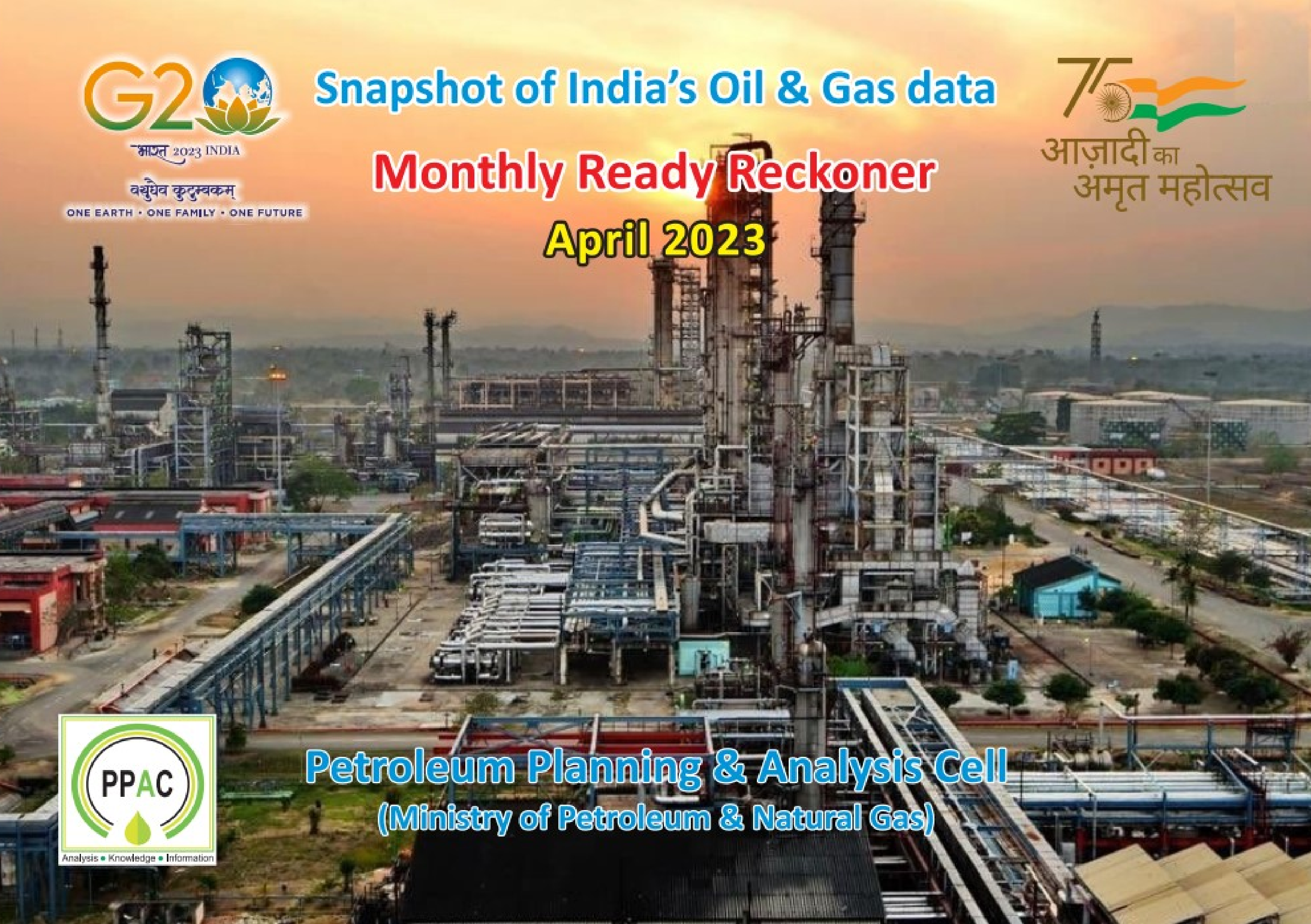
Snapshot of India's Oil & Gas data

Monthly Ready Reckoner

April 2023



Petroleum Planning & Analysis Cell

(Ministry of Petroleum & Natural Gas)

Snapshot of India's Oil & Gas data

Monthly Ready Reckoner

April, 2023

Petroleum Planning & Analysis Cell

(Ministry of Petroleum & Natural Gas)

Petroleum Planning & Analysis Cell (PPAC), an attached office of the Ministry of Petroleum & Natural Gas (MoPNG), Government of India, collects and analyses data on the Oil and Gas sector. It disseminates many reports on the Oil & Gas sector to the various stakeholders. The data is obtained from the Public Sector companies, Government agencies as well as the Private companies. Given the ever-increasing demand for energy and transition of energy demand to renewables and Biofuels, Policy makers and Analysts need to be well informed about the updated trends in the Oil & Gas industry.

The Snapshot of India's Oil & Gas data (Monthly Ready Reckoner), released by PPAC, provides monthly data/information in a single volume for the latest month and historical time series. The Snapshot of India's Oil & Gas data is also published on PPAC's website (www.ppac.gov.in) and is accessible on mobile app-PPACE.

This publication is a concerted effort by all divisions of PPAC. The cooperation of the Oil and Gas industry is acknowledged for their timely inputs.

Note: Reported data may undergo change on receipt of actuals

Table of contents

Highlights for the month	
•	Indigenous crude oil and condensate production during April 2023 was registered as 2.4 MMT. OIL registered a production of 0.3 MMT, ONGC registered a production of 1.6 MMT whereas PSC registered production of 0.5 MMT during April 2023.
•	'Total Crude oil processed during April 2023 was 21.45 MMT. Where PSU/JV Refiners processed 14.42 MMT and PVT Refiners Processed 7.03 MMT of Crude Oil. Total Indigenous Crude Oil processed was 1.97 MMT and total Imported Crude oil processed was 19.48 by all Indian Refineries (PSU+JV+PVT).
•	Crude oil imports were down by 8.3% during April 2023 as compared to the corresponding period of the previous year. The net import bill for Oil & Gas was $10.4 billion in April 2023 compared to $15.3 billion in April 2022. In this the crude oil imports constitutes $10.8 billion, LNG imports $1.4 billion and the exports were $3.3 billion during April 2023.
•	The price of Brent Crude averaged $84.94/bbl during April 2023 as against $78.56/bbl during March 2023. The Indian basket crude price averaged $83.76/bbl during April 2023 as against $78.54/bbl during March 2023.
•	Production of petroleum products was 22.5 MMT during April 2023, out of which 22.2 MMT was from Refinery production & 0.3 MMT was from Fractionator. Out of total POL production, HSD has a share of 42.1 %, MS 16.1 %, Naphtha 6.1 %, ATF 6.0 %, Pet Coke 5.2, % LPG 4.9 %, the major products and rest is shared by Bitumen, FO/LSHS, LDO, Lubes & others.
•	POL products imports decreased by 29.7% during April 2023 as compared to the corresponding period of the previous year. Decrease in POL products imports during April 2023 were mainly due to decrease in imports of liquefied petroleum gas (LPG), fuel oil and petcoke etc.

•	Exports of POL products recovered to 80.3% in April 23 compared to the corresponding period of the previous year. Decrease in POL products exports during April 2023 were mainly due to decrease in exports of high speed diesel (HSD) and motor spirit (MS) etc.
•	The consumption of petroleum products during April 2023 with a volume of 18.41 MMT has been reported in line with the historical volume of 18.46 MMT during the same period of the previous year. On the growth side, growth was led by 8.6% growth in HSD, 18.5% in ATF, 11.3% in Naptha & 2.8% in MS consumption besides FO/LSHS.
•	Ethanol blending with Petrol was 11.8% during April 2023 and cumulative ethanol blending during December 2022- April 2023 was 11.6%.
•	Total Natural Gas Consumption (including internal consumption) for the month of April 2023 was 4884 MMSCM which was 1.2% higher than the corresponding month of the previous year.
•	Gross production of natural gas for the month of April 2023 (P) was 2745 MMSCM which has recovered to 97.1% to the corresponding month of the previous year.
•	LNG import for the month of April 2237 (P) was 2213 MMSCM which was 6.5% higher than the corresponding month of the previous year.

PART-A

Economic Indicators

1. Selected indicators of the Indian economy								
Economic indicators		**Unit/ Base**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**	**2022-23**
1	Population (basis RGI projections)	Billion	1.309	1.323	1.337	1.351	1.365	1.377
2	GDP at constant (2011-12 Prices)	Growth %	6.8 3rd RE	6.5 2nd RE	4.0 1st RE	-6.6 1st RE	9.1 1st RE	7.0 2nd AE
3	Agricultural Production (Food grains)	MMT	285.0	285.2	297.5	310.7	315.7 4th AE	323.6 2nd AE
		Growth %	3.6	0.1	4.3	4.5	1.6	-
4	Gross Fiscal Deficit (as percent of GDP)	%	3.5	3.4	4.6	9.5 RE	6.7 RE	6.4 RE

Economic indicators		**Unit/ Base**	**2019-20**	**2020-21**	**Apr - Mar**		**April**	
					2021-22	**2022-23**	**2022-23**	**2023-24 (P)**
5	Index of Industrial Production (Base: 2011-12)	Growth %	-8.4	-8.4	11.4*	5.1* QE	2.2#	1.1#
6	Imports^	$ Billion	474.7	394.4	613.1	714.2	58.1	49.9
7	Exports^	$ Billion	313.4	291.8	422.0	447.5	39.7	34.7
8	Trade Balance	$ Billion	-161.3	-102.6	-191.1	-266.8	-18.4	-15.2
9	Foreign Exchange Reserves @	$ Billion	475.6	579.3	617.6	578.4	-	-

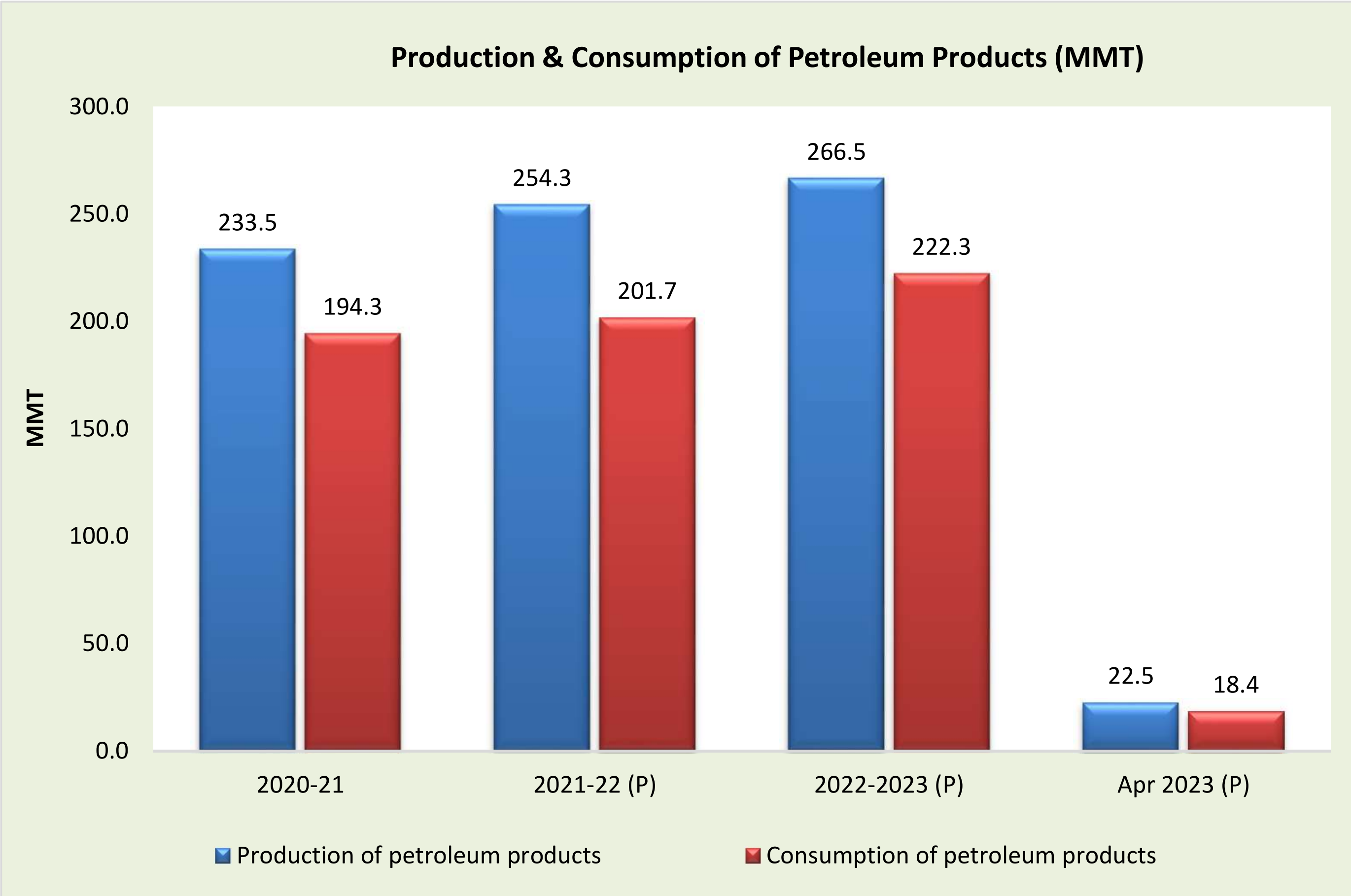
Population projection by RGI is taken as on 1st July for the year. IIP is for the month of *Mar and #April-Mar; @2020-21-as on March 26, 2021, 2021-22 - as on March 26, 2022, 2022-23 as on Mar 31, 2023, April 2022 as on 27 April 2022, April 2023 as on 26 April 2023; ^Imports & Exports are for Merchandise for the month of April 23; E: Estimates; PE: Provisional Estimates; AE-Advanced Estimates; RE-Revised Estimates: QE-Quick Estimates.

Source: Registrar General India**,** Ministry of Commerce & Industry, Ministry of Statistics and Programme Implementation, Ministry of Agriculture & Farmer's Welfare, Ministry of Finance, Reserve Bank of India

2. Crude oil, LNG and petroleum products at a glance

	Details	Unit/ Base	2019-20	2020-21	April-Mar		April	
					2021-22 (P)	2022-23 (P)	2022-23 (P)	2023-24 (P)
1	Crude oil production in India#	MMT	32.2	30.5	29.7	29.2	2.5	2.4
2	Consumption of petroleum products*	MMT	214.1	194.3	201.7	222.3	18.5	18.4
3	Production of petroleum products	MMT	262.9	233.5	254.3	266.5	22.8	22.5
4	Gross natural gas production	MMSCM	31,184	28,672	34,024	34,450	2,827	2,745
5	Natural gas consumption	MMSCM	64,144	60,981	64,159	60,311	4,826	4,884
6	Imports & exports:							
	Crude oil imports	MMT	227.0	196.5	212.4	232.6	21.6	19.8
		$ Billion	101.4	62.2	120.7	157.5	16.8	10.8
	Petroleum products (POL) imports*	MMT	43.8	43.2	39.0	43.8	4.2	2.9
		$ Billion	17.7	14.8	23.7	26.7	3.0	1.5
	Gross petroleum imports (Crude + POL)	MMT	270.7	239.7	251.4	276.4	25.8	22.8
		$ Billion	119.1	77.0	144.3	184.2	19.8	12.3
	Petroleum products (POL) export	MMT	65.7	56.8	62.8	61.0	5.4	4.4
		$ Billion	35.8	21.4	44.4	57.3	5.8	3.3
	LNG imports*	MMSCM	33,887	33,198	31,028	26,647	2,078	2,213
		$ Billion	9.5	7.9	13.5	17.3	1.3	1.4
	Net oil & gas imports	$ Billion	92.7	63.5	113.4	144.1	15.3	10.4
7	Petroleum imports as percentage of India's gross imports (in value terms)	%	25.1	19.5	23.5	25.8	34.1	24.6
8	Petroleum exports as percentage of India's gross exports (in value terms)	%	11.4	7.3	10.5	12.8	14.6	9.6
9	Import dependency of crude oil (on POL consumption basis)	%	85.0	84.4	85.5	87.3	86.2	88.5

#Includes condensate; *Private direct imports are prorated for the period March'23 to Apr'23 for POL. LNG Imports figures from DGCIS are prorated for Mar-Apr 2023. Total may not tally due to rounding off.


Production & Consumption of Petroleum Products (MMT)
300.0
250.0
200.0
150.0
100.0
50.0
0.0
MMT
233.5
194.3
254.3
201.7
266.5
222.3
22.5
18.4
2020-21
2021-22 (P)
2022-2023 (P)
Apr 2023 (P)
Production of petroleum products
Consumption of petroleum products

PART-B

Crude Oil, Refining & Production

3. Indigenous crude oil production (Million Metric Tonnes)

Details	2019-20	2020-21	April-Mar			April		
			2021-22	2022-23 Target*	2022-23 (P)	2022-23	2023-24 Target*	2023-24 (P)
ONGC	19.2	19.1	18.5	21.1	18.4	1.6	1.6	1.5
Oil India Limited (OIL)	3.1	2.9	3.0	3.4	3.2	0.3	0.3	0.3
Private / Joint Ventures (JVs)	8.2	7.1	7.0	7.4	6.2	0.5	0.5	0.5
Total Crude Oil	**30.5**	**29.1**	**28.4**	**31.9**	**27.8**	**2.4**	**2.4**	**2.3**
ONGC condensate	1.4	1.1	0.9	0.0	1.0	0.1	0.0	0.1
PSC condensate	0.3	0.3	0.30	0.0	0.31	0.02	0.0	0.04
Total condensate	**1.6**	**1.4**	**1.24**	**0.0**	**1.4**	**0.1**	**0.0**	**0.1**
Total (Crude + Condensate) (MMT)	**32.2**	**30.5**	**29.7**	**31.9**	**29.2**	**2.5**	**2.4**	**2.4**
Total (Crude + Condensate) (Million Bbl/Day)	0.64	0.61	0.60	0.64	0.59	0.60	0.59	0.58

*Provisional targets inclusive of condensate.

4. Domestic and overseas oil & gas production (by Indian Companies)

Details	2019-20	2020-21	April-Mar		April	
			2021-22	2022-23 (P)	2022-23 (P)	2023-24 (P)
Total domestic production (MMTOE)	63.4	59.2	63.7	63.6	5.3	5.1
Overseas production (MMTOE)	24.5	21.9	21.8	19.5	1.7	1.7

Source: ONGC Videsh, GAIL, OIL , IOCL, HPCL & BPRL

5. High Sulphur (HS) & Low Sulphur (LS) crude oil processing (MMT)

	Details	2019-20	2020-21	April-Mar		April	
				2021-22	2022-23 (P)	2022-23 (P)	2023-24 (P)
1	High Sulphur crude	192.4	161.4	185.0	197.9	16.5	16.8
2	Low Sulphur crude	62.0	60.3	56.7	57.4	5.1	4.7
Total crude processed (MMT)		**254.4**	**221.8**	**241.7**	**255.2**	**21.6**	**21.5**
Total crude processed (Million Bbl/Day)		5.09	4.45	4.85	5.13	5.27	5.24
Percentage share of HS crude in total crude oil processing		**75.6%**	**72.8%**	**76.6%**	**77.5%**	**76.6%**	**78.3%**

6. Quantity and value of crude oil imports			
Year	**Quantity (MMT)**	**$ Million**	**Rs. Crore**
2021-22	212.4	120,675	9,01,262
2022-23 (P)	232.6	157,507	12,60,173
April 2023-24(P)	19.8	10,783	88,387

7. Self-sufficiency in petroleum products (Million Metric Tonnes)							
Particulars		**2019-20**	**2020-21**	**April-Mar**		**April**	
				2021-22 (P)	**2022-23 (P)**	**2022-23 (P)**	**2023-24 (P)**
1	Indigenous crude oil processing	29.3	28.0	27.0	26.5	2.4	2.0
2	Products from indigenous crude (93.3% of crude oil processed)	27.3	26.1	25.2	24.7	2.3	1.8
3	Products from fractionators (Including LPG and Gas)	4.8	4.2	4.1	3.5	0.3	0.3
4	Total production from indigenous crude & condensate **(2 + 3)**	32.1	30.3	29.3	28.2	2.5	2.1
5	Total domestic consumption	214.1	194.3	201.7	222.3	18.5	18.4
% Self-sufficiency (4 / 5)		**15.0%**	**15.6%**	**14.5%**	**12.7%**	**13.8%**	**11.5%**

8. Refineries: Installed capacity and crude oil processing (MMTPA / MMT)

Sl. no.	Refinery	Installed capacity (01.04.2023) MMTPA	Crude oil processing (MMT)							
			2019-20	2020-21	April-Mar			April		
					2021-22	2022-23 (Target)	2022-23 (P)	2022-23	2023-24 (Target)	2023-24 (P)
1	Barauni (1964)	6.0	6.5	5.5	5.6	6.5	6.8	0.6	0.5	0.5
2	Koyali (1965)	13.7	13.1	11.6	13.5	14.3	15.6	1.3	1.1	1.1
3	Haldia (1975)	8.0	6.5	6.8	7.3	8.2	8.5	0.7	0.7	0.7
4	Mathura (1982)	8.0	8.9	8.9	9.1	9.4	9.6	0.8	0.8	0.8
5	Panipat (1998)	15.0	15.0	13.2	14.8	14.9	13.8	1.2	1.3	1.3
6	Guwahati (1962)	1.0	0.9	0.8	0.73	1.0	1.1	0.09	0.1	0.1
7	Digboi (1901)	0.65	0.7	0.6	0.7	0.6	0.7	0.1	0.1	0.0
8	Bongaigaon(1979)	2.70	2.0	2.5	2.6	2.7	2.8	0.2	0.2	0.2
9	Paradip (2016)	15.0	15.8	12.5	13.2	14.0	13.6	1.3	1.3	1.2
	IOCL-TOTAL	**70.1**	**69.4**	**62.4**	**67.7**	**71.6**	**72.4**	**6.2**	**6.1**	**6.0**
10	Manali (1969)	10.5	10.2	8.2	9.0	10.7	11.3	0.9	0.9	0.9
11	CBR (1993)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CPCL-TOTAL	**10.5**	**10.2**	**8.2**	**9.0**	**10.7**	**11.3**	**0.9**	**0.9**	**0.9**
12	Mumbai (1955)	12.0	15.0	12.9	14.4	14.0	14.5	1.3	1.3	1.3
13	Kochi (1966)	15.5	16.5	13.3	15.4	15.5	16.0	1.3	1.4	1.4
14	Bina (2011)	7.8	7.9	6.2	7.4	7.8	7.8	0.7	0.6	0.6
	BPCL-TOTAL	**35.3**	**39.4**	**32.4**	**37.2**	**37.2**	**38.4**	**3.3**	**3.2**	**3.2**
15	Numaligarh (1999)	3.0	2.4	2.7	2.6	2.9	3.1	0.3	0.0	0.0

Sl. no.	Refinery	Installed capacity (1.04.2023) (MMTPA)	Crude oil processing (MMT)							
			2019-20	2020-21	April-Mar			April		
					2021-22	2022-23 (Target)	2022-23 (P)	2022-23	2023-24 (Target)	2023-24 (P)
16	Tatipaka (2001)	0.066	0.087	0.081	0.075	0.063	0.073	0.006	0.005	0.007
17	MRPL-Mangalore (1996)	15.0	14.0	11.5	14.9	17.0	17.1	1.5	1.3	1.5
	ONGC-TOTAL	**15.1**	**14.0**	**11.6**	**14.9**	**17.1**	**17.2**	**1.5**	**1.4**	**1.5**
18	Mumbai (1954)	9.5	8.1	7.4	5.6	8.5	9.8	0.7	0.8	0.8
19	Visakh (1957)	8.3	9.1	9.1	8.4	9.3	9.3	0.8	0.9	0.8
20	HMEL-Bathinda (2012)	11.3	12.2	10.1	13.0	11.5	12.7	1.0	1.0	1.1
	HPCL- TOTAL	**29.1**	**29.4**	**26.5**	**27.0**	**29.3**	**31.8**	**2.6**	**2.7**	**2.8**
21	RIL-Jamnagar (DTA) (1999)	33.0	33.0	34.1	34.8	34.8	34.4	3.0	3.0	2.8
22	RIL-Jamnagar (SEZ) (2008)	35.2	35.9	26.8	28.3	28.3	27.9	2.1	2.1	2.5
23	NEL-Vadinar (2006)	20.0	20.6	17.1	20.2	20.2	18.7	1.7	1.7	1.7
All India (MMT)		**251.2**	**254.4**	**221.8**	**241.7**	**252.0**	**255.2**	**21.6**	**21.1**	**21.5**
All India (Million Bbl/Day)		**5.05**	**5.11**	**4.45**	**4.85**	**5.06**	**5.13**	**5.27**	**5.16**	**5.24**

Note: Provisional Targets; Some sub-totals/ totals may not add up due to rounding off at individual levels.

9. Major crude oil and product pipeline network (as on 01.05.2023)

Details		ONGC	OIL	Cairn	HMEL	IOCL	BPCL	HPCL	Others*	Total
Crude Oil	Length (KM)	1,284	1,193	688	1,017	5,301	937			**10,420**
	Cap (MMTPA)	60.6	9.0	10.7	11.3	48.6	7.8			**147.9**
Products	Length (KM)		654			11,731	2,596	5,121	2,386	**22,488**
	Cap (MMTPA)		1.7			70.6	22.6	36.3	9.4	**140.6**

*Others include GAIL and Petronet India. HPCL and BPCL lubes pipeline included in products pipeline data

OIL & GAS MAP OF INDIA

LEGENDS

Refineries

Refineries (Capacity in MMTPA)

Producing Fields

Major Producing Fields

LNG Terminals

Dabhol, Dahej, Hazira, Kochi, Mundra, Ennore

(Upcoming Terminals) Dhamra, Jafrabad, Jaigarh, Chhara

LEGENDS

Pipelines Network

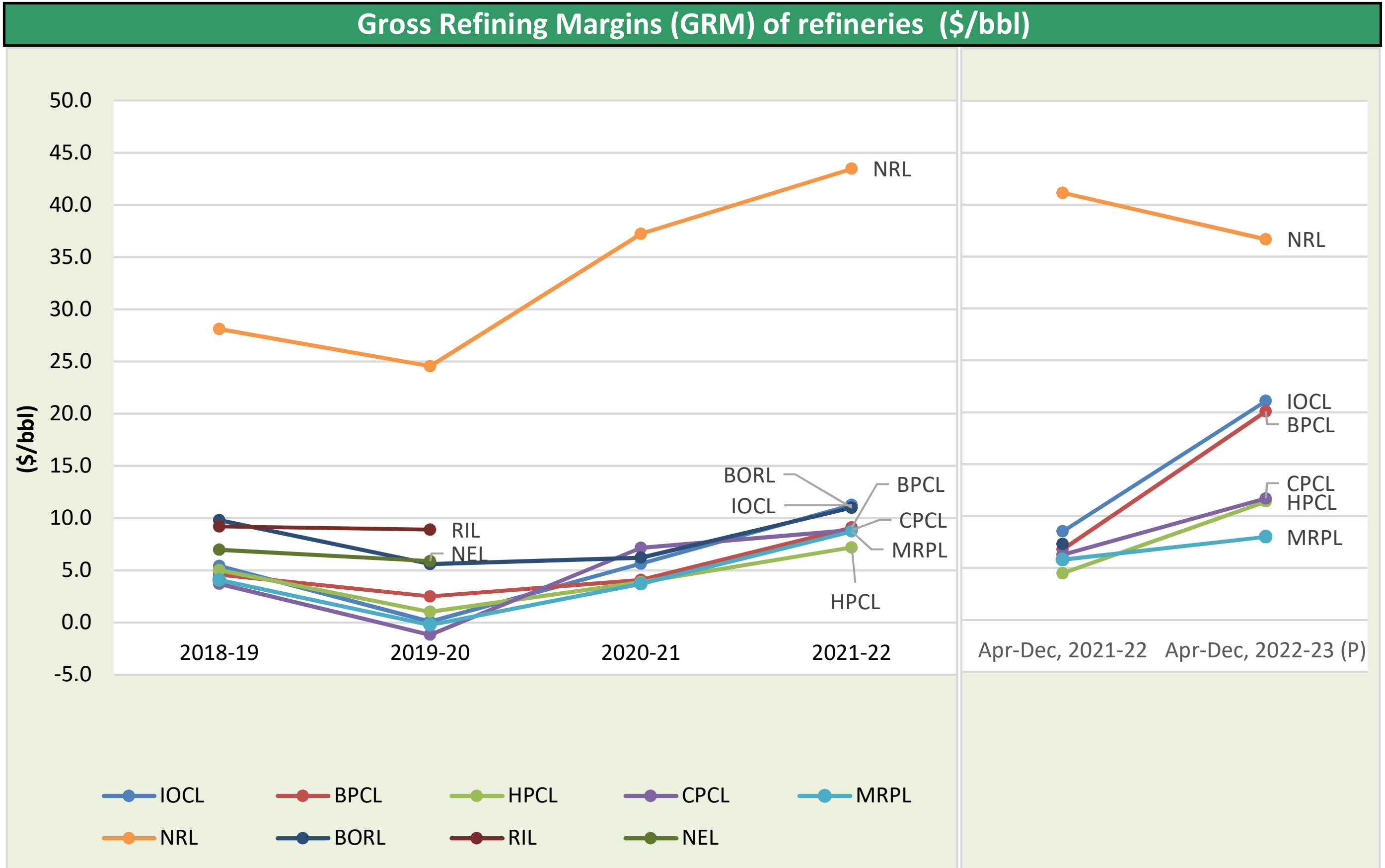
- Crude Oil Pipeline
- Ongoing Crude Oil Pipeline
- Product Pipeline
- Ongoing Product Pipeline
- LPG Pipeline
- Ongoing LPG Pipeline
- Gas Pipeline
- Ongoing Gas Pipeline

10. Gross Refining Margins (GRM) of refineries ($/bbl)					
Company	2019-20	2020-21	2021-22	Apr - Dec	
				2021-22	2022-23 (P)
IOCL	0.08	5.64	11.25	8.52	21.08
BPCL	2.50	4.06	9.09	6.78	20.08
HPCL	1.02	3.86	7.19	4.50	11.40
CPCL	-1.18	7.14	8.85	6.28	11.70
MRPL	-0.23	3.71	8.72	5.80	8.00
NRL	24.55	37.23	43.46	41.14	36.65
BORL	5.60	6.20	11.00	7.30	#
RIL	8.90	*	*	*	*
NEL	5.88	*	*	*	*

GRM of North Eastern refineries are including excise duty benefit

BPCL figures effective 2022-23 includes BORL also after its merger with BPCL

*Not available



GRM of North Eastern refineries are including excise duty benefit

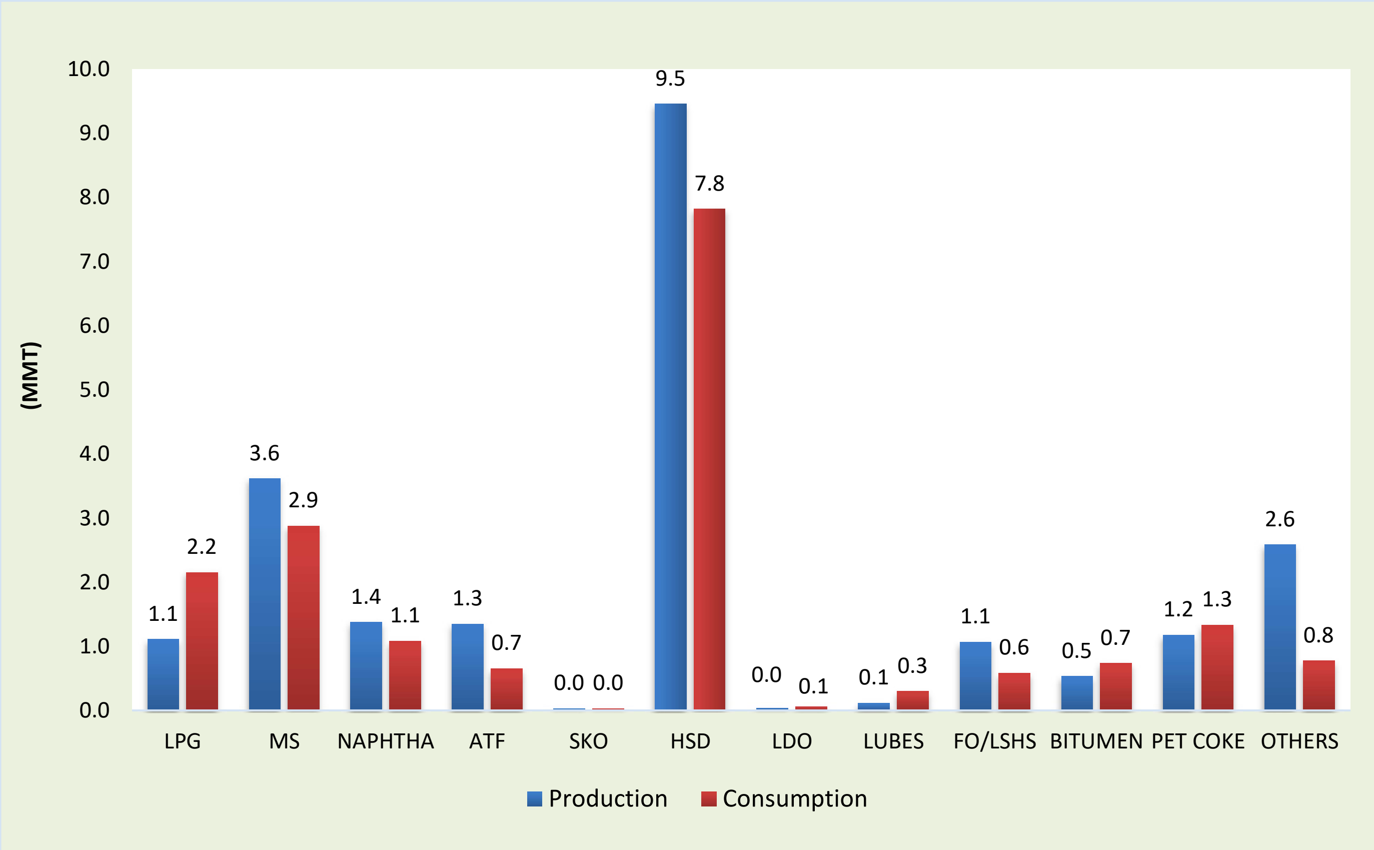
PART-C

Consumption

11. Production and consumption of petroleum products (Million Metric Tonnes)												
Products	**2019-20**		**2020-21**		**2021-22 (P)**		**Apr-Mar 2023 (P)**		**Apr 2022**		**Apr 2023 (P)**	
	Prod	**Cons**	**Prod**	**Cons**	**Prod**	**Cons**	**Prod**	**Cons**	**Prod**	**Cons**	**Prod**	**Cons**
LPG	12.8	26.3	12.1	27.6	12.2	28.3	12.8	28.5	1.1	2.2	1.1	2.2
MS	38.6	30.0	35.8	28.0	40.2	30.8	42.8	35.0	3.6	2.8	3.6	2.9
NAPHTHA	20.6	14.3	19.4	14.1	20.0	13.2	17.0	12.2	1.6	1.0	1.4	1.1
ATF	15.2	8.0	7.1	3.7	10.3	5.0	15.0	7.4	1.0	0.6	1.3	0.7
SKO	3.2	2.4	2.4	1.8	1.9	1.5	0.9	0.5	0.1	0.1	0.0	0.0
HSD	111.1	82.6	100.4	72.7	107.2	76.7	113.8	85.9	9.8	7.2	9.5	7.8
LDO	0.6	0.6	0.7	0.9	0.8	1.0	0.6	0.7	0.1	0.1	0.0	0.1
LUBES	0.9	3.8	1.1	4.1	1.2	4.5	1.4	3.8	0.1	0.3	0.1	0.3
FO/LSHS	9.3	6.3	7.4	5.6	8.9	6.3	10.3	6.9	0.8	0.5	1.1	0.6
BITUMEN	4.9	6.7	4.9	7.5	5.1	7.8	4.9	7.8	0.5	0.8	0.5	0.7
PET COKE	14.6	21.7	12.0	15.6	15.5	14.3	15.4	17.9	1.3	1.7	1.2	1.3
OTHERS	31.0	11.4	30.2	12.8	30.9	12.3	31.4	15.7	2.7	1.3	2.6	0.8
ALL INDIA	**262.9**	**214.1**	**233.5**	**194.3**	**254.3**	**201.7**	**266.5**	**222.3**	**22.8**	**18.5**	**22.5**	**18.4**
Growth (%)	**0.2%**	**0.4%**	**-11.2%**	**-9.3%**	**8.9%**	**3.8%**	**4.8%**	**10.2%**	**9.1%**	**13.1%**	**-1.4%**	**-0.2%**

Note: Prod - Production; Cons - Consumption

Petroleum Products: April 2023 (P) (MMT)



12. Kerosene allocation vs upliftment (Kilo Litres)

Product	2020-21		2021-22		2022-23		2023-24 (P)*	
	Allocation	Upliftment	Allocation	Upliftment	Allocation	Upliftment	Allocation	Upliftment
PDS Kerosene	23,15,008	20,38,790	17,83,344	16,59,906	12,43,644	3,96,115	2,65,632	,28,690

* Allocation is for Q1, 2023-24 and upliftment is for Apr 2023

13. Ethanol blending programme

Particulars	Ethanol Supply Year *				
	2019-20	2020-21	2021-22	2022-23 (P)	
				Apr-23	Dec'22-Apr'23
Ethanol received by PSU OMCs under EBP Program (in Cr. Litrs)	173.0	296.1	408.1	47.7	233.1
Ethanol blended under EBP Program (in Cr. Litrs)	170.5	302.3	433.6	44.5	217.5
Average Percentage of Blending Sales (EBP%)	5.0%	8.1%	10.0%	11.8%	11.6%

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

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

14. Industry marketing infrastructure (as on 01.05.2023) (Provisional)

Particulars	IOCL	BPCL	HPCL	RIL/RBML/RSIL	NEL	SHELL	MRPL & Others	Total
POL Terminal/ Depots **(Nos.)**[$]	120	82	81	18	3		6	**310**
Aviation Fuel Stations **(Nos.)**[@]	132	65	54	30			2	**283**
Retail Outlets (total) **(Nos.),**[^]	36,318	21,051	21,198	1,574	6,376	343	65	**86,925**
out of which Rural ROs	11,741	5,263	5,240	130	2,081	86	22	**24,563**
SKO/LDO agencies **(Nos.)**	3,871	927	1,638					**6,436**
LPG Distributors (total) **(Nos.) (PSUs only)**	12,862	6,238	6,284					**25,384**
LPG Bottling plants **(Nos.) (PSUs only)**[#]	97	53	55				3	**208**
LPG Bottling capacity **(TMTPA) (PSUs only)**[&]	10,722	4,890	6,410				203	**22,225**
LPG active domestic consumers **(Nos. crore) (PSUs only)**	14.7	8.1	8.6					**31.4**

[$](Others=4 MRPL & 2 NRL); [@](Others=ShellMRPL); [^](Others=MRPL); [#](Others=NRL-1, OIL-1, CPCL-1); [&](Others=NRL-60, OIL-23, CPCL-120); RBML- Reliance BP Mobility Limited; RSIL- RBML Solutions India Ltd.

Industry Alternate fuel infrastructure at Retail outlets (Nos. of ROs as on 01.05.2023) (Provisional)

Alternate fuel	IOCL	BPCL	HPCL	RBML/RSIL	NEL	SHELL	MRPL	Total
CNG_LNG	1826	1602	1418	12	39	0	1	**4898**
EV Charging	5576	714	2058	25	136	200	6	**8715**
Auto LPG	325	44	156	64	49	0	0	**638**
Compressed Bio-Gas outlets	45	41	27	0	0	0	0	**113**
Total Retail outlets with at least one	7152	2151	3410	101	222	200	7	**13243**
Solarization at Retail outlets	21030	4788	10514	0	0	0	0	**36332**

पहल
...एक नई दिशा
प्रत्यक्ष हस्तांतरित लाभ

अपना धन पाओ, जन धन बचाओ.

#GiveItUp
Feel *the* Joy *of* Giving

प्रधानमंत्री उज्ज्वला योजना

PART-D

LPG

15. LPG consumption (Thousand Metric Tonne)

LPG category	2019-20	2020-21	April-Mar 2021-22	April-Mar 2022-23 (P)	April-Mar Growth (%)	April 2022-23	April 2023-24 (P)	April Growth (%)
1. PSU Sales :								
LPG-Packed Domestic	23,076.0	25,128.1	25,501.6	25,381.5	-0.5%	1,954.9	1,938.0	-0.9%
LPG-Packed Non-Domestic	2,614.4	1,886.0	2,238.8	2,606.0	16.4%	162.4	191.4	17.9%
LPG-Bulk	263.5	361.9	390.9	408.9	4.6%	30.8	17.5	-43.4%
Auto LPG	171.9	118.4	122.0	106.7	-12.5%	9.4	7.1	-24.0%
Sub-Total (PSU Sales)	26,125.7	27,494.3	**28,253.3**	**28,503.1**	**0.9%**	**2,157.5**	**2,154.0**	**-0.2%**
2. Direct Private Imports*	204.0	64.2	0.1	0.1	0.2%	0.00	0.01	-
Total (1+2)	26,329.8	27,558.4	**28,253.4**	**28,503.2**	**0.9%**	**2,157.5**	**2,154.0**	**-0.2%**

*Jan'23 -Mar'23 DGCIS data is prorated

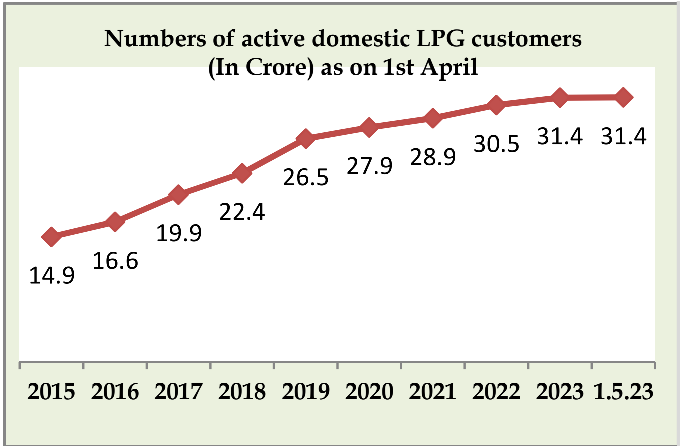
16. LPG marketing at a glance

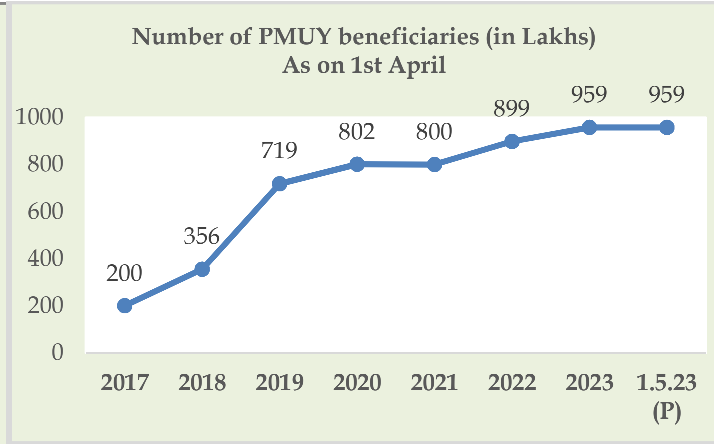
Particulars (As on 1st of April)	Unit	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	1.05.23 (P)
LPG Active Domestic Customers	(Lakh)				1486	1663	1988	2243	2654	2787	2895	3053	3140	3143
	Growth					11.9%	19.6%	12.8%	18.3%	5.0%	3.9%	5.5%	2.9%	2.3%
LPG Coverage (Estimated)	(Percent)				56.2	61.9	72.8	80.9	94.3	97.5	99.8	-	-	-
	Growth					10.1%	17.6%	11.1%	16.5%	3.4%	2.3%	-	-	-
PMUY Beneficiaries	(Lakh)						200	356	719	802	800.4	899.0	958.6	958.6
	Growth							77.7%	101.9%	11.5%	-0.2%	12.2%	6.6%	4.1%
LPG Distributors	(No.)	11489	12610	13896	15930	17916	18786	20146	23737	24670	25083	25269	25386	25384
	Growth	9.0%	9.8%	10.2%	14.6%	12.5%	4.9%	7.2%	17.8%	3.9%	1.7%	0.7%	0.5%	0.4%
Auto LPG Dispensing Stations	(No.)	652	667	678	681	676	675	672	661	657	651	601	526	525
	Growth	7.9%	2.3%	1.6%	0.4%	-0.7%	-0.1%	-0.4%	-1.6%	-0.6%	-0.9%	-8.5%	-12.5%	-12.6%
Bottling Plants	(No.)	184	185	187	187	188	189	190	192	196	200	202	208	208
	Growth	0.5%	0.5%	1.1%	0.0%	0.5%	0.5%	0.5%	1.1%	2.1%	2.0%	1.0%	4.5%	4.5%

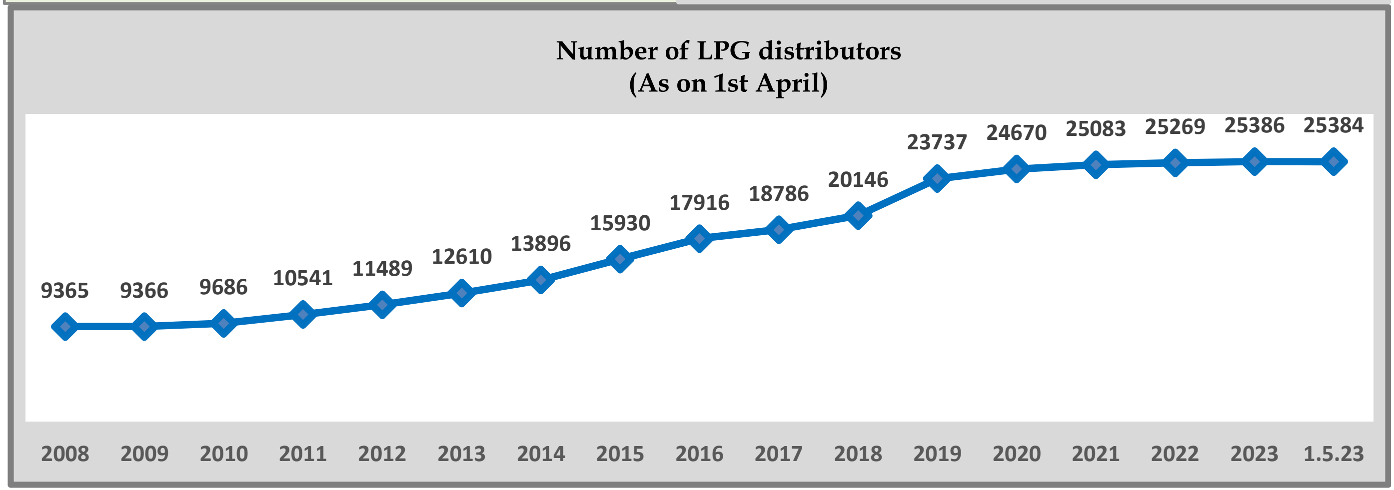
Source: PSU OMCs (IOCL,BPCL and HPCL)

1.Growth rates as on 01.05.2023 are with respect to figs as on 01.05.2022. Growth rates as on 1 April of any year are with respect to figs as on 1 April of previous year.

2. The LPG coverage is calculated by PSU OMCs based upon the active LPG domestic connections and the estimated number of households. The number of households has been projected by PSU OMCs based on 2011 census data. Factors like increasing nuclearization of families, migration of individuals/ families due to urbanization and reduction in average size of households etc. impact the growth of number of households. Due to these factors, the estimated no. of households through projection of 2011 census data may slightly differ from the actual no. of households in a State/UT. Further, this methodology does not include PNG (domestic) connections.


Numbers of active domestic LPG customers
(In Crore) as on 1st April
14.9
16.6
19.9
22.4
26.5
27.9
28.9
30.5
31.4
31.4
2015
2016
2017
2018
2019
2020
2021
2022
2023
1.5.23

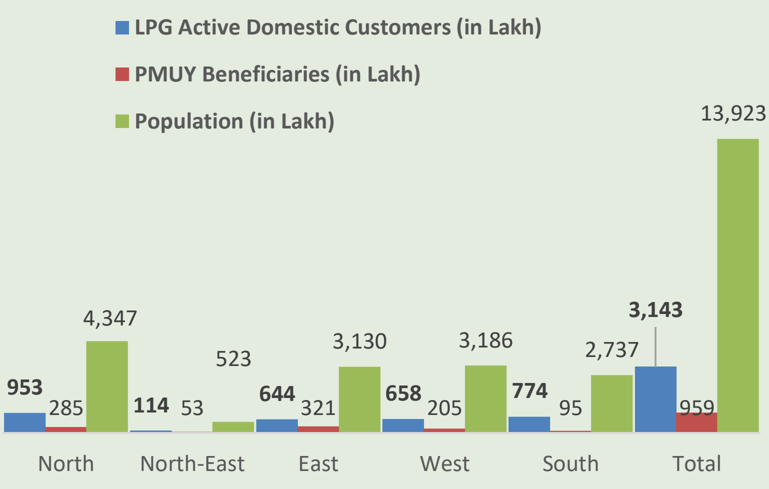

Number of PMUY beneficiaries (in Lakhs)
As on 1st April
1000
800
600
400
200
0
200
356
719
802
800
899
959
959
2017
2018
2019
2020
2021
2022
2023
1.5.23 (P)


Number of LPG distributors
(As on 1st April)
9365
9366
9686
10541
11489
12610
13896
15930
17916
18786
20146
23737
24670
25083
25269
25386
25384
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
1.5.23

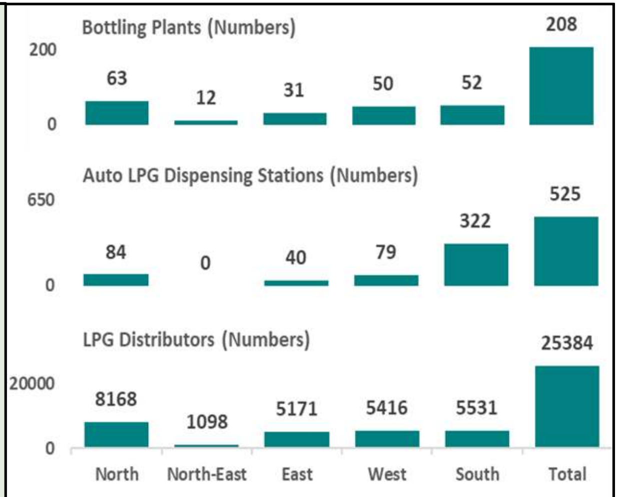
17-Region-wise data on LPG marketing (As on 01.05.2023)

Particulars	North	North-East	East	West	South	Total
LPG Active Domestic Customers (in Lakh)	953.1	114.0	644.4	657.7	774.0	3143.2
Population^ (in Lakh)	4347.5	523.0	3130.2	3185.9	2736.7	13923.3
PMUY Beneficiaries (in Lakh)	285.2	53.0	320.8	204.7	94.8	958.6
LPG Distributors (Numbers)	8168	1098	5171	5416	5531	25384
Auto LPG Dispensing Stations (Numbers)	84	0	40	79	322	525
Bottling Plants* (Numbers)	63	12	31	50	52	208

*Includes Numaligarh BP, Duliajan BP and CPCL BP. ^Population as on 1st July 2022 taken from RGI POPULATION PROJECTIONS 2011 – 2036



As on 1.5.2023



As on 1.5.2023

PART-E

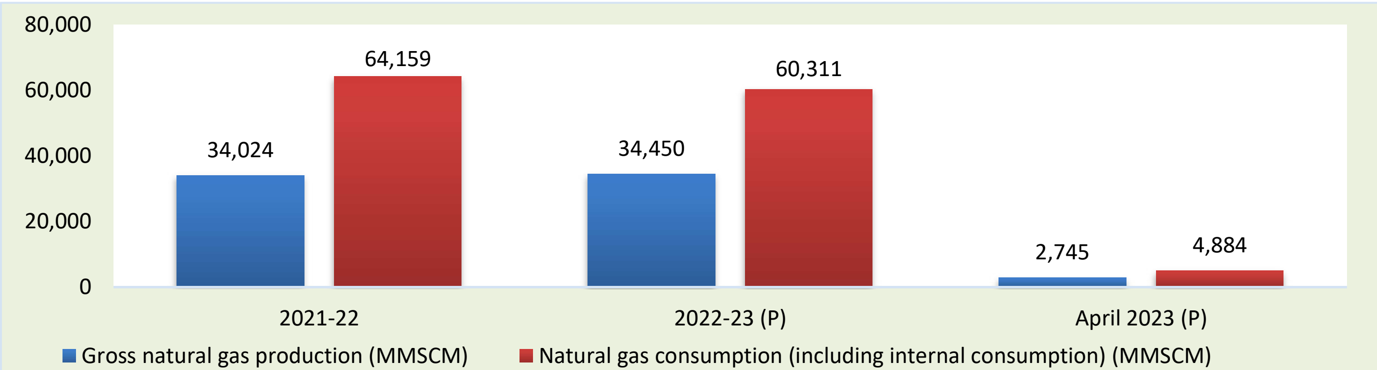
Natural Gas

18. Natural gas at a glance

(MMSCM)

Details	2019-20	2020-21	April-Mar			April		
			2021-22 (P)	2022-23 (Target)	2022-23 (P)	2022-23 (P)	2022-23 (Target)	2023-24 (P)
(a) Gross production	31,184	28,672	34,024	36,782	34,450	2,827	2,868	2,745
- ONGC	23,746	21,872	20,629	21,568	19,969	1,708	1,721	1,607
- Oil India Limited (OIL)	2,668	2,480	2,893	3,245	3,041	245	245	237
- Private / Joint Ventures (JVs)	4,770	4,321	10,502	11,968	11,440	874	903	901
(b) Net production (excluding flare gas and loss)	30,257	27,784	33,131		33,664	2,748		2,671
(c) LNG import#	33,887	33,198	31,028		26,647	2,078		2,213
(d) Total consumption including internal consumption (b+c)	64,144	60,981	64,159		60,311	4,826		4,884
(e) Total consumption **(in BCM)**	64.1	61.0	64.2		60.3	4.8		4.9
(f) Import dependency based on consumption (%), {c/d*100}	52.8	54.4	48.4		44.2	43.1		45.3

Mar - Apr 2023 DGCIS data prorated.



19. Coal Bed Methane (CBM) gas development in India

Prognosticated CBM resources		91.8	TCF
Established CBM resources		10.4	TCF
CBM Resources (33 Blocks)		62.8	TCF
Total available coal bearing areas (India)		32760	Sq. KM
Total available coal bearing areas with MoPNG/DGH		17652	Sq. KM
Area awarded		20460	Sq. KM
Blocks awarded*		36	Nos.
Exploration initiated (Area considered if any boreholes were drilled in the awarded block)		10670***	Sq. KM
Production of CBM gas	April-Mar 2023 (P)	673.45	MMSCM
Production of CBM gas	Apr 2023 (P)	52.96	MMSCM

*ST CBM Block awarded & relinquished twice- in CBM Round II and Round IV -Area considered if any boreholes were drilled in the awarded block. **MoPNG awarded 04 new CBM Blocks (Area 3862 sq. km) under Special CBM Bid Round 2021 in September 2022. ***Area considered if any boreholes were drilled in the awarded block.

19a. Status of Compressed Bio Gas (CBG) projects under SATAT (as on 01.05.2023) (Provisional)

Particulars	Units	IOCL	HPCL	BPCL	GAIL	IGL	Total
LOIs issued	No. of plants	3267	457	230	304	..42	**4300**
Expected CBG production against LOI issued	Tons per day	24540	2506	956	1672	201	**29875**
No. of CBG plants commissioned/ Sale initiated	No. of plants	22	5	2$	9	3	**41**
Start of CBG sale from retail outlet(s)	Nos.	46	27*	43**	1		**117**
Injection/Supply of CBG in CGD network	GA Nos.	-	-	-	17#		**17**
Total Sale of CBG (since Sep'2019)	Tons	11676	1854*	2741**			**16,271**
Total Sale of CBG by GAIL under synchronization scheme	Tons				6424##		**6,424**

Total no. of GA where supply of CBG initiated is 17. ## Sale of CBG by GAIL includes sales through its own channels as well as through other CGDs for CBG sourced under synchronization scheme from OMCs & IGL's LoI holders. *2 HPCL Retail Outlets sourcing CBG from HPCL LOI holder plants, 25 HPCL Retail Outlets sourcing CBG from other than HPCL LOI holder plants. ** BPCL initiated CBG sales from 43 ROS. Out of 43 ROS, for one RO BPCL is sourcing CBG from its own LOI holder in other ROs CBG is being sourced from other OMC's LOI. $ Total No. of CBG and Bio gas plants commissioned is 8.

20. Common Carrier Natural Gas pipeline network as on 31.12.2022

Nature of pipeline		GAIL	GSPL	PIL	IOCL	AGCL	RGPL	GGL	DFPCL	ONGC	GIGL	GITL	Others*	Total
Operational	Length	9,582	2,695	1,479	143	107	304	73	42	24				**14,449**
	Capacity	167.2	43.0	85.0	20.0	2.4	3.5	5.1	0.7	6.0				-
Partially commissioned#	Length	4,778			282						1,255	365		**6,680**
	Capacity				-						-	-		-
Total operational length		**14,360**	**2,695**	**1,479**	**425**	**107**	**304**	**73**	**42**	**24**	**1,255**	**365**	**0**	**21,129**
Under construction	Length	5,095	100		1,149						1,077	1,666	2,915	**12,002**
	Capacity	-	3.0		-						-	-	-	-
Total length		**19,455**	**2,795**	**1,479**	**1,574**	**107**	**304**	**73**	**42**	**24**	**2,332**	**2,031**	**2,915**	**33,131**

Source: PNGRB; Length in KMs ; Authorized Capacity in MMSCMD; *Others-APGDC, HEPL, IGGL, IMC, Consortium of H-Energy. Total authorized Natural Gas pipelines including Tie-in connectivity, dedicated & STPL is 35335 Kms (P)

21. Existing LNG terminals

Location	Promoters	Capacity as on 01.05.2023	% Capacity utilisation (April-Mar 2023)
Dahej	Petronet LNG Ltd (PLL)	17.5 MMTPA	77.8
Hazira	Shell Energy India Pvt. Ltd.	5.2 MMTPA	36.6
Dabhol	Konkan LNG Limited	*5 MMTPA	39.2
Kochi	Petronet LNG Ltd (PLL)	5 MMTPA	18.6
Ennore	Indian Oil LNG Pvt Ltd	5 MMTPA	13.0
Mundra	GSPC LNG Limited	5 MMTPA	16.0
Total Capacity		**42.7 MMTPA**	

* To increase to 5 MMTPA with breakwater. Only HP stream of capacity of 2.9 MMTPA is commissioned

22. Status of PNG connections and CNG stations across India (Nos.), as on 31.03.2023(P)

State/UT (State/UTs are clubbed based on the GAs authorised by PNGRB)	CNG Stations	PNG connections		
		Domestic	Commercial	Industrial
Andhra Pradesh	161	253,361	429	33
Andhra Pradesh, Karnataka & Tamil Nadu	36	170	0	5
Assam	5	49,079	1,340	441
Bihar	93	102,534	74	4
Bihar & Jharkhand	2	7,261	0	0
Bihar & Uttar Pradesh	14	0	0	0
Chandigarh (UT), Haryana, Punjab & Himachal Pradesh	25	25,540	118	24
Chhattisgarh	9	0	0	0
Dadra & Nagar Haveli (UT)	7	11,171	55	58
Daman & Diu (UT)	4	5,134	47	43
Daman and Diu & Gujarat	15	1,852	7	0
Goa	12	10,703	15	31
Gujarat	997	2,975,194	22,419	5,765
Haryana	338	318,271	827	1,670
Haryana & Himachal Pradesh	10	0	0	0
Haryana & Punjab	24	2	0	0
Himachal Pradesh	8	5,461	4	0
Jharkhand	75	111,534	5	0
Karnataka	291	386,283	523	300
Kerala	105	44,298	20	16
Kerala & Puducherry	9	361	0	0
Madhya Pradesh	221	206,697	343	441
Madhya Pradesh and Chhattisgrah	7	0	0	0
Madhya Pradesh and Rajasthan	31	320	0	0
Madhya Pradesh and Uttar Pradesh	16	0	0	2
Maharashtra	741	2,840,638	4,652	867
Maharashtra & Gujarat	60	150,004	4	17
Maharashtra and Madhya Pradesh	9	0	0	0
National Capital Territory of Delhi (UT)	480	1,438,659	3,582	1,799

State/UT (State/UTs are clubbed based on the GAs authorised by PNGRB)	CNG Stations	PNG connections		
		Domestic	Commercial	Industrial
Odisha	66	86,876	5	0
Puducherry	1	0	0	0
Puducherry & Tamil Nadu	8	175	0	0
Punjab	204	67,344	324	244
Punjab & Rajasthan	19	0	0	0
Rajasthan	247	213,830	83	1,519
Tamil Nadu	187	738	0	8
Telangana	147	193,026	77	98
Telangana and Karnataka	2	0	0	0
Tripura	18	59,131	506	62
Uttar Pradesh	797	1,367,777	2,218	2,689
Uttar Pradesh & Rajasthan	40	18,958	38	343
Uttar Pradesh and Uttrakhand	26	8,019	0	0
Uttarakhand	30	68,567	57	84
West Bengal	68	260	0	0
Total	**5,665**	**11,029,228**	**37,772**	**16,563**

Source: PNGRB

Note: 1. All the GAs where PNG connections/CNG Stations have been established are considered as Operational, 2. Under normal conditions. Operation of any particular GA commences within around one year of authorization. 3. State/UTs wherever clubbed are based on the GAs authorised by PNGRB.

23. Domestic natural gas price and gas price ceiling (GCV basis)

Period	Domestic Natural Gas price in	Gas price ceiling in US$/MMBTU
November 2014 - March 2015	5.05	-
April 2015 - September 2015	4.66	-
October 2015 - March 2016	3.82	-
April 2016 - September 2016	3.06	6.61
October 2016 - March 2017	2.5	5.3
April 2017 - September 2017	2.48	5.56
October 2017 - March 2018	2.89	6.3
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
October 2020 - March 2021	1.79	4.06
April 2021 - September 2021	1.79	3.62
October 2021 - March 2022	2.9	6.13
April 2022 - September 2022	6.1	9.92
October 2022 - March 2023	8.57	12.46
1 April 2023 - 7 April 2023	9.16	12.12

Period	Domestic Gas calculated price in US$/MMBTU	Domestic Gas ceiling price for ONGC/OIL in US$/MMBTU	Period	HP-HT Gas price ceiling in US$/MMBTU
8 April 2023 - 30 April 2023	7.92	6.50	April 2023 - September 2023	12.12
1 May 2023 - 31May 2023	8.27	6.50		

Natural Gas prices are on GCV basis

24. CNG/PNG prices

City	CNG (Rs/Kg)	PNG (Rs/SCM)	Source
Delhi	73.59	48.59	IGL website (18.05.2023)
Mumbai	79.00	49.00	MGL website (18.05.2023)

Indian Natural Gas Spot Price for Physical Delivery

IGX Price Index Month	Avg. Price		Volume (MMSCM)	Source
	INR/MMBtu	$/MMBtu		
Apr 2022	1075	13.11	19.92	As per IGX website: www.igxindia.com

*Prices are weighted average prices |$1=INR 82.02| 1 MMBtu=25.2 SCM (Data Excluding Ceiling Price Gas)

PART-F

Taxes & Duties on Petroleum Products

25. Information on Prices, Taxes and Under-recoveries/Subsidies

International FOB prices/ Exchange rates ($/bbl)

Particulars	2021-22	2022-23	Apr 2023
Crude oil (Indian Basket)	79.18	93.15	83.76
Petrol	89.66	107.00	96.54
Diesel	88.45	128.08	93.93
Kerosene	85.31	120.55	92.29
LPG ($/MT)	692.67	711.50	549.00
FO ($/MT)	445.25	452.66	426.51
Naphtha ($/MT)	698.25	666.53	609.81
Exchange (Rs./$)	74.51	80.39	82.02

Customs, excise duty & GST rates

Product	Basic customs duty #	Excise duty	GST rates
Petrol	2.50%	Rs 19.90/Ltr	**
Diesel	2.50%	Rs 15.80/Ltr	**
PDS SKO	5.00%	Not Applicable	5.00%
Non-PDS SKO	5.00%		18.00%
Domestic LPG	Nil***		5.00%
Non Domestic LPG	5.00%		18.00%
Furnace Oil (Non-Fert)	2.50%		18.00%
Naphtha (Non-Fert)	2.50%^^		18.00%
ATF	5.00%	11% *	**
Crude Oil	Rs.1/MT+ Rs.50/-MT as NCCD	Rs.1/MT+ Cess@20% + Rs.50 /-MT NCCD + Rs.NIL/ MT SAED ^^^	**

*2% for scheduled commuter airlines from regional connectivity scheme airports ** GST Council shall recommend the date on which GST shall be levied on petroleum crude , HSD, MS, natural gas and ATF; # Social welfare surcharge @ 10% is levied on aggregate duties of Customs excluding CVD in lieu of IGST.*** Customs duty is Nil for import of Domestic LPG sold to household consumers (including NDEC) by PSU OMCs. Customs duty rate is 5% for other importers of domestic LPG, ^^ effective 02.02.2023 ,^^^ Effective 16.05.2023 SAED on crude oil.

Price buildup of petroleum products (Rs./litre/Cylinder) *

Particulars	Petrol	Diesel
Price charged to dealers (excluding Excise Duty and VAT)	57.35	58.16
Excise Duty	19.90	15.80
Dealers' Commission (Average)	3.76	2.55
VAT (incl VAT on dealers' commission)	15.71	13.11
Retail Selling Price	**96.72**	**89.62**

Particulars	PDS SKO	Subsidised Domestic LPG
Price before taxes and dealers'/distributors' commission	56.63	985.63
Dealers'/distributors' commission	2.66	64.84
GST (incl GST on dealers'/distributors' commission)	2.96	52.53
Retail Selling Price	**62.25**	**1103.00**

*Petrol and Diesel at Delhi as per IOCL are as on 1st May 2023. PDS SKO at Mumbai as on 1st May 2023 and Subsidised Domestic LPG at Delhi as on 1st May 2023.

25. Information on Prices, Taxes and Under-recoveries/Subsidies

DBTL/ PMUY Subsidy

Domestic LPG under DBTL (Direct benefit transfer for LPG)

Product	2020-21	2021-22	2022-23 (P)
	Rs./Crore		
DBTL subsidy	3,559	-	823
PME &IEC^	99	242	32
Total	**3,658**	**242**	**855**

^ On payment basis (PME & IEC - Project Management Expenditure & Information , Education and Communication)

Note: During FY 2022-23 Government of India has approved a one-time grant of Rs. 22,000 crores to PSU OMCs towards under-recoveries in Domestic LPG.

PMUY

Particulars	2020-21	2021-22	2022-23 (P)
	Rs./Crore		
PMUY	-34	1,569	6,110
PME &IEC^	110	-	-
Pradhan Mantri Gareeb Kalyan Yojana	8,162	-	-
Total	**8,238**	**1,569**	**6,110**

^ On payment basis (PME & IEC - Project Management Expenditure & Information , Education and Communication)

Sales & profit of petroleum sector (Rs. Crores)

Particulars	2021-22		9M-2022-23 (P)	
	Turnover	PAT	Turnover	PAT
Upstream/midstream Companies (PSU)	215,625	54,557	246,934	48,797
Downstream Companies (PSU)	15,29,502	39,355	14,44,032	-18,621
Standalone Refineries (PSU)	169,984	7,859	188,695	6,194
Private-RIL	466,425	39,084	438,963	30,384

Borrowings of OMCs (Rs. Crores), As on

Company	Mar`21	Mar'22	Dec`22 (P)
IOCL	102,327	110,799	144,065
BPCL	26,315	24,123	40,256
HPCL	40,009	43,193	64,245

Petroleum sector contribution to Central/State Govt.

Particulars	2020-21	2021-22	9M-2022-23 (P)
Central Government	4,55,069	492,303	307,913
% of total revenue receipts	28%	24%	
State Governments	2,17,650	282,122	237,089
% of total revenue receipts	8%	8%	
Total (Rs. Crores)	**6,72,719**	**7,74,425**	**5,45,002**

Total Subsidy as a percentage of GDP (at current prices)

Particulars	2020-21	2021-22	2022-23 (P)
Petroleum subsidy	0.06	0.01	0.03

Note: GDP figure for 2020-21 & 2021-22 are Revised Estimates (RE) and 2022-23 are Second Advance Estimates (SAE).

**Totals may not tally due to roundoff.

PART-G

Miscellaneous

26. Capital expenditure of PSU oil companies

(Rs in crores)

Company	2020-21	2021-22	2022-23 (P)	2023-24 (P)	
				Target (Annual)	April 23
ONGC Ltd	26,441	26,621	29,209	30,125	2,538
ONGC Videsh Ltd (OVL)	5,351	4,836	2,723	3,229	217
Oil India Ltd (OIL)	12,802	4,239	5,057	4,896	218
GAIL (India) Ltd	5,560	6,970	8,313	7,750	212
Indian Oil Corp. Ltd. (IOCL)	27,195	29,604	35,205	30,395	2,078
Hindustan Petroleum Corp. Ltd (HPCL)	14,036	16,205	13,847	10,210	978
Bharat Petroleum Corp. Ltd (BPCL)	10,697	11,449	11,527	10,000	220
Mangalore Refinery & Petrochem Ltd (MRPL)	2,218	604	641	820	10
Chennai Petroleum Corp. Ltd (CPCL)	592	575	609	548	43
Numaligarh Refinery Ltd (NRL)	981	3,403	6,615	8,290	703
Balmer Lawrie Co. Ltd (BL)	42	23	46	40	1
Engineers India Ltd (EIL)	730	67	60	98	6
Total	**106,642**	**104,596**	**113,853**	**106,401**	**7,224**

Includes expenditure on investment in JV/subsidiaries.

(P) Provisional

Totals may not tally due to roundoff.

27. Conversion factors and volume conversion

Weight to volume conversion

Product	Weight (MT)	Volume (KL)	Barrel (bbl)
LPG	1	1.844	11.60
Petrol (MS)	1	1.411	8.88
Diesel (HSD)	1	1.210	7.61
Kerosene (SKO)	1	1.285	8.08
Aviation Turbine Fuel (ATF)	1	1.288	8.10
Light Diesel Oil (LDO)	1	1.172	7.37
Furnace Oil (FO)	1	1.0424	6.74
Crude Oil	1	1.170	7.33

Exclusive Economic Zone

200 Nautical Miles	370.4 Kilometers

Volume conversion

From	To
1 US Barrel (bbl)	159 litres
1 US Barrel (bbl)	42 US Gallons
1 US Gallon	3.78 litres
1 Kilo litre (KL)	6.29 bbl
1 Million barrels per day	49.8 MMTPA

Energy conversion

1 Kilocalorie (kcal)	4.187 kJ
1 Kilocalorie (kcal)	3.968 Btu
1 Kilowatt-hour (kWh)	860 kcal
1 Kilowatt-hour (kWh)	3,412 Btu

Natural gas conversions

1 Standard Cubic Metre (SCM)	35.31 Cubic Feet	1 MMBTU	25.2 SCM @10000 kcal/SCM
1 Billion Cubic Metres (BCM)/year of Gas	2.74 MMSCMD	GCV (Gross Calorific Value)	10,000 kcal/SCM
1 Trillion Cubic Feet (TCF) of Gas Reserve	3.88 MMSCMD	NCV (Net Calorific Value)	90% of GCV
1 Million Metric Tonne Per Annum (MMTPA) of LNG	3.60 MMSCMD	Gas required for 1 MW power generation	4,541 SCM/day
1 MT of LNG	1,325 SCM	Power generation from 1 MMSCMD of gas	220 MW

Petroleum Planning & Analysis Cell
Ministry of Petroleum & Natural Gas, Government of India)
SCOPE Complex, 2nd Floor, Core-8, Lodhi Road, New Delhi-110003
Tel.: 011-24306191/92, 011-24361314, Fax : 011-24361253 www.ppac.gov.in