no.	Elements	Description
1	FOB price	FOB (free on board) of LPG is weighted average of Saudi Aramco contract price (CP) for butane (60%) & propane (40%) for previous month and also includes daily quotes of premium / discount (published by Platts Gaswire) averaged for the previous month.
2	Ocean freight	Ocean freight from Arab Gulf to destination Indian port (i.e. Jamnagar) based on charter hire rates obtained from Clarkson Shipping Intelligence weekly.
4	Import charges	Import charges comprises of insurance, ocean loss, LC charges & port dues applicable on import of LPG.
5	Customs duty	Customs duty on domestic LPG is nil.
6	Import Parity Price (IPP)	IPP represents the price that importers would pay in case of actual import of product at the respective Indian ports. Import parity principle is as envisaged in the 'PAHAL (DBTL) Scheme, 2014'.
7	Refinery Transfer Price (RTP)	RTP is based on import parity price. This is the price paid by the oil marketing companies to domestic refineries for purchase of finished petroleum products at refinery gate.
8	Storage/distribution cost & return on investment	Storage/distribution cost & return on investment as fixed under notified 'PAHAL (DBTL) Scheme, 2014'.
9	Bottling charges	The cost incurred towards filling LPG in 14.2 Kg. cylinders as per notified 'PAHAL (DBTL) Scheme, 2014'.
10	Charges for cylinder cost	
11	Inland freight	It comprises of freight from port to inland locations i.e. bottling plant.
13	Cost of working capital	Interest on working capital for 18 days stock holding at SBI prime lending rate (PLR) as fixed under notified 'PAHAL (DBTL) Scheme, 2014'.
15	Delivery charges	It comprises of freight from bottling plant to distributor.
16	Uncompensated costs (import costs, recovery for non-revision, rounding-off & delivery charges)	In the price buildup, oil marketing companies are charging the consumers on account of import costs, rounding-off & differential delivery charges. All these costs are not compensated to OMCs as per the PAHAL (DBTL) scheme.
18	GST	GST rate as applicable on Domestic LPG is 5%
19	Distributor commission	LPG distributor commission ₹ 49.25/Cylinder (including additional distributor commission) is as approved by MoP&NG.
22 & 23	Cash compensation to consumer under DBTL (including impact of uncompensated cost to OMCs)	Under DBTL Scheme, the difference between the price of domestic subsidized & non-subsidized LPG is being transferred to the bank account of consumers by OMCs. This also includes the uncompensated amount (as per S.No.16 above) which is borne by the OMCs.

Table 8.6 : Summarised buildup of Retail Selling Price (RSP) of petrol at Delhi

w.e.f. 1st November 2017

Particulars	₹/Litre *
Refinery Transfer Price (RTP) on landed cost basis for BS IV petrol (price paid by the Oil Marketing Companies (OMCs) to refineries)	28.37
Price charged to dealers (excluding excise duty and VAT)	31.39
Add : Excise duty	19.48
Add : Dealer's commission	3.57
Add : VAT (including VAT on dealer's commission) applicable for Delhi @ 27%	14.70
RSP at Delhi (rounded)	69.14

*As per IOCL.

Table 8.7 : Summarised buildup of Retail Selling Price (RSP) of diesel at Delhi

w.e.f. 1st November 2017

Particulars	₹/Litre *
Refinery Transfer Price (RTP) on landed cost basis for BS IV diesel (price paid by the Oil Marketing Companies (OMCs) to refineries)	29.01
Price charged to dealers (excluding excise duty and VAT)	31.36
Add : Excise duty	15.33
Add : Dealer's commission	2.51
Add : VAT (including VAT on dealer's commission) applicable for Delhi @ 16.75% & Air ambience charges (pollution cess) ₹ 250/KL	8.53
RSP at Delhi (rounded)	57.73

*As per IOCL.

Table 8.8 : Summarised buildup of Retail Selling Price (RSP) of PDS kerosene at Mumbai

 w.e.f. 15th November 2017

Particulars	₹ / litre
Refinery Transfer Price (RTP) for PDS kerosene (price paid by the Oil Marketing Companies (OMCs) to refineries)	28.00
Total cost price -before GST and dealer's commission	29.37
Less: Under-recovery to OMCs	10.31
Price charged to dealers (depot price) - excluding GST and dealer's commission	19.05
Add : Wholesaler & retailer commission and other charges fixed by state Government	1.80
Add : GST (including GST on Wholesale & Retailer Commission) @5%	1.04
RSP at Mumbai (rounded)	21.89

Table 8.9 : Summarised buildup of Retail Selling Price (RSP) of domestic LPG at Delhi

 w.e.f. 1st November 2017

Particulars	₹/14.2 KG Cylinder
Refinery Transfer Price (RTP) for domestic LPG (price paid by the Oil Marketing Companies (OMCs) to refineries)	542.36
Price charged to distributor (market determined price)	657.86
Add : Distributors' commission	49.25
Add : GST(including GST on Distributor Commission) @5%	35.36
RSP at Delhi (rounded)	742.00
Less: Cash compensation by Government to consumers under DBTL	222.68
Less: Cash compensation by OMCs towards 'Uncompensated Costs' charged in the current RSP to consumers	23.63
Effective cost to consumer after subsidy	495.69

Share of taxes in Retail Selling Price (RSP) of petroleum products

 Table 8.10 : Share of taxes in RSP of petrol effective 1st November 2017 at Delhi

Particulars	₹/Litre	Share in RSP
Price excluding taxes and dealers' commission	30.81	44.6%
Customs duty	0.58	
Excise duty	19.48	
Total central taxes	20.06	29.0%
Price charged to dealers - depot price	50.87	
VAT (Including VAT on dealer's commission)	14.70	
Total state taxes	14.70	21.3%
Total taxes	34.76	50.3%
Dealer's commission	3.57	5.2%
RSP per litre (rounded)	69.14	100.0%

 Table 8.11 : Share of taxes in RSP of diesel effective 1st November 2017 at Delhi

Particulars	₹/Litre	Share in RSP
Price excluding taxes and dealer's commission	30.77	53.3%
Customs duty	0.59	
Excise duty	15.33	
Total central taxes	15.92	27.6%
Price charged to dealers - depot price	46.69	
VAT (Including VAT on dealer's commission)	8.53	
Total state taxes	8.53	14.8%
Total taxes	24.45	42.4%
Dealer's commission	2.51	4.3%
RSP per litre (rounded)	57.73	100.0%

 Table 8.12 : Break up of current excise duty on petrol & diesel (effective 4th October 2017)

Particular	(₹/Litre)	
	Petrol	Diesel
Basic duty	6.48	8.33
Additional excise duty (road cess)	6.00	6.00
Special additional excise duty	7.00	1.00
Total excise duty	19.48	15.33

Note :

1. The prices of petrol and diesel are as per IOCL at Delhi.
2. Customs duty on petrol and diesel as per RTP for 1st November 2017.

Share of taxes in Retail Selling Price (RSP) of petroleum products

Table 8.13 : Share of taxes in RSP of PDS kerosene effective 15th November 2017 at Mumbai

Particulars	₹/Litre	Share in RSP
Total price before Government levies	29.36	
Less : Under-recovery to OMCs	10.31	
Price excluding taxes and dealers' commission	19.05	87.0%
Customs duty	-	
GST (Including GST on wholesaler and retailer commission)	1.04	
Total taxes	1.04	4.8%
Wholesaler and retailer commission	1.80	8.2%
RSP per litre (rounded)	21.89	100.0%

Table 8.14 : Share of taxes in RSP of domestic LPG effective 1st November 2017 at Delhi

Particulars	₹/Cylinder	Share in RSP
Price excluding taxes and distributors' commission	657.86	88.7%
Customs duty	-	
GST (including GST on distributors' commission)	35.36	
Total taxes	35.36	4.8%
Distributor's commission	49.25	6.6%
RSP per cylinder (rounded)	742.00	100.0%
Less: Cash compensation by Government to consumers under DBTL	222.68	
Less: Cash compensation by OMCs towards 'Uncompensated Costs' charged in the current RSP to consumer	23.63	
Effective cost to consumer after DBTL subsidy	495.69	

Table 8.15 : Weightage of petroleum products in Wholesale Price Index (WPI)

Product	Weight in %
High Speed Diesel (HSD)	3.10
Petrol	1.60
Naphtha	0.87
Furnace Oil (FO)	0.67
LPG	0.64
Aviation Turbine Fuel (ATF)	0.32
Lube Oils	0.29
Bitumen	0.23
Kerosene	0.19
Petroleum Coke	0.05
Total	7.96

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

Table 8.16 : Estimated impact of increase in Retail Selling Price (RSP) of major petroleum products on inflation (WPI index)

Product	Increase in RSP	Increase in inflation (WPI index)
Petrol	₹ 1/ litre	0.03%
Diesel	₹ 1/ litre	0.06%
PDS kerosene	₹ 1/ litre	0.01%
Domestic LPG	₹ 10/ cylinder	0.02%

Note: Based on September 2017 WPI index (2011-12 Series).

Important terms in pricing of petroleum products

- 1. Import Parity Price (IPP)** – IPP represents the price that importers would pay in case of actual import of product at the respective Indian ports. This includes the following elements:
 - i. FOB Price, ii. Ocean freight, iii. Insurance, iv. Customs duty, v. Port dues etc.
- 2. Export Parity Price (EPP)** - EPP represents the price which oil companies would realize on export of petroleum products. This includes the following elements:
 - i. FOB Price
 - ii. Advance licence benefit for duty free import of crude oil pursuant to export of refined products (currently nil)
- 3. Refinery Gate Price (RGP):** This is the price paid by the Oil Marketing Companies to refineries for purchase of finished petroleum products at refinery gate.
- 4. Retail Selling Price (RSP):** This is the final price, inclusive of all duties and taxes, charged to the consumer.

Dealer's / distributor's commission on petroleum products

Table 8.17 : Dealer's commission on petrol & diesel

(Figures in ₹ /KL)

Effective date	Petrol	Diesel
As on 1-Apr-04	707.00	425.00
21-Jun-05	778.00	467.00
01-Aug-05	848.00	509.00
01-Mar-07	894.00	529.00
16-May-07	1024.00	600.00
23-May-08	1052.00	631.00
27-Oct-09	1125.00	673.00
07-Sep-10	1218.00	757.00
01-Jul-11	1499.00	912.00
27-Oct-12	1794.00	1089.00
21-Dec-13	₹ 1390.15/KL + 0.883% of product billable price	1186.00
23-Oct-14	₹ 1499.37/KL + 0.887% of product billable price	₹ 1116.09/KL + 0.290% of product billable price
01-Aug-15	₹ 1749.86/KL + 0.883% of product billable price	₹ 1301.70/KL + 0.286% of product billable price
16-Nov-15	₹ 1750.08/KL + 0.883% of product billable price	₹ 1301.88/KL + 0.286% of product billable price
01-Jun-16	₹ 1750.29/KL + 0.883% of product billable price	₹ 1302.06/KL + 0.286% of product billable price
05-Oct-16	₹ 1868.14/KL + 0.875% of Product Billable Price	₹ 1389.35/KL + 0.280% of Product Billable Price
16-Nov-16	₹ 2006.33/KL + 0.875% of Product Billable Price	₹ 1491.72/KL + 0.28% of Product Billable Price
01-Apr-17	₹ 2020.38/KL + 0.859% of Product Billable Price	₹ 1502.13/KL + 0.267% of Product Billable Price
01-Jul-17	₹ 2025.97/KL + 0.859% of Product Billable Price	₹ 1506.81/KL + 0.267% of Product Billable Price
01-Aug-17	₹ 2674.74/KL + 0.859% of Product Billable Price	₹ 2031.38/KL + 0.257% of Product Billable Price

Note: In addition, effective 1st August 2017 slab based incentives is also given to eligible dealers through credit notes.

Table 8.18 : Wholesale dealer's commission on PDS kerosene

(₹/KL)

Effective date	With Form XV	Other than Form XV
As on 01-April-04	204.00	161.00
01-Mar-07	243.00	200.00
24-May-08	255.00	212.00
07-Jul-09	263.00	220.00
07-Sep-10	275.00	232.00
28-Dec-12	438.24	377.73
21-Oct-14	536.09	475.58
05-Feb-16	714.18	649.16
28-Oct-16	787.82	723.87
05-Sep-17	1008.83	928.10

Table 8.19: Distributor's commission on domestic LPG

(₹/ Cylinder)

Effective date	14.2 KG cyl.	Additional commission for sale at market determined price (₹/14.2 KG cyl.)	5 KG cyl.
As on 01-April-04	16.71	NA	8.60
01-Mar-07	19.05	NA	9.81
04-Jun-08	20.54	NA	10.58
30-Jun-09	21.94	NA	11.30
01-Jul-11	25.83	NA	13.30
07-Oct-12	37.25	0.75	18.63
11-Dec-13	40.71	0.75	20.36
23-Oct-14	44.06	0.82	22.03
09-Dec-15	45.83	0.26	22.67
01-Jan-16	45.83	0.33	22.67
01-Feb-16	45.83	0.22	22.67
01-Mar-16	45.83	0.13	22.67
01-May-16	45.83	0.15	22.67
01-Jun-16	45.83	0.18	22.67
01-Jul-16	45.83	0.16	22.67
01-Aug-16	45.83	0.09	22.67
01-Sep-16	45.83	0.06	22.67
01-Oct-16	45.83	0.09	22.67
28-Oct-16	47.48	0.09	23.74
01-Nov-16	47.48	0.14	23.74
01-Dec-16	47.48	0.21	23.74
01-Feb-17	47.48	0.30	23.74
01-Mar-17	47.48	0.43	23.74
01-Apr-17	47.48	0.40	23.74
01-May-17	47.48	0.27	23.74
01-Jun-17	47.48	0.15	23.74
01-Jul-17	47.48	0.13	23.74
01-Aug-17	47.48	0.06	23.74
01-Sep-17	47.48	0.16	23.74
30-Sep-17	48.89	0.16	24.20
01-Oct-17	48.89	0.23	24.20
01-Nov-17	48.89	0.36	24.20

Source: MoP&NG circulars & OMCs

Table 8.20 : Revisions in RSP of petroleum products at Delhi since 01.04.2010

Date	Petrol	Diesel	PDS kerosene	Domestic LPG	Reason
	(₹/litre)			(₹/14.2 Kg cyl.)	
01.04.2010	47.93	38.10	9.32	310.35	Prices as on 1.4.2010
26.06.2010	51.43	40.10	12.32	345.35	Increase in prices
01.07.2010	51.45	40.12			Increase in siding - shunting charges
20.07.2010		37.62			VAT reduction in Delhi
08.09.2010	51.56	37.71	12.33		Revision in dealer's commission
21.09.2010	51.83				Increase in price
17.10.2010	52.55				Increase in price
02.11.2010	52.59	37.75	12.37		Increase in siding - shunting charges
09.11.2010	52.91				Increase in price
16.12.2010	55.87				Increase in price
15.01.2011	58.37				Increase in price
18.01.2011			12.73		Increase in transportation charges
15.05.2011	63.37				Increase in price
25.06.2011		41.12	14.83	395.35	Increase in prices
01.07.2011	63.70	41.29		399.00	Increase in siding & shunting charges/ dealer's commission
16.09.2011	66.84				Increase in price
01.10.2011		40.91			Rebate of ₹ 0.375 per litre in VAT on Diesel at Delhi
04.11.2011	68.64				Increase in price
16.11.2011	66.42				Reduction in price
01.12.2011	65.64				Reduction in price
24.05.2012	73.18				Increase in price
03.06.2012	71.16				Reduction in price
18.06.2012	70.24	41.29			Rebate on petrol / Removal of rebate on diesel in Delhi
29.06.2012	67.78				Reduction in price
24.07.2012	68.48				Increase in price
01.08.2012	68.46	41.32			Revision in siding - shunting charges

Table 8.20: Continued

Date	Petrol	Diesel	PDS kerosene	Domestic LPG		Reason
	(₹/litre)			Subsidized	Non-subsidized	
				(₹/14.2 Kg cyl.)		
14.09.2012		46.95				Increase in price
18.09.2012					756.50	Price notified for non-subsidized domestic LPG
01.10.2012					883.50	Increase in price
03.10.2012			14.79			Revision in siding - shunting charges
07.10.2012				410.50	895.50	Increase in domestic LPG distributor's commission
09.10.2012	67.90					Reduction in price
27.10.2012	68.19	47.15				Increase in dealer's commission
01.11.2012					922.50	Increase in price
02.11.2012					895.50	Reduction in price
16.11.2012	67.24					Reduction in price
16.01.2013	67.56					Removal of rebate in VAT at Delhi
18.01.2013	67.26	47.65			942.00	Increase (diesel & non-subsidized domestic LPG)/ reduction (petrol) in prices
28.01.2013			14.96			Increase in dealer's commission
16.02.2013	69.06	48.16				Increase in prices
01.03.2013					904.50	Reduction in price
02.03.2013	70.74					Increase in price
16.03.2013	68.34					Reduction in price
23.03.2013		48.67				Increase in price
01.04.2013	68.31	48.63			901.50	Revision in siding - shunting charges / reduction in price of non-subsidized domestic LPG
02.04.2013	67.29					Reduction in price
16.04.2013	66.09	48.67				Reduction in petrol price/ Increase in delivery charges of diesel
01.05.2013	63.09				847.00	Reduction in prices
11.05.2013		49.69				Increase in price
01.06.2013	63.99	50.25			802.00	Increase (petrol and diesel) / reduction (non-subsidized domestic LPG) in prices
16.06.2013	66.39					Increase in price
29.06.2013	68.58					Increase in price & delivery charges of petrol
01.07.2013		50.26			832.00	Increase in delivery charges of diesel/ increase in price of non-subsidized domestic LPG
02.07.2013		50.84				Increase in price
15.07.2013	70.44					Increase in price
01.08.2013	71.28	51.40			875.00	Increase in prices
01.09.2013	74.10	51.97			932.50	Increase in prices
14.09.2013	76.06					Increase in price
01.10.2013	72.40	52.54			1004.00	Increase (diesel & non-subsidized domestic LPG)/ reduction (petrol) in price

Table 8.20: Continued

Date	Petrol	Diesel	PDS kerosene	Domestic LPG		Reason
	(₹/litre)			Subsidized	Non-subsidized	
				(₹/14.2 Kg cyl.)		
01.11.2013	71.02	53.10			954.50	Increase (diesel)/ reduction (petrol & non-subsidized domestic LPG) in price
01.12.2013		53.67			1017.50	Increase in prices
11.12.2013				414.00	1021.00	Increase in distributor's commission on domestic LPG
21.12.2013	71.52	53.78				Increase in price of petrol & Increase in dealer's commission on petrol and diesel
04.01.2014	72.43	54.34			1241.00	Increase in prices
01.02.2014		54.91			1134.00	Increase (diesel)/ reduction (non-subsidized domestic LPG) in price
01.03.2014	73.16	55.48			1080.50	Increase (petrol & diesel)/ reduction (non-subsidized domestic LPG) in Price
01.04.2014	72.26	55.49			980.50	Reduction in prices (petrol & non-subsidized domestic LPG)/ increase in delivery charges of diesel
16.04.2014	71.41					Reduction in price
01.05.2014					928.50	Reduction in price
16.05.2014		56.71				Increase in price
01.06.2014		57.28			905.00	Increase (diesel)/ reduction (non-subsidized domestic LPG) in price
07.06.2014	71.51					Increase in price
25.06.2014	71.56				906.00	Increase in rail freight
01.07.2014	73.60	57.84			922.50	Increase in prices
01.08.2014	72.51	58.40			920.00	Increase (diesel)/ reduction (petrol & non-subsidized domestic LPG) in price
16.08.2014	70.33					Reduction in price
31.08.2014	68.51	58.97				Increase (diesel)/ reduction (petrol) in price
01.09.2014					901.00	Reduction in price
01.10.2014	67.86				880.00	Reduction in price
15.10.2014	66.65					Reduction in price
19.10.2014		55.60				Reduction in price
23.10.2014				417.00	883.50	Increase in domestic LPG distributor's commission
01.11.2014	64.24	53.35	15.14*		865.00	Reduction in price/ price of PDS kerosene at Mumbai
01.12.2014	63.33	52.51			752.00	Reduction in prices
16.12.2014	61.33	50.51				Reduction in prices
01.01.2015					708.50	Reduction in price
17.01.2015	58.91	48.26				Reduction in prices
01.02.2015					605.00	Reduction in price
04.02.2015	56.49	46.01				Reduction in prices
16.02.2015	57.31	46.62	15.24			Increase in dealer's commission
01.03.2015	60.49	49.71			610.00	Increase in prices

Table 8.20 : Continued

Date	Petrol	Diesel	PDS kerosene	Domestic LPG		Reason
	₹/litre			RSP	Effective cost after DBTL subsidy#	
				₹/14.2 Kg cyl.)		
01.04.2015	60.00	48.50		621.00	417.82	Increase (non-subsidized domestic LPG)/ reduction (petrol and diesel) in prices
16.04.2015	59.20	47.20				Reduction in prices
1.05.2015	63.16	49.57		616.00		Increase (petrol and diesel) / reduction (domestic LPG) in prices
16.05.2015	66.29	52.28				Increase in prices
01.06.2015				626.50		Increase in price
16.06.2015	66.93	50.93				Increase (petrol) / reduction (diesel) in price
01.07.2015	66.62	50.22		608.50		Reduction in prices
16.07.2015	66.90	49.72				Reduction in price & increase in VAT rates at Delhi
01.08.2015	64.47	46.12		585.00		Reduction in prices
15.08.2015	63.20	44.95				Reduction in prices
01.09.2015	61.20	44.45		559.50		Reduction in prices
01.10.2015		44.95		517.50		Increase (diesel)/ reduction (domestic LPG) in price
16.10.2015		45.90				Increase in prices
01.11.2015	60.70	45.93		545.00		Decrease (petrol) / Increase (domestic LPG) in price / Increase in delivery charges of petrol & diesel
16.11.2015	61.06	46.80				Increase in prices
01.12.2015	60.48	46.55		606.50		Increase (domestic LPG)/ reduction (petrol and diesel) in price
09.12.2015				608.00	419.26	Increase in distributor's commission on domestic LPG
16.12.2015	59.98	46.09				Reduction in prices
01.01.2016	59.35	45.03		657.50	419.33	Increase (domestic LPG)/ reduction (petrol and diesel) in price / increase in additional distributor's commission on LPG
02.01.2016	59.35	45.03				Increase in excise duty on petrol and diesel without increase in RSPs
16.01.2016	59.03	44.18				Reduction in price along with increase in excise duty
19.01.2016	59.99	44.71				Increase in VAT rates at Delhi
31.01.2016	59.99	44.71				Increase in excise duty on petrol and diesel without increase in RSP
01.02.2016	59.95	44.68		575.00	419.22	Reduction in delivery charges of petrol and diesel/ reduction in price and additional distributor's commission of domestic LPG
18.02.2016	59.63	44.96				Reduction in price of petrol and increase in price of diesel
01.03.2016	56.61	46.43		513.50	419.13	Reduction in price of petrol/ increase in price of diesel/ reduction in additional distributor's commission of domestic LPG
04.03.2016			15.42			Increase in dealer's commission
17.03.2016	59.68	48.33				Increase in prices
01.04.2016				509.50		Reduction in price
05.04.2016	61.87	49.31				Increase in prices
16.04.2016	61.13	48.01				Reduction in prices
25.04.2016			15.36			Reduction in SSC on PDS kerosene in Mumbai

Table 8.20 : Continued

Date	Petrol	Diesel	PDS kerosene	Domestic LPG		Reason
	(₹/litre)			RSP	Effective cost after DBTL subsidy#	
				(₹/14.2 Kg cyl.)		
01.05.2016	62.19	50.95		527.50	419.15	Increase in prices of petrol, diesel & non-subsidized domestic LPG/ increase in additional distributor's commission on domestic LPG
17.05.2016	63.02	51.67				Increase in prices
01.06.2016	65.60	53.93		548.50	419.18	Increase in prices of petrol, diesel & non-subsidized domestic LPG/ increase in additional distributors' commission on domestic LPG
03.06.2016			15.02			Reduction in SSC on PDS kerosene in Mumbai
16.06.2016	65.65	55.19				Increase in prices
01.07.2016	64.76	54.70		537.50	421.16	Reduction in prices of petrol, diesel & non subsidized domestic LPG/ increase in price of subsidized domestic LPG / reduction in additional distributors' commission of domestic LPG
07.07.2016			15.27			Increase in price of PDS SKO
16.07.2016	62.51	54.28				Reduction in prices
01.08.2016	61.09	52.27	15.53	487.00	423.09	Reduction in prices of petrol, diesel & non sub. domestic LPG/ increase in price of subsidized domestic LPG / reduction in addl. distributor commission of domestic LPG
16.08.2016	60.09	50.27	15.68			Reduction in prices of petrol and diesel/ Increase in SSC on PDS SKO at Mumbai
01.09.2016	63.47	52.94	15.94	466.50	425.06	Increase in prices of petrol, diesel, PDS kerosene & subsidized domestic LPG / Reduction in price of non sub. domestic LPG/ reduction in LPG additional distributor commission
16.09.2016	64.21	52.59	16.19			Increase (petrol & PDS SKO)/ reduction (diesel) in price
21.09.2016			16.40			Increase in SKO retailers' commission at Mumbai
01.10.2016	64.58	52.51	16.66	490.00	427.09	Increase in prices of Petrol, Non Sub. Domestic LPG, Subsidized domestic LPG and PDS Kerosene/ Reduction in price of Diesel/ Increase in LPG Addl. distributor commission
05.10.2016	64.72	52.61				Increase in dealers' commission on petrol and diesel
16.10.2016	66.45	55.38	16.92			Increase in prices of petrol, diesel and PDS kerosene
28.10.2016				492.00	428.59	Increase in distributors' commission
01.11.2016			17.17	529.50	430.64	Increase in prices of non subsidized domestic LPG, subsidized domestic LPG and PDS kerosene/ Increase in LPG additional distributors' commission
06.11.2016	67.62	56.41				Increase in prices of Petrol and Diesel
16.11.2016	65.93	54.71	17.51			Decrease in prices of Petrol & Diesel (including dealers' commission) / Increase in price of PDS Kerosene
01.12.2016	66.10	54.57	17.76	584.00	432.71	Increase in price of Petrol & decrease in price of Diesel (including dealers' commission) / Increase in prices of Non Sub. Domestic LPG, Subsidized domestic LPG and PDS Kerosene/ Increase in LPG Addl. Distributor comm.
16.12.2016			18.02			Increase in price of PDS kerosene
17.12.2016	68.94	56.68				Increase in prices of petrol and diesel
01.01.2017			18.28	585.00	434.71	Increase in price of PDS Kerosene / Non Sub. Domestic LPG, Subsidized domestic LPG
02.01.2017	70.60	57.82				Increase in prices of petrol and diesel

Table 8.20 : Continued

Date	Petrol	Diesel	PDS kerosene	Domestic LPG		Reason
	₹/litre			RSP	Effective cost after DBTL subsidy#	
				₹/14.2 Kg cyl.)		
16.01.2017	71.14	59.02	18.54			Increase in prices of petrol, diesel and PDS Kerosene
01.02.2017			18.77	651.50	434.80	Increase in price of PDS Kerosene / Non Sub. Domestic LPG, Subsidized domestic LPG
01.03.2017				737.50	434.93	Increase in price of Non Sub. Domestic LPG/ Additional Distributors commission on Subsidized domestic LPG
01.04.2017	66.29	55.61		723.00	440.90	Decrease in price of Petrol, Diesel & Non Sub. Domestic LPG / Increase in prices of Subsidized domestic LPG and / Decrease in LPG Addl. Distributor comm.
07.04.2017			19.03			Increase in prices of PDS Kerosene
16.04.2017	68.07	56.83	19.29			Increase in price of Petrol, Diesel & PDS Kerosene
01.05.2017	68.09	57.35	19.65	631.00	442.77	Increase in price of Petrol, Diesel, PDS SKO & Sub. Domestic LPG / Decrease in prices of Non-Subsidized domestic LPG and Decrease in LPG Addl. Distributor comm.
16.05.2017	65.32	54.90	19.91			Decrease in price of Petrol and Diesel & Increase in prices of PDS SKO
01.06.2017	66.91	55.94	20.17	552.50	446.65	Increase in price of Petrol, Diesel, PDS SKO & Sub. Domestic LPG / Decrease in prices of Non-Subsidized domestic LPG and Decrease in LPG Addl. Distributor comm.
16.06.2017	65.48	54.49	20.43			Decrease in price of Petrol and Diesel & Increase in prices of PDS SKO
01.07.2017	63.09	53.33	21.09	564.00	477.46	Decrease in price of Petrol, Diesel & Increase in prices of PDS SKO & Sub. Domestic LPG / Non-Subsidized domestic LPG and Decrease in LPG Addl. Distributor comm.
11.07.2017	63.93	54.74	21.22			Increase in Price of Petrol and diesel and Revision in SSC on PDS SKO in Mumbai.
16.07.2017	64.11	54.93	21.48			Increase in prices of Petrol, Diesel & PDS SKO
01.08.2017	65.40	55.58	21.74	524.00	479.77	Increase in price of Petrol, Diesel, PDS SKO & Sub. Domestic LPG, Dealer Commission on Petrol & Diesel / Decrease in price of Non-Subsidized domestic LPG and LPG Addl. Distributor comm.
16.08.2017	68.14	57.36	22.00			Increase in price of Petrol, Diesel & PDS SKO
01.09.2017	69.26	57.13	22.27	597.50	487.18	Increase in price of Petrol, PDS SKO, Sub. Domestic LPG, Non-Subsidized domestic LPG and LPG Addl. Distributor comm. & Decrease in price of Diesel
16.09.2017	70.48	58.84	22.53			Increase in price of Petrol, Diesel & PDS SKO
01.10.2017	70.76	58.92		649.00	491.13	Increase in price of Petrol, diesel, Sub. Domestic LPG, Non-Subsidized domestic LPG and LPG Addl. Distributor comm.
01.11.2017	69.14	57.73		742.00	495.69	Decrease in price of Petrol & diesel and Increase in price of Sub. Domestic LPG, Non-Subsidized domestic LPG and LPG Addl. Distributor comm.
15.11.2017	69.68	58.32	21.89			Increase in Price of Petrol and diesel and Removal in SSC on PDS SKO in Mumbai
	69.68	58.32	21.89*	742.00	495.69#	RSP as on 15th November 2017

Note :

1. Prices of petrol since 26.6.2010, non subsidized domestic LPG since 13.9.2012 and diesel since 19.10.2014 are as per IOCL.
2. * Since there is 'Nil' allocation of PDS kerosene in Delhi currently, RSP of PDS kerosene from 1.11.2014 onwards is at Mumbai.
3. # effective 1st January 2015, Modified DBTL scheme has been implemented in the entire country. The effective cost to consumer is after DBTL subsidy.
4. Effective 16.06.2017, the MS/HSD pricing is revised on daily basis, therefore the changes in MS/HSD pricing is shown only on the dates when SKO / LPG Pricing is changing.

Table 8.21 : Selling price of diesel for bulk consumers in major cities

					(₹/Litre)				
Date	Delhi	Kolkata	Mumbai	Chennai	Date	Delhi	Kolkata	Mumbai	Chennai
18-Jan-13	56.88	61.30	64.11	60.85	01-Jul-15	48.84	53.52	56.32	52.21
01-Feb-13	56.95	61.37	64.19	60.92	16-Jul-15	48.29	51.53	53.84	49.78
16-Feb-13	58.57	63.06	65.98	62.68	01-Aug-15	44.50	48.26	49.80	45.82
01-Mar-13	59.73	64.27	67.25	63.93	15-Aug-15	43.33	47.26	48.56	44.61
16-Mar-13	56.79	61.20	64.01	60.75	01-Sep-15	42.83	46.84	48.03	44.09
01-Apr-13	54.84	59.51	61.95	58.69	01-Oct-15	43.33	47.26	50.56	44.61
16-Apr-13	54.77	59.46	61.88	58.62	16-Oct-15	44.27	48.07	51.57	45.59
01-May-13	51.81	56.37	58.61	55.42	01-Nov-15	44.30	48.10	51.60	45.62
16-May-13	52.76	57.36	59.66	56.44	16-Nov-15	45.17	48.85	52.52	46.53
23-May-13	52.76	57.36	60.79	56.44	01-Dec-15	44.92	48.65	52.26	46.29
01-Jun-13	54.61	59.28	62.83	58.44	16-Dec-15	44.46	48.26	51.77	45.82
16-Jun-13	56.17	60.91	64.55	60.12	01-Jan-16	43.41	47.35	50.64	44.72
01-Jul-13	58.78	63.63	66.62	62.95	16-Jan-16	42.56	46.63	49.74	43.83
02-Jul-13	58.79	63.62	66.61	62.94	19-Jan-16	43.07	46.63	49.74	43.83
16-Jul-13	60.40	65.30	68.39	64.68	01-Feb-16	43.04	46.60	49.71	43.80
01-Aug-13	60.72	65.63	68.75	65.03	18-Feb-16	43.32	46.83	50.00	44.09
16-Aug-13	61.74	66.69	69.86	66.13	01-Mar-16	44.78	48.07	51.54	45.59
01-Sep-13	64.45	69.50	72.85	69.05	17-Mar-16	46.68	49.25	53.53	47.54
16-Sep-13	67.45	72.63	76.17	72.30	05-Apr-16	47.65	50.08	54.56	48.55
01-Oct-13	63.50	68.50	71.78	68.05	16-Apr-16	46.36	48.98	51.97	47.21
16-Oct-13	63.25	68.24	71.50	67.78	01-May-16	49.29	51.46	55.05	50.23
01-Nov-13	62.97	67.95	71.19	67.48	07-May-16	48.77	51.46	55.05	50.23
16-Nov-13	63.06	68.04	71.29	67.57	17-May-16	50.02	52.54	55.25	51.54
01-Dec-13	63.86	68.88	72.18	68.44	01-Jun-16	52.28	54.60	57.65	53.88
01-Jan-14	63.51	68.51	71.79	68.06	16-Jun-16	53.53	55.86	58.98	55.19
05-Jan-14	63.51	68.66	72.97	68.08	01-Jul-16	53.04	54.66	58.44	55.36
01-Feb-14	61.95	67.03	71.25	66.39	16-Jul-16	52.62	54.95	58.03	54.23
16-Feb-14	62.97	68.09	72.37	67.49	01-Aug-16	50.62	53.06	55.90	52.15
01-Mar-14	63.63	68.78	73.10	68.20	16-Aug-16	48.63	51.35	54.07	50.08
16-Mar-14	62.33	67.43	71.67	66.80	01-Sep-16	51.29	53.63	56.90	52.85
01-Apr-14	60.89	65.93	70.08	65.25	16-Sep-16	50.94	53.33	56.53	52.48
16-Apr-14	60.41	65.44	69.56	64.73	01-Oct-16	50.86	53.27	56.44	52.40
01-May-14	61.83	66.91	71.12	66.26	16-Oct-16	53.62	55.96	59.38	55.27
16-May-14	60.38	65.41	69.52	64.70	06-Nov-16	54.65	56.99	60.47	56.34
01-Jun-14	59.18	64.16	68.20	63.40	16-Nov-16	52.84	55.18	58.54	54.45
16-Jun-14	57.87	62.80	66.75	61.99	01-Dec-16	52.70	55.04	58.39	54.31
01-Jul-14	60.41	65.52	69.10	64.70	17-Dec-16	54.80	57.15	60.63	56.50
16-Jul-14	59.32	64.39	67.90	63.53	02-Jan-17	55.94	58.28	61.83	57.68
01-Aug-14	58.60	63.64	67.10	62.75	16-Jan-17	57.13	59.48	63.10	58.92
16-Aug-14	59.12	64.18	67.68	63.31	01-Apr-17	53.73	56.08	59.49	57.01
01-Sep-14	57.80	62.81	66.23	61.89	16-Apr-17	54.95	57.30	60.79	58.32
16-Sep-14	57.37	62.36	65.75	61.42	01-May-17	55.47	57.82	61.33	58.87
19-Oct-14	54.00	58.85	62.03	57.78	16-May-17	53.02	55.45	58.70	56.22
01-Nov-14	51.94	56.70	59.74	55.56	01-Jun-17	54.06	56.49	59.80	57.33
01-Dec-14	51.10	55.83	58.83	54.66	16-Jun-17	52.59	55.01	58.24	55.75
16-Dec-14	49.13	53.78	56.65	52.53	01-Jul-17	51.46	54.04	57.01	54.51
17-Jan-15	46.88	51.77	54.17	50.10	16-Jul-17	53.08	56.10	56.87	56.32
04-Feb-15	44.64	49.77	51.69	47.68	01-Aug-17	53.41	56.43	57.22	56.67
16-Feb-15	45.25	50.32	52.37	48.34	16-Aug-17	54.60	57.62	58.49	57.95
01-Mar-15	48.31	53.03	55.73	51.63	01-Sep-17	53.95	56.97	57.80	57.25
02-Apr-15	47.13	52.01	54.44	50.36	16-Sep-17	55.88	58.91	59.85	59.32
16-Apr-15	45.83	50.86	53.01	48.97	01-Oct-17	57.11	60.14	61.15	60.63
01-May-15	48.20	52.94	55.61	51.52	04-Oct-17	54.78	57.80	58.67	58.13
16-May-15	50.90	55.62	58.59	54.43	16-Oct-17	54.96	57.99	58.80	58.34
16-Jun-15	49.55	54.22	57.11	52.98	01-Nov-17	55.23	58.24	59.07	58.62

Source : HPCL

Table 8.22 : Retail Selling Price (RSP) of major products in India & neighbouring countries

Country	Indian rupees (₹)/ litre/ cyl.			
	Petrol	Diesel	Kerosene	Domestic LPG
India	69.14 [^]	57.73 [^]	21.89 [#]	495.69 [*]
Pakistan	45.52	52.39	32.94	1099.34
Bangladesh	67.83	51.27	51.27	627.21
Sri Lanka	49.72	40.37	18.70	690.82
Nepal	62.17	46.95	46.95	840.60

*Effective cost after DBTL subsidy effective 1.11.2017.

at Mumbai effective 15.11.2017.

[^] as per IOCL as on 1.11.2017

Note: Prices for neighboring countries as on 1.11.2017.

Source: Website of following companies: Pakistan- Pakistan State Oil (www.psopk.com); Bangladesh- Bangladesh Petroleum Corporation (www.bpc.gov.bd); Nepal- Nepal Oil Corporation (www.nepaloil.com.np); Sri Lanka- Petrol; Diesel & Kerosene- Ceylon Petroleum Corporation (www.ceypetco.gov.in); LPG- Litro Gas Lanka (www.litrogas.com); Exchange rate - www.oanda.com

Retail Selling Price (RSP) & % of taxes in RSP of petrol and diesel in developed countries vis-a-vis India

Table 8.23 : Price and tax in Indian rupees (₹) / litre

Country	Petrol				Diesel			
	RSP	Ex-tax price	Taxes	% of taxes	RSP	Ex-tax price	Taxes	% of taxes
India	69.14	34.38	34.76	50%	57.73	33.28	24.45	42%
France	104.70	36.69	68.01	65%	93.19	35.69	57.49	62%
Germany	106.39	39.15	67.24	63%	89.35	38.99	50.35	56%
Italy	116.60	39.68	76.91	66%	105.08	38.76	66.32	63%
Spain	92.88	41.37	51.51	55%	83.28	40.68	42.60	51%
UK	101.55	34.85	66.70	66%	103.09	36.14	66.96	65%
Japan	76.69	38.20	38.49	50%	64.34	40.82	23.52	37%
Canada	62.09	41.48	20.61	33%	57.21	41.27	15.94	28%
USA	45.04	37.18	7.86	17%	47.43	38.41	9.02	19%

Table 8.24 : Price and tax in US dollars (\$) / Litre

Country	Petrol				Diesel			
	RSP	Ex-tax price	Taxes	% of taxes	RSP	Ex-tax price	Taxes	% of taxes
India	1.06	0.53	0.53	50%	0.89	0.51	0.38	42%
France	1.62	0.57	1.06	65%	1.45	0.55	0.89	62%
Germany	1.65	0.61	1.04	63%	1.39	0.61	0.78	56%
Italy	1.81	0.62	1.19	66%	1.63	0.60	1.03	63%
Spain	1.44	0.64	0.80	55%	1.29	0.63	0.66	51%
UK	1.58	0.54	1.04	66%	1.60	0.56	1.04	65%
Japan	1.19	0.59	0.60	50%	1.00	0.63	0.37	37%
Canada	0.96	0.64	0.32	33%	0.89	0.64	0.25	28%
USA	0.70	0.58	0.12	17%	0.74	0.60	0.14	19%

Note :

- Prices of petrol and diesel in France, Germany, Italy, Spain, UK, Japan, Canada & USA as per the IEA report for September 2017 and average exchange rate of September 2017 considered for conversion: ₹ 64.44/USD. (VAT excluded from prices for automotive diesel for France, Italy, Spain and UK as it is refunded to industry.)
- Prices in India as of 1.11.2017 as per IOCL. Average exchange rate of October 2017 considered for conversion ₹ 65.08/\$.

Table 8.25 : Retail Selling Price (RSP) of petroleum products at State/UT capitals as on 01.11.2017

State/Union Territory	City	Petrol	Diesel	Domestic LPG
		₹/litre		₹/14.2 KG cylinder
States				
Andhra Pradesh	Vizag *	74.27	63.98	740.00
Arunachal Pradesh	Itanagar	65.42	55.36	794.00
Assam	Guwahati	71.04	60.17	779.50
Bihar	Patna	73.49	61.38	815.50
Chhattisgarh	Raipur	69.67	62.42	804.50
Goa	Panjim	63.68	58.67	752.50
Gujarat	Gandhinagar	68.37	61.79	763.50
Haryana	Ambala	68.70	57.63	762.00
Himachal Pradesh	Shimla	69.86	57.96	779.50
Jammu & Kashmir	Srinagar	73.53	60.98	856.00
Jharkhand	Ranchi	70.68	61.07	785.50
Karnataka	Bengaluru	70.21	58.39	743.50
Kerala	Thiruvananthapuram	72.91	62.76	736.50
Madhya Pradesh	Bhopal	73.71	59.95	734.00
Maharashtra	Mumbai	76.25	60.32	718.50
Manipur	Imphal	67.35	55.99	862.00
Meghalaya	Shillong	68.65	57.59	795.00
Mizoram	Aizawl	65.32	55.34	862.00
Nagaland	Kohima	67.69	56.26	750.50
Odisha	Bhubaneswar	68.02	61.90	761.50
Punjab	Jullunder	74.13	57.82	768.00
Rajasthan	Jaipur	71.61	61.58	730.00
Sikkim	Gangtok	72.10	59.55	886.00
Tamil Nadu	Chennai	71.65	60.79	750.00
Telangana	Hyderabad	73.20	62.72	789.00
Tripura	Agartala	65.18	55.99	872.00
Uttarakhand	Dehradun	72.02	59.64	755.00
Uttar Pradesh	Lucknow	71.51	58.94	776.00
West Bengal	Kolkata	71.90	60.39	759.50
Union territory				
Andaman & Nicobar Islands	Port Blair	59.76	54.36	798.00
Chandigarh	Chandigarh	66.50	56.03	754.00
Daman & Diu	Daman*	67.26	58.43	724.00
Dadra & Nagar Haveli	Silvasa*	67.37	58.53	731.00
Delhi	New Delhi	69.14	57.73	742.00
Puducherry	Puducherry	68.09	59.68	745.00

Source: IOCL (* as per HPCL)

Highest
Lowest
Table 8.26 : Retail Selling Price (RSP) of PDS kerosene at major cities as on 15.11.2017

State	City	₹/litre
Maharashtra	Mumbai*	21.89
Tamil Nadu	Chennai *	13.60
West Bengal	Kolkata *	24.17

Source: OMCs

Note: The allocation of PDS kerosene in Delhi is nil presently.

*Subject to confirmation by local authorities

Table 8.27 : Customs, excise duty and GST rates on petroleum products as on 01.11.2017
Customs Duty and Excise Duty as on 1st November 2017 on Non GST Products

Particulars	Customs duty			Central excise duty		
	Basic customs duty	Additional customs duty (CVD)	Additional customs duty	Basic cenvat duty	Special additional excise duty	Additional excise duty
Crude oil	NIL + ₹ 50/MT as NCCD	Nil	NA	Nil+ Cess @ 20% + ₹ 50/ MT as NCCD	NA	NA
Petrol	2.5%	₹ 6.48/ltr. + ₹ 7.00/ ltr SAD	₹ 6.00/ltr.	₹ 6.48/ltr	₹ 7.00/ltr	₹ 6.00/ltr.
Petrol (branded)	2.5%	₹ 7.66/ltr. + ₹ 7.00/ ltr SAD	₹ 6.00/ltr.	₹ 7.66/ltr	₹ 7.00/ltr	₹ 6.00/ltr.
High speed diesel	2.5%	₹ 8.33/ltr+ ₹ 1.00/ ltr	₹ 6.00/ltr.	₹ 8.33/ltr	₹ 1.00/ltr	₹ 6.00/ltr.
High speed diesel (branded)	2.5%	₹ 10.69/ltr+ ₹ 1.00/ ltr	₹ 6.00/ltr.	₹ 10.69/Ltr	₹ 1.00/ltr	₹ 6.00/ltr.
Aviation Turbine Fuel (ATF)	Nil	14%*	Nil	14%*	Nil	Nil
Liquefied Natural Gas (LNG)	2.5%	Nil	Nil	Nil	Nil	Nil
Natural gas [gaseous state]	5.0%	Nil	Nil	Nil	Nil	Nil
Natural gas [compressed]	5.0%	14.0%	Nil	14.0%	Nil	Nil

* 8% for supply to schedule commuter airlines(SCA) from the regional connectivity scheme (RCS)airports.

Education cess of 2% and Secondary and Higher Education Cess of 1% is also applicable on Customs duty.

Custom Duty and GST Rates as on 1st November 2017 on GST Products

Particulars	Customs duty		
	Basic	IGST/ CVD	
LPG	Domestic	Nil	5.00%
	Non - Domestic	5.00%	18.00%
Kerosene	PDS	Nil	5.00%
	Non PDS	5.00%	18.00%
Naphtha	Non- Fertilizer	5.00%	18.00%
	Fertilizer	Nil	18.00%
Butane / Propane	Non - Domestic	2.50%	18.00%
	Domestic	Nil	5.00%
Bitumen & Asphalt		5.00%	18.00%
Furnace Oil	Fertilizer	Nil	18.00%
	Non- Fertilizer	5.00%	18.00%
Light Diesel Oil		5.00%	18.00%
Low Sulphur Heavy Stock/ HPS & other Res.	Fertilizer	5.00%	18.00%
	Non- Fertilizer	5.00%	18.00%
Lube oil/greases		5.00%	18.00%
Petroleum Coke		2.50%	18.00%
Petroleum Jelly		5.00%	18.00%
Transformer Oil		5.00%	18.00%
Waxes all types		5.00%	18.00%

Table 8.28 : Effective rates of Sales tax/VAT/GST levied by various states/UTs as on 01.11.2017

Sl. no.	State/Union Territory	Petrol	Diesel	PDS kerosene	Domestic LPG	
		% of capital city rate before VAT				
States						
1	Andhra Pradesh	38.82	30.71	5.00	5.00	
2	Arunachal Pradesh	20.00	12.50	5.00	5.00	
3	Assam	32.66	23.66	5.00	5.00	
4	Bihar	26.00	19.00	5.00	5.00	
5	Chhattisgarh	28.88	27.11	5.00	5.00	
6	Goa	17.00	19.00	5.00	5.00	
7	Gujarat	24.80	24.80	5.00	5.00	
8	Haryana	26.25	17.22	5.00	5.00	
9	Himachal Pradesh	27.00	16.00	5.00	5.00	
10	Jammu & Kashmir	29.53	18.00	5.00	5.00	
11	Jharkhand	31.08	24.58	5.00	5.00	
12	Karnataka	30.00	19.00	5.00	5.00	
13	Kerala	34.06	26.88	5.00	5.00	
14	Madhya Pradesh	35.82	22.00	5.00	5.00	
15	Maharashtra	Mumbai, Thane & Navi Mumbai	43.71	26.17	5.00	5.00
		(Rest of State)	42.61	23.15	5.00	5.00
16	Manipur	25.00	14.50	5.00	5.00	
17	Meghalaya	22.44	13.77	5.00	5.00	
18	Mizoram	20.00	12.00	5.00	5.00	
19	Nagaland	24.68	14.18	5.00	5.00	
20	Odisha	26.00	26.00	5.00	5.00	
21	Punjab	36.04	17.29	5.00	5.00	
22	Rajasthan	32.92	25.71	5.00	5.00	
23	Sikkim	30.80	17.76	5.00	5.00	
24	Tamil Nadu	34.00	25.00	5.00	5.00	
25	Telangana	35.20	27.00	5.00	5.00	
26	Tripura	20.00	13.50	5.00	5.00	
27	Uttarakhand	32.91	19.60	5.00	5.00	
28	Uttar Pradesh	32.46	19.85	5.00	5.00	
29	West Bengal	26.85	18.44	5.00	5.00	
Union territories						
30	Andaman & Nicobar Islands	6.00	6.00	5.00	5.00	
31	Chandigarh	22.16	11.65	5.00	5.00	
32	Dadra & Nagar Haveli	20.00	15.00	5.00	5.00	
33	Daman & Diu	20.00	15.00	5.00	5.00	
34	Delhi	27.00	17.37	5.00	5.00	
35	Lakshadweep	NIL	NIL	5.00	5.00	
36	Puducherry	21.15	17.15	5.00	5.00	

(As per details provided by HPCL/IOCL)

Note:

1. For Petrol & Diesel, effective rate Includes VAT/Sales Tax, cess, entry tax, additional tax & surcharge recoverable in price.
2. For Petrol & Diesel, VAT/ Sales Tax at applicable rates is also levied on Dealer's commission in Arunachal Pradesh, Delhi, Gujarat, Haryana, Madhya Pradesh, Punjab, Chandigarh, Puducherry, Andaman & Nikobar, and Meghalaya..
3. For domestic LPG, GST at applicable rates is also levied on distributor's commission by all states and UTs .

Table 8.29 : Actual Rate of Sales Tax/ VAT/GST and Other Taxes Levied by State/UT Governments on Major Petroleum Products as on 01.11.2017

Sl. no.	State/ Union Territory	Petrol	Diesel	PDS kerosene	Domestic LPG	
	State	Sales Tax /VAT		GST		
1	Andhra Pradesh	31% VAT + ₹ 4/litre VAT	22.25% VAT + ₹ 4/litre VAT	5%	5%	
2	Arunachal Pradesh	20% VAT	12.50% VAT	5%	5%	
3	Assam	32.66% VAT or ₹ 14 per litre, whichever is higher	23.66% VAT or ₹ 8.75 per litre, whichever is higher	5%	5%	
4	Bihar	26% VAT	19% VAT	5%	5%	
5	Chhattisgarh	25% VAT + ₹ 2/litre VAT	25% VAT + ₹ 1/litre VAT	5%	5%	
6	Gujarat	20% VAT+ 4% Cess on Town Rate & VAT	20% VAT + 4 % Cess on Town Rate & VAT	5%	5%	
7	Goa	17% VAT + 0.5% Green cess	19% VAT + 0.5% Green cess	5%	5%	
8	Himachal Pradesh	27% VAT	16% VAT	5%	5%	
9	Haryana	25% VAT+5% additional tax on VAT	16.40% VAT+5% additional tax on VAT	5%	5%	
10	Jharkhand	22% or ₹ 15/litre whichever is higher VAT + ₹ 1000/KL cess	22% or ₹ 8.37/litre whichever is higher VAT + ₹ 1000/KL cess	5%	5%	
11	Jammu & Kashmir	24% MST+ ₹ 3000/KL employment cess	16% MST+ ₹ 1000/KL employment cess	5%	5%	
12	Kerala	31.80% sales tax+ ₹ 1/litre additional sales tax + 1% cess	24.52% sales tax+ ₹ 1/litre additional sales tax + 1% cess	5%	5%	
13	Karnataka	30% sales tax	19% sales tax	5%	5%	
14	Madhya Pradesh	28 % VAT + ₹ 4/litre VAT	22% VAT	5%	5%	
15	Maharashtra	Mumbai, Thane & Navi Mumbai	26% VAT+ ₹ 9/Litre additional tax	24% VAT + ₹ 1/KL additional tax	5%	5%
	(Rest of State)	25% VAT+ ₹ 9/Litre additional tax	21% VAT + ₹ 1/KL additional tax	5%	5%	
16	Manipur	25% VAT	14.50% VAT	5%	5%	
17	Meghalaya	22% VAT + 2% surcharge	13.5% VAT +2% surcharge	5%	5%	
18	Mizoram	20% VAT	12% VAT	5%	5%	
19	Nagaland	23.5% VAT +5% surcharge	13.5% VAT+ 5% surcharge	5%	5%	
20	Odisha	26% VAT	26% VAT	5%	5%	
21	Punjab	₹ 2050/KL (cess) +28% VAT+10% additional tax on VAT	₹ 1050/KL (cess) 13.40% VAT+10% additional tax on VAT	5%	5%	
22	Rajasthan	30% VAT+Rs 1500/KL road development cess	22% VAT+ ₹ 1750/KL road development cess	5%	5%	
23	Sikkim	25% VAT+ ₹ 3000/KL cess + ₹ 100/KL sikkim consumer welfare fund	17.5% VAT + ₹ 2500/KL cess + ₹ 100/KL sikkim consumer welfare Fund	5%	5%	
24	Tamil Nadu	34% VAT	25% VAT	5%	5%	
25	Telangana	35.20% VAT	27% VAT	5%	5%	
26	Tripura	20% VAT	13.50% VAT	5%	5%	
27	West Bengal	25% or ₹ 13.12/litre whichever is higher as sales tax+ ₹ 1000/KL cess	17% or ₹ 7.70/litre whichever is higher as sales tax + ₹ 1000/KL cess – ₹ 290/KL sales tax rebate	5%	5%	
28	Uttar Pradesh	26.80% or ₹ 16.74 per litre whichever in higher as VAT	17.48% or ₹ 9.41 per litre whichever in higher as VAT	5%	5%	
29	Uttarakhand	25% or ₹ 17/litre whichever is higher as VAT	17.48% VAT or ₹ 9.41/litre whichever is higher as VAT	5%	5%	
Union territories						
30	Andaman & Nicobar Islands	6%	6%	5%	5%	
31	Chandigarh	₹ 10/KL cess +19.74% VAT	₹ 10/KL cess + 11.40% VAT	5%	5%	
32	Dadra & Nagar Haveli	20% VAT	15% VAT	5%	5%	
33	Daman & Diu	20% VAT	15% VAT	5%	5%	
34	Delhi	27% VAT	₹ 250/KL air ambience charges + 16.75% VAT	5%	5%	
35	Lakshadweep	Nil	Nil	5%	5%	
36	Puducherry	21.15% VAT	17.15% VAT	5%	5%	

Source : OMCs

Table 8.30 : Contribution of petroleum sector to exchequer

(₹ crore)						
Particulars	2013-14	2014-15	2015-16	2016-17	H1, 2016-17	H1, 2017-18 (P)
1. Contribution to Central exchequer						
A. Tax/ duties on crude oil & petroleum products						
Cess on crude oil	16183	15934	15470	13285	5862	6221
Royalty on crude oil / natural gas	4551	3858	4885	4649	2230	2194
Customs duty	5042	4767	7446	9521	5670	6431
Excise duty	77982	99184	178591	242691	106069	103846
Service tax	2092	2181	2837	2956	1137	1228
IGST						4378
CGST						1601
Others	241	295	307	399	195	57
Sub total (A)	106090	126219	209536	273502	121164	125955
B. Dividend to Government/ income tax etc.						
Corporate/ income tax	23326	23727	24642	31593	14382	13043
Dividend income to Central Government	9164	9197	10217	17501	2115	1617
Dividend distribution tax	2951	3500	4590	6197	615	1336
Profit petroleum on exploration of oil/ gas*	11369	9423	9457	5742	1907	2905
Sub total (B)	46810	45847	48907	61032	19019	18902
Total contribution to Central exchequer (A+B)	152900	172066	258443	334534	140183	144857
2. Contribution to State exchequer						
C. Tax/ duties on crude oil & petroleum products						
Royalty on crude oil / natural gas	14493	14159	7932	11942	3899	4117
Sales tax/ VAT	129045	137157	142848	166378	75828	87921
SGST/UTGST						1783
Octroi/ duties (incl. electricity duty)	4156	3838	2712	3524	1501	1186
Entry tax / others	4748	5372	6622	7742	2723	6077
Sub total (C)	152442	160526	160114	189586	83951	101084
D. Dividend to Government/ direct tax etc.						
Dividend income to State Government	18	28	95	183	12	2
Sub total (D)	18	28	95	183	12	2
Total contribution to State exchequer (C+D)	152460	160554	160209	189770	83962	101086
Total contribution of petroleum sector to exchequer (1+2)	305360	332620	418652	524304	224145	245943

* Profit petroleum on exploration of oil/ gas as provided by MOP&NG, (P) Provisional

Source: Oil companies

Table 8.31 : Contribution of taxes and duties on petroleum products to Central exchequer vis-a-vis payout by Government

(₹ crore)						
Particulars	2013-14	2014-15	2015-16	2016-17	H1, 2016-17	H1, 2017-18
Tax/ duties on petroleum products to Central exchequer (a)	106090	126219	209536	273502	121164	125955
Payout by Government						
Cash assistance by Government towards OMCs' under recoveries	70772	27308	10245	7595	4123	2066
Subsidy on PDS kerosene and domestic LPG [^]	2580	0	0	3293	2272	0
Freight subsidy on PDS kerosene and domestic LPG [^]	21	23	0	0	0	0
Gas subsidy for North East [^]	625	661	660	745	470	169
Total DBTL subsidy claims (including permanent advance and project management expenditure)	3912	3971	22011	12986	4557	7527
Total PMUY Claims(including PME & IEC)	0	0	0	2999	1054	1608
Total DBTK Subsidy Claims	0	0	0	11	0	24
Total payout by Government (b)	77910	31963	32916	27629	12476	11394
Net contribution to central exchequer (a-b)	28180	94256	176620	245873	108688	114561

[^] Cash payout under the subsidy schemes is on payment basis

Table 8.32 : State wise collection of Sales tax/ VAT/GST by petroleum sector

(₹ Crore)								
Sl. no.	State/Union territory/Others	Sales tax/VAT						SGST/UTGST
		2013-14	2014-15	2015-16	2016-17	H1, 2016-17	H1, 2017-18 (P)	H1, 2017-18 (P)
States								
1	Andhra Pradesh	12604	8777	7806	8908	4449	4915	46
2	Arunachal Pradesh	54	56	54	26	0	32	0
3	Assam	2160	2268	2163	2571	1182	1453	31
4	Bihar	2931	2885	3638	4501	1561	1748	28
5	Chhattisgarh	2397	2645	2617	3200	1366	1564	13
6	Goa	388	478	534	650	306	322	4
7	Gujarat	14610	15879	14701	15958	7614	7917	518
8	Haryana	4591	5112	5976	7000	3514	3808	25
9	Himachal Pradesh	204	234	263	317	160	182	7
10	Jammu & Kashmir	941	951	1004	1110	519	366	8
11	Jharkhand	1825	2076	2476	2967	976	1045	10
12	Karnataka	7800	8668	8652	11103	5264	5972	90
13	Kerala	5173	5378	6121	6899	2848	3110	44
14	Madhya Pradesh	6232	6832	7631	9160	3821	4420	39
15	Maharashtra	19141	19795	19417	23160	11052	13032	293
16	Manipur	102	116	114	117	56	79	1
17	Meghalaya	3	2	1	1	1	1	0
18	Mizoram	44	58	53	48	29	22	0
19	Nagaland	64	83	80	78	30	42	0
20	Odisha	2520	2865	3027	4283	1116	4098	18
21	Punjab	3853	4179	4907	5833	2851	2726	49
22	Rajasthan	7396	8373	9211	10591	5053	5783	28
23	Sikkim	66	74	98	105	58	41	0
24	Tamil Nadu	12297	12316	11004	12563	6072	7825	222
25	Telangana	0	4527	6391	7552	3698	4315	41
26	Tripura	160	180	197	168	69	90	1
27	Uttar Pradesh	11607	12579	14175	15850	7088	7911	117
28	Uttarakhand	1049	1157	1221	1414	662	647	8
29	West Bengal	5510	5563	5869	6427	2514	2511	89
Union territories								
30	Andaman & Nicobar Islands	0	0	41	0	0	6	0
31	Chandigarh	74	84	75	54	25	29	0
32/ 33	Dadra and Nagar Haveli/ Daman & Diu	115	149	152	156	81	42	25
34	Delhi	3108	2798	3158	3589	1782	1859	15
35	Lakshadweep	0	0	0	0	0	0	0
36	Puducherry	29	22	18	22	10	12	5
Others								
1	Offshore							5
TOTAL		129045	137157	142848	166378	75828	87921	1783

Source: Oil companies

Table 8.33 : Profit After Tax (PAT) of oil companies

(₹ Crore)						
Companies	2013-14	2014-15	2015-16	2016-17	H1, 2016-17	H1, 2017-18
PSU upstream/midstream companies						
ONGC	22095	17733	16004	17900	9207	9015
OIL	2981	2510	2330	1549	1075	1096
GAIL	4375	3039	2299	3503	2260	2335
Total	29451	23282	20633	22951	12542	12447
PSU downstream Oil Marketing Companies (OMCs)						
IOCL	7019	5273	10399	19106	11391	8245
BPCL	4061	5085	7432	8039	3926	3102
HPCL	1734	2733	3863	6209	2800	2659
Total	12814	13091	21694	33355	18116	14006
PSU stand alone refineries						
MRPL	601	(1712)	1148	3642	1134	712
CPCL	(304)	(39)	771	1030	568	349
NRL	371	718	1222	2101	868	838
Total	668	(1033)	3141	6773	2569	1899
PSU consultancy company						
EIL	480	308	258	325	174	201
Total	480	308	258	325	174	201
Private sector companies						
RIL	22493	23566	27630	31425	15252	16461
EOL	126	1522	2162	(1121)	*	*
Total	22619	25088	29792	30304	15252	16461

Source: Published results/ information provided by oil companies.

* Not available

Table 8.34 : Financial details of oil companies

2016-17									
Particulars	IOCL	BPCL	HPCL	ONGC	OIL	GAIL	MRPL	CPCL	NRL
(₹ Crore)									
Net sales / income from operations	438692	241859	213489	77489	9188	48789	59415	40586	13947
Profit Before Interest and Tax (PBIT)	29767	11539	9556	26437	2543	5890	6049	1638	3170
Interest	3445	496	536	1222	397	479	519	273	22
Tax	7215	3003	2812	7316	598	1908	1888	335	1047
Profit After Tax (PAT)	19106	8039	6209	17900	1549	3503	3642	1030	2101
Net worth	99729	29668	20347	185538	22647	32349	10070	3314	5181
Borrowings (loan fund)	54820	23159	21250	0	8948	5062	6609	5498	505
Ratios									
PAT as % of turnover (net sales)	4.36%	3.32%	2.91%	23.10%	16.86%	7.18%	6.13%	2.54%	15.06%
Debt (loan fund) to equity ratio	0.55	0.78	1.04	0.00	0.40	0.16	0.66	1.66	0.10
Earnings Per Share (EPS)	40.31	61.31	61.12	13.95	19.32	20.71	20.79	69.15	28.55

H1, 2016-17									
Particulars	IOCL	BPCL	HPCL	ONGC	OIL	GAIL	MRPL	CPCL	NRL
(₹ Crore)									
Net sales / income from operations	204062	111834	99350	35957	4376	22851	25575	20488	6102
Profit Before Interest and Tax (PBIT)	17840	5804	4483	14021	1848	3359	1990	909	1335
Interest	1295	214	256	595	198	297	258	133	12
Tax	5155	1665	1428	4219	575	801	598	208	456
Profit After Tax (PAT)	11391	3926	2800	9207	1075	2260	1134	568	868
Net worth	99981	30748	20978	177987	27748	37460	7591	2873	4830
Borrowings (loan fund)	41885	16056	18070	0	9198	6159	7320	4807	664
Ratios									
PAT as % of turnover (net sales)	5.58%	3.51%	2.82%	25.61%	24.57%	9.89%	4.43%	2.77%	14.22%
Debt (loan fund) to equity ratio	0.42	0.52	0.86	0.00	0.33	0.16	0.96	1.67	0.14
Earnings Per Share (EPS)	24.03	27.15	27.56	7.18	13.41	17.82	6.48	38.13	11.79

H1, 2017-18									
Particulars	IOCL	BPCL	HPCL	ONGC	OIL	GAIL	MRPL	CPCL	NRL
(₹ Crore)									
Net sales / income from operations	233506	130673	114044	37777	4744	23758	19353	20136	5884
Profit Before Interest and Tax (PBIT)	13770	4980	4276	13776	1757	3690	1234	704	1297
Interest	1491	414	299	604	206	194	213	141	8
Tax	4034	1464	1317	4157	455	1161	310	214	451
Profit After Tax (PAT)	8245	3102	2659	9015	1096	2335	712	349	838
Net worth	106461	32576	22905	194710	22305	34310	9515	3286	5255
Borrowings (loan fund)	38805	18191	14188	2081	9024	4282	5098	4768	460
Ratios									
PAT as % of turnover (net sales)	3.53%	2.37%	2.33%	23.86%	23.10%	9.83%	3.68%	1.73%	14.24%
Debt (loan fund) to equity ratio	0.36	0.56	0.62	0.01	0.40	0.12	0.54	1.45	0.09
Earnings Per Share (EPS)	17.40	15.77	17.45	7.03	14.14	28.00	4.06	23.14	11.39

Source : Published results/ Information provided by oil companies

Table 8.35 : Total subsidy on petroleum products & natural gas

							(₹ Crore)
Particulars	2013-14	2014-15	2015-16	2016-17	H1, 2016-17	H1, 2017-18	
Petrol	0	0	0	0	0	0	
Diesel	62837	10935	0	0	0	0	
PDS kerosene	30574	24799	11496	7595	4123	2066	
Domestic LPG	46458	36580	18	0	0	0	
Total under-recoveries (A)	139869	72314	11515	7595	4123	2066	
Total DBTL subsidy (claims)	3869	3971	16056	12133	3704	7502	
Permanent Advance (PA) / one time incentive*	0	0	5755	853	853	0	
Project Management Expenditure (PME)*	43	0	200	0	0	25	
Total DBTL related subsidies (B)	3912	3971	22011	12986	4557	7527	
PMUY (claims)	0	0	0	2999	1054	1553	
PME & IEC under PMUY*	0	0	0	0	0	55	
Total PMUY related subsidy (C)	0	0	0	2999	1054	1608	
DBTK subsidy (claims) (D)	0	0	0	11	0	24	
PDS Kerosene and Domestic LPG subsidy scheme, 2002*	2580	0	0	3293	2272^	0	
Freight subsidy (For Far-Flung Areas) Scheme, 2002*	21	23	0	0	0	0	
Natural gas subsidy for North East*	625	661	660	745	470	169	
Other subsidies (E)	3226	684	660	4038	2742	169	
Total subsidy/ under-recovery on petroleum products & natural gas (A+B+C+D+E)	147007	76969	34186	27629	12476	11394	

*on payment basis.

^ The payment relates to the year 2014-15, however received in the year 2016-17.

Table 8.36 : Under-recoveries and burden sharing

							(₹ Crore)
Sl. no.	Particulars	2013-14	2014-15	2015-16	2016-17	H1, 2016-17	H1, 2017-18*
A	Under-recovery - product wise	139869	72314	11515	7595	4123	2066
	MS	0	0	0	0	0	0
	HSD	62837	10935	0	0	0	0
	Domestic LPG	46458	36580	18	0	0	0
	PDS Kerosene	30574	24799	11496	7595	4123	2066
B	Under-recovery - company wise	139869	72314	11515	7595	4123	2066
	IOCL	72938	39758	7757	5149	2785	1415
	BPCL	34463	16141	1798	1173	692	330
	HPCL	32468	16416	1960	1273	646	320
C	Government - cash assistance -company wise	70772	27308	10245	7595	4123	1280
	(% of under-recovery)	50.6%	37.8%	89.0%	100.0%	100.0%	61.9%
	IOCL	37182	14960	6885	5149	2785	876
	BPCL	18374	7290	1598	1173	692	207
	HPCL	15215	5058	1761	1273	646	197
D	Upstream / midstream oil companies-discount on crude oil & product	67021	42822	1251	0	0	0
	(% of under-recovery)	47.9%	59.2%	10.9%	0.0%	0.0%	0.0%
	ONGC	(56384)	(36300)	(1096)	0	0	0
	OIL	(8737)	(5523)	(155)	0	0	0
	GAIL	(1900)	(1000)	0	0	0	0
	Total - discount given	(67021)	(42822)	(1251)	0	0	0
	IOCL	34674	23597	863	0	0	0
	BPCL	15577	8363	198	0	0	0
	HPCL	16771	10862	190	0	0	0
	Total - discount received	67021	42822	1251	0	0	0
E	Borne by OMCs	2076	2184	18	0	0	0
	(% of under-recovery)	1.5%	3.0%	0.2%	0.0%	0.0%	0.0%
	IOCL	1083	1201	9	0	0	0
	BPCL	512	487	1	0	0	0
	HPCL	482	496	8	0	0	0

* Under recovery claims Q2, 2017-18 of ₹ 786 crores are pending sanction by the Government



Analysis • Knowledge • Information

The background of the slide is a nighttime photograph of an industrial facility, likely a power plant or refinery. The scene is illuminated by numerous bright lights, creating a warm, yellowish glow. In the foreground, there is a large, dark structure with a grid-like pattern, possibly a walkway or a large container. The sky is dark with some light clouds. The overall atmosphere is industrial and active.

Chapter-9

Miscellaneous

Table 9.1 : Average international Calorific Values of different fuels

A.	Oil products	M Cals/tonne or K Cal/Kg
	NGL	12135
	Kerosene	10638
	Motor Gasoline	11135
	Fuel Oil	10440
B.	Natural gas production (average) - India	8000-9480 K cal/SCM
C.	India	M Cals/tonne or K Cal/Kg
	Charcoal	6900
	Hard coal	5000
	Firewood	4750
	Lignite-Brown coal	2310

Source : Indian Petroleum & Natural Gas Statistics, MOP&NG

Conversion factor : 1 K Cal = 4.19 K Joules

Conversion factors

Table 9.2 : Weight to volume conversion

Product	Weight (MT)	Volume (KL)	BBL	To convert volume at 29.5° C to volume at 15°C multiply by
Petrol	1	1.4110	8.88	0.9830
Diesel	1	1.2100	7.61	0.9879
Kerosene	1	1.2850	8.08	0.9864
ATF	1	1.2880	8.10	0.9862
Light Diesel Oil	1	1.1720	7.37	0.9877
Furnace Oil	1	1.0710	6.74	0.9899
Crude Oil	1	1.1700	7.33	

Source: Indian Petroleum & Natural Gas Statistics / Petrol and Diesel are as per BS-IV norms

Table 9.3 : Volume conversion

1 US Bbl.	159 Litres
1 US Gallon	3.78 Litres
1 Kilo Litre (KL)	6.29 Bbl.
1 US Bbl.	42 Gallons
1 MBD (million barrels per day)	50 MMTPA

Table 9.4 : Contents of LPG & Natural Gas

Natural Gas	Contains 60-95 % Methane
LPG	Contains Propane (40%) & Butane (60%)

Table 9.5 : Natural gas conversions

1 SCM (Standard Cubic Meter)	= 1 cubic metre @ 1 atmosphere pressure and 15.56 °C	
1 Cubic Metre	= 35.31 Cubic feet	
1 BCM(Billion Cubic Metre) / Year of gas (consumption or production)	= 2.74 MMSCMD	365 Days a Year
1 TCF (Trillion Cubic Feet) of Gas Reserve	= 3.88 MMSCMD	100% Recoverable for 20 years @ 365 days / Annum)
1 MMTPA of LNG	= 3.60 MMSCMD	Molecular Weight of 18 @ 365 days/Annum)
1 MT of LNG	= 1314 SCM	Molecular Weight of 18
Gross Calorific Value (GCV)	= 10000 Kcal/ SCM	
Net Calorific Value (NCV)	= 90% of GCV	
1 Million BTU (MMBTU)	= 25.2 SCM	@10000 Kcal/SCM; 1 MMBTU= 252,000 Kcal)
Specific Gravity of Gas	= 0.62	Molecular Weight of Dry Air=28.964 gm/mole)
Density of Gas	= 0.76 Kg/SCM	Molecular Weight of Gas 18 gm/mol
Gas required for 1 MW of Power generation	= 4541 SCM per Day	Station Heat Rate (SHR);~1720 Kcal/Kwh-NCV (50% Thermal Efficiency); Natural Gas GCV-@10000Kcal/SCM
Power Generation from 1 MMSCMD Gas	= 220 MWH	Station Heat Rate (SHR);~1720 Kcal/Kwh-NCV (50% Thermal Efficiency); Natural Gas GCV-@10000Kcal/SCM

Source : GAIL (India) Ltd.

Table 9.6 : Major end use of petroleum products

Product	Major end use
LPG	Domestic and auto fuel. Also for industrial application where technically essential.
Naphtha	Feedstock/fuel for fertiliser units, feedstock for petrochemical sector and fuel for power plants.
MS	Fuel for passenger cars, taxies, two & three wheelers.
ATF	Fuel for aircrafts.
SKO	Fuel for cooking & lighting.
HSD	Fuel for transport sector (railways/road), agriculture (tractors, pumpsets, threshers, etc.) and captive power generation.
LDO	Fuel for agricultural pumpsets, small industrial units, start up fuel for power generation.
FO/LSHS	Secondary fuel for thermal power plants, fuel/feedstock for fertiliser plants, industrial units.
Bitumen	Surfacing of roads.
Lubes	Lubrication for automotive and industrial applications.
Other products (Benzene, Toluene, MTO, LABFS, CBFS, Paraffin wax etc.)	Feedstock for value added products.

Information about key officers of MoP&NG

Department	Name (S/Shri)	Designation	Telephone No.	Fax No.
Secretary	Kapil Dev Tripathi	Secretary	23383501	23070723
			23383562	
	Manish Makhija	PS to Secretary	23383501/23383562	
Additional Secretary		Additional Secretary	23381052	23386090
	Narender S Negi	PPS to Additional Secretary	23381052	
Finance	Rajiv Bansal	Additional Secretary & FA	23381704	23074226
	Ms Suman Mahi	PPS to AS & FA	23381704	
	Sukh Ram Meena	DDG (IFD)	23389459	23383585
	Ms Perin Devi	Dir (IFD)	23386965	23386965
Economic & Statistics	Ms Urvashi Sadhwani	Sr. Adviser	23385823	23383752
	K S N Rao	PPS to Sr. Adviser	23385823	
	Ms Indrani Kaushal	Economic Advisor	23383753	23383752
	B. Vijaya	PS to EA	23383753	
Exploration	Amar Nath	Jt. Secretary (E)	23381832	23070562
	V.K. Suman	PPS to JS (E)	23381832	
	Sanjay Kumar Jain	Dir (Exploration - II)	23386526	23303100
Exploration-I & III	Diwakar Nath Misra	Jt. Secretary (Exploration-I & III)	23388764	23388764
	Yogesh Virmani	PS to JS (Exploration-I & III)	23388764	
Refinery	Sandeep Poundrik	Joint Secretary (Refineries) & CVO	23386935	23382673
	Anil Kumar	PS to JS (R)	23386935	
	Vijay Sharma	Director (S & CC/Vig/FP)	23073069	23383100
	Ajit Kumar	DS (R)	23387936	23383100
Marketing and Administration	Ashutosh Jindal	Joint Secretary (M)	23382418	23384401
	Sampooran Singh	PPS to JS(M)	23382418	
	K M Mahesh	Dir (LPG, D & MC & Parliament)	23387404	23383100
Administration	Ms Anuradha S. Chagti	Jt. Secretary (Admin)	23383678	23383100
	K. Madhavi	PS to JS (Exploration-I & III)	23383678	
Gas Projects	Ashish Chatterjee	Joint Secretary (GP)	23073165	23398804
	Ms Shikha Khurana	PS to JS (GP)	23073165	
	Ms Kiran Vasudeva	DS (GP)	23387467	23383100
International Cooperation	Sunjay Sudhir	Joint Secretary (IC)	23382583	23073475
	Ms Savita Sen	PPS to JS (IC)	23382583	
	Praphullachandra Sharma	DS (I/C)	23383508	23383100
General	Ms Sushma Rath	Joint Secretary (General)	23386407	23383100
	Madhu Kumar	PA to JS (G)	23386407	
	Vijay Gopal Mangal	DS (Gen)	23381029	23383100

Information about key officers of PPAC

Department	Name (S/Shri)	Designation	Telephone No.	Fax No.
Director General's office	Ms. Atreyee Das	Director General	24361616 / 24361081	24361253
	P R Nair	PS to Director General	24361616 / 24361081	
Finance	Vikram Gulati	Director (Finance)	24360356	24364227
	Ms. Satbir Hira	PS to Director (F)	24360356	
Demand & Economic Studies	Rohit Dawar	Addl. Director I/C (D & ES)	24306181	24361253
Supply	Ms. B M Sujatha	Addl. Director I/C (S)	24360352 / 24306141	24361253
Administration	Sunil Kumar	Addl. Director (HR & C)	24361717 / 24306111	24364225
IT	Ms. Maninder Kaur Narula	Addl. Director (IT)	24306151	24361253
Marketing	Rajesh Kumar Gupta	Addl. Director (Mktg.)	24360489 / 24306171	24361253
Gas	Jitender Kumar Sharma	Jt. Director I/C (Gas)	24306143	24361253

EPABX NOs. 24306191 / 24306192, Reception - 24361314



Analysis • Knowledge • Information

Petroleum Planning & Analysis Cell

(Ministry of Petroleum & Natural Gas)

SCOPE Complex, 2nd Floor, Core-8, Lodhi Road, New Delhi-110003

Tel.: 011-24306191/92, 011-24361314, Fax : 011-24361253: www.ppac.gov.in

