

Petrochemical Technology

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Petrochemical Sector – a key pillar of the economy

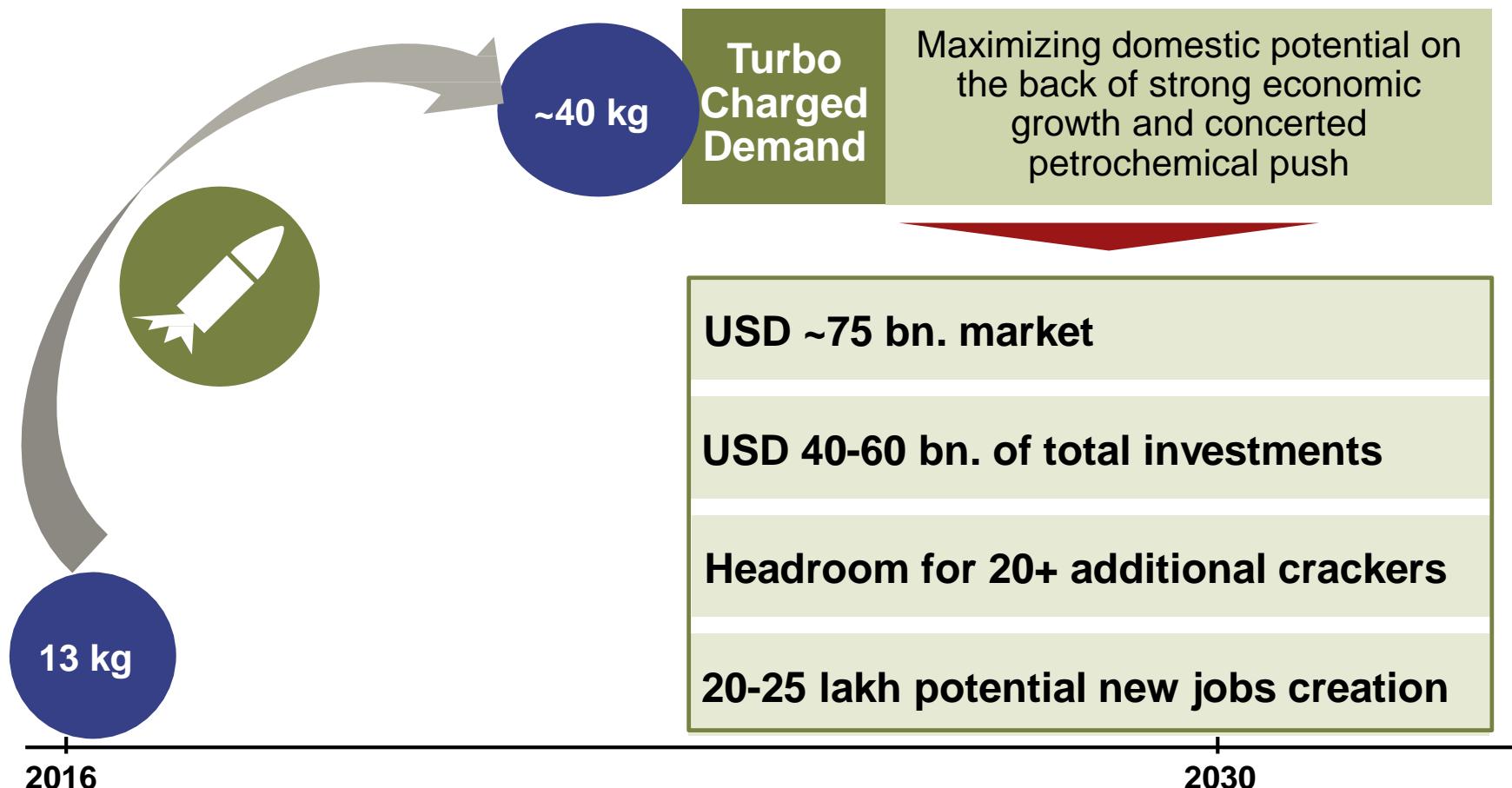
Petrochemicals are commercially used chemicals derived from various chemical compounds, mainly hydrocarbons, which are again derived from Crude Oil (Petroleum) and Natural Gas.

Petrochemicals play a vital role in economic development & growth of a country. The growth of this industry is closely linked to economic growth of a country. Petrochemicals are considered as enablers for growth of other sectors of the economy.

Today, petrochemical products permeate the entire spectrum of daily use items and cover almost every sphere of life like clothing, housing, construction, furniture, automobiles, household items, agriculture, horticulture, irrigation, packaging, medical appliances, electronics and electrical, etc.

Indian petrochemical demand can register 3X growth - potential to be a ~USD \$75 billion market by 2030

India's per capita consumption growth



1. Includes major derivatives of propylene, ethylene, aromatics & butadiene; Estimated at current prices

Source: A.T. Kearney Global Petrochemical Model, Nexant



Per Capita Primary Energy Consumption International Comparison 2022

(Figures in Kg. Oil Equivalent)

S. No.	Country	Oil	Natural Gas	Coal	Nuclear Energy	Hydro electric- ity	Renew- ables	Total	Population (Million) Mid-2022
1	2	3	4	5	6	7	8	9	10
1	China	390	193	1260	54	174	190	2261	1674
2	US	2520	2275	708	524	174	605	6806	333
3	India	165	35	338	7	28	36	609	1417
4	Russian Federation	1134	2430	528	332	308	13	4744	144
5	Japan	1218	686	933	89	133	290	3349	126
6	Canada	2553	2694	240	480	2301	363	8631	39
7	Germany	1395	329	169	37	1149	725	3805	83
8	South Korea	2460	1031	1327	735	14	241	5808	52
9	Brazil	460	309	259	34	18	272	1352	215
10	Iran	966	2220	22	16	19	5	3248	89
11	Saudi Arabia	4520	2816	-	-	-	7	7343	37
12	France	1079	482	1589	-	94	268	3513	66
13	Indonesia	347	301	22	9	29	39	747	276
14	United Kingdom	999	487	74	936	148	286	2930	68
15	Turkey	727	726	59	120	14	381	2027	85
16	Mexico	382	344	328	-	118	129	1301	128
17	Italy	973	952	126	-	105	308	2464	59
18	Australia	1862	1388	1434	-	148	648	5478	26
19	Spain	1302	599	86	267	86	524	2863	47
20	Thailand	830	572	254	-	21	111	1788	67
21	South Africa	838	989	39	71	-	28	1965	61
22	Taiwan	1730	1831	967	-	319	93	4940	23
23	United Arab Emirates	2616	406	8404	229	76	406	12138	9
24	Poland	1252	735	1150	153	36	116	3442	33
25	Vietnam	239	67	488	-	214	79	1086	100
26	Malaysia	891	408	1137	-	13	245	2694	38
27	Pakistan	345	511	12	-	30	23	921	102
28	Egypt	136	166	5	7	22	24	360	236
29	Netherlands	1298	1861	863	270	445	81	4817	18
30	Singapore	7509	4253	998	174	-	2213	15146	6
Rest of World		336	241	87	29	98	48	838	2309
Total World		556	425	484	72	122	135	1794	7963

World Energy Outlook-2022

Total Primary Energy Consumption (Exajoules)		Refining Capacity (Thousand barrels daily)	
World	604	World	101902
India (Rank 3)	36	India (Rank 4)	5045
Top Five Countries		Top Five Countries	
China	159	US	18061
US	96	China	17259
India	36	Russian Federation	6821
Russian Federation	29	India	5045
Japan	18	South Korea	3363
Production - Oil (Thousand barrels daily)		Consumption- Oil (Thousand barrels daily)	
World	93848	World	97309
India (Rank 22)	737	India (Rank 3)	5185
Top Five Countries		Top Five Countries	
US	17770	US	19140
Saudi Arabia	12136	China	14295
Russian Federation	11202	India	5185
Canada	5576	Saudi Arabia	3876
Iraq	4520	Russian Federation	3570
Production - Natural Gas (BCM)		Consumption- Natural Gas (BCM)	
World	4044	World	3941
India (Rank 23)	30	India (Rank 15)	58
Top Five Countries		Top Five Countries	
US	979	US	881
Russian Federation	618	Russian Federation	408
Iran	259	China	376
China	222	Iran	229
Canada	185	Canada	122

Crude Oil Imports (Thousand barrels daily)		Crude Oil Exports (Thousand barrels daily)	
World	44640	World	43477
India (Rank 3)	4581	India	-
Top Five Countries		Top Five Countries	
China	10189	Saudi Arabia	7364
United States	6278	Russia	4780
India	4581	Iraq	3712
South Korea	2752	United States	3604
Japan	2733	Canada	3050
Petroleum Product Imports (Thousand barrels daily)		Petroleum Product Exports (Thousand barrels daily)	
World	27717	World	30012
India (Rank 5)	1057	India (Rank 7)	1312
Top Five Countries		Top Five Countries	
Singapore	1944	United States	5973
United States	2040	Russia	2277
Netherlands	1792	Netherlands	2193
China	1485	Singapore	1487
India	1057	Saudi Arabia	1468
Natural Gas Imports (BCM)		Natural Gas Exports (BCM)	
World	1313	World	1408
India (Rank 15)	29	India	-
Top Five Countries		Top Five Countries	
China	145	United States	196
Germany	125	Russia	184
Japan	88	Qatar	135
United States	77	Norway	118
Italy	66	Australia	107

Petrochemicals

**Total Petrochemicals Production : 44.588 MMT
During 2021-22**

A: Intermediates [22.686 MMT]

Building Blocks

Olefins (3): Ethylene, Propylene and Butadiene
[12.527 MMT]

Aromatics (5): Benzene, Toluene, *ortho*-Xylene,
[4.677 MMT] *para*-Xylene and Mixed Xylene

Fibre Intermediates (4) **[5.482 MMT]** :

Acrylonitrile, Caprolactum, Mono Ethylene Glycol (MEG),
and Purified Terephthalic Acid (PTA)

B: Major Petrochemicals [19.372 MMT]

Synthetic Fibres (10) [4.04 MMT] :

Acrylic Fibre, Polyester Staple Fibrefill, Nylon Filament Yarn, Nylon Industrial Yarn/Tyre Cord, Polyester Filament Yarn, Polyester Staple Fibre, Polypropylene Filament Yarn, Polypropylene Staple Fibre, Polyester Industrial Yarn, Elastomeric/Spandex Filament Yarn

Polymers (7) [12.47 MMT] :

Linear Low Density Polyethylene, Low Density Polyethylene, High Density Polyethylene, Polystyrene, Polypropylene (Inc. Co- Polymer), Expandable Polystyrene, Poly Vinyl Chloride

Synthetic Rubber (Elastomers) (4) [0.382 MMT] :

Styrene Butadiene Rubber (SBR), Poly Butadiene Rubber (PBR), Nitrile Butadiene Rubber (NBR), Ethyl Vinyl Acetate (EVA)

Performance Plastics (8) [1.70 MMT] :

Acrylonitrile Butadiene Styrene (ABS) Resin, Nylon-6, Nylon 6,6, Polymethyl Methacrylate (PMMA), Styrene Acrylonitrile (SAN) Resin, Polytetrafluoroethylene (PTFE), Polyester Chips/PET Chips, Polycarbonate

Synthetic Detergent Intermediates (2) [0.78 MMT] :

Linear Alkyl Benzene (LAB), Ethylene Oxide (EO)

C: Other Petro-based Chemicals (19)

[2.53 MMT]

Diethylene Glycol, Diacetone Alcohol, Ethylene Dichloride, Butanol, 2-Ethyl Hexanol, **Vinyl Chloride Monomer**, PBT, Polycarbonate, **Propylene Oxide**, **Propylene Glycol**, Polyvinyl Acetate Resin, Unsaturated Polyester Resin, Methyl Methacrylate, Iso-Butanol, C4-Raffinate, **Phthalic Anhydride**, Vinyl Acetate Monomer, Isopropanol, Polyol.

Olefinic Complexes

Presently, there are seventeen crackers, in operation with combined ethylene capacity of about 8.67 MMTPA

1. Brahmaputra Cracker and Polymer Ltd. (BPCL), Lepetkata, Dibrugarh, Assam.
2. Chennai Petroleum Corpn. Ltd., Manali, Chennai.
3. GAIL (India) Ltd., Pata, Auraiya, UP.
4. Haldia Petrochemicals Ltd., Haldia, West Bengal.
5. Hindustan Organic Chemicals Ltd., (i) Ambalamugal, Ernakulam, Kerala(ii) Raigad, Maharashtra.
6. Hindustan Petroleum Corp. Ltd., Visakhapatnam, AP.
7. HPCL-Mittal Energy Ltd., Bhatinda, Punjab.
8. Indian Oil Corpn. Ltd. (i) Mathura Refinery, (ii) Panipat Refinery (Both Gas and Naphtha Cracker), (iii) Paradip Refinery
9. Mangalore Refinery and Petrochemicals Ltd. (MRPL), Kuthethoor, Mangalore, Karnataka.
- 10.ONGC Petro Additions Ltd. (OPAL), Bharuch, Dahej, Gujarat.
11. Reliance Industries Ltd. (RIL), (i) Hazira, (ii) Jamnagar, (iii) Dahej, (iv)Vadodara, (v) Jamnagar (ROGC), (vi) Nagothane, Raigad, Maharashtra.

Naphtha Crackers	Ethylenne Capacity (MTs)
Reliance Industries Ltd., Vadodara, Gujarat	1,75,000
Reliance Industries Ltd, Hazira, Gujarat	8,87,000
Haldia Petrochemicals Ltd, Haldia, West Bengal	7,00,000
Indian Oil Corporation Ltd., Panipat, Haryana	8,00,000
Natural Gas Crackers	
Reliance Industries Ltd., Nagothane, Maharashtra	4,21,400
Gas Authority of India Limited, Pata, UP	8,50,000
Reliance Industries Ltd, Dahej, Gujarat	4,00,000
Dual Feed Crackers	
Brahmaputra Cracker and Polymer Limited (BCPL)	2,13,100
ONGC Petro additions Ltd. (OPaL)*	11,00,000
Off Gas Cracker	
Reliance Gas industry, Jamnagar	15,00,000
Indian Oil Corporation Ltd., Paradip, Odisha	2,00,000

Aromatic Complexes

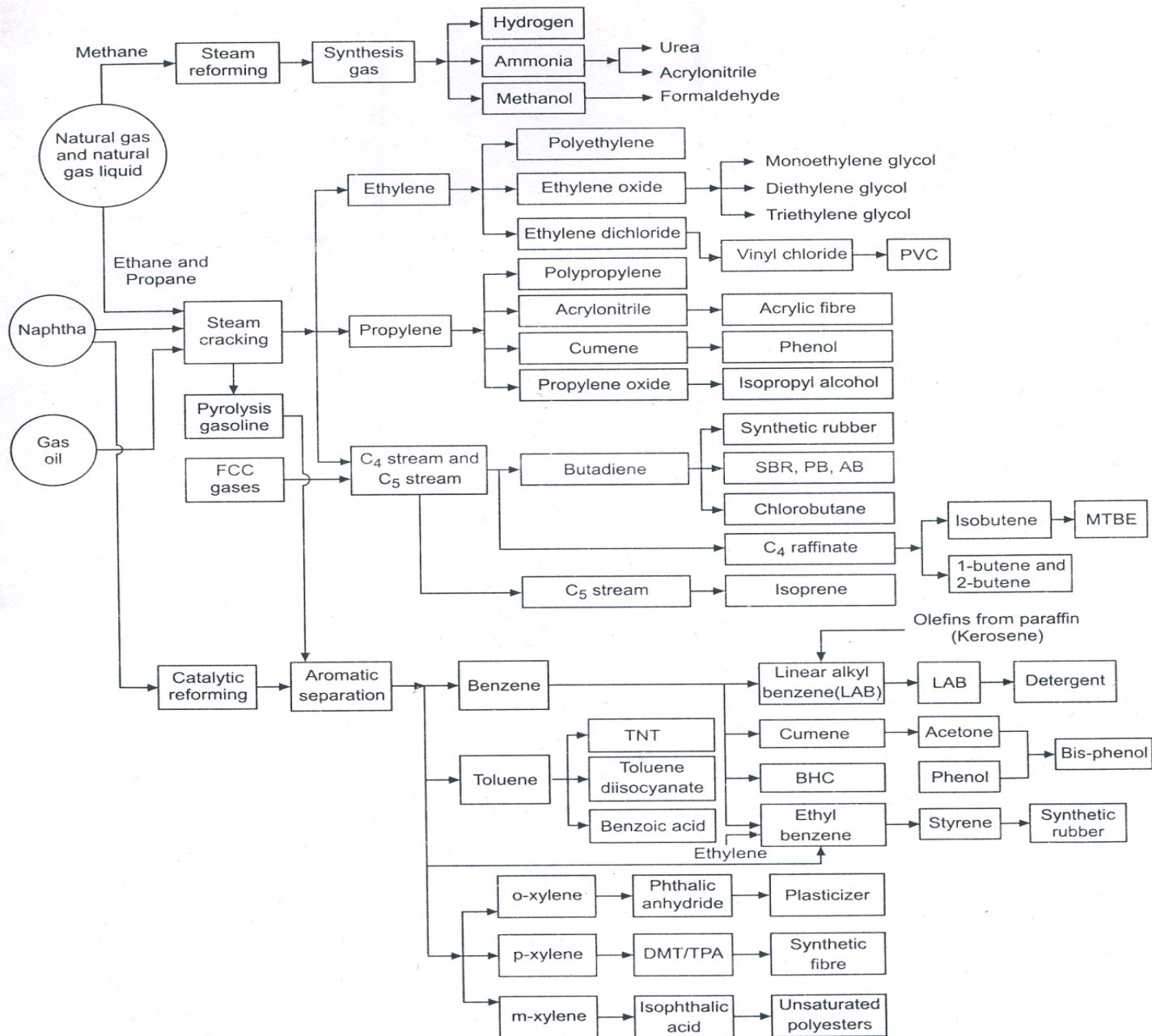
1. Bharat Petroleum Corpn. Ltd. (BPCL), (i) Mahul, Chembur, Mumbai (ii) Ambalamugal, Ernakulam, Kerala.
2. Haldia Petrochemicals Ltd., Haldia, West Bengal.
3. Indian Oil Corpn. Ltd. (IOCL), (i) Panipat Refinery (ii) Gujarat Refinery
4. Mangalore Refinery and Petrochemicals Ltd. (MRPL), Kuthethoor, Mangalore, Karnataka.
5. ONGC Mangalore Petrochemicals Ltd. Permude, Mangaluru.
6. Reliance Industries Ltd. (RIL), (i) Hazira, (ii) Jamnagar, (iii) Vadodara, (iv) Patalganga, Raigad, Maharashtra.
7. Steel Authority of India Ltd. (SAIL), (i) DSP, Durgapur, West Bengal, (ii) BSP, Bhilai, Chattisgarh.
8. The Indian Iron & Steel Co. Ltd. (IISCO), Burnpur, Burdwan, West Bengal.
9. ONGC Petro Additions Ltd. (OPAL), Bharuch, Dahej, Gujarat.

Combined Xylene capacity >6.0 MMTPA

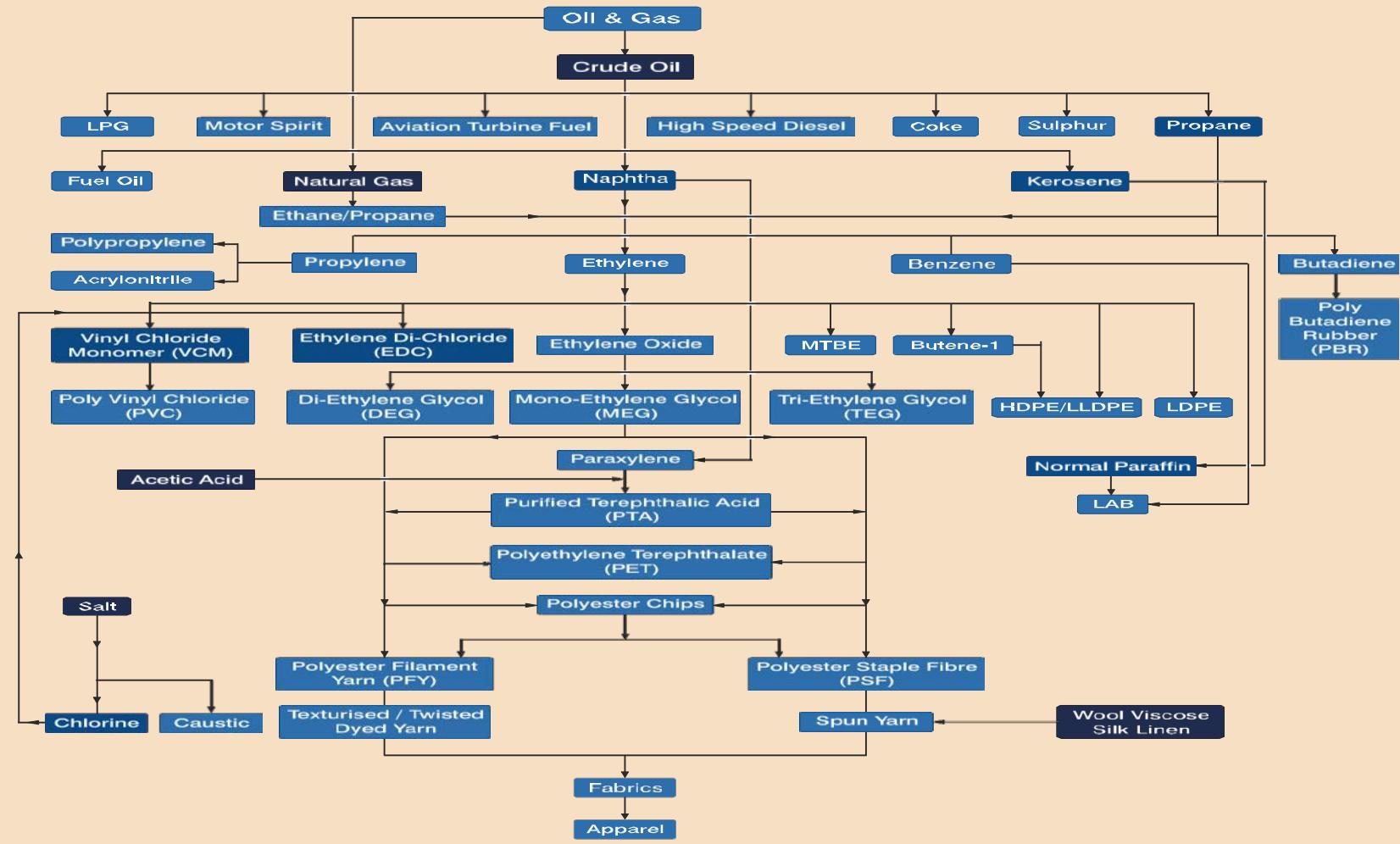
**There are fourteen aromatic complexes
in the country with a combined xylene
capacity of >6.0 MMTPA**

**There are six Petro Fluid Catalytic
Cracking Units with a combined
propylene capacity of 1.7 MMT**

Paradip Refinery: Ethylene potential – 200 KTA
Propylene potential – 700 KTA



Product Flow in RIL's Integrated Petrochemical Complex



References:

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and Glenn E Handwerk
2. Handbook of Petrochemicals Production Processes – Robert A Meyers
3. Handbook of Petrochemicals & Processes – G M Wells
4. A Text on Petrochemcials – B K Bhaskara Rao
4. Industrial Organic Chemicals – Harold A Wittcoff and Bryan G Reuben
5. *Hydrocarbon Processing's "Petrochemical Processes – 'XX"*
[Review of Latest Petrochemical Processes]


Indian Economy-Selected Indicators

Indicator	2017-18	2018-19	2019-20	2020-21	2021-22 (P)	2022-23 (P)
1	2	3	4	5	6	7
1. Gross Domestic Product :						
(i) At current prices (₹ Crore)	1,70,90,042	1,88,99,668	2,01,03,593	1,98,29,927	2,34,71,012	2,72,40,712
(ii) At constant prices (₹ Crore)	1,31,44,582	1,39,92,914	1,45,34,641	1,36,87,118	1,49,25,840	1,60,06,425
2. GVA at Basic Price :						
(i) At current prices (₹ Crore)	1,55,05,665	1,71,75,128	1,83,81,117	1,81,88,780	2,14,38,883	2,47,42,871
(ii) At constant prices (₹ Crore)	1,20,34,171	1,27,33,798	1,32,36,100	1,26,81,482	1,37,98,025	1,47,64,840
3. Per Capita NNI (Population in Million) :						
(i) At current prices (₹)	1,15,224	1,25,946	1,32,341	1,27,065	1,48,524	1,72,276
(ii) At constant prices (₹)	87,586	92,133	94,420	86,054	92,583	98,374
4. Foreign Exchange Reserves :						
(i) Gold (₹ Crore)	1,39,740	1,59,585	2,30,527	2,47,723	3,22,213	3,71,500
(ii) SDR (₹ Crore)	10,020	10,076	10,800	10,864	1,43,052	1,51,164
(iii) Foreign Currency Assets (₹ Crore)	25,97,570	26,65,564	33,33,815	39,24,168	40,94,565	41,89,132
(iv) Reserve Tranch Position (₹ Crore)	13,520	20,657	27,013	36,198	38,988	42,468
5. Foreign Trade :						
(i) Import (₹ Crore)	30,01,033	35,94,675	33,60,954	29,15,958	45,72,775	57,33,959
(ii) Export(₹ Crore)	19,56,515	23,07,726	22,19,854	21,59,043	31,47,021	36,20,631
(iii) Balance of Trade (₹ Crore)	-10,44,519	-12,86,948	-11,41,100	-7,56,914	-14,25,753	-21,13,328
6. Index:						
(i) Index of Industrial Production (2011-12=100)	125.3	130.1	129.0	118.1	131.6	138.4
(ii) Wholesale Price Index (2011-12=100)	114.9	119.8	121.8	123.4	139.4	152.5
(iii) Eight Core Industries Index (Base 2011-12=100)	125.7	131.2	131.6	123.2	136.1	146.6
7. Energy Generation (Gross) :						
(i) Coal & Lignite (MMT)	722	773	771	754	826	938
(ii) Natural Gas (BCM)	33	33	31	29	34	34
(iii) Crude Oil (MMT)	36	34	32	30	30	29
(iv) Petroleum Products (MMT)	254	262	263	234	254	267
(v) Electricity Generation (Thousand GWh)	1483	1585	1623	1598	1694	1,844

P:Provisional

Source: Oil Companies, CEA,Ministry of Power, Ministry of Coal, MoSPI, RBI and Labour Bureau, Govt. of India,



Trends in Indian Petroleum Industry at a Glance

Item 1	Unit 2	2017-18 3	2018-19 4	2019-20 5	2020-21 6	2021-22 7	2022-23 (P) 8
1. Production							
(i) Crude Oil	MMT	35.68	34.20	32.17	30.49	29.69	29.18
(ii) Natural Gas	BCM	32.65	32.87	31.18	28.67	34.02	34.45
(iii) Petroleum Products	MMT	254.40	262.36	262.94	233.51	254.31	266.54
2. Consumption							
(i) Crude Oil (in terms of refinery crude processed)	MMT	251.93	257.20	254.39	221.77	241.70	255.23
(ii) Natural Gas (including LNG)	BCM	59.17	60.80	64.14	60.98	64.16	59.97
(iii) Petroleum Products	MMT	206.17	213.22	214.13	194.30	201.70	223.01
3. Reserves (Balance Recoverable) as on 31st March							
(i) Crude Oil	MMT	594.49	618.95	608.28	591.92	653.02	669.47
(ii) Natural Gas	BCM	1,339.57	1,384.06	1,373.55	1,372.37	1,149.46	1,141.73
4. Imports & Exports							
(i) Gross Imports :							
(a) Qty : Crude Oil	MMT	220.43	226.50	226.95	196.46	212.38	232.70
LNG	MMT	20.18	21.54	24.42	25.05	23.42	19.85
Pol. Products	MMT	35.46	33.35	43.79	43.25	39.02	44.60
Total (a)	MMT	276.60	281.54	296.32	264.76	274.82	297.15
(b) Value: Crude Oil	₹ Billion	5,664.50	7,831.83	7,170.01	4,597.79	9,012.62	12,603.72
LNG	₹ Billion	523.66	738.88	684.67	583.29	1005.21	1372.10
Pol. Products	₹ Billion	883.74	1,136.65	1,257.42	1,094.30	1,768.35	2,158.54
Total (b)	₹ Billion	7,069.46	9,687.16	9,101.25	6,275.37	11,786.18	16,134.35
(ii) Exports :							
(a) Qty : Pol. Products	MMT	66.83	61.10	65.69	56.77	62.75	61.01
(b) Value: Pol. Products	₹ Billion	2,253.88	2,676.97	2,540.18	1,571.68	3,318.01	4,587.29
(iii) Net Imports :							
(a) Qty : Crude Oil	MMT	220.43	226.50	226.95	196.46	212.38	232.70
LNG	MMT	20.18	21.54	24.42	25.05	23.42	19.85
Pol. Products	MMT	-31.37	-27.75	-21.90	-13.52	-23.74	-16.42
Total (a)	MMT	209.77	220.44	230.63	207.99	212.06	236.14
(b) Value: Crude Oil	₹ Billion	5,664.50	7,831.83	7,170.01	4,597.79	9,012.62	12,603.72
LNG	₹ Billion	523.66	738.88	684.67	583.29	1005.21	1372.10
Pol. Products	₹ Billion	-1,370.14	-1,540.31	-1,282.76	-477.38	-1,549.66	-2,428.75
Total (b)	₹ Billion	4,815.58	7,010.19	6,561.08	4,703.69	8,468.17	11,547.07



Domestic and Overseas Production of Oil & Gas

Entity/Year	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
A. Domestic Production of Oil & Gas						
1. Total Production of Oil & Condensate (MMT)	35.68	34.20	32.17	30.49	29.69	29.18
2. Total Production of Gas (BCM)	32.65	32.87	31.18	28.67	34.02	34.45
4. Total Domestic O & OEG Production (MMTOE) (1+2)	68.33	67.08	63.35	59.17	63.71	63.63
B. Overseas Production of Oil & Gas						
5. Overseas Production of Crude Oil & Condensate (MMT)	15.26	17.25	16.66	14.45	14.27	12.26
6. Overseas Production of Natural Gas (BCM)	7.66	7.58	7.98	7.48	7.60	7.34
7. Total Overseas Oil & OEG Production (in MMTOE) (5+6)	22.88	24.79	24.58	21.89	21.82	19.55
8. Overseas production as (%) percentage of domestic production (7/4%)	33.48	36.96	38.80	36.99	34.25	30.73

Note: Total may not tally due to rounding off

P: Provisional

Source: Oil and Gas Companies and DGH



Basin-wise Production of Crude Oil

Basin	State	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	Production % Share in FY 2022-23
1	2	3	4	5	6	7	8	9
Crude Oil Production (TMT) by Oil and Natural Gas Corporation								
1. Western Offshore *	Maharashtra	16231	14950	14517	14236	13604	13527	46.4
2. Krishna Godavari Offshore (Eastern offshore)	Andhra Pradesh	8	18	19	13	14	17	0.1
3. Western Onland	Gujarat	4452	4492	4574	4484	4388	4484	15.4
4. Assam & Assam Arakan	Assam	975	993	987	964	994	1009	3.5
5. Krishna Godavari	Andhra Pradesh	322	285	202	154	159	202	0.7
6. Cauvery	Tamilnadu	262	303	328	331	291	254	0.9
A. Total ONGC-Nomination (1 to 6)		22249	21042	20627	20183	19451	19493	66.8
B. ONGC-NELP/JVs Share		3186	3189	2726	2350	2256	1992	6.8
C. Total ONGC's Production (A+B)		25435	24231	23353	22533	21707	21485	73.6
Crude Oil Production (TMT) by Oil India Ltd.								
7. Assam-Arakan	Assam	3367	3282	3075	2905	2957	3114	10.7
8. Assam-Arakan	Arunachal Pradesh	7	9	23	24	21	24	0.1
9. Rajasthan	Rajasthan	2	3	8	9	9	17	0.1
D. Total OIL (Nomination) (7 to 9)		3376	3293	3107	2937	2987	3156	10.8
E. OIL (JVs Share)		17	14	26	27	23	20	0.1
F. Total OIL's Production (D+E)		3393	3307	3133	2964	3010	3176	10.9
Crude Oil Production (TMT) by Pvt/JVs-in PSC + RSC/CBM								
10. Krishna Godavari Offshore (Eastern offshore)	Andhra Pradesh	815	634	537	731	612	533	1.8
11. Cauvery Offshore (Eastern offshore)	Tamilnadu	4	2	1	0.1	0	0.2	0.0
12. Cambay (Offshore)	Gujarat Offshore	399	736	591	411	338	379	1.3
13. Mumbai Offshore (Western Offshore)	Western Offshore	687	527	338	0	0	24	0.1
14. KG Onshore	Andhra Pradesh	0	11	41	40	43	34	0.1
15. Assam-Arakan	Arunachal Pradesh	43	34	32	30	27	23	0.1
	Assam	3	34	30	33	40	43	0.1
16. Cambay	Gujarat	139	134	134	167	239	366	1.3
17. Rajasthan	Rajasthan	7885	7664	6645	5882	5879	5058	17.3
18. Cauvery	Tamilnadu	83	92	88	79	76	70	0.2
19. West Bengal	West Bengal	0	0	0	0.1	0.1	0	0.0
G. Total Pvt/JVs Production-in PSC + RSC/CBM ** (10 to 19)		10059	9868	8436	7374	7253	6530	24.4
H. Total Crude Oil Production (A+D+G)		35684	34203	32170	30494	29691	29179	100.0

Note: Total may not tally due to rounding off

* Condensate receipt at Uran & Hazira included in Western Offshore Basin of Maharashtra

**: Including NELP/JVs Share of ONGC's & OIL's Production

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

Production of Natural Gas (Financial Year-wise)

State/Region	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
A. State-wise Natural Gas Production (MMSCM)						
1. Andhra Pradesh	959	1081	912	827	809	710
2. Arunachal Pradesh	30	28	46	55	58	53
3. Assam	3219	3289	3141	2995	3371	3557
4. Gujarat	1607	1402	1342	1138	1017	923
5. Jharkhand (CBM)	4	4	5	2	4	10
6. Madhya Pradesh (CBM)	200	357	345	334	290	264
7. Rajasthan	1442	1483	1883	2040	2619	2340
8. Tamil Nadu	1207	1208	1097	911	1067	1109
9. Tripura	1440	1554	1473	1634	1531	1675
10. West Bengal (CBM)	531	350	306	307	389	399
11. Offshore	22011	22117	20635	18429	22869	23409
A. Total Natural Gas Production (1 to 11)	32649	32873	31184	28673	34024	34450
B. Entity-wise Natural Gas Production (MMSCM)						
12. ONGC (Nomination) Onshore Production	5638	5633	5170	4786	4686	4644
13. OIL (Nomination) Onshore Production	2881	2722	2668	2480	2893	3041
14. Pvt/JVs (PSC + RSC) Onshore Production	2119	2401	2710	2978	3576	3357
15. Total Production in Onshore (12 to 14)	10639	10756	10549	10244	11155	11042
16. ONGC (Nomination) Offshore Production	17791	19042	18576	17086	15943	15325
17. Pvt/JVs(PSC+RSC) Offshore Production	4219	3075	2059	1343	6926	8084
18. Total Production in Offshore (16+17)	22011	22117	20635	18429	22869	23409
C. Total Natural Gas Production* (15+18) of which	32649	32873	31184	28673	34024	34450
19. Total ONGC (Nomination) Production	23429	24675	23746	21872	20629	19969
20. Total OIL (Nomination) Production	2881	2722	2668	2480	2893	3041
21. Total Pvt/JVs (PSC+RSC) Production	6338	5477	4770	4321	10502	11440

Note: Total may not tally due to rounding off

P: Provisional

PSC: Production Sharing Contracts RSC: Revenue Sharing Contract

CBM: Coal Bed Methane

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

Basin-wise Production of Natural Gas

Basin	State	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7	8
Natural Gas Production by Oil and Natural Gas Corporation							
1. Western Offshore	Maharashtra	17243	18005	17645	16660	15681	15,117
2. Krishna Godavari Offshore (Eastern offshore)	Andhra Pradesh	548	1037	931	426	262	208
3. Western Onland	Gujarat	1532	1332	1274	1074	951	837
4. Frontier	Rajasthan	6	4	0	0		
5. Assam & Assam Arakan	Assam	508	483	460	387	373	355
	Tripura	1440	1554	1473	1634	1531	1675
6. Krishna Godavari	Andhra Pradesh	959	1077	897	814	794	695
7. Cauvery	Tamilnadu	1194	1182	1066	877	1037	1082
A. Total ONGC-Nomination (1 to 7)		23429	24675	23746	21872	20629	19969
B. ONGC-NELP/JVs Share		1180	1136	1150	944	1051	1382
C. Total ONGC's Production (A+B)		24610	25810	24896	22816	21680	21351
Natural Gas Production by Oil India Ltd.							
8. Assam-Arakan	Assam	2659	2482	2379	2241	2620	2812
9. Assam-Arakan	Arunachal Pradesh	12	12	38	50	53	48
10. Rajasthan	Rajasthan	211	228	251	188	219	181
D. Total OIL-Nomination (8 to 10)		2881	2722	2668	2480	2893	3041
E. OIL-JVs Share		23	143	133	162	153	139
F. Total OIL's Production (D+E)		2905	2865	2801	2642	3045	3180
Natural Gas Production by Pvt/JVs-in PSC + RSC/CBM							
11. Krishna Godavari Offshore (Eastern offshore)	Andhra Pradesh	2245	1338	849	1182	6761	7784
12. Cauvery Offshore (Eastern offshore)	Tamilnadu	24	84	43	13	2	8
13. Cambay (Offshore)	Gujarat Offshore	98	122	129	148	163	232
14. Mumbai Offshore (Western Offshore)	Maharashtra	1853	1531	1039	0	0	60
15. KG Onshore	Andhra Pradesh		5	15	13	15	14
16. Assam-Arakan	Arunachal Pradesh	18	16	7	5	5	5
	Assam	53	324	302	367	378	390
17. Cambay	Gujarat	75	70	69	65	66	86
18. Rajasthan	Rajasthan	1225	1251	1632	1852	2399	2159
19. Cauvery	Tamilnadu	14	25	31	34	29	28
20. Ranigunj South (CBM)	West Bengal	203	153	139	110	112	104
21. Ranigunj East (CBM)	West Bengal	328	198	167	197	277	295
22. Jharia (CBM)	Jharkhand	4	4	5	2	4	10
23. Sohagpur East / West (CBM)	Madhya Pradesh	200	357	345	334	290	264
G. Total Pvt/JVs Production-in PSC + RSC/CBM (11 to 23)		6338	5477	4770	4321	10502	11440
H. Total Natural Gas Production (A+D+G)		32649	32873	31184	28673	34024	34450

Note: Total may not tally due to rounding off

P: Provisional

PSC: Production Sharing Contracts RSC: Revenue Sharing Contract

CBM: Coal Bed Methane

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



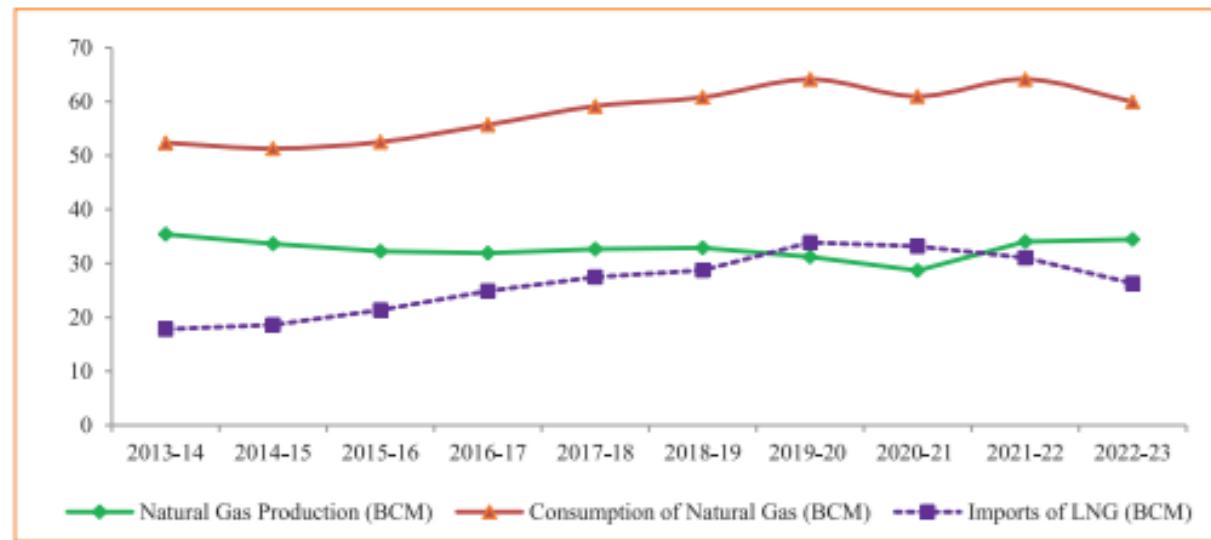
Trends of Natural Gas Production, Consumption and Imports

Year	Natural Gas Production (BCM)	% Growth in Natural Gas Production	Consumption of Natural Gas (BCM)	% Growth in Consumption of Natural Gas	Imports of LNG (BCM)	% Growth in Imports of LNG
2013-14	35.41	-12.96	51.83	-9.33	17.25	-0.88
2014-15	33.66	-4.94	50.30	-2.94	17.61	2.06
2015-16	32.25	-4.18	50.18	-0.24	19.05	8.19
2016-17	31.90	-1.09	54.41	8.43	23.56	23.69
2017-18	32.65	2.36	58.47	7.45	26.73	13.46
2018-19	32.87	0.69	60.60	3.66	28.55	6.78
2019-20	31.18	-5.14	62.61	3.31	32.35	13.33
2020-21	28.67	-8.05	60.98	-2.60	33.20	2.61
2021-22	34.02	18.66	64.16	5.21	31.03	-6.54
2022-23	34.45	1.25	59.97	-6.53	26.30	-15.22
CAGR 2013-14 to 2022-23 (%)		-0.30		1.63		4.80

Note: % Growth based on the previous Financial Year

P: Provisional

Production, consumption and imports of Natural Gas



Status of LNG Terminals in India

Terminal 1	Promoters 2	Capacity (MMTPA) as on 31.03.2023 3	Capacity Utilization (%)					
			2017-18 4	2018- 19 5	2019- 20 6	2020- 21 7	2021- 22 8	2022- 23 (P) 9
Operational LNG Terminal								
1. Dahej (Gujarat)	Petronet LNG Ltd. (PLL)	17.5	105	107	102	94	88	78
2. Kochi (Kerala)		5.0	12	9	17	18	21	19
3. Hazira (Gujarat)	Hazira LNG Pvt. Ltd. (HLPL)	5.2	59	80	95	77	47	37
4. Dabhol (Maharashtra) ¹	Ratnagiri Gas and Power Pvt. Ltd. (RGPPL- JV of GAIL & NTPC)	5.0	65	72	97	75	85	39
5. Ennore (Tamilnadu)	IndianOil LNG Pvt. Ltd. (IOLPL)	5.0	-	-	9	13	14	13
6. Mundra (Gujarat)	GSPC LNG Limited (GLL)	5.0	-	-	30	35	19	16
Planned/Under-Construction LNG Terminals								
7. Dhamra (Odisha)	Adani LNG Pvt Ltd	5						
8. Dhabol Expansion ²	GAIL(KLPL)	3						
9. Jaigarh (Maharashtra)	H-Energy	4						
10. Jafrabad (Gujarat)	Swan Energy	5						
11. Chhara (Guajrat)	HSEPL	5						

Note:

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

2. Additional Capacity to be available after construction of breakwater

Source: CPSEs/GP Division, MoPNG

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

State/Region	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
	1	2	3	4	5	6
A. State-wise Crude Oil Production (TMT)*						
1. Andhra Pradesh	322	296	243	195	202	236
2. Arunachal Pradesh	50	43	56	53	48	47
3. Assam	4345	4309	4093	3902	3988	4164
4. Gujarat	4591	4626	4707	4651	4627	4850
5. Rajasthan	7887	7667	6653	5891	5887	5074
6. Tamil Nadu	345	395	415	410	367	324
7. Tripura	-	-	-	-	3	3
8. West Bengal	-	-	-	-	0.05	0.01
9. Offshore	18145	16868	16003	15391	14569	14480
A. Total Crude Oil Production* (1 to 9)	35684	34203	32170	30494	29691	29179
of which						
10. Crude Oil Production	34045	32474	30524	29121	28450	27826
11. Condensate Production	1639	1729	1646	1373	1241	1353
B. Entity-wise Crude Oil Production (TMT)*						
12. ONGC (Nomination) Onshore Production	6010	6074	6090	5934	5833	5950
13. OIL (Nomination) Onshore Production	3376	3293	3107	2937	2987	3156
14. Pvt/JVs (PSC + RSC) Onshore Production	8154	7969	6970	6232	6303	5593
15. Total Production in Onshore (12 to 14)	17540	17336	16167	15103	15122	14699
16. ONGC (Nomination) Offshore Production	16240	14969	14537	14249	13619	13544
17. Pvt/JVs(PSC+RSC) Offshore Production	1905	1899	1466	1142	950	936
18. Total Production in Offshore (16+17)	18145	16868	16003	15391	14569	14480
C. Total Crude Oil Production* (15+18)	35684	34203	32170	30494	29691	29179
of which						
19. Total ONGC (Nomination) Production	22249	21042	20627	20183	19451	19493
20. Total OIL (Nomination) Production	3376	3293	3107	2937	2987	3156
21. Total Pvt/JVs (PSC+RSC) Production	10059	9868	8436	7374	7253	6530

Note: Total may not tally due to rounding off

*:Included Condensate

PSC: Production Sharing Contracts

RSC: Revenue Sharing Contract

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

Petroleum Refining Capacity in India

(Figures in MMTPA)

Refinery Location & Year of Commissioning	2017	2018	2019	2020	2021	2022	Expansion Plan in next 5 Year	% Share of Total 2022
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Public Sector	144.97	148.07	149.87	150.37	149.72	151.72	184.12	60.4
1. IOCL, Digboi, Assam - 1901	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.3
2. IOCL, Guwahati, Assam - 1962	1.00	1.00	1.00	1.00	1.00	1.00	1.20	0.4
3. IOCL, Barauni, Bihar - 1964	6.00	6.00	6.00	6.00	6.00	6.00	9.00	2.4
4. IOCL, Koyali, Gujarat - 1965	13.70	13.70	13.70	13.70	13.70	13.70	18.00	5.5
5. IOCL, Haldia, West Bengal - 1975	7.50	7.50	7.50	8.00	8.00	8.00	8.00	3.2
6. IOCL, Mathura, Uttar Pradesh - 1982	8.00	8.00	8.00	8.00	8.00	8.00	9.20	3.2
7. IOCL, Panipat, Haryana - 1998	15.00	15.00	15.00	15.00	15.00	15.00	25.00	6.0
8. IOCL, Bongaigaon, Assam - 1974	2.35	2.35	2.35	2.35	2.70	2.70	2.70	1.1
9. IOCL, Paradip, Odisha-2016	15.00	15.00	15.00	15.00	15.00	15.00	15.00	6.0
Indian Oil Corporation Ltd.	69.20	69.20	69.20	69.70	70.05	70.05	88.75	27.9
10. BPCL, Mumbai, Maharashtra - 1955	12.00	12.00	12.00	12.00	12.00	12.00	12.00	4.8
11. BPCL, Kochi, Kerala - 1963	12.40	15.50	15.50	15.50	15.50	15.50	15.50	6.2
12. BORL, Bina, Madhya Pradesh - 2011	6.00	6.00	7.80	7.80	7.80	7.80	7.80	3.1
Bharat Petroleum Corporation Ltd.	30.40	33.50	35.30	35.30	35.30	35.30	35.30	14.1
13. HPCL, Mumbai, Maharashtra - 1954	7.50	7.50	7.50	7.50	7.50	9.50	7.50	3.8
14. HPCL, Visakh, Andhra Pradesh - 1957	8.30	8.30	8.30	8.30	8.30	8.30	15.00	3.3
Hindustan Petroleum Corporation Ltd.	15.80	15.80	15.80	15.80	15.80	17.80	22.50	7.1
15. CPCL, Manali, Tamil Nadu - 1965	10.50	10.50	10.50	10.50	10.50	10.50	10.50	4.2
16. CPCL- CBR, Narimanam Tamil Nadu - 1993	1.00	1.00	1.00	1.00	0.00	0.00	9.00	0.0
Chennai Petroleum Corporation Ltd.	11.50	11.50	11.50	11.50	10.50	10.50	19.50	4.2
17. NRL, Numaligarh, Assam-1999	3.00	3.00	3.00	3.00	3.00	3.00	3.00	1.2
18. ONGC, Tatipaka, Andhra Pradesh - 2001	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.0
19. MRPL, Mangalore, Karnataka- 1996	15.00	15.00	15.00	15.00	15.00	15.00	15.00	6.0
Private & JVs Sector	89.00	99.50	99.50	99.50	99.50	99.50	99.50	39.6
20. RIL, Jamnagar, Gujarat - 1999	33.00	33.00	33.00	33.00	33.00	33.00	33.00	13.1
21. RIL, Jamnagar (SEZ), Gujarat - 2008	27.00	35.20	35.20	35.20	35.20	35.20	35.20	14.0
Reliance Industries Ltd. (RIL)	60.00	68.20	68.20	68.20	68.20	68.20	68.20	27.1
22. NEL, Vadinar, Gujarat - 2006	20.00	20.00	20.00	20.00	20.00	20.00	20.00	8.0
23. HMEL, Bhatinda, Punjab - 2012	9.00	11.30	11.30	11.30	11.30	11.30	11.30	4.5
Total Refinery Capacity	233.97	247.57	249.37	249.87	249.22	251.22	283.62	100.0



Product-wise Consumption of Petroleum Products (Financial Year-wise)

(Figures in TMT)

Products	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% to To- tal Cons. 2022-23	% Growth ²
1	2	3	4	5	6	7	8	9
1. LPG	23342	24907	26330	27558	28254	28504	12.8	0.9
2. Motor Spirit	26175	28284	29976	27969	30849	34976	15.7	13.4
3. Naphtha	12889	14131	14268	14100	13246	12158	5.5	-8.2
4. SKO	3845	3460	2397	1798	1493	490	0.2	-67.2
5. ATF	7635	8302	7999	3698	5008	7366	3.3	47.1
6. HSDO	81073	83528	82602	72713	76659	85898	38.5	12.1
7. LDO	524	598	628	855	1018	725	0.3	-28.8
8. Furnace Oil (FO)	6605	6195	5912	5208	5815	6181	2.8	6.3
9. LSHS	116	369	390	378	447	773	0.3	73.0
10. Fuel Oil (FO+LSHS)	6721	6564	6302	5587	6262	6954	3.1	11.1
11. Lubes/Greases	3884	3668	3833	4097	4540	3740	1.7	-17.6
12. Bitumen	6086	6708	6720	7524	7816	8041	3.6	2.9
13. Petroleum Coke	25657	21346	21708	15605	14255	18345	8.2	28.7
14. Waxes	8136	11434	11087	12568	12067	15590	7.0	29.2
15. Others	200	287	278	223	231	225	0.1	-2.6
Total Consumption (1 to 15)	206166	213216	214127	194295	201697	223009	100	10.6
16. Refinery fuel and losses (RBF)	21164	21454	23613	22806	24341	25946	-	6.6
Grand Total	227330	234670	237739	217102	226038	248955	-	10.1

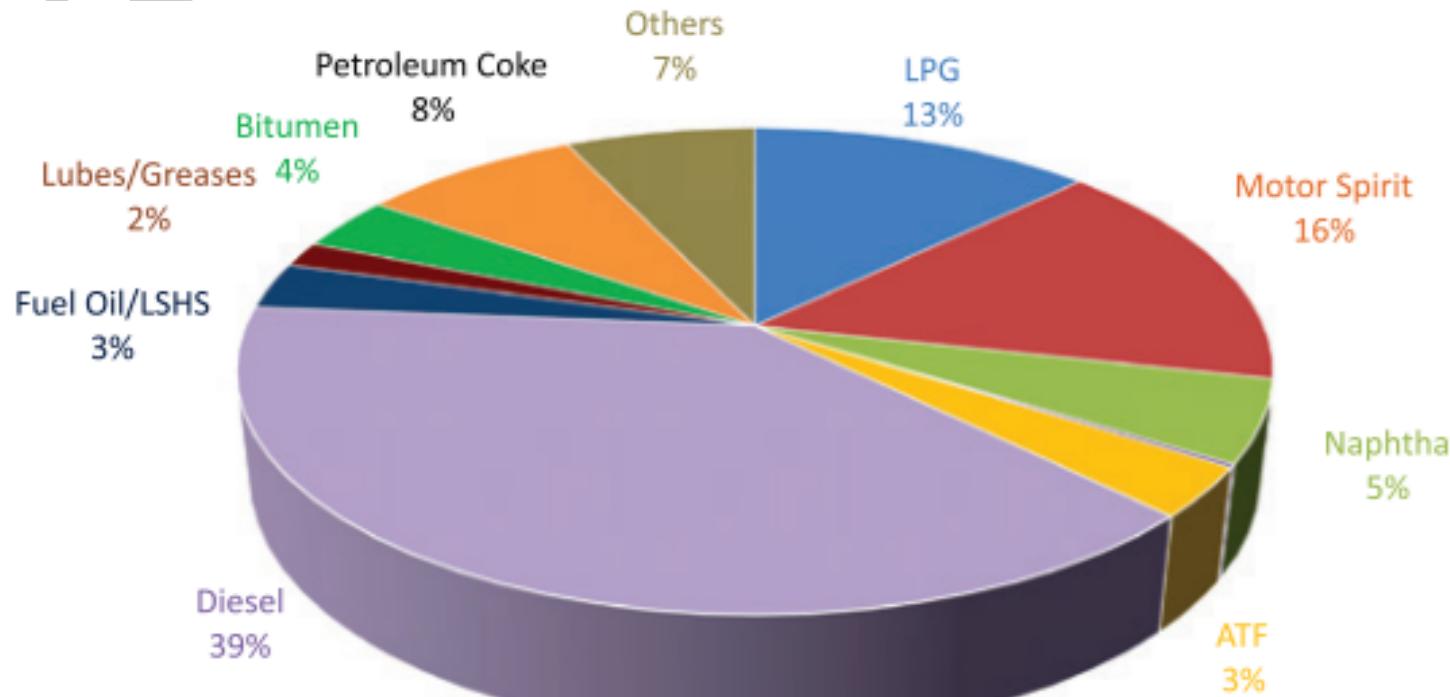
Note: Total may not tally due to rounding off.

1. Consumption includes sales by oil companies, own consumption & direct private imports.
2. Growth rate in 2022-23 over 2021-22.

Source: Petroleum Planning & Analysis Cell.



Share of different Petroleum Products in total consumption during 2022 - 23 (%)



Consumption of Natural Gas

(Figures in MMSCM)

Sector	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
(a) Energy Purpose						
1. Power	12028	12005	11080	10836	10157	8153
2. Industrial & Manufacturing	999	1086	701	555	829	865
3. City or Local Natural Gas Distribution Network	8585	9206	10883	9230	12175	12028
4. Agriculture (Tea Plantation)	189	192	200	177	156	154
5. Internal Consumption for Pipeline System	496	541	525	439	486	1764
6. Refinery	6533	7047	7786	7911	5312	3909
7. Miscellaneous	3226	3393	4209	4569	9229	8534
Total (1 to 7) (a)	32056	33470	35384	33717	38344	35407
(b) Non-Energy Purpose						
8. Fertilizer Industry	14676	14987	16115	17781	18079	19400
9. Petrochemical	4024	3386	3569	3072	2864	1959
10. LPG Shrinkage	798	874	858	900	1070	976
11. Sponge Iron	1278	1124	567	647	1134	960
Total (8 to 11) (b)	20776	20370	21109	22399	23147	23295
Total Sectoral Sales (a+b)	52832	53840	56492	56117	61491	58702
Total Consumption **	59170	60796	64144	60981	64159	59969
Total Consumption in MMSCMD	162	167	175	167	176	164

Note: **: Availability Basis (Net Production+LNG Imports)

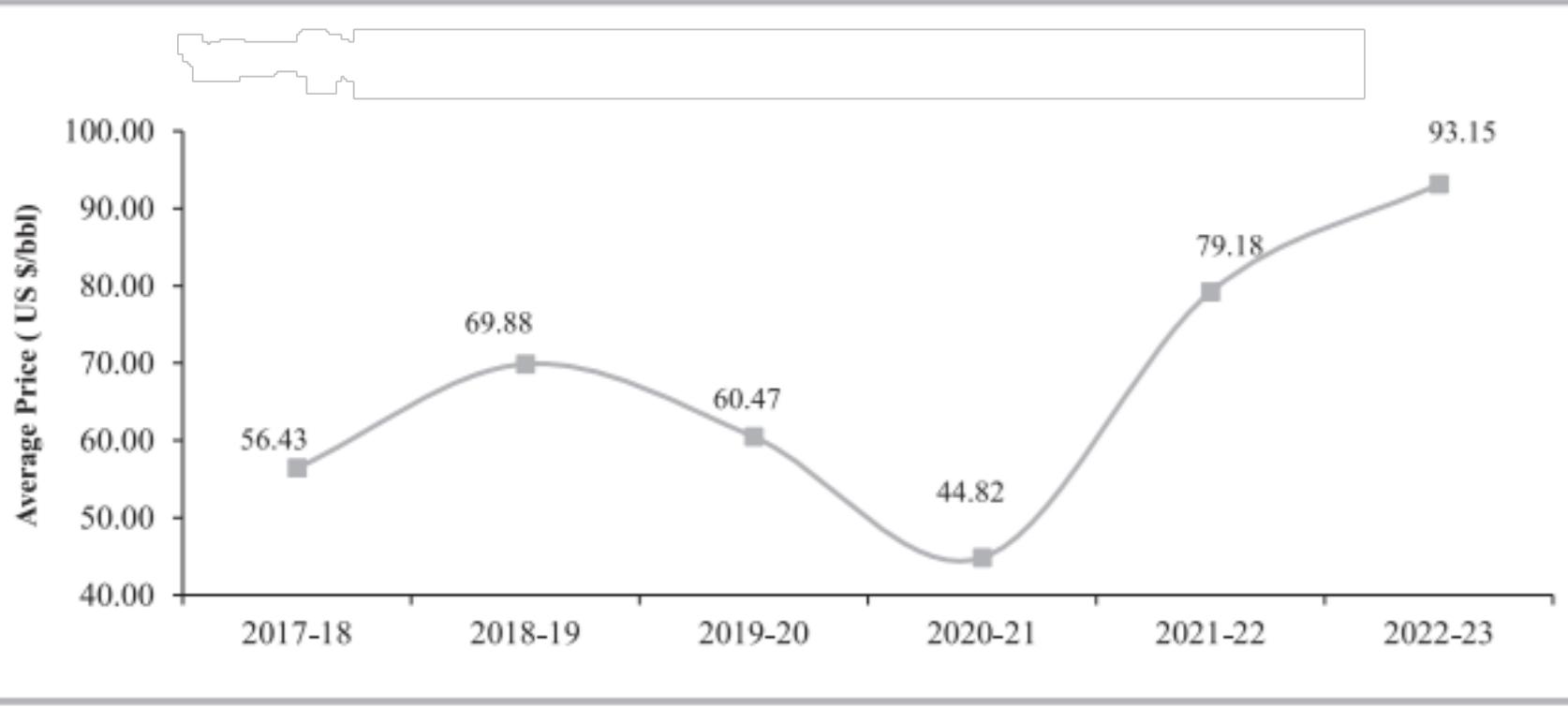
P : Provisional



Sector-wise/State-wise Consumption (end use) of Naphtha

(Figures in TMT)

Sector & State/UT	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share of Total Cons. 2022-23
1	2	3	4	5	6	7	8
Sector-wise Consumption (end use) of Naphtha							
1. Fertilizers	367.7	351.6	149.7	65.7	0.0	0.0	0.0
2. Petrochemicals	10010.9	10601.6	10874.5	11339.4	11903.7	10434.0	85.8
3. Power	66.5	5.3	0.4	70.2	6.1	19.3	0.2
4. Steel Plants	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5. Others	404.9	461.7	879.6	885.2	799.5	713.7	5.9
Total Sales	10850.1	11420.2	11904.2	12360.4	12709.3	11167.0	91.8
6. Pvt Imports	1768.9	1727.5	1305.5	1133.5	160.7	273.1	2.2
7. SEZ data	269.6	983.6	1058.0	606.5	375.6	717.9	5.9
Total Consumption	12888.6	14131.2	14267.8	14100.4	13245.6	12158.0	100.0



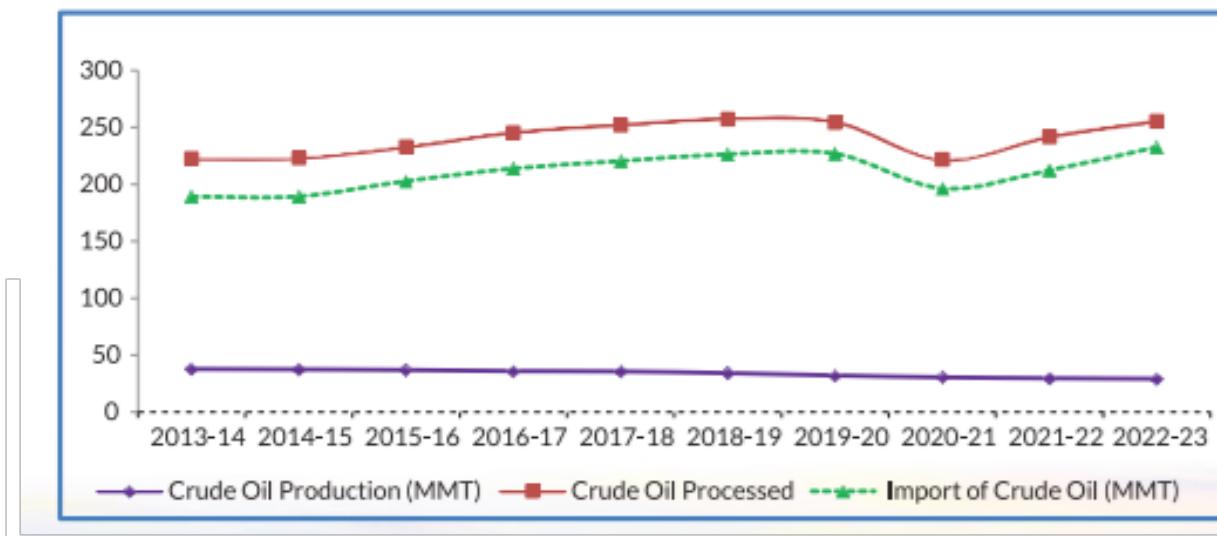
Trends of Crude Oil Production, Consumption and Imports

Year	Crude Oil Production (MMT)	% Growth in Crude Oil Production	Crude Oil Processed (MMT)	% Growth in Crude Oil Processed	Import of Crude Oil (MMT)	% Growth in Imports of Crude Oil
2013-14	37.79	-0.19	222.50	1.50	189.24	2.40
2014-15	37.46	-0.87	223.24	0.33	189.43	0.10
2015-16	36.94	-1.39	232.86	4.31	202.85	7.08
2016-17	36.01	-2.53	245.36	5.37	213.93	5.46
2017-18	35.68	-0.90	251.93	2.68	220.43	3.04
2018-19	34.20	-4.15	257.20	2.09	226.50	2.75
2019-20	32.17	-5.95	254.39	-1.10	226.95	0.20
2020-21	30.49	-5.21	221.77	-12.82	196.46	-13.44
2021-22	29.69	-2.63	241.70	8.99	212.38	8.10
2022-23 (P)	29.18	-1.72	255.23	5.60	232.70	9.57
CAGR 2013-14 to 2022-23 (%)		-2.83		1.54		2.32

Note: % Growth based on the previous Financial Year

P: Provisional

Production, consumption and imports of Crude Oil





Oil & Gas Import Dependency

Elements	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
1. Import dependence on crude oil (in MMT)						
2. Total Consumption	206.2	213.2	214.1	194.3	201.7	223.0
3. Indigenous crude oil processing	32.8	31.7	29.3	28.0	27.0	26.4
4. Products from Indigenous crude	30.6	29.6	27.3	26.1	25.2	24.7
5. Products from Fractionators	4.6	4.9	4.8	4.2	4.1	3.5
6. Total Indigenous production (4+5)	35.2	34.5	32.1	30.3	29.3	28.2
7. Self Sufficiency (%)	17.1	16.2	15.0	15.6	14.5	12.6
8. Import Dependence (%)	82.9	83.8	85.0	84.4	85.5	87.4
9. Import dependence on natural gas (in BCM)						
10. Total Consumption	58.5	60.6	62.6	61.0	64.2	60.0
11. Indigenous gas production	31.7	32.1	30.3	27.8	33.1	33.7
12. Import of LNG	26.7	28.5	32.4	33.2	31.0	26.3
13. Self Sufficiency (%)	54.2	53.0	48.3	45.6	51.6	56.1
14. Import Dependence (%)	45.78	47.03	51.67	54.44	48.36	43.86
15. Import dependence on oil and oil equivalent gas (O+OEG)(in MMTOE)						
16. Total Consumption	280.2	289.3	293.6	269.2	280.3	299.0
17. Indigenous O+OEG production	69.4	69.1	64.6	60.3	64.5	63.9
18. Self Sufficiency (%)	24.8	23.9	22.0	22.4	23.0	21.4
19. Import Dependence (%)	75.2	76.1	78.0	77.6	77.0	78.6

Note:

1. SION norms has been taken as 93.3% of crude oil processed for working out products output from indigenous crude oil processed.
2. For converting production of petroleum products from fractionators, SION norms has been taken as 93.3%.
3. Net production and consumption of natural gas is inclusive of internal gas consumption but excluding flare and loss.
4. 1 BCM of Natural gas =1 Mtoe

Source: Petroleum Planning & Analysis Cell.



Consumption of Various Energy Sources in India

Year	Coal	Lignite	Total Coal & Lignite	Natural Gas	Crude Oil	Petroleum Products	Electricity
	(TMT)			(MMSCM)	(TMT)		(GWh)
	1	2	3	4=2+3	5	6	7
2017-18	898.52	46.32	944.84	58465	251.93	206.17	1123.43
2018-19	968.25	45.81	1014.06	60603	257.20	213.22	1209.97
2019-20	955.27	43.15	998.42	62609	254.39	214.13	1248.09
2020-21	906.14	38.51	944.65	60981	221.77	194.30	1230.21
2021-22	1027.84	49.09	1076.93	64159	241.70	201.70	1316.76
2022-23 (P)	1115.04	46.85	1161.88	59969	255.23	223.01	1403.40

Note: Consumption of Crude oil in terms of Crude oil processed

P: Provisional

Availability of Various Energy Sources in India

Year	Coal	Lignite	Total Coal & Lignite	Natural Gas	Crude Oil	Petroleum Products	Electricity
	(TMT)			(MMSCM)	(TMT)		(GWh)
	1	2	3	4=2+3	5	6	7
2017-18	896.09	46.98	943.06	58465	256.12	223.03	1232.51
2018-19	958.25	42.72	1000.97	60603	260.70	234.61	1307.68
2019-20	978.32	42.21	1020.53	62609	259.12	241.04	1323.05
2020-21	901.79	37.21	939.00	60981	226.95	219.99	1314.02
2021-22	1028.86	45.90	1074.76	64159	242.07	230.57	1413.90
2022-23 (P)	1117.79	43.18	1160.97	59969	261.91	250.04	1507.00

Note:

NA: Not Available

P: Provisional

1. Availability of Coal & Lignite is equal to sum of Production (Coking + Non-coking), Change of Vendible Stock (closing stock-Opening stock) and net imports (Imports-Exports)
2. Availability of Natural Gas is equal to sum of net production of gas and imports of LNG
3. Availability of Crude oil is equal to sum of gross production and imports of crude oil.
4. Availability of Petroleum products is equal to sum of production of petroleum products and net imports (Imports- Exports) of petroleum products.
5. Net Availability of Electricity is sum of Gross Electricity Generated from Utilities - Consumption in Power Station Auxiliaries + Purchases from Non-Utilities + Net Import from Other Countries

Source : M/o Coal, M/o Power, CEA and Oil Companies.

Import / Export of Crude Oil and Petroleum Products

(Figures in TMT)

Import/Export	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
1. Crude Oil Import	220433	226498	226955	196461	212382	232700
2. LNG Imports	20177	21545	24417	25055	23417	19852
3. Petroleum Product Import (5 to 15)	35461	33348	43788	43248	39017	44598
4. Product Imports						
5. LPG	11380	13235	14809	16476	17043	18335
6. Petrol	174	670	2146	1351	671	1069
7. Naphtha	2212	2082	1662	1199	237	897
8. Aviation Turbine Fuel	300	259	65	0	0	0
9. Kerosene	0	0	0	3	0	0
10. Diesel	1361	555	2796	648	43	322
11. Lubes	2539	2457	2675	2693	3058	2152
12. Fuel Oil	1213	1419	4583	6454	8980	8563
13. Bitumen	950	877	1630	2055	2581	2797
14. Petcoke	12777	7926	10674	8256	4213	8664
15. Others ¹	2556	3869	2749	4112	2189	1799
16. Total Import (1+2+3)	276070	281391	295159	264763	274815	297151
17. Product Export						
18. LPG	359	417	463	452	513	540
19. Petrol	14036	12885	12710	11606	13482	13127
20. Naphtha	8951	6963	8897	6509	6861	5714
21. Aviation Turbine Fuel	7183	7389	6906	3544	5186	7264
22. Kerosene	17	19	176	15	14	11
23. Diesel	29735	27931	31653	30576	32407	28496
24. Lubes	13	8	8	15	10	14
25. Fuel Oil	2525	2197	1527	1177	1757	1841
26. Bitumen	64	23	25	7	6	9
27. Petcoke/CBFS	561	1124	465	577	187	284
28. Others ²	3387	2140	2854	2290	2330	3717
29. Export of Petroleum Products (18-28)	66833	61096	65685	56769	62755	61015
30. Net Import (16 - 29)	209238	220295	229474	207995	212061	236136
31. Net Petroleum Product Export (29-3)	31372	27747	21898	13521	23738	16417

P: Provisional

1: Other imports include Paraffin Wax, Petroleum Jelly, LSWR, Aviation Gas, MTBE & Reformate.

2: Other exports include VGO, Benzene, MTO & Sulphur.

Source: Petroleum Planning & Analysis Cell.

Thank you