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# READY RECKONER

Oil Industry Information at a Glance

Petroleum Planning & Analysis Cell

(Ministry of Petroleum & Natural Gas)

November 2018



## **Suggestions & Feedback**

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

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## Preface

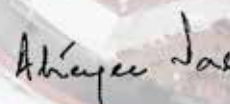
The oil and gas scenario in the country is very dynamic and a multitude of activities are happening in this sector. PPAC has been playing an important role as the nodal office for collection and dissemination of data on the oil and gas sector by making available quality and reliable statistics to a wide range of stakeholders such as government, industry, analysts, academic institutions and consumers, through its website and regular publications, for making informed policy and business decisions and for educational purposes.

This edition of PPAC's biannual Ready Reckoner contains the latest data/information for the first half of the financial year 2018-19 and also historical time series for stakeholders to access the same on a single platform. The Ready Reckoner is also published on PPAC's website (<http://ppac.gov.in>) and on our mobile app – PPAC-E. The coverage of data in the print version and the mobile app has been restricted to relatively shorter time periods while longer historical data series has been provided on our website.

All Divisions of PPAC have contributed for preparing this compendium and their assiduous efforts are appreciated. Cooperation and inputs from the oil and gas industry and other organizations is acknowledged.

PPAC is continuously striving to improve the content and coverage of this publication and comments/ suggestions to make it more comprehensive are welcome.

New Delhi  
November 13, 2018



**Atreyee Das**

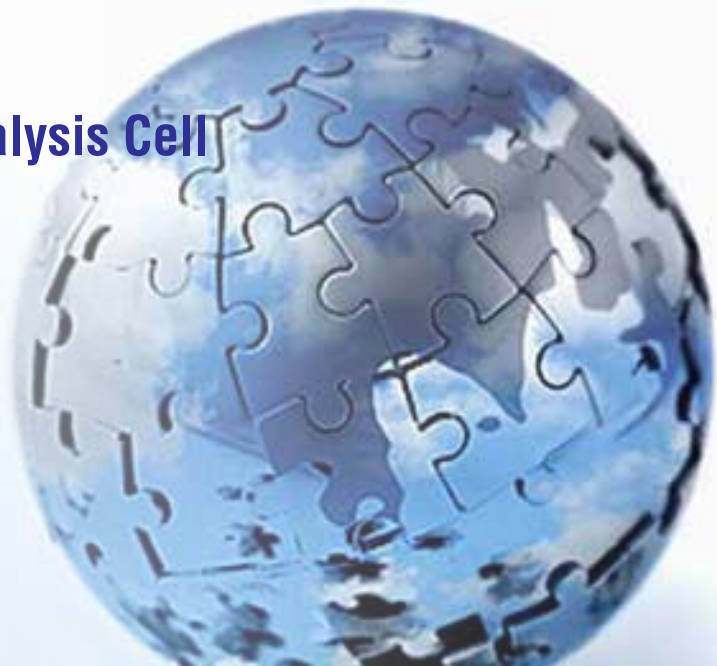
Director General

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



# 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	2014-15	2015-16	2016-17	2017-18	Apr- Sep 2017	Apr- Sep 2018 (P)
1	Population (as on 1st March 2011)	Census of India	Billion	1.2	-	-	-	-	-
2	GDP at constant (2011-12 Prices)	MOC&I	(GR.%)	7.4	8.2	7.1	6.7 (FE)	5.6 PE (Q1)	8.2 E (Q1)
3	Agricultural production (foodgrains)	MoA	Million tonne	252.0	251.6	275.1	284.8 (4 <sup>th</sup> AE)	140.7 4 <sup>th</sup> AE (Kharif)	141.6 1 <sup>st</sup> AE (Kharif)
			(GR.%)	-4.9	-0.2	9.4	3.5	1.6	0.6
4	Index of Industrial Production (Base: 2011-12)	MOC&I	(GR.%)	4.0	3.3	4.6	4.3	2.6	5.1
5	Imports	MOC&I	\$ Billion	448.0	381.0	384.4	465.6	222.4	258.4
6	Exports	MOC&I	\$ Billion	310.3	262.3	275.9	303.5	145.8	164.0
7	Trade balance	MOC&I	\$ Billion	-137.7	-118.7	-108.5	-162.1	-76.7	-94.3
8	Wholesale Price Index (all commodities) (average)	MOC&I	2011-12 = 100	113.9	109.7	111.6	114.9	113.7	119.2
9	All India Consumer Price Index (average):								
	i) Industrial workers	Labour Bureau, Govt. of India	2001=100	250.8	265.0	275.9	284.4	281.7	295.2
	ii) Agricultural labourers		1986-87=100	799.5	834.9	869.8	888.9	881.7	898.7
	iii) Rural labourers		1986-87=100	802.2	839.4	875.0	895.1	887.8	906.5
10	Foreign exchange reserves- Total#	RBI	\$ Billion	341.4	355.6	370.0	424.4	399.7	400.5
11	Outstanding external liabilities (as of end of financial year)	MOF	₹ Crore	1,97,514	2,10,262	2,28,259	2,43,409 (RE)	-	2,54,836 2018-19 (BE)
12	Outstanding internal debt (as of end of financial year)	MOF	₹ Crore	60,44,707	66,91,409	72,07,503	79,89,245 (RE)	-	87,03,357 2018-19 (BE)
13	Central plan outlay	MOF	₹ Crore	4,20,882	-	-	-	-	-
14	Centrally Sponsored Schemes & other transfers	MOF	₹ Crore	-	3,41,630	3,91,496	4,76,509 (RE)	-	5,46,863 2018-19 (BE)
15	Gross fiscal deficit	MOF	%	-4.1	-3.9	-3.5	-3.5 (RE)	-	3.3 2018-19 (BE)

**Note :** (P): Provisional; #2013-14-as on March 28, 2014, 2014-15-as on March 27, 2015, 2015-16-as on March 25, 2016, 2016-17-as on March 31, 2017, 2017-18-as on March 30, 2018; Apr-Sep 2017-as on September 29, 2017, Apr-Sep 2018-as on September 28, 2018; MoA: Ministry of Agriculture; MoF: Ministry of Finance; MoC&I: Ministry of Commerce & Industry; MoSPI: Ministry of Statistics and Programme Implementation; RBI: Reserve Bank of India; AE: Advance Estimates; RE: Revised Estimates; FE: Final Estimates, Agricultural production (Kharif), 2016-17= 138.52 (4<sup>th</sup> AE)

**Petroleum**

Sl. no.	Particulars	Source	Unit/ Base	2014-15	2015-16	2016-17	2017-18	Apr-Sep 2017	Apr-Sep 2018 (P)	
1	Crude oil production in India	ONGC/OIL/DGH	MMT	37.5	36.9	36.0	35.7	18.0	17.4	
2	Consumption of petroleum products in India	OMCs/PPAC	MMT	165.5	184.7	194.6	206.2	100.7	104.4	
3	Petroleum products production in India	Oil Cos	MMT	221.1	231.9	243.5	254.3	122.6	130.8	
4	Imports & exports									
	Crude oil imports	Oil Cos	\$ Billion	112.7	64.0	70.2	87.8	37.6	58.7	
	Petroleum products imports	Oil Cos & DGCIS	\$ Billion	12.1	10.0	10.6	13.6	5.9	8.3	
	Total petroleum imports (crude oil + petroleum products)	Oil Cos & DGCIS	\$ Billion	124.9	73.9	80.8	101.4	43.4	67.0	
	Petroleum products exports	Oil Cos	\$ Billion	47.3	27.1	29.0	34.9	15.5	20.4	
5	Gross petroleum imports as % of India's gross imports in value terms	MOC&I/PPAC	%	27.9	19.4	21.0	21.8	19.5	25.9	
6	Gross petroleum exports as % of India's gross exports in value terms	MOC&I/PPAC	%	15.2	10.3	10.5	11.5	10.6	12.4	
7	Import dependency (based on consumption)	PPAC	%	78.3	80.6	81.7	82.9	82.6	83.3	

**Note :** (P): Provisional, OMCs: Oil Marketing Companies, PPAC: Petroleum Planning & Analysis Cell

**Natural Gas**

Sl. no.	Particulars	Source	Unit/ Base	2014-15	2015-16	2016-17	2017-18	Apr-Sep 2017	Apr-Sep 2018 (P)
1	Gross production	ONGC/OIL/DGH	MMSCMD	92.2	88.1	87.4	89.5	89.7	88.8
2	Net availability (net of flare and loss)	ONGC/OIL/DGH	MMSCMD	89.6	85.1	84.5	86.9	87.2	86.7
3	LNG import	LNG importing Cos	MMSCMD	50.8	58.4	67.6	72.1	66.6	77.5
4	Total consumption including internal use (Net availability + LNG import)		MMSCMD	140.4	143.5	152.1	159.1	153.8	164.2
5	Import dependency (based on consumption)	PPAC	%	36.2	40.7	44.5	45.3	43.3	47.2

**Note :** MMSCMD : Million Standard Cubic Meter per day

**Table 1.2 : Global energy consumption, 2017**

Sl.no.	Country	Oil	Natural Gas	Coal	Nuclear Energy	Hydro Electricity	Renewables	Total Energy
		(Mtoe)	(Mtoe)	(Mtoe)	(Mtoe)	(Mtoe)	(Mtoe)	(Mtoe)
	<b>World</b>	4621.9	3156.0	3731.5	596.4	918.6	486.8	13511.2
	% Share	34.2	23.4	27.6	4.4	6.8	3.6	100.0
	Per Capita Consumption (Toe)	0.62	0.42	0.50	0.08	0.12	0.07	1.82
<b>1</b>	<b>China</b>	608.4	206.7	1892.6	56.2	261.5	106.7	3132.2
	% Share	19.4	6.6	60.4	1.8	8.3	3.4	100.0
	Per Capita Consumption (Toe)	0.44	0.15	1.37	0.04	0.19	0.08	2.27
<b>2</b>	<b>USA</b>	913.3	635.8	332.1	191.7	67.1	94.8	2234.9
	% Share	40.9	28.4	14.9	8.6	3.0	4.2	100.0
	Per Capita Consumption (Toe)	2.83	1.97	1.03	0.59	0.21	0.29	6.92
<b>3</b>	<b>India</b>	<b>222.1</b>	<b>46.6</b>	<b>424.0</b>	<b>8.5</b>	<b>30.7</b>	<b>21.8</b>	<b>753.7</b>
	% Share	<b>29.5</b>	<b>6.2</b>	<b>56.3</b>	<b>1.1</b>	<b>4.1</b>	<b>2.9</b>	<b>100.0</b>
	Per Capita Consumption (Toe)	<b>0.17</b>	<b>0.04</b>	<b>0.32</b>	<b>0.01</b>	<b>0.02</b>	<b>0.02</b>	<b>0.57</b>
<b>4</b>	<b>Russian Federation</b>	153.0	365.2	92.3	46.0	41.5	0.3	698.3
	% Share	21.9	52.3	13.2	6.6	5.9	0.04	100.0
	Per Capita Consumption (Toe)	1.06	2.53	0.64	0.32	0.29	0.002	4.84
<b>5</b>	<b>Japan</b>	188.3	100.7	120.5	6.6	17.9	22.4	456.4
	% Share	41.3	22.1	26.4	1.4	3.9	4.9	100.0
	Per Capita Consumption (Toe)	1.48	0.79	0.95	0.05	0.14	0.18	3.59
<b>6</b>	<b>Canada</b>	108.6	99.5	18.6	21.9	89.8	10.3	348.7
	% Share	31.1	28.5	5.3	6.3	25.8	3.0	100.0
	Per Capita Consumption (Toe)	2.99	2.74	0.51	0.60	2.48	0.28	9.62
<b>7</b>	<b>Germany</b>	119.8	77.5	71.3	17.2	4.5	44.8	335.1
	% Share	35.8	23.1	21.3	5.1	1.3	13.4	100.0
	Per Capita Consumption (Toe)	1.45	0.94	0.86	0.21	0.05	0.54	4.06
<b>8</b>	<b>South Korea</b>	129.3	42.4	86.3	33.6	0.7	3.6	295.9
	% Share	43.7	14.3	29.2	11.3	0.2	1.2	100.0
	Per Capita Consumption (Toe)	2.52	0.83	1.68	0.66	0.01	0.07	5.78
<b>9</b>	<b>Brazil</b>	135.6	33.0	16.5	3.6	83.6	22.2	294.4
	% Share	46.1	11.2	5.6	1.2	28.4	7.5	100.0
	Per Capita Consumption (Toe)	0.65	0.16	0.08	0.02	0.40	0.11	1.42
<b>10</b>	<b>Iran</b>	84.6	184.4	0.9	1.6	3.7	0.1	275.4
	% Share	30.7	67.0	0.3	0.6	1.3	0.05	100.0
	Per Capita Consumption (Toe)	1.05	2.30	0.01	0.02	0.05	0.002	3.43
<b>11</b>	<b>Saudi Arabia</b>	172.4	95.8	0.1	0.0	0.0	0.03	268.3
	% Share	64.2	35.7	0.04	-	-	0.01	100.0
	Per Capita Consumption (Toe)	5.34	2.97	0.003	-	-	0.001	8.31
<b>12</b>	<b>France</b>	79.7	38.5	9.1	90.1	11.1	9.4	237.9
	% Share	33.5	16.2	3.8	37.9	4.7	3.9	100.0
	Per Capita Consumption (Toe)	1.19	0.58	0.14	1.35	0.17	0.14	3.56
<b>13</b>	<b>United Kingdom</b>	76.3	67.7	9.0	15.9	1.3	21.0	191.3
	% Share	39.9	35.4	4.7	8.3	0.7	11.0	100.0
	Per Capita Consumption (Toe)	1.16	1.03	0.14	0.24	0.02	0.32	2.92
<b>14</b>	<b>Mexico</b>	86.8	75.3	13.1	2.5	7.2	4.4	189.3
	% Share	45.8	39.8	6.9	1.3	3.8	2.3	100.0
	Per Capita Consumption (Toe)	0.68	0.59	0.10	0.02	0.06	0.03	1.48
<b>15</b>	<b>Indonesia</b>	77.3	33.7	57.2	0.0	4.2	2.9	175.2
	% Share	44.1	19.2	32.6	-	2.4	1.7	100.0
	Per Capita Consumption (Toe)	0.30	0.13	0.22	-	0.02	0.01	0.67

Source: BP Statistical Review of World Energy, June 2018

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 database for 2016.

Mtoe: Million tonnes oil equivalent, Toe: Tonnes of oil equivalent



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## Chapter-2

# Exploration & Crude Oil Production

**Table 2.1 : World top 30 crude oil proved reserves countries**

Sl. no.	Country	At end 2017		
		Thousand million tonnes	Thousand million barrels	Reserves /Production ratio
1	Venezuela	47.3	303.2	393.6
2	Saudi Arabia	36.6	266.2	61.0
3	Canada	27.2	168.9	95.8
4	Iran	21.6	157.2	86.5
5	Iraq	20.1	148.8	90.2
6	Russian Federation	14.5	106.2	25.8
7	Kuwait	14.0	101.5	91.9
8	United Arab Emirates	13.0	97.8	68.1
9	Libya	6.3	48.4	153.3
10	US	6.0	50.0	10.5
11	Nigeria	5.1	37.5	51.6
12	Kazakhstan	3.9	30.0	44.8
13	China	3.5	25.7	18.3
14	Qatar	2.6	25.2	36.1
15	Brazil	1.9	12.8	12.8
16	Algeria	1.5	12.2	21.7
17	Angola	1.3	9.5	15.6
18	Ecuador	1.2	8.3	42.7
19	Mexico	1.0	7.2	8.9
20	Norway	1.0	7.9	11.0
21	Azerbaijan	1.0	7.0	24.1
22	Oman	0.7	5.4	15.2
<b>23</b>	<b>India</b>	<b>0.6</b>	<b>4.5</b>	<b>14.4</b>
24	Vietnam	0.6	4.4	36.0
25	South Sudan	0.5	3.5	88.3
26	Malaysia	0.5	3.6	14.1
27	Australia	0.4	4.0	31.6
28	Indonesia	0.4	3.2	9.2
29	Egypt	0.4	3.3	13.8
30	Yemen	0.4	3.0	156.6
	<b>Sub total</b>	<b>235.2</b>	<b>1666.3</b>	
	Others	4.1	30.3	
	<b>Total World</b>	<b>239.3</b>	<b>1696.6</b>	<b>50.2</b>
	of which: OECD	36.3	242.6	27.8
	Non-OECD	203.0	1454.0	57.9
	OPEC	171.0	1218.8	84.7
	Non-OPEC	68.3	477.8	24.6
	European Union	0.6	4.8	9.0
	Canadian oil sands: Total	26.6	163.4	
	of which: Under active development	3.6	22.1	
	Venezuela: Orinoco Belt	35.9	224.0	

**Source:** BP Statistical Review of World Energy, June 2018 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 : World top 30 crude oil producing countries, 2017

Sl.no.	Country	Production*	
		Million tonnes	Million barrels daily
1	USA	571.0	13.1
2	Saudi Arabia	561.7	12.0
3	Russian Federation	554.4	11.3
4	Canada	236.3	4.8
5	Iran	234.2	5.0
6	Iraq	221.5	4.5
7	China	191.5	3.8
8	United Arab Emirates	176.3	3.9
9	Kuwait	146.0	3.0
10	Brazil	142.7	2.7
11	Mexico	109.5	2.2
12	Venezuela	108.3	2.1
13	Nigeria	95.3	2.0
14	Norway	88.8	2.0
15	Kazakhstan	86.9	1.8
16	Angola	81.8	1.7
17	Qatar	79.9	1.9
18	Algeria	66.6	1.5
19	Oman	47.6	1.0
20	United Kingdom	46.6	1.0
21	Indonesia	46.4	0.9
22	Colombia	44.8	0.9
23	Libya	40.8	0.9
<b>24</b>	<b>India</b>	<b>40.4</b>	<b>0.9</b>
25	Azerbaijan	39.2	0.8
26	Egypt	32.2	0.7
27	Malaysia	32.2	0.7
28	Ecuador	28.5	0.5
29	Argentina	27.4	0.6
30	Thailand	16.8	0.5
	<b>Sub total</b>	<b>4195.4</b>	<b>88.6</b>
	Others	191.8	4.0
	<b>Total World</b>	<b>4387.1</b>	<b>92.6</b>
	of which: OECD	1090.3	23.9
	Non-OECD	3296.8	68.7
	OPEC	1860.3	39.4
	Non-OPEC	2526.9	53.2
	European Union	69.2	1.5

**Source:** BP Statistical Review of World Energy, June 2018 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 : World top 30 crude oil consuming countries, 2017**

Sl. no.	Country	Consumption *	
		Million tonnes	Million barrels daily
1	US	870.1	19.9
2	China	595.5	12.8
<b>3</b>	<b>India</b>	<b>221.8</b>	<b>4.7</b>
4	Japan	181.3	4.0
5	Saudi Arabia	165.8	3.9
6	Russian Federation	147.8	3.2
7	Brazil	139.6	3.0
8	South Korea	122.6	2.8
9	Germany	114.7	2.4
10	Canada	103.6	2.4
11	Mexico	82.7	1.9
12	Iran	81.0	1.8
13	France	76.9	1.6
14	Singapore	74.8	1.4
15	Indonesia	73.7	1.7
16	United Kingdom	73.2	1.6
17	Spain	63.6	1.3
18	Thailand	60.6	1.4
19	Italy	58.6	1.2
20	Australia	50.2	1.1
21	Turkey	48.3	1.0
22	Taiwan	47.2	1.1
23	United Arab Emirates	43.1	1.0
24	Netherlands	39.6	0.8
25	Iraq	38.4	0.8
26	Egypt	38.4	0.8
27	Malaysia	35.1	0.8
28	Belgium	31.2	0.7
29	Argentina	30.9	0.7
30	Poland	30.4	0.7
	<b>Sub total</b>	<b>3740.3</b>	<b>82.6</b>
	Others	729.4	15.6
	<b>Total World</b>	<b>4469.7</b>	<b>98.2</b>
	of which: OECD	2114.9	47.0
	Non-OECD	2354.8	51.2
	European Union	624.1	13.2

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

**Note:** \* 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.

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 : World top 30 crude oil refining capacity\* countries**

(Thousand barrels daily)					
Sl. no.	Country	2007	2017	Addition	% Change
1	USA	17594	18567	973	5.5
2	China	8737	14513	5776	66.1
3	Russian Federation	5471	6584	1113	20.3
<b>4</b>	<b>India</b>	<b>2983</b>	<b>4972</b>	<b>1988</b>	<b>66.6</b>
5	Japan	4650	3343	-1307	-28.1
6	South Korea	2679	3246	567	21.2
7	Saudi Arabia	2107	2821	714	33.9
8	Brazil	1964	2285	321	16.3
9	Iran	1772	2105	333	18.8
10	Germany	2390	2069	-322	-13.5
11	Canada	1907	1968	62	3.2
12	Italy	2377	1900	-477	-20.1
13	Spain	1362	1562	201	14.7
14	Mexico	1463	1546	83	5.6
15	Singapore	1427	1514	87	6.1
16	Venezuela	1303	1303	0	0.0
17	Netherlands	1236	1294	57	4.6
18	France	1962	1245	-717	-36.5
19	Thailand	1100	1235	135	12.3
20	United Kingdom	1819	1227	-592	-32.6
21	United Arab Emirates	625	1147	522	83.5
22	Indonesia	1094	1111	16	1.5
23	Taiwan	1197	1083	-114	-9.5
24	Iraq	738	919	181	24.5
25	Egypt	810	810	0	0.0
26	Belgium	781	776	-5	-0.6
27	Kuwait	936	736	-200	-21.4
28	Argentina	628	657	29	4.6
29	Algeria	443	651	208	47.0
30	Malaysia	534	625	91	17.0
	<b>Sub total</b>	<b>74090</b>	<b>83813</b>	<b>9723</b>	<b>13.1</b>
	Others	14573	14327	-246	-1.7
	<b>Total World</b>	<b>88663</b>	<b>98139</b>	<b>9476</b>	<b>10.7</b>
	of which: OECD	45524	43940	-1584	-3.5
	Non-OECD	43139	54199	11060	25.6
	European Union	15790	13970	-1820	-11.5

**Source:** BP Statistical Review of World Energy, June 2018 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	2017-18	Apr-Sep 2017	Apr-Sep 2018 (P)
<b>PSU companies</b>							
ONGC	20.4	20.8	21.1	20.9	20.8	10.6	9.9
OIL	3.5	3.4	3.2	3.3	3.4	1.7	1.7
<b>PSU total</b>	<b>23.9</b>	<b>24.2</b>	<b>24.3</b>	<b>24.1</b>	<b>24.2</b>	<b>12.3</b>	<b>11.6</b>
<b>PSU total (crore barrels)</b>	<b>17.5</b>	<b>17.8</b>	<b>17.8</b>	<b>17.7</b>	<b>17.7</b>	<b>9.0</b>	<b>8.5</b>
<b>Under PSC contracts</b>							
Panna / Mukta	1.0	0.9	0.9	0.8	0.7	0.4	0.3
KG-ONN-2003/1							0.01
Ravva	1.0	1.1	1.0	0.8	0.7	0.4	0.3
Kharsang	0.1	0.1	0.1	0.05	0.04	0.02	0.02
Gujarat- on-shore	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Gujarat- off-shore	0.4	0.4	0.4	0.4	0.4	0.2	0.4
KG-DWN-98/3(M.A.Oil)	0.2	0.2	0.2	0.1	0.1	0.05	0.03
CY-ONN-2002/2			0.01	0.05	0.1	0.04	0.04
RJ-ON-90/1(Mangala)	9.1	8.8	8.5	8.0	7.7	3.8	3.9
<b>PSC total</b>	<b>12.0</b>	<b>11.7</b>	<b>11.2</b>	<b>10.4</b>	<b>9.9</b>	<b>4.9</b>	<b>4.9</b>
<b>PSC total (crore barrels)</b>	<b>8.8</b>	<b>8.5</b>	<b>8.2</b>	<b>7.6</b>	<b>7.2</b>	<b>3.6</b>	<b>3.6</b>
<b>Total crude oil</b>	<b>35.9</b>	<b>35.9</b>	<b>35.5</b>	<b>34.5</b>	<b>34.0</b>	<b>17.2</b>	<b>16.6</b>
Condensate	1.9	1.6	1.4	1.5	1.6	0.8	0.9
<b>Total (crude oil + condensate)</b>	<b>37.8</b>	<b>37.5</b>	<b>36.9</b>	<b>36.0</b>	<b>35.7</b>	<b>18.0</b>	<b>17.4</b>
<b>Total (crude oil + condensate) (crore barrels)</b>	<b>27.7</b>	<b>27.5</b>	<b>27.1</b>	<b>26.4</b>	<b>26.2</b>	<b>13.2</b>	<b>12.8</b>

Source: Oil Companies and DGH  
(P): Provisional

**Table 2.6 : Self sufficiency in petroleum products**

(Million metric tonne)							
Particulars	2013-14	2014-15	2015-16	2016-17	2017-18	Apr-Sep 2017	Apr-Sep 2018 (P)
<b>i) Indigenous crude oil processing</b>	<b>33.9</b>	<b>34.2</b>	<b>34.1</b>	<b>33.5</b>	<b>32.8</b>	<b>16.3</b>	<b>16.0</b>
a) Products from indigeneous crude	31.6	32.0	31.8	31.3	30.6	15.3	15.0
b) Products from fractionators	4.3	4.0	4.0	4.3	4.6	2.2	2.4
<b>ii) Total production from indigenous crude and condensate (a+b)</b>	<b>35.9</b>	<b>35.9</b>	<b>35.8</b>	<b>35.6</b>	<b>35.2</b>	<b>17.5</b>	<b>17.4</b>
<b>iii) Total domestic consumption</b>	<b>158.4</b>	<b>165.5</b>	<b>184.7</b>	<b>194.6</b>	<b>206.2</b>	<b>100.7</b>	<b>104.4</b>
<b>Percentage of self sufficiency (ii/iii)</b>	<b>22.7%</b>	<b>21.7%</b>	<b>19.4%</b>	<b>18.3%</b>	<b>17.1%</b>	<b>17.4%</b>	<b>16.7%</b>

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 (as on 01.11.2018)**

Round	Offered	Awarded				Relinquished/Proposed for Relinquishment				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	0	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	6	8	22	0	5	5	10
NELP-IX	34	1	3	15	19	1	2	1	4	0	1	14	15
<b>Total</b>	<b>360</b>	<b>81</b>	<b>59</b>	<b>114</b>	<b>254</b>	<b>79</b>	<b>43</b>	<b>66</b>	<b>188</b>	<b>2</b>	<b>16</b>	<b>48</b>	<b>66</b>

Source: DGH

**Table 2.8 : Hydrocarbon reserves in India**

(Million metric tonne)						
Details of reserves in India as of 01.04.2018	Initial in place			Ultimate reserves		
	Oil	Gas	O+OEG	Oil	Gas	O+OEG
ONGC	5009	2204	7213	1433	1249	2683
OIL	806	384	1140	252	217	440
Pvt./JV	1081	1246	2327	234	738	972
<b>Total</b>	<b>6896</b>	<b>3834</b>	<b>10680</b>	<b>1919</b>	<b>2204</b>	<b>4095</b>
Accretion of initial in place			Accretion ultimate reserves			
ONGC	81	20	100	16	52	67
OIL	0	9	8	3	4	7
Pvt./JV	73	59	131	6	28	34
<b>Total</b>	<b>153</b>	<b>88</b>	<b>240</b>	<b>25</b>	<b>84</b>	<b>109</b>

Source: DGH

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

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

Year	2014-15	2015-16	2016-17	2017-18	Apr-Sep 2017	Apr-Sep 2018 (P)
Total domestic production (MMTOE)	71.1	69.2	67.9	68.3	34.4	33.7
Overseas production (MMTOE)	9.9	10.2	17.4	21.7	10.6	12.0
Overseas production as (%) percentage of domestic production	14.0	14.7	25.6	31.8	30.7	35.6

Source: ONGC Videsh Ltd., OIL, GAIL, BPRL, 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 (Apr-Sep 2018)	1.93	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**

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.
Oil India Limited (OIL): Activities during 2017-18	<p>OIL was granted permission for shale gas/oil exploration in six nominated blocks - three in Assam, one in Rajasthan and two in Arunachal Pradesh with an effective time period of 3 years under Phase-I. Activities carried out in each block during the year 2017-18 were as follows:</p> <p><b>Jaisalmer PML, Rajasthan:</b> Evaluation of the conventional core recovered from well DND-28 within Baisakhi - Bedeshir shale formation has been completed. Evaluation results indicate poor shale prospectivity within Baisakhi - Bedeshir formation. Core evaluation report has been submitted to DGH.</p> <p><b>Dibrugarh PML block, Assam:</b> Pilot hole/well Sologuri-02 in Dibrugarh Extn. PML adjacent to the Dibrugarh PML block boundary has been completed. About 111.5 m of conventional core was acquired from Kopili Formation and Lakadong+Therria target shale section. Core preservation, log based cluster analysis, canister desorption, crushed gas analysis, grain density, rock evaluation, adsorption isotherm and geo-mechanical study has been completed. Evaluation of shale prospectively based on the study results is in progress.</p> <p><b>Dumduma PML block, Assam:</b> Pilot hole South Tinali-05 has been completed. About 81.84 m of conventional core was acquired within Barail Coal Shale sequence. Core preservation, log based cluster analysis, canister desorption, crushed gas analysis, grain density, rock evaluation and core-stabbing were completed. Adsorption isotherm, Geo-mechanical study and evaluation of shale potentiality are in progress.</p> <p><b>Chabua PML block, Assam:</b> Pilot hole Matimekhana-05 has been completed within Kopili target shale section. About 110.12 m of conventional core was acquired from Kopili target shale section. Core preservation and canister desorption has been completed.</p> <p><b>Jairampur Extn. PEL and Deomali PEL, Arunachal Pradesh:</b> OIL has identified two locations in Deomali PEL for acquiring extensive amount of conventional core against the target shale of Upper Tikak Partbat and Disang shales respectively for shale gas/oil analysis.</p>
Oil and Natural Gas Corporation Limited (ONGC): Activities during 2017-18	<p>Environmental Clearance (EC) for shale exploratory drilling: EC for KG and Cambay basin was received from MOEF&amp;CC in June 2017 and March 2018 respectively.</p> <p>Drilling: KG Basin: Exclusive shale well WGSGA in West Godavari Block, to test Bottom Transgressive Unit, was spudded and drilled down to 2925m. Two cores of 9m each have been taken in Raghavapuram shale.</p> <p>Hydro-fracturing in two of the identified zones in Gandhar-708 (GNSGA) and GN-712 (GNSGB) was carried out. During hydro-fracturing, proppant was successfully placed.</p> <p>Assessment Reports: Block wise status report for Cambay, KG, Cauvery and Assam-Arakan basin has been submitted to DGH and other agencies in July- September 2017.</p> <p>Contracts:</p> <ol style="list-style-type: none"> <li>1. Coring contract for shale exploration for three years has been awarded.</li> <li>2. Hiring of services for core handling, lab studies, integration and assessment of shale wells was awarded for three years.</li> </ol>

Source: DGH



# Chapter-3

## Natural Gas

**Table 3.1 : World top 30 natural gas reserves countries**

		(Billion cubic metre)	
Sl. no.	Country	2016	2017
1	Russian Federation	34833	34970
2	Iran	33215	33215
3	Qatar	24915	24915
4	Turkmenistan	19486	19486
5	USA	8737	8737
6	Saudi Arabia	8035	8035
7	Venezuela	6371	6371
8	United Arab Emirates	5939	5939
9	China	5479	5479
10	Nigeria	5201	5201
11	Algeria	4335	4335
12	Australia	3634	3634
13	Iraq	3509	3509
14	Indonesia	2909	2914
15	Malaysia	2737	2737
16	Canada	1996	1883
17	Egypt	1777	1777
18	Norway	1750	1716
19	Kuwait	1695	1695
20	Libya	1430	1430
21	Azerbaijan	1319	1319
<b>22</b>	<b>India</b>	<b>1181</b>	<b>1241</b>
23	Uzbekistan	1211	1211
24	Myanmar	1168	1168
25	Kazakhstan	1093	1144
26	Ukraine	1050	1050
27	Oman	664	664
27	Netherlands	654	654
29	Vietnam	646	646
30	Israel	166	456
	<b>Sub total</b>	<b>187136</b>	<b>187531</b>
	Others	5956	5920
	<b>Total World</b>	<b>193092</b>	<b>193452</b>
	of which: OECD	17663	17809
	Non-OECD	175428	175643
	European Union	1180	1181
	CIS	59027	59214

Source: BP Statistical Review of World Energy, June 2018

**Table 3.2 : World top 30 natural gas producing countries**

(Billion cubic metre)			
Sl. no.	Country	2016	2017
1	USA	729.3	734.5
2	Russian Federation	589.3	635.6
3	Iran	203.2	223.9
4	Canada	171.6	176.3
5	Qatar	177.0	175.7
6	China	137.9	149.2
7	Norway	115.8	123.2
8	Australia	96.4	113.5
9	Saudi Arabia	105.3	111.4
10	Algeria	91.4	91.2
11	Malaysia	75.6	78.4
12	Indonesia	70.7	68.0
13	Turkmenistan	66.9	62.0
14	United Arab Emirates	59.6	60.4
15	Uzbekistan	53.1	53.4
16	Egypt	40.3	49.0
17	Nigeria	42.6	47.2
18	United Kingdom	41.8	41.9
19	Mexico	43.7	40.7
20	Thailand	40.4	38.7
21	Venezuela	38.0	37.4
22	Argentina	37.3	37.1
23	Netherlands	42.0	36.6
24	Pakistan	34.7	34.7
25	Trinidad & Tobago	33.5	33.8
26	Oman	31.4	32.3
<b>27</b>	<b>India</b>	<b>27.3</b>	<b>28.5</b>
28	Brazil	24.5	27.5
29	Kazakhstan	22.9	27.1
30	Bangladesh	26.5	26.6
	<b>Sub total</b>	<b>3270.1</b>	<b>3396.0</b>
	Others	279.8	284.4
	<b>Total World</b>	<b>3549.8</b>	<b>3680.4</b>
	of which: OECD	1286.6	1313.6
	Non-OECD	2263.2	2366.8
	European Union	121.8	117.8
	CIS	769.8	815.5

Source: BP Statistical Review of World Energy, June 2018

**Table 3.3 : World top 30 natural gas consuming countries**

		(Billion cubic metre)	
Sl. no.	Country	2016	2017
1	USA	750.3	739.5
2	Russian Federation	420.2	424.8
3	China	209.4	240.4
4	Iran	201.4	214.4
5	Japan	116.4	117.1
6	Canada	109.5	115.7
7	Saudi Arabia	105.3	111.4
8	Germany	84.9	90.2
9	Mexico	91.8	87.6
10	United Kingdom	81.0	78.8
11	United Arab Emirates	72.5	72.2
12	Italy	68.0	72.1
13	Egypt	49.4	56.0
<b>14</b>	<b>India</b>	<b>50.8</b>	<b>54.2</b>
15	Turkey	44.4	51.7
16	Thailand	50.6	50.1
17	South Korea	47.6	49.4
18	Argentina	48.3	48.5
19	Qatar	43.1	47.4
20	France	44.6	44.7
21	Malaysia	41.9	42.8
22	Australia	41.7	41.9
23	Uzbekistan	41.6	41.6
24	Pakistan	38.3	40.7
25	Indonesia	38.3	39.2
26	Algeria	38.6	38.9
27	Brazil	37.7	38.3
28	Venezuela	38.3	37.6
29	Netherlands	34.5	36.1
30	Spain	29.1	32.0
	<b>Sub total</b>	<b>3069.6</b>	<b>3155.2</b>
	Others	466.1	515.2
	<b>Total World</b>	<b>3535.7</b>	<b>3670.4</b>
	of which: OECD	1660.0	1677.6
	Non-OECD	1914.2	1992.8
	European Union	448.8	466.8
	CIS	572.9	574.6

Source: BP Statistical Review of World Energy, June 2018

**Table 3.4 : Natural gas at a glance**

(MMSCMD)						
	2014-15	2015-16	2016-17	2017-18	Apr-Sep 2017	Apr-Sep 2018 (P)
Gross production	92.2	88.1	87.4	89.5	89.7	88.8
Net availability (net of flare and loss)	89.6	85.1	84.5	86.9	87.2	86.7
LNG import	50.8	58.4	67.6	72.1	66.6	77.5
Total consumption including internal consumption (Net availability + LNG import)	140.4	143.5	152.1	159.1	153.8	164.2
<b>Total consumption (in BCM)</b>	<b>51.2</b>	<b>52.5</b>	<b>55.5</b>	<b>58.1</b>	<b>28.1</b>	<b>30.0</b>
<b>Total consumption (in MMSCM)</b>	<b>51238</b>	<b>52517</b>	<b>55534</b>	<b>58059</b>	<b>28149</b>	<b>30046</b>

**Table 3.5 : Natural gas production**

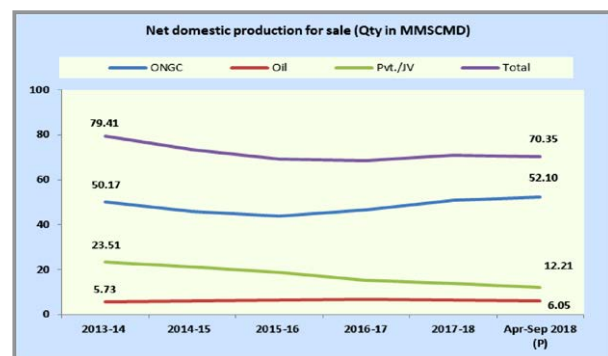
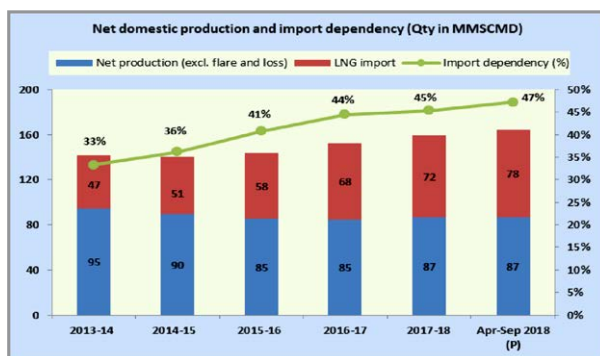
(MMSCMD)						
	2014-15	2015-16	2016-17	2017-18	Apr-Sep 2017	Apr-Sep 2018 (P)
<b>ONGC</b>						
A) Gross production	60.3	57.9	60.5	64.2	63.8	65.7
B) Flared	1.7	1.8	1.5	1.2	1.2	1.1
C) Internal use*	12.6	12.2	12.3	12.1	12.1	12.5
D) =A-B-C Net production for sale	46.0	43.9	46.7	50.8	50.5	52.1
<b>Oil India Limited</b>						
A) Gross production	7.5	7.8	8.0	7.9	8.1	7.5
B) Flared	0.4	0.3	0.3	0.3	0.3	0.3
C) Internal use*	1.1	1.1	1.1	1.1	1.1	1.1
D) =A-B-C Net production for sale	6.0	6.3	6.6	6.5	6.7	6.1
<b>PSC/JVs fields</b>						
A) Gross production	24.4	22.5	18.8	17.4	17.8	15.7
B) Flared	0.3	0.6	0.9	0.7	0.7	0.4
C) Internal use	2.5	2.7	2.6	2.7	2.6	2.8
D) Loss	0.3	0.3	0.2	0.2	0.2	0.3
E) =A-B-C-D Net production for sale	21.3	18.9	15.1	13.7	14.2	12.2
<b>Grand Total</b>						
A) Gross production	92.2	88.1	87.4	89.5	89.7	88.8
B) Flared	2.4	2.8	2.7	2.3	2.3	1.9
C) Internal use	16.2	15.9	16.1	15.9	15.8	16.4
D) Loss	0.3	0.3	0.2	0.2	0.2	0.3
E) =A-B-C-D Net production for sale	73.4	69.1	68.5	71.0	71.4	70.4

\* Includes Loss

Source: Domestic Gas Producers / DGH / LNG Importing companies

Note: LNG import data in Million Metric Tonne (MMT), converted to MMSCM; 1MMT=1325 MMSCM

BCM: Billion Cubic Meter; MMSCMD: Million Standard Cubic Meter per Day



**Table 3.6 : CNG / PNG data as on 01.10.2018**

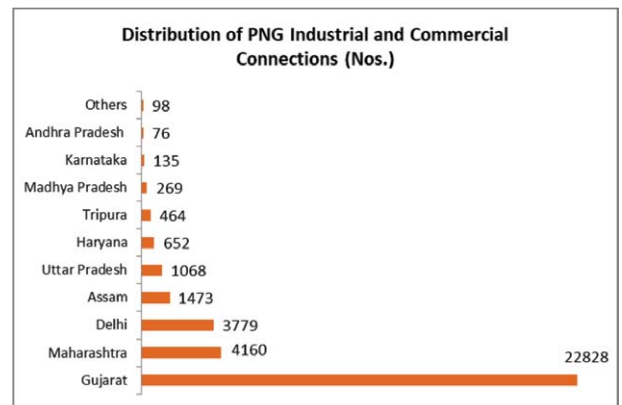
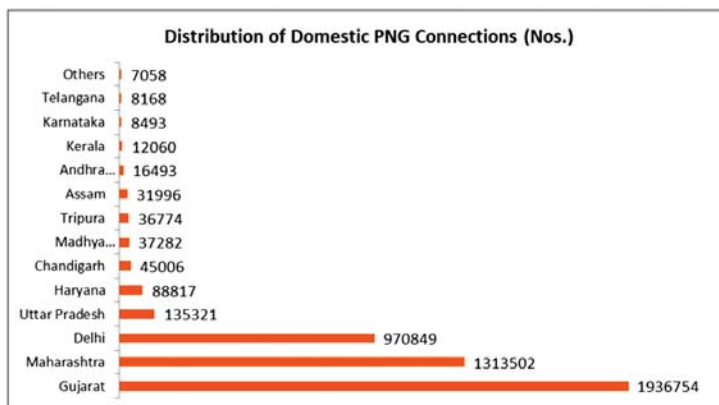
Sl. no.	State	Geographical area/city covered	Entity	CNG stations	PNG connections		
					Domestic	Commercial	Industrial
1	Haryana	Faridabad	Adani Gas Limited	14	51770	94	273
		Sonipat	Gail Gas Limited	8	6179	20	68
		Gurgaon	Haryana City Gas Distribution Ltd	27	21618	136	45
		Panipat	Indian Oil-Adani Gas Pvt. Ltd.	1	7730	1	3
		Gurgaon	Indraprastha Gas Limited	0	0	5	0
		Rewari	Indraprastha Gas Limited	4	1520	0	7
		<b>Total</b>		<b>54</b>	<b>88817</b>	<b>256</b>	<b>396</b>
2	Andhra Pradesh	Vijayawada	Bhagyanagar Gas Limited	13	2453	9	0
		Kakinada	Bhagyanagar Gas Limited	5	13372	63	1
		Kovvur & Nidadavole (West Godavari), Rajahmundry & Ravulapalem (East Godavari District)	Godavari Gas Pvt.Ltd.	6	283	2	0
		Krishna Dt. ( Except Vijaywada City Area	Megha Engineering & Infrastructures Ltd.	2	385	0	1
		<b>Total</b>		<b>26</b>	<b>16493</b>	<b>74</b>	<b>2</b>
3	Telangana	Hyderabad	Bhagyanagar Gas Limited	33	8168	9	13
		<b>Total</b>		<b>33</b>	<b>8168</b>	<b>9</b>	<b>13</b>
4	Assam	Tinsukia, Dibrugarh, Sivasagar, Jorhat, Golaghat	Assam Gas Company Limited	0	31996	1061	412
		<b>Total</b>		<b>0</b>	<b>31996</b>	<b>1061</b>	<b>412</b>
5	Gujarat	Ahmedabad	Adani Gas Ltd.	54	352816	2360	799
		Vadodara	Adani Gas Ltd.	6	561	1	90
		Anand	Charotar Gas Sahakari Mandali Ltd	2	26614	625	116
		Merger of GGCL & GSPC	Gujarat Gas Limited	289	1300355	12064	3377
		Ahmedabad	HPCL (Only CNG)	22	0	0	0
		Banaskantha / Palanpur	IRM Energy Pvt. Ltd.	10	4015	8	2
		Gandhinagar, Mehsana & Sabarkantha District	Sabarmati Gas Ltd.	67	138100	590	291
		Patan	Sabarmati Gas Ltd.	11	2014	0	0
		<b>Total</b>		<b>469</b>	<b>1936754</b>	<b>18153</b>	<b>4675</b>
6	Madhya Pradesh	Indore	Aavantika Gas	17	17695	58	89
		Pithampur	Aavantika Gas	1	51	5	23
		Ujjain	Aavantika Gas	4	8685	6	14
		Gwalior	Aavantika Gas	6	7970	29	2
		Dewas	Gail Gas Ltd.	3	2881	13	30
		Vijaipur	Gail Gas Ltd.	1	0	0	0
		<b>Total</b>		<b>32</b>	<b>37282</b>	<b>111</b>	<b>158</b>
7	Maharashtra	Pune City including Pimpri Chinchwad along with adjoining contiguous areas of Hinjewadi, Chakan & Talegaon GA	Maharashtra Natural Gas Limited	55	127586	278	163
		Mumbai	Mahanagar Gas Limited	133	760331	2911	18
		Greater Mumbai including Thane City, Mira Bhayender, Navi Mumbai, Ambernath, Bhiwandi, Kalyan, Dombivli, Badlapur, Ulhasnagar, Panvel, Kharghar & Talaja	Mahanagar Gas Limited	82	424637	726	55
		Raigarh District	Mahanagar Gas Limited	6	820	0	0
		Thane	Gujarat Gas Limited	0	128	8	1
		<b>Total</b>		<b>276</b>	<b>1313502</b>	<b>3923</b>	<b>237</b>
8	Delhi/NCR	Delhi (including Noida & Ghaziabad)	Indraprastha Gas Limited	450	970849	2350	1429
		<b>Total</b>		<b>450</b>	<b>970849</b>	<b>2350</b>	<b>1429</b>
9	Rajasthan	Kota	Rajasthan State Gas Limited	3	679	4	12
		Neemrana & Kukas	Rajasthan State Gas Limited	2	0	0	0
		<b>Total</b>		<b>5</b>	<b>679</b>	<b>4</b>	<b>12</b>
10	Tripura	Agartala	Tripura Natural Gas Company Limited	8	36774	415	49
		<b>Total</b>		<b>8</b>	<b>36774</b>	<b>415</b>	<b>49</b>



Table 3.6 : Continued

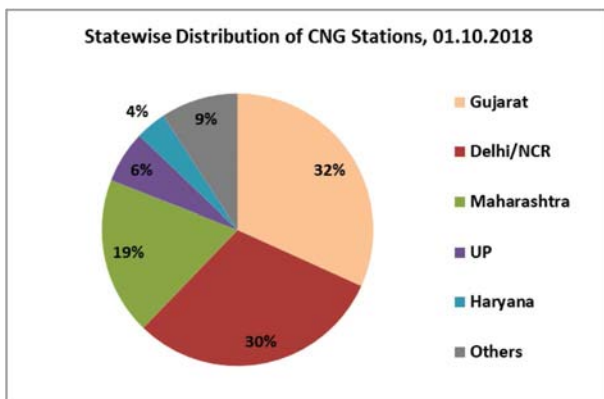
Sl. no.	State	Geographical area/city covered	Entity	CNG stations	PNG connections		
					Domestic	Commercial	Industrial
11	Karnataka	Bengaluru	Gail Gas Ltd.	6	8168	76	42
		Tumkur	Megha Engineering & Infrastructures Ltd.	0	300	10	4
		Belgaum	Megha Engineering & Infrastructures Ltd.	0	25	3	0
		<b>Total</b>		<b>8493</b>	<b>89</b>	<b>46</b>	
12	West Bengal	Kolkata	Great Eastern Energy Corporation Limited	7	0	0	0
		<b>Total</b>		<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>
13	Uttar Pradesh	Khurja	Adani Gas Ltd.	1	8054	2	131
		Kanpur	Central UP Gas Ltd	23	27399	128	49
		Bareilly	Central UP Gas Ltd	5	12865	95	15
		Meerut	Gail Gas Ltd.	9	6197	16	26
		Firojabad (TTZ)	Gail Gas Ltd.	5	125	0	340
		Lucknow	Green Gas Ltd	21	27763	36	10
		Agra	Green Gas Ltd	13	25935	42	18
		Allahabad	Indian Oil-Adani Gas Pvt. Ltd.	3	19618	1	0
		Mathura	Sanwaria Gas Ltd	7	4272	36	63
		Moradabad	SITI Energy Limited	2	3093	54	6
		Dibiyapur	Gail Gas Ltd.	1	0	0	0
Varanasi	GAIL (India) Ltd.	2	0	0	0		
		<b>Total</b>		<b>92</b>	<b>135321</b>	<b>410</b>	<b>658</b>
14	Chandigarh	Chandigarh	Indian Oil-Adani Gas Pvt. Ltd.	4	45006	0	0
		<b>Total</b>		<b>4</b>	<b>45006</b>	<b>0</b>	<b>0</b>
15	Kerala	Ernakulam	Indian Oil-Adani Gas Pvt. Ltd.	4	12060	2	0
		<b>Total</b>		<b>4</b>	<b>12060</b>	<b>2</b>	<b>0</b>
16	Dadra & Nagar Haveli	UT of Dadra & Nagar Haveli	Gujarat Gas Limited	3	1223	9	11
		<b>Total</b>		<b>3</b>	<b>1223</b>	<b>9</b>	<b>11</b>
17	Daman and Diu	Daman and Diu	Indian Oil-Adani Gas Pvt. Ltd.	2	2755	23	9
		<b>Total</b>		<b>2</b>	<b>2755</b>	<b>23</b>	<b>9</b>
18	Odisha	Bhubaneswar/Khurda	GAIL (India) Ltd.	2	161	0	0
		Cuttack	GAIL (India) Ltd.	2	0	0	0
		<b>Total</b>		<b>4</b>	<b>161</b>	<b>0</b>	<b>0</b>
19	Punjab	Fatehgarh Sahib	IRM Energy Pvt. Ltd.	1	120	1	4
		<b>Total</b>		<b>1</b>	<b>120</b>	<b>1</b>	<b>4</b>
20	Uttarakhand	Udham Singh Nagar	Indian Oil-Adani Gas Pvt. Ltd.	1	2104	0	1
		Haridwar	Haridwar Natural Gas Pvt. Ltd.	0	16	0	0
		<b>Total</b>		<b>1</b>	<b>2120</b>	<b>0</b>	<b>1</b>
		<b>Grand Total</b>		<b>1477</b>	<b>4648573</b>	<b>26890</b>	<b>8112</b>

Source : CGD companies



**Table 3.7: CNG sales in India**

(Sales in TMT)								
State	Company name	No. of companies	2014-15	2015-16	2016-17	2017-18	Apr-Sep 2017	Apr-Sep 2018 (P)
Andhra Pradesh	Bhagyanagar Gas Ltd.( BGL), Godavari Gas Pvt. Ltd., Megha Engineering & Infrastructures Ltd.	3	26	27	29	32	15	10
Chandigarh	Indian Oil-Adani Gas Pvt. Ltd.	1	0	0	0	5	2	6
Dadra & Nagar Haveli	Gujarat Gas Ltd.						-	1
Daman & Diu	Indian Oil-Adani Gas Pvt. Ltd.	1	0	0	0	1	-	1
Delhi	Indraprastha Gas Ltd. (IGL)	1	717	738	804	1016	435	485
Gujarat	Sabarmati Gas Ltd, Gujarat Gas Ltd, Adani Gas Ltd, Vadodara Gas Ltd, Hindustan Petroleum Corporation Ltd, Charotar Gas Sahakari Mandali Ltd, IRM Energy Ltd.	7	476	503	546	612	298	329
Haryana	Haryana City Gas Distribution Ltd, Adani Gas Limited, GAIL Gas Ltd., Indraprastha Gas Ltd.	4	72	75	109	144	70	89
Karnataka	GAIL Gas Ltd.	1	0	0	0	0.03	0.01	44
Kerala	Indian Oil-Adani Gas Pvt. Ltd.	1	0	0	0	0.001	-	0.2
Madhya Pradesh	Aavantika Gas Ltd., GAIL Gas Ltd.	2	17	19	22	25	12	14
Maharashtra	Mahanagar Gas Ltd, Maharashtra Natural Gas Ltd	3	531	565	593	630	311	343
Odisha	GAIL (India) Ltd.	1	0	0	0	0.1	-	0.0005
Punjab	IRM Energy Pvt. Ltd.						-	0.0003
Rajasthan	Rajasthan State Gas Limited	1	3	4	4	5	2	5
Telangana	Bhagyanagar Gas Limited						-	6
Tripura	Tripura Natural Gas Co. Ltd.	1	10	11	12	13	7	7
Uttar Pradesh	Green Gas Ltd., Lucknow, Central UP Gas Ltd., Kanpur, Siti Energy Ltd., GAIL Gas Ltd., Sanwariya Gas Ltd., Adani Gas Ltd., Indian Oil-Adani Gas Pvt. Ltd., Indraprastha Gas Ltd., GAIL (India) Ltd.	8	185	212	245	153	141	165
Uttarakhand	Indian Oil-Adani Gas Pvt. Ltd.						-	0.02
West Bengal	Great Eastern Energy Corporation Ltd.	1	1	1	2	2	1	1
<b>Total</b>		<b>25*</b>	<b>2037</b>	<b>2155</b>	<b>2365</b>	<b>2638</b>	<b>1295</b>	<b>1507</b>



**Source :** CGD companies

**Note:** \*Some entities are operating in more than one State. Hence, their number is taken once only.

Nearly 97% of India's CNG vehicles ply in the five states of Delhi (including Noida and Ghaziabad), Gujarat, Maharashtra, UP and Haryana. Around 87% of these are in the three states of Delhi, Gujarat and Maharashtra.

**Table 3.8: CNG stations and vehicles as on 01.10.2018**

State	Company name	No. of CNG stations	No. of CNG vehicles
Andhra Pradesh	Bhagyanagar Gas Ltd., Godavari Gas Pvt. Ltd., Megha Engineering & Infrastructures Ltd	26	19417
Chandigarh	Indian Oil-Adani Gas Pvt. Ltd.	4	5000
Dadra & Nagar Haveli	Gujarat Gas Ltd.	3	849
Daman & Diu	Indian Oil-Adani Gas Pvt. Ltd.	2	500
Delhi /NCR (incl., Noida and Ghaziabad)	Indraprastha Gas Ltd.	450	1048903
Gujarat	Sabarmati Gas Ltd, Gujarat Gas Ltd, Adani Gas Ltd, Vadodara Gas Ltd, Hindustan Petroleum Corporation Ltd, Charotar Gas Sahakari Mandal Ltd, IRM Energy Ltd.	469	867528
Haryana	Haryana City Gas Distribution Ltd, Adani Gas Limited, GAIL Gas Ltd., Indraprastha Gas Ltd.	54	147601
Karnataka	Gail Gas Ltd.	6	609
Kerala	Indian Oil-Adani Gas Pvt. Ltd.	4	500
Madhya Pradesh	Aavantika Gas Ltd., GAIL Gas Ltd.	32	35236
Maharashtra	Mahanagar Gas Ltd, Maharashtra Natural Gas Ltd.	276	858447
Odisha	GAIL (India) Ltd.	4	1509
Punjab	IRM Energy Pvt. Ltd.	1	415
Rajasthan	Rajasthan State Gas Limited	5	7938
Telangana	Bhagyanagar Gas Limited	33	24555
Tripura	Tripura Natural Gas Co. Ltd.	8	11053
Uttar Pradesh	Green Gas Ltd., Central UP Gas Ltd., Siti Energy Ltd., GAIL Gas Ltd., Sanwariya Gas Ltd., Indraprastha Gas Ltd., Adani Gas Ltd., Indian Oil-Adani Gas Pvt. Ltd., GAIL (India) Ltd.	92	145822
Uttarakhand	Indian Oil-Adani Gas Pvt. Ltd.	1	50
West Bengal	Great Eastern Energy Corporation Ltd.	7	3578
<b>All India</b>		<b>1477</b>	<b>3179510</b>

Source : CGD Companies

**Table 3.9 : LNG terminals (Operational)**

Sl. no.	Promoters	Capacity (MMTPA)	Capacity Utilization (%) Apr-Sep 2018 (P)
1	Petronet LNG Ltd. (PLL)	15 MMTPA	109.5%
2	Hazira LNG Pvt. Ltd. (HLPL)	5 MMTPA	93.9%
3	Ratnagiri Gas and Power Pvt. Ltd. (RGPP- JV of GAIL & NTPC)	1.69 MMTPA*	4.4%
4	Petronet LNG Ltd. (PLL)	5 MMTPA	9.9%
<b>Total</b>		<b>26.69 MMTPA</b>	

\*To increase to 5 MMTPA with breakwater

Source: LNG terminal operating companies

**Table 3.10 : Import of Liquefied Natural Gas (LNG)**

2015-16			2016-17			2017-18			Apr-Sep 2017			Apr-Sep 2018 (P)		
MMT	MMSCM	Value (Mn. USD)	MMT	MMSCM	Value (Mn. USD)	MMT	MMSCM	Value (Mn. USD)	MMT	MMSCM	Value (Mn. USD)	MMT	MMSCM	Value (Mn. USD)
16.1	21388	6897	18.6	24686	6089	19.9	26328	7739	9.2	12195	3147	10.7	14184	4960

Source: LNG importing companies

**Table 3.11 : 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	2.5	5.30
April 2017 - September 2017	2.48	5.56
October 2017 - March 2018	2.89	6.30
April 2018 - September 2018	3.06	6.78
October 2018 - March 2019	3.36	7.67

**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.



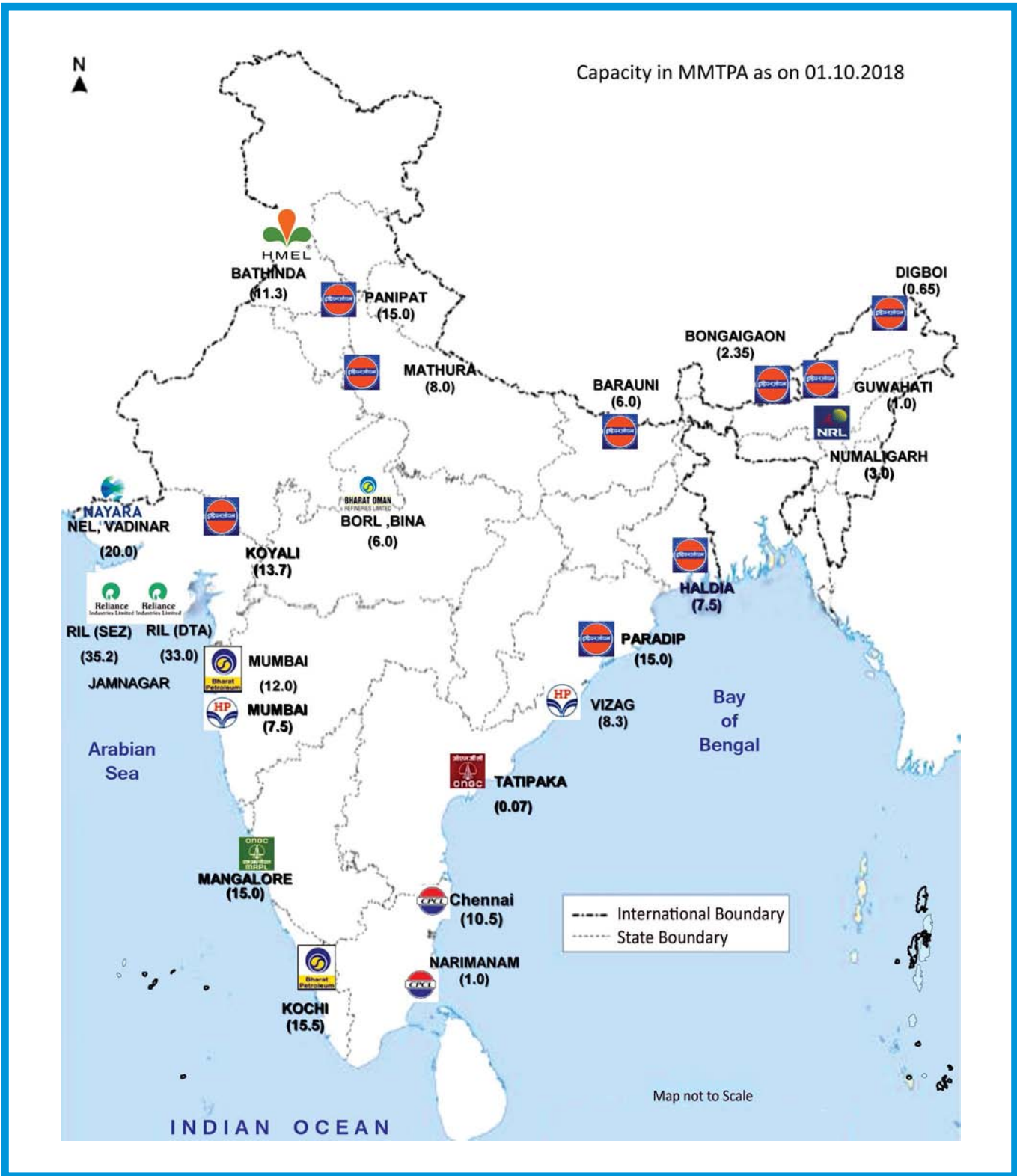
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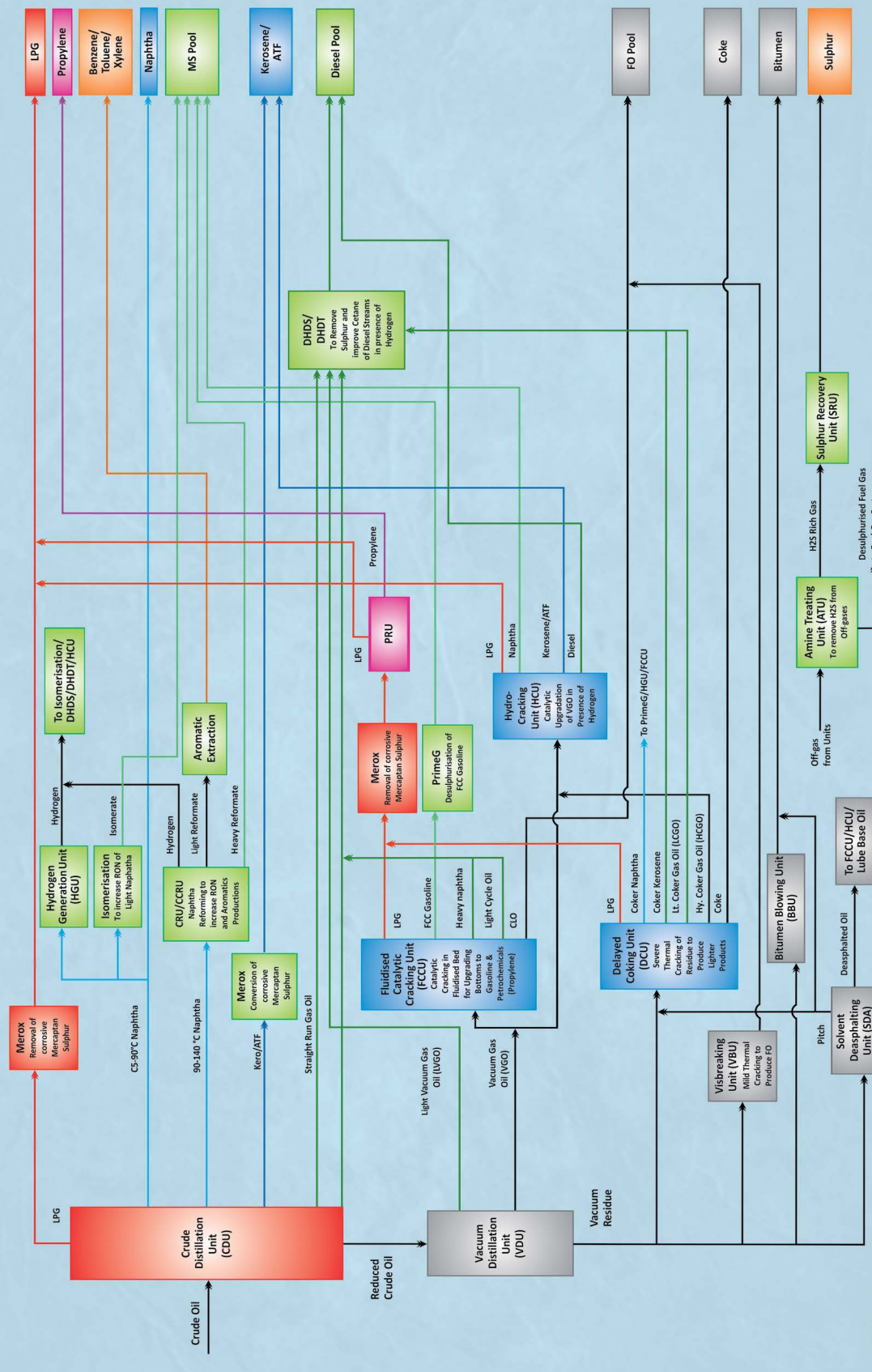
## Chapter-4

# 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)					
		01.04.2015	01.04.2016	01.04.2017	01.04.2018	2014-15	2015-16	2016-17	2017-18	Apr-Sep 2017	Apr-Sep 2018 (P)
1	Barauni	6.0	6.0	6.0	6.0	5.9	6.5	6.5	5.8	2.5	3.2
2	Koyali	13.7	13.7	13.7	13.7	13.3	13.8	14.0	13.8	6.3	6.6
3	Haldia	7.5	7.5	7.5	7.5	7.7	7.8	7.7	7.7	4.1	4.0
4	Mathura	8.0	8.0	8.0	8.0	8.5	8.9	9.2	9.2	4.3	4.8
5	Panipat	15.0	15.0	15.0	15.0	14.2	15.3	15.6	15.7	7.5	8.2
6	Guwahati	1.0	1.0	1.0	1.0	1.0	0.9	0.9	1.0	0.5	0.5
7	Digboi	0.65	0.65	0.65	0.65	0.6	0.6	0.5	0.7	0.3	0.3
8	Bongaigaon	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.4	1.2	1.2
9	Paradip	-	15.0	15.0	15.0	-	1.8	8.2	12.7	6.9	6.6
	<b>IOCL total</b>	<b>54.2</b>	<b>69.2</b>	<b>69.2</b>	<b>69.2</b>	<b>53.6</b>	<b>58.0</b>	<b>65.2</b>	<b>69.0</b>	<b>33.6</b>	<b>35.5</b>
10	Mumbai	6.5	6.5	7.5	7.5	7.4	8.0	8.5	8.6	4.3	4.4
11	Visakh	8.3	8.3	8.3	8.3	8.8	9.2	9.3	9.6	4.9	4.9
12	HMEL-Bathinda	9.0	9.0	9.0	11.3	7.3	10.7	10.5	8.8	2.9	6.2
	<b>HPCL total</b>	<b>23.8</b>	<b>23.8</b>	<b>24.8</b>	<b>27.1</b>	<b>23.5</b>	<b>27.9</b>	<b>28.3</b>	<b>27.1</b>	<b>12.0</b>	<b>15.5</b>
13	Mumbai	12.0	12.0	12.0	12.0	12.8	13.4	13.5	14.1	6.7	7.2
14	Kochi	9.5	9.5	12.4	15.5	10.4	10.7	11.8	14.1	6.5	8.2
15	BORL-Bina	6.0	6.0	6.0	6.0	6.2	6.4	6.4	6.7	3.6	2.5
	<b>BPCL total</b>	<b>27.5</b>	<b>27.5</b>	<b>30.4</b>	<b>33.5</b>	<b>29.4</b>	<b>30.5</b>	<b>31.7</b>	<b>34.9</b>	<b>16.9</b>	<b>17.9</b>
16	Manali	10.5	10.5	10.5	10.5	10.2	9.1	9.8	10.3	5.0	5.3
17	CBR	1.0	1.0	1.0	1.0	0.5	0.5	0.5	0.5	0.2	0.2
	<b>CPCL total</b>	<b>11.5</b>	<b>11.5</b>	<b>11.5</b>	<b>11.5</b>	<b>10.8</b>	<b>9.6</b>	<b>10.3</b>	<b>10.8</b>	<b>5.2</b>	<b>5.5</b>
18	NRL-Numaligarh	3.0	3.0	3.0	3.0	2.8	2.5	2.7	2.8	1.4	1.4
19	ONGC-Tatipaka	0.07	0.07	0.07	0.07	0.05	0.07	0.09	0.08	0.04	0.03
20	MRPL-Mangalore	15.0	15.0	15.0	15.0	14.6	15.5	16.0	16.1	7.5	7.7
	<b>ONGC total</b>	<b>15.1</b>	<b>15.1</b>	<b>15.1</b>	<b>15.1</b>	<b>14.7</b>	<b>15.6</b>	<b>16.1</b>	<b>16.2</b>	<b>7.6</b>	<b>7.7</b>
21	RIL-Jamnagar (DTA)	33.0	33.0	33.0	33.0	30.9	32.4	32.8	33.2	16.4	16.5
22	RIL-Jamnagar (SEZ)	27.0	27.0	27.0	35.2	37.2	37.1	37.4	37.3	19.1	18.1
23	NEL*-Vadinar	20.0	20.0	20.0	20.0	20.5	19.1	20.9	20.7	10.4	10.5
	<b>All India</b>	<b>215.1</b>	<b>230.1</b>	<b>234.0</b>	<b>247.6</b>	<b>223.3</b>	<b>232.9</b>	<b>245.4</b>	<b>251.9</b>	<b>122.5</b>	<b>128.7</b>

Source: Oil companies, \*Nayara Energy Limited (formerly Essar Oil Limited)

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	2014-15	2015-16	2016-17	2017-18	Apr-Sep 2017	Apr-Sep 2018 (P)
1	HS crude	161.4	166.1	177.4	188.4	90.4	98.2
2	LS crude	61.9	66.7	67.9	63.6	32.1	30.5
	<b>Total crude</b>	<b>223.3</b>	<b>232.9</b>	<b>245.4</b>	<b>251.9</b>	<b>122.5</b>	<b>128.7</b>
	Share of HS crude in total crude processing	72.3%	71.3%	72.3%	74.8%	73.8%	76.3%

Source: Oil companies

**Table 4.3 : Imported crude & indigenous crude oil processing**

(Million metric tonne)							
Sl. no.	Indigenous/ Imported crude	2014-15	2015-16	2016-17	2017-18	Apr-Sep 2017	Apr-Sep 2018 (P)
1	Imported crude	189.0	198.7	211.8	219.1	106.1	112.6
2	Indigenous crude	34.2	34.1	33.5	32.8	16.3	16.0
	<b>Total crude</b>	<b>223.3</b>	<b>232.9</b>	<b>245.4</b>	<b>251.9</b>	<b>122.5</b>	<b>128.7</b>
	Share of imported crude in total crude processing	84.7%	85.3%	86.3%	87.0%	86.7%	87.5%

Source: Oil companies



**Table 4.4 : Production of petroleum products**

(Million metric tonne)						
Products	2014-15	2015-16	2016-17	2017-18	Apr-Sep 2017	Apr-Sep 2018 (P)
<b>A) From crude oil/refineries</b>						
<b>Light ends</b>	<b>64.6</b>	<b>70.6</b>	<b>75.0</b>	<b>83.7</b>	<b>40.2</b>	<b>42.3</b>
of which: LPG	7.7	8.6	9.2	10.2	4.7	5.2
MS	32.2	35.3	36.6	37.8	18.5	19.1
Naphtha	16.2	16.8	18.6	18.8	9.2	9.2
Others	8.5	9.9	10.7	17.0	7.8	8.7
<b>Middle distillates</b>	<b>117.5</b>	<b>122.9</b>	<b>127.9</b>	<b>131.2</b>	<b>63.3</b>	<b>68.1</b>
of which: SKO	7.6	7.4	5.9	4.2	2.2	2.1
ATF	11.1	11.8	13.8	14.6	6.9	7.6
HSD	94.3	98.6	102.1	108.0	52.4	55.0
LDO	0.4	0.4	0.6	0.6	0.2	0.3
Others	4.2	4.7	5.4	3.7	1.6	3.1
<b>Heavy ends</b>	<b>34.9</b>	<b>34.4</b>	<b>36.3</b>	<b>34.8</b>	<b>16.9</b>	<b>17.9</b>
of which: Furnace Oil	11.5	10.3	11.8	9.8	5.3	4.7
LSHS	0.7	0.4	0.3	0.5	0.1	0.2
Lube Oil	0.9	1.0	1.0	1.0	0.5	0.5
Bitumen	4.7	5.2	5.2	5.3	2.3	2.5
RPC/Petcoke	11.7	13.3	12.9	13.9	6.8	7.1
Others	5.5	4.2	5.2	4.3	1.9	2.9
<b>Sub total (A)</b>	<b>217.1</b>	<b>227.9</b>	<b>239.2</b>	<b>249.7</b>	<b>120.4</b>	<b>128.3</b>
<b>B) From natural gas / fractionators</b>						
<b>Sub total (B)</b>	<b>4.0</b>	<b>4.0</b>	<b>4.3</b>	<b>4.6</b>	<b>2.2</b>	<b>2.4</b>
of which: LPG	2.2	2.0	2.1	2.2	1.1	1.0
Naphtha	1.2	1.1	1.2	1.2	0.6	0.6
SKO	0.1	0.1	0.0	0.0	0.0	0.0
HSD	0.01	0.01	0.0	0.0	0.0	0.0
Others	0.5	0.8	1.0	1.1	0.5	0.7
<b>Total production (A +B)</b>	<b>221.1</b>	<b>231.9</b>	<b>243.5</b>	<b>254.3</b>	<b>122.6</b>	<b>130.8</b>

Source: Oil companies

**Table 4.5 : Production of petroleum products : All sources**

(Million metric tonne)

Major products	2014-15	2015-16	2016-17	2017-18	Apr-Sep 2017	Apr-Sep 2018 (P)
HSD	94.3	98.6	102.1	108.1	52.4	55.0
MS	32.2	35.3	36.6	37.8	18.5	19.1
Naphtha	17.5	17.9	19.7	20.0	9.8	9.8
FO	11.5	10.3	11.8	9.8	5.3	4.7
ATF	11.1	11.8	13.8	14.7	6.9	7.7
LPG	9.8	10.6	11.3	12.4	5.8	6.3
SKO	7.6	7.5	6.0	4.3	2.2	2.1
Bitumen	4.7	5.2	5.2	5.3	2.3	2.5
LSHS	0.7	0.4	0.3	0.5	0.1	0.2
Lubes	0.9	1.0	1.0	1.0	0.5	0.5
LDO	0.4	0.4	0.6	0.6	0.2	0.3
RPC/Petcoke	11.7	13.3	12.9	13.9	6.8	7.1
Others#	18.7	19.6	22.3	26.2	11.8	15.4
<b>Total</b>	<b>221.1</b>	<b>231.9</b>	<b>243.5</b>	<b>254.3</b>	<b>122.6</b>	<b>130.8</b>

Source: Oil companies

# 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 vis a vis 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
2017-18	206.2	254.3	48.1
Apr-Sep 2017	100.7	122.6	21.9
Apr-Sep 2018 (P)	104.4	130.8	26.4

Note:

\$ includes direct imports by private parties and sales from SEZ to DTA

\*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	2017-18	H1, 2017-18	H1, 2018-19
<b>PSU refineries</b>								
IOCL	Barauni	6.68	(1.20)	2.93	6.52	6.60	2.50	6.83
	Koyali	4.52	4.79	6.80	7.55	9.44	7.74	7.73
	Haldia	2.84	(1.51)	3.96	6.80	6.86	3.97	7.67
	Mathura	2.10	(2.19)	3.30	7.01	7.09	4.34	7.54
	Panipat	3.62	(1.97)	4.15	7.95	7.74	4.86	8.39
	Guwahati**	6.38	8.68	15.88	22.14	21.88	20.97	18.52
	Digboi**	15.41	13.73	16.17	24.49	24.86	23.39	25.70
	Bongaigaon**	6.71	(0.26)	11.09	20.15	20.62	16.50	22.09
	Paradip#	-	-	(0.65)	4.22	7.02	5.80	6.99
	<b>Average</b>	<b>4.24</b>	<b>0.27</b>	<b>5.06</b>	<b>7.77</b>	<b>8.49</b>	<b>6.08</b>	<b>8.45</b>
BPCL	Kochi	4.80	3.17	6.87	5.16	6.44	7.25	6.23
	Mumbai	3.95	3.97	6.37	5.36	7.26	5.69	6.85
	<b>Average</b>	<b>4.33</b>	<b>3.62</b>	<b>6.59</b>	<b>5.26</b>	<b>6.85</b>	<b>6.48</b>	<b>6.52</b>
HPCL	Mumbai	5.38	4.88	8.09	6.95	8.35	7.89	6.20
	Visakh	1.50	1.12	5.46	5.51	6.55	5.75	5.69
	<b>Average</b>	<b>3.43</b>	<b>2.84</b>	<b>6.68</b>	<b>6.20</b>	<b>7.40</b>	<b>6.75</b>	<b>5.93</b>
CPCL	Chennai	4.08	1.97	5.27	6.05	6.42	5.67	5.98
MRPL	Mangalore	2.67	(0.64)	5.20	7.75	7.54	6.30	6.29
NRL	Numaligarh**	12.09	16.67	23.68	28.56	31.92	29.13	27.73
<b>JV refineries</b>								
BORL	Bina	7.70	6.10	11.70	11.80	11.70	10.60	13.70
<b>Private refineries</b>								
RIL	Jamnagar	8.10	8.60	10.80	11.00	11.60	11.90	9.90
NEL@	Vadinar	7.98	8.37	10.81	9.14	8.95	*	*
Singapore		5.62	6.36	7.52	5.83	7.23	7.34	6.04

\* Details not provided.

\*\* GRM of North Eastern refineries are including excise duty benefit. For GRM excluding excise duty benefit, refer table 4.8;

# Commissioned in February, 2016.

@Nayara Energy Limited (formerly Essar Oil Limited)

Source: Indian refineries - published results/ information provided by oil companies

Singapore - Reuters

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

(\$/bbl)

Company	Refinery	2013-14	2014-15	2015-16	2016-17	2017-18	H1, 2017-18	H1, 2018-19
IOCL	Guwahati	0.88	0.96	1.26	1.12	3.70	2.82	1.51
	Digboi	8.50	5.42	4.16	7.73	8.27	5.61	10.87
	Bongaigaon	2.34	(6.51)	0.08	6.03	6.22	2.34	8.73
NRL	Numaligarh	6.98	9.46	8.06	8.50	11.43	8.54	12.06

Source: Information provided by oil companies

**Table 4.9 : Distillate yield of PSU refineries**

							(Distillate %)
Company	Refinery	2014-15	2015-16	2016-17	2017-18	Apr-Sep 2017	Apr-Sep 2018 (P)
IOCL	Barauni	87.3	88.7	85.3	89.0	87.1	86.6
	Koyali	80.1	83.1	81.0	82.5	83.7	80.4
	Haldia	69.0	69.6	66.7	66.9	63.6	70.6
	Mathura	71.9	74.7	73.6	75.4	74.7	76.7
	Panipat	82.4	83.8	84.1	84.9	82.3	82.9
	Guwahati	81.1	80.8	83.5	82.7	78.8	84.4
	Digboi	74.8	69.7	75.3	77.9	77.9	77.0
	Bongaigaon	84.0	84.5	83.8	84.3	77.9	83.4
	Paradip	-	-	75.3	79.4	79.2	79.8
CPCL	Manali	71.5	71.4	71.6	72.3	74.4	76.2
	CBR	71.6	79.3	78.2	79.1	79.0	77.1
HPCL	Mumbai	75.9	76.0	77.6	77.4	77.2	77.0
	Visakh	78.8	75.7	74.0	74.5	75.0	74.2
BPCL	Mumbai	81.8	84.3	86.1	84.3	84.4	84
	Kochi	84.7	85.7	85.2	83.9	86.3	83.6
NRL	Numaligarh	90.7	89.9	90.5	86.7	86.3	86.4
MRPL	Mangalore	72.3	76.9	77.3	76.5	77.1	75.0
<b>PSU oil cos. average</b>		<b>78.3</b>	<b>79.9</b>	<b>79.3</b>	<b>79.7</b>	<b>79.4</b>	<b>79.6</b>

Source: Centre for High Technology

**Table 4.10 : Fuel & Loss**

(Million metric tonne)																				
Sl. no.	Company	Refinery	2014-15			2015-16			2016-17			2017-18			Apr-Sep 2017			Apr-Sep 2018 (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		Crude T'put + other inputs	Fuel & Loss	
				Qty	%		Qty	%		Qty	%		Qty	%		Qty	%		Qty	%
1	IOCL	Barauni	6.0	0.5	9.1	6.6	0.6	8.7	6.6	0.6	9.2	6.0	0.5	9.2	2.6	0.2	9.5	3.3	0.3	9.3
2		Koyali	13.8	1.3	9.2	14.4	1.3	8.8	14.6	1.3	9.0	14.5	1.2	8.6	6.7	0.6	9.4	6.9	0.6	9.1
3		Haldia	7.7	0.7	8.7	7.8	0.7	8.7	7.7	0.7	8.8	7.8	0.7	8.4	4.1	0.3	8.3	4.1	0.3	8.2
4		Mathura	8.9	0.7	7.8	9.3	0.7	7.7	9.7	0.7	7.5	9.8	0.7	7.0	4.6	0.3	7.3	5.1	0.3	6.7
5		Panipat	15.7	1.4	9.2	16.8	1.5	8.8	17.2	1.5	8.4	17.3	1.4	8.1	8.3	0.7	8.3	9.1	0.7	7.9
6		Guwahati	1.2	0.1	10.2	1.2	0.1	9.6	1.2	0.1	9.4	1.3	0.1	10.2	0.6	0.1	10.0	0.7	0.1	9.7
7		Digboi	0.7	0.1	9.3	0.6	0.1	10.2	0.6	0.1	11.7	0.7	0.1	10.3	0.4	0.04	10.3	0.4	0.04	9.9
8		Bongaigaon	2.4	0.2	9.1	2.4	0.2	8.5	2.5	0.2	8.3	2.4	0.2	8.7	1.2	0.1	8.5	1.2	0.1	8.3
9		Paradip	-	-	-	1.9	0.5	24.2	8.3	1.3	15.9	12.7	1.4	10.9	6.9	0.8	11.0	6.6	0.7	10.6
		<b>IOCL Total</b>	<b>56.4</b>	<b>5.0</b>		<b>61.0</b>	<b>5.6</b>		<b>68.4</b>	<b>6.5</b>		<b>72.6</b>	<b>6.4</b>		<b>35.4</b>	<b>3.2</b>		<b>37.4</b>	<b>3.2</b>	
10	HPCL	Mumbai	7.5	0.6	7.4	8.0	0.6	7.8	8.5	0.6	7.2	8.6	0.6	7.2	4.3	0.3	7.4	4.4	0.3	7.1
11		Visakh	8.8	0.7	7.4	9.2	0.7	7.7	9.3	0.7	7.3	9.6	0.7	7.1	4.9	0.4	7.3	4.9	0.4	7.3
12		HMEL-Bathinda	7.4	0.5	6.5	10.8	0.7	6.3	10.6	0.7	6.3	8.9	0.6	6.2	2.9	0.2	6.8	6.3	0.4	5.8
		<b>HPCL Total</b>	<b>23.7</b>	<b>1.7</b>		<b>28.0</b>	<b>2.0</b>		<b>28.4</b>	<b>2.0</b>		<b>27.2</b>	<b>1.9</b>		<b>12.0</b>	<b>0.9</b>		<b>15.6</b>	<b>1.0</b>	
13	BPCL	Mumbai	12.9	0.6	4.7	13.4	0.6	4.4	13.6	0.6	4.4	14.3	0.7	4.6	6.8	0.3	4.6	7.3	0.3	4.2
14		Kochi	10.4	0.7	6.3	10.8	0.6	5.9	12.0	0.7	6.0	14.5	1.1	7.7	6.8	0.5	6.6	8.4	0.6	7.5
15		BORL-Bina	6.2	0.5	7.7	6.4	0.5	7.0	6.4	0.6	8.8	6.7	0.7	9.7	3.6	0.3	9.4	2.5	0.3	10.2
16		NRL-Numaligarh	3.0	0.3	9.4	2.8	0.3	9.2	3.0	0.3	9.8	3.1	0.3	10.1	1.6	0.2	9.9	1.6	0.1	9.4
		<b>BPCL Total</b>	<b>32.6</b>	<b>2.0</b>		<b>33.4</b>	<b>1.9</b>		<b>34.9</b>	<b>2.2</b>		<b>38.7</b>	<b>2.7</b>		<b>18.9</b>	<b>1.3</b>		<b>19.7</b>	<b>1.3</b>	
17	CPCL	Manali	10.3	0.9	8.8	9.2	0.9	9.5	9.8	0.9	9.3	10.4	1.0	9.7	5.0	0.5	9.4	5.4	0.6	10.3
18		CBR	0.6	0.02	4.1	0.6	0.03	4.4	0.6	0.03	4.6	0.5	0.03	5.0	0.3	0.01	4.8	0.2	0.01	5.6
		<b>CPCL Total</b>	<b>10.9</b>	<b>0.9</b>		<b>9.8</b>	<b>0.9</b>		<b>10.4</b>	<b>0.9</b>		<b>10.9</b>	<b>1.0</b>		<b>5.3</b>	<b>0.5</b>		<b>5.6</b>	<b>0.6</b>	
19	ONGC	Tatipaka	0.1	0.001	1.4	0.1	0.001	1.7	0.1	0.003	3.7	0.1	0.004	5.3	0.04	0.002	4.9	0.03	0.001	4.9
20		MRPL-Mangalore	14.7	1.5	10.1	15.7	1.5	9.7	16.3	1.6	10.1	16.4	1.7	10.2	7.6	0.8	10.2	7.8	0.8	10.7
		<b>ONGC Total</b>	<b>14.8</b>	<b>1.5</b>		<b>15.8</b>	<b>1.5</b>		<b>16.3</b>	<b>1.6</b>		<b>16.4</b>	<b>1.7</b>		<b>7.6</b>	<b>0.8</b>		<b>7.8</b>	<b>0.8</b>	
21	RIL	Jamnagar (DTA)	33.3	2.3	6.9	35.1	2.6	7.4	35.9	2.5	6.9	36.4	2.7	7.4	17.7	1.3	7.5	18.8	1.3	6.7
22		Jamnagar (SEZ)	42.8	3.2	7.5	44.2	3.4	7.8	44.8	3.3	7.5	47.8	3.7	7.8	23.6	1.9	7.9	24.3	1.8	7.6
23	NEL*	Vadinar	20.9	1.1	5.2	19.4	1.1	5.7	21.3	1.2	5.5	21.0	1.2	5.7	10.5	0.6	5.6	10.7	0.6	5.8
		<b>Total</b>	<b>235.4</b>	<b>17.8</b>		<b>246.8</b>	<b>19.1</b>		<b>260.4</b>	<b>20.2</b>		<b>271.0</b>	<b>21.3</b>		<b>130.9</b>	<b>10.4</b>		<b>139.9</b>	<b>10.7</b>	

\* Nayara Energy Limited (formerly Essar Oil Limited)

Source: Oil companies

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

(MBTU/Bbl/NRGF)						
Company	Refinery	2015-16 **	2016-17 **	2017-18 **	Apr-Sep 2017	Apr-Sep 2018
IOCL	Barauni	81.0	80.7	77.7	81.3	80.8
	Koyali	75.8	75.2	72.4	75.3	78.5
	Haldia	79.8	83.0	80.8	85.6	76.8
	Mathura	73.4	72.2	68.3	72.0	65.5
	Panipat	70.1	64.9	63.2	64.2	61.8
	Guwahati	121.9	113.8	108.0	113.4	102.7
	Digboi	112.4	114.3	105.5	104.8	103.5
	Bongaigaon	91.3	90.2	91.7	89.2	89.5
	Paradip		117.8	72.8	73.8	71.2
CPCL	Manali	95.8	92.5	88.6	89.2	82.0
	CBR	113.1	117.8	123.7		
HPCL	Mumbai	89.3	85.7	84.4	88.5	84.5
	Visakh	80.7	78.1	77.3	79.0	77.1
BPCL	Mumbai	74.7	70.6	66.7	67.4	64.6
	Kochi	77.6	85.8	79.2	82.2	71.1
NRL	Numaligarh	71.1	72.3	64.7	63.8	69.5
MRPL	Mangalore	80.3	79.6	77.1	79.4	76.2
<b>PSU oil cos. average</b>		<b>79.2*</b>	<b>81.2*</b>	<b>75.1</b>	<b>76.9</b>	<b>73.6</b>

Source: Centre for High Technology

\*PSU average is excluding CBR

\*\*MBN values are as per New MBN methodology with normalisation for grid power import and BS-IV/VI production

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

Import / export	Crude oil & petroleum products	2014-15			2015-16			2016-17			2017-18			Apr-Sep 17			Apr-Sep18 (P)			
		Quantity	Value		Quantity	Value		Quantity	Value		Quantity	Value		Quantity	Value		Quantity	Value		
		Million tonne	US\$ (Billion)	Rs. (Crores)	Million tonne	US\$ (Billion)	Rs. (Crores)	Million tonne	US\$ (Billion)	Rs. (Crores)	Million tonne	US\$ (Billion)	Rs. (Crores)	Million tonne	US\$ (Billion)	Rs. (Crores)	Million tonne	US\$ (Billion)	Rs. (Crores)	
I M P O R T*	Crude oil	189.4	112.7	687416	202.9	64.0	416579	213.9	70.2	470159	220.4	87.8	566450	106.8	37.6	241849	113.0	58.7	404532	
	of which, PSU/JVs	107.9	65.5	399988	121.2	39.7	259464	128.3	44.0	294050	133.0	54.3	350612	63.8	23.1	148452	70.9	37.8	262124	
	Private	81.5	47.2	287428	81.6	24.3	157115	85.6	26.2	176109	87.4	33.5	215839	42.9	14.5	93397	42.1	20.9	142409	
	<b>Products</b>																			
	LPG	8.3	6.0	36571	9.0	3.9	25778	11.1	4.8	32124	11.4	5.8	37875	5.2	2.3	14922	6.2	3.6	24517	
	Petrol	0.4	0.4	2301	1.0	0.6	4207	0.5	0.2	1617	0.2	0.1	581	0.2	0.1	581	0.3	0.2	1489	
	Naphtha	1.0	0.7	4592	2.9	1.5	9581	2.8	1.2	8374	2.2	1.3	8161	0.8	0.4	2539	1.2	0.8	5419	
	Aviation Turbine Fuel	0.1	0.1	706	0.3	0.1	889	0.3	0.2	1109	0.3	0.2	1159	0.1	0.1	532	0.1	0.1	686	
	Kerosene	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	0.0	0.0	0	
	Diesel	0.1	0.1	670	0.2	0.1	605	1.0	0.4	2959	1.4	0.7	4269	1.2	0.6	3790	0.2	0.1	946	
	Lubes/LOBS	2.1	2.1	12702	2.3	1.4	9478	2.1	1.3	8625	2.5	1.9	12075	1.1	0.8	4992	1.4	1.1	7427	
	Fuel Oil	0.9	0.6	3659	1.2	0.4	2380	0.9	0.3	1848	1.2	0.5	3231	0.5	0.2	1117	0.9	0.4	2947	
	Bitumen	0.5	0.3	1623	0.9	0.3	1832	1.0	0.2	1638	1.0	0.3	1902	0.4	0.1	690	0.5	0.1	1011	
	Petcoke	6.2	0.9	5383	10.0	0.9	5633	14.4	1.2	7929	12.8	1.7	11100	7.1	0.8	5356	4.5	0.9	5820	
	Others**	1.6	1.0	6266	1.7	0.7	4821	2.2	0.8	5342	2.6	1.2	8020	1.2	0.5	3447	1.6	0.9	6112	
<b>Total product import</b>	<b>21.3</b>	<b>12.1</b>	<b>74644</b>	<b>29.5</b>	<b>10.0</b>	<b>65361</b>	<b>36.3</b>	<b>10.6</b>	<b>71566</b>	<b>35.5</b>	<b>13.6</b>	<b>88374</b>	<b>17.8</b>	<b>5.9</b>	<b>37966</b>	<b>16.8</b>	<b>8.3</b>	<b>56373</b>		
of which, PSU/JVs	8.6	6.3	38755	10.1	4.6	30367	12.5	5.5	36691	12.8	6.5	42305	6.6	3.0	19146	6.9	4.0	27658		
Private	12.7	5.8	35888	19.4	5.3	34994	23.7	5.2	34875	22.7	7.1	46069	11.3	2.9	18820	10.0	4.2	28716		
<b>Total import (crude oil + product)</b>	<b>210.7</b>	<b>124.9</b>	<b>762060</b>	<b>232.3</b>	<b>73.9</b>	<b>481940</b>	<b>250.2</b>	<b>80.8</b>	<b>541725</b>	<b>255.9</b>	<b>101.4</b>	<b>654824</b>	<b>124.6</b>	<b>43.4</b>	<b>279815</b>	<b>129.8</b>	<b>67.0</b>	<b>460905</b>		
E X P O R T	<b>Products</b>																			
	LPG	0.3	0.2	1455	0.2	0.1	785	0.3	0.2	1168	0.4	0.2	1501	0.2	0.1	633	0.2	0.1	903	
	Petrol	16.0	13.5	81971	16.8	9.1	59575	15.4	7.9	52920	14.0	8.5	54580	7.1	4.0	25455	6.3	4.6	31813	
	Naphtha	7.0	5.2	31619	7.1	3.1	20057	8.7	3.7	24616	9.0	4.5	29075	4.4	1.9	12526	3.8	2.4	16810	
	Aviation Turbine Fuel	5.5	4.2	25413	5.7	2.4	16007	7.3	3.3	22294	7.2	3.9	25348	3.3	1.6	10319	3.7	2.6	17521	
	Kerosene	0.02	0.01	81	0.01	0.01	35	0.02	0.01	54	0.02	0.01	68	0.01	0.005	32	0.0	0.0	50	
	Diesel	25.6	18.9	115149	24.0	10.2	66492	27.30	11.9	79857	29.7	15.4	99454	14.2	6.7	43028	14.1	9.3	64124	
	LDO	0.01	0.005	28	0.0	0.0	0	0.2	0.1	399	0.02	0.0	37	0.01	0.003	17	0.0	0.0	0	
	Lubes/LOBS	0.01	0.02	100	0.02	0.02	127	0.01	0.02	104	0.01	0.02	118	0.01	0.01	62	0.003	0.01	45	
	Fuel Oil	4.8	2.3	14251	2.8	0.7	4471	2.2	0.6	3930	2.5	0.8	5291	1.4	0.4	2781	1.0	0.4	2990	
	Bitumen	0.1	0.04	245	0.1	0.03	176	0.04	0.01	37	0.1	0.02	119	0.04	0.01	67	0.01	0.005	33	
	Petcoke / CBFS	0.6	0.3	1806	0.8	0.1	750	0.7	0.1	804	0.6	0.1	687	0.3	0.1	336	0.6	0.3	1797	
	Others***	4.0	2.7	16462	2.9	1.3	8304	3.3	1.3	8710	3.4	1.4	9110	1.8	0.7	4693	1.0	0.6	4191	
	<b>Total product export</b>	<b>63.9</b>	<b>47.3</b>	<b>288580</b>	<b>60.5</b>	<b>27.1</b>	<b>176780</b>	<b>65.5</b>	<b>29.0</b>	<b>194893</b>	<b>66.8</b>	<b>34.9</b>	<b>225388</b>	<b>32.8</b>	<b>15.5</b>	<b>99950</b>	<b>30.7</b>	<b>20.4</b>	<b>140277</b>	
	of which, PSU/JVs	13.1	8.6	52564	10.5	4.1	27072	12.6	5.2	35102	15.0	7.4	48100	7.3	3.2	20456	6.6	4.2	29040	
Private	50.9	38.7	236016	50.1	22.9	149708	53.0	23.8	159791	51.8	27.5	177288	25.5	12.3	79494	24.1	16.2	111237		
<b>Net import</b>	<b>146.8</b>	<b>77.6</b>	<b>473481</b>	<b>171.8</b>	<b>46.9</b>	<b>305160</b>	<b>184.7</b>	<b>51.8</b>	<b>346832</b>	<b>189.1</b>	<b>66.5</b>	<b>429436</b>	<b>91.8</b>	<b>27.9</b>	<b>179865</b>	<b>99.1</b>	<b>46.6</b>	<b>320628</b>		
<b>Net product export</b>	<b>42.6</b>	<b>35.1</b>	<b>213936</b>	<b>31.1</b>	<b>17.1</b>	<b>111419</b>	<b>29.2</b>	<b>18.4</b>	<b>123327</b>	<b>31.4</b>	<b>21.3</b>	<b>137014</b>	<b>15.0</b>	<b>9.6</b>	<b>61984</b>	<b>13.9</b>	<b>12.1</b>	<b>83904</b>		

Source: Oil companies & DGCIS, (P) : Provisional

Note:

\*Import does not include LNG imports

\*\*Other imports include Paraffin Wax, Petroleum Jelly, Aviation Gas, MTBE, Reformate etc.

\*\*\*Other exports include VGO, Benzene, Hexane, MTO, Sulphur etc.

"Others" in exports include RIL-SEZ exports of "Others" with unspecified heavy ends

**Analysis**

i) Crude oil imports increased by 5.8% during April-September 2018 as compared to April-September 2017.

ii) Imports due to deficit in production viz. LPG and Lubes/LOBS accounted for 45.1% share of total POL products import during April-September 2018 as compared to 35.2% during April-September 2017.

iii) Imports due to commercial and technical considerations viz. naphtha and fuel oil accounted for 12.4% share of total POL products import during April-September 2018 as compared to 7.1% during April-September 2017

iv) MS (0.3 MMT) and HSD (0.2 MMT) import during April-September 2018 was done to meet regional specific deficit due to shutdowns in refineries.

v) Decrease of 6.3% was recorded in POL products export during April-September 2018 as compared to April-September 2017 mainly due to decrease in exports of MS, naphtha, fuel oil and VGO.

**Table 4.13 : Exchange rates of Indian rupee (₹)**

Year	US dollar (\$)	British pound (£)	Euro (€)	Japanese yen (¥)
<b>Indian rupee (₹) / foreign currency</b>				
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	64.45	85.47	75.42	0.58
2018-19 (upto 31.10.2018)	69.27	91.92	81.25	0.63
<b>2018 : Month wise</b>				
January	63.64	87.65	77.45	0.57
February	64.37	90.08	79.56	0.60
March	65.02	90.84	80.25	0.61
April	65.64	92.57	80.66	0.61
May	67.54	90.97	79.82	0.62
June	67.79	90.07	79.16	0.62
July	68.69	90.50	80.30	0.62
August	69.55	89.69	80.44	0.63
September	72.22	94.19	84.22	0.65
October	73.63	95.87	84.61	0.65

**Source:** Reserve Bank of India (RBI)/ Financial Benchmark India Private Limited (FBIL) website.

**Note:** The rates are average for the period.



## Chapter-5

# Major Pipelines in India



## Map of Pipeline Network in India



**Note:** Pipelines shown are indicative only.

**Table 5.1 : Gas pipeline network as on 01.10.2018**

Network/Region	Entity	Length (Kms)	Design capacity (mmscmd)	Pipeline size	Average flow Apr-Sep 2018 (mmscmd)	% Capacity utilisation Apr-Sep 2018
Hazira-Vijaipur-Jagdishpur Pipeline/ Gas rehabilitation and expansion project pipeline/Dahej-Vijaipur Pipeline & spur/ Vijaipur-Dadri Pipeline	GAIL	4554.0	53	36"	29.1	55%
DVPL-GREP upgradation (DVPL-II & VDPL)	GAIL	1385.0	54	48"	36.2	67%
Chhainsa-Jhajjar-Hissar Pipeline (CJPL) (Including spur lines) commissioned up to Sultanpur, Jhajjar-Hissar under hold (111 Km)*	GAIL	310.0	5	36"/16"	1.1	21%
Dahej-Uran-Panvel Pipeline (DUPL/ DPPL) including spur lines	GAIL	928.0	20	30"/18"	14.5	73%
Dadri- Bawana-Nangal Pipeline (DBPL), Dadri-Bawana: 106 Km, Bawana-Nangal: 501 KM, spur line of BNPL: 196 Km*	GAIL	852.0	31	36"/30"/ 24"/18"	6.2	20%
Dabhol-Bengaluru Pipeline (Including spur) Phase -1- 997 km, Phase 2 - 114.6 km	GAIL	1116.0	16	36"/4"	1.4	9%
Kochi-Koottanad-Bengaluru-Mangalore (Phase-1)	GAIL	48.0	6	16"/4"	1.8	30%
Tripura (Agartala)	GAIL	60.0	2	12"	1.2	53%
Gujarat#	GAIL	685.0	8	24"/16"/12"	2.9	35%
Rajasthan (Focus Energy)	GAIL	151.0	2	12"	1.3	54%
Mumbai (Uran-Thal-Usar & Trombay-RCF)	GAIL	131.0	7	26"	6.4	92%
KG Basin (including RLNG+RIL)	GAIL	884.0	16	18"	4.9	31%
Cauvery Basin	GAIL	306.0	9	18"	3.3	38%
East- West Pipeline (RGTL)	Reliance	1480	80	48"	20.0	25%
Shahdol-Phulpur Pipeline (RGPL)	Reliance	304	4	16"	1.0	26%
GSPL network	GSPL	2593	43	Assorted	25.3#	59%#
Assam network^	AGCL, DNPL	298.7	3	Assorted	1.7	61%
Dadri-Panipat	IOCL	140	10	30"/10"	5.1	55%
<b>Total</b>		<b>16226</b>	<b>368</b>			

**Source:** Pipeline operating companies

**Note:** \*CJPL and DBPL pipelines are the extension of DVPL-II / VDPL.

^Excludes CGD pipeline network; #Data as on 01.04.2018

ONGCL Uran-Trombay pipeline is for internal use

The existing trunk pipeline (excluding dedicated pipelines) capacity in India is 368 MMSCMD with a total length of 16226 Kms. With the pipeline projects under execution, this is expected to cross 28000 kms in the next few years

**Table 5.2 : Gas pipeline under execution / construction (as on 01.10.2018)**

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"	312
2	Dabhol -Bengaluru (DBPL) Spur Lines, Phase-2	GAIL(India) Ltd.	302	16.0	36"/30"/24"/18"	56
3	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"	603
4	Mallavaram-Bhopal-Bhilwara-Vijaipur*	GSPL India Transco Ltd.	1881	78.3	42"/36"/30"/24"/18"/12"	52
5	Mehsana - Bathinda *	GSPL India Gasnet Ltd.	2052	77.1	36"/24"/18"/12"	340
6	Bathinda -Jammu-Srinagar*	GSPL India Gasnet Ltd.	725	42.4	24"/18"/16"/12"/8"/6"	102
7	Kakinada - Vizag-Srikakulam *	AP Gas Distribution Corporation.	391	90.0	24"/18"	0
8	Ennore- Nellore*	Gas Transmission India Pvt. Ltd.	250	36.0	24"/18"	0
9	Ennore-Thiruvallur-Bengaluru-Puducherry-Nagapattinam-Madurai-Tuticorin*	Indian Oil Corporation Ltd.	1385	84.7	28"/24"/16"/12"/10"	13
10	Jaigarh-Mangalore*	H-Energy Pvt. Ltd.	635	17.0	24"	0
	<b>Total</b>		<b>11216</b>			

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

\*Competitive bidding

**Table 5.3 : Existing major crude oil pipelines in India**

Name of the pipeline	Owner	Length (KM)	Capacity (MMT)	Throughput (MMT)	% utilisation
		01.10.2018	01.10.2018	Apr-Sep 2018(P)	Apr-Sep 2018(P)
CTF (Central Tank Farm) Kalol to CTF Nawagam - New (New line commissioned in Aug'2010)	ONGC	63	3.1	0.5	15.1
Nawagam-Koyali (18" line)		80	5.4	1.2	22.1
Nawagam-Koyali (14" line) (1)		78	3.3	0.6	17.1
MHN-NGM (Mehsana-Nawagam) trunk line - New (New crude oil trunk line commissioned. Under operation since Dec'2010)		77	2.3	1.0	45.2
CTF (Central Tank Farm), Ankleshwar to Koyali oil pipeline (AKCL- Ankleshwar Koyali Crude Line) (2)(excluding Cambay)		95	2.2	0.4	20.4
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	0.4	20.8
Akholjuni- Koyali oil pipe line (Commissioned in July 2010). Akholjuni to Laxmipura 'T' point		66	0.5	0.1	18.9
Lakwa-Moran oil line (New) (5)		18	1.5	0.2	12.6
Lakwa-Moran oil line (Old)		15	1.5	0.015	1.0
Geleki-Jorhat oil line		49	1.5	0.2	13.1
Borholla- Jorhat oil line		43	0.6	0.1	15.9
NRM (Narimanam) to CPCL (Chennai Petroleum Corporation Limited)		5	0.7	0.2	25.5
KSP-WGGS to TPK Refinery (Kesnapalli-West-Group Gathering Station to Tatipaka)		14	0.1	0.003	3.1
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	0.005	5.4
Mumbai High - Uran - Trunk (MUT) 30" pipeline		204	15.6	4.5	28.9
Heera - Uran - Trunk (HUT) 24" pipeline		81	11.5	1.5	13.0
Bombay-Uran Trunk (BUT) 30" pipeline		203	6.4	0.013	0.2
<b>Sub total ONGC</b>		<b>1192</b>	<b>59</b>	<b>11</b>	<b>18.6</b>
Salaya-Mathura pipeline (SMPL) (1)		IOCL	2646	25.0	13.1
Paradip-Haldia-Barauni pipeline (PHBPL)	1355		15.2	8.6	56.4
Mundra-Panipat pipeline	1194		8.4	4.2	50.5
Salaya Mathura pipeline (Offshore segment)	14		-	0.0	-
Paradip Haldia Barauni pipeline (Offshore segment)	92		-	0.0	-
<b>Sub total IOCL</b>	<b>5301</b>	<b>48.6</b>	<b>25.9</b>	<b>53.4</b>	
Dullajian-Digboi-Bongaigaon-Barauni pipeline	OIL	1193	8.4	3.3	39.3
Mangla-Bhogat pipeline	CAIRN	660	8.7	3.9	45.3
Bhogat Marine		28	0.4	0.5	125.3
<b>Sub total CAIRN</b>	<b>688</b>	<b>9.1</b>	<b>4.4</b>	<b>48.8</b>	
Mundra- Bathinda pipeline	HMPL	1017	11.3	6.3	55.7
Vadinar-Bina pipeline	BORL	937	6.0	2.5	42.1
<b>Grand total</b>		<b>10328</b>	<b>142</b>	<b>53</b>	<b>37.6</b>

Source: Oil companies (P): Provisional

Note:

ONGC:

- (1) 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.
- (2) 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.
- (3) 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.
- (4) Length and capacity includes length capacity of branch lines from GNAQ (well) and Dabka meeting at Magnad 'T' point and Mobha 'T' point respectively.
- (5) New 12" Lakwa-Moran Oil Line commissioned on 22.08.2016.

IOCL:

- (1) 434 km was added in SMPL since 1st April 2016 by commissioning of SMPL- Surendranagar Viramgam loopline on 7.8.2016, Viramgam - Sidhpur section on 14.8.2016, Abu road - Rajola section on 21.3.2017 and Sidhpur Abu road section on 29.4.2017 along with capacity augmentation from 21 MMTPA to 25 MMTPA on 7.8.2016.

**Table 5.4 : Existing major POL pipelines in India**

Name of the pipeline	Owner	Length (KM)	Capacity (MMT)	Throughput (MMT)	% utilisation	
		01.10.2018	01.10.2018	Apr-Sep 2018(P)	Apr-Sep 2018(P)	
<b>Petroleum Products Pipelines</b>						
Barauni - Kanpur pipeline (BKPL) (1)	IOCL	857	3.5	1.3	36.8	
Guwahati -Siliguri pipeline		435	1.4	1.0	68.6	
Haldia-Barauni pipeline		526	1.3	0.8	67.4	
Haldia-Mourigram-Rajbandh pipeline		277	1.4	1.0	72.0	
Koyali-Ahmedabad pipeline		79	1.1	0.1	6.8	
Koyali-Sanganer pipeline		1300	4.6	2.1	45.8	
Koyali-Ratlam pipeline		265	2.0	0.7	36.3	
Koyali-Dahej pipeline		197	2.6	0.7	27.0	
Mathura-Tundla pipeline		56	1.2	0.2	17.0	
Mathura-Bharatpur pipeline		21		0.1	5.0	
Mathura-Delhi pipeline		147	3.7	1.5	41.2	
Panipat-Amabala-Jalandhar (Including Kurukshetra-Roorkee-Najibabad branch line)		434	3.5	1.7	47.7	
Panipat-Delhi (Including Sonapat-Meerut branch line) pipeline		189	3.0	0.8	27.3	
Panipat Bijwasan ATF pipeline		111		0.0	0.0	
Panipat-Bathinda pipeline		219	1.5	0.8	54.3	
Panipat-Rewari pipeline		155	2.1	0.8	40.2	
Chennai-Trichy-Madurai pipeline		683	2.3	1.5	66.5	
Chennai - Meenambakkam ATF pipeline		95	0.2	0.1	77.8	
Chennai-Bengaluru pipeline		290	2.5	0.9	37.0	
Digboi - Tinsukia pipeline (DTPL)(2)		0	0.0	0.1	-	
Devangonhi - Devanhalli pipeline		36	0.7	0.2	33.5	
Paradip Raipur Ranchi pipeline (PRRPL)		1073	5.0	1.9	37.4	
Kolkata ATF pipeline (3)		27	0.2	0.0	0.0	
<b>Sub total IOCL</b>		<b>7472</b>	<b>43.6</b>	<b>18.4</b>	<b>42.2</b>	
Mumbai-Manmad-Bijwasan pipeline (MMBPL)		BPCL	1389	6.0	3.7	62.4
Bina-Kota pipeline (BKPL)			259	4.4	1.4	32.2
ATF P/L Mumbai Refinery (MR)-Santacruz			15	1.4	0.5	32.2
ATF P/L Kochi Refinery (KR)-Kochi Airport			34	0.6	0.3	42.9
Kota - Jobner branch pipeline(1)			211	1.7	0.3	17.1
Mumbai Refinery- Wadilube pipeline			12	1.3	0.1	7.5
Cochin-Coimbatore-Karur (CCK) pipeline (2)			293	3.3	1.3	38.3
<b>Sub total BPCL</b>		<b>2213</b>	<b>18.7</b>	<b>7.5</b>	<b>40.2</b>	
Mumbai-Pune-Solapur pipeline	HPCL	508	4.3	2.1	48.4	
Vizag-Vijaywada-Secunderabad pipeline		572	5.4	3.0	55.8	
Mundra-Delhi pipeline		1054	5.0	1.3	26.5	
Ramanmandi-Bahadurgarh pipeline		243	4.7	3.1	65.4	
Ramanmandi-Bathinda pipeline (1)		30	2.1	0.5	23.5	
Awa-Salawas pipeline (2)		93	2.3	0.4	16.1	
Bahadurgarh-Tikrikalan pipeline (2)		14	0.8	0.2	32.1	
Rewari- Kanpur pipeline (2)		443	8.0	1.9	23.9	
ATF pipeline from Mumbai Refinery to Mumbai Airport		20	1.1	0.2	22.5	
Black Oil pipeline (BOPL) (4)		22	1.5	0.2	15.9	
Lube Oil pipeline : Trombay to Wadibundar (5)		17	1.0	0.3	25.4	
<b>Sub total HPCL</b>	<b>3015</b>	<b>36.1</b>	<b>13.2</b>	<b>36.7</b>		
Mangalore-Hassan-Bengaluru (MHB) pipeline (1)	Petronet MHB	363	2.1	1.7	80.5	
Numaligarh-Siliguri pipeline	OIL	654	1.7	0.8	48.4	
<b>Sub total products</b>		<b>13717</b>	<b>102.3</b>	<b>41.7</b>	<b>40.8</b>	
<b>LPG Pipelines</b>						
Panipat-Jalandhar pipeline (PJPL)(4)	IOCL	280	0.7	0.3	41.9	
Paradip Haldia Durgapur pipeline		157	1.1	0.2	15.7	
Mumbai-Uran pipeline	BPCL	28	0.8	0.2	24.2	
Jamnagar-Loni pipeline	GAIL	1414	2.5	1.4	56.3	
Vizag-Secunderabad pipeline		618	1.3	0.5	38.0	
Mangalore-Hassan-Mysore-Solur LPG (3)	HPCL	356	1.9	0.5	24.6	
<b>Sub total LPG</b>		<b>2853</b>	<b>8.4</b>	<b>3.0</b>	<b>36.4</b>	
<b>Grand total</b>		<b>16570</b>	<b>110.6</b>	<b>44.8</b>	<b>40.5</b>	

Source: Oil Companies (P): Provisional

Note: IOCL: 1) Owing to DFCCIL (Dedicated Freight Corridor Corporation of India Ltd) work in BKPL, pipeline length increased to 857 Km.

2) DTPL has been de-commissioned in July 2018

3) Kolkata ATF pipeline commissioned on 30.08.2018

4) 6 Km Pipeline from Panipat refinery to Kohand terminal of PJPL commissioned, hence PJPL length increased from 274 Km to 280 Km

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.

(2) Petronet CCK was merged with BPCL w.e.f. 01.06.2018.

HPCL

(1) Ramanmandi-Bathinda pipeline was augmented in March 2018 to 2.1 MMTPA.

(2) Awa Salawas Pipeline, Bahadurgarh Tikri Kalan pipeline & Rewari Kanpur pipeline are branchlines. Throughputs of the same are included in Mundra Delhi Pipeline/ Ramanmandi-Bahadurgarh pipeline. Bahadurgarh-Tikri Kalan Pipeline was converted to a branch line after commissioning of direct pumping facilities from RBPL in March 2018.

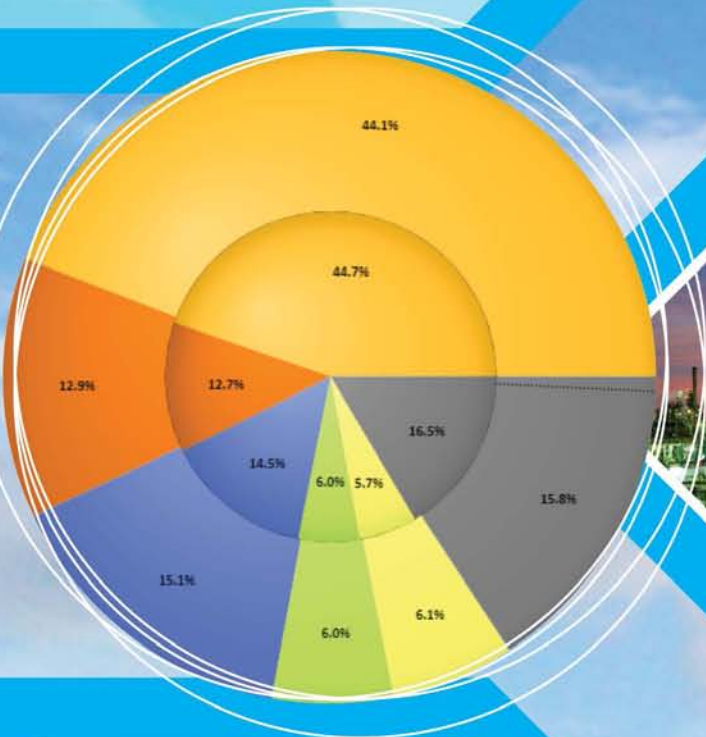
(3) Mangalore-Hassan-Mysore-Solur LPG pipeline was commissioned on 23.10.2016.

(4) Black oil pipeline (BOPL) was converted for white oil pumping since June 2017.

(5) Lube oil pipeline and ATF pipeline from Mumbai refinery to Mazgaon terminal and Mumbai airport are speciality product pipelines.

Petronet MHB

(1) Petronet MHB JV- ONGC & HPCL 26% each, Petronet- 12%, Public- 36%.



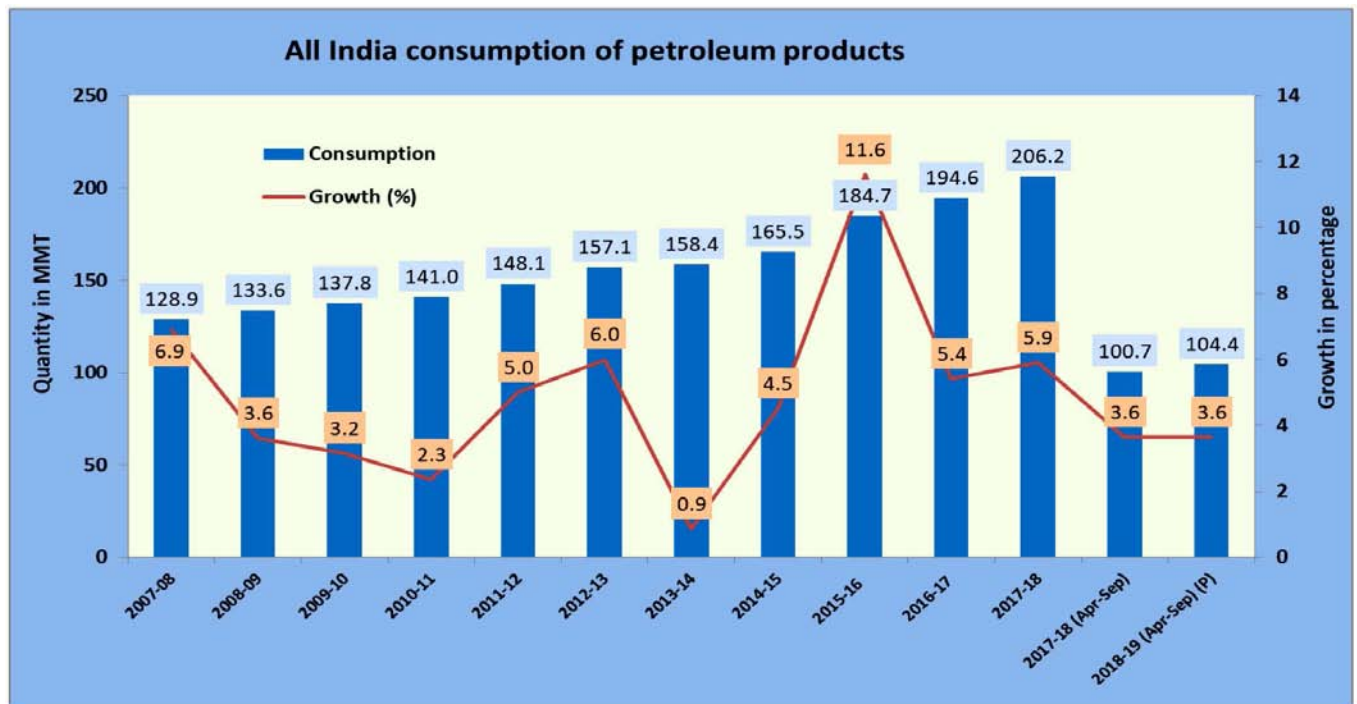
# Chapter-6

## Sales

**Table 6.1 : Consumption of petroleum products**

(Million metric tonnes)													
Products	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Apr-Sep 2017	Apr-Sep 2018 (P)
LPG	12.0	12.2	13.1	14.3	15.3	15.6	16.3	18.0	19.6	21.6	23.3	11.2	12.0
MS	10.3	11.3	12.8	14.2	15.0	15.7	17.1	19.1	21.8	23.8	26.2	13.0	14.0
Naphtha	13.3	13.9	10.1	10.7	11.2	12.3	11.3	11.1	13.3	13.2	12.9	6.0	6.8
ATF	4.5	4.4	4.6	5.1	5.5	5.3	5.5	5.7	6.3	7.0	7.6	3.7	4.1
SKO	9.4	9.3	9.3	8.9	8.2	7.5	7.2	7.1	6.8	5.4	3.8	2.0	1.8
HSD	47.7	51.7	56.2	60.1	64.8	69.1	68.4	69.4	74.6	76.0	81.1	39.6	40.8
LDO	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.2	0.3
Lubes	2.3	2.0	2.5	2.4	2.6	3.2	3.3	3.3	3.6	3.5	3.9	1.7	1.9
FO/LSHS	12.7	12.6	11.6	10.8	9.3	7.7	6.2	6.0	6.6	7.2	6.7	3.4	3.2
Bitumen	4.5	4.7	4.9	4.5	4.6	4.7	5.0	5.1	5.9	5.9	6.1	2.4	2.9
Petcoke	5.9	6.2	6.6	5.0	6.1	10.1	11.8	14.6	19.3	24.0	25.7	13.6	11.6
Others	5.6	4.7	5.4	4.6	4.9	5.5	6.0	5.9	6.4	6.6	8.3	3.8	4.8
<b>All India</b>	<b>128.9</b>	<b>133.6</b>	<b>137.8</b>	<b>141.0</b>	<b>148.1</b>	<b>157.1</b>	<b>158.4</b>	<b>165.5</b>	<b>184.7</b>	<b>194.6</b>	<b>206.2</b>	<b>100.7</b>	<b>104.4</b>
<b>Growth (%)</b>	<b>6.8</b>	<b>3.6</b>	<b>3.2</b>	<b>2.3</b>	<b>5.0</b>	<b>6.0</b>	<b>0.9</b>	<b>4.5</b>	<b>11.6</b>	<b>5.4</b>	<b>5.9</b>	<b>3.6</b>	<b>3.6</b>

**Source:** Oil Companies, Directorate General of Commercial Intelligence and Statistics (DGCIS) & online SEZ data (included from 2017-18 onwards).  
(Oil company sales+Private imports+SEZ sales to DTA= Consumption)



The consumption of petroleum products has gone up from 128.9 MMT in 2007-08 to 206.2 MMT in 2017-18. The compounded annual growth rate (CAGR) of consumption in the last decade has been 4.8%. Half yearly consumption also went by 3.6% and rose to 104.4 MMT in 2018-19 as compared to 100.7 MMT during same period in 2017-18.

**Table 6.2 : State-wise sales of selected petroleum products : Apr-Sep 2018 (P)**

(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	26.1	49.5	60.7	115.1	0.1	0.2	92.5	175.4	214.3	406.4
Delhi	376.9	45.0	483.4	57.7	0.4	0.05	575.8	68.7	2506.1	299.2
Haryana	361.4	28.5	494.9	39.0	0.6	0.05	2479.6	195.6	5352.0	422.2
Himachal Pradesh	81.4	23.8	113.0	33.0	6.5	1.9	326.2	95.2	796.1	232.2
Jammu and Kashmir	96.2	15.3	143.0	22.8	63.4	10.1	374.6	59.7	789.8	125.9
Punjab	423.5	30.6	446.0	32.2	0.6	0.05	1669.1	120.5	3547.8	256.1
Rajasthan	613.2	17.9	782.2	22.8	33.1	1.0	2638.6	76.9	5801.0	169.1
Uttar Pradesh	1537.2	15.4	1559.4	15.6	339.6	3.4	4518.4	45.3	8732.0	87.5
Uttarakhand	139.1	27.5	156.1	30.9	5.8	1.1	380.5	75.2	864.3	170.9
<b>SUB TOTAL NORTH</b>	<b>3655.0</b>	<b>19.8</b>	<b>4238.6</b>	<b>23.0</b>	<b>450.2</b>	<b>2.4</b>	<b>13055.3</b>	<b>70.8</b>	<b>28603.4</b>	<b>155.2</b>
Andaman & Nicobar Islands	5.2	27.6	8.5	44.7	1.5	7.8	71.5	376.6	100.1	527.2
Bihar	612.7	11.8	400.0	7.7	129.2	2.5	1203.9	23.2	2571.8	49.6
Jharkhand	166.8	10.1	242.4	14.7	59.8	3.6	914.2	55.5	1652.3	100.2
Odisha	274.6	13.1	379.3	18.1	105.4	5.0	1286.1	61.3	2843.8	135.6
West Bengal	832.8	18.2	442.8	9.7	274.1	6.0	1680.1	36.8	4130.9	90.4
<b>SUB TOTAL EAST</b>	<b>1892.2</b>	<b>14.0</b>	<b>1473.0</b>	<b>10.9</b>	<b>569.9</b>	<b>4.2</b>	<b>5155.8</b>	<b>38.1</b>	<b>11298.9</b>	<b>83.6</b>
Arunachal Pradesh	10.4	15.1	21.6	31.2	5.7	8.3	70.3	101.7	115.7	167.3
Assam	205.7	13.2	196.8	12.6	95.7	6.1	455.4	29.2	1313.2	84.3
Manipur	15.4	11.3	29.5	21.7	7.0	5.2	52.9	38.9	109.5	80.5
Meghalaya	12.4	8.4	45.3	30.6	7.6	5.1	158.5	106.9	227.8	153.7
Mizoram	12.2	22.3	13.7	25.0	1.9	3.4	31.0	56.9	60.2	110.3
Nagaland	10.8	10.9	17.6	17.8	3.9	3.9	33.4	33.7	69.6	70.3
Sikkim	7.5	24.7	9.5	31.4	4.5	14.9	39.1	128.8	62.1	204.3
Tripura	24.8	13.5	26.3	14.3	11.4	6.2	43.0	23.4	113.1	61.6
<b>SUB TOTAL NORTH EAST</b>	<b>299.2</b>	<b>13.1</b>	<b>360.2</b>	<b>15.8</b>	<b>137.7</b>	<b>6.0</b>	<b>883.6</b>	<b>38.8</b>	<b>2071.1</b>	<b>90.9</b>
Chhattisgarh	134.6	10.5	272.7	21.4	36.1	2.8	817.4	64.0	1876.3	146.9
Dadra & Nagar Haveli	8.5	49.6	11.3	66.0	-	-	95.4	556.6	208.6	1216.8
Daman & Diu	5.5	45.5	10.6	87.4	0.1	0.5	48.1	396.1	108.2	891.0
Goa	33.2	45.5	87.9	120.6	0.6	0.8	148.8	204.2	362.9	497.8
Gujarat	519.4	17.2	971.3	32.2	110.8	3.7	2606.5	86.3	9607.0	318.2
Madhya Pradesh	489.6	13.5	678.3	18.7	126.9	3.5	1790.7	49.3	3764.4	103.7
Maharashtra	1450.6	25.8	1652.1	29.4	134.1	2.4	4374.0	77.8	10127.3	180.2
<b>SUB TOTAL WEST</b>	<b>2641.4</b>	<b>19.4</b>	<b>3684.2</b>	<b>27.0</b>	<b>408.5</b>	<b>3.0</b>	<b>9881.0</b>	<b>72.4</b>	<b>26054.8</b>	<b>190.9</b>
Andhra Pradesh	559.8	22.7	564.5	22.9	0.8	0.03	1906.6	77.2	3768.1	152.6
Karnataka	830.8	27.2	1046.9	34.3	47.0	1.5	3364.4	110.1	6414.3	209.9
Kerala	494.8	29.6	712.3	42.7	33.3	2.0	1236.5	74.1	3026.5	181.3
Lakshadweep	0.2	5.8	-	-	0.1	4.3	6.7	209.2	7.1	221.0
Puducherry	21.6	34.7	66.9	107.5	-	-	161.6	259.7	275.7	443.0
Tamil Nadu	1028.7	28.5	1292.8	35.8	97.7	2.7	3246.2	90.0	7231.9	200.5
Telangana	466.2	26.4	590.6	33.5	37.9	2.1	1909.1	108.2	3486.9	197.6
<b>SUB TOTAL SOUTH</b>	<b>3402.0</b>	<b>26.9</b>	<b>4274.1</b>	<b>33.8</b>	<b>216.9</b>	<b>1.7</b>	<b>11831.2</b>	<b>93.7</b>	<b>24210.5</b>	<b>191.7</b>
<b>All India</b>	<b>11889.8</b>	<b>19.6</b>	<b>14030.2</b>	<b>23.2</b>	<b>1783.4</b>	<b>2.9</b>	<b>40806.9</b>	<b>67.4</b>	<b>92238.7</b>	<b>152.4</b>

\* Total sales (all product) - Sales of all petroleum products

Region wise highest/lowest per capita Highest Lowest

State wise highest/lowest per capita Highest Lowest

Source: Oil companies

Note:

1-Per capita sales figures are based on provisional sales figures for the period April-September 2018

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

3- SKO includes both PDS & non PDS sales



**Table 6.3 : PDS SKO allocation**

(Figures in thousand kilo litres)

State/UT	2014-15		2015-16		2016-17		2017-18		Apr-Sep 2018 (P)	
	Alloc <sup>a</sup>	Sales	Alloc <sup>a</sup>	Sales	Alloc <sup>a</sup>	Sales	Alloc <sup>a</sup>	Sales	Alloc <sup>a</sup>	Sales
Chandigarh	3.3	2.4	3.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
Delhi	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haryana	90.1	89.2	88.3	70.6	66.3	35.9	0.0	0.0	0.0	0.0
Himachal Pradesh	24.6	24.6	24.1	24.1	18.1	17.9	14.5	14.4	7.2	7.2
Jammu & Kashmir	90.2	86.4	81.2	80.1	73.1	67.9	58.5	57.6	25.5	21.3
Punjab	89.7	88.7	85.4	83.2	74.3	62.3	0.0	0.0	0.0	0.0
Rajasthan	505.3	497.1	495.2	481.5	371.4	355.8	260.0	110.5	95.0	41.6
Uttar Pradesh	1589.4	1585.5	1557.6	1556.7	1168.2	1167.6	911.2	901.3	443.9	433.6
Uttarakhand	35.9	35.7	35.2	35.0	31.7	31.2	25.3	13.3	12.7	5.7
<b>SUB TOTAL NORTH</b>	<b>2428.6</b>	<b>2409.5</b>	<b>2370.0</b>	<b>2332.1</b>	<b>1803.1</b>	<b>1738.5</b>	<b>1269.5</b>	<b>1097.0</b>	<b>584.3</b>	<b>509.4</b>
Andaman & Nicobar Islands	6.4	5.6	5.8	5.8	5.2	4.9	4.1	4.0	2.1	1.9
Bihar	813.0	804.3	796.7	794.7	710.7	705.3	495.4	490.3	166.3	166.0
Jharkhand	267.9	267.3	262.6	260.5	219.7	219.0	186.8	176.3	93.4	76.7
Odisha	397.7	396.1	389.7	385.1	292.3	283.0	248.4	244.3	124.2	135.4
West Bengal	962.6	960.9	943.3	942.1	788.9	788.3	704.0	653.6	352.0	351.0
<b>SUB TOTAL EAST</b>	<b>2447.6</b>	<b>2434.2</b>	<b>2398.1</b>	<b>2388.1</b>	<b>2016.8</b>	<b>2000.4</b>	<b>1638.8</b>	<b>1568.5</b>	<b>738.0</b>	<b>731.0</b>
Arunachal Pradesh	11.5	11.4	10.3	10.3	9.3	9.1	7.9	7.7	4.0	3.8
Assam	327.9	327.8	321.4	321.0	289.2	287.8	245.9	245.0	122.9	122.2
Manipur	25.0	24.8	23.4	23.3	21.1	15.2	17.9	18.2	9.0	8.8
Meghalaya	25.9	25.9	25.4	25.4	22.9	22.7	19.4	19.4	9.7	9.7
Mizoram	7.4	7.4	6.7	6.6	6.0	6.0	4.8	4.8	2.4	2.4
Nagaland	17.1	17.1	16.8	16.8	15.1	9.0	12.2	9.5	5.1	4.9
Sikkim	6.3	6.3	5.7	5.7	4.3	4.3	3.5	3.4	1.7	1.7
Tripura	39.2	39.2	38.4	38.4	34.6	34.5	29.4	29.4	14.7	14.7
<b>SUB TOTAL NORTH EAST</b>	<b>460.3</b>	<b>460.1</b>	<b>448.0</b>	<b>447.5</b>	<b>402.4</b>	<b>388.7</b>	<b>340.9</b>	<b>337.4</b>	<b>169.5</b>	<b>168.1</b>
Chhattisgarh	175.8	167.5	172.3	159.1	135.4	121.7	115.1	92.7	57.5	46.2
Dadra & Nagar Haveli	2.0	2.0	1.8	1.8	1.7	1.7	0.3	0.3	0.0	0.0
Daman & Diu	0.9	0.9	0.8	0.8	0.8	0.5	0.1	0.0	0.0	0.0
Goa	5.2	5.2	5.1	5.0	4.6	2.6	2.3	1.4	1.1	0.7
Gujarat	670.8	670.5	657.3	657.0	493.0	492.7	344.5	338.2	141.5	140.1
Madhya Pradesh	625.6	587.2	589.8	580.1	442.4	427.2	345.0	336.9	168.1	162.9
Maharashtra	695.8	695.6	626.3	614.0	563.6	518.0	384.7	377.8	187.4	165.5
<b>SUB TOTAL WEST</b>	<b>2176.1</b>	<b>2128.8</b>	<b>2053.5</b>	<b>2018.0</b>	<b>1641.4</b>	<b>1564.3</b>	<b>1192.0</b>	<b>1147.2</b>	<b>555.6</b>	<b>515.4</b>
Andhra Pradesh	320.6	284.9	266.7	232.0	225.7	191.5	56.4	26.6	0.0	0.0
Karnataka	522.8	504.3	509.8	484.2	287.5	260.3	156.0	126.5	78.0	56.5
Kerala	120.2	120.2	117.8	117.7	88.3	88.3	58.7	58.7	32.5	30.2
Lakshadweep	1.0	1.0	1.0	1.0	0.9	0.9	0.8	0.8	0.8	0.2
Puducherry	4.3	4.2	4.3	4.2	3.8	3.8	0.8	0.7	0.0	0.0
Tamil Nadu	348.7	348.7	341.7	341.7	307.6	307.6	204.5	204.9	96.9	96.9
Telangana	145.4	182.4	174.5	170.1	155.4	133.9	103.4	100.8	49.0	48.2
<b>SUB TOTAL SOUTH</b>	<b>1463.0</b>	<b>1445.8</b>	<b>1415.7</b>	<b>1351.0</b>	<b>1069.3</b>	<b>986.4</b>	<b>580.6</b>	<b>519.0</b>	<b>257.1</b>	<b>232.0</b>
<b>All India</b>	<b>8975.5</b>	<b>8878.4</b>	<b>8685.4</b>	<b>8536.8</b>	<b>6933.0</b>	<b>6678.4</b>	<b>5021.8</b>	<b>4669.2</b>	<b>2304.5</b>	<b>2155.9</b>

Alloc<sup>a</sup>= Allocation

Source: MoP&NG

Note: Delhi and Chandigarh have been declared kerosene-free from Q3, 2013-14 and Q1, 2016-17 respectively. Punjab and Haryana have been declared kerosene-free from Q1, 2017-18. Dadra & Nagar Haveli and Daman & Diu SKO allocation have been reduced to "Zero" from Q2, 2017-18. SKO allocation of Puducherry and Andhra Pradesh have been reduced to "Zero" w.e.f 1.09.2017 and 1.10.2017 respectively.

On an all India basis, the drop in allocation in the last five years (till 2017-18) has been -44.5%. The allocation drop has been steepest in the Southern region (-60.3%) followed by Northern region (-48.4%), Western region (-46.3%), Eastern region (-33.1%) and North Eastern region (-26.0%). Half yearly allocation also decreased by 12.1% in 2018-19 compared with same period in the previous year.

**Table 6.4 : Oil industry Retail Outlets & SKO / LDO agencies**

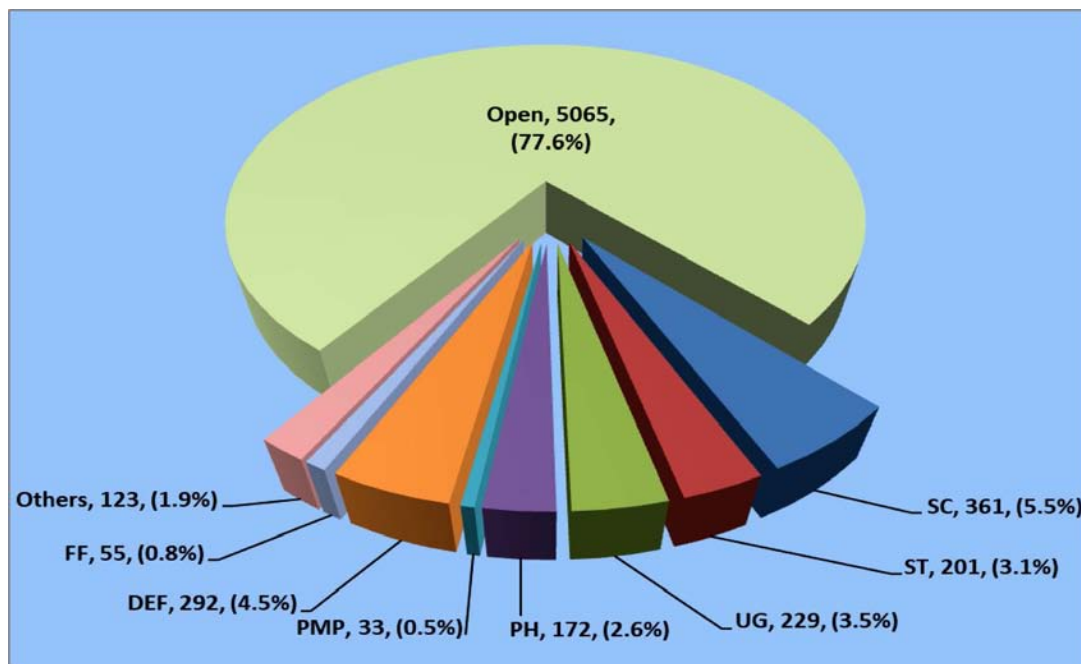
State/UT	Number of Retail Outlets (as on)					Number of SKO / LDO agencies (as on)				
	1.4.2015	1.4.2016	1.4.2017	1.4.2018	1.10.2018 (P)	1.4.2015	1.4.2016	1.4.2017	1.4.2018	1.10.2018 (P)
Chandigarh	41	41	41	41	42	12	12	12	12	12
Delhi	394	395	396	397	397	117	116	116	116	116
Haryana	2419	2534	2726	2862	2916	141	141	141	141	141
Himachal Pradesh	382	396	414	432	437	26	26	26	26	26
Jammu and Kashmir	475	485	494	503	507	47	47	47	47	47
Punjab	3248	3316	3380	3427	3444	241	239	237	237	237
Rajasthan	3465	3736	4116	4476	4578	252	250	250	250	250
Uttar Pradesh	6247	6616	7069	7473	7609	696	696	696	696	696
Uttarakhand	514	551	570	590	592	73	73	73	73	73
<b>SUB TOTAL NORTH</b>	<b>17185</b>	<b>18070</b>	<b>19206</b>	<b>20201</b>	<b>20522</b>	<b>1605</b>	<b>1600</b>	<b>1598</b>	<b>1598</b>	<b>1598</b>
Andaman & Nicobar Islands	9	10	12	14	14	2	2	2	2	2
Bihar	2385	2511	2604	2695	2772	372	372	372	372	372
Jharkhand	1082	1151	1189	1207	1215	87	87	87	87	87
Odisha	1464	1560	1639	1681	1692	177	177	177	177	177
West Bengal	2178	2244	2299	2333	2339	458	458	458	458	458
<b>SUB TOTAL EAST</b>	<b>7118</b>	<b>7476</b>	<b>7743</b>	<b>7930</b>	<b>8032</b>	<b>1096</b>	<b>1096</b>	<b>1096</b>	<b>1096</b>	<b>1096</b>
Arunachal Pradesh	71	71	74	85	85	33	33	33	33	33
Assam	759	788	828	871	879	359	359	359	359	359
Manipur	83	85	85	97	100	36	36	36	36	36
Meghalaya	179	190	198	203	205	35	35	35	35	35
Mizoram	33	36	37	41	41	19	19	19	19	19
Nagaland	68	69	70	73	75	19	19	19	19	19
Sikkim	46	47	50	51	57	12	12	12	12	12
Tripura	64	67	68	71	70	40	40	40	40	40
<b>SUB TOTAL NORTH EAST</b>	<b>1303</b>	<b>1353</b>	<b>1410</b>	<b>1492</b>	<b>1512</b>	<b>553</b>	<b>553</b>	<b>553</b>	<b>553</b>	<b>553</b>
Chhattisgarh	1040	1108	1176	1249	1259	108	108	108	108	108
Dadra & Nagar Haveli	31	31	31	31	31	2	2	2	2	2
Daman & Diu	31	31	32	32	32	5	5	5	5	5
Goa	111	114	115	116	117	22	22	22	22	22
Gujarat	3050	3384	3765	4025	4086	480	480	478	476	473
Madhya Pradesh	3005	3269	3528	3711	3759	285	284	284	284	284
Maharashtra	5207	5419	5684	5970	6056	769	767	767	767	767
<b>SUB TOTAL WEST</b>	<b>12475</b>	<b>13356</b>	<b>14331</b>	<b>15134</b>	<b>15340</b>	<b>1671</b>	<b>1668</b>	<b>1666</b>	<b>1664</b>	<b>1661</b>
Andhra Pradesh	2811	3004	3197	3336	3383	394	394	394	394	394
Karnataka	3737	3836	4027	4215	4271	325	324	323	318	316
Kerala	1932	2009	2048	2100	2105	237	237	237	237	237
Lakshadweep	0	0	0	0	0	0	0	0	0	0
Puducherry	153	156	160	165	165	8	8	8	8	8
Tamil Nadu	4616	4702	5039	5387	5506	468	466	466	466	466
Telangana	2088	2228	2434	2625	2662	202	202	202	202	202
<b>SUB TOTAL SOUTH</b>	<b>15337</b>	<b>15935</b>	<b>16905</b>	<b>17828</b>	<b>18092</b>	<b>1634</b>	<b>1631</b>	<b>1630</b>	<b>1625</b>	<b>1623</b>
<b>All India</b>	<b>53418</b>	<b>56190</b>	<b>59595</b>	<b>62585</b>	<b>63498</b>	<b>6559</b>	<b>6548</b>	<b>6543</b>	<b>6536</b>	<b>6531</b>

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

On an all India basis the percentage growth in the number of retail outlets in the last five years has been 20.7%. The region wise growth is highest for the Western region (26.4%), followed by Northern region (21.1%), Southern region (19.5%), North Eastern region (16.0%) and Eastern region (13.2%).

As many states have become kerosene free in the last five years and due to voluntary surrender of PDS kerosene quota by some others there has been a decline in the number of kerosene dealers in the country.

### Category wise SKO/LDO dealers (Total 6531) on 01.10.2018



**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) SKO/LDO dealers are only PSU OMC dealers

**Table 6.5 : Industry marketing infrastructure as on 01.10.2018 (P)**

Particulars	IOCL	BPCL	HPCL	RIL	NEL <sup>##</sup>	Shell	Others	Total
POL terminal/depots (Nos.) <sup>§</sup>	125	78	83	18	2	-	6	312
Aviation fuel stations (Nos.) <sup>@</sup>	113	52	42	28	-	-	1	236
Retail Outlets (total) (Nos.) <sup>^</sup>	27,325	14,565	15,255	1,400	4,833	114	6	63498
out of which Rural ROs (Nos.)	7,678	2,657	3,387	127	1,743	15	-	15607
SKO/LDO agencies (Nos.)	3,892	1,001	1,638	-	-	-	-	6531
LPG distributors (total) (Nos.) (PSUs only)	10,839	5,422	5,305	-	-	-	-	21566
LPG bottling plants (Nos.) (PSUs only) <sup>#</sup>	89	51	48	-	-	-	3	191
LPG bottling capacity (TMTPA) (PSUs only) <sup>§</sup>	9,291	3,963	4,137	-	-	-	173	17564
LPG active domestic consumers (Nos. crore) (PSUs only)	11.6	6.4	6.8	-	-	-	-	24.7

<sup>§</sup>(RIL= 5 terminals and 13 mini depots, Others=4 MRPL & 2 NRL); <sup>@</sup>(Others=Shell-MRPL -1); <sup>^</sup>(Others=MRPL-6); <sup>#</sup>(Others=NRL-1, OIL-1, CPCL-1); <sup>§</sup>(Others=NRL-30, OIL-23, CPCL-120); <sup>##</sup>Nayara Energy Limited (formerly Essar Oil Limited).

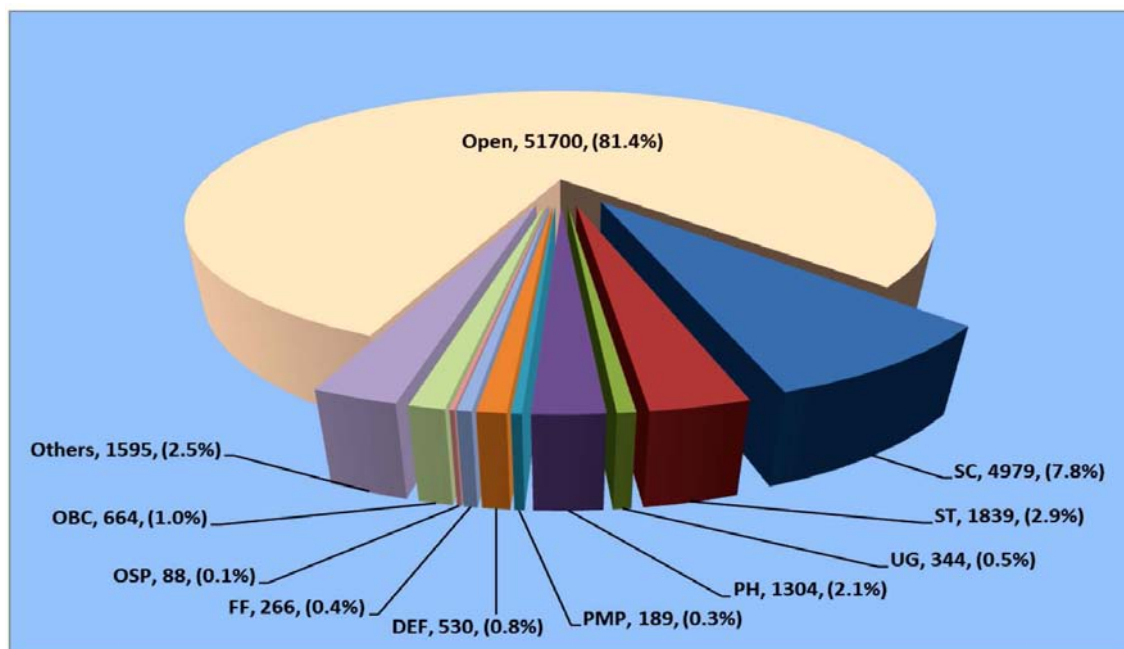
**Source:** Oil companies

### All India number of retail outlets in PSU and private category (As on date)



On 1.10.2018 the number of public sector oil company owned retail outlets was 57,151 out of a total of 63,498 outlets on all India basis, whereas the number of retail outlets owned by private oil companies was 6,347. Participation by private sector in retail outlet business started in FY 2004 with 24 retail outlets. As on 1.10.2018 it accounted for 10% of the total market share.

### Category wise retail outlets (Total 63498) as on 01.10.2018



**Note:**

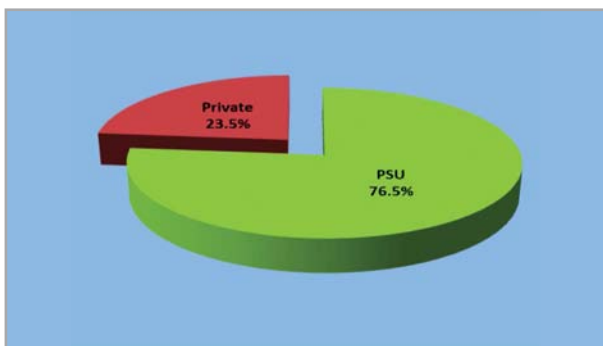
(1) SC: Scheduled Caste; ST: Scheduled Tribe; UG: Unemployed Graduate; UEG: Unemployed Engineering Graduate.; PH: Physically Handicapped; DEF: Defence Category; FF: Freedom Fighter; OSP: Outstanding Sports Persons; OBC: Other Backward Classes; PMP: Para Military/Police/Govt. Personnel; Others: Includes 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 oil company retail outlets.

**Table 6.6 : Break-up of consumption data (PSU and Private)**

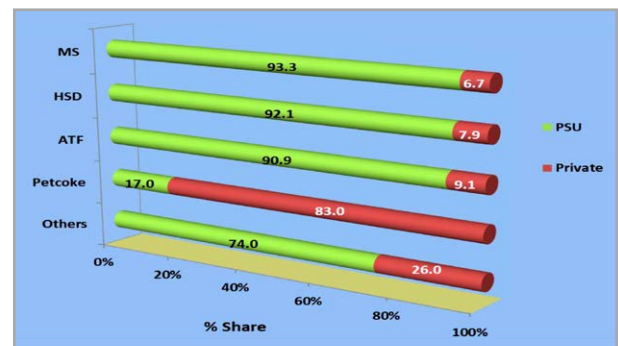
(Thousand metric tonne)

Products	2015-16			2016-17			2017-18			Apr-Sep 2017			Apr-Sep 2018 (P)		
	PSU	Private	Total	PSU	Private	Total	PSU	Private	Total	PSU	Private	Total	PSU	Private	Total
LPG	19134	489	19623	21179	429	21608	22977	364	23342	11044	199	11242	11890	149	12039
MS	21079	768	21847	22518	1247	23765	24329	1846	26174	12177	873	13050	12924	1106	14030
Naphtha	4790	8481	13271	4905	8335	13241	5207	7681	12889	2580	3422	6002	2636	4186	6822
ATF	5629	632	6262	6186	812	6998	6988	645	7633	3342	334	3676	3768	304	4073
SKO	6826	0	6826	5397	0	5397	3845	0	3845	1984	0	1984	1783	0	1783
HSD	72092	2555	74647	71450	4577	76027	74382	6692	81073	36450	3144	39594	37229	3616	40845
LDO	407	0	407	449	0	449	519	4	524	224	0	224	264	14	277
Lubes	1312	2259	3571	1339	2131	3470	1345	2539	3884	582	1090	1672	633	1298	1932
FO/LSHS	5665	968	6632	6009	1142	7150	5665	1056	6721	2829	618	3447	2750	471	3221
Bitumen	4819	1118	5938	4721	1214	5936	4883	1202	6086	1891	512	2404	2380	522	2901
Petcoke	3483	15815	19297	3952	20012	23964	5176	20480	25657	2324	11313	13638	2756	8860	11616
Others	2299	4053	6352	2799	3795	6593	3422	4917	8339	1618	2164	3783	1543	3294	4837
<b>Total</b>	<b>147535</b>	<b>37139</b>	<b>184674</b>	<b>150904</b>	<b>43693</b>	<b>194597</b>	<b>158739</b>	<b>47427</b>	<b>206166</b>	<b>77045</b>	<b>23670</b>	<b>100715</b>	<b>80556</b>	<b>23820</b>	<b>104376</b>

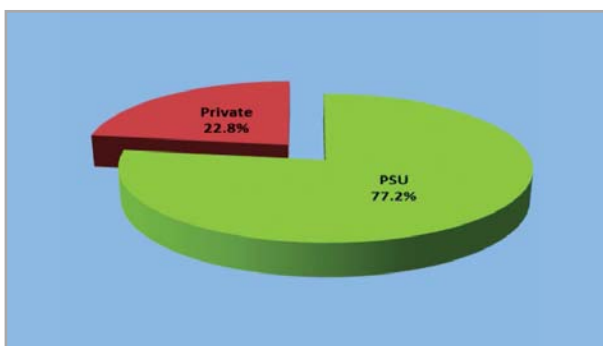
**PSU/Private share in total POL consumption  
(Apr-Sep 2017 = 100.7 MMT)**



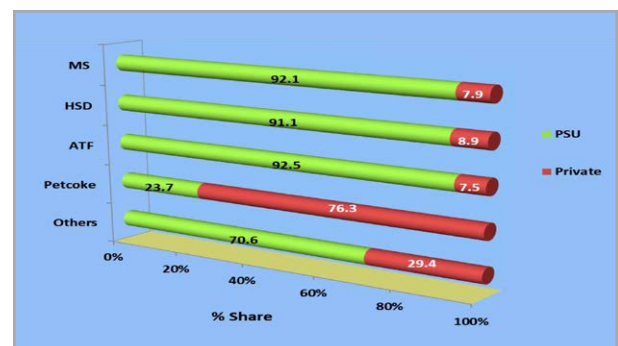
**PSU/Private product wise share (Apr-Sep 2017)  
(in percentage)**



**PSU/Private share in total POL consumption  
Apr-Sep 2018 (P) = 104.4 MMT**



**PSU/Private product wise share, Apr-Sep 2018 (P)  
(in percentage)**



**Source:** Oil Companies, Directorate General of Commercial Intelligence and Statistics (DGCIS) & online SEZ data (included from 2017-18 onwards). (Oil company sales+Private imports+SEZ sales to DTA= Consumption)

**Note:** Private consumption includes direct imports as well as marketing by private oil companies.

1. The share of the private sector in total consumption has decreased during April-September 2018 by 0.7% as compared to the same period last year mainly due to decrease in consumption of petcoke.
2. In private sector the growth has been highest in petrol (1.2%) and diesel (1%) during April-September 2018 as compared to the same period last year.
3. In respect of all other products (except MS, HSD, ATF & petcoke) including lubes, bitumen, LDO and naphtha, the private sector share has increased by 3.4%.
4. Petcoke is directly imported by many end users. The drop in consumption of petcoke is mainly due to the Hon'ble Supreme Court order banning use of petcoke in four states of Northern India, namely, Punjab, Haryana, Uttar Pradesh and Rajasthan.



# Chapter-7

## LPG

**Table 7.1 : LPG marketing at a glance**

(Thousand metric tonne )							
Particulars	2013-14	2014-15	2015-16	2016-17	2017-18	Apr-Sep 2017	Apr-Sep 2018 (P)
<b>LPG production</b>	<b>10032</b>	<b>9840</b>	<b>10568</b>	<b>11253</b>	<b>12364</b>	<b>5802</b>	<b>6291</b>
<b>LPG consumption</b>	<b>16294</b>	<b>18000</b>	<b>19623</b>	<b>21608</b>	<b>23342</b>	<b>11242</b>	<b>12039</b>
<b>PSU sales</b>	<b>15925</b>	<b>17571</b>	<b>19134</b>	<b>21179</b>	<b>22977</b>	<b>11044</b>	<b>11890</b>
Domestic	14412	16040	17182	18871	20352	9793	10517
Non-Domestic	1074	1051	1464	1776	2086	976	1114
Bulk	246	316	317	364	355	182	166
Auto LPG	194	164	171	167	184	93	92
<b>Imports</b>							
PSU imports	6199	7884	8470	10668	11015	4988	6081
Private imports	369	429	489	429	364	199	149
(Lakh)							
<b>Enrolment (domestic)</b>	<b>159.1</b>	<b>163.4</b>	<b>204.5</b>	<b>331.7</b>	<b>284.7</b>	<b>168.2</b>	<b>250.8</b>
As on	1.4.2014	1.4.2015	1.4.2016	1.4.2017	1.4.2018	1.10.2017	1.10.2018
<b>LPG active domestic customers</b>	-	1485.6	1662.5	1987.6	2242.7	2140.4	2472.2
<b>Non-domestic customers</b>	20.1	21.1	23.3	25.3	27.9	26.5	29.1
<b>PMUY beneficiaries</b>	-	-	-	<b>200.3</b>	<b>356.0</b>	<b>297.0</b>	<b>559.5</b>
(Percent)							
<b>LPG coverage (estimated)</b>	-	<b>56.2</b>	<b>61.9</b>	<b>72.8</b>	<b>80.9</b>	<b>77.8</b>	<b>88.5</b>
(Nos.)							
<b>LPG distributors</b>	<b>13896</b>	<b>15930</b>	<b>17916</b>	<b>18786</b>	<b>20146</b>	<b>19223</b>	<b>21566</b>
of which							
Shehri Vitrak	7172	7334	7492	7677	7821	7739	7882
Rurban Vitrak	1885	2263	2852	3152	3463	3302	3537
Gramin & Durgam Kshetriya Vitrak	4839	6333	7572	7957	8862	8182	10147
<b>Auto LPG dispensing stations (ALDS)</b>	<b>678</b>	<b>681</b>	<b>676</b>	<b>675</b>	<b>672</b>	<b>677</b>	<b>663</b>
(Thousand metric tonne per annum)							
<b>Bottling capacity (rated)</b>	<b>13515</b>	<b>14044</b>	<b>15172</b>	<b>16264</b>	<b>17395</b>	<b>16504</b>	<b>17564</b>
(Thousand metric tonne)							
<b>Gross tankage</b>	<b>777</b>	<b>781</b>	<b>869</b>	<b>878</b>	<b>912</b>	<b>881</b>	<b>918</b>

**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 pertain 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.

**Figure 7.1.1 Growth trend in active LPG domestic customers (In Crore)**



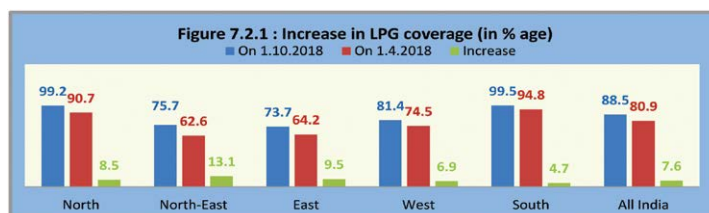
**Figure 7.1.2 Growth trend in LPG coverage**



**Table 7.2: LPG coverage (estimated) as on 01.10.2018 (P)**

(Number in lakhs)				
State/UT	No. of households Census 2011	Estimated households as on 01.10.2018	Active connections as on 01.10.2018	LPG coverage (%)
Chandigarh	2.35	2.66	2.72	102.4%
Delhi	33.41	38.78	48.96	126.3%
Haryana	47.18	54.30	63.19	116.4%
Himachal Pradesh	14.77	16.21	16.17	99.8%
Jammu & Kashmir	20.15	23.76	26.41	111.2%
Punjab	54.10	59.80	80.88	135.3%
Rajasthan	125.81	146.13	138.53	94.8%
Uttar Pradesh	329.24	379.68	337.69	88.9%
Uttarakhand	19.97	22.82	23.84	104.5%
<b>Sub Total North</b>	<b>646.98</b>	<b>744.13</b>	<b>738.40</b>	<b>99.2%</b>
Arunachal Pradesh	2.62	3.13	2.39	76.2%
Assam	63.67	71.93	56.92	79.1%
Manipur	5.07	5.79	4.54	78.4%
Meghalaya	5.38	6.52	2.70	41.3%
Mizoram	2.21	2.60	2.79	107.0%
Nagaland	4.00	3.98	2.29	57.6%
Sikkim	1.28	1.41	1.28	91.0%
Tripura	8.43	9.37	6.38	68.1%
<b>Sub Total North East</b>	<b>92.66</b>	<b>104.74</b>	<b>79.28</b>	<b>75.7%</b>
Andaman & Nicobar Islands	0.93	0.98	0.91	93.2%
Bihar	189.41	225.89	150.01	66.4%
Jharkhand	61.82	72.32	46.86	64.8%
Odisha	96.61	106.87	70.83	66.3%
West Bengal	200.67	221.67	193.93	87.5%
<b>Sub Total East</b>	<b>549.44</b>	<b>627.73</b>	<b>462.56</b>	<b>73.7%</b>
Chhattisgarh	56.23	65.87	46.92	71.2%
Dadra & Nagar Haveli	0.73	1.04	0.85	81.7%
Daman & Diu	0.60	0.85	0.60	70.4%
Goa	3.23	3.43	4.76	138.8%
Gujarat	121.82	139.65	92.40	66.2%
Madhya Pradesh	149.68	172.72	126.94	73.5%
Maharashtra	238.31	267.22	257.30	96.3%
<b>Sub Total West</b>	<b>570.59</b>	<b>650.77</b>	<b>529.76</b>	<b>81.4%</b>
Andhra Pradesh	126.04	136.55	131.88	96.6%
Karnataka	131.80	147.39	140.92	95.6%
Kerala	77.16	80.03	84.76	105.9%
Lakshadweep	0.11	0.11	0.07	60.6%
Puducherry	3.01	3.65	3.69	100.9%
Tamil Nadu	184.93	206.81	200.36	96.9%
Telangana	84.21	91.23	100.52	110.2%
<b>Sub Total South</b>	<b>607.26</b>	<b>665.78</b>	<b>662.19</b>	<b>99.5%</b>
<b>All India</b>	<b>2466.93</b>	<b>2793.14</b>	<b>2472.19</b>	<b>88.5%</b>

Source: PSU OMCs (IOCL, BPCL and HPCL)

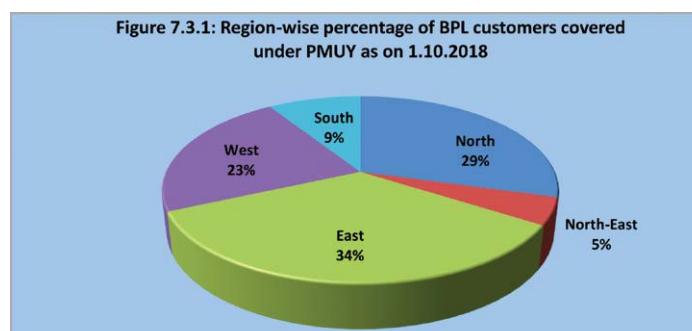




**Table 7.3: BPL households covered under PMUY scheme as on 01.10.2018 (P)**

(Number in lakhs)	
State/UT	Number of BPL households covered
Chandigarh	0.00
Delhi	0.59
Haryana	5.75
Himachal Pradesh	0.80
Jammu & Kashmir	7.28
Punjab	10.71
Rajasthan	41.34
Uttar Pradesh	95.05
Uttarakhand	2.52
<b>Sub Total North</b>	<b>164.04</b>
Arunachal Pradesh	0.32
Assam	21.53
Manipur	0.83
Meghalaya	1.14
Mizoram	0.24
Nagaland	0.38
Sikkim	0.04
Tripura	1.76
<b>Sub Total North East</b>	<b>26.23</b>
Andaman & Nicobar Islands	0.07
Bihar	67.00
Jharkhand	24.65
Odisha	33.96
West Bengal	66.36
<b>Sub Total East</b>	<b>192.04</b>
Chhattisgarh	25.96
Dadra & Nagar Haveli	0.13
Daman & Diu	0.00
Goa	0.01
Gujarat	18.02
Madhya Pradesh	50.87
Maharashtra	31.19
<b>Sub Total West</b>	<b>126.19</b>
Andhra Pradesh	1.81
Karnataka	17.24
Kerala	1.38
Lakshadweep	0.00
Puducherry	0.12
Tamil Nadu	25.55
Telangana	4.94
<b>Sub Total South</b>	<b>51.04</b>
<b>All India</b>	<b>559.53</b>

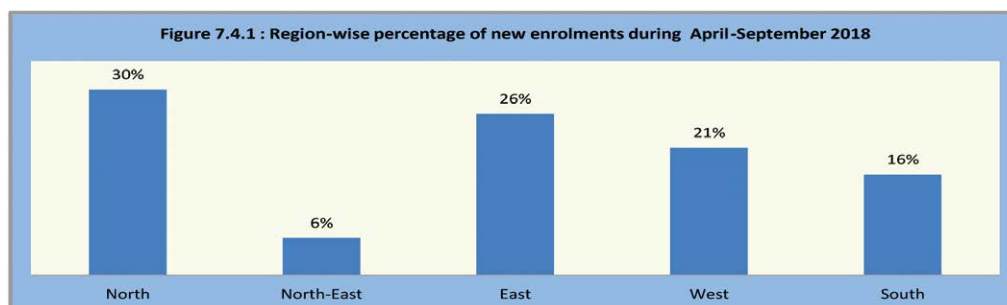
Source: PSU OMCs (IOCL, BPCL and HPCL)



**Table 7.4 : LPG domestic customers enrolment (14.2 kg/5 kg) by PSU OMCs**

State/UT	Apr-Sep 2018 (P)		
	14.2 Kg	5 Kg	Total
Chandigarh	0.04	0.0000	0.04
Delhi	1.27	0.0002	1.27
Haryana	4.12	0.0005	4.12
Himachal Pradesh	0.96	0.0002	0.96
Jammu & Kashmir	3.86	0.0004	3.86
Punjab	7.99	0.0009	7.99
Rajasthan	16.71	0.0038	16.72
Uttar Pradesh	39.36	0.0280	39.39
Uttarakhand	1.72	0.0013	1.72
<b>Sub Total North</b>	<b>76.04</b>	<b>0.0352</b>	<b>76.07</b>
Arunachal Pradesh	0.33	0.0000	0.33
Assam	11.30	0.0004	11.30
Manipur	0.59	0.0000	0.59
Meghalaya	0.83	0.0001	0.83
Mizoram	0.27	0.0006	0.27
Nagaland	0.35	0.0001	0.35
Sikkim	0.09	0.0000	0.09
Tripura	1.38	0.0009	1.38
<b>Sub Total North East</b>	<b>15.14</b>	<b>0.0022</b>	<b>15.14</b>
Andaman & Nicobar Islands	0.07	0.0000	0.07
Bihar	21.48	0.0113	21.49
Jharkhand	13.30	0.0006	13.30
Odisha	12.04	0.0038	12.04
West Bengal	19.21	0.0070	19.22
<b>Sub Total East</b>	<b>66.10</b>	<b>0.0227</b>	<b>66.12</b>
Chhattisgarh	6.93	0.0006	6.93
Dadra & Nagar Haveli	0.03	0.0000	0.03
Daman & Diu	0.02	0.0000	0.02
Goa	0.09	0.0000	0.09
Gujarat	7.24	0.0037	7.24
Madhya Pradesh	19.59	0.0092	19.60
Maharashtra	18.31	0.0013	18.31
<b>Sub Total West</b>	<b>52.21</b>	<b>0.0149</b>	<b>52.22</b>
Andhra Pradesh	2.87	0.0885	2.96
Karnataka	11.20	0.0022	11.20
Kerala	2.26	0.0002	2.26
Lakshadweep	0.01	0.0000	0.01
Puducherry	0.14	0.0000	0.14
Tamil Nadu	17.59	0.0002	17.59
Telangana	7.10	0.0009	7.10
<b>Sub Total South</b>	<b>41.17</b>	<b>0.0919</b>	<b>41.26</b>
<b>All India</b>	<b>250.66</b>	<b>0.1669</b>	<b>250.82</b>

Source: PSU OMCs (IOCL, BPCL and HPCL)

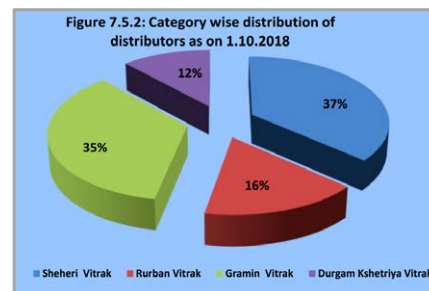
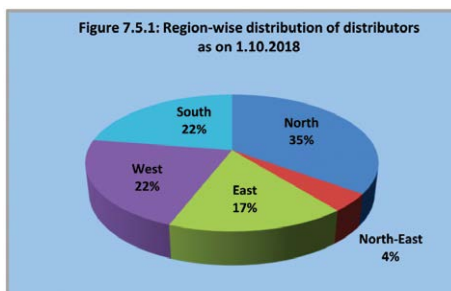


**Table 7.5 : Number of LPG distributors as on 01.10.2018 (P) (New Scheme)**

(Nos.)					
State/UT	Sheheri Vitrak	Rurban Vitrak	Gramin Vitrak	Durgam Kshetriya Vitrak	Total
Chandigarh	27	0	0	0	27
Delhi	321	0	0	0	321
Haryana	277	97	194	27	595
Himachal Pradesh	69	13	80	25	187
Jammu & Kashmir	130	42	62	37	271
Punjab	335	235	224	34	828
Rajasthan	437	157	498	135	1227
Uttar Pradesh	1006	696	1836	283	3821
Uttarakhand	113	106	47	20	286
<b>Sub Total North</b>	<b>2715</b>	<b>1346</b>	<b>2941</b>	<b>561</b>	<b>7563</b>
Arunachal Pradesh	5	5	24	35	69
Assam	135	107	174	58	474
Manipur	15	13	30	39	97
Meghalaya	22	9	9	11	51
Mizoram	11	6	16	24	57
Nagaland	15	11	12	29	67
Sikkim	9	1	5	1	16
Tripura	17	9	32	11	69
<b>Sub Total North-East</b>	<b>229</b>	<b>161</b>	<b>302</b>	<b>208</b>	<b>900</b>
Andaman & Nicobar Islands	0	3	3	0	6
Bihar	241	240	625	142	1248
Jharkhand	162	40	130	84	416
Odisha	172	94	393	174	833
West Bengal	390	149	419	125	1083
<b>Sub Total East</b>	<b>965</b>	<b>526</b>	<b>1570</b>	<b>525</b>	<b>3586</b>
Chhattisgarh	104	74	111	202	491
Dadra & Nagar Haveli	2	1	0	0	3
Daman & Diu	3	0	0	0	3
Goa	44	3	5	1	53
Gujarat	417	112	170	81	780
Madhya Pradesh	467	212	270	424	1373
Maharashtra	1003	186	614	157	1960
<b>Sub Total West</b>	<b>2040</b>	<b>588</b>	<b>1170</b>	<b>865</b>	<b>4663</b>
Andhra Pradesh	317	215	351	78	961
Karnataka	528	135	308	96	1067
Kerala	226	122	245	25	618
Lakshadweep	1	0	0	0	1
Puducherry	15	9	3	0	27
Tamil Nadu	569	337	434	103	1443
Telangana	277	98	285	77	737
<b>Sub Total South</b>	<b>1933</b>	<b>916</b>	<b>1626</b>	<b>379</b>	<b>4854</b>
<b>All India</b>	<b>7882</b>	<b>3537</b>	<b>7609</b>	<b>2538</b>	<b>21566</b>

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.





## Chapter-8

# Prices and Taxes

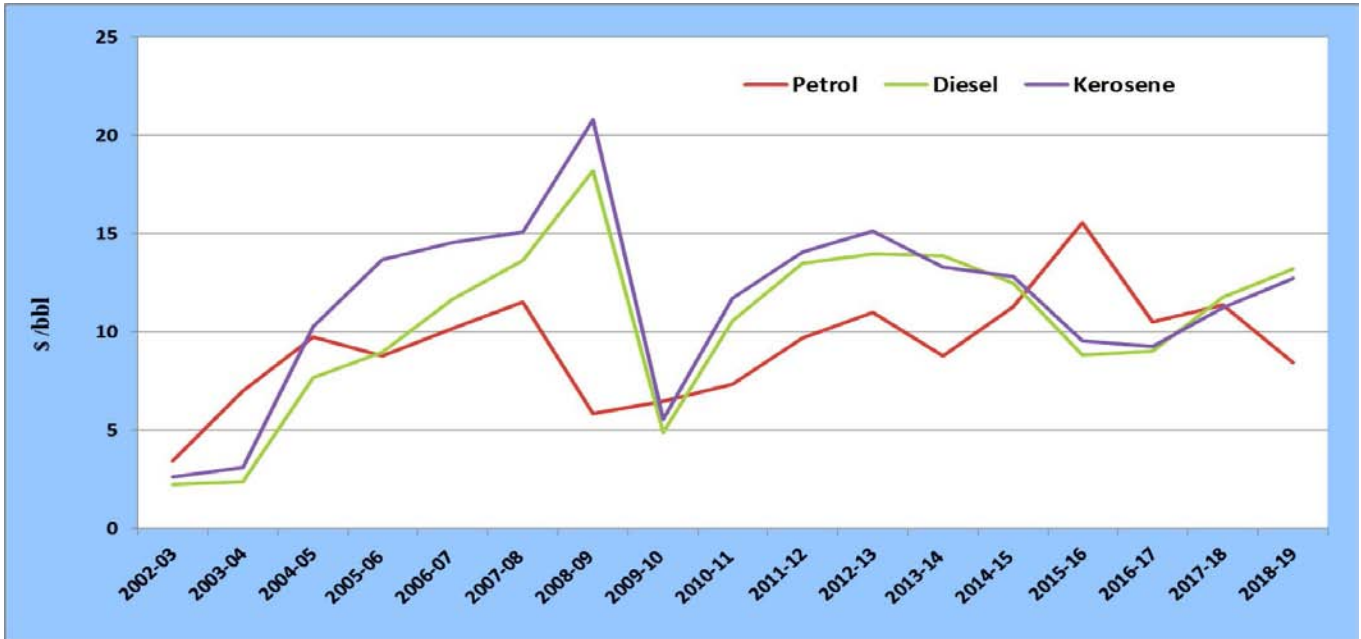
**Table 8.1 : FOB price of Indian basket of crude oil**

Year	Indian basket (\$/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	46.17
2016-17	47.56
2017-18	56.43
2018-19 (up to 31.10.2018)	74.70
<b>2018 : Month wise</b>	
January	67.06
February	63.54
March	63.80
April	69.22
May	75.25
June	73.83
July	73.47
August	72.53
September	77.88
October	80.08

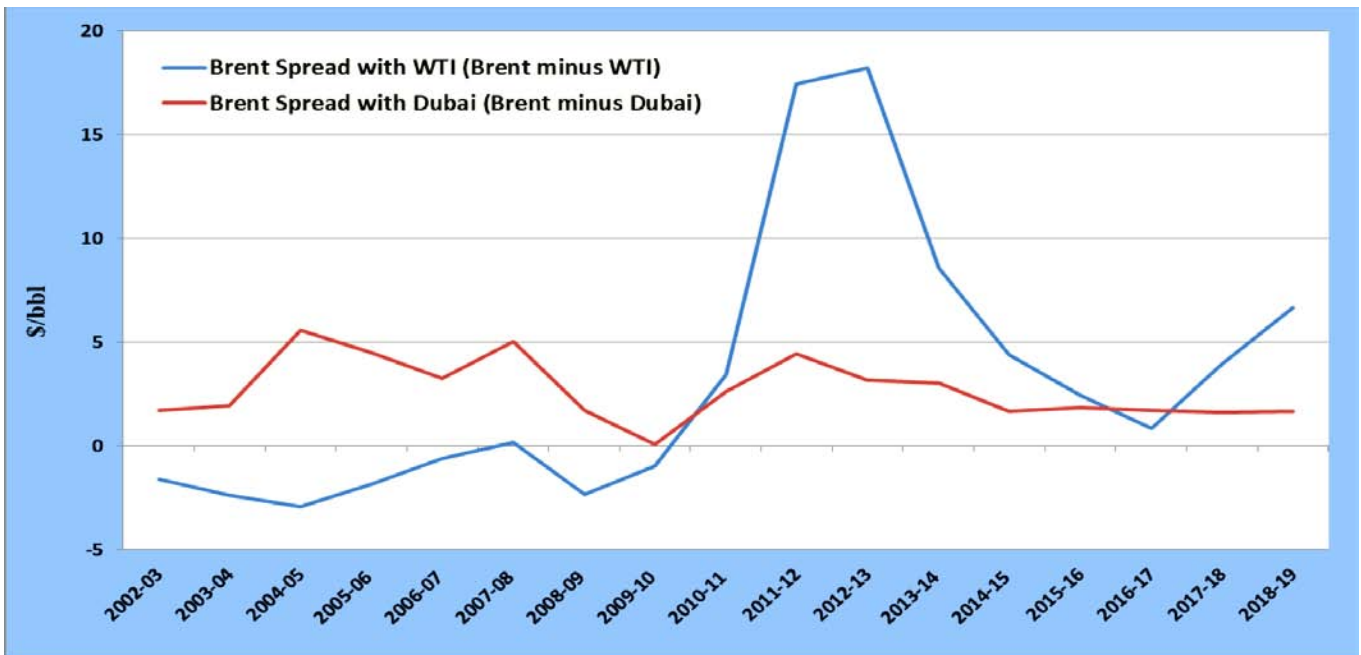
**Note:**

The Indian basket of crude oil for the year 2018-19 is calculated based on a weightage of 74.77% for the price of sour grades of crude oil (average of Oman & Dubai) and 25.23% sweet grade of crude oil (Brent Dated). The percentages of 72.38 and 27.62 was based on the ratio of low sulphur and high sulphur crude oil processed (indigenous and imported) by all the Indian refineries (PSU and Private) during the previous financial year i.e. 2017-18.

### Trend in spreads of petroleum products vs Indian basket of crude oil



### Trend in spreads of international benchmark crude oils



**Table 8.2 : Price build-up of PDS kerosene at Mumbai**

Sl. no.	Elements	Unit	Effective 01.11.2018
1	FOB price at Arab Gulf (AG) of jet/ kerosene	\$/bbl	94.11
2	Add: Ocean freight from AG to Indian ports	\$/bbl	1.69
3	C&F (cost & freight) price	\$/bbl	95.80
	or	Rs./litre	43.70
4	Import charges (insurance/ocean loss/ LC charge/port dues)	Rs./litre	0.30
<b>5</b>	<b>Customs duty</b>	<b>Rs./litre</b>	<b>NIL</b>
<b>6</b>	<b>Import Parity Price (IPP) (sum of 3 to 5)</b>	<b>Rs./litre</b>	<b>43.99</b>
<b>7</b>	<b>Refinery Transfer Price (RTP) for PDS kerosene (price paid by the oil marketing companies to refineries)</b>	<b>Rs./litre</b>	<b>43.99</b>
8	Add : Inland freight and delivery charges	Rs./litre	0.85
9	Add : Marketing cost of OMCs	Rs./litre	0.41
10	Add : Marketing margin of OMCs	Rs./litre	0.28
<b>11</b>	<b>Total cost price (sum of 7 to 10) (Before GST and wholesale &amp; retail dealer commission)</b>	<b>Rs./litre</b>	<b>45.54</b>
12	Less: Under-recovery to OMCs	Rs./litre	21.23
<b>13</b>	<b>Price charged to dealers (depot price) (11-12) (Excluding GST)</b>	<b>Rs./litre</b>	<b>24.30</b>
14	Add : Wholesale & retail dealer commission and other charges fixed by State Government.	Rs./litre	2.04
15	Add : GST (including GST on wholesale & retail dealer commission)	Rs./litre	1.32
<b>16</b>	<b>Retail Selling Price (RSP) at Mumbai (sum of 13 to 15)</b>	<b>Rs./litre</b>	<b>27.66</b>

**Note:** The explanatory notes are given in Table 8.3.

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

Sl. no.	Elements	Description
1	FOB price	Daily FOB (free on board) 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	Weighted average ocean freight from Arab Gulf to destination Indian ports as per World Scale freight rates adjusted for average freight rate assessments (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 total cost price (based on Import Parity) and actual selling price (excluding GST, wholesale & retailer commission and other charges), represents under-recoveries to OMCs
14	Wholesale & retail dealer commission and other charges fixed by State Government	Commission for wholesale & retail dealers and other charges like delivery charges are fixed by State Government.
15	Goods and Services Tax (GST)	GST rate as applicable on PDS kerosene is 5%.



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

Sl. no.	Elements	Unit	Effective 01.11.2018
1	FOB price at Arab Gulf (AG) of LPG	\$/MT	649.68
2	Add: Ocean freight from AG to Jamnagar	\$/MT	21.76
3	C&F (cost & freight) price	\$/MT	671.45
	or	Rs./cylinder	700.98
4	Import charges (insurance/ocean loss/ LC charge/port dues)	Rs./cylinder	6.71
5	Customs Duty	Rs./cylinder	NIL
<b>6</b>	<b>Import Parity Price (IPP) (sum of 3 to 5)</b>	<b>Rs./cylinder</b>	<b>707.68</b>
<b>7</b>	<b>Refinery Transfer Price (RTP) for domestic LPG (price paid by the oil marketing companies to refineries)</b>	<b>Rs./cylinder</b>	<b>707.68</b>
8	Add: Storage / distribution cost & return on investment	Rs./cylinder	9.57
9	Add: Bottling charges	Rs./cylinder	20.58
10	Add: Charges for cylinder cost	Rs./cylinder	18.11
11	Add: Inland freight	Rs./cylinder	30.22
<b>12</b>	<b>Bottling plant cost before working capital (sum of 7 to 11)</b>	<b>Rs./cylinder</b>	<b>786.15</b>
13	Add: Cost of working capital	Rs./cylinder	3.23
<b>14</b>	<b>Cost price at LPG bottling plant (sum of 12 to 13)</b>	<b>Rs./cylinder</b>	<b>789.38</b>
15	Add: Delivery charges	Rs./cylinder	10.00
16	Add : Uncompensated Costs	Rs./cylinder	45.80
<b>17</b>	<b>Market determined price (sum of 14 to 16)</b>	<b>Rs./cylinder</b>	<b>845.18</b>
18	Add : GST (including GST on distributor commission)	Rs./cylinder	44.74
19	Add : Distributor commission	Rs./cylinder	49.52
<b>20</b>	<b>Retail Selling Price (RSP) (sum of 17 to 19)</b>	<b>Rs./cylinder</b>	<b>939.43</b>
<b>21</b>	<b>RSP at Delhi (rounded)</b>	<b>Rs./cylinder</b>	<b>939.00</b>
22	Less: Cash compensation on LPG to consumers under DBTL	Rs./cylinder	433.66
<b>23</b>	<b>Effective cost to consumer after subsidy (21-22)</b>	<b>Rs./cylinder</b>	<b>505.34</b>

**Note:** The explanatory notes are given in table 8.5. The above price buildup is for 14.2 kg cylinder.

**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.
15	Delivery charges	It comprises of freight from bottling plant to distributor.
16	Uncompensated costs	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	Goods and Services Tax (GST)	GST rate as applicable on domestic LPG is 5%
19	Distributor commission	LPG distributor commission is Rs.49.52/cylinder (including additional distributor commission).
22	Cash compensation to consumer under DBTL	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 costs which are borne by the OMCs .

**Table 8.6 : Price build-up of petrol at Delhi**

<b>w.e.f. 01.11.2018</b>		
<b>Particulars</b>	<b>Unit</b>	<b>Value</b>
C&F (cost & freight) price (moving average basis)	\$/bbl	83.07
Average exchange rate	₹/\$	73.52
Price charged to dealers (excluding excise duty and VAT)	₹/ltr	40.89
Add : Excise duty	₹/ltr	17.98
Add : Dealer's commission (average)	₹/ltr	3.63
Add : VAT (including VAT on dealer's commission)	₹/ltr	16.87
<b>Retail selling price at Delhi (rounded)</b>	<b>₹/ltr</b>	<b>79.37</b>

-As per IOCL.

**Table 8.7 : Price build-up of diesel at Delhi**

<b>w.e.f. 01.11.2018</b>		
<b>Particulars</b>	<b>Unit</b>	<b>Value</b>
C&F (cost & freight) price (moving average basis)	\$/bbl	96.27
Average exchange rate	₹/\$	73.52
Price charged to dealers (excluding excise duty and VAT)	₹/ltr	46.59
Add : Excise duty	₹/ltr	13.83
Add : Dealer's commission (average)	₹/ltr	2.52
Add : VAT (including VAT on dealer's commission)	₹/ltr	10.84
<b>Retail selling price at Delhi (rounded)</b>	<b>₹/ltr</b>	<b>73.78</b>

-As per IOCL.

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

**Table 8.8 : Share of taxes in RSP of petrol effective 01.11.2018 at Delhi**

Particulars	₹/litre	Share in RSP
Price excluding taxes and dealers' commission	40.12	50.5%
Customs duty	0.77	
Excise duty	17.98	
<b>Total central taxes</b>	<b>18.75</b>	<b>23.6%</b>
Price charged to dealers - depot price	58.87	
VAT (Including VAT on dealer's commission)	16.87	
<b>Total state taxes</b>	<b>16.87</b>	<b>21.3%</b>
<b>Total taxes</b>	<b>35.62</b>	<b>44.9%</b>
Dealer's commission	3.63	4.6%
<b>RSP</b>	<b>79.37</b>	<b>100.0%</b>

**Table 8.9 : Share of taxes in RSP of diesel effective 01.11.2018 at Delhi**

Particulars	₹/litre	Share in RSP
Price excluding taxes and dealer's commission	45.69	61.9%
Customs duty	0.90	
Excise duty	13.83	
<b>Total central taxes</b>	<b>14.73</b>	<b>20.0%</b>
Price charged to dealers - depot price	60.42	
VAT (Including VAT on dealer's commission) & Air Ambience charges	10.84	
<b>Total state taxes</b>	<b>10.84</b>	<b>14.7%</b>
<b>Total taxes</b>	<b>25.57</b>	<b>34.7%</b>
Dealer's commission	2.52	3.4%
<b>RSP</b>	<b>73.78</b>	<b>100.0%</b>

**Note:** The prices of petrol and diesel are as per IOCL at Delhi.

**Table 8.10 : Break up of Central excise duty on petrol & diesel (effective 01.11.2018)**

Particular	₹/litre	
	Petrol	Diesel
Basic duty	2.98	4.83
Additional excise duty (Road & Infrastructure Cess)	8.00	8.00
Special additional excise duty	7.00	1.00
<b>Total excise duty</b>	<b>17.98</b>	<b>13.83</b>

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

Table 8.11 : Share of taxes in RSP of PDS kerosene effective 01.11.2018 at Mumbai

Particulars	₹/litre	Share in RSP
Total price before Government levies	45.54	
Less : Under-recovery to OMCs	21.23	
Price excluding taxes and dealers' commission	24.30	87.8%
<b>Customs duty</b>	<b>NIL</b>	
GST (Including GST on wholesaler and retailer commission)	1.32	
Total taxes	1.32	4.8%
<b>Wholesaler and retailer commission</b>	<b>2.04</b>	<b>7.4%</b>
<b>RSP</b>	<b>27.66</b>	<b>100.0%</b>

Table 8.12 : Share of taxes in RSP of domestic LPG effective 01.11.2018 at Delhi

Particulars	₹/14.2 kg cylinder	Share in RSP
RSP excluding taxes and distributors' commission (after rounding off adjustments)	844.74	89.9%
Customs duty	NIL	
GST (including GST on distributors' commission)	44.74	
<b>Total taxes</b>	<b>44.74</b>	<b>4.8%</b>
Distributor's commission	49.52	5.3%
RSP	939.00	100.0%
<b>Less: Cash compensation on LPG to consumers under DBTL</b>	<b>433.66</b>	
<b>Effective cost to consumer after DBTL subsidy</b>	<b>505.34</b>	

**Table 8.13 : Weightage of crude oil, natural gas and petroleum products in Wholesale Price Index (WPI)**

Product	Weight in %
Crude Petroleum	1.95
Natural Gas	0.46
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
<b>Total</b>	<b>10.37</b>

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

### 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. It includes the following elements:
  - 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. It includes the following elements:
  - FOB price
  - Advance licence benefit for duty free import of crude oil pursuant to export of refined products (currently nil)
- 3. Refinery Transfer Price (RTP):** 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 8.14 : 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 + 0.280% 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
1-Aug-17*	₹ 2674.74/KL + 0.859% of product billable price	₹ 2031.38/KL + 0.257% of product billable price

**Note:** \*In addition to above, effective 1<sup>st</sup> August 2017, slab based incentive is also given to eligible dealers through credit notes.

**Table 8.15 : 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
04-Oct-18	1016.37	1005.95

**Table 8.16 : 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
01-Jan-18	48.89	0.35	24.20
01-Feb-18	48.89	0.34	24.20
01-Mar-18	48.89	0.28	24.20
01-Apr-18	48.89	0.23	24.20
01-Jun-18	48.89	0.29	24.20
01-Jul-18	48.89	0.36	24.20
01-Aug-18	48.89	0.42	24.20
01-Sep-18	48.89	0.46	24.20
01-Oct-18	48.89	0.54	24.20
01-Nov-18	48.89	0.63	24.20

Source: MoP&NG circulars & OMCs



**Table 8.17 : Revisions in RSP of petroleum products at Delhi since 01.04.2010**

Date	Petrol	Diesel	PDS kerosene	Domestic LPG		Reasons (other than increase/decrease in basic price)
				Subsidized	Non-subsidized	
	(₹/litre)			(₹/14.2 Kg cyl.)		
01.04.2010	47.93	38.10	9.32	310.35		
26.06.2010	51.43	40.10	12.32	345.35		
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			Increase in dealers commission
21.09.2010	51.83					
17.10.2010	52.55					
02.11.2010	52.59	37.75	12.37			Increase in siding & shunting charges
09.11.2010	52.91					
16.12.2010	55.87					
15.01.2011	58.37					
18.01.2011			12.73			Increase in transportation charges
15.05.2011	63.37					
25.06.2011		41.12	14.83	395.35		Decrease in excise duty on diesel
01.07.2011	63.70	41.29		399.00		Increase in siding & shunting charges for petrol and diesel / dealer commission on petrol, diesel and LPG
16.09.2011	66.84					
01.10.2011		40.91				Rebate of Rs.0.375 per litre in VAT on diesel in Delhi.
04.11.2011	68.64					
16.11.2011	66.42					
01.12.2011	65.64					
24.05.2012	73.18					
03.06.2012	71.16					
18.06.2012	70.24	41.29				Rebate on petrol/ removal of rebate on diesel in Delhi
29.06.2012	67.78					
24.07.2012	68.48					
01.08.2012	68.46	41.32				Decrease in siding/ shunting charges for petrol & diesel. Increase in delivery charges for diesel.
14.09.2012		46.95				Decrease in excise duty on petrol and increase in excise duty on diesel.
18.09.2012					756.50	Price notified for non-subsidized domestic LPG
01.10.2012					883.50	
03.10.2012			14.79			Decrease in siding charges
07.10.2012				410.50	895.50	Increase in domestic LPG distributor commission
09.10.2012	67.90					
27.10.2012	68.19	47.15				Increase in dealer commission
01.11.2012					922.50	
02.11.2012					895.50	
16.11.2012	67.24					
16.01.2013	67.56					Removal of rebate in VAT for petrol in Delhi
18.01.2013	67.26	47.65			942.00	
28.01.2013			14.96			Increase in dealer's commission
16.02.2013	69.06	48.16				
01.03.2013					904.50	
02.03.2013	70.74					
16.03.2013	68.34					
23.03.2013		48.67				

Table 8.17 : Continued

Date	Petrol	Diesel	PDS kerosene	Domestic LPG		Reasons (other than increase/decrease in basic price)
				Subsidized	Non-subsidized	
	(₹/litre)		(₹/14.2 Kg cyl.)			
01.04.2013	68.31	48.63			901.50	Decrease in siding charges on petrol and diesel
02.04.2013	67.29					
16.04.2013	66.09	48.67				
01.05.2013	63.09				847.00	
11.05.2013		49.69				
01.06.2013	63.99	50.25			802.00	
16.06.2013	66.39					
29.06.2013	68.58					
01.07.2013		50.26			832.00	
02.07.2013		50.84				
15.07.2013	70.44					
01.08.2013	71.28	51.40			875.00	
01.09.2013	74.10	51.97			932.50	
14.09.2013	76.06					
01.10.2013	72.40	52.54			1,004.00	
01.11.2013	71.02	53.10			954.50	
01.12.2013		53.67			1,017.50	
11.12.2013				414.00	1,021.00	Increase in distributor's commission on domestic LPG
21.12.2013	71.52	53.78				Increase in basic price of petrol & increase in dealer's commission on petrol and diesel
04.01.2014	72.43	54.34			1,241.00	
01.02.2014		54.91			1,134.00	
01.03.2014	73.16	55.48			1,080.50	
01.04.2014	72.26	55.49			980.50	
16.04.2014	71.41					
01.05.2014					928.50	
16.05.2014		56.71				
01.06.2014		57.28			905.00	
07.06.2014	71.51					
25.06.2014	71.56				906.00	Increase in rail freight
01.07.2014	73.60	57.84			922.50	
01.08.2014	72.51	58.40			920.00	
16.08.2014	70.33					
31.08.2014	68.51	58.97				
01.09.2014					901.00	
01.10.2014	67.86				880.00	
15.10.2014	66.65					
19.10.2014		55.60				
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	<b>Price of PDS kerosene as per Mumbai</b>
01.12.2014	63.33	52.51			752.00	
16.12.2014	61.33	50.51				
01.01.2015					708.50	
17.01.2015	58.91	48.26				Increase in excise duty on petrol and diesel
01.02.2015					605.00	

Table 8.17 : Continued

Date	Petrol	Diesel	PDS kerosene (at Mumbai)	Domestic LPG		Reasons (other than increase/decrease in basic price)
				Subsidized	Non-subsidized	
			(₹/litre)	(₹/14.2 Kg cyl.)		
04.02.2015	56.49	46.01				
16.02.2015	57.31	46.62	15.24			Increase in dealer's commission on PDS kerosene
01.03.2015	60.49	49.71			610.00	
01.04.2015				417.82	621.00	Price of subsidized domestic LPG is effective cost to consumer as per DBTL scheme
02.04.2015	60.00	48.50				
16.04.2015	59.20	47.20				
01.05.2015	63.16	49.57			616.00	
16.05.2015	66.29	52.28				
01.06.2015					626.50	
16.06.2015	66.93	50.93				
01.07.2015	66.62	50.22			608.50	
16.07.2015	66.90	49.72				Increase in VAT rates at Delhi
01.08.2015	64.47	46.12			585.00	
15.08.2015	63.20	44.95				
01.09.2015	61.20	44.45			559.50	
01.10.2015		44.95			517.50	
16.10.2015		45.90				
01.11.2015	60.70	45.93			545.00	
16.11.2015	61.06	46.80				
01.12.2015	60.48	46.55			606.50	
09.12.2015				419.26	608.00	Increase in distributor's commission on domestic LPG
16.12.2015	59.98	46.09				
01.01.2016	59.35	45.03		419.33	657.50	Increase in LPG additional distributor's commission by Rs.0.07/Cyl
02.01.2016						Increase in basic excise duty rates for petrol/diesel without increase in RSPs
16.01.2016	59.03	44.18				Increase in excise duty
19.01.2016	59.99	44.71				Increase in VAT rates at Delhi
31.01.2016						Increase in basic excise duty rates for petrol/diesel without increase in RSPs
01.02.2016	59.95	44.68		419.22	575.00	Decrease in LPG additional distributor's commission by Rs.0.11/Cyl
18.02.2016	59.63	44.96				
01.03.2016	56.61	46.43		419.13	513.50	Decrease in LPG additional distributor's commission by Rs.0.09/Cyl
04.03.2016			15.42			Increase in dealer's commission
17.03.2016	59.68	48.33				
01.04.2016					509.50	
05.04.2016	61.87	49.31				
16.04.2016	61.13	48.01				
25.04.2016			15.36			Reduction in SSC on PDS kerosene in Mumbai
01.05.2016	62.19	50.95		419.15	527.50	Increase in additional distributor's commission of domestic LPG by Rs.0.02/Cyl
07.05.2016		50.41				Decrease in VAT rates of diesel in Delhi
17.05.2016	63.02	51.67				
01.06.2016	65.60	53.93		419.18	548.50	Increase in additional distributor's commission of domestic LPG by Rs.0.03/Cyl
03.06.2016			15.02			Reduction in SSC on PDS kerosene in Mumbai
16.06.2016	65.65	55.19				
01.07.2016	64.76	54.70		421.16	537.50	Decrease in additional distributor's commission of domestic LPG by Rs.0.02/Cyl

Table 8.17 : Continued

Date	Petrol	Diesel	PDS kerosene (at Mumbai)	Domestic LPG		Reasons (other than increase/decrease in basic price)
				Subsidized	Non-subsidized	
(₹/litre)			(₹/14.2 Kg cyl.)			
07.07.2016			15.27			
16.07.2016	62.51	54.28				
01.08.2016	61.09	52.27	15.53	423.09	487.00	Decrease in additional distributor's commission of domestic LPG by Rs.0.07/Cyl
16.08.2016	60.09	50.27	15.68			Increase in SSC on PDS kerosene at Mumbai
01.09.2016	63.47	52.94	15.94	425.06	466.50	Decrease in additional distributor's commission of domestic LPG by Rs.0.03/Cyl
16.09.2016	64.21	52.59	16.19			
21.09.2016			16.40			Increase in kerosene retailer's commission at Mumbai
01.10.2016	64.58	52.51	16.66	427.09	490.00	Increase in additional distributor's commission of domestic LPG by Rs.0.03/Cyl
05.10.2016	64.72	52.61				Increase in dealer's commission on petrol and diesel
16.10.2016	66.45	55.38	16.92			
28.10.2016				428.59	492.00	Increase in distributor's commission
01.11.2016			17.17	430.64	529.50	Increase in additional distributor's commission of domestic LPG by Rs.0.05/Cyl
06.11.2016	67.62	56.41				
16.11.2016	65.93	54.71	17.51			Increase in dealers' commission of petrol and diesel
01.12.2016	66.10	54.57	17.76	432.71	584.00	Increase in additional distributor's commission of domestic LPG by Rs.0.07/Cyl
16.12.2016			18.02			
17.12.2016	68.94	56.68				
01.01.2017			18.28	434.71	585.00	
02.01.2017	70.60	57.82				
16.01.2017	71.14	59.02	18.54			
01.02.2017			18.77	434.80	651.50	Increase in additional distributor's commission of domestic LPG by Rs.0.09/Cyl
01.03.2017				434.93	737.50	Increase in additional distributor's commission of domestic LPG by Rs.0.13/Cyl
01.04.2017	66.29	55.61		440.90	723.00	Decrease in additional distributor's commission of domestic LPG by Rs.0.03/Cyl and increase in dealer commission on petrol and diesel
07.04.2017			19.03			
16.04.2017	68.07	56.83	19.29			
01.05.2017	68.09	57.35	19.65	442.77	631.00	Decrease in additional distributor's commission of domestic LPG by Rs.0.13/Cyl
16.05.2017	65.32	54.90	19.91			
01.06.2017	66.91	55.94	20.17	446.65	552.50	Decrease in additional distributor's commission of domestic LPG by Rs.0.12/Cyl
16.06.2017	65.48	54.49	20.43			
01.07.2017	63.09	53.33	21.09	477.46	564.00	GST implementation on PDS kerosene and domestic LPG. Decrease in additional distributor's commission of domestic LPG by Rs.0.02/Cyl
11.07.2017	63.93	54.74	21.22			Revision in SSC on PDS kerosene in Mumbai
16.07.2017	64.11	54.93	21.48			
01.08.2017	65.40	55.58	21.74	479.77	524.00	Decrease in additional distributor's commission of domestic LPG by Rs.0.07/Cyl
16.08.2017	68.14	57.36	22.00			
01.09.2017	69.26	57.13	22.27	487.18	597.50	Increase in additional distributor's commission of domestic LPG by Rs.0.10/Cyl
16.09.2017	70.48	58.84	22.53			

Table 8.17 : Continued

Date	Petrol	Diesel	PDS kerosene (at Mumbai)	Domestic LPG		Reasons (other than increase/decrease in basic price)
				Subsidized	Non-subsidized	
	(₹/litre)			(₹/14.2 Kg cyl.)		
20.09.2017	70.52	58.79	22.76			Increase in wholesale dealer's commission in Mumbai for PDS kerosene
30.09.2017	70.66	58.86		488.68	599.00	Increase in distributor's commission on domestic LPG
01.10.2017	70.76	58.92		491.13	649.00	Increase in additional distributor's commission of domestic LPG by Rs.0.07/Cyl
01.11.2017	69.14	57.73		495.69	742.00	Increase in additional distributor's commission of domestic LPG by Rs.0.13/Cyl
15.11.2017	69.68	58.32	22.12			Removal of SSC on PDS kerosene in Mumbai
01.12.2017	69.22	58.40		495.69	747.00	
01.01.2018	69.97	59.70	22.39	495.64	741.00	Decrease in additional distributor's commission of domestic LPG by Rs.0.01/Cyl
16.01.2018	71.27	61.88	22.65			
01.02.2018	73.05	64.11	22.91	495.63	736.00	Decrease in additional distributor's commission of domestic LPG by Rs.0.01/Cyl
16.02.2018	72.52	63.02	23.17			
01.03.2018	71.57	62.25	23.44	493.09	689.00	Decrease in additional distributor's commission of domestic LPG by Rs.0.06/Cyl
16.03.2018	72.37	62.81	23.70			
01.04.2018	73.73	64.58	23.98	491.35	653.50	Decrease in additional distributor's commission of domestic LPG by Rs.0.05/Cyl
16.04.2018	74.02	65.18	24.24			
01.05.2018	74.63	65.93	24.51	491.21	650.50	
16.05.2018	75.10	66.57	24.77			
01.06.2018	78.29	69.20	25.03	493.55	698.50	Increase in additional distributor's commission of domestic LPG by Rs.0.06/Cyl
16.06.2018	76.35	67.85	25.29			
01.07.2018	75.55	67.38	25.56	496.26	754.00	Increase in Addl. distributor's commission of domestic LPG by Rs.0.07/Cyl
16.07.2018	76.84	68.47	25.82			
01.08.2018	76.31	67.82	26.08	498.02	789.50	Increase in Addl. distributor's commission of domestic LPG by Rs.0.06/Cyl
16.08.2018	77.20	68.78	26.34			
01.09.2018	78.68	70.42	26.61	499.51	820.00	Increase in Addl. distributor's commission of domestic LPG by Rs.0.04/Cyl
16.09.2018	81.91	73.72	26.87			
01.10.2018	83.73	75.09	27.13	502.40	879.00	Increase in Addl. distributor's commission of domestic LPG by Rs.0.08/Cyl
16.10.2018	82.83	75.69	27.39			
01.11.2018	79.37	73.78	27.66	505.34	939.00	Increase in Addl. distributor's commission of domestic LPG by Rs.0.09/Cyl

**Note :**

1. Prices of petrol since 26<sup>th</sup> June, 2010, non-subsidized domestic LPG since 13<sup>th</sup> September, 2012, diesel since 19<sup>th</sup> October, 2014 are as per IOCL.
2. Effective 16.6.2017, the petrol/diesel pricing is revised on daily basis, therefore the changes in petrol/diesel prices are shown only on the dates when kerosene/LPG prices has been changed.

**Table 8.18 : Retail Selling Price (RSP) of major products in India & neighbouring countries**

Country	Indian rupees (₹)/ litre/ 14.2 kg cyl.			
	Petrol	Diesel	Kerosene	Domestic LPG
India (Delhi)	79.37 <sup>^</sup>	73.78 <sup>^</sup>	27.66 <sup>#</sup>	505.34 <sup>*</sup>
Pakistan	54.82	62.90	48.17	1011.35
Bangladesh	76.20	57.59	57.59	704.58
Sri Lanka	66.03	52.40	29.82	838.69
Nepal (Kathmandu)	71.81	63.62	63.62	881.86

<sup>^</sup> As per IOCL as on 1.11.2018, <sup>#</sup> at Mumbai effective 1.11.2018 for PDS kerosene, <sup>\*</sup> Effective cost after DBTL subsidy effective 1.11.2018.

**Note:** Prices for neighboring countries as on 1.11.2018.

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

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

**Table 8.19 : 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	79.37	43.73	35.64	45%	73.78	48.21	25.57	35%
France	130.95	50.90	80.05	61%	124.21	52.08	72.13	58%
Germany	127.24	51.82	75.42	59%	111.74	54.27	57.47	51%
Italy	138.19	51.91	86.29	62%	128.17	53.09	75.08	59%
Spain	112.58	54.18	58.40	52%	104.83	55.70	49.13	47%
UK	122.91	47.73	75.18	61%	126.78	50.94	75.84	60%
Japan	98.91	55.23	43.68	44%	85.10	58.00	27.10	32%
Canada	73.90	51.68	22.21	30%	71.90	54.51	17.39	24%
USA	54.09	45.14	8.96	17%	62.25	51.85	10.40	17%

**Table 8.20 : 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	1.08	0.59	0.48	45%	1.00	0.65	0.35	35%
France	1.81	0.70	1.11	61%	1.72	0.72	1.00	58%
Germany	1.76	0.72	1.04	59%	1.55	0.75	0.80	51%
Italy	1.91	0.72	1.19	62%	1.77	0.74	1.04	59%
Spain	1.56	0.75	0.81	52%	1.45	0.77	0.68	47%
UK	1.70	0.66	1.04	61%	1.76	0.71	1.05	60%
Japan	1.37	0.76	0.60	44%	1.18	0.80	0.38	32%
Canada	1.02	0.72	0.31	30%	1.00	0.75	0.24	24%
USA	0.75	0.63	0.12	17%	0.86	0.72	0.14	17%

**Note:**

- Prices of France, Germany, Italy, Spain, UK, Japan, Canada & USA: IEA report for September 2018 and average exchange rate of September 2018 considered for conversion: Rs. 72.22/ 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 01.11.2018 as per IOCL. Average exchange rate of October 2018 considered for conversion at Rs. 73.63/\$.

**Table 8.21 : Retail Selling Price RSP of petroleum products at State capitals / UTs**

State/Union Territory	City	Petrol	Diesel	Domestic LPG (₹/14.2 KG Cylinder)	
		(₹/litre)		Eff. cost to consumer	Non subsidized
<b>State</b>					
Andhra Pradesh	Vizag	82.76	78.47	505.70	946.50
Arunachal Pradesh	Itanagar	72.69	68.40	508.23	1009.50
Assam	Guwahati	79.16	74.64	497.44	993.00
Bihar	Patna	83.06	76.83	514.42	1039.50
Chhattisgarh	Raipur	77.35	77.19	513.37	1017.50
Goa	Panjim	70.79	72.72	517.97	958.00
Gujarat	Gandhinagar	76.63	77.29	516.23	967.50
Haryana	Ambala	77.70	72.27	510.65	960.50
Himachal Pradesh	Shimla	77.92	71.39	509.32	982.50
Jammu & Kashmir	Srinagar	81.42	74.84	535.63	1065.00
Jharkhand	Ranchi	76.23	75.38	515.32	998.50
Karnataka	Bengaluru	79.99	74.16	509.25	941.00
Kerala	Thiruvananthapuram	82.65	78.98	512.53	940.00
Madhya Pradesh	Bhopal	82.52	75.18	508.61	947.50
Maharashtra	Mumbai	84.86	77.32	503.11	912.00
Manipur	Imphal	75.19	69.42	512.58	1081.00
Meghalaya	Shillong	76.37	71.21	509.73	1011.00
Mizoram	Aizawl	75.26	71.01	501.15	1081.00
Nagaland	Kohima	75.94	69.89	509.70	960.50
Odisha	Bhubaneswar	78.22	79.17	516.77	969.00
Punjab	Jalandhar	84.62	73.54	508.20	969.00
Rajasthan	Jaipur	79.85	76.08	507.65	927.50
Sikkim	Gangtok	82.55	75.60	511.80	1094.50
Tamil Nadu	Chennai	82.46	78.00	493.89	958.50
Telangana	Hyderabad	84.14	80.25	514.39	999.00
Tripura	Agartala	75.67	71.59	512.63	1092.00
Uttarakhand	Dehradun	77.64	71.95	505.61	954.50
Uttar Pradesh	Lucknow	77.16	71.81	505.75	977.50
West Bengal	Kolkata	81.25	75.63	508.70	969.50
<b>Union Territory</b>					
Andaman & Nicobar Islands	Port Blair	68.37	69.02	513.68	1014.00
Chandigarh	Chandigarh	74.95	70.20	506.96	953.00
Daman & Diu	Daman	77.25	74.71	509.84	923.50
Dadra & Nagar Haveli	Silvasa	77.33	74.78	512.15	932.00
Delhi	New Delhi	79.37	73.78	505.34	939.00
Puducherry	Puducherry	78.18	76.26	485.61	954.50

Source: IOCL Highest Lowest

**Table 8.22 : Retail Selling Price (RSP) of PDS kerosene at major cities as on 01.11.2018**

State	City	(₹/litre)
Maharashtra	Mumbai	27.66
Tamil Nadu	Chennai	13.58
West Bengal	Kolkata	30.08

Source: OMCs

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

**Table 8.23 : Customs, excise duty and GST rates on petroleum products as on 01.11.2018**

**Customs duty and Excise duty as on 1<sup>st</sup> November 2018 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 (Road and Infrastructure Cess)
Crude oil	NIL + Rs. 50/MT as NCCD	Nil	-	Nil+ Cess @ 20% +Rs.50/ MT as NCCD	-	-
Petrol	2.50%	Rs.2.98/ltr. + Rs.7.00/ ltr SAD	Rs.8.00/ltr.	Rs.2.98/ltr	Rs.7.00/ltr	Rs.8.00/ltr.
Petrol (branded)	2.50%	Rs.4.16/ltr. + Rs.7.00/ ltr SAD	Rs.8.00/ltr.	Rs.4.16/ltr	Rs.7.00/ltr	Rs.8.00/ltr.
High speed diesel	2.50%	Rs.4.83/ltr+ Rs.1.00/ ltr	Rs.8.00/ltr.	Rs.4.83/ltr	Rs.1.00/ltr	Rs.8.00/ltr.
High speed diesel (branded)	2.50%	Rs.7.19/ltr+ Rs.1.00/ ltr	Rs.8.00/ltr.	Rs.7.19/ltr	Rs.1.00/ltr	Rs.8.00/ltr.
Aviation Turbine Fuel (ATF) (note-2)	5.00%	11%	-	11%	-	-
Liquefied Natural Gas (LNG)	2.50%	Nil	-	Nil	-	-
Natural gas [gaseous state]	5.00%	Nil	-	Nil	-	-
Natural gas [compressed]	5.00%	14.00%	-	14.0%	-	-

**Customs duty and GST rates as on 1<sup>st</sup> November 2018 on GST products**

Particulars	Customs		
	Basic Custom Duty	CVD (in lieu of IGST)	
LPG	Domestic (Note-3)	Nil	5.00%
	Non - Domestic	5.00%	18.00%
Kerosene	PDS	Nil	5.00%
	Non PDS	5.00%	18.00%
Naphtha	Fertilizer	Nil	18.00%
	Non- Fertilizer	5.00%	18.00%
Butane / Propane	Domestic	Nil	5.00%
	Non - Domestic	2.50%	18.00%
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%
			18.00%
Low Sulphur Heavy Stock/ HPS & other Residue	Fertilizer	Nil	18.00%
	Non- Fertilizer	5.00%	18.00%
Lube oil/greases		5.00%	18.00%
Petroleum Coke		10.00%	18.00%
Petroleum Jelly		5.00%	18.00%
Transformer Oil		5.00%	18.00%
Waxes all types		5.00%	18.00%

**Note:**

- In addition to the above, 10% Social Welfare Surcharge (3% in case of petrol and diesel) is also applicable on the total duties of Customs (excluding CVD in lieu of IGST)
- In case of ATF, Basic Excise Duty /Additional Customs Duty (CVD) is 2% in place of 11%, for supply to scheduled commuter airlines (SCA) from the regional connectivity scheme (RCS) airports.
- Basic Customs duty is Nil for import of domestic LPG sold to household consumers (including non domestic exempted category) by PSU OMCs. Basic Customs duty rate is 5% for other importers of domestic LPG.



**Table 8.24 : Actual rate of Sales Tax/ VAT/GST and other taxes levied by State/UT Governments on major petroleum products as on 01.11.2018**

Sl. no.	State/Union Territory		Petrol	Diesel	PDS kerosene	Domestic LPG
<b>State</b>			<b>Sales Tax /VAT</b>		<b>GST</b>	
1	Andhra Pradesh		31% VAT + Rs.2/litre VAT	22.25% VAT + Rs.2/litre VAT	5%	5%
2	Arunachal Pradesh		16.20% VAT	8.60% VAT		
3	Assam		32.66% or Rs.14 per litre whichever is higher as VAT , Reduction of Rs.2.5/litre	23.66% or Rs.8.75 per litre whichever is higher as VAT, Reduction of Rs. 2.5/litre		
4	Bihar		22.20% VAT (30% Surcharge on VAT as irrecoverable tax)	15% VAT (30% Surcharge on VAT as irrecoverable tax)		
5	Chhattisgarh		21% VAT + Rs.2/litre VAT	21% VAT + Rs.1/litre VAT		
6	Goa		13% VAT + 0.5% Green cess	15% VAT + 0.5% Green cess		
7	Gujarat		17% VAT+ 4% Cess on Town Rate & VAT	17% VAT + 4 % Cess on Town Rate & VAT		
8	Haryana		22.26% VAT+5% additional tax on VAT	13.24% VAT+5% additional tax on VAT		
9	Himachal Pradesh		23.10% VAT	11.60% VAT		
10	Jammu & Kashmir		24% MST+ Rs.3/Litre employment cess, Reduction of Rs.2.5/litre	16% MST+ Rs.1/Litre employment cess , Reduction of Rs.2.5/litre		
11	Jharkhand		22% on the sale price or Rs. 15.00 per litre , which ever is higher + Cess of Rs 1.00 per ltr and this calculated amount reduced by Rs. 2.50 per litre.	22% on the sale price or Rs. 8.37 per litre , which ever is higher + Cess of Rs 1.00 per ltr and this calculated amount reduced by Rs. 2.50 per litre.		
12	Karnataka		28.75% sales tax	17.73% sales tax		
13	Kerala		30.08% sales tax + Rs.1 / litre additional sales tax + 1% cess	22.76% sales tax+ Rs.1/litre additional sales tax + 1% cess		
14	Madhya Pradesh		28 % VAT + Rs.1.5/litre VAT+1%Cess	18% VAT+1% Cess		
15	Maharashtra	Mumbai, Thane & Navi Mumbai	26% VAT+ Rs.7.12/litre additional tax	24% VAT		
		(Rest of State)	25% VAT+ Rs.7.12/litre additional tax	21% VAT		
16	Manipur		21.20% VAT	10.60% VAT		
17	Meghalaya		22% VAT + 2% surcharge, Reduction of Rs.2.5/ litre	13.5% VAT +2% surcharge, Reduction of Rs.2.5/litre		
18	Mizoram		20% VAT	12% VAT		
19	Nagaland		20.38% VAT +5% surcharge	10% VAT+ 5% surcharge		
20	Odisha		26% VAT	26% VAT		
21	Punjab		Rs.2050/KL (cess) +28% VAT+10% additional tax on VAT	Rs.1050/KL (cess) 13.40% VAT+10% additional tax on VAT		
22	Rajasthan		26% VAT+Rs 1500/KL road development cess	18% VAT+ Rs.1750/KL road development cess		
23	Sikkim		25% VAT+ Rs.3000/KL cess + Rs 100/KL sikkim consumer welfare fund	17.5% VAT + Rs.2500/KL cess + Rs 100/KL sikkim consumer welfareFund		
24	Tamil Nadu		34% VAT	25% VAT		
25	Telangana		35.20% VAT	27% VAT		
26	Tripura		18.5% VAT+ 2% Tripura Road Development Cess	10.78% VAT+ 2% Tripura Road Development Cess		
27	Uttarakhand		22.07% or Rs.14.50/litre whichever is higher as VAT	13.53% VAT or Rs.8.40/litre whichever is higher as VAT		
28	Uttar Pradesh		23.78% or Rs.14.41/litre- whichever is higher	14.05% or Rs8.43/litre- whichever is higher		
29	West Bengal		25% or Rs.13.12/litre whichever is higher as sales tax+ Rs.1000/KL cess- Rs.1000/ KL exemption (20% Additional tax on VAT as irrecoverable tax)	17% or Rs.7.70/litre whichever is higher as sales tax + Rs 1000/KL cess – Rs 1290/KL sales tax rebate (20% Additional tax on VAT as irrecoverable tax)		
<b>Union Territories</b>						
30	Andaman & Nicobar Islands		6%	6%	5%	5%
31	Chandigarh		Rs.10/KL cess +17.45% VAT	Rs.10/KL cess + 9.02% VAT		
32	Dadra & Nagar Haveli		20% VAT	15% VAT		
33	Daman & Diu		20% VAT	15% VAT		
34	Delhi		27% VAT	₹ 250/KL air ambience charges + 16.75% VAT		
35	Lakshadweep		NIL	NIL		
36	Puducherry		21.15% VAT	17.15% VAT		

**Note:**

- As per provisional details provided by IOCL/HPCL
- 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 & Nicobar, Meghalaya , Dadar Nagar Haveli and Daman & Diu.

**Table 8.25 : Contribution of petroleum sector to exchequer**

(₹ Crore)						
Particulars	2014-15	2015-16	2016-17	2017-18	H1, 2017-18	H1, 2018-19 (P)
<b>1. Contribution to Central exchequer</b>						
<b>A. Tax/ duties on crude oil &amp; petroleum products</b>						
Cess on crude oil	15,869	15,410	13,082	14,514	6,196	8,221
Royalty on crude oil / natural gas	3,858	4,885	4,650	4,747	2,194	3,006
Customs duty	4,125	6,763	8,798	11,171	6,076	7,098
NCCD on Crude Oil	822	857	926	968	456	565
Excise duty	99,069	1,78,477	2,42,691	2,28,907	1,03,770	96,686
Service tax	2,181	2,837	2,956	1,228	1,227	338
IGST				16,385	4,378	14,294
CGST				6,401	1,601	5,137
Others	101	125	122	125	57	18
<b>Sub total (A)</b>	<b>1,26,025</b>	<b>2,09,354</b>	<b>2,73,225</b>	<b>2,84,446</b>	<b>1,25,955</b>	<b>1,35,363</b>
<b>B. Dividend to Government/ income tax etc.</b>						
Corporate/ income tax	23,921	24,824	31,870	33,021	13,044	14,366
Dividend income to Central Government	9,197	10,217	17,501	14,575	1,617	2,326
Dividend distribution tax	3,500	4,590	6,196	5,981	1,336	1,665
Profit petroleum on exploration of oil/ gas*	9,422	4,630	5,742	5,839	2,905	3,145
<b>Sub total (B)</b>	<b>46,040</b>	<b>44,261</b>	<b>61,309</b>	<b>59,416</b>	<b>18,902</b>	<b>21,502</b>
<b>Total contribution to Central exchequer (A+B)</b>	<b>1,72,065</b>	<b>2,53,615</b>	<b>3,34,534</b>	<b>3,43,862</b>	<b>1,44,857</b>	<b>1,56,865</b>
<b>2. Contribution to State exchequer</b>						
<b>C. Tax/ duties on crude oil &amp; petroleum products</b>						
Royalty on crude oil / natural gas	14,159	7,932	11,943	9,370	4,117	6,244
Sales tax/ VAT	1,37,157	1,42,807	1,66,414	1,84,091	87,921	99,579
SGST/UTGST				6,721	1,783	5,246
Octroi/ duties (incl. electricity duty)	3,838	2,753	3,524	1,663	1,186	373
Entry tax / others	5,372	6,622	7,706	7,048	6,077	4,019
<b>Sub total (C)</b>	<b>1,60,526</b>	<b>1,60,114</b>	<b>1,89,587</b>	<b>2,08,893</b>	<b>1,01,084</b>	<b>1,15,461</b>
<b>D. Dividend to Government/ direct tax etc.</b>						
Dividend income to State Government	28	95	183	262	2	38
<b>Sub total (D)</b>	<b>28</b>	<b>95</b>	<b>183</b>	<b>262</b>	<b>2</b>	<b>38</b>
<b>Total contribution to State exchequer (C+D)</b>	<b>1,60,554</b>	<b>1,60,209</b>	<b>1,89,770</b>	<b>2,09,155</b>	<b>1,01,086</b>	<b>1,15,499</b>
<b>Total contribution of petroleum sector to exchequer (1+2)</b>	<b>3,32,619</b>	<b>4,13,824</b>	<b>5,24,304</b>	<b>5,53,017</b>	<b>2,45,943</b>	<b>2,72,364</b>

\* as provided by MOP&NG. (P)- Provisional

- Based on data provided by 16 oil & gas companies.

**Table 8.26 : State/UT wise collection of sales tax/ VAT by petroleum sector**

(₹ Crore)							
Sl. no.	State/Union Territory	Sales tax/VAT					
		2014-15	2015-16	2016-17	2017-18	H1, 2017-18	H1, 2018-19 (P)
<b>States</b>							
1	Andhra Pradesh	8,777	7,806	8,908	9,694	4,915	5,618
2	Arunachal Pradesh	56	54	62	67	32	40
3	Assam	2,268	2,163	2,571	3,109	1,453	1,921
4	Bihar	2,885	3,638	4,501	5,482	1,748	2,470
5	Chhattisgarh	2,645	2,617	3,200	3,684	1,564	1,890
6	Goa	478	534	650	649	322	360
7	Gujarat	15,879	14,701	15,958	14,852	7,917	8,318
8	Haryana	5,112	5,977	7,000	7,655	3,808	4,462
9	Himachal Pradesh	234	263	317	344	182	199
10	Jammu & Kashmir	951	1,004	1,110	1,329	366	791
11	Jharkhand	2,076	2,476	2,967	3,109	1,045	1,194
12	Karnataka	8,668	8,652	11,103	13,307	5,972	7,241
13	Kerala	5,378	6,121	6,899	7,266	3,110	3,485
14	Madhya Pradesh	6,832	7,631	9,160	9,380	4,420	4,440
15	Maharashtra	19,795	19,417	23,160	25,611	13,032	14,003
16	Manipur	116	115	117	162	79	95
17	Meghalaya	2	1	1	0	0	0
18	Mizoram	58	53	48	55	22	44
19	Nagaland	83	80	78	86	42	48
20	Odisha	2,865	3,027	4,283	6,871	4,098	2,551
21	Punjab	4,179	4,907	5,833	5,658	2,726	3,496
22	Rajasthan	8,373	9,211	10,590	11,529	5,783	6,671
23	Sikkim	74	98	105	96	41	67
24	Tamil Nadu	12,316	11,004	12,563	15,507	7,825	9,236
25	Telangana	4,527	6,391	7,552	8,777	4,315	4,931
26	Tripura	180	197	168	205	90	94
27	Uttar Pradesh	12,578	14,175	15,849	17,420	7,911	9,189
28	Uttarakhand	1,157	1,221	1,414	1,314	647	832
29	West Bengal	5,563	5,870	6,426	6,779	2,511	3,570
<b>Union Territories</b>							
30	Andaman & Nicobar Islands	0	0	0	51	6	44
31	Chandigarh	84	75	54	54	29	30
32 & 33	Dadra and Nagar Haveli and Daman & Diu	149	152	156	43	42	0
34	Delhi	2,797	3,158	3,589	3,930	1,859	2,245
35	Puducherry	22	18	22	16	12	4
<b>TOTAL</b>		<b>1,37,157</b>	<b>1,42,807</b>	<b>1,66,414</b>	<b>1,84,091</b>	<b>87,921</b>	<b>99,579</b>

(P)- Provisional

-Based on data provided by 16 oil & gas companies.

**Note:** The amounts have been rounded off to the nearest crore, hence some amounts are shown as zero.

**Table 8.27 : State/UT wise collection of SGST/UTGST by petroleum sector**

(₹ Crore)			
Sl. no.	State/Union Territory/Others	2017-18	H1, 2018-19 (P)
<b>States</b>			
1	Andhra Pradesh	195	150
2	Arunachal Pradesh	1	1
3	Assam	118	299
4	Bihar	93	76
5	Chhattisgarh	45	19
6	Goa	8	4
7	Gujarat	1,791	1,584
8	Haryana	427	367
9	Himachal Pradesh	29	12
10	Jammu & Kashmir	38	11
11	Jharkhand	57	9
12	Karnataka	389	217
13	Kerala	178	94
14	Madhya Pradesh	98	71
15	Maharashtra	1,082	866
16	Manipur	2	0
17	Meghalaya	0	0
18	Mizoram	1	0
19	Nagaland	1	0
20	Odisha	59	45
21	Punjab	190	69
22	Rajasthan	122	144
23	Sikkim	3	1
24	Tamil Nadu	617	408
25	Telangana	175	76
26	Tripura	6	11
27	Uttar Pradesh	424	307
28	Uttarakhand	39	13
29	West Bengal	290	268
<b>Union Territories</b>			
30	Andaman & Nicobar Islands	1	0
31	Chandigarh	1	0
32 & 33	Dadra and Nagar Haveli and Daman & Diu	88	65
34	Delhi	128	40
35	Puducherry	17	11
<b>Others</b>			
1	Others territory (offshore areas of India beyond 12 nautical miles)	8	8
	<b>TOTAL</b>	<b>6,721</b>	<b>5,246</b>

(P)- Provisional

-Based on data provided by 16 oil & gas companies.

**Note:** The amounts have been rounded off to the nearest crore, hence some amounts are shown as zero.

**Table 8.28 : Profit After Tax (PAT) of oil companies**

(₹ Crore)						
Companies	2014-15	2015-16	2016-17	2017-18	H1, 2017-18	H1, 2018-19
<b>PSU upstream/midstream companies</b>						
ONGC	17,733	16,140	17,900	19,945	9,015	14,408
OIL	2,510	2,302	1,549	2,668	1,096	1,567
GAIL	3,039	2,226	3,503	4,618	2,335	3,222
<b>Total</b>	<b>23,282</b>	<b>20,668</b>	<b>22,952</b>	<b>27,231</b>	<b>12,447</b>	<b>19,198</b>
<b>PSU downstream Oil Marketing Companies (OMCs)</b>						
IOCL	5,273	11,242	19,106	21,346	8,245	10,078
BPCL	5,085	7,056	8,039	7,919	3,102	3,512
HPCL	2,733	3,725	6,209	6,357	2,659	2,811
<b>Total</b>	<b>13,091</b>	<b>22,023</b>	<b>33,354</b>	<b>35,622</b>	<b>14,006</b>	<b>16,401</b>
<b>PSU stand alone refineries</b>						
MRPL	(1,712)	1,146	3,642	2,224	712	281
CPCL	(39)	742	1,030	913	349	183
NRL	718	1,210	2,101	2,044	838	943
<b>Total</b>	<b>(1,033)</b>	<b>3,098</b>	<b>6,773</b>	<b>5,181</b>	<b>1,899</b>	<b>1,407</b>
<b>PSU consultancy company</b>						
EIL	308	264	325	378	201	184
<b>Total</b>	<b>308</b>	<b>264</b>	<b>325</b>	<b>378</b>	<b>201</b>	<b>184</b>
<b>Private sector companies</b>						
RIL	23,566	27,426	31,425	33,612	16,461	17,679
NEL	1,522	1,289	(2,673)	280	*	*
<b>Total</b>	<b>25,088</b>	<b>28,715</b>	<b>28,752</b>	<b>33,892</b>	<b>16,461</b>	<b>17,679</b>

**Source:** Published results/ information provided by oil companies.

-Figures as per IND AS from financial year 2015-16 onwards

\* details not provided.

**Table 8.29 : Financial details of oil companies**

2017-18									
Particulars	IOCL	BPCL	HPCL	ONGC	OIL	GAIL	MRPL	CPCL	NRL
(₹ Crore)									
Net sales / income from operations	5,00,767	2,76,401	2,43,227	84,580	10,368	53,525	63,067	44,134	13,228
Profit Before Interest and Tax (PBIT)	36,013	12,031	9,769	30,401	4,125	7,233	3,791	1,779	3,158
Interest	3,449	833	567	1,508	416	275	440	321	16
Tax	11,218	3,279	2,845	8,947	1,042	2,340	1,127	545	1,097
Profit After Tax (PAT)	21,346	7,919	6,357	19,945	2,668	4,618	2,224	913	2,044
Net worth	1,10,171	34,152	23,948	193,385	22,745	35,142	11,033	3,856	5,044
Borrowings (loan fund)	58,030	23,351	20,991	25,592	9,004	2,080	4,794	4,389	325
<b>Ratios</b>									
PAT as % of turnover (net sales)	4.26%	2.87%	2.61%	23.58%	25.73%	8.63%	3.53%	2.07%	15.46%
Debt (loan fund) to equity ratio	0.53	0.68	0.88	0.13	0.40	0.06	0.43	1.14	0.06
Earnings Per Share (EPS)	22.52	40.26	41.72	15.54	23.32	20.48	12.69	61.31	27.79

H1, 2017-18									
Particulars	IOCL	BPCL	HPCL	ONGC	OIL	GAIL	MRPL	CPCL	NRL
(₹ Crore)									
Net sales / income from operations	2,34,966	1,30,673	1,14,044	37,777	4,674	23,758	26,905	20,136	5,780
Profit Before Interest and Tax (PBIT)	13,770	4,980	4,276	13,776	1,757	3,690	1,234	704	1,297
Interest	1,491	414	299	604	206	194	213	141	8
Tax	4,034	1,464	1,317	4,157	455	1,161	310	214	451
Profit After Tax (PAT)	8,245	3,102	2,659	9,015	1,096	2,335	712	349	838
Net worth	1,06,461	32,576	22,905	194,710	22,305	34,310	9,515	3,286	5,255
Borrowings (loan fund)	38,805	18,191	14,188	2,081	9,024	4,282	5,098	4,768	460
<b>Ratios</b>									
PAT as % of turnover (net sales)	3.51%	2.37%	2.33%	23.87%	23.45%	9.83%	2.65%	1.73%	14.50%
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)	8.70	15.77	17.45	7.03	9.50	10.36	4.06	23.41	11.39

H1, 2018-19									
Particulars	IOCL	BPCL	HPCL	ONGC	OIL	GAIL	MRPL	CPCL	NRL
(₹ Crore)									
Net sales / income from operations	2,98,368	1,64,789	1,45,988	55,028	6,955	36,358	34,296	27,417	7,211
Profit Before Interest and Tax (PBIT)	17,367	5,884	4,587	23,690	2,597	4,927	697	508	1,460
Interest	2,219	629	392	1,378	238	90	228	204	8
Tax	5,070	1,743	1,384	7,903	791	1,615	189	121	509
Profit After Tax (PAT)	10,078	3,512	2,811	14,408	1,567	3,222	281	183	943
Net worth	1,17,564	35,651	26,299	203,675	23,565	37,966	10,682	3,707	5,771
Borrowings (loan fund)	59,409	23,955	17,852	13,995	10,030	2,185	4,667	5,219	322
<b>Ratios</b>									
PAT as % of turnover (net sales)	3.38%	2.13%	1.93%	26.18%	22.53%	8.86%	0.82%	0.67%	13.08%
Debt (loan fund) to equity ratio	0.51	0.67	0.68	0.07	0.43	0.06	0.44	1.41	0.06
Earnings Per Share (EPS)	10.63	17.86	18.45	11.23	13.79	14.29	1.60	12.29	12.82

Source: Published results/ Information provided by oil companies

**Table 8.30 : Total subsidy on petroleum products & natural gas**

(₹ Crore)						
Particulars	2014-15	2015-16	2016-17	2017-18	H1, 2017-18	H1, 2018-19
Petrol	0	0	0	0	0	0
Diesel	10,935	0	0	0	0	0
PDS kerosene	24,799	11,496	7,595	4,672	2,066	3,309
Domestic LPG	36,580	18	0	0	0	0
<b>Total under-recoveries (A)</b>	<b>72,314</b>	<b>11,514</b>	<b>7,595</b>	<b>4,672</b>	<b>2,066</b>	<b>3,309</b>
Direct Benefit Transfer for LPG (DBTL) subsidy /Claims	3,971	21,811	12,905	20,880	7,460	13,921
Project Management Expenditure (PME)*	0	200	0	25	25	92
<b>Total DBTL related subsidies (B)</b>	<b>3,971</b>	<b>22,011</b>	<b>12,905</b>	<b>20,905</b>	<b>7,485</b>	<b>14,013</b>
Pradhan Mantri Ujjwala Yojana (PMUY) claims	0	0	2,999	2,496	1,553	3,062
Project Management Expenditure (PME) & Information Education and Communication (IEC) expenditure under PMUY	0	0	0	63	55	34
<b>Total PMUY related subsidy (C)</b>	<b>0</b>	<b>0</b>	<b>2,999</b>	<b>2,559</b>	<b>1,608</b>	<b>3,096</b>
<b>Direct Benefit Transfer of Kerosene (DBTK) subsidy claims (D)</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>113</b>	<b>24</b>	<b>0</b>
PDS Kerosene and Domestic LPG subsidy scheme, 2002*	0	0	3,293^	0	0	0
Freight subsidy (For Far-Flung Areas) Scheme, 2002*	23	0	0	0	0	0
Natural gas subsidy for North East	765	781	498	435	169	254
<b>Other subsidies (E)</b>	<b>788</b>	<b>781</b>	<b>3,791</b>	<b>435</b>	<b>169</b>	<b>254</b>
<b>Total subsidy/ under-recovery on petroleum products &amp; natural gas (A+B+C+D+E)</b>	<b>77,073</b>	<b>34,306</b>	<b>27,301</b>	<b>28,684</b>	<b>11,352</b>	<b>20,672</b>

\* on payment basis.

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

**Note:** DBTK subsidy excludes cash incentive/assistance for establishment of institutional mechanism for direct transfer of subsidy paid to States/UTs.

**Table 8.31 : Under-recoveries and burden sharing**

(₹ Crore)							
Sl. no.	Particulars	2014-15	2015-16	2016-17	2017-18	H1, 2017-18	H1, 2018-19
<b>A</b>	<b>Under-recovery - product wise</b>	<b>72,314</b>	<b>11,514</b>	<b>7,595</b>	<b>4,672</b>	<b>2,066</b>	<b>3,309</b>
	MS	0	0	0	0	0	0
	HSD	10,935	0	0	0	0	0
	Domestic LPG	36,580	18	0	0	0	0
	PDS kerosene	24,799	11,496	7,595	4,672	2,066	3,309
<b>B</b>	<b>Under-recovery - company wise</b>	<b>72,314</b>	<b>11,514</b>	<b>7,595</b>	<b>4,672</b>	<b>2,066</b>	<b>3,309</b>
	IOCL	39,758	7,757	5,149	3,196	1,415	2,268
	BPCL	16,141	1,797	1,173	756	330	497
	HPCL	16,416	1,960	1,273	719	320	544
<b>C</b>	<b>Government - cash assistance -company wise</b>	<b>27,308</b>	<b>10,244</b>	<b>7,595</b>	<b>4,672</b>	<b>1,280</b>	<b>0</b>
	( % of under-recovery)	37.8%	89.0%	100.0%	100.0%	61.9%	0.0%
	IOCL	14,960	6,885	5,149	3,196	876	0
	BPCL	7,290	1,598	1,173	756	207	0
	HPCL	5,058	1,761	1,273	719	197	0
<b>D</b>	<b>Upstream/midstream oil companies - discount on crude oil &amp; product</b>	<b>42,822</b>	<b>1,251</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
	( % of under-recovery)	59.2%	10.9%	0.0%	0.0%	0.0%	0.0%
	ONGC	(36,300)	(1,096)	0	0	0	0
	OIL	(5,523)	(155)	0	0	0	0
	GAIL	(1,000)	0	0	0	0	0
	<b>Total - discount given</b>	<b>(42,822)</b>	<b>(1,251)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
	IOCL	23,597	863	0	0	0	0
	BPCL	8,363	198	0	0	0	0
	HPCL	10,862	190	0	0	0	0
	<b>Total - discount received</b>	<b>42,822</b>	<b>1,251</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>E</b>	<b>Borne by OMCs</b>	<b>2,184</b>	<b>19</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
	( % of under-recovery)	3.0%	0.2%	0.0%	0.0%	0.0%	0.0%
	IOCL	1,201	9	0	0	0	0
	BPCL	487	1	0	0	0	0
	HPCL	496	8	0	0	0	0

\* Under recovery claims H1(2018-19) of Rs.3309 crores are pending sanction by Government.



**Table 8.32 : Quantity and value of Indian crude oil imports**

Year	Quantity (MMT)	\$ Million	₹ Crore
2017-18	220.43	87,803	5,66,450
2018-19 (Estimated)	228.60	1,24,738	8,81,282

**Note:** April - September 2018 imports are based on actuals and for October 2018- March 2019 imports are estimated at average price of Indian basket crude oil for September 2018 i.e. \$77.88/bbl and average exchange rate for September 2018 i.e. Rs.72.22/\$.

Impact of variation in crude oil price & exchange rate on value of crude oil imports for October 2018- March 2019 :

If crude prices changes by one \$/bbl

- Crude oil import bill changes by Rs. 6,158 crores

If exchange rate of Rs./\$ changes by Rs. 1/\$

- Crude oil import bill changes by Rs. 6,639 crores



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## 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	

Note: 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	= 1325 SCM	
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./ PPAC

**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	<b>Dr. M.M. Kutty</b>	<b>Secretary</b>	<b>23383501/ 23383562</b>	<b>23070723</b>
	Narender S Negi / Manish Makhija	PPS / PS to Secretary	23383501/23383562	
Additional Secretary		<b>Additional Secretary</b>	<b>23381052</b>	<b>23386090</b>
		PPS to Additional Secretary	23381052	
Finance	<b>Rajiv Bansal</b>	<b>Additional Secretary &amp; Financial Adviser</b>	<b>23381704</b>	<b>23074226</b>
	A. K. Passi	PPS to Additional Secretary & Financial Adviser	23381704	
	<b>Sukh Ram Meena</b>	<b>Deputy Director General (IFD)</b>	<b>23389459</b>	<b>23383585</b>
	<b>Ms Perin Devi</b>	<b>Director (IFD)</b>	<b>23386965</b>	<b>23386965</b>
Economic & Statistics		<b>Principal Adviser</b>	<b>23385823</b>	<b>23383752</b>
	K S N Rao	PPS to Principal Adviser	23385823	
	<b>Ms Indrani Kaushal</b>	<b>Economic Adviser</b>	<b>23383753</b>	<b>23383752</b>
	Ms K Madhvi	PS to Economic Adviser	23383753	
Refinery	<b>Sandeep Poundrik</b>	<b>Joint Secretary (Refineries) &amp; CVO</b>	<b>23386935</b>	<b>23382673</b>
	Anil Kumar	PS to Joint Secretary (R )	23386935	
	<b>Vijay Sharma</b>	<b>Director (S &amp; CC/Vig/FP/R)</b>	<b>23073069</b>	<b>23383100</b>
Exploration	<b>Amar Nath</b>	<b>Joint Secretary (E)</b>	<b>23381832</b>	<b>23070562</b>
	K S Karki	PS to Joint Secretary (E)	23381832	
	<b>Sanjay Kumar Jain</b>	<b>Director (Exploration I,II &amp; III)</b>	<b>23386526</b>	<b>23303100</b>
Marketing and Administration	<b>Ashutosh Jindal</b>	<b>Joint Secretary (M)</b>	<b>23382418</b>	<b>23384401</b>
	Sampooran Singh	PPS to Joint Secretary (M)	23382418	
	<b>K M Mahesh</b>	<b>Director (Admin, LPG, D &amp; MC )</b>	<b>23387404</b>	<b>23383100</b>
	<b>Gaurav Kumar</b>	<b>Director (General &amp; Parliament)</b>	<b>23383678</b>	<b>23383100</b>
Gas Projects	<b>Ashish Chatterjee</b>	<b>Joint Secretary (GP)</b>	<b>23073165</b>	<b>23398804</b>
	Ms Shikha Khurana	PS to Joint Secretary (GP)	23073165	
	<b>Ms Kiran Vasudeva</b>	<b>Director (GP)</b>	<b>23387467</b>	<b>23383100</b>
	<b>Vijay Gopal Mangal</b>	<b>Deputy Secretary (CA)</b>	<b>23387467</b>	<b>23383100</b>
International Cooperation	<b>Sunjay Sudhir</b>	<b>Joint Secretary (IC)</b>	<b>23382583</b>	<b>23073475</b>
	Ms Savita Sen	PPS to Joint Secretary (IC)	23382583	
	<b>Praphullachandra Sharma</b>	<b>Deputy Secretary (IC)</b>	<b>23383508</b>	<b>23383100</b>

### Information about key officers of PPAC

Department	Name (S/Shri)	Designation	Telephone No.	Fax No.
Director General's office	<b>Ms. Atreyee Das</b>	<b>Director General</b>	<b>24361616 / 24361081</b>	<b>24361253</b>
	P R Nair	PS to Director General	24361616 / 24361081	
Finance	<b>Vikram Gulati</b>	<b>Director (Finance)</b>	<b>24360356 / 27306121</b>	<b>24364227</b>
	Ms. Satbir Hira	PS to Director (F)	24360356 / 27306122	
Demand & Economic Studies	<b>Rohit Dawar</b>	<b>Addl. Director I/c (D &amp; ES)</b>	<b>24306181</b>	<b>24361253</b>
Supply	<b>Ms. B M Sujatha</b>	<b>Addl. Director I/c (S)</b>	<b>24360352 / 24306141</b>	<b>24361253</b>
Administration	<b>Sunil Kumar</b>	<b>Addl. Director (HR &amp; C)</b>	<b>24361717 / 24306111</b>	<b>24364225</b>
IT	<b>Ms. Maninder Kaur Narula</b>	<b>Addl. Director I/c (IT)</b>	<b>24306151</b>	<b>24361253</b>
Marketing	<b>Rajesh Kumar Gupta</b>	<b>Addl. Director I/c (Mktg.)</b>	<b>24360489 / 24306171</b>	<b>24361253</b>
Gas	<b>Devender Nahar</b>	<b>Addl. Director I/c (Gas)</b>	<b>24306161</b>	<b>24361253</b>

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