

Oil Industry Information at a Glance **READY RECKONER**

Petroleum Planning & Analysis Cell
(Ministry of Petroleum & Natural Gas, Government of India)



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(Ministry of Petroleum & Natural Gas)

June 2020



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2020**

Suggestions & Feedback

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

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Disclaimer

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

Preface

The Oil and Gas sector scenario in the country is very dynamic and a multitude of developmental initiatives have been envisaged. Promoting sustainable development and combating climate change have become integral aspects of energy planning, analysis and policy making. India being third largest economy in the world and home to about 17.7% of the world population, it is also the third largest energy consumer in the world and the fastest growing energy consumer among peers. Around forty per cent of India's energy need is met by the Oil & Gas sector. In the Indian energy landscape, the Oil & Gas sector is a vital catalyst to the economic growth of the country.

Petroleum Planning and Analysis Cell (PPAC), is an attached office of the Ministry of Petroleum and Natural Gas (MOP&NG), Government of India and undertakes analysis of trends of consumption, pricing, subsidy and new developments in domestic Oil and Gas energy sector. It is a nodal hub for data on Oil & Gas sector and publishes the aggregated data on an industry basis on its website www.ppac.gov.in. The data is obtained from the Public Sector companies, Government agencies as well as the Private companies.

Oil & Gas statistics is a crucial input for many stakeholders that include the Government, academia, industry and research agencies. Consistent and accurate data enable both decision making and policy making.

Publication entitled 'Ready Reckoner' is brought out twice a year and endeavour is made to deliver accurate and timely information to all stakeholders. This June 2020 edition of PPAC's biannual Ready Reckoner contains the latest data/information for last financial year 2019-20 and 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 - PPACE which is available on Google Play Store and Apple Store. The publication of Ready Reckoner is a concerted effort by all divisions of PPAC and I would like to place on record my sincere appreciation of the diligent efforts of the officers and staff who have contributed to bring out the current edition. Cooperation of the oil and gas industry and various organizations is acknowledged for their timely inputs. PPAC welcomes feedback and suggestions for broadening the coverage and contents of the data being disseminated through this publication.



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Petroleum Planning & Analysis Cell

(Ministry of Petroleum & Natural Gas, Government of India)



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	2015-16	2016-17	2017-18	2018-19	2019-20 (P)
1	Population (as on 1st March 2011)	Census of India	Billion	1.2	-	-	-	-
2	GDP at constant (2011-12 Prices)	MoC&I	Growth %	8.0 3 rd RE	8.2 2 nd RE	7.1 2 nd RE	6.1 1 st RE	4.2 PE
3	Agricultural production (foodgrains)	MoA	Million tonne	251.5	275.1	285.0	285.2	295.7 3 rd AE
			Growth %	-0.2	9.4	3.6	0.1	3.7
4	Index of Industrial Production (Base: 2011-12)	MoSPI	Growth %	3.3	4.6	4.4	3.8	-0.8
5	Imports	MoC&I	\$ Billion	381.0	384.4	465.6	514.1	467.2
6	Exports	MoC&I	\$ Billion	262.3	275.9	303.5	330.1	314.3
7	Trade balance	MoC&I	\$ Billion	-118.7	-108.5	-162.1	-184.0	-152.9
8	Wholesale Price Index (all commodities) (average)	MoC&I	2011-12 = 100	109.7	111.6	114.9	119.8	121.8
9	All India Consumer Price Index (average):							
	i) Industrial workers	Labour Bureau, Govt. of India	2001=100	265.0	275.9	284.4	299.9	322.5
	ii) Agricultural labourers		1986-87=100	834.9	869.8	888.9	907.3	979.6
	iii) Rural labourers		1986-87=100	839.4	875.0	895.1	915.1	986.0
10	Foreign exchange reserves- Total*	RBI	\$ Billion	355.6	370.0	424.4	411.9	475.6
11	Outstanding external liabilities (as of end of financial year)	MOF	₹ Crore	2,10,262	2,28,259	2,50,090	2,69,961	2,92,867 (RE)
12	Outstanding internal debt (as of end of financial year)	MOF	₹ Crore	66,91,409	72,07,503	79,84,787	88,13,254	97,25,254 (RE)
13	Centrally Sponsored Schemes & other transfers	MOF	₹ Crore	3,41,630	3,91,496	4,58,259	4,77,967	6,16,670 (RE)
14	Gross fiscal deficit	MOF	%	3.9	3.5	3.5	3.4 (RE)	3.4 (RE)

Note: *2015-16-as on March 25, 2016; 2016-17-as on March 31, 2017; 2017-18-as on March 30, 2018; 2018-19-as on March 29, 2019; 2019-20-as on March 27, 2019 (P): Provisional; 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; E: Estimates; PE: Provisional Estimates; AE: Advance Estimates; RE: Revised Estimates.

Petroleum

Sl. no.	Particulars	Source	Unit/ Base	2015-16	2016-17	2017-18	2018-19	2019-20 (P)
1	Crude oil production in India	ONGC/OIL/DGH	MMT	36.9	36.0	35.7	34.2	32.2
2	Consumption of petroleum products in India	OMCs/PPAC	MMT	184.7	194.6	206.2	213.2	213.7
3	Petroleum products production in India	Oil Cos	MMT	231.9	243.5	254.3	262.4	262.9
4	Imports & exports							
	Crude oil imports	Oil Cos	\$ Billion	64.0	70.2	87.8	111.9	101.4
	Petroleum products imports	Oil Cos & DGCIS	\$ Billion	10.0	10.6	13.6	16.3	17.9
	Total petroleum imports (crude oil + petroleum products)	Oil Cos & DGCIS	\$ Billion	73.9	80.8	101.4	128.3	119.2
	Petroleum products exports	Oil Cos	\$ Billion	27.1	29.0	34.9	38.2	35.8
5	Gross petroleum imports as % of India's gross imports in value terms	MOC&I/PPAC	%	19.4	21.0	21.8	24.9	25.5
6	Gross petroleum exports as % of India's gross exports in value terms	MOC&I/PPAC	%	10.3	10.5	11.5	11.6	11.4
7	Import dependency (based on consumption)	PPAC	%	80.6	81.7	82.9	83.8	85.0

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

Natural Gas

Sl. no.	Particulars	Source	Unit/ Base	2015-16	2016-17	2017-18	2018-19	2019-20 (P)
1	Gross Production	ONGC/OIL/DGH	MMSCM	32,249	31,897	32,649	32,875	31,184
2	Net Production (net of flare and loss)	ONGC/OIL/DGH	MMSCM	31,129	30,848	31,731	32,058	30,257
3	LNG Import	LNG importing Cos, DGCIS	MMSCM	21,388	24,849	27,439	28,740	33,718
4	*Total Consumption including internal use (Net Production+ LNG import) *		MMSCM	52,517	55,697	59,170	60,798	63,974
5	Import dependency (based on consumption)	PPAC	%	40.7	44.6	46.4	47.3	52.7

Note : MMSCMD : Million Standard Cubic Meter per day

Table 1.2 : Global energy consumption, 2019

Sl.no.	Country	Unit	Oil	Natural Gas	Coal	Nuclear Energy	Hydro Electricity	Renewables	Total Energy
1	China	Mtoe	647.83	264.26	1950.77	74.24	270.33	158.30	3365.73
	Percentage share of fuel	%	19.25	7.85	57.96	2.21	8.03	4.70	100%
	Per capita consumption	Toe	0.47	0.19	1.40	0.05	0.19	0.11	2.42
2	USA	Mtoe	858.66	727.98	270.87	181.41	57.73	139.21	2235.87
	Percentage share of fuel	%	38.40	32.56	12.11	8.11	2.58	6.23	100%
	Per capita consumption	Toe	2.63	2.23	0.83	0.56	0.18	0.43	6.84
3	India	Mtoe	237.67	51.32	444.73	9.62	34.46	28.84	806.64
	Percentage share of fuel	%	29.46	6.36	55.13	1.19	4.27	3.58	100%
	Per capita consumption	Toe	0.18	0.04	0.33	0.01	0.03	0.02	0.60
4	Russian Federation	Mtoe	152.50	382.04	86.67	44.50	41.39	0.39	707.48
	Percentage share of fuel	%	21.55	54.00	12.25	6.29	5.85	0.05	100%
	Per capita consumption	Toe	1.06	2.64	0.60	0.31	0.29	0.00	4.90
5	Japan	Mtoe	174.86	92.97	117.16	13.97	15.74	26.26	440.97
	Percentage share of fuel	%	39.65	21.08	26.57	3.17	3.57	5.96	100%
	Per capita consumption	Toe	1.38	0.73	0.93	0.11	0.12	0.21	3.49
6	Canada	Mtoe	104.46	103.45	13.34	21.40	81.33	12.50	336.48
	Percentage share of fuel	%	31.05	30.74	3.97	6.36	24.17	3.72	100%
	Per capita consumption	Toe	2.82	2.79	0.36	0.58	2.19	0.34	9.08
7	Germany	Mtoe	108.59	76.23	55.03	15.98	4.30	50.57	310.71
	Percentage share of fuel	%	34.95	24.53	17.71	5.14	1.38	16.28	100%
	Per capita consumption	Toe	1.31	0.92	0.66	0.19	0.05	0.61	3.75
8	Brazil	Mtoe	109.82	30.79	15.67	3.44	85.02	48.34	293.08
	Percentage share of fuel	%	37.47	10.51	5.35	1.17	29.01	16.50	100%
	Per capita consumption	Toe	0.52	0.15	0.07	0.02	0.41	0.23	1.40
9	Iran	Mtoe	91.04	192.28	1.24	1.36	6.17	0.12	292.20
	Percentage share of fuel	%	31.16	65.80	0.42	0.47	2.11	0.04	100%
	Per capita consumption	Toe	1.11	2.35	0.02	0.02	0.08	0.00	3.57
10	South Korea	Mtoe	123.13	48.12	82.08	31.08	0.59	6.91	291.92
	Percentage share of fuel	%	42.18	16.49	28.12	10.65	0.20	2.37	100%
	Per capita consumption	Toe	2.39	0.93	1.59	0.60	0.01	0.13	5.66
11	Saudi Arabia	Mtoe	160.74	97.72	0.10	-	-	0.38	258.94
	Percentage share of fuel	%	62.08	37.74	0.04	-	-	0.15	100%
	Per capita consumption	Toe	4.77	2.90	0.003	-	-	0.01	7.68
12	France	Mtoe	73.11	37.35	6.44	85.05	12.46	14.67	229.07
	Percentage share of fuel	%	31.92	16.30	2.81	37.13	5.44	6.40	100%
	Per capita consumption	Toe	1.09	0.56	0.10	1.27	0.19	0.22	3.42
13	Indonesia	Mtoe	78.58	37.68	81.36	-	3.62	9.34	210.57
	Percentage share of fuel	%	37.32	17.89	38.64	-	1.72	4.44	100%
	Per capita consumption	Toe	0.29	0.14	0.30	-	0.01	0.03	0.79
14	United Kingdom	Mtoe	72.09	67.79	6.26	11.96	1.27	25.80	185.18
	Percentage share of fuel	%	38.93	36.61	3.38	6.46	0.69	13.93	100%
	Per capita consumption	Toe	1.08	1.02	0.09	0.18	0.02	0.39	2.79
15	Mexico	Mtoe	76.41	77.96	12.12	2.40	5.07	8.25	182.20
	Percentage share of fuel	%	41.94	42.79	6.65	1.31	2.78	4.53	100%
	Per capita consumption	Toe	0.61	0.62	0.10	0.02	0.04	0.07	1.44
	Sub total	Mtoe	3069.51	2287.93	3143.84	496.41	619.47	529.89	10147.04
	Others	Mtoe	1411.65	1090.61	626.51	98.89	279.95	162.21	3669.82
	Total World	Mtoe	4481.16	3378.54	3770.35	595.31	899.42	692.09	13816.86
	Percentage share of fuel	%	32.43	24.45	27.29	4.31	6.51	5.01	100%
	Per capita consumption	Toe	0.59	0.44	0.50	0.08	0.12	0.09	1.82

Source: BP Statistical Review of World Energy, June 2020.

Note: For calculation of per capita consumption population figures have been taken from World Bank International Data Base for 2018. Conversion factor used for Oil as per product basket of 1 Mtoe = 0.0431 Exajoules, for all other fuels 1 Mtoe = 0.0419 Exajoules. (Approximate conversion factors from BP Statistical Review of World Energy, June 2020.)

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



Chapter 2

Exploration & Crude Oil Production

Table 2.1 : World top 30 crude oil proved reserves countries

Sl. no.	Country	At end 2019		
		Thousand million tonnes	Thousand million barrels	Reserves /Production ratio
1	Venezuela	48.0	303.8	*
2	Saudi Arabia	40.9	297.6	68.9
3	Canada	27.3	169.7	82.3
4	Iran	21.4	155.6	120.6
5	Iraq	19.6	145.0	83.1
6	Russian Federation	14.7	107.2	25.5
7	Kuwait	14.0	101.5	92.8
8	United Arab Emirates	13.0	97.8	67.0
9	US	8.2	68.9	11.1
10	Libya	6.3	48.4	107.9
11	Nigeria	5.0	37.0	48.0
12	Kazakhstan	3.9	30.0	42.6
13	China	3.6	26.2	18.7
14	Qatar	2.6	25.2	36.7
15	Brazil	1.8	12.7	12.1
16	Algeria	1.5	12.2	22.5
17	Angola	1.1	8.2	15.8
18	Norway	1.1	8.5	13.5
19	Azerbaijan	1.0	7.0	24.6
20	Mexico	0.8	5.8	8.3
21	Oman	0.7	5.4	15.2
22	India	0.6	4.7	15.5
23	Vietnam	0.6	4.4	51.0
24	South Sudan	0.5	3.5	69.1
25	Republic of Congo	0.4	3.0	24.1
26	Egypt	0.4	3.1	12.3
27	Yemen	0.4	3.0	84.2
28	Malaysia	0.4	2.8	11.9
29	United Kingdom	0.4	2.7	6.6
30	Indonesia	0.3	2.5	8.7
	Subtotal	240.5	1703.3	
	Others	4.1	30.6	
	Total World	244.6	1733.9	49.9
	of which: OECD	38.3	260.1	25.1
	Non-OECD	206.3	1473.7	60.4
	OPEC	171.8	1214.7	93.6
	Non-OPEC	72.8	519.2	23.9
	European Union	0.7	5.0	9.0
	Canadian oil sands: Total	26.4	162.4	
	of which: Under active development	3.3	20.1	
	Venezuela: Orinoco Belt	42.0	261.8	

Source: BP Statistical Review of World Energy, June 2020; * More than 500 years.

Crude oil is the raw natural resource composed of hydrocarbon deposits and other organic materials. A type of fossil fuel, crude oil can be refined to produce usable products such as gasoline, diesel, and various other petroleum products.

Notes: 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 reserves 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. Canadian oil sands 'under active development' are an official estimate. Venezuelan Orinoco Belt reserves are based on the OPEC Secretariat and government announcements. Reserves and R/P ratio for Canada includes Canadian oil sands. Reserves and R/P ratio for Venezuela includes the Orinoco Belt. Saudi Arabia's oil reserves include NGLs from 2017.

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

Shares of total and R/P ratios are calculated using thousand million barrels figures.

Table 2.2 : World top 30 crude oil producing countries, 2019

Sl.no.	Country	Production*	
		Million tonnes	Million barrels daily
1	US	746.7	17.0
2	Russian Federation	568.1	11.5
3	Saudi Arabia	556.6	11.8
4	Canada	274.9	5.7
5	Iraq	234.2	4.8
6	China	191.0	3.8
7	United Arab Emirates	180.2	4.0
8	Iran	160.8	3.5
9	Brazil	150.8	2.9
10	Kuwait	144.0	3.0
11	Nigeria	101.4	2.1
12	Mexico	94.9	1.9
13	Kazakhstan	91.4	1.9
14	Qatar	78.5	1.9
15	Norway	78.4	1.7
16	Angola	69.1	1.4
17	Algeria	64.3	1.5
18	Libya	57.8	1.2
19	United Kingdom	51.8	1.1
20	Oman	47.3	1.0
21	Colombia	46.7	0.9
22	Venezuela	46.6	0.9
23	Indonesia	38.2	0.8
24	Azerbaijan	38.1	0.8
25	India	37.5	0.8
26	Egypt	33.6	0.7
27	Malaysia	29.8	0.7
28	Argentina	28.8	0.6
29	Ecuador	28.5	0.5
30	Australia	20.6	0.5
	Sub total	4290.7	91.0
	Others	193.8	4.1
	Total World	4484.5	95.2
	of which: OECD	1288.3	28.4
	Non-OECD	3196.2	66.8
	OPEC	1680.0	35.6
	Non-OPEC	2804.5	59.6
	European Union	72.0	1.5

Source: BP Statistical Review of World Energy, June 2020

Note: * Includes crude oil, shale oil, oil sands, condensates (lease condensate or gas condensates that require further refining) and NGLs (natural gas liquids - ethane, LPG and naphtha separated from the production of natural gas).

Excludes liquid fuels from other sources such as biofuels and synthetic derivatives of coal and natural gas. This also excludes liquid fuel adjustment factors such as refinery processing gain. Excludes oil shales/kerogen extracted in solid form.

Table 2.3 : World top 30 oil consuming countries, 2019

Sl. no.	Country	Consumption *	
		Million tonnes	Million barrels daily
1	US	841.8	19.4
2	China	650.1	14.1
3	India	242.0	5.3
4	Japan	173.6	3.8
5	Saudi Arabia	158.8	3.8
6	Russian Federation	150.8	3.3
7	South Korea	120.0	2.8
8	Brazil	109.7	2.4
9	Germany	106.9	2.3
10	Canada	102.8	2.4
11	Iran	89.4	2.0
12	Indonesia	77.1	1.7
13	Mexico	74.9	1.7
14	France	72.4	1.5
15	Singapore	72.2	1.4
16	United Kingdom	71.2	1.5
17	Spain	63.7	1.3
18	Thailand	61.6	1.5
19	Italy	57.6	1.2
20	Australia	49.1	1.0
21	Turkey	47.9	1.0
22	United Arab Emirates	44.6	1.0
23	Taiwan	44.1	1.0
24	Netherlands	38.3	0.8
25	Malaysia	35.3	0.8
26	Iraq	34.8	0.7
27	Egypt	34.7	0.7
28	Belgium	32.0	0.7
29	Poland	30.9	0.7
30	Argentina	27.6	0.6
	Sub total	3716.0	82.6
	Others	729.2	15.7
	Total World	4445.2	98.3
	of which: OECD	2052.3	45.8
	Non-OECD	2392.9	52.5
	European Union	609.5	12.9

Source: BP Statistical Review of World Energy, June 2020

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

Notes: 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	2009	2019	Addition	% Change
1	US	17597	18974	1377	7.8
2	China	11334	16199	4865	42.9
3	Russian Federation	5425	6721	1296	23.9
4	India	3574	5008	1433	40.1
5	South Korea	2746	3393	648	23.6
6	Japan	4630	3343	(1287)	-27.8
7	Saudi Arabia	2109	2835	726	34.4
8	Iran	1860	2405	545	29.3
9	Brazil	1992	2290	298	15.0
10	Germany	2362	2085	(278)	-11.8
11	Canada	1976	2054	78	4.0
12	Italy	2396	1900	(496)	-20.7
13	Spain	1362	1586	225	16.5
14	Mexico	1463	1558	95	6.5
15	Singapore	1427	1514	87	6.1
16	Netherlands	1280	1309	30	2.3
17	United Arab Emirates	702	1307	605	86.2
18	Venezuela	1303	1303	-	0.0
19	France	1847	1245	(602)	-32.6
20	Thailand	1236	1235	(1)	-0.1
21	United Kingdom	1757	1227	(530)	-30.2
22	Indonesia	1099	1094	(6)	-0.5
23	Taiwan	1197	1083	(114)	-9.5
24	Iraq	853	919	66	7.7
25	Turkey	613	822	209	34.1
26	Egypt	810	795	(15)	-1.9
27	Belgium	786	776	(10)	-1.3
28	Kuwait	936	736	(200)	-21.4
29	Algeria	554	657	103	18.5
30	Malaysia	572	625	53	9.3
	Sub total	77797	86998	9201	11.8
	Others	14570	14342	(228)	-1.6
	Total World	92367	101340	8973	9.7
	of which: OECD	45780	45138	(642)	-1.4
	Non-OECD	46587	56202	9615	20.6
	European Union	15548	14053	(1496)	-9.6

Source: BP Statistical Review of World Energy, June 2020

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

Table 2.5 : Indigenous crude oil and condensate production

(Million metric tonne)					
Particulars	2015-16	2016-17	2017-18	2018-19	2019-20 (P)
PSU companies					
ONGC	21.1	20.9	20.8	19.6	19.2
OIL	3.2	3.3	3.4	3.3	3.1
PSU total	24.3	24.1	24.2	22.9	22.4
PSU total (crore barrels)	17.8	17.7	17.7	16.7	16.4
PSC total	11.2	10.4	9.9	9.6	8.2
PSC total (crore barrels)	8.2	7.6	7.2	7.1	6.0
Total crude oil	35.5	34.5	34.0	32.5	30.5
Condensate	1.4	1.5	1.6	1.7	1.6
Total (crude oil + condensate)	36.9	36.0	35.7	34.2	32.2
Total (crude oil + condensate) (crore barrels)	27.1	26.4	26.2	25.1	23.6

Source: Oil companies and DGH

Table 2.6 : Self sufficiency in petroleum products

(Million metric tonne)					
Particulars	2015-16	2016-17	2017-18	2018-19	2019-20 (P)
i) Indigenous crude oil processing	34.1	33.5	32.8	31.7	29.3
a) Products from indigeneous crude	31.8	31.3	30.6	29.6	27.3
b) Products from fractionators	4.0	4.3	4.6	4.9	4.8
ii) Total production from indigenous crude and condensate (a+b)	35.8	35.6	35.2	34.5	32.1
iii) Total domestic consumption	184.7	194.6	206.2	213.2	213.7
Percentage of self sufficiency (ii/iii)	19.4%	18.3%	17.1%	16.2%	15.0%

Source: Oil companies (P): Provisional

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 (A) : Status of blocks under NELP (As on 01.04.2020)

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		3
NELP-II	25	8	8	7	23	8	8	6	22	0		1	1
NELP-III	27	9	6	8	23	9	5	5	19	0	1	3	4
NELP-IV	24	10		10	20	10	0	7	17	0		3	3
NELP-V	20	6	2	12	20	6	1	9	16	0	1	3	4
NELP-VI	55	21	6	25	52	21	4	19	44	0	2	6	8
NELP-VII	57	11	7	23	41	11	4	17	32	0	3	6	9
NELP-VIII	70	8	11	13	32	8	9	11	28	0	2	2	4
NELP-IX	34	1	3	15	19	1	2	6	9	0	1	9	10
TOTAL	360	81	59	114	254	79	48	81	208	2	11	33	46

Source: DGH

Table 2.7(B): Status of blocks under OALP round of HELP and DSF Rounds (As on 01.04.2020)

Round	Offered	Awarded				Relinquished/Proposed for Relinquishment				Operational			
		Deep/ Ultra Deep water	Shallow water	Onland	Total	Deep/ Ultra Deep water	Shallow water	Onland	Total	Deep/ Ultra Deep water	Shallow water	Onland	Total
OALP Round-I	55	1	8	46	55	0	0	0	0	1	8	46	55
OALP Round-II	14	1	5	8	14	0	0	0	0	1	5	8	14
OALP Round-III	23	1	3	14	18	0	0	0	0	1	3	14	18
OALP Round-IV	7			7	7	0	0	0	0			7	7
DSF Round-I	46	0	7	23	30	0	0	3	3	0	7	20	27
DSF Round-II	25	0	9	14	23	0	0	0	0	0	9	14	23
TOTAL	170	3	32	112	147	0	0	3	3	3	32	109	144

Source: DGH

Table 2.8 : Domestic oil & gas production vis a vis overseas production

Year	2015-16	2016-17	2017-18	2018-19	2019-20 (P)
Total domestic production (MMTOE)	69.1	67.9	68.3	67.1	63.4
Overseas production (MMTOE)	10.1	17.6	22.7	24.7	24.5
Overseas production as percentage of domestic production	14.7	25.9	33.2	36.8	38.7

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

Table 2.9 : Coal Bed Methane (CBM) gas development in India

Prognosticated CBM resources	92	TCF
Established CBM resources	9.9	TCF
Total available coal bearing areas	26,000	Sq. KM
Area awarded 16613 Sq. KM Exploration initiated	9,336	Sq. KM
Blocks awarded*	33	Nos.
Production of CBM gas April-March 2019-2020 (P)	1.8	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 2.10: Status of Shale Gas and oil development in India

Policy Guidelines for Exploration & exploitation of Shale gas and oil	<p>Shale gas and oil exploration policy was announced in October, 2013. ONGC and OIL India Ltd have been allotted 50 and 6 blocks respectively for assessment under Phase-I. ONGC identified 50 blocks in 4 basins and OIL identified 6 blocks in 2 basins in Phase-I.</p> <p>Under Hydrocarbon Exploration and Licensing Policy (HELP), 2016 the single licence will enable the contractor to explore conventional as well as unconventional oil and gas resources including CBM, shale gas/oil, tight gas and gas hydrates under a single license.</p> <p>In August 2018, the Government of India notified a Policy framework for Exploration and exploitation of Unconventional hydrocarbons in existing acreages under existing Production Sharing Contracts (PSC), Coal Bed Methane (CBM) Contracts and Nomination fields.</p>
Oil India Limited (OIL): Activities during 2019-20	<p>Jaisalmer PML of Rajasthan, Dibrugarh Extn. PML, Chabua PML, Dumduma PML of Assam: Final evaluation Report based on conventional core results have been submitted to DGH.</p> <p>Dumduma PML: Basic Geochemical analysis have been carried out at OIL's own Laboratories. Detail laboratory analysis is currently in progress at M/S Weatherford Laboratories.</p> <p>Jairampur Extn. PEL and in Deomali PEL, Arunachal Pradesh: Waiting for Environmental Clearance (EC).</p>
Oil and Natural Gas Corporation Limited (ONGC): Activities during 2019-20	<p>During 2019-20, a total of 2 exclusive shale wells (NJSGA in Cambay Basin and MDSGA in KG Basin) and one dual objective well PGAE were drilled.</p> <p>Cambay Basin:</p> <p>The exclusive shale well NJSGA in Cambay basin drilled. Indications of presence of shale oil have been recorded in some wells viz. JMSGGA, NSGB and NJSGA in Cambay basin.</p> <p>In Nawagam Middle Pay (Tight Reservoir) of shale well NGSGA of Cambay basin was hydro-fractured and on activation produced oil. Another well GNSGC in Cambay basin is awaiting hydro-fracturing.</p> <p>KG Basin:</p> <p>Dual objective well LKEAA in KG basin is under drilling.</p> <p>Indications of presence of shale oil have been recorded in some wells namely WGSGA in KG Basin during activation after hydro-fracturing.</p>



Chapter 3

Natural Gas

Table 3.1 : World top 30 natural gas reserve countries

		(Billion cubic metres)
Sl. no.	Country	2019
1	Russian Federation	37958
2	Iran	32017
3	Qatar	24681
4	Turkmenistan	19486
5	US	12874
6	China	8399
7	Venezuela	6297
8	Saudi Arabia	5985
9	United Arab Emirates	5939
10	Nigeria	5391
11	Algeria	4335
12	Iraq	3543
13	Azerbaijan	2846
14	Kazakhstan	2652
15	Australia	2390
16	Egypt	2138
17	Canada	1985
18	Kuwait	1695
19	Other Africa	1629
20	Norway	1533
21	Libya	1430
22	Indonesia	1430
23	India	1329
24	Uzbekistan	1211
25	Myanmar	1168
26	Ukraine	1091
27	Malaysia	947
27	Oman	666
29	Vietnam	646
30	Israel	464
	Sub total	194151
	Others	4605
	Total World	198756
	of which: OECD	20092
	Non-OECD	178664
	European Union	677

Source: BP Statistical Review of World Energy, June 2020

Table 3.2 : World top 30 natural gas producing countries

		(Billion cubic metres)
Sl. no.	Country	2019
1	US	921
2	Russian Federation	679
3	Iran	244
4	Qatar	178
5	China	178
6	Canada	173
7	Australia	153
8	Norway	114
9	Saudi Arabia	114
10	Algeria	86
11	Malaysia	79
12	Indonesia	68
13	Egypt	65
14	Turkmenistan	63
15	United Arab Emirates	63
16	Uzbekistan	56
17	Nigeria	49
18	Argentina	42
19	United Kingdom	40
20	Oman	36
21	Thailand	36
22	Trinidad & Tobago	35
23	Mexico	34
24	Pakistan	34
25	Other Asia Pacific	30
26	Bangladesh	29
27	Netherlands	28
28	Other Africa	28
29	India	27
30	Venezuela	26
	Sub total	3707
	Others	283
	Total World	3989
	of which: OECD	1506
	Non-OECD	2483
	European Union	101

Source: BP Statistical Review of World Energy, June 2020

Table 3.3 : World top 30 natural gas consuming countries

		(Billion cubic metres)
Sl. no.	Country	2019
1	US	847
2	Russian Federation	444
3	China	307
4	Iran	224
5	Canada	120
6	Saudi Arabia	114
7	Japan	108
8	Mexico	91
9	Germany	89
10	United Kingdom	79
11	United Arab Emirates	76
12	Italy	71
13	India	60
14	Egypt	59
15	South Korea	56
16	Australia	54
17	Thailand	51
18	Argentina	47
19	Pakistan	46
20	Algeria	45
21	Indonesia	44
22	France	43
23	Uzbekistan	43
24	Turkey	43
25	Malaysia	42
26	Qatar	41
27	Netherlands	37
28	Spain	36
29	Brazil	36
30	Bangladesh	34
	Sub total	3387
	Others	542
	Total World	3929
	of which: OECD	1801
	Non-OECD	2128
	European Union	470

Source: BP Statistical Review of World Energy, June 2020

Table 3.4 : Natural gas at a glance

	(MMSCM)				
	2015-16	2016-17	2017-18	2018-19	2019-20 (P)
Gross production	32249	31897	32649	32875	31184
Net Production (net of flare and loss)	31129	30848	31731	32058	30257
LNG import	21388	24849	27439	28740	33765
Total Consumption including internal use (Net Production+ LNG import)	52517	55697	59170	60798	64022
Total consumption (in BCM)	52.5	55.7	59.2	60.8	64.0

Table 3.5 : Natural gas production

	(MMSCM)				
	2015-16	2016-17	2017-18	2018-19	2019-20 (P)
ONGC					
A) Gross production	21177	22088	23429	24677	23746
B) Flared	647	530	450	449	520
C) Internal use*	4454	4499	4427	4629	4697
D) Loss	0	0	0	0	0
D) =A-B-C Net production for sale	16075	17059	18553	19599	18529
Oil India Limited					
A) Gross production	2838	2937	2881	2722	2668
B) Flared	125	117	114	122	155
C) Internal use*	399	405	398	382	377
D) Loss	0	2	5	12	13
D) =A-B-C Net production for sale	2314	2412	2365	2207	2123
PSC/JVs fields					
A) Gross production	8235	6872	6338	5477	4770
B) Flared	235	330	261	153	185
C) Internal use	979	952	981	1007	978
D) Loss	113	70	89	81	54
E) =A-B-C-D Net production for sale	6908	5520	5007	4235	3552
Grand Total					
A) Gross production	32249	31897	32649	32875	31184
B) Flared	1007	977	824	724	1653
C) Internal use	5832	5856	5806	6017	5259
D) Loss	113	72	94	93	67
E) =A-B-C-D Net production for sale	25297	24992	25925	26041	24205

Source: Domestic Gas Producers / DGH / LNG Importing companies/DGCIS

Note: LNG import data in Million Metric Tonne (MMT), converted to MMSCM; 1MMT=1325 MMSCM; 1 BCM = 2.74 MMSCMD (365 days in year); 1 BCM ~ = 1000 MMSCM; BCM: Billion Cubic Meter; MMSCMD: Million Standard Cubic Meter per Day.

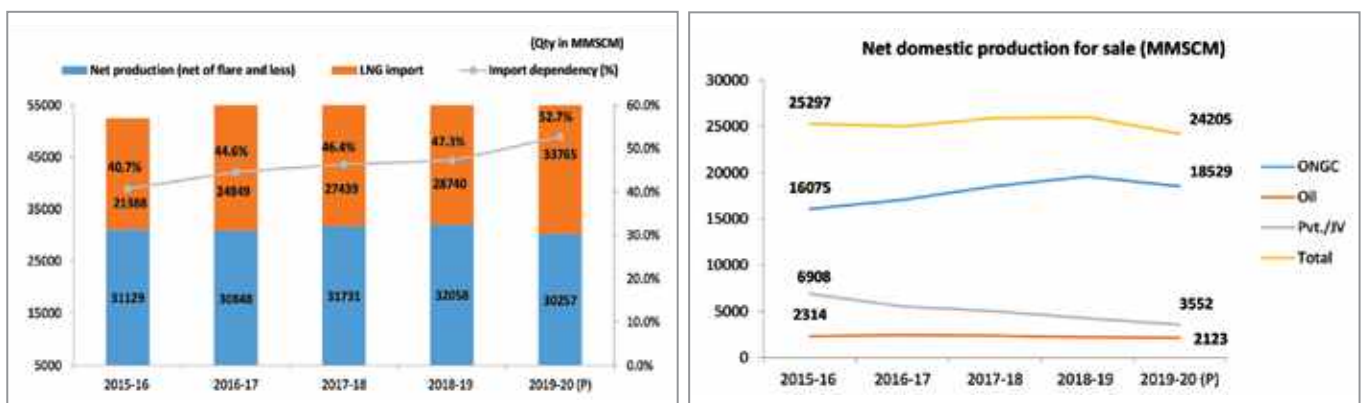


Table 3.6 : PNG data as on 01.04.2020

Sl. no.	State (s) / Union Territory	Geographical Area (including NOCs/others) (GA)	Entity Name	PNG connections (Nos)		
				Domestic	Commercial	Industrial
1	Andhra Pradesh	Kakinada	Bhagyanagar Gas Limited	44763	103	2
		Vijayawada	Bhagyanagar Gas Limited	23117	13	0
		East Godavari District (excluding area already authorized)	Godavari Gas Private Limited	579	3	0
		West Godavari District	Godavari Gas Private Limited	581	10	1
		Krishna District (excluding area already authorized)	Megha Engineering & Infrastructure Ltd.	6792	64	11
		Total	75832	193	14	
2	Assam	Upper Assam (covering Tinsukia, Dibrugarh, Sivasagar, Jorhat & Golaghat)	Assam Gas Company Limited	35038	1142	404
		Total	35038	1142	404	
3	Bihar	Patna District	GAIL (India) Limited	943	7	0
		Total	943	7	0	
4	Chandigarh, Haryana, Punjab & Himachal Pradesh	Chandigarh (UT) and Panchkula (part), SAS Nagar (part) & Solan (part) Districts	IndianOil-Adani Gas Private Limited	18646	17	2
		Total	18646	17	2	
5	Dadra & Nagar Haveli	UT of Dadra & Nagar Haveli	Gujarat Gas Limited	4227	34	29
		Total	4227	34	29	
6	Daman and Diu	UT of Daman	IndianOil-Adani Gas Private Limited	2068	24	15
		Total	2068	24	15	
7	Delhi	NCT of Delhi	Indraprastha Gas Limited	913139	2277	1297
		Total	913139	2277	1297	
8	Goa	North Goa District	Goa Natural Gas Private Limited	3857	0	1
		Total	3857	0	1	
9	Gujarat	Ahmedabad City and Daskroi Area	Adani Gas Limited	312900	3347	832
		Vadodara	Vadodara Gas Limited / Adani Gas Limited	148341	2571	90
		Anand area including Kanjari & Vadtal Villages (in Kheda District)	Charotar Gas Sahakari Mandali Limited	31117	656	127
		Bhavnagar	Gujarat Gas Limited	29033	233	56
		Jamnagar	Gujarat Gas Limited	16391	135	71
		Kutch West	Gujarat Gas Limited	1004	20	0
		Amreli District	Gujarat Gas Limited	3314	13	1
		Dahej Vagra Taluka	Gujarat Gas Limited	543	11	23
		Dahod District	Gujarat Gas Limited	2282	6	7
		Anand District (excluding areas already authorized)	Gujarat Gas Limited	36331	234	13
		Panchmahal District	Gujarat Gas Limited	14083	75	75
		Surat, Bharuch, Ankleshwar	Gujarat Gas Limited	659186	9121	984
		Nadiad	Gujarat Gas Limited	62113	364	16
		Navsari (part) District	Gujarat Gas Limited	100833	240	53
		Rajkot	Gujarat Gas Limited	233131	959	1375
		Surendranagar (part) District	Gujarat Gas Limited	24519	209	359
		Hazira	Gujarat Gas Limited	35402	118	15
		Valsad (part) District	Gujarat Gas Limited	104878	315	661
		Gandhinagar (excluding areas already authorized)	Gujarat Gas Limited	120194	532	26
		Banaskantha District	IRM Energy Private Limited	17131	80	9
Patan District	Sabarmati Gas Limited	7668	8	3		
Gandhinagar, Mehsana, Sabarkantha	Sabarmati Gas Limited	181665	775	333		
		Total	2142059	20022	5129	
8	Haryana	Nuh & Palwal Districts	Adani Gas Limited	1460	2	31
		Faridabad	Adani Gas Limited	56208	145	333
		Sonipat (part) District	GAIL Gas Limited	22776	31	108
		Gurgaon	Haryana City Gas Distribution Limited	20379	134	108
		Ambala and Kurukshetra Districts	HPOIL Gas Private Limited	1370	0	0
		Panipat District	IndianOil-Adani Gas Private Limited	8381	2	11
		Rewari District	Indraprastha Gas Limited	6457	3	47
		Karnal District	Indraprastha Gas Limited	3968	0	0
		Gurugram	Indraprastha Gas Limited	9561	9	2
		Kaithal District	Indraprastha Gas Limited	877	0	0
		Jhajjar District	Haryana City Gas (KCE) Private Limited	27	0	0
		Total	131464	326	640	
9	Jharkhand	Ranchi District	GAIL (India) Limited	720	0	0
		East Singhbhum District GA	GAIL (India) Limited	114	0	0
		Total	834	0	0	

Table 3.6 : Continued

Sl. no.	State (s) / Union Territory	Geographical Area (including NOCs/others) (GA)	Entity Name	PNG connections (Nos)		
				Domestic	Commercial	Industrial
10	Karnataka	Bengaluru Rural and Urban Districts	GAIL Gas Limited	6622	106	92
		Dharwad District	IndianOil-Adani Gas Private Limited	6268	1	0
		Tumkur District	Megha Engineering & Infrastructure Ltd.	10120	72	19
		Belgaum District	Megha Engineering & Infrastructure Ltd.	5820	41	15
		Total			28830	220
11	Kerala	Ernakulam district	IndianOil-Adani Gas Private Limited	5465	7	5
		Total		5465	7	5
12	Madhya Pradesh	Indore (including Ujjain City) (part) District	Aavantika Gas Limited	54356	87	204
		Gwalior (part) District	Aavantika Gas Limited	19562	39	3
		Dewas (part) District	GAIL Gas Limited	11539	21	29
		Dhar District	Naveriya Gas Private Limited	306	7	0
		Total			85763	154
13	Maharashtra	Palghar District and Thane Rural	Gujarat Gas Limited	262	10	13
		Raigarh District (excluding areas already authorized)	Mahanagar Gas Limited	26480	0	1
		Mumbai & Greater Mumbai	Mahanagar Gas Limited	890751	3068	16
		Thane Urban and adjoining municipalities	Mahanagar Gas Limited	564247	881	56
		Pune City including Pimpri-Chiechwad & adjoining contiguous areas Hinjewadi, Chakan, Talegaon	Maharashtra Natural Gas Limited	274618	359	214
		Pune District (excluding areas already authorized)	Mahesh Gas Limited	0	0	3
		Ratnagiri District	Unison Enviro Private Limited	311	1	11
		Total		1756669	4319	314
14	Odisha	Khordha District	GAIL (India) Limited	540	0	0
		Total		540	0	0
15	Punjab	Amritsar District	Gujarat State Petronet Limited	794	12	0
		Fatehgarh Sahib District	IRM Energy Private Limited	1251	10	21
		Rupnagar District	Bharat Gas Resources Limited	637	0	0
		Bhatinda District	Gujarat State Petronet Limited	106	0	0
		Total			2788	22
16	Rajasthan	Kota (part) District	Rajasthan State Gas Limited	10076	16	15
		Neemrana	Rajasthan State Gas Limited	0	0	1
		Total			10076	16
17	Telangana	Hyderabad	Bhagyanagar Gas Limited	69073	14	32
		Total		69073	14	32
18	Tripura	Agartala	Tripura Natural Gas Company Limited	41064	430	51
		West Tripura (Except areas already authorized) District	Tripura Natural Gas Company Limited	3697	0	0
		Total			44761	430
19	Uttar Pradesh	Khurja	Adani Gas Limited	5970	3	191
		Bareilly (part) District	Central UP Gas Limited	26029	110	18
		Kanpur (part) District	Central UP Gas Limited	61564	188	63
		Varanasi District	GAIL (India) Limited	3424	15	0
		Meerut (part) District	GAIL Gas Limited	40311	26	32
		Firozabad (Taj Trapezium Zone)	GAIL Gas Limited	14935	0	340
		Agra	Green Gas Limited	54491	62	19
		Lucknow	Green Gas Limited	49494	57	11
		Allahabad (part) District	IndianOil-Adani Gas Private Limited	7899	17	2
		Meerut District (Except areas already authorized), Muzaffarnagar & Shamli Districts	Indraprastha Gas Limited	968	0	0
		Gautam Budh Nagar	Indraprastha Gas Limited	228194	571	762
		Ghaziabad	Indraprastha Gas Limited	211749	271	325
		Mathura (part) District	Sanwariya Gas	4520	38	73
		Moradabad (part) District	Torrent Gas Moradabad Limited	6803	11	64
		Allahabad District (Except areas already authorized), Bhadohi & Kaushambi Districts	Indian Oil-Adani Gas Private Limited	16	0	0
		Total		716367	1369	1900
20	Uttarakhand	Udham Singh Nagar District	IndianOil-Adani Gas Private Limited	6852	24	24
		Haridwar District	Haridwar Natural Gas Private Limited	5535	0	0
		Total			12387	24
		Grand Total		6060826	30617	10256

Sources : CGD entities

Table 3.7: CNG sales in India

(Sales in TMT)							
State (s) / Union Territory	Company name	No. of companies as on (01.04.2020)	2015-16	2016-17	2017-18	2018-19	2019-20 (P)
Andhra Pradesh*	Bhagyanagar Gas Limited, Godavari Gas Private Limited, Megha Engineering & Infrastructure Limited	3	27	29	32	31	21
Assam	Assam Gas Company Limited	1					0.02
Bihar	GAIL (India) Limited	1					2
Chandigarh, Haryana, Punjab & Himachal Pradesh	Indian Oil-Adani Gas Pvt. Ltd.	1	-	0	5	15	21
Dadra & Nagar Haveli**	Gujarat Gas Limited						3
Daman and Diu	Indian Oil-Adani Gas Pvt. Ltd.	1			1	2	2
Delhi NCT***	Indraprastha Gas Ltd .	1	738	804	1016	1144	1033
Goa	Goa Natural Gas Private Limited	1					0.03
Gujarat **	Adani Gas Limited , Vadodara Gas Limited , Charotar Gas Sahakari Mandali Limited, Gujarat Gas Limited, Hindustan Petroleum Corporation Limited, IRM Energy Private Limited, Sabarmati Gas Limited	7	503	546	612	662	745
Gujarat & UT of Daman and Diu	IRM Energy Private Limited	1					0.07
Haryana	Adani Gas Limited, GAIL Gas Limited, Haryana City Gas Distribution Limited, HPOIL Gas Private Limited, IndianOil-Adani Gas Private Limited, Indraprastha Gas Limited, Hinustan Petroleum Corporation Limited, Haryana City Gas (KCE) Private Limited	8	75	109	144	179	197
Jharkhand	GAIL (India) Limited						0.34
Karnataka	GAIL Gas Limited, IndianOil-Adani Gas Private Limited, Megha Engineering & Infrastructure Limited	3	-	0	0	0.3	1
Kerala	Indian Oil-Adani Gas Pvt. Ltd.	1			0	1	6
Madhya Pradesh	Think Gas Bhopal Private Limited, Aavantika Gas Limited, GAIL Gas Limited, Indian Oil Corporation Limited, Naveriya Gas Private Limited	5	19	22	25	31	34
Maharashtra	Gujarat Gas Ltd., HPOIL Gas Pvt. Ltd., Mahanagar Gas Limited, Maharashtra Natural Gas Limited, Mahesh Gas Limited, Unison Enviro Private Limited	6	565	593	630	702	738
Odisha	GAIL (India) Ltd.	1			0	1	3
Punjab	Gujarat State Petronet Limited, IRM Energy Private Limited, Think Gas Ludhiana Private Limited, Torrent Gas Private Limited, Bharat Gas Resources Limited	5				1	7
Rajasthan	Rajasthan State Gas Ltd., Torrent Gas Pvt. Ltd., Dholpur CGD Pvt. Ltd., Adani Gas Ltd.	4	4	4	5	7	9
Telangana*	Bhagyanagar Gas Limited, Torrent Gas Private Limited	2					13
Tripura	Tripura Natural Gas Company Limited	1	11	12	13	15	16
Uttar Pradesh	Adani Gas Limited, Central UP Gas Limited, GAIL (India) Limited, GAIL Gas Limited, Green Gas Limited, IndianOil-Adani Gas Private Limited, Indraprastha Gas Limited, Sanwariya Gas, Torrent Gas Private Limited, Bagpat Green Energy Pvt. Ltd.	10	212	245	153	282	392
Uttar Pradesh & Madhya Pradesh	Adani Gas Limited	1					0.001
Uttarakhand	IndianOil-Adani Gas Private Limited, Haridwar Natural Gas Private Limited	2				0.1	1
West Bengal	Great Eastern Energy Corporation Ltd.	1	1	2	2	3	2
Total			2155	2365	2638	3076	3247

Source : CGD companies

Notes : From the FY 2019-20 entries for *Andhra Pradesh & Telangana are reported separately. Prior to this AP & Telangana were taken together. **Dadra & Nagar Haveli are reported separately from Gujarat State ***Delhi contains information for Delhi NCT only. Remaining entries of the NCR GAs are added into respective State.

Table 3.8: CNG stations as on 01.04.2020

State (s) / Union Territory	Entities operating	No. of CNG stations
Andhra Pradesh	Bhagyanagar Gas Limited, Godavari Gas Private Limited Megha Engineering & Infrastructure Limited	66
Assam	Assam Gas Company Limited	1
Bihar	GAIL (India) Limited	8
Chandigarh, Haryana, Punjab & Himachal Pradesh	IndianOil-Adani Gas Private Limited	11
Dadra & Nagar Haveli	Gujarat Gas Limited	6
Daman and Diu	IndianOil-Adani Gas Private Limited	4
Delhi	Indraprastha Gas Limited	419
Goa	Goa Natural Gas Private Limited	2
Gujarat	Adani Gas Limited, Vadodara Gas Limited, Charotar Gas Sahakari Mandali Limited, Gujarat Gas Limited, Hindustan Petroleum Corporation Limited, IRM Energy Private Limited, Sabarmati Gas Limited	636
Gujarat & UT of Daman and Diu	IRM Energy Private Limited	5
Haryana	Adani Gas Limited, GAIL Gas Limited, Haryana City Gas Distribution Limited, HPOIL Gas Private Limited, IndianOil-Adani Gas Private Limited, Indraprastha Gas Limited, Hinustan Petroleum Corporation Limited, Indraprastha Gas Limited, Haryana City Gas (KCE) Private Limited	104
Jharkhand	GAIL (India) Limited	8
Karnataka	GAIL Gas Limited, IndianOil-Adani Gas Private Limited, Megha Engineering & Infrastructure Limited	23
Kerala	IndianOil-Adani Gas Private Limited	8
Madhya Pradesh	Think Gas Bhopal Private Limited, Aavantika Gas Limited, GAIL Gas Limited, Indian Oil Corporation Limited, Naveriya Gas Private Limited	62
Maharashtra	Gujarat Gas Limited, HPOIL Gas Private Limited, Mahanagar Gas Limited, Maharashtra Natural Gas Limited, Mahesh Gas Limited, Unison Enviro Private Limited	370
Maharashtra & Gujarat	Maharashtra Natural Gas Limited	5
Odisha	GAIL (India) Limited, GAIL Gas Limited	19
Punjab	Gujarat State Petronet Limited, IRM Energy Private Limited, Think Gas Ludhiana Private Limited, Torrent Gas Private Limited, Bharat Gas Resources Limited	33
Rajasthan	Rajasthan State Gas Limited, Torrent Gas Private Limited, Dholpur GGD Private Limited, Adani Gas Limited	16
Telangana	Bhagyanagar Gas Limited, Torrent Gas Private Limited	66
Tripura	Tripura Natural Gas Company Limited	14
Uttar Pradesh	Adani Gas Limited, Central UP Gas Limited, GAIL (India) Limited, GAIL Gas Limited, Green Gas Limited, IndianOil-Adani Gas Private Limited, Indraprastha Gas Limited, Sanwariya Gas, Torrent Gas Private Limited, Bagpat Green Energy Pvt. Ltd.	306
Uttar Pradesh & Madhya Pradesh	Adani Gas Limited	1
Uttrakhand	IndianOil-Adani Gas Private Limited, Haridwar Natural Gas Private Limited	5
West Bengal	Great Eastern Energy Corporation Limited, Indian Oil-Adani Gas Private Limited	10
Grand Total		2208

Table 3.9 : LNG terminals (Operational)

Location	Promoters	Capacity as on 01.05.2020	Capacity utilisation in % Apr 2019-Mar 2020
Dahej	Petronet LNG Ltd (PLL)	17.5 MMTPA	102.1
Hazira	Shell Energy India Pvt. Ltd.	5 MMTPA	98.0
Dabhol*	RGPPPL (GAIL - NTPC JV)	5 MMTPA	32.9
Kochi	Petronet LNG Ltd (PLL)	5 MMTPA	16.6
Ennore	Indian Oil LNG Pvt Ltd	5 MMTPA	9.0
Mundra	GSPC LNG Limited	5 MMTPA	29.6
Total Capacity		42.5 MMTPA	

* To increase to 5 MMTPA with breakwater

Source: LNG terminal operating companies

Table 3.10 : Import of Liquefied Natural Gas (LNG)

LNG import quantity/value			
Financial year	MMT	MMSCM	Value (Mn. USD)
2016-17	18.8	24,849	6,128
2017-18	20.7	27,439	8,051
2018-19	21.7	28,740	10,253
2019-20 (P)	25.4	33,718	9,471

Source: LNG importing companies & DGCIS

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	2.50	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
April 2019 - September 2019	3.69	9.32
October 2019 - March 2020	3.23	8.43
April 2020 - September 2020	2.39	5.61

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.



Chapter 4

Refining & Production

Map of Refineries in India



Simplified block flow diagram of a typical refinery

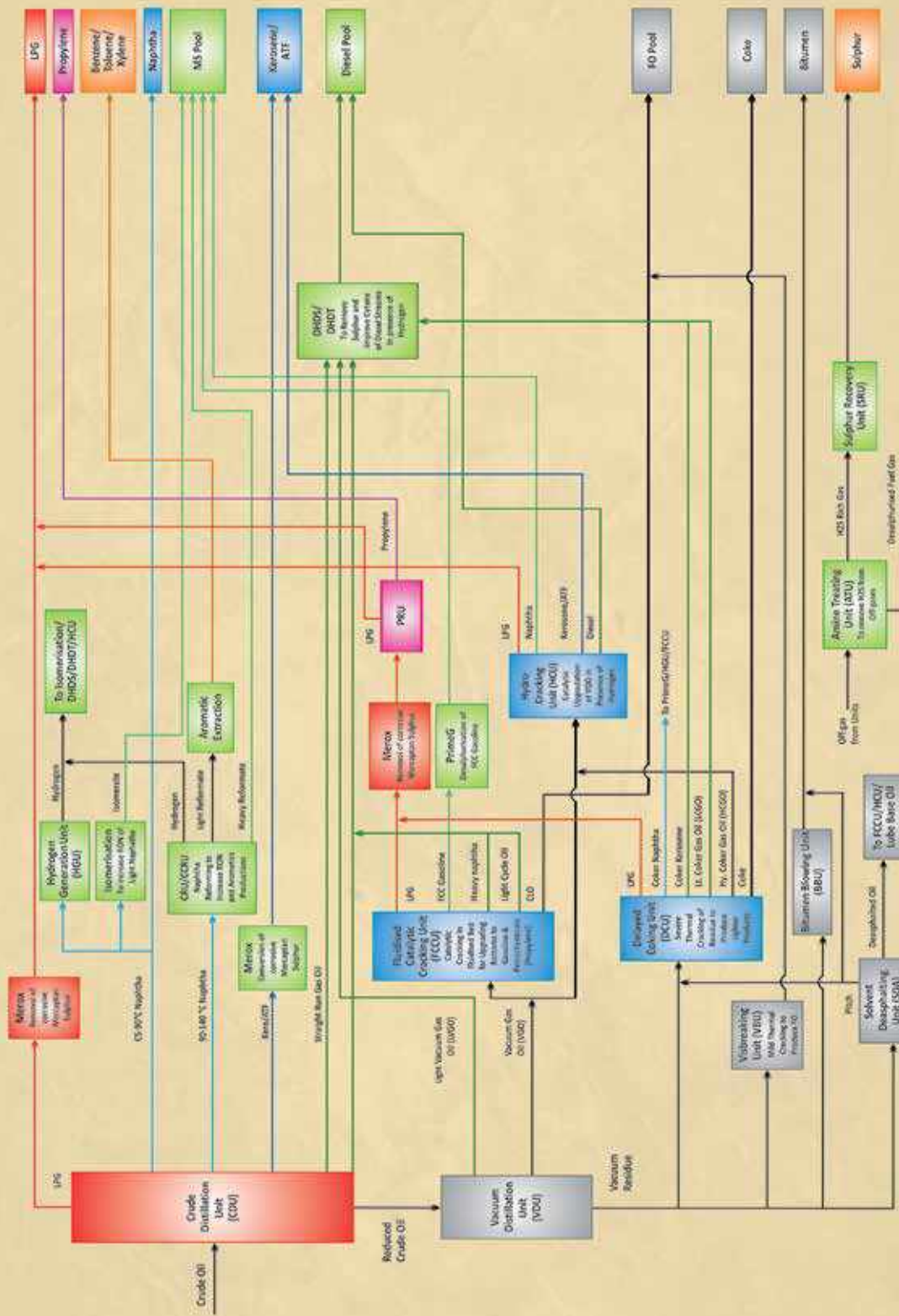


Table 4.1 : Refineries: Installed capacity and crude oil processing

Sl. no.	Refinery	Installed capacity (MMTPA)					Crude Oil Processing (MMT)				
		01.04.2016	01.04.2017	01.04.2018	01.04.2019	01.04.2020 (P)	2015-16	2016-17	2017-18	2018-19	2019-20 (P)
1	Barauni	6.0	6.0	6.0	6.0	6.0	6.5	6.5	5.8	6.7	6.5
2	Koyali	13.7	13.7	13.7	13.7	13.7	13.8	14.0	13.8	13.5	13.1
3	Haldia	7.5	7.5	7.5	7.5	8.0	7.8	7.7	7.7	8.0	6.5
4	Mathura	8.0	8.0	8.0	8.0	8.0	8.9	9.2	9.2	9.7	8.9
5	Panipat	15.0	15.0	15.0	15.0	15.0	15.3	15.6	15.7	15.3	15.0
6	Guwahati	1.0	1.0	1.0	1.0	1.0	0.9	0.9	1.0	0.9	0.9
7	Digboi	0.65	0.65	0.65	0.65	0.65	0.6	0.5	0.7	0.7	0.7
8	Bongaigaon	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.4	2.5	2.0
9	Paradip	15.0	15.0	15.0	15.0	15.0	1.8	8.2	12.7	14.6	15.8
	IOCL total	69.2	69.2	69.2	69.2	69.7	58.0	65.2	69.0	71.8	69.4
10	Mumbai	6.5	7.5	7.5	7.5	7.5	8.0	8.5	8.6	8.7	8.1
11	Visakh	8.3	8.3	8.3	8.3	8.3	9.2	9.3	9.6	9.8	9.1
12	HMEL-Bathinda	9.0	9.0	11.3	11.3	11.3	10.7	10.5	8.8	12.5	12.2
	HPCL total	23.8	24.8	27.1	27.1	27.1	27.9	28.3	27.1	30.9	29.4
13	Mumbai	12.0	12.0	12.0	12.0	12.0	13.4	13.5	14.1	14.8	15.0
14	Kochi	9.5	12.4	15.5	15.5	15.5	10.7	11.8	14.1	16.1	16.5
15	BORL-Bina	6.0	6.0	6.0	7.8	7.8	6.4	6.4	6.7	5.7	7.9
	BPCL total	27.5	30.4	33.5	35.3	35.3	30.5	31.7	34.9	36.5	39.4
16	Manali	10.5	10.5	10.5	10.5	10.5	9.1	9.8	10.3	10.3	10.2
17	CBR	1.0	1.0	1.0	1.0	1.0	0.5	0.5	0.5	0.4	0.0
	CPCL total	11.5	11.5	11.5	11.5	11.5	9.6	10.3	10.8	10.7	10.2
18	NRL Numaligarh	3.0	3.0	3.0	3.0	3.0	2.5	2.7	2.8	2.9	2.4
19	ONGC Tatipaka	0.07	0.07	0.07	0.07	0.07	0.07	0.09	0.08	0.07	0.09
20	MRPL-Mangalore	15.0	15.0	15.0	15.0	15.0	15.5	16.0	16.1	16.2	14.0
	ONGC total	15.1	15.1	15.1	15.1	15.1	15.6	16.1	16.2	16.3	14.0
21	RIL-Jamnagar (DTA)	33.0	33.0	33.0	33.0	33.0	32.4	32.8	33.2	31.8	33.0
22	RIL-Jamnagar (SEZ)	27.0	27.0	35.2	35.2	35.2	37.1	37.4	37.3	37.4	35.9
23	NEL*-Vadinar	20.0	20.0	20.0	20.0	20.0	19.1	20.9	20.7	18.9	20.6
	All India	230.1	234.0	247.6	249.4	249.9	232.9	245.4	251.9	257.2	254.4

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	2015-16	2016-17	2017-18	2018-19	2019-20 (P)
1	HS crude	166.1	177.4	188.4	194.2	192.2
2	LS crude	66.7	67.9	63.6	63.0	62.2
	Total crude	232.9	245.4	251.9	257.2	254.4
	Share of HS crude in total crude processing	71.3%	72.3%	74.8%	75.5%	75.5%

Source: Oil companies

Table 4.3 : Imported crude & indigenous crude oil processing

(Million metric tonne)						
Sl. no.	Indigenous/ Imported crude	2015-16	2016-17	2017-18	2018-19	2019-20 (P)
1	Imported crude	198.7	211.8	219.1	225.5	225.1
2	Indigenous crude	34.1	33.5	32.8	31.7	29.3
	Total crude	232.9	245.4	251.9	257.2	254.4
	Share of imported crude in total crude processing	85.3%	86.3%	87.0%	87.7%	88.5%

Source: Oil companies

Table 4.4 : Production of petroleum products

(Million metric tonne)					
Products	2015-16	2016-17	2017-18	2018-19	2019-20 (P)
A) From crude oil/refineries					
Light ends	70.6	75.0	83.7	85.1	87.4
of which: LPG	8.6	9.2	10.2	10.7	10.9
MS	35.3	36.6	37.8	38.0	38.6
Naphtha	16.8	18.6	18.8	18.4	19.4
Others	9.9	10.7	17.0	18.0	18.5
Middle distillates	122.9	127.9	131.2	136.3	135.5
of which: SKO	7.4	5.9	4.2	4.0	3.1
ATF	11.8	13.8	14.6	15.5	15.2
HSD	98.6	102.1	108.0	110.5	111.1
LDO	0.4	0.6	0.6	0.7	0.6
Others	4.7	5.4	3.7	5.7	5.5
Heavy ends	34.4	36.3	34.8	36.0	35.3
of which: Furnace Oil	10.3	11.8	9.8	9.5	9.3
LSHS	0.4	0.3	0.5	0.4	0.4
Lube Oil	1.0	1.0	1.0	0.9	0.9
Bitumen	5.2	5.2	5.3	5.6	4.9
RPC/Petcoke	13.3	12.9	13.9	13.7	14.6
Others	4.2	5.2	4.3	5.9	5.1
Sub total (A)	227.9	239.2	249.7	257.4	258.2
B) From natural gas / fractionators					
Sub total (B)	4.0	4.3	4.6	4.9	4.8
of which: LPG	2.0	2.1	2.2	2.1	2.0
Naphtha	1.1	1.2	1.2	1.2	1.2
SKO	0.07	0.03	0.05	0.07	0.05
HSD	0.01	0.01	0.01	0.04	0.06
Others	0.8	1.0	1.1	1.5	1.5
Total production (A + B)	231.9	243.5	254.3	262.4	262.9

Source: Oil companies

Table 4.5 : Production of petroleum products : All sources

(Million metric tonne)					
Major products	2015-16	2016-17	2017-18	2018-19	2019-20 (P)
HSD	98.6	102.1	108.1	110.6	111.2
MS	35.3	36.6	37.8	38.0	38.6
Naphtha	17.9	19.7	20.0	19.6	20.6
FO	10.3	11.8	9.8	9.5	9.3
ATF	11.8	13.8	14.7	15.5	15.2
LPG	10.6	11.3	12.4	12.8	12.8
SKO	7.5	6.0	4.3	4.1	3.1
Bitumen	5.2	5.2	5.3	5.6	4.9
LSHS	0.4	0.3	0.5	0.4	0.4
Lubes	1.0	1.0	1.0	0.9	0.9
LDO	0.4	0.6	0.6	0.7	0.6
RPC/Petcoke	13.3	12.9	13.9	13.7	14.6
Others [#]	19.6	22.3	26.2	31.0	30.6
Total	231.9	243.5	254.3	262.4	262.9

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
2018-19	213.2	262.4	49.1
2019-20 (P)	213.7	262.9	49.3

Note: [§] includes direct imports by private parties

*Fractionators and gas processing plants

Table 4.7 : Gross Refining Margins (GRM) of refineries

							(\$/bbl)
Company	Refinery	2015-16	2016-17	2017-18	2018-19	2019-20(P)	
PSU refineries							
IOCL	Barauni	2.93	6.52	6.60	3.86	-1.24	
	Koyali	6.80	7.55	9.44	4.87	1.90	
	Haldia	3.96	6.80	6.86	5.36	-2.44	
	Mathura	3.30	7.01	7.09	4.65	-1.02	
	Panipat	4.15	7.95	7.74	4.66	-0.25	
	Guwahati**	15.88	22.14	21.88	16.35	14.22	
	Digboi**	16.17	24.49	24.86	22.74	17.52	
	Bongaigaon**	11.09	20.15	20.62	16.94	10.49	
	Paradip#	-0.65	4.22	7.02	4.46	-1.80	
	Average	5.06	7.77	8.49	5.41	0.08	
BPCL	Kochi	6.87	5.16	6.44	4.27	2.17	
	Mumbai	6.37	5.36	7.26	4.92	2.88	
	Average	6.59	5.26	6.85	4.58	2.50	
HPCL	Mumbai	8.09	6.95	8.35	5.79	3.63	
	Visakh	5.46	5.51	6.55	4.31	-1.30	
	Average	6.68	6.20	7.40	5.01	1.02	
CPCL	Chennai	5.27	6.05	6.42	3.70	-1.18	
MRPL	Mangalore	5.20	7.75	7.54	4.06	-0.23	
NRL	Numaligarh**	23.68	28.56	31.92	28.11	24.55	
JV refineries							
BORL	Bina	11.70	11.80	11.70	9.80	5.60	
Private refineries							
RIL	Jamnagar	10.80	11.00	11.60	9.20	8.90	
NEL®	Vadinar	10.81	9.14	8.95	6.97	*	
Singapore		7.52	5.83	7.23	4.88	3.25	

(P) - Provisional * Not available

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

Commissioned in February, 2016.

As per U.S. Energy Information Administration (EIA), Gross Refining margin is the difference between the revenue from the sale of petroleum products and the cost of the raw materials used to produce the products.

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	2015-16	2016-17	2017-18	2018-19	2019-20 (P)	
IOCL	Guwahati	1.26	1.12	3.70	0.63	-3.34	
	Digboi	4.16	7.73	8.27	8.84	3.35	
	Bongaigaon	0.08	6.03	6.22	4.21	-1.84	
NRL	Numaligarh	8.06	8.50	11.43	11.80	7.99	

Source: Information provided by oil companies

Table 4.9 : Distillate yield of PSU refineries

(Distillate % on crude)						
Company	Refinery	2015-16	2016-17	2017-18	2018-19	2019-20**
IOCL	Barauni	88.7	85.3	89.0	87.9	86.9
	Koyali	83.1	81.0	82.5	81	79.5
	Haldia	69.6	66.7	66.9	69.9	69.0
	Mathura	74.7	73.6	75.4	76.1	75.6
	Panipat	83.8	84.1	84.9	82.8	84.8
	Guwahati	80.8	83.5	82.7	81	83.5
	Digboi	69.7	75.3	77.9	75.8	72.5
	Bongaigaon	84.5	83.8	84.3	84.8	80.8
	Paradip	-	75.3	79.4	80.8	80.7
CPCL#	Manali	71.4	71.6	72.3	75.3	77.6
	CBR	79.3	78.2	79.1	77.3	-
HPCL	Mumbai	76.0	77.6	77.4	77.6	77.0
	Visakh	75.7	74.0	74.5	74.5	72.1
BPCL	Mumbai	84.3	86.1	84.3	82.2	84.9
	Kochi	85.7	85.2	83.9	82.5	84.2
NRL	Numaligarh	89.9	90.5	86.7	87.1	83.0
MRPL	Mangalore	76.9	77.3	76.5	76.8	76.7
PSU oil cos. average		79.9	79.3	79.7	79.6	80.0

Note: Distillate yield (expressed as a percentage) represents the percent of finished product produced from input of crude oil, hydrogen, other hydrocarbons, and net input of unfinished oils

** The numbers are provisional

Table 4.10 : Fuel & Loss

(Million metric tonne)																	
Sl. no.	Company	Refinery	2015-16			2016-17			2017-18			2018-19			2019-20 (P)		
			Crude T'put + other inputs	Fuel & Loss		Crude T'put + other inputs	Fuel & Loss		Crude T'put + other inputs	Fuel & Loss		Crude T'put + other inputs	Fuel & Loss		Crude T'put + other inputs	Fuel & Loss	
				Qty	%		Qty	%		Qty	%		Qty	%		Qty	%
1	IOCL	Barauni	6.6	0.6	8.7	6.6	0.6	9.2	6.0	0.5	9.2	6.9	0.6	9.0	6.7	0.6	8.8
2		Koyali	14.4	1.3	8.8	14.6	1.3	9.0	14.5	1.2	8.6	14.2	1.3	9.0	13.9	1.3	9.3
3		Haldia	7.8	0.7	8.7	7.7	0.7	8.8	7.8	0.7	8.4	8.1	0.7	8.3	6.6	0.6	9.6
4		Mathura	9.3	0.7	7.7	9.7	0.7	7.5	9.8	0.7	7.0	10.2	0.7	6.6	9.5	0.6	6.7
5		Panipat	16.8	1.5	8.8	17.2	1.5	8.4	17.3	1.4	8.1	17.3	1.4	7.9	16.7	1.4	8.3
6		Guwahati	1.2	0.12	9.6	1.2	0.11	9.4	1.3	0.13	10.2	1.2	0.11	9.5	1.3	0.12	9.7
7		Digboi	0.6	0.06	10.2	0.6	0.07	11.7	0.7	0.08	10.3	0.8	0.08	10.0	0.7	0.08	11.0
8		Bongaigaon	2.4	0.2	8.5	2.5	0.2	8.3	2.4	0.2	8.7	2.6	0.2	8.2	2.1	0.2	8.5
9		Paradip	1.9	0.5	24.2	8.3	1.3	15.9	12.7	1.4	10.9	14.6	1.4	9.8	15.8	1.5	9.6
		IOCL Total	61.0	5.6		68.4	6.5		72.6	6.4		75.7	6.4		73.3	6.4	
10	HPCL	Mumbai	8.0	0.6	7.8	8.5	0.6	7.2	8.6	0.6	7.2	8.8	0.6	7.0	8.2	0.6	7.0
11		Visakh	9.2	0.7	7.7	9.3	0.7	7.3	9.6	0.7	7.1	9.8	0.7	7.3	9.1	0.7	7.5
12		HMEL-Bathinda	10.8	0.7	6.3	10.6	0.7	6.3	8.9	0.6	6.2	12.6	0.7	5.8	12.3	0.7	5.7
		HPCL Total	28.0	2.0		28.4	2.0		27.2	1.9		31.2	2.1		29.7	2.0	
13	BPCL	Mumbai	13.4	0.6	4.4	13.6	0.6	4.4	14.3	0.7	4.6	14.8	0.6	4.0	15.1	0.6	4.2
14		Kochi	10.8	0.6	5.9	12.0	0.7	6.0	14.5	1.1	7.7	16.4	1.3	7.8	17.2	1.4	8.3
15		BORL-Bina	6.4	0.5	7.0	6.4	0.6	8.8	6.7	0.7	9.7	5.7	0.6	10.2	7.9	0.8	9.9
16		Numaligarh	2.8	0.3	9.2	3.0	0.3	9.8	3.1	0.3	10.1	3.2	0.3	9.5	2.7	0.3	10.0
		BPCL Total	33.4	1.9		34.9	2.2		38.7	2.7		40.1	2.7		42.8	3.1	
17	CPCL	Manali	9.2	0.9	9.5	9.8	0.9	9.3	10.4	1.0	9.7	10.3	1.1	10.3	10.3	1.0	9.9
18		CBR	0.6	0.03	4.4	0.6	0.03	4.6	0.5	0.03	5.0	0.4	0.02	5.1			
		CPCL Total	9.8	0.9		10.4	0.9		10.9	1.0		10.8	1.1		10.3	1.0	
19	ONGC	ONGC Tatipaka	0.07	0.001	1.7	0.09	0.003	3.7	0.08	0.004	5.3	0.07	0.003	5.1	0.09	0.007	7.8
20		MRPL-Mangalore	15.7	1.5	9.7	16.3	1.6	10.1	16.4	1.7	10.2	16.5	1.7	10.2	14.1	1.5	10.6
		ONGC Total	15.8	1.5		16.3	1.6		16.4	1.7		16.6	1.7		14.2	1.5	
21	RIL	Jamnagar (DTA)	35.1	2.6	7.4	35.9	2.5	6.9	36.4	2.7	7.4	37.0	2.8	7.5	40.1	3.8	9.5
22		Jamnagar (SEZ)	44.2	3.4	7.8	44.8	3.3	7.5	47.8	3.7	7.8	48.9	3.6	7.4	52.1	4.6	8.9
23	NEL**	Vadinar	19.4	1.1	5.7	21.3	1.2	5.5	21.0	1.2	5.7	19.2	1.1	6.0	21.1	1.2	5.7
		Total	246.8	19.1		260.4	20.2		271.0	21.3		279.6	21.6		283.7	23.6	

Source: Oil companies; * CPCL CBR was under complete shutdown for revamp during 2019-20. **Nayara Energy Limited (formerly Essar Oil Limited)

Table 4.11 : Specific energy consumption of PSU refineries

(MBTU/Bbl/NRGF)							
Company	Refinery	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20**
IOCL	Barauni	84.4	81.0	80.7	77.7	77.9	75.7
	Koyali	76.1	75.8	75.2	72.4	75.3	77
	Haldia	79.0	79.8	83.0	80.8	76.6	90.8
	Mathura	78.2	73.4	72.2	68.3	63.9	66.4
	Panipat	71.7	70.1	64.9	63.2	64.1	64.4
	Guwahati	109.4	121.9	113.8	108.0	112.3	120.3
	Digboi	94.0	112.4	114.3	105.5	101.8	104.5
	Bongaigaon	98.7	91.3	90.2	91.7	88.6	96.9
CPCL	Manali	92.9	95.8	92.5	88.6	83.0	81.4
	CBR	118.6	113.1	117.8	123.7	118.1	-
HPCL	Mumbai	94.6	89.3	85.7	84.4	82.8	84.5
	Visakh	83.5	80.7	78.1	77.3	77.3	84.1
BPCL	Mumbai	77.3	74.7	70.6	66.7	64.7	62.5
NRL	Numaligarh	71.4	71.1	72.3	64.7	65.9	65
MRPL	Mangalore	86.3	80.3	79.6	77.1	74.2	75.3
PSU average*		81.4	79.2	81.2	75.1	72.7	72.8

** The numbers are provisional; MBN values are as per New MBN methodology with normalisation for grid power import and BS-IV/VI production from 2015-16 onwards
The energy performance of refineries is expressed in terms of Specific Energy Consumption, measured in thousand British Thermal Units (BTU) per barrel per Energy Factor i.e. (MTBU/BBL/NRGF) to provide a basis for comparing energy performance of refineries of different configurations and accounting of the throughput of secondary units. Specific Energy Consumption written as SEC or MBN. MBN= MBTU/Bbl/NRGF, MBTU: Net energy & loss in Refinery, Bbls: Barrels of crude processed, NRGF: Composite energy factor for the Refinery.

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

Import / export	Crude oil & petroleum products	2015-16			2016-17			2017-18			2018-19			2019-20 (P)			
		Quantity Million tonne	Value		Quantity Million tonne	Value		Quantity Million tonne	Value		Quantity Million tonne	Value		Quantity Million tonne	Value		
			US\$ (Billion)	Rs. (Crores)		US\$ (Billion)	Rs. (Crores)		US\$ (Billion)	Rs. (Crores)		US\$ (Billion)	Rs. (Crores)		US\$ (Billion)	Rs. (Crores)	
I M P O R T*	Crude oil	202.9	64.0	416579	213.9	70.2	470159	220.4	87.8	566450	226.5	111.9	783183	227.0	101.4	716627	
	of which, PSU/JVs	121.2	39.7	259464	128.3	44.0	294050	133.0	54.3	350612	142.9	71.9	504524	141.4	64.7	457697	
	Private	81.6	24.3	157115	85.6	26.2	176109	87.4	33.5	215839	83.6	40.0	278659	85.5	36.7	258930	
	Products																
	LPG	9.0	3.9	25778	11.1	4.8	32124	11.4	5.8	37875	13.2	7.2	49939	14.8	7.1	50449	
	Petrol	1.0	0.6	4207	0.5	0.2	1617	0.2	0.1	581	0.7	0.4	3104	2.1	1.4	9610	
	Naphtha	2.9	1.5	9581	2.8	1.2	8374	2.2	1.3	8161	2.1	1.4	9665	1.8	1.0	7028	
	Aviation Turbine Fuel	0.3	0.1	889	0.3	0.2	1109	0.3	0.2	1159	0.3	0.2	1392	0.1	0.04	309	
	Kerosene	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	0.2	0.1	605	1.0	0.4	2959	1.4	0.7	4269	0.6	0.4	2486	2.8	1.6	11533	
	Lubes/LOBS	2.3	1.4	9478	2.1	1.3	8625	2.5	1.9	12075	2.5	1.9	13349	2.5	1.7	11962	
	Fuel Oil	1.2	0.4	2380	0.9	0.3	1848	1.2	0.5	3231	1.4	0.7	4782	4.4	1.6	11284	
	Bitumen	0.9	0.3	1832	1.0	0.2	1638	1.0	0.3	1902	0.9	0.3	2149	1.3	0.4	2973	
	Petcoke	10.0	0.9	5633	14.4	1.2	7929	12.8	1.7	11100	7.9	1.5	10350	10.6	1.5	10601	
	Others**	1.7	0.7	4821	2.2	0.8	5342	2.6	1.2	8020	3.9	2.4	16449	3.0	1.6	11205	
	Total product import	29.5	10.0	65361	36.3	10.6	71566	35.5	13.6	88374	33.3	16.3	113665	43.3	17.9	126954	
	of which, PSU/JVs	10.1	4.6	30367	12.5	5.5	36691	12.8	6.5	42305	14.6	8.1	56178	20.0	10.2	72721	
	Private	19.4	5.3	34994	23.7	5.2	34875	22.7	7.1	46069	18.8	8.3	57487	23.4	7.6	54233	
	Total import (crude oil + product)	232.3	73.9	481940	250.2	80.8	541725	255.9	101.4	654824	259.8	128.3	896848	270.3	119.2	843581	
E X P O R T	Products																
	LPG	0.2	0.1	785	0.3	0.2	1168	0.4	0.2	1501	0.4	0.3	1976	0.5	0.3	1970	
	Petrol	16.8	9.1	59575	15.4	7.9	52920	14.0	8.5	54580	12.9	8.6	60419	12.7	7.7	54531	
	Naphtha	7.1	3.1	20057	8.7	3.7	24616	9.0	4.5	29075	7.0	4.1	28893	8.9	4.4	31507	
	Aviation Turbine Fuel	5.7	2.4	16007	7.3	3.3	22294	7.2	3.9	25348	7.4	4.9	34030	6.9	4.0	28458	
	Kerosene	0.01	0.01	35	0.02	0.01	54	0.02	0.01	68	0.02	0.01	98	0.2	0.1	484	
	Diesel	24.0	10.2	66492	27.30	11.9	79857	29.7	15.4	99454	27.8	17.6	123519	31.6	17.5	123906	
	LDO	0.0	0.0	0	0.2	0.1	399	0.02	0.01	37	0.1	0.05	364	0.0	0.0	0	
	Lubes/LOBS	0.02	0.02	127	0.01	0.02	104	0.01	0.02	118	0.01	0.02	106	0.01	0.01	96	
	Fuel Oil	2.8	0.7	4471	2.2	0.6	3930	2.5	0.8	5291	2.2	0.9	6537	1.4	0.5	3579	
	Bitumen	0.1	0.03	176	0.04	0.01	37	0.1	0.02	119	0.02	0.01	72	0.03	0.01	89	
	Petcoke / CBFS	0.8	0.1	750	0.7	0.1	804	0.6	0.1	687	1.1	0.5	3255	0.5	0.2	1096	
	Others***	2.9	1.3	8304	3.3	1.3	8710	3.4	1.4	9110	2.1	1.2	8429	2.9	1.2	8230	
	Total product export	60.5	27.1	176780	65.5	29.0	194893	66.8	34.9	225388	61.1	38.2	267697	65.7	35.8	253946	
	of which, PSU/JVs	10.5	4.1	27072	12.6	5.2	35102	15.0	7.4	48100	13.4	8.1	56415	14.2	7.5	53185	
Private	50.1	22.9	149708	53.0	23.8	159791	51.8	27.5	177288	47.7	30.2	211282	51.5	28.4	200761		
Net import	171.8	46.9	305160	184.7	51.8	346832	189.1	66.5	429436	198.8	90.0	629152	204.6	83.4	589635		
Net product export	31.1	17.1	111419	29.2	18.4	123327	31.4	21.3	137014	27.7	21.9	154031	22.3	18.0	126992		

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.

- Crude oil imports increased by 0.2% during 2019-20 as compared to 2018-19.
- Imports made due to deficit in production viz. LPG and Lubes/LOBS accounted for 40% share of total POL products import during 2019-20 as compared to 47.1% during 2018-19.
- Imports of naphtha and FO were done for commercial and technical considerations and accounted for 14.2% share of total POL products import during 2019-20 as compared to 10.5% during 2018-19.
- MS (2.1 MMT) and HSD (2.8 MMT) import was done during 2019 - 20 due to shutdown of refineries for implementation of BS VI projects.
- Increase of 7.5% was recorded in POL products export during 2019-20 as compared to 2018-19 mainly due to increase in exports of naphtha and high-speed diesel (HSD).

Table 4.13 : Exchange rates of Indian rupee (₹)

Year	US dollar (\$)	British pound (£)	Euro (€)	Japanese yen (¥)
Indian rupee (₹) / foreign currency				
2002-03	48.41	74.84	48.07	0.40
2003-04	45.92	77.74	54.01	0.41
2004-05	44.95	82.95	56.55	0.42
2005-06	44.28	79.02	53.88	0.39
2006-07	45.29	85.72	58.11	0.39
2007-08	40.24	80.80	56.99	0.35
2008-09	45.91	78.45	65.14	0.46
2009-10	47.42	75.88	67.08	0.51
2010-11	45.58	70.88	60.21	0.53
2011-12	47.95	76.40	65.90	0.61
2012-13	54.45	86.02	70.06	0.66
2013-14	60.50	96.23	81.14	0.60
2014-15	61.15	98.56	77.47	0.56
2015-16	65.46	98.76	72.31	0.55
2016-17	67.09	87.71	73.61	0.62
2017-18	64.45	85.47	75.42	0.58
2018-19	69.89	91.74	80.93	0.63
2019-20	70.88	90.15	78.80	0.65
2020-21 (upto 31.05.2020)	75.94	93.80	82.61	0.71
2020 : Month wise				
January	71.31	93.29	79.22	0.65
February	71.49	92.75	78.07	0.65
March	74.35	92.02	82.34	0.69
April	76.24	94.63	82.75	0.71
May	75.66	93.02	82.48	0.71

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 01.04.2020

Network/Region	Entity	Length (Kms)	Design capacity (mmscmd)	Pipeline size	Average flow 2019-20 (P) (mmscmd)	% Capacity utilisation 2019-20 (P)
Hazira-Vijaipur-Jagdishpur Pipeline/Gas rehabilitation and expansion project pipeline/Dahej-Vijaipur Pipeline & spur/ Vijaipur-Dadri Pipeline	GAIL	4902	53	36"	28.3	53%
DVPL-GREP upgradation (DVPL-II & VDPL)	GAIL	1326	54	48"	38.7	72%
Chhainsa-Jhajjar-Hissar Pipeline (CJPL) including spur lines *	GAIL	304	5	36"/16"	1.01	20%
Dadri- Bawana-Nangal Pipeline (DBPL)	GAIL	868	31	36"/30"/24"/18"	6.4	21%
Dahej-Uran-Panvel Pipeline (DUPL/ DPPL) including spur lines	GAIL	930	20	30"/18"	14	70%
Dabhol-Bengaluru Pipeline (Including spur)	GAIL	1130	16	36"/4"	1.71	29%
Kochi-Koottanad-Bengaluru-Mangalore (Phase-1)	GAIL	48	6	16"/4"	1.25	8%
Tripura (Agartala)	GAIL	60	2	12"	1.29	56%
Gujarat	GAIL	636	9	24"/16"/12"	4.09	45%
Rajasthan	GAIL	153	2	12"	1.13	47%
Mumbai (Uran-Thal-Usar & Trombay-RCF)	GAIL	131	7	26"	6.37	91%
KG Basin	GAIL	892	16	18"	5.18	32%
Cauvery Basin	GAIL	276	9	18"	3.37	39%
PIL Pipeline	RGTEL	1480	67	48"	18.8	28%
Shahdol-Phulpur Pipeline	RGPL	304	4	16"	0.9	25%
GSPL network	GSPL	2696	43	Assorted	37.9	88%
Assam network^	AGCL, DNPL	299	4	Assorted	1.8	49%
Dadri-Panipat	IOCL	140	10	30"/10"	5.2	56%
Total		16575	357			

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.

Table 5.2 : Existing major crude oil pipelines in India

Type of Pipeline -Onshore/ Offshore	Name of the pipeline	Owner	Length (KM)	Capacity (MMTPA)	Throughput (MMT)	Percentage utilisation during
			01.04.2020	01.04.2020	2019-20(P)	2019-20(P)
Onshore	CTF (Central Tank Farm) Kalol to CTF Nawagam - New (New line commissioned in Aug'2010)	ONGC	63	3.1	1.2	37.1
Onshore	Nawagam-Koyali (18" line) New		80	5.4	3.6	66.2
Onshore	Nawagam-Koyali (14" line) (Old)		78	3.3	0.0	0.0
Onshore	MHN-NGM (Mehsana-Nawagam) trunk line - New (New crude oil trunk line commissioned. Under operation since Dec'2010)		77	2.3	2.1	91.0
Onshore	CTF (Central Tank Farm), Ankleshwar to Koyali oil pipeline (AKCL- Ankleshwar Koyali Crude Line)		95	2.2	0.9	39.3
Onshore	CTF (Central Tank Farm), Ankleshwar to CPF (Central Processing Facility), Gandhar		44	0.4	0.0	0.0
Onshore	CPF (Central Processing Facility), Gandhar to Saraswani 'T' point		57	1.8	0.7	40.6
Onshore	Akholjuni- Koyali oil pipe line (Commissioned in July 2010). Akholjuni to Laxmipura T' point		66	0.5	0.2	42.2
Onshore	Lakwa-Moran oil line (New)		15	1.5	0.3	19.2
Onshore	Lakwa-Moran oil line (Old)		18	1.5	0.0	0.0
Onshore	Geleki-Jorhat oil line		49	1.5	0.1	7.0
Onshore	Geleki-Jorhat oil line (New)		48	1.5	0.4	25.7
Onshore	Borholla- Jorhat oil line		43	0.6	0.0	0.0
Onshore	Borholla- Jorhat new TPL (New)		43	0.6	0.2	37.5
Onshore	NRM (Narimanam) to CPCL (Chennai Petroleum Corporation Limited)		5	0.7	0.4	55.8
Onshore	KSP-WGGS to TPK Refinery (Kesnapalli-West-Group Gathering Station to Tatipaka)		14	0.1	0.0	55.4
Onshore	GMAA EPT (Gopavaram Early Production Terminal) to S. Yanam Unloading Terminal (3.5 Km long and 4"). New line commissioned on 28.07.10		4	0.1	0.0	38.5
Offshore	Mumbai High - Uran - Trunk (MUT) 30" pipeline		204	15.6	8.5	54.6
Offshore	Heera - Uran - Trunk (HUT) 24" pipeline		81	11.5	3.0	25.8
Offshore	Bombay-Uran Trunk (BUT) 30" pipeline		203	6.4	0.0	0.6
		Sub total ONGC	1283	60.6	21.6	35.7
Onshore	Salaya-Mathura pipeline (SMPL)	IOCL	2646	25.0	25.5	102.0
Onshore	Paradip-Haldia-Barauni pipeline (PHBPL)		1355	15.2	15.1	99.4
Onshore	Mundra-Panipat pipeline		1194	8.4	6.8	81.3
Offshore	Salaya-Mathura Pipeline (Offshore segment)		14	-	0.0	
Offshore	Paradip-Haldia-Barauni Pipeline (Offshore segment)		92	-	0.0	
		Sub total IOCL	5301	48.6	47.4	97.6
Onshore	Duliajan-Digboi-Bongaigaon-Barauni pipeline	OIL	1193	9.0	5.7	63.8
Onshore	Mangla-Bhogat pipeline	CAIRN	660	8.7	6.7	76.6
Offshore	Bhogat Marine	CAIRN	28	2.0	1.6	78.9
		Sub total CAIRN	688	10.7	8.2	77.0
Onshore	Mundra- Bathinda pipeline	HMPL	1017	11.3	12.2	108.8
Onshore	Vadinar-Bina pipeline	BORL	937	7.8	7.9	100.8
	Total Crude pipelines		10419	147.9	103.1	69.7

Note:

Source: Oil companies (P): Provisional

Table 5.3 : Existing major POL pipelines in India

Type of Pipeline	Name of the pipeline	Owner	Length (KM)	Capacity (MMTPA)	Throughput (MMT)	Percentage utilisation during	
			01.04.2020	01.04.2020	2019-20(P)	2019-20(P)	
Petroleum Products Pipelines							
Onshore	Barauni - Kanpur pipeline (2)	IOCL	1227	3.5	2.7	76.2	
Onshore	Guwahati -Siliguri pipeline		435	1.4	1.7	124.0	
Onshore	Haldia-Barauni pipeline		526	1.3	1.7	132.7	
Onshore	Haldia-Mourigram-Rajbandh pipeline		277	1.4	2.1	156.9	
Onshore	Koyali-Ahmedabad pipeline		79	1.1	0.4	39.6	
Onshore	Koyali-Sanganer pipeline (Incl. JPNPL) (3)		1644	5.0	4.7	94.2	
Onshore	Koyali-Ratlam pipeline		265	2.0	1.5	74.9	
Onshore	Koyali-Dahej pipeline		197	2.6	0.7	27.8	
Onshore	Mathura-Tundla pipeline		56	1.2	0.4	33.0	
Onshore	Mathura-Bharatpur pipeline		21		0.1		
Onshore	Mathura-Delhi pipeline		147	3.7	2.7	73.1	
Onshore	Panipat-Amabala-Jalandhar (Including Kurukshetra-Roorkee-Najibabad branch line) (1)		495	3.5	3.4	97.2	
Onshore	Panipat-Delhi (Including Sonapat-Meerut branch line) pipeline		189	3.0	1.3	42.1	
Onshore	Panipat Bijwasan ATF pipeline		111				
Onshore	Panipat-Bathinda pipeline		219	1.5	1.5	98.0	
Onshore	Panipat-Rewari pipeline		155	2.1	1.4	66.6	
Onshore	Chennai-Trichy-Madurai pipeline		683	2.3	2.9	128.0	
Onshore	Chennai - Meenambakkam ATF pipeline		95	0.2	0.3	179.0	
Onshore	Chennai-Bengaluru pipeline		290	2.5	2.1	86.8	
Onshore	Devangonhi - Devanhalli pipeline		36	0.7	0.6	91.8	
Onshore	Paradip Raipur Ranchi pipeline(PRRPL)		1073	5.0	3.8	76.4	
Onshore	Kolkata ATF pipeline		27	0.2	0.2	93.0	
			Sub total IOCL	8247	44.0	36.3	82.6
Onshore	Mumbai-Manmad-Bijwasan pipeline (MMBPL)		BPCL	1389	6.0	6.9	114.2
Onshore	Bina-Kota pipeline (BKPL)			259	4.4	4.2	95.7
Onshore	ATF P/L Mumbai Refinery (MR)-Santacruz			15	1.4	0.7	52.8
Onshore	ATF P/L Kochi Refinery (KR)-Kochi Airport			34	0.6	0.5	87.1
Onshore	Kota - Jobner branch pipeline(1)	211		1.7			
Onshore	Mumbai Refinery- Wadilube Pipeline	12		1.3	0.3	20.5	
Onshore	Cochin-Coimbatore-Karur (CCK) pipeline (2)	293		3.3	4.0	121.2	
		Sub total BPCL		2213	18.7	16.6	88.7
Onshore	Mumbai-Pune-Solapur pipeline	HPCL	508	4.3	4.1	95.8	
Onshore	Vizag-Vijaywada-Secunderabad pipeline (5)		572	7.7	5.6	73.1	
Onshore	Mundra-Delhi pipeline (1)(8)		1054	6.9	6.7	97.6	
Onshore	Ramanmandi-Bahadurgarh pipeline (2)(4)		243	7.1	5.8	80.9	
Onshore	Ramanmandi-Bathinda pipeline		30	2.1	1.1	51.3	
Onshore	Awa-Salawas pipeline		93				
Onshore	Bahadurgarh-Tikrikalan pipeline		14				
Onshore	Rewari- Kanpur Pipeline		443				
Onshore	ATF pipeline from Mumbai Refinery to Mumbai Airport		20	1.1	0.4	38.7	
Onshore	Black Oil Pipeline (BOPL)		22	1.5	0.6	41.9	



Type of Pipeline	Name of the pipeline	Owner	Length (KM)	Capacity (MMTPA)	Throughput (MMT)	Percentage utilisation during
			01.04.2020	01.04.2020	2019-20(P)	2019-20(P)
Onshore	Lube Oil Pipeline : Trombay to Wadibundar (3)	HPCL	17	1.0	0.5	49.8
Onshore	Palanpur-Vadodara Pipeline (6)		235	4.5		
		Sub total HPCL	3250	31.7	21.0	66.3
Onshore	Mangalore-Hassan-Bengaluru (MHB) pipeline (1)	Petronet MHB	363	5.6	2.9	52.2
Onshore	Numaligarh-Siliguri pipeline	OIL	654	1.7	1.3	77.7
	Total Petroleum product pipelines (w/o LPG pipelines)		14727	101.7	78.2	76.9
LPG Pipelines						
Onshore	Panipat-Jalandhar pipeline	IOCL	280	0.7	0.6	85.6
Onshore	Paradip Haldia Durgapur pipeline (4)		679	1.3	1.0	77.8
		Sub total IOCL	959	2.0	1.6	80.5
Onshore/offshore	Mumbai-Uran pipeline	BPCL	28	0.8	0.4	45.5
Onshore	Jamnagar-Loni pipeline	GAIL	1414	2.5	2.7	108.5
Onshore	Vizag-Secunderabad pipeline		618	1.3	1.2	90.4
		Sub total GAIL	2032	3.8	3.9	102.2
Onshore	Mangalore-Hassan-Mysore-Solur LPG	HPCL	356	1.9	1.0	50.7
Onshore	Uran-Chakan-Shikrapur LPG Pipeline (7)		169	1.0	0.1	11.1
		Sub total HPCL	525	2.9	1.1	37.2
	Total LPG pipelines		3544	9.5	7.0	73.0
	Total POL pipelines		18271	111.3	85.2	76.6

Source: Oil Companies (P): Provisional

Note: **IOCL** (1) PAJPL - Branch line to Una commissioned on 7th June 2019. (Length 61.058 Km)

(2) BKPL - Branch line Patna-Motihari commissioned on 17th July 2019 and Motihari-Amlekhgunj commissioned on 19th July 2019 (length 268 Km). 36 Km of Pipeline lies in Nepal.

(3) KSPL - Capacity enhanced to 5 MMTPA wef 7th August 2019.

(4) PHDPL - Pipeline from Haldia Refinery to PHDPL Haldia commissioned on 14th September 2019 (Length 6.1 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 pipelines.

(2) Petronet CCK was merged with BPCL w.e.f 1st June 2018

HPCL

(1) Thruput of Mundra-Delhi pipeline is including thrupts of branchlines viz. Awa Salawas Pipeline, Rewari Kanpur pipeline, Palanpur-Vadodara Pipeline and reverse pumping (3.8 MMT) from Bahadurgarh to Rewari.

(2) Thruput of Ramanmandi Bahadurgarh pipeline is including thrupt of branchlines viz. Bahadurgarh-TikriKalan Pipeline & Rewari-Kanpur pipeline.

(3) Lube Oil pipeline and ATF pipeline from Mumbai Refinery to Mazgaon Terminal and Mumbai Airport are speciality product pipelines.

(4) Capacity of Ramanmandi-Bahadurgarh Pipeline augmented from 4.71 MMTPA to 7.11 MMTPA.

(5) Capacity of Visakh-Vijayawada-Secunderabad Pipeline augmented from 5.38 MMTPA to 7.70 MMTPA.

(6) Pipeline is Branchline of Mundra-Delhi Pipeline, commissioned in Nov 2019.

(7) Pipeline commissioned in Nov 2019.

(8) Capacity of Pipeline augmented from 5 MMTPA to 6.9 MMTPA in Jan 2020.

Petronet MHB

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



Chapter 6

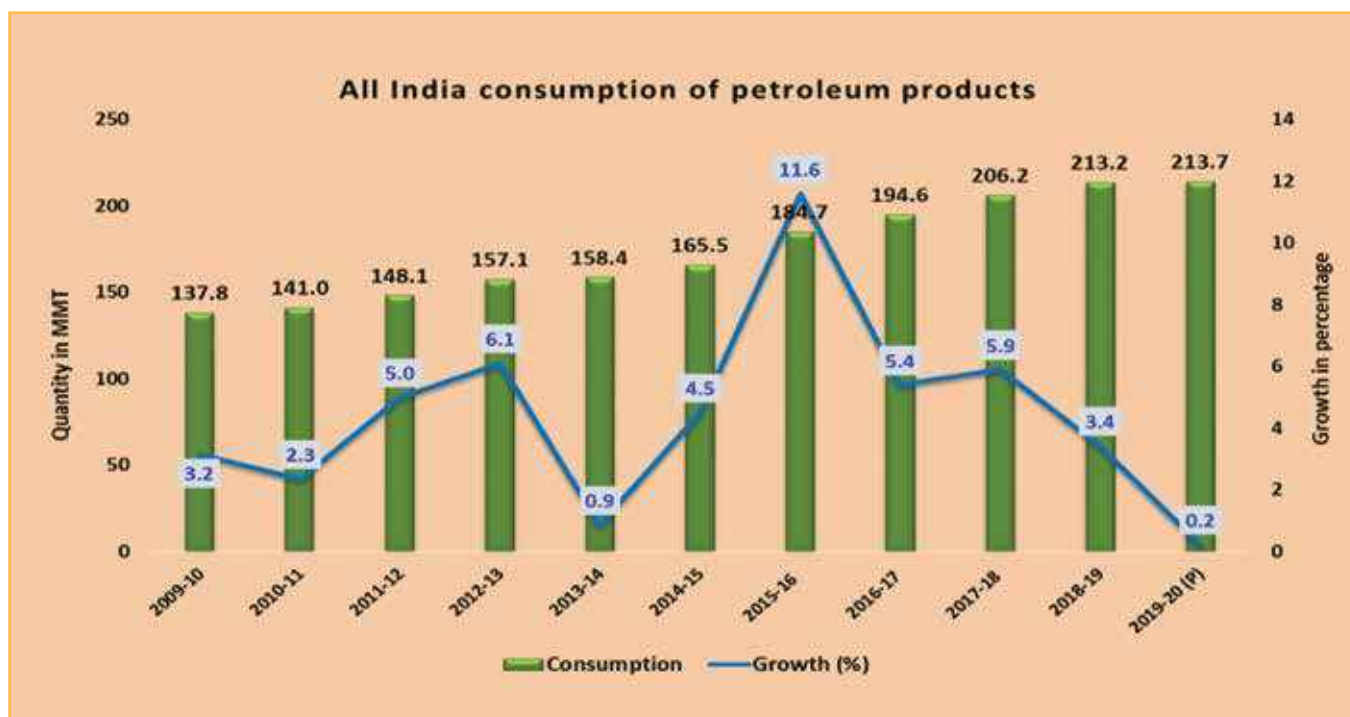
Sales

Table 6.1 : Consumption of petroleum products

(Million metric tonnes)											
Products	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20 (P)
LPG	13.1	14.3	15.3	15.6	16.3	18.0	19.6	21.6	23.3	24.9	26.4
MS	12.8	14.2	15.0	15.7	17.1	19.1	21.8	23.8	26.2	28.3	30.0
Naphtha	10.1	10.7	11.2	12.3	11.3	11.1	13.3	13.2	12.9	14.1	14.4
ATF	4.6	5.1	5.5	5.3	5.5	5.7	6.3	7.0	7.6	8.3	8.0
SKO	9.3	8.9	8.2	7.5	7.2	7.1	6.8	5.4	3.8	3.5	2.4
HSD	56.2	60.1	64.8	69.1	68.4	69.4	74.6	76.0	81.1	83.5	82.6
LDO	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.6
Lubes	2.5	2.4	2.6	3.2	3.3	3.3	3.6	3.5	3.9	3.7	3.6
FO/LSHS	11.6	10.8	9.3	7.7	6.2	6.0	6.6	7.2	6.7	6.6	6.1
Bitumen	4.9	4.5	4.6	4.7	5.0	5.1	5.9	5.9	6.1	6.7	6.4
Petcoke	6.6	5.0	6.1	10.1	11.8	14.6	19.3	24.0	25.7	21.3	21.7
Others*	5.4	4.6	4.9	5.5	6.0	5.9	6.4	6.6	8.3	11.7	11.5
All India	137.8	141.0	148.1	157.1	158.4	165.5	184.7	194.6	206.2	213.2	213.7
Growth (%)	3.2	2.3	5.0	6.1	0.9	4.5	11.6	5.4	5.9	3.4	0.2

Note: *Others include sulphur, propylene, propane, reformat, L.A.B.F.S, CBFS, butane, MTO etc.

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)



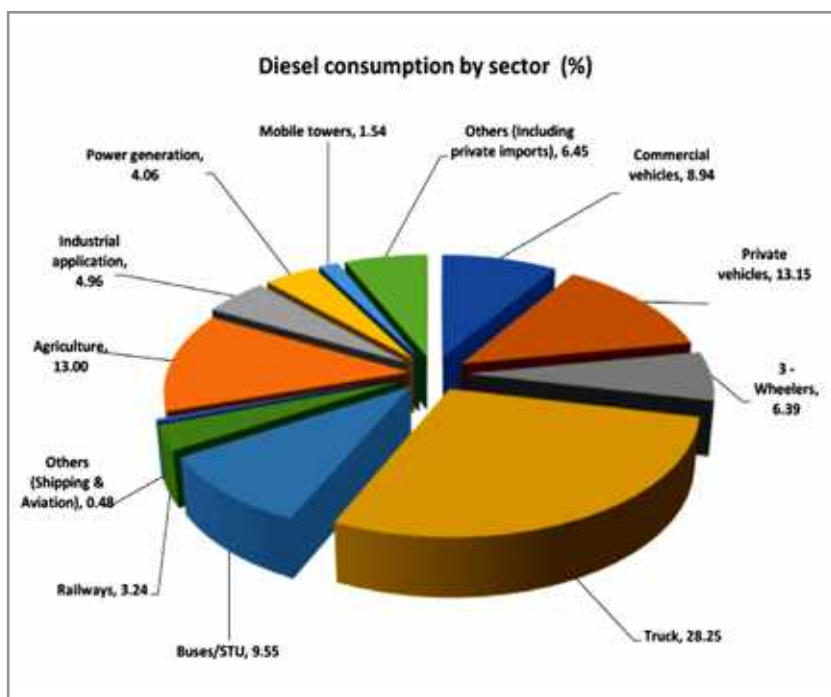
The consumption of petroleum products has gone up from 137.8 MMT in 2009-10 to 213.7 MMT in 2019-20. The compounded annual growth rate (CAGR) of total POL consumption in the last decade has been 4.5%. The CAGR of petcoke (12.6%) consumption has been highest among POL products in the last decade followed by MS (8.9%), LPG (7.2%), ATF (5.6%), HSD (3.9%), lubes (3.7%), naphtha (3.6%), LDO (3.2%) and bitumen (2.6%). CAGR of products grouped under “others” category has been 7.9%. FO/LSHS and SKO recorded contraction in consumption in the last decade with negative CAGR of -6.3% & -12.7% respectively. Yearly consumption went up by 0.2% and rose to 213.7 MMT in 2019-20 as compared to 213.2 MMT during 2018-19.

Table 6.2 : Consumption growth of petroleum products

(Growth in percentage)											
Products	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20 (P)
LPG	7.7	9.1	6.8	2.0	4.4	10.5	9.0	10.1	8.0	6.7	5.9
MS	13.9	10.7	5.6	5.0	8.8	11.4	14.5	8.8	10.1	8.1	6.0
Naphtha	-27.1	5.3	5.1	9.5	-8.0	-2.0	19.8	-0.2	-2.7	9.6	2.2
ATF	4.6	9.8	9.0	-4.8	4.4	4.0	9.4	11.8	9.1	8.7	-3.6
SKO	0.0	-4.0	-7.8	-8.8	-4.5	-1.1	-3.7	-20.9	-28.8	-10.0	-30.7
HSD	8.8	6.8	7.8	6.7	-1.0	1.5	7.5	1.8	6.6	3.0	-1.1
LDO	-17.2	-0.4	-8.9	-4.0	-3.1	-5.4	11.5	10.3	16.7	14.2	5.0
Lubes	26.9	-4.3	8.4	21.4	3.4	0.1	7.9	-2.8	11.9	-5.6	-0.8
FO/LSHS	-7.6	-7.2	-13.7	-17.7	-18.6	-4.4	11.3	7.8	-6.0	-2.3	-7.2
Bitumen	3.9	-8.0	2.2	0.8	7.1	1.3	17.1	0.0	2.5	10.2	-4.9
Petcoke	6.8	-24.4	23.2	65.1	16.0	23.8	32.6	24.2	7.1	-16.8	1.5
Others	13.7	-15.4	7.8	11.9	8.1	-1.4	8.2	3.8	26.5	40.6	-1.6
All India	3.2	2.3	5.0	6.1	0.9	4.5	11.6	5.4	5.9	3.4	0.2

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

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



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

Table 6.3 : State-wise sales of selected petroleum products : 2019-20 (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	56.4	53.5	126.8	120.2	0.1	0.1	197.7	187.4	435.9	413.3
Delhi	822.6	49.1	876.0	52.3	0.7	0.0	835.2	49.9	4621.3	275.8
Haryana	858.2	33.8	1029.4	40.6	2.5	0.1	4716.7	186.0	10222.8	403.2
Himachal Pradesh	180.1	26.3	238.0	34.7	11.9	1.7	667.6	97.4	1693.5	247.0
Jammu and Kashmir	210.3	17.2	300.1	24.5	118.4	9.7	674.7	55.0	1484.7	121.1
Ladakh	1.9	6.7	3.8	13.2	1.7	5.8	5.8	19.8	15.3	52.6
Punjab	980.7	35.4	960.2	34.7	4.5	0.2	3213.7	116.0	7113.8	256.8
Rajasthan	1389.9	20.3	1657.0	24.1	14.2	0.2	5271.8	76.8	10920.5	159.1
Uttar Pradesh	3531.7	17.7	3319.9	16.6	353.5	1.8	9484.7	47.5	18412.4	92.3
Uttarakhand	308.2	30.5	326.3	32.3	3.8	0.4	744.0	73.5	1655.8	163.7
SUB TOTAL NORTH	8339.9	22.6	8837.6	24.0	511.1	1.4	25812.0	70.0	56576.0	153.5
Andaman & Nicobar Islands	12.2	32.0	18.9	49.6	1.2	3.3	157.2	413.8	217.1	571.5
Bihar	1404.4	13.5	852.1	8.2	189.9	1.8	2366.7	22.8	5396.7	52.0
Jharkhand	378.0	11.5	526.5	16.0	83.5	2.5	1968.4	59.7	3414.6	103.6
Odisha	553.1	13.2	834.5	19.9	162.1	3.9	2661.7	63.5	6033.2	143.8
West Bengal	1794.9	19.6	996.1	10.9	541.7	5.9	3438.6	37.6	9304.2	101.9
SUB TOTAL EAST	4142.6	15.3	3227.9	11.9	978.5	3.6	10592.7	39.2	24365.9	90.1
Arunachal Pradesh	23.2	16.8	51.8	37.4	10.0	7.2	161.5	116.8	263.3	190.5
Assam	450.9	14.5	445.1	14.3	138.8	4.5	1023.3	32.8	2866.6	92.0
Manipur	40.8	15.0	68.2	25.1	10.3	3.8	118.4	43.5	254.7	93.6
Meghalaya	26.6	9.0	99.8	33.7	14.9	5.0	355.9	120.1	550.3	185.7
Mizoram	27.2	24.9	31.3	28.7	2.8	2.6	75.5	69.2	141.7	129.9
Nagaland	24.2	12.2	39.2	19.8	7.1	3.6	90.4	45.7	171.6	86.6
Sikkim	16.8	27.7	21.1	34.7	8.8	14.5	78.0	128.3	130.1	214.1
Tripura	52.9	14.4	57.7	15.7	20.4	5.5	86.8	23.6	231.8	63.1
SUB TOTAL NORTH EAST	662.5	14.5	814.2	17.9	213.1	4.7	1989.7	43.6	4610.2	101.1
Chhattisgarh	294.8	11.5	613.1	24.0	54.1	2.1	1648.2	64.5	3667.0	143.6
Dadra & Nagar Haveli	21.5	62.7	20.1	58.7	0.0	-	141.1	411.5	373.1	1088.1
Daman & Diu	9.8	40.3	18.8	77.4	0.1	0.6	92.9	382.6	197.3	812.2
Goa	71.2	48.8	186.1	127.6	0.5	0.3	305.5	209.6	789.9	541.9
Gujarat	1173.6	19.4	2066.8	34.2	97.6	1.6	5607.5	92.9	22534.8	373.2
Madhya Pradesh	1068.2	14.7	1463.7	20.2	185.9	2.6	3654.9	50.3	7865.4	108.3
Maharashtra	3123.6	27.8	3462.0	30.8	54.0	0.5	9529.4	84.8	20785.2	185.0
SUB TOTAL WEST	5762.7	21.1	7830.7	28.7	392.2	1.4	20979.6	76.9	56212.8	206.0
Andhra Pradesh	1190.0	24.1	1278.4	25.9	0.9	0.02	3831.8	77.6	7684.3	155.6
Karnataka	1769.6	28.9	2270.5	37.1	64.5	1.1	6601.4	108.0	13065.4	213.7
Kerala	1033.4	31.0	1558.8	46.7	58.1	1.7	2557.2	76.6	6533.2	195.7
Lakshadweep	0.6	9.4	0.0	-	0.5	7.5	15.3	236.8	16.5	256.3
Puducherry	44.9	36.1	133.8	107.5	0.0	-	290.3	233.3	516.7	415.2
Tamil Nadu	2178.1	30.2	2735.4	37.9	153.9	2.1	6191.2	85.8	14107.9	195.6
Telangana	1001.4	28.4	1288.3	36.5	23.9	0.7	3621.7	102.6	6952.4	197.0
SUB TOTAL SOUTH	7217.9	28.6	9265.2	36.7	301.8	1.2	23108.8	91.5	48876.4	193.5
All India	26125.7	21.6	29975.6	24.8	2396.8	2.0	82482.7	68.2	190641.2	157.5

* Total (all product) sales includes other petroleum products such as naphtha, FO, ATF, lubricants, bitumen, etc.

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-March 2020

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

3- SKO includes both PDS & non PDS sales

Table 6.4 : PDS SKO allocation

(Figures in thousand kilo litres)

State/UT	2015-16		2016-17		2017-18		2018-19		2019-20 (P)	
	Alloc ⁿ	Sales	Alloc ⁿ	Sales	Alloc ⁿ	Sales	Alloc ⁿ	Sales	Alloc ⁿ	Sales
Chandigarh	3.0	0.9	0.0	0.0	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	88.3	70.6	66.3	35.9	0.0	0.0	0.0	0.0	0.0	0.0
Himachal Pradesh	24.1	24.1	18.1	17.9	14.5	14.4	14.5	14.3	11.4	10.8
Jammu & Kashmir	81.2	80.1	73.1	67.9	58.5	57.6	58.5	53.9	45.0	38.4
Ladakh									3.5	3.4
Punjab	85.4	83.2	74.3	62.3	0.0	0.0	0.0	0.0	0.0	0.0
Rajasthan	495.2	481.5	371.4	355.8	260.0	110.5	138.0	69.3	40.0	16.2
Uttar Pradesh	1557.6	1556.7	1168.2	1167.6	911.2	901.3	887.9	873.5	517.9	449.5
Uttarakhand	35.2	35.0	31.7	31.2	25.3	13.3	25.3	10.0	8.0	0.5
SUB TOTAL NORTH	2370.0	2332.1	1803.1	1738.5	1269.5	1097.0	1124.2	1021.0	625.8	518.8
Andaman & Nicobar Islands	5.8	5.8	5.2	4.9	4.1	4.0	4.1	3.8	1.9	1.5
Bihar	796.7	794.7	710.7	705.3	495.4	490.3	332.6	329.6	263.0	243.9
Jharkhand	262.6	260.5	219.7	219.0	186.8	176.3	186.8	150.3	135.2	107.2
Odisha	389.7	385.1	292.3	283.0	248.4	244.3	248.4	247.7	210.6	208.3
West Bengal	943.3	942.1	788.9	788.3	704.0	653.6	704.0	699.3	704.0	692.7
SUB TOTAL EAST	2398.1	2388.1	2016.8	2000.4	1638.8	1568.5	1476.0	1430.7	1314.8	1253.5
Arunachal Pradesh	10.3	10.3	9.3	9.1	7.9	7.7	7.9	7.2	6.4	5.2
Assam	321.4	321.0	289.2	287.8	245.9	245.0	245.9	242.6	181.9	176.9
Manipur	23.4	23.3	21.1	15.2	17.9	18.2	17.9	17.7	13.3	12.7
Meghalaya	25.4	25.4	22.9	22.7	19.4	19.4	19.4	19.3	19.3	18.9
Mizoram	6.7	6.6	6.0	6.0	4.8	4.8	4.8	4.8	3.6	3.6
Nagaland	16.8	16.8	15.1	9.0	12.2	9.5	10.3	9.8	9.3	8.9
Sikkim	5.7	5.7	4.3	4.3	3.5	3.4	3.5	3.4	2.6	2.5
Tripura	38.4	38.4	34.6	34.5	29.4	29.4	29.4	29.3	26.4	26.2
SUB TOTAL NORTH EAST	448.0	447.5	402.4	388.7	340.9	337.4	339.0	334.0	262.7	254.9
Chhattisgarh	172.3	159.1	135.4	121.7	115.1	92.7	115.1	91.5	82.4	69.1
Dadra & Nagar Haveli	1.8	1.8	1.7	1.7	0.3	0.3	0.0	0.0	0.0	0.0
Daman & Diu	0.8	0.8	0.8	0.5	0.1	0.0	0.0	0.0	0.0	0.0
Goa	5.1	5.0	4.6	2.6	2.3	1.4	2.1	1.4	0.8	0.6
Gujarat	657.3	657.0	493.0	492.7	344.5	338.2	249.7	248.7	138.8	120.8
Madhya Pradesh	589.8	580.1	442.4	427.2	345.0	336.9	336.2	325.9	260.7	238.5
Maharashtra	626.3	614.0	563.6	518.0	384.7	377.8	286.7	241.9	106.5	52.9
SUB TOTAL WEST	2053.5	2018.0	1641.4	1564.3	1192.0	1147.2	989.8	909.5	589.3	482.1
Andhra Pradesh	266.7	232.0	225.7	191.5	56.4	26.6	0.0	0.0	0.0	0.0
Karnataka	509.8	484.2	287.5	260.3	156.0	126.5	156.0	112.5	84.3	66.4
Kerala	117.8	117.7	88.3	88.3	58.7	58.7	55.6	55.6	41.7	41.7
Lakshadweep	1.0	1.0	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.6
Puducherry	4.3	4.2	3.8	3.8	0.8	0.7	0.0	0.0	0.0	0.0
Tamil Nadu	341.7	341.7	307.6	307.6	204.5	204.9	193.8	193.8	145.3	145.3
Telangana	174.5	170.1	155.4	133.9	103.4	100.8	97.9	94.3	56.6	29.8
SUB TOTAL SOUTH	1415.7	1351.0	1069.3	986.4	580.6	519.0	504.1	456.9	328.7	283.8
All India	8685.4	8536.8	6933.0	6678.4	5021.8	4669.2	4433.0	4152.1	3121.3	2793.2

Allocⁿ= Allocation

Source: MoP&NG

• 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. PDS SKO allocation for Dadra & Nagar Haveli and Daman & Diu PDS SKO allocation has been reduced to "Zero" from Q2, 2017-18. PDS SKO allocation of Puducherry and Andhra Pradesh has been reduced to "Zero" wef 01.09.2017 and 01.10.2017 respectively. PDS SKO allocation for Andaman & Nicobar islands has been reduced to "Zero" effective from 01.09.2019.

• On an all India basis, the drop in allocation in the last five years (till 2019-20) has been 64.1% due to voluntary surrender of PDS SKO allocation by some of the states in addition to nil PDS SKO allocation to the above states. The allocation drop has been steepest in the Southern region (76.8%) followed by Northern region (73.6%), Western region (71.3%), Eastern region (45.2%) and North Eastern region (41.4%). Yearly allocation in 2019-20 also decreased by 29.6% as compared to the allocation in year 2018-19.

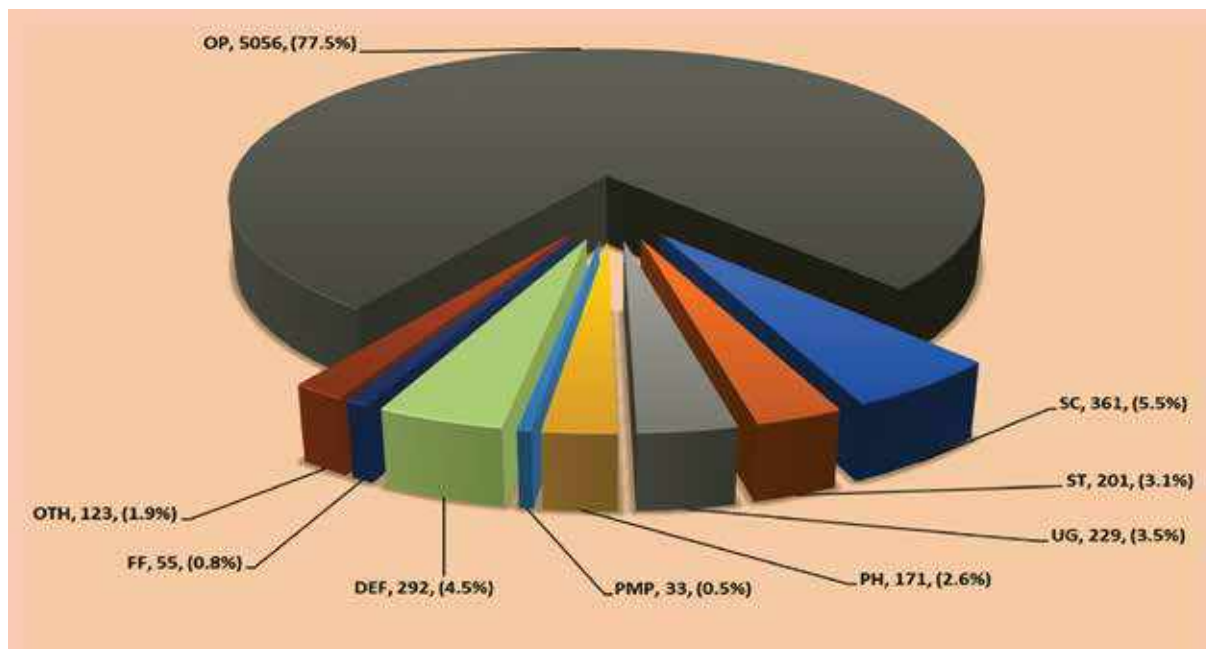
Table 6.5 : Oil industry retail outlets & SKO / LDO agencies

State/UT	Number of Retail Outlets (as on)					Number of SKO / LDO agencies (as on)				
	1.4.2016	1.4.2017	1.4.2018	1.4.2019	1.4.2020 (P)	1.4.2016	1.4.2017	1.4.2018	1.4.2019	1.4.2020 (P)
Chandigarh	41	41	41	42	42	12	12	12	12	12
Delhi	395	396	397	398	398	116	116	116	116	116
Haryana	2534	2726	2862	2933	3060	141	141	141	141	141
Himachal Pradesh	396	414	432	439	494	26	26	26	26	26
Jammu and Kashmir	482	491	500	504	530	45	45	45	45	45
Ladakh	3	3	3	3	3	2	2	2	2	2
Punjab	3316	3380	3427	3453	3551	239	237	237	237	237
Rajasthan	3736	4116	4476	4661	4967	250	250	250	250	250
Uttar Pradesh	6616	7069	7473	7762	8210	696	696	696	695	691
Uttarakhand	551	570	590	601	629	73	73	73	73	73
SUB TOTAL NORTH	18070	19206	20201	20796	21884	1600	1598	1598	1597	1593
Andaman & Nicobar Islands	10	12	14	14	16	2	2	2	2	2
Bihar	2511	2604	2695	2860	2968	372	372	372	371	371
Jharkhand	1151	1189	1207	1216	1358	87	87	87	87	87
Odisha	1560	1639	1681	1704	1894	177	177	177	177	177
West Bengal	2244	2299	2333	2363	2523	458	458	458	458	457
SUB TOTAL EAST	7476	7743	7930	8157	8759	1096	1096	1096	1095	1094
Arunachal Pradesh	71	74	85	94	116	33	33	33	33	33
Assam	788	828	871	897	980	359	359	359	359	359
Manipur	85	85	97	104	136	36	36	36	36	36
Meghalaya	190	198	203	208	225	35	35	35	35	35
Mizoram	36	37	41	43	45	19	19	19	19	19
Nagaland	69	70	73	79	94	19	19	19	19	19
Sikkim	47	50	51	51	55	12	12	12	12	12
Tripura	67	68	71	72	79	40	40	40	40	40
SUB TOTAL NORTH EAST	1353	1410	1492	1548	1730	553	553	553	553	553
Chhattisgarh	1108	1176	1249	1280	1462	108	108	108	108	108
Dadra & Nagar Haveli	31	31	31	31	37	2	2	2	2	2
Daman & Diu	31	32	32	31	24	5	5	5	5	5
Goa	114	115	116	118	118	22	22	22	22	22
Gujarat	3384	3765	4025	4159	4575	480	478	476	473	473
Madhya Pradesh	3269	3528	3711	3832	4230	284	284	284	284	284
Maharashtra	5419	5684	5970	6148	6458	767	767	767	767	766
SUB TOTAL WEST	13356	14331	15134	15599	16904	1668	1666	1664	1661	1660
Andhra Pradesh	3004	3197	3336	3430	3721	413	413	413	394	394
Karnataka	3836	4027	4215	4385	4811	324	323	318	315	315
Kerala	2009	2048	2100	2140	2238	237	237	237	237	237
Lakshadweep	0	0	0	0	0	0	0	0	0	0
Puducherry	156	160	165	165	164	8	8	8	8	8
Tamil Nadu	4702	5039	5387	5638	5804	466	466	466	466	465
Telangana	2228	2434	2625	2767	3078	183	183	183	202	202
SUB TOTAL SOUTH	15935	16905	17828	18525	19816	1631	1630	1625	1622	1621
All India	56190	59595	62585	64625	69093	6548	6543	6536	6528	6521

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

• On an all India basis the percentage growth in the number of retail outlets from 01.04.2016 to 01.04.2020 has been 23.0%. The region wise growth is highest for the North Eastern region (27.9%), followed by Western region (26.6%), Southern region (24.4%), Northern region (21.1%) and Eastern region (17.2%).

• 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 6521) on 01.04.2020

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 6.6 : Industry marketing infrastructure as on 01.04.2020 (P)

Particulars	IOCL	BPCL	HPCL	RIL	NEL ^{##}	Shell	Others	Total
POL terminal/depots (Nos.) [§]	118	78	84	18	3	-	6	307
Aviation fuel stations (Nos.) [@]	119	61	42	31	-	-	1	254
Retail Outlets (total) (Nos.) [^]	29,085	16,234	16,476	1,400	5,702	189	7	69,093
out of which Rural ROs (Nos.)	8,515	3,264	3,863	127	1,949	30	-	17,748
SKO/LDO agencies (Nos.)	3,882	1,001	1,638	-	-	-	-	6,521
LPG distributors (total) (Nos.) (PSUs only)	12,450	6,110	6,110	-	-	-	-	24,670
LPG bottling plants (Nos.) (PSUs only) [#]	92	51	50	-	-	-	3	196
LPG bottling capacity (TMTPA) (PSUs only) [§]	9,977	4,560	5,582	-	-	-	173	20,292
LPG active domestic consumers (Nos. crore) (PSUs only)	13.1	7.1	7.7	-	-	-	-	27.9

[§](RIL= 5 terminals and 13 depots, Others=4 MRPL & 2 NRL); [@](Others=ShellMRPL -1); [^](Others=MRPL-7); [#](Others=NRL-1, OIL-1, CPCL-1); [§](Others=NRL-30, OIL-23, CPCL-120); ^{##}Nayara Energy Limited (formerly Essar Oil Limited).

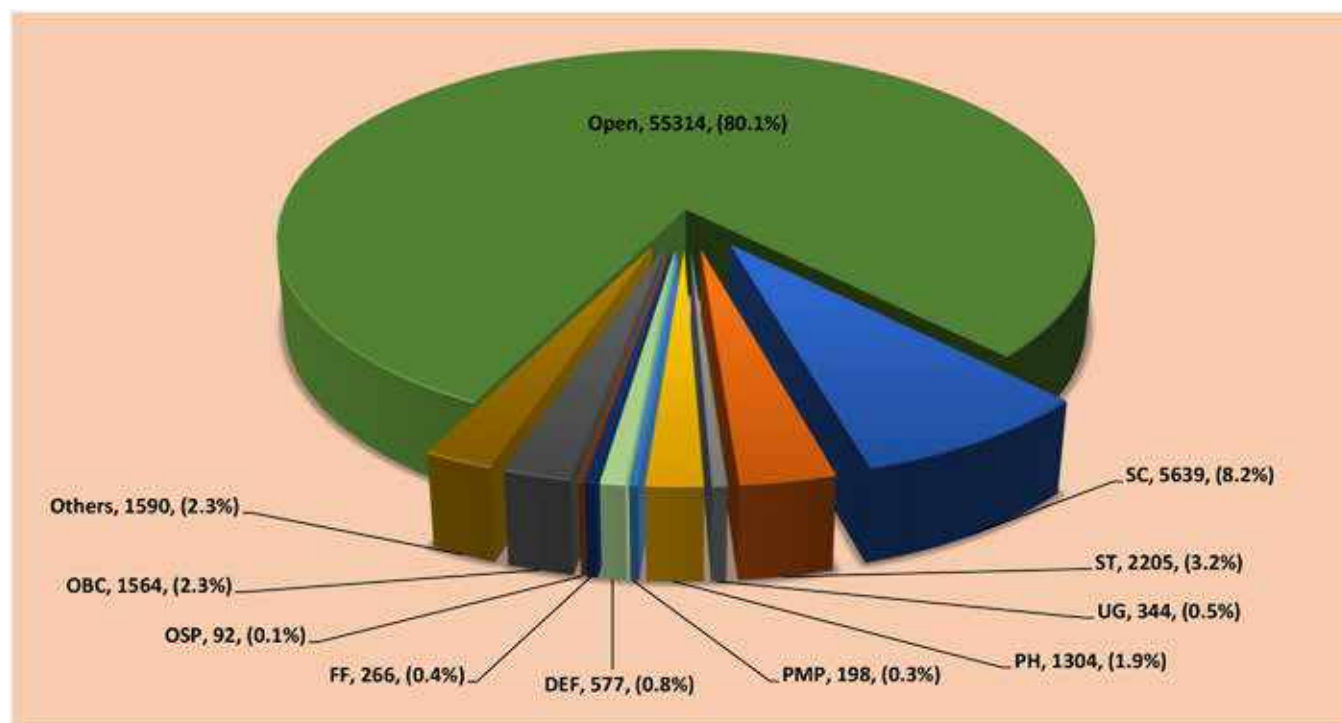
Source: Oil companies

All India number of retail outlets in PSU and private category



On 1.04.2020 the number of public sector oil company owned retail outlets was 61802 out of a total of 69093 outlets on all India basis, whereas the number of retail outlets owned by private oil companies was 7291. Participation by private sector in retail outlet business started in FY 2004 with 27 retail outlets. As on 01.04.2020 it accounted for 10.6% of the total market share.

Category wise retail outlets (Total 69093) as on 01.04.2020



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 6.7 : Break-up of consumption data (PSU and Private)

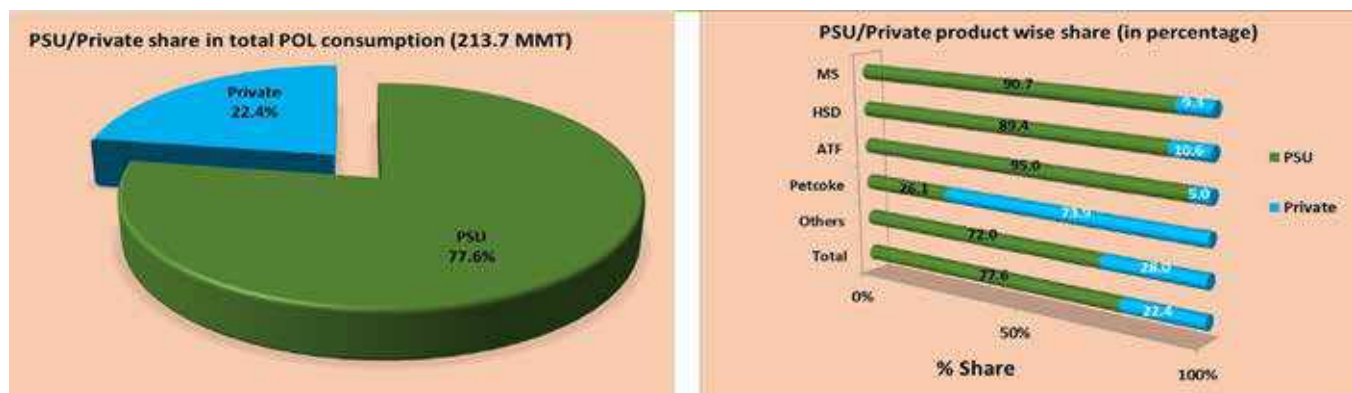
(Thousand metric tonne)

Product	2015-16			2016-17			2017-18			2018-19			2019-20 (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	24591	316	24907	26126	240	26366
MS	21079	768	21847	22518	1247	23765	24329	1846	26174	25959	2326	28284	27179	2797	29976
Naphtha	4790	8481	13271	4905	8335	13241	5207	7681	12889	5583	8548	14131	6534	7903	14436
ATF	5629	632	6261	6186	812	6998	6988	645	7633	7683	617	8300	7597	404	8000
SKO	6826	0	6826	5397	0	5397	3845	0	3845	3459	0	3459	2397	0	2397
HSD	72092	2555	74647	71450	4577	76027	74382	6692	81073	75775	7753	83528	73822	8757	82579
LDO	407	0	407	449	0	449	519	0	519	577	21	598	602	25	628
Lubes	1312	2259	3571	1339	2131	3470	1345	2539	3884	1313	2355	3668	1316	2323	3640
FO/LSHS	5665	968	6633	6009	1142	7150	5665	1056	6721	5596	968	6564	5153	942	6094
Bitumen	4819	1118	5937	4721	1214	5936	4883	1202	6086	5683	1024	6708	4995	1381	6377
PetCoke	3483	15815	19298	3952	20012	23964	5176	20480	25657	5770	15576	21346	5654	16005	21659
Others	2299	4053	6352	2799	3795	6593	3422	4922	8343	4189	7534	11723	4345	7189	11535
Total	147535	37139	184674	150904	43693	194597	158739	47427	206166	166178	47038	213216	165719	47967	213686

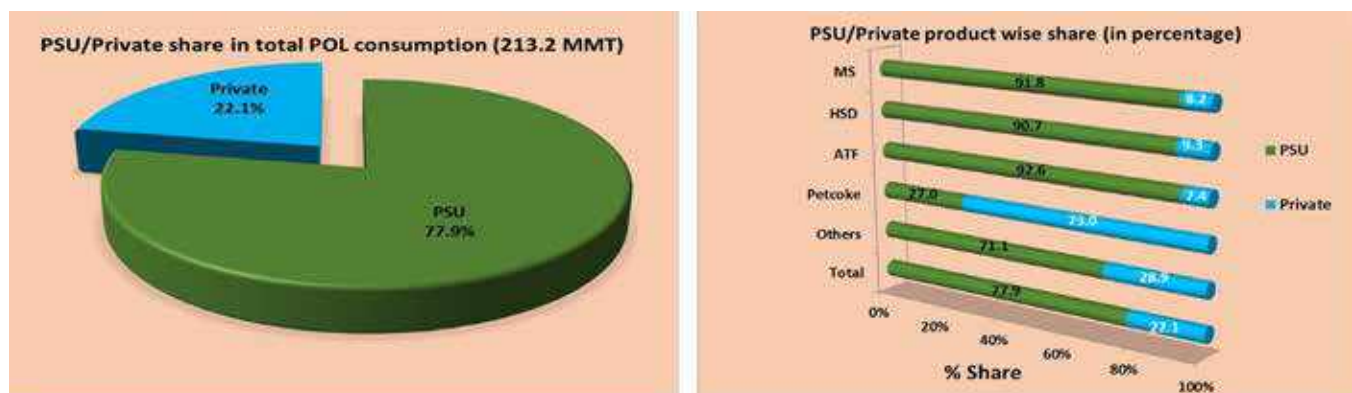
Source: Oil companies, Directorate General of Commercial Intelligence and Statistics (DGCIS) & SEZ data (included from FY 2017-18 onwards)
(Oil company sales+Private imports+SEZ sales to DTA=Consumption)

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

2019-20 (P)



2018-19



Note: In the above bar charts; others include all other products except MS, HSD, ATF & Petcoke.

- The share of the private sector in total consumption increased during 2019-20 by 0.4% as compared to 2018-19. This was mainly because the private sector recorded high growth for bitumen (34.8%), LDO (22.3%), MS (20.3%) and HSD (12.9%) during the current Financial year (FY)
- The share of the private sector during 2019-20 increased in consumption of MS (1.1%), HSD (1.3%) and Petcoke (0.9%) during FY 2019-20 as compared to FY 2018-19.
- During the current Financial year, share of private sector in total consumption of ATF recorded a drop of 5.75% as compared to 2018-19.
- In respect of all other products also (except MS, HSD, ATF & petcoke) including lubes, bitumen, LDO and naphtha, the private sector share has decreased by -1.0% during 2019-20.

Table 6.8 : Ethanol blending programme

Sl.no.	State	(1st December 2018 to 30th November 2019) Ethanol Supply Year*		(1st December 2019 to 31st May 2020)	
		Ethanol received by PSU OMCs under EBP program (Quantity Cr. Litres)	Average percentage blending sales (EBP%)**	Ethanol received by PSU OMCs under EBP program (Quantity Cr. Litres)	Average percentage blending sales (EBP%)**
1	Andhra Pradesh	10.2	6.1%	3.9	4.8%
2	Andman & Nikobar	0.0	0.0%	0.0	0.0%
3	Arunachal Pradesh	0.0	0.0%	0.0	0.0%
4	Assam	0.0	0.0%	0.0	0.0%
5	Bihar	6.8	6.6%	3.4	7.9%
6	Chandigarh	0.0	6.7%	0.0	4.8%
7	Chhattisgarh	3.3	3.8%	1.9	5.6%
8	Dadar & Nagar Haveli	0.0	7.5%	0.0	4.6%
9	Daman & Diu	0.0	6.8%	0.0	5.7%
10	Delhi	8.4	6.6%	2.1	4.0%
11	Goa	1.2	4.6%	0.6	5.6%
12	Gujarat	13.4	6.0%	5.0	4.9%
13	Haryana	12.4	8.5%	5.4	9.3%
14	Himachal Pradesh	0.1	4.8%	0.1	6.2%
15	Jammu & Kashmir	0.0	0.0%	0.0	0.0%
16	Jharkand	0.1	0.1%	0.5	1.6%
17	Karnataka	19.4	7.0%	11.2	8.7%
18	Lakshadweep	0.0	0.0%	0.0	0.0%
19	Kerala	0.0	0.2%	0.0	0.1%
20	Ladakh	0.0	0.0%	0.0	0.0%
21	Madhya Pradesh	9.3	5.1%	4.2	5.3%
22	Maharashtra	29.8	6.6%	13.1	6.5%
23	Manipur	0.0	0.0%	0.0	0.0%
24	Meghalaya	0.0	0.0%	0.0	0.0%
25	Mizoram	0.0	0.0%	0.0	0.0%
26	Nagaland	0.0	0.0%	0.0	0.0%
27	Odisha	0.0	0.1%	0.0	0.1%
28	Pondicherry	0.0	1.0%	0.0	0.4%
29	Punjab	10.4	7.7%	5.2	8.5%
30	Rajasthan	4.1	2.0%	0.5	0.6%
31	Sikkim	0.0	0.0%	0.0	0.0%
32	Tamil Nadu	7.5	2.1%	2.3	1.5%
33	Telangana	8.9	5.4%	3.1	4.1%
34	Tripura	0.0	0.0%	0.0	0.0%
35	Uttar Pradesh	38.7	8.9%	16.1	9.3%
36	Uttrakhand	2.5	8.3%	1.0	9.6%
37	West Bengal	2.3	1.8%	0.4	0.6%
Grand Total		188.6	5.0%	79.9	4.9%

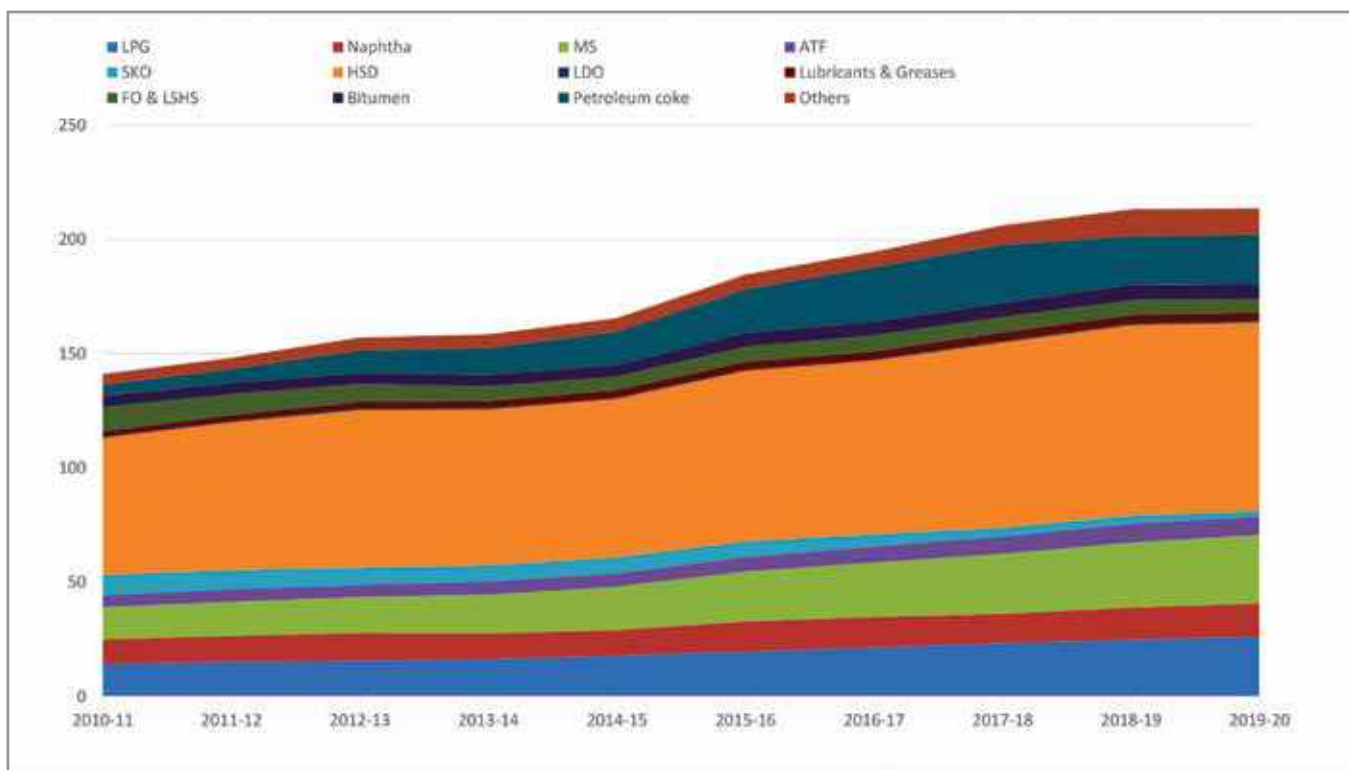
* Ethanol Supply Year : Ethanol supplies take place between 1st December of the present year to 30th November of the following year.

**EBP %age in all the States has been calculated based on the MS sale in the geographical limit of the respective State. In the States/UTs where receipt is zero but EBP %age has been calculated is due to the fact that sale of Ethanol blended MS which comes from nearby supply locations of other States contribute to the EBP %age in this State/UTs

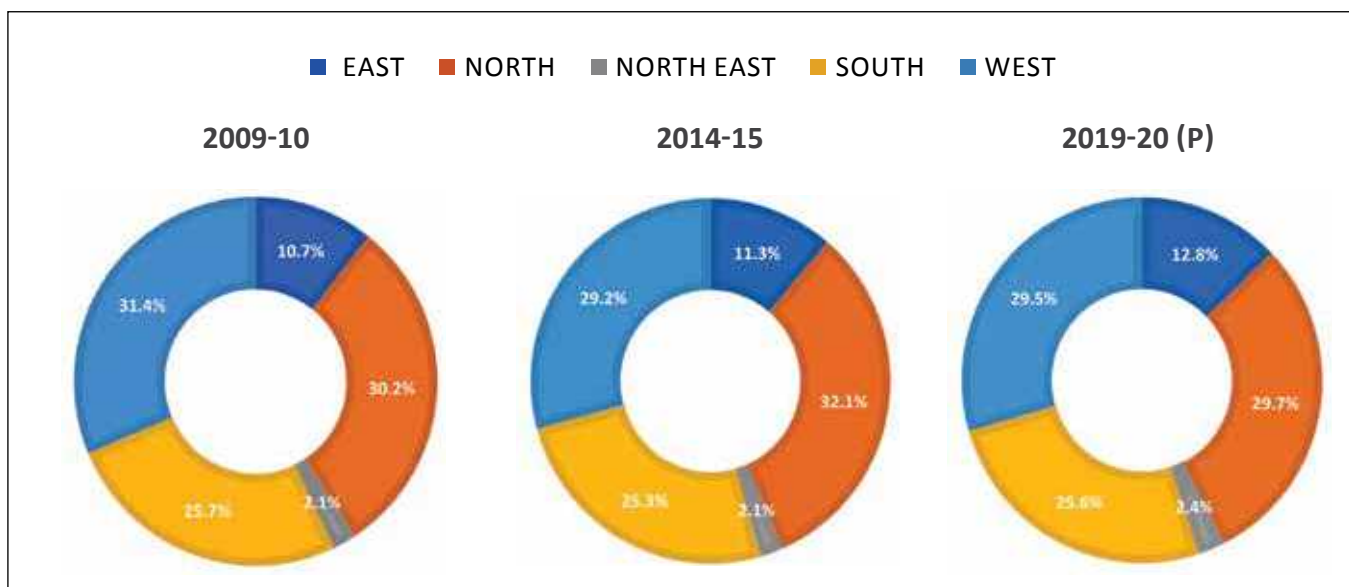
Note: With effect from 01.04.2019, EBP Programme has been extended to whole of India except UTs of Andaman & Nicobar Islands and Lakshadweep.

POL consumption by product

Million metric tonne



Distribution of total domestic POL sales in India





Feel the Joy of Giving



Chapter 7

LPG

Table 7.1 : LPG marketing at a glance

Particulars	2015-16	2016-17	2017-18	2018-19	2019-20 (P)
	(Thousand metric tonne)				
LPG production	10568	11253	12364	12786	12823
LPG consumption	19623	21608	23342	24907	26366
PSU sales	19134	21179	22977	24591	26126
of which:					
Domestic	17182	18871	20352	21728	23076
Non-Domestic	1464	1776	2086	2364	2614
Bulk	317	364	355	318	263
Auto LPG	171	167	184	180	172
Imports	8959	11097	11379	13235	14845
of which:					
PSU imports	8470	10668	11015	12919	14605
Private imports	489	429	364	316	240
	(Lakh)				
Enrolment (domestic)	204.5	331.7	284.7	455.1	161.1
As on	1.4.2016	1.4.2017	1.4.2018	1.4.2019	1.4.2020
LPG active domestic customers	1,663	1,988	2,243	2,654	2,787
PMUY beneficiaries	-	200	356	719	802
Non-domestic customers	23.3	25.3	27.9	30.2	32.4
	(Percent)				
LPG coverage (Estimated)	61.9	72.8	80.9	94.3	97.5
	(Nos.)				
LPG distributors	17916	18786	20146	23737	24670
of which:					
Shehri Vitrak	7492	7677	7821	7908	7914
Rurban Vitrak	2852	3152	3463	3626	3671
Gramin & Durgam Kshetriya Vitrak	7572	7957	8862	12203	13085
Auto LPG dispensing stations (ALDS)	676	675	672	661	657
	(Thousand metric tonne per annum)				
Bottling capacity (rated)	15172	16264	17395	18338	20292
	(Thousand metric tonne)				
Gross tankage	869	878	912	929	978

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 LPG bottling plants owned by PSU oil companies, all refineries, fractionators and LPG import terminals.
3. MOPNG vide letter no. P-20019/2/2016-LPG dated 23 June 2016 had issued unified guidelines for selection of LPG distributors. In the said guidelines, LPG distributor categories have been redefined. The historical data on LPG distributors has been rearranged in line with the new classification for comparison.

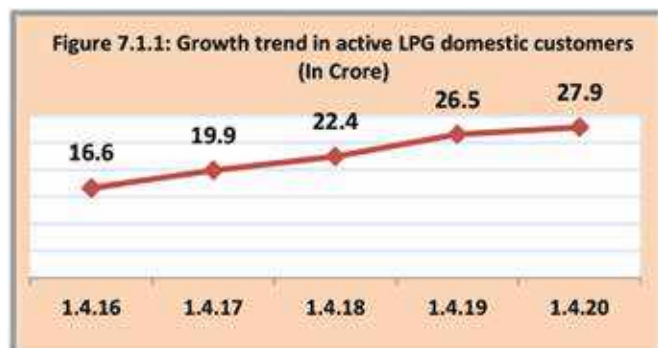


Table 7.2: LPG coverage (estimated) as on 01.04.2020 (P)

(Number in lakhs)				
State/UT	No. of households Census 2011	Estimated households as on 01.04.2020	Active connections as on 01.04.2020	LPG coverage (%)
Chandigarh	2.35	2.72	2.79	102.5%
Delhi	33.41	39.84	49.56	124.4%
Haryana	47.18	55.71	69.01	123.9%
Himachal Pradesh	14.77	16.50	19.67	119.2%
Jammu & Kashmir	20.15	24.47	32.27	131.9%
Punjab	54.10	60.93	85.50	140.3%
Rajasthan	125.81	150.15	162.51	108.2%
Uttar Pradesh	329.24	389.65	403.80	103.6%
Uttarakhand	19.97	23.38	26.51	113.4%
Sub Total North	646.98	763.35	851.60	111.6%
Arunachal Pradesh	2.62	3.23	2.66	82.2%
Assam	63.67	73.56	71.14	96.7%
Manipur	5.07	5.93	5.50	92.8%
Meghalaya	5.38	6.75	3.19	47.2%
Mizoram	2.21	2.68	3.00	111.9%
Nagaland	4.00	3.98	2.65	66.5%
Sikkim	1.28	1.43	1.46	102.1%
Tripura	8.43	9.56	7.38	77.2%
Sub Total North East	92.66	107.13	96.98	90.5%
Andaman & Nicobar Islands	0.93	0.99	1.12	113.0%
Bihar	189.41	233.11	175.87	75.4%
Jharkhand	61.82	74.39	56.15	75.5%
Odisha	96.61	108.90	85.88	78.9%
West Bengal	200.67	225.83	220.59	97.7%
Sub Total East	549.44	643.21	539.61	83.9%
Chhattisgarh	56.23	67.77	52.04	76.8%
Dadra & Nagar Haveli	0.73	1.10	0.92	83.7%
Daman & Diu	0.60	0.90	0.67	74.6%
Goa	3.23	3.47	5.02	144.7%
Gujarat	121.82	143.17	105.35	73.6%
Madhya Pradesh	149.68	177.27	149.63	84.4%
Maharashtra	238.31	272.94	276.29	101.2%
Sub Total West	570.59	666.63	589.92	88.5%
Andhra Pradesh	126.04	138.63	136.98	98.8%
Karnataka	131.80	150.48	160.17	106.4%
Kerala	77.16	80.60	87.95	109.1%
Lakshadweep	0.11	0.11	0.08	73.1%
Puducherry	3.01	3.78	3.70	97.8%
Tamil Nadu	184.93	211.13	211.15	100.0%
Telangana	84.21	92.62	108.96	117.6%
Sub Total South	607.26	677.36	708.98	104.7%
All India	2466.93	2857.67	2787.10	97.5%

Source: PSU OMCs (IOCL, BPCL and HPCL)

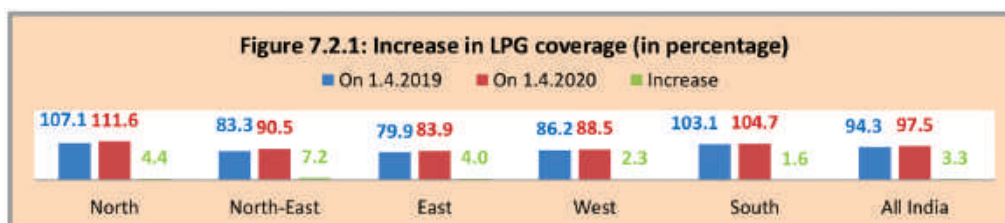


Table 7.3: BPL households covered under PMUY Scheme as on 1.4.2020 (P)

(Number in lakhs)	
State/UT	Number of BPL households
Chandigarh	0.00
Delhi	0.77
Haryana	7.31
Himachal Pradesh	1.36
Jammu & Kashmir	12.42
Punjab	12.24
Rajasthan	63.69
Uttar Pradesh	147.56
Uttarakhand	4.05
Sub Total North	249.40
Arunachal Pradesh	0.45
Assam	34.85
Manipur	1.57
Meghalaya	1.51
Mizoram	0.28
Nagaland	0.55
Sikkim	0.09
Tripura	2.72
Sub Total North East	42.01
Andaman & Nicobar Islands	0.12
Bihar	85.38
Jharkhand	32.62
Odisha	47.40
West Bengal	88.57
Sub Total East	254.09
Chhattisgarh	29.89
Dadra & Nagar Haveli	0.15
Daman & Diu	0.00
Goa	0.01
Gujarat	29.01
Madhya Pradesh	71.55
Maharashtra	44.29
Sub Total West	174.90
Andhra Pradesh	3.92
Karnataka	31.46
Kerala	2.56
Lakshadweep	0.00
Puducherry	0.14
Tamil Nadu	32.42
Telangana	10.72
Sub Total South	81.23
All India	801.62

Source: PSU OMCs (IOCL, BPCL and HPCL); **Note:** "BPL households covered" refer to those households where subscription vouchers have been issued.

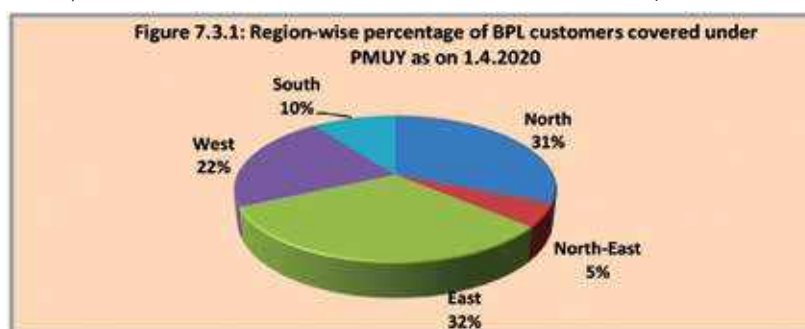


Table 7.4 : LPG domestic customers enrolment (14.2 kg/5 kg) by PSU OMCs

State/UT	2019-20 (P)		
	14.2 Kg	5 Kg	Total
Chandigarh	0.08	0.0003	0.08
Delhi	1.27	0.0009	1.27
Haryana	3.57	0.0546	3.62
Himachal Pradesh	2.44	0.0092	2.44
Jammu & Kashmir	2.41	0.0237	2.43
Punjab	2.41	0.0342	2.45
Rajasthan	8.78	0.6085	9.39
Uttar Pradesh	30.51	1.1824	31.69
Uttarakhand	1.36	0.0822	1.44
Sub Total North	52.82	1.9958	54.82
Arunachal Pradesh	0.21	0.0004	0.21
Assam	7.80	0.2494	8.05
Manipur	0.47	0.0018	0.47
Meghalaya	0.21	0.0115	0.22
Mizoram	0.12	0.0001	0.12
Nagaland	0.19	0.0013	0.19
Sikkim	0.12	0.0004	0.12
Tripura	0.44	0.0036	0.45
Sub Total North East	9.55	0.2684	9.82
Andaman & Nicobar Islands	0.15	0.0032	0.15
Bihar	13.75	0.2540	14.00
Jharkhand	4.93	0.0257	4.95
Odisha	6.67	0.2511	6.92
West Bengal	11.70	1.2227	12.92
Sub Total East	37.18	1.7567	38.94
Chhattisgarh	3.93	0.1126	4.04
Dadra & Nagar Haveli	0.03	0.0000	0.03
Daman & Diu	0.03	0.0000	0.03
Goa	0.15	0.0001	0.15
Gujarat	6.16	0.3066	6.46
Madhya Pradesh	9.47	1.1186	10.59
Maharashtra	12.60	0.1720	12.77
Sub Total West	32.36	1.7100	34.07
Andhra Pradesh	3.22	0.0160	3.23
Karnataka	7.39	0.3171	7.71
Kerala	2.60	0.0274	2.63
Lakshadweep	0.01	0.0000	0.01
Puducherry	0.09	0.0002	0.09
Tamil Nadu	5.04	0.2155	5.26
Telangana	4.50	0.0554	4.55
Sub Total South	22.84	0.6315	23.47
All India	154.76	6.3625	161.12

Source: PSU OMCs (IOCL, BPCL and HPCL)

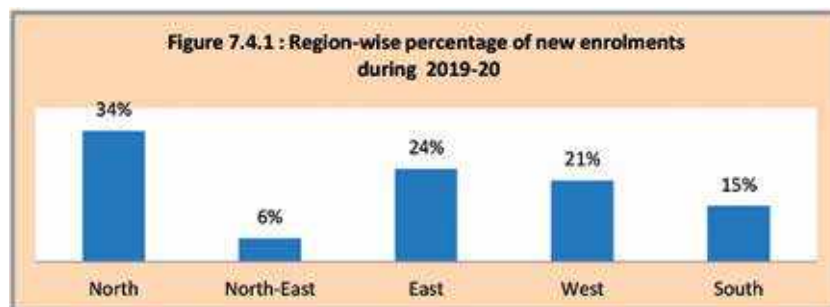
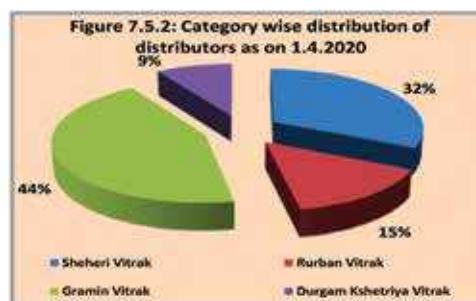


Table 7.5 : Number of LPG distributors as on 1.4.2020 (P) (New Scheme)

(Nos.)					
State/UT	Sheheri Vitrak	Rurban Vitrak	Gramin Vitrak	Durgam Kshetriya Vitrak	Total
Chandigarh	27	0	0	0	27
Delhi	322	0	0	0	322
Haryana	282	100	230	9	621
Himachal Pradesh	69	13	93	28	203
Jammu & Kashmir	131	42	75	39	287
Punjab	336	249	242	29	856
Rajasthan	437	161	620	154	1372
Uttar Pradesh	1006	705	2200	199	4110
Uttarakhand	113	107	60	33	313
Sub Total North	2723	1377	3520	491	8111
Arunachal Pradesh	5	6	30	42	83
Assam	127	104	282	46	559
Manipur	15	13	33	38	99
Meghalaya	22	9	18	13	62
Mizoram	11	6	22	20	59
Nagaland	15	11	16	39	81
Sikkim	9	1	11	3	24
Tripura	18	9	36	11	74
Sub Total North-East	222	159	448	212	1041
Andaman & Nicobar Islands	0	4	4	1	9
Bihar	240	252	1388	58	1938
Jharkhand	162	47	291	36	536
Odisha	173	95	539	131	938
West Bengal	398	159	830	58	1445
Sub Total East	973	557	3052	284	4866
Chhattisgarh	105	75	149	205	534
Dadra & Nagar Haveli	2	1	0	0	3
Daman & Diu	3	0	0	0	3
Goa	44	4	5	2	55
Gujarat	419	118	400	31	968
Madhya Pradesh	472	210	399	426	1507
Maharashtra	1007	189	795	193	2184
Sub Total West	2052	597	1748	857	5254
Andhra Pradesh	319	243	388	107	1057
Karnataka	533	139	488	78	1238
Kerala	226	130	300	19	675
Lakshadweep	1	0	0	0	1
Puducherry	15	9	3	0	27
Tamil Nadu	570	359	579	115	1623
Telangana	280	101	327	69	777
Sub Total South	1944	981	2085	388	5398
All India	7914	3671	10853	2232	24670

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 & Taxes

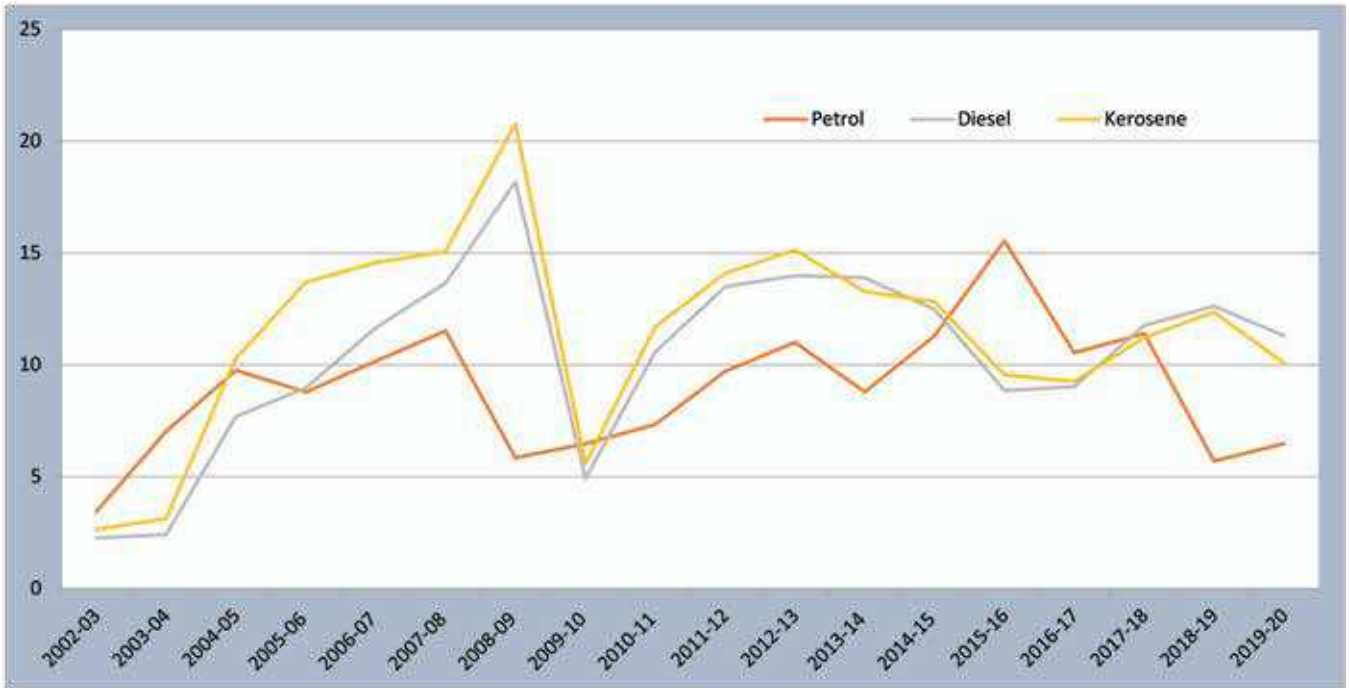
Table 8.1 : FOB Price of Indian basket of crude oil

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	69.88
2019-20	60.47
2020-21 (upto31.05.2020)	24.82
2020 : Month wise	
January	64.31
February	54.63
March	33.36
April	19.90
May	30.60

Source: Platts

Notes: The Indian basket of crude oil for the year 2019-20 & subsequent period is calculated based on a weightage of 75.50% for the price of sour grades of crude oil (average of Oman & Dubai) and 24.50% sweet grade of crude oil (Brent Dated). The percentages of 75.50 and 24.50 was based on the ratio of low sulphur and high sulphur crude oil processed (indigenous and imported) by all the Indian refineries (PSU and Pvt.) during the previous financial year i.e. 2018-19.

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



Trend in spreads of international benchmark crude oils

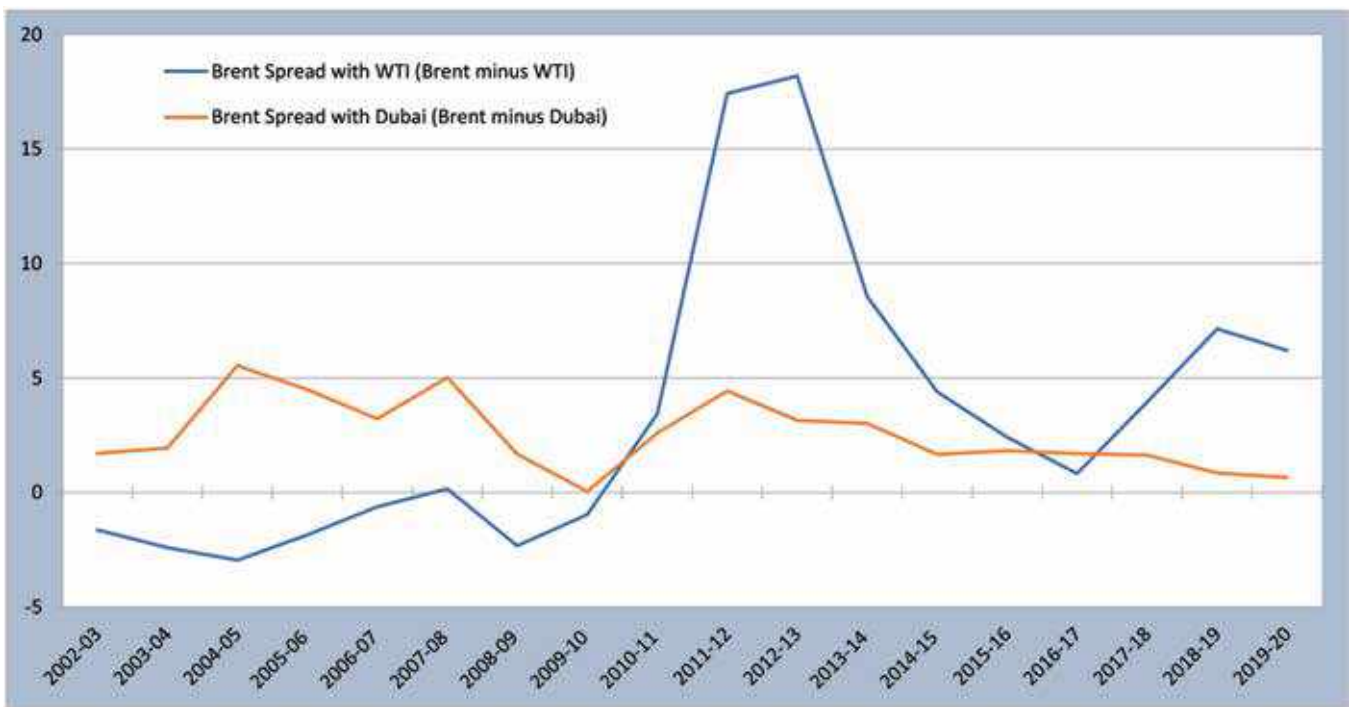


Table 8.2 : Price build-up of PDS kerosene at Mumbai

Elements	Unit	Effective 1.6.2020
Price before taxes and dealers' commission	₹/litre	12.15
Add : Dealers' commission	₹/litre	2.59
Add : GST (incl GST on dealers' commission)	₹/litre	0.73
Retail selling price	₹/litre	15.47

Table 8.3 : Price build-up of domestic LPG at Delhi

Elements	Unit	Effective 1.6.2020
Price before taxes and distributors' commission	₹/14.2 kg cylinder	502.91
Add : Distributors' commission	₹/14.2 kg cylinder	61.84
Add : GST (including GST on Distributors' Commission)	₹/14.2 kg cylinder	28.25
Retail selling price	₹/14.2 kg cylinder	593.00

Table 8.4 : Price build-up of petrol at Delhi

Elements	Unit	Effective 1.6.2020
Price charged to dealers (excluding excise duty and VAT)	₹/litre	18.28
Add : Excise duty	₹/litre	32.98
Add : Dealers' commission (average)	₹/litre	3.56
Add : VAT (including VAT on dealers' commission)	₹/litre	16.44
Retail selling price	₹/litre	71.26

-As per IOCL.

Table 8.5 : Price build-up of diesel at Delhi

Elements	Unit	Effective 1.6.2020
Price charged to dealers (excluding excise duty and VAT)	₹/litre	18.78
Add : Excise duty	₹/litre	31.83
Add : Dealers' commission (average)	₹/litre	2.52
Add : VAT (including VAT on dealer's commission)	₹/litre	16.26
Retail selling price	₹/litre	69.39

-As per IOCL.

Table 8.6 : Break up of Central excise duty on petrol & diesel as on 01.06.2020

₹/litre		
Particulars	Petrol	Diesel
Basic duty	2.98	4.83
Additional excise duty (Road & Infrastructure Cess)	18.00	18.00
Special additional excise duty	12.00	9.00
Total excise duty	32.98	31.83

Share of taxes in retail selling price of petroleum products
Table 8.7 : Share of taxes in retail selling price of PDS kerosene effective 1.6.2020 at Mumbai

Particulars	₹/litre	Share in RSP (%)
Price before taxes and dealers' commission	12.15	78.5%
Customs duty	-	
GST (Including GST on dealers' commission)	0.73	
Total taxes	0.73	4.8%
Dealers' commission	2.59	16.7%
Retail selling price	15.47	100.0%

Table 8.8 : Share of taxes in retail selling price of domestic LPG effective 1.6.2020 at Delhi

Particulars	₹/14.2 kg cylinder	Share in RSP (%)
Price before taxes and distributors' commission	502.91	84.8%
Customs duty	-	
GST (including GST on distributors' commission)	28.25	
Total taxes	28.25	4.8%
Distributors' commission	61.84	10.4%
Retail selling price	593.00	100.0%

Table 8.9 : 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
Total	10.37

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

Dealers' / Distributors' commission on petroleum products
Table 8.10 : Dealers' commission on petrol & diesel

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
01-Aug-17	₹ 2674.74/KL + 0.859% of product billable price	₹ 2031.38/KL + 0.257% of product billable price
19-Feb-19	₹ 2637.80/KL + 0.859% of product billable price	₹ 2000.60/KL + 0.257% of product billable price

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

Table 8.11 : Wholesale dealers' commission on PDS kerosene

Effective date	With form XV	Other than form XV
As on 01-Apr-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
22-Feb-19	1341.88	1230.98

Table 8.12: Distributors' commission on domestic LPG

Effective date	(₹/cylinder)		
	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
07-Nov-18	50.58	0.63	25.29
01-Dec-18	50.58	0.45	25.29
01-Jan-19	50.58	0.28	25.29
01-Feb-19	50.58	0.24	25.29
01-Mar-19	50.58	0.30	25.29
01-Apr-19	50.58	0.31	25.29
01-Jun-19	50.58	0.35	25.29
01-Jul-19	50.58	0.21	25.29
01-Aug-19	56.20	-	28.10
01-Sep-19	59.02	-	29.51
01-Oct-19	61.84	-	30.92

Source: MoP&NG circulars & OMCs

Table 8.13 : Retail selling price of major petroleum products in India & neighbouring countries

Country	Indian rupees (₹)/ litre/ 14.2 kg cyl.			
	Petrol	Diesel	Kerosene	Domestic LPG
India (Delhi)	71.26 [^]	69.39 [^]	15.47 [#]	593.00 ^{**}
Pakistan	33.17	36.91	16.38	719.57
Bangladesh	77.58	58.64	58.64	717.33
Sri Lanka	55.79	42.35	28.50	690.65
Nepal (Kathmandu)	60.38	53.46	53.46	864.83

[^] As per IOCL as on 1.6.2020, [#] at Mumbai effective 1.6.2020 for PDS Kerosene, ^{**}Effective cost after DBTL subsidy for Non-PMUY consumers effective 1.6.2020
Note: Prices for neighboring countries as on 1.6.2020.

Sources:

Websites: Pakistan- Pakistan State Oil (www.psopk.com) and Oil and Gas Regulatory Authority (www.ogra.org.pk); Bangladesh- Bangladesh Petroleum Corporation (www.bpc.gov.bd); Nepal- Nepal Oil Corporation (www.nepaloil.com.np); Sri Lanka- Petrol; Diesel & Kerosene- Ceylon Petroleum Corporation (www.ceypetco.gov.in); LPG- Litro Gas Lanka (www.litrogas.com); Exchange rate - www.oanda.com

Retail selling price & percentage of taxes in retail selling price of petrol and diesel in developed countries vis-a-vis India

Table 8.14 : Price and tax in Indian rupees (₹) / litre

Country	Petrol				Diesel			
	Retail selling price	Ex-tax price	Taxes	% of taxes	Retail selling price	Ex-tax price	Taxes	% of taxes
India	71.26	21.51	49.75	70%	69.39	20.94	48.45	70%
France	105.02	30.25	74.77	71%	100.79	33.49	67.31	67%
Germany	99.63	29.51	70.13	70%	89.69	36.39	53.30	59%
Italy	117.29	35.81	81.48	69%	108.50	37.80	70.71	65%
Spain	92.01	36.80	55.20	60%	84.71	38.63	46.09	54%
UK	103.28	31.15	72.14	70%	109.81	36.64	73.18	67%
Japan	92.93	46.04	46.89	50%	79.70	50.78	28.92	36%
Canada	43.39	21.48	21.91	50%	52.34	32.22	20.12	38%
USA	37.05	27.37	9.68	26%	50.24	38.96	11.28	22%

Table 8.15 : Price and tax in US dollars (\$) / litre

Country	Petrol				Diesel			
	Retail selling price	Ex-tax price	taxes	% of taxes	Retail selling price	Ex-tax price	Taxes	% of taxes
India	0.94	0.28	0.66	70%	0.92	0.28	0.64	70%
France	1.38	0.40	0.98	71%	1.32	0.44	0.88	67%
Germany	1.31	0.39	0.92	70%	1.18	0.48	0.70	59%
Italy	1.54	0.47	1.07	69%	1.42	0.50	0.93	65%
Spain	1.21	0.48	0.72	60%	1.11	0.51	0.60	54%
UK	1.35	0.41	0.95	70%	1.44	0.48	0.96	67%
Japan	1.22	0.60	0.61	50%	1.05	0.67	0.38	36%
Canada	0.57	0.28	0.29	50%	0.69	0.42	0.26	38%
USA	0.49	0.36	0.13	26%	0.66	0.51	0.15	22%

Note:

- Prices of France, Germany, Italy, Spain, UK, Japan, Canada & USA: IEA report for April 2020 and average exchange rate of April 2020 considered for conversion: Rs. 76.24/USD. (VAT excluded from prices for automotive diesel for France, Italy, Spain and UK as it is refunded to industry.)
- Prices in India as of 1.6.2020 as per IOCL. Average exchange rate of May 2020 (up to 31.05.2020) considered for conversion Rs. 75.66/\$.

Table 8.16 : Retail selling price of petroleum products at State capitals / UTs as on 1.6.2020

State/Union Territory	City	Petrol	Diesel	Domestic LPG (₹/14.2 KG Cylinder)
		(₹/litre)		Non subsidized
Andaman & Nicobar Islands	Port Blair	60.36	58.71	666.00
Andhra Pradesh	Vizag	73.55	67.49	598.50
Arunachal Pradesh	Itanagar	66.12	60.08	653.00
Assam	Guwahati	77.46	70.50	636.00
Bihar	Patna	76.27	68.83	685.00
Chandigarh	Chandigarh	68.62	62.03	606.50
Chhattisgarh	Raipur	70.40	67.56	658.50
Dadra & Nagar Haveli	Silvasa	68.05	63.32	606.00
Daman & Diu	Daman	67.96	63.24	600.50
Delhi	New Delhi	71.26	69.39	593.00
Goa	Panjim	68.56	65.11	604.00
Gujarat	Gandhinagar	67.33	65.35	615.00
Haryana	Ambala	70.85	62.81	609.00
Himachal Pradesh	Shimla	71.93	63.49	634.50
Jammu & Kashmir	Srinagar	75.17	65.73	698.50
Jharkhand	Ranchi	71.24	66.07	646.00
Karnataka	Bengaluru	73.55	65.96	596.50
Kerala	Thiruvananthapuram	72.99	67.19	600.00
Madhya Pradesh	Bhopal	77.58	68.29	600.50
Maharashtra	Mumbai	78.32	68.21	590.50
Manipur	Imphal	74.17	64.93	734.00
Meghalaya	Shillong	74.61	67.45	654.50
Mizoram	Aizawl	69.19	61.79	733.50
Nagaland	Kohima	77.64	68.88	610.50
Odisha	Bhubaneswar	71.72	67.73	619.00
Puducherry	Puducherry	72.71	67.17	602.00
Punjab	Jullunder	71.71	63.40	619.50
Rajasthan	Jaipur	77.82	70.35	594.50
Sikkim	Gangtok	72.85	64.80	743.50
Tamil Nadu	Chennai	75.54	68.22	606.50
Telangana	Hyderabad	73.97	67.82	641.00
Tripura	Agartala	71.41	64.94	742.00
Uttar Pradesh	Lucknow	73.94	63.88	627.00
Uttarakhand	Dehradun	74.57	64.18	610.00
West Bengal	Kolkata	73.30	65.62	616.00

Source: IOCL **Highest** **Lowest**

Table 8.17 : Retail selling price of PDS kerosene at major cities as on 1.6.2020

State	City	(₹/litre)
Maharashtra	Mumbai	15.47
Tamil Nadu	Chennai	13.60
West Bengal	Kolkata	17.29

Source: OMCs

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

Table 8.18 : Customs, excise duty and GST rates on petroleum products as on 1.6.2020

Customs duty and Excise duty (Petroleum products on which GST is not levied)

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	Rs.1/MT + Rs. 50/MT as NCCD	Rs.1/MT	-	Rs.1/MT+ Cess @ 20% +Rs.50/MT as NCCD	-	-
Petrol	2.50%	Rs.2.98/ltr. + Rs.12.00/ ltr SAD	Rs.18.00/ltr.	Rs.2.98/ltr	Rs.12.00/ltr	Rs.18.00/ltr.
Petrol (branded)	2.50%	Rs.4.16/ltr. + Rs.12.00/ ltr SAD	Rs.18.00/ltr.	Rs.4.16/ltr	Rs.12.00/ltr	Rs.18.00/ltr.
High speed diesel	2.50%	Rs.4.83/ltr+ Rs.9.00/ ltr	Rs.18.00/ltr.	Rs.4.83/ltr	Rs.9.00/ltr	Rs.18.00/ltr.
High speed diesel (branded)	2.50%	Rs.7.19/ltr+ Rs.9.00/ ltr	Rs.18.00/ltr.	Rs.7.19/Ltr	Rs.9.00/ltr	Rs.18.00/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%	-	14.00%	-	-

Customs duty and GST rates (Petroleum products on which GST is levied)

Particulars	Customs		
	Basic Customs 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	4.00%	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%
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 8.19 : Actual rate of Sales Tax/ VAT/GST and other taxes levied by State/UT Governments on major petroleum products as on 1.6.2020

Sl.no.	State/Union Territory	Petrol	Diesel	PDS kerosene	Domestic LPG
		Sales Tax /VAT		GST	
1	Andaman & Nicobar Islands	6%	6%		
2	Andhra Pradesh	31% VAT + Rs.2.76/litre VAT	22.25% VAT + Rs.3.07/litre VAT		
3	Arunachal Pradesh	20.00%	12.50%		
4	Assam	32.66% or Rs.22.63 per litre whichever is higher as VAT	23.66% or Rs.17.45 per litre whichever is higher as VAT		
5	Bihar	26% or Rs 16.65/Litre whichever is higher (30% Surcharge on VAT as irrecoverable tax)	19% or Rs 12.33/Litre whichever is higher (30% Surcharge on VAT as irrecoverable tax)		
6	Chandigarh	Rs.10/KL cess +22.45% or Rs.12.58/Litre whichever is higher	Rs.10/KL cess + 14.02% or Rs.7.63/Litre whichever is higher		
7	Chhattisgarh	25% VAT + Rs.2/litre VAT	25% VAT + Rs.1/litre VAT		
8	Dadra & Nagar Haveli and Daman & Diu	20% VAT	15% VAT		
9	Delhi	30% VAT	Rs.250/KL air ambience charges + 30% VAT		
10	Goa	25% VAT + 0.5% Green cess	22% VAT + 0.5% Green cess		
11	Gujarat	17% VAT+ 4% Cess on Town Rate & VAT	17% VAT + 4 % Cess on Town Rate & VAT		
12	Haryana	25% or Rs.15.20/litre whichever is higher as VAT+5% additional tax on VAT	16.40% VAT or Rs.9.20/litre whichever is higher as VAT+5% additional tax on VAT		
13	Himachal Pradesh	25% or Rs 15.50/Litre- whichever is higher	14% or Rs 9.00/Litre- whichever is higher		
14	Jammu & Kashmir	24% MST+ Rs.5/Litre employment cess, Reduction of Rs.0.50/Litre	16% MST+ Rs.1.50/Litre employment cess		
15	Jharkhand	22% on the sale price or Rs. 15.00 per litre , which ever is higher + Cess of Rs 1.00 per Ltr	22% on the sale price or Rs. 8.37 per litre , which ever is higher + Cess of Rs 1.00 per Ltr		
16	Karnataka	35% sales tax	24% sales tax		
17	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		
18	Ladakh	24% MST+ Rs.5/Litre employment cess, Reduction of Rs.2.5/Litre	16% MST+ Rs.1/Litre employment cess , Reduction of Rs.0.50/Litre		
19	Lakshadweep	Nil	Nil	5%	5%
20	Madhya Pradesh	33 % VAT + Rs.3.5/litre VAT+1%Cess	23% VAT+ Rs.2/litre VAT+1% Cess		
21	Maharashtra – Mumbai, Thane & Navi Mumbai	26% VAT+ Rs.10.12/Litre additional tax	24% VAT+ Rs.3.00/Litre additional tax		
22	Maharashtra (Rest of State)	25% VAT+ Rs.10.12/Litre additional tax	21% VAT+ Rs.3.00/Litre additional tax		
23	Manipur	36.50% VAT	22.50% VAT		
24	Meghalaya	31% or Rs17.60/Litre- whichever is higher (2% surcharge leviable only on advalorem tax)	22.5% or Rs12.50/Litre- whichever is higher (2% surcharge leviable only on advalorem tax)		
25	Mizoram	25% VAT	14.5% VAT		
26	Nagaland	25.00% VAT +5% surcharge + Rs.2.00/Litre as road maintenance cess +Rs.6.00/Litre as Covid cess	14.50% VAT+ 5% surcharge + Rs.2.00/Litre as road maintenance cess+Rs.5.00/Litre as Covid cess		
27	Odisha	32% VAT	28% VAT		
28	Puducherry	28% VAT	21.80% VAT		
29	Punjab	Rs.2050/KL (cess)+ Rs.0.10 per Litre (Urban Transport Fund) +23.30% VAT+10% additional tax on VAT	Rs.1050/KL (cess) + Rs.0.10 per Litre (Urban Transport Fund) + 15.15% VAT+10% additional tax on VAT		
30	Rajasthan	38% VAT+Rs 1500/KL road development cess	28% VAT+ Rs.1750/KL road development cess		
31	Sikkim	25.25% VAT+ Rs.3000/KL cess	14.75% VAT + Rs.2500/KL cess		
32	Tamil Nadu	15% + Rs.13.02 per litre	11% + Rs.9.62 per litre		
33	Telangana	35.20% VAT	27% VAT		
34	Tripura	25% VAT+ 3% Tripura Road Development Cess	16.50% VAT+ 3% Tripura Road Development Cess		
35	Uttar Pradesh	26.80% or Rs 18.74/Litre whichever is higher	17.48% or Rs 10.41/Litre whichever is higher		
36	Uttarakhand	25% or Rs.19/litre whichever is higher as VAT	17.48% or Rs.10.41/litre whichever is higher as VAT		
37	West Bengal	25% or Rs.13.12/litre whichever is higher as sales tax+ Rs.1000/KL cess- Rs.17/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 290/KL sales tax rebate (20% Additional tax on VAT as irrecoverable tax)		

Note:

- As per 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, Rajasthan, Chandigarh, Puducherry, Andaman & Nikobar, Meghalaya, Dadar Nagar Haveli and Daman & Diu.

Table 8.20 : Contribution of petroleum sector to exchequer

(₹ Crore)					
Particulars		2016-17	2017-18	2018-19	2019-20 (P)
1. Contribution to Central exchequer					
A.	Tax/ duties on crude oil & petroleum products				
	Cess on crude oil	13082	14514	17741	14789
	Royalty on crude oil / natural gas	4649	4747	6062	5602
	Customs duty	8799	11171	16035	22927
	NCCD on Crude Oil	926	968	1180	1130
	Excise duty	242691	229716	214369	223057
	Service tax	2956	1228	340	17
	IGST		9211	16479	13099
	CGST		4488	7437	6831
	Others	122	125	204	88
	Sub total (A)	273225	276168	279847	287540
B.	Dividend to Government/ income tax etc.				
	Corporate/ income tax	32511	33599	38561	23134
	Dividend income to Central Government	17501	14575	15525	12270
	Dividend distribution tax	6197	5981	6415	5462
	Profit petroleum on exploration of oil/ gas*	5742	5839	7694	5909
	Sub total (B)	61950	59994	68194	46775
	Total contribution to Central exchequer (A+B)	335175	336163	348041	334315
2. Contribution to State exchequer					
C.	Tax/ duties on crude oil & petroleum products				
	Royalty on crude oil / natural gas	11942	9370	13371	11882
	Sales tax/ VAT	166414	185850	201265	200247
	SGST/UTGST		4974	7961	7345
	Octroi/ duties (incl. electricity duty)	3524	1663	685	716
	Entry tax / others	7706	4745	4114	405
	Sub total (C)	189587	206601	227396	220595
D.	Dividend to Government/ direct tax etc.				
	Dividend income to State Government	183	262	195	215
	Sub total (D)	183	262	195	215
	Total contribution to State exchequer (C+D)	189770	206863	227591	220810
	Total contribution of petroleum sector to exchequer (1+2)	524945	543026	575632	555125

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

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

Table 8.21 : State/UT wise collection of sales tax/ VAT by petroleum sector

(₹ Crore)					
Sl. no.	State/Union territory	Sales tax/VAT			
		2016-17	2017-18	2018-19	2019-20 (P)
1	Andaman & Nicobar Islands	0	51	92	94
2	Andhra Pradesh	8908	9693	10784	10168
3	Arunachal Pradesh	62	67	49	26
4	Assam	2571	3108	3879	3641
5	Bihar	4501	5447	6585	5993
6	Chandigarh	54	54	62	60
7	Chhattisgarh	3200	3682	3987	3877
8 & 9	Dadra and Nagar Haveli and Daman & Diu	156	42	2	2
10	Delhi	3589	3944	4378	3833
11	Goa	650	657	694	754
12	Gujarat	15958	15593	16229	15337
13	Haryana	7000	7647	8286	7648
14	Himachal Pradesh	317	344	364	440
15	Jammu & Kashmir	1110	1329	1449	1459
16	Jharkhand	2967	3224	2796	3296
17	Karnataka	11103	13306	14417	15381
18	Kerala	6899	7300	7995	8074
19	Ladakh				14
20	Lakshadweep	0	0	0	0
21	Madhya Pradesh	9160	9379	9485	10720
22	Maharashtra	23160	25256	27191	26791
23	Manipur	117	162	181	192
24	Meghalaya	1	0	0	0
25	Mizoram	48	55	88	91
26	Nagaland	78	86	97	116
27	Odisha	4283	6870	5660	5495
28	Puducherry	22	15	8	5
29	Punjab	5833	6062	6575	5548
30	Rajasthan	10590	12094	12713	13319
31	Sikkim	105	110	134	129
32	Tamil Nadu	12563	15507	18143	18175
33	Telangana	7552	8776	10037	10045
34	Tripura	168	205	277	384
35	Uttar Pradesh	15849	17420	19167	20112
36	Uttarakhand	1414	1323	1595	1495
37	West Bengal	6426	7042	7866	7534
	TOTAL	166414	185850	201265	200247

(P)- Provisional

Source: 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.

Totals may not tally due to round off

Table 8.22 : State/UT wise collection of SGST/UTGST by petroleum sector

(₹ Crore)				
Sl. no.	State/Union territory/Others	2017-18	2018-19	2019-20 (P)
States/UTs				
1	Andaman & Nicobar Islands	1	0	0
2	Andhra Pradesh	172	257	156
3	Arunachal Pradesh	1	6	0
4	Assam	116	559	475
5	Bihar	91	159	145
6	Chandigarh	1	1	1
7	Chhattisgarh	39	18	9
8 & 9	Dadra and Nagar Haveli and Daman & Diu	10	12	20
10	Delhi	114	52	51
11	Goa	5	3	9
12	Gujarat	1022	2060	1801
13	Haryana	379	659	685
14	Himachal Pradesh	15	3	4
15	Jammu & Kashmir	38	20	17
16	Jharkhand	57	13	16
17	Karnataka	329	356	269
18	Kerala	136	146	171
19	Ladakh			1
20	Lakshadweep	0	0	0
21	Madhya Pradesh	73	87	98
22	Maharashtra	797	1272	1126
23	Manipur	2	1	1
24	Meghalaya	0	1	0
25	Mizoram	1	1	1
26	Nagaland	1	1	1
27	Odisha	52	93	192
28	Puducherry	2	1	1
29	Punjab	157	116	128
30	Rajasthan	88	205	176
31	Sikkim	3	2	0
32	Tamil Nadu	517	642	562
33	Telangana	88	19	21
34	Tripura	6	20	17
35	Uttar Pradesh	362	616	619
36	Uttarakhand	20	6	7
37	West Bengal	272	545	553
Others				
1	Other territory (Offshore areas of India beyond 12 Nautical Miles)	8	11	11
	TOTAL	4974	7961	7345

(P)- Provisional

Source: Based on data provided by 16 oil & gas companies

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

Totals may not tally due to round off

Since GST was implemented w.e.f 01.07.2017, data for 2017-18 is for a period of nine months

Table 8.23 : Profit After Tax (PAT) of oil companies

(₹ Crore)				
Companies	2016-17	2017-18	2018-19	2019-20 (P)
PSU upstream/midstream companies				
ONGC	17900	19945	26765	13445
OIL	1549	2668	2590	2584
GAIL	3503	4618	6026	6621
Total	22952	27231	35381	22650
PSU downstream Oil Marketing Companies (OMCs)				
IOCL	19106	21346	16894	1313
BPCL	8039	7919	7132	2683
HPCL	6209	6357	6029	2637
Total	33354	35622	30055	6633
PSU stand alone refineries				
MRPL	3642	2224	332	(2708)
CPCL	1030	913	(213)	(2078)
NRL	2101	2044	1968	1381
Total	6773	5181	2087	(3405)
PSU consultancy company				
EIL	325	378	370	430
Total	325	378	370	430
Private sector companies				
RIL	31425	33612	35163	30903
NEL	(2673)	532	344	*
Total	28752	34144	35507	30903

(P)- Provisional

* details not provided.

Source: Published results/ information provided by oil companies.

Note: Financials are on standalone basis.

Table 8.24 : Financial details of oil companies

2018-19									
Particulars	IOCL	BPCL	HPCL	ONGC	OIL	GAIL	MRPL	CPCL	NRL
(₹ Crore)									
Sales turnover	600922	336384	295713	109300	13360	74808	72283	52177	16153
Profit Before Interest and Tax (PBIT)	29438	11759	10065	42521	4396	9223	1053	122	3063
Interest	4311	1319	726	2492	479	139	472	420	11
Tax	8233	3308	3310	13264	1326	3059	249	(85)	1084
Profit After Tax (PAT)	16894	7132	6029	26765	2590	6026	332	(213)	1968
Net worth	108658	36738	28175	201790	22968	39062	10727	3310	5551
Borrowings (loan fund)	86359	29099	27240	21594	11524	1000	4230	6668	38
Ratios									
PAT as % of turnover (net sales)	2.81%	2.12%	2.04%	24.49%	19.39%	8.05%	0.46%	-0.41%	12.18%
Debt (loan fund) to equity ratio	0.79	0.79	0.97	0.11	0.50	0.03	0.39	2.01	0.01
Earnings Per Share (EPS)	17.89	36.26	39.56	20.90	22.88	26.72	1.89	(14.33)	26.76

2019-20 (P)									
Particulars	IOCL	BPCL	HPCL	ONGC	OIL	GAIL	MRPL	CPCL	NRL
(₹ Crore)									
Sales turnover	562088	326393	286250	95701	11761	71730	60728	48624	14072
Profit Before Interest and Tax (PBIT)	2285	4853	2654	23192	2619	8052	(3213)	(2603)	1737
Interest	5979	2182	1082	2824	499	109	743	413	2
Tax	(5007)	(12)	(1065)	6924	(464)	1323	(1248)	(938)	353
Profit After Tax (PAT)	1313	2683	2637	13445	2584	6621	(2708)	(2078)	1381
Net worth	93769	33214	28962	194338	24387	41854	7800	1192	5304
Borrowings (loan fund)	116545	41875	43021	13949	8885	5257	11896	8698	74
Ratios									
PAT as % of turnover (net sales)	0.23%	0.82%	0.92%	14.05%	21.97%	9.23%	-4.46%	-4.27%	9.82%
Debt (loan fund) to equity ratio	1.24	1.26	1.49	0.07	0.36	0.13	1.53	7.30	0.01
Earnings Per Share (EPS)	1.43	13.64	17.31	10.69	23.83	14.68	(15.45)	(139.52)	18.78

(P) - Provisional

Source: Published results/ Information provided by oil companies.

Table 8.25 : Total subsidy/under-recovery on petroleum products & natural gas

(₹ Crore)				
Particulars	2016-17	2017-18	2018-19	2019-20 (P)
Petrol	0	0	0	0
Diesel	0	0	0	0
PDS kerosene	7595	4672	5950	1833
Domestic LPG	0	0	0	0
Total under-recoveries (A)	7595	4672	5950	1833
Direct Benefit Transfer for LPG (DBTL) subsidy	12905	20880	31447	22635
Project Management Expenditure (PME)*	0	25	92	91
Total DBTL related subsidies (B)	12905	20905	31539	22726
Pradhan Mantri Ujjwala Yojana (PMUY) claims	2999	2496	5489	1250
Project Management Expenditure (PME) & Information Education and Communication (IEC) expenditure under PMUY*	0	63	34	43
Total PMUY related subsidy (C)	2999	2559	5523	1293
Direct Benefit Transfer of Kerosene (DBTK) subsidy (D)	11	113	117	36
PDS Kerosene and Domestic LPG subsidy scheme, 2002*	3293	0	0	0
Freight subsidy (For Far-Flung Areas) Scheme, 2002*	0	0	0	0
Natural gas subsidy for North East	498	435	557	574
Other subsidies (E)	3791	435	557	574
Total subsidy/ under-recovery on petroleum products & natural gas (A+B+C+D+E)	27301	28684	43685	26461

(P)- Provisional

*on payment basis.

Note: DBTK subsidy excludes cash incentive/assistance for establishment of institutional mechanism for direct transfer of subsidy paid to States/UTs. DBTK subsidy for 2019-20 is till July 2019.

Table 8.26 : Quantity and value of Indian crude oil imports

Year	Quantity (MMT)	\$ Million	₹ Crore
2018-19	226.5	111,915	7,83,183
2019-20 (P)	227.0	101,388	7,16,627

(P)- provisional



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	1.0424	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	= 2.74 MMSCMD	365 days a year
1 TCF (Trillion Cubic Feet) of Gas Reserve	= 3.88 MMSCMD	100% recoverable for 20 years @ 365 days / annum)
1 MMTPA of LNG	= 3.60 MMSCMD	Molecular weight of 18 @ 365 days/annum)
1 MT of LNG	= 1314 SCM	Molecular weight of 18
Gross Calorific Value (GCV)	= 10000 Kcal/ SCM	
Net Calorific Value (NCV)	= 90% of GCV	
1 Million BTU (MMBTU)	= 25.2 SCM	@10000 Kcal/SCM; 1 MMBTU= 252,000 Kcal)
Specific Gravity of Gas	= 0.62	Molecular weight of dry air=28.964 gm/mole)
Density of Gas	= 0.76 Kg/SCM	Molecular weight of gas 18 gm/mol
Gas required for 1 MW of Power generation	= 4541 SCM per day	Station Heat Rate (SHR);~1720 Kcal/Kwh-NCV (50% Thermal Efficiency); Natural Gas GCV-@10000Kcal/SCM
Power Generation from 1 MMSCMD Gas	= 220 MWH	Station Heat Rate (SHR);~1720 Kcal/Kwh-NCV (50% Thermal Efficiency); Natural Gas GCV-@10000Kcal/SCM

Source : GAIL (India) Ltd./ 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. Now permittes as auto fuel.
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.
Petrloleum coke	Fuel grade petcoke is used as fuel for cement kilns and electric power plants. Calcined petcoke is used to manufacture energy as well as in the aluminium, graphite electrode, steel, titanium dioxide and other carbon consuming industries.
Other products (Benzene, Toluene, MTO, LABFS, CBFS, Paraffin wax etc.)	Feedstock for value added products.

List of Abbreviations

BBL	Barrel	MMT	Million Metric Tonne
BCM	Billion Cubic Meter	MMTPA	Million Metric Tonne Per Annum
BPCL	Bharat Petroleum Corporation Limited	MoA	Ministry of Agriculture
BPRL	Bharat Petro Resources Limited	MoC&I	Ministry of Commerce & Industry
CBM	Coal Bed Methane	MoF	Ministry of Finance
CBR	Cauvery Basin Refinery	MoP&NG	Ministry of Petroleum & Natural Gas
CGD	City Gas Distribution	MoSPI	Ministry of Statistics and Programme Implementation
CNG	Compressed Natural Gas	MRPL	Mangalore Refinery and Petrochemicals Limited
DBTL	Direct Benefit Transfer for LPG	Mtoe	Million tonnes of oil equivalent,
DGCIS	Directorate General of Commercial Intelligence and Statistics	NELP	New Exploration Licensing Policy
DGH	Directorate General of Hydrocarbons	NGLs	Natural Gas Liquids
DSF	Discovered Small Field	NRL	Numaligarh Refinery Limited
EBP	Ethanol Blending Programme	OALP	Open Acreage Licensing Policy
FBIL	Financial Benchmark India Private Limited	OECD	Organisation for Economic Co-operation and Development
GA	Geographical Areas	OIL	Oil India Limited
GAIL	Gas Authority of India Limited	OMCs	Oil Marketing Companies
GREP	Gas Rehabilitation and Expansion Project	ONGC	Oil and Natural Gas Corporation Limited
GRM	Gross Refining Margins	OPEC	Organization of the Petroleum Exporting Countries
GSPL	Gujarat State Petronet Limited	PDS	Public Distribution System
GST	Goods & Service Tax	PMUY	Pradhan Mantri Ujjwala Yojana
HELP	Hydrocarbon Exploration and Licensing Policy	PNG	Piped Natural Gas
HPCL	Hindustan Petroleum Corporation Limited	POL	Petroleum, Oil and Lubricants
IEA	International Energy Agency	PPAC	Petroleum Planning & Analysis Cell
IOCL	Indian Oil Corporation Limited	PSC	Production Sharing Contracts
KL	Kilo Litre	PSU	Public Sector Undertaking
LNG	Liquefied Natural Gas	R/P ratio	Reserves-to-production ratio
LPG	Liquefied Petroleum Gas	RBI	Reserve Bank of India
MBN	MBTU/Bbl/NRGF	SEZ	Special Economic Zone
MBTU	Thousand British Thermal Unit	TCF	Trillion cubic feet
MMBTU	Metric Million British Thermal Unit	Toe	Tonnes of oil equivalent
MMSCMD	Million Standard Cubic Meter Per Day	WPI	Wholesale Price Index



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