

Table 5.1: Natural Gas Pipelines in the Country (operational)- 01.10.2023

S. No.	Network/Region	Entity	Length (Kms)	Authorized capacity/ Declared capacity (MMSCMD)	Pipeline size	Pipeline Status	Average flow Apr-Mar 2023 (P) (mmscmd)	% Capacity utilisation Apr-Mar 2023 (P)	Average flow April-September 2022 (mmscmd)	% Capacity utilisation Apr-Sep 2022 (P)	Average flow April-September 2023 (mmscmd)	% Capacity utilisation Apr-Sep 2023 (P)
1	Assam Natural Gas Pipeline Network	Assam Gas Company Limited (AGCL)	106.713	2.428	800 mm/ 500 mm/ 400 mm/ 350 mm	Operational	1.50	61.6%	1.15	47.4%	1.77	73%
2	Cauvery Basin Network	GAIL	272	4.33	18"/ 12"/ 8"/ 6"/ 4"/ 3"/ 2"	Operational	1.85	42.7%	2.01	46.4%	1.95	45%
3	KG Basin Network	GAIL	917	15.99	18"/16"/ 14"/12"/ 8"/6"/ 4"/2"	Operational	3.83	24.0%	4.63	28.9%	4.19	26%
4	Gujarat Regional Network	GAIL	615	8.31	24"/18"/ 14"/12"/ 8"/6"/5"/ 2"/1"	Operational	3.09	37.2%	3.16	38.0%	1.22	15%
5	Agartala Regional Network	GAIL	65	2.00	12"/10"/8"	Operational	0.99	49.5%	0.89	44.5%	0.99	49%
6	Kochi-Koottanad-Bangalore-Mangalore #	GAIL	642	12.00	30"/ 24"/ 18"/ 8"/ 4"	"Under Construction / Part Operational"	3.29	27.4%	3.02	25.2%	3.02	28%
7	Hazira-Vijaipur-Jagdishpur -GREP (Gas Rehabilitation and Expansion Project)-Dahej-Vijaipur HVJ/VDPL	GAIL	6725	107	42"/36"/ 30"/18"/ 16"/14"/ 12"/10"/ 8"/6"/ 4"/2"	Operational	72.54	67.8%	72.75	68.0%	107.49	##
	Dahej-Vijaipur (DVPL)-Vijaipur-Dadri (GREP) Upgradation DVPL 2 & VDPL	GAIL			48"/16"/ 12"	Operational						
	Dahej-Uran-Panvel-Dhabhol	GAIL	943	19.90	30"/24"/ 18"/12"/ 6"/4"	Operational	16.33	82.1%	16.97	85.3%		
	Mumbai Regional Network	GAIL	125	7.04	26"/20"/ 18"/ 12"/4"	Operational	4.40	62.5%	4.34	61.7%		
	Chainsa-Jhajjar-Hissar	GAIL	442	35.00	36"/18"/ 16"/ 12"/10"/ 8"/4"	Operational	1.74	5.0%	1.75	14.6%		
	Dadri-Bawana-Nangal	GAIL	909	31.00	36"/30"/ 18"/10"/ 8"	Operational	7.51	24.2%	7.57	24.4%		
	Dabhol-Bangalore	GAIL	1148	16.00	36"/30"/ 24"/18"/ 10"/8"	Operational	1.86	11.6%	1.71	10.7%		
Jagdishpur-Haldia-Bokaro Dhamra-Paradip- Barauni-Guwahati #	GAIL	2383	7.44	36"/30"/ 24"/18"/ 12"/8"/ 6"/4"	"Under Construction / Part Operational"	5.21	70.0%	4.18	56.2%			
8	Hazira-Ankleshwar (HAPI) 1	GGL	73.2	4.20	18"	Operational	0.75	17.7%	0.78	18.5%	0.50	12%
9	Mehsana - Bhatinda^	GIGL	1673	45.94	36"/24"/18"/12"	Partially Commissioned**	3.40	7.4%	3.23	7.0%	5.03	11%
10	Bhatinda - Gurdaspur\$	GIGL	261.42	33.93	24"/18"/ 16"/12"/ 8"/6"	Partially Commissioned\$	0.04	0.1%	0.05	0.1%	0.05	0%
11	Mallavaram - Bhopal - Bhilwara - Vijaipur#	GITL	2042	78.25	42"/36"/ 30"/24"/ 18"/12"	Under Construction	1.28	1.6%	1.93	2.5%	1.94	2%
12	High Pressure Gujarat Gas Grid	GSPL	2657.4	31	36"/30"/ 24"/20"/ 18"/12"/ 8"/6"/4"	Operational	27.00	62.8%	27.00	62.8%	29.47	95%
13	Low Pressure Gujarat Gas Grid	GSPL	57.6	12	36"/30"/ 24"/12"	Operational					5.70	47%
14	Dadri-Panipat	IOCL	132	9.50	30"	"Operational (141 Km)"	4.37	46.0%	4.81	50.6%	5.28	56%

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15	Ennore-Thiruvallur-Bengaluru-Puducherry-Nagapattinam-Madurai-Tuticorin	IOCL	1421	84.67 (installed capacity 34)	30"/24"/18"/16"/14"/12"/8"/6"	"Under Construction / Part Operational (under operation 285 Km)"	3.24	13.17%*	3.17	20.8%	3.49	10%
16	Dahej-Koyali	IOCL	106	5.23	16"	Operational (106 Km)	1.05	20.1%	1.05	20.0%	2.01	38%
17	Uran - Trombay	ONGC	24	6.00	20"	Operational	2.81	46.8%	2.84	47.0%	3.10	52%
18	Kakinada- Bharuch Natural Gas Pipeline (erstwhile East - West Pipeline)	Pipeline Infrastructure Limited	1480	85.00	48"/30"/28"/24"/16"	Operational	23.68	27.9%	23.92	28.1%	30.63	36%
19	Shahdol-Phulpur	RGPL	304	3.50	16"	Operational	0.65	18.5%	0.67	19.0%	0.59	17%

Source: Pipeline entities.

Note:

1. GGL Pipeline - Pipeline capacity as determined by GGL

2. GSPL/GIGL/GITL pipelines

*Natural Gas flowing through (i) Barmer - Pali - Palanpur Pipeline (ii) Pali - Ajmer - Jaipur - Sikar - Hanumangarh - Sirsa - Bhatinda Pipeline (iii) Hanumangarh - Sonapat - Panipat Pipeline

**1186 km of the pipeline commissioned, approx. 42 km of the pipeline is completed, approx. 5.52 km of mainline and approx. 17 km of spurline in Punjab is pending due to persistent RoU issues

\$101 km of Jalandhar Amritsar pipeline commissioned, approx. 10 km of spurline in Punjab completed, approx. 20 km is pending due to RoU issues.

Please note that the gas is flowing through 365 km x 18" pipeline Kunchanapally in Andhra Pradesh to RFCL, Ramagundam in Telanagana State which was commissioned on 14.10.2019

3. Pipeline Infrastructure Limited Pipeline:

1) For the period April 2022 - March 2023 conversion factor of 37000 Btu/SCM is used for computing volumes in MMSCMD. While, For the period April 2021 - March 2022 conversion factor of 38263.11 Btu/SCM is used for computing volumes in MMSCMD.

2) The capacity above (85 MMSCMD) is as per the authorization letter issued by PNGRB for Kakinada - Bharuch Natural Gas Pipeline (erstwhile East-West Pipeline). Last re-assessed capacity determined by PIL and submitted to PNGRB is 74.83 MMSCMD.

4. GAIL

Capacity of commissioned section **w.e.f 1st Apr 2023, GAIL's Integrated Pipeline has been implemented. Capacity of INGPL is yet to be declared by PNGRB. Therefore % Utilization data is not available. **Total flow will not match with sum of individual pipeline network flow as some quantity have travelled more than one pipeline network. ##Dedicated pipelines are for connecting multiple end customers having different capacities. Therefore, Arithmetic Summation of all individual capacities is invalid due to which % capacity utilization cant be calculated.

GAIL Integrated Pipeline(INGPL) consist of following Pipelines of GAIL:-

1. Integrated Hajira Vijapur Jagdishpur 2. Dahej Urban and Dabhol Panvel 3. Mumbai Regional Network 4. Chainsa-Jhajjar-Hissar 5. Dadri-Bawana-Nangtal 6. Dabhol-Bangalore 7. Jagdishpur-Haldia-Bokaro-Dhamra-Paradip-Barauni-Guwhati 8. Baroda Sub Network

*Total flow will not match with sum of individual pipeline network quantity as some quantity have travelled more than one pipeline network.

5. IOCL

*Capacity Utilisation based on pro-rata commissioning of new sections.

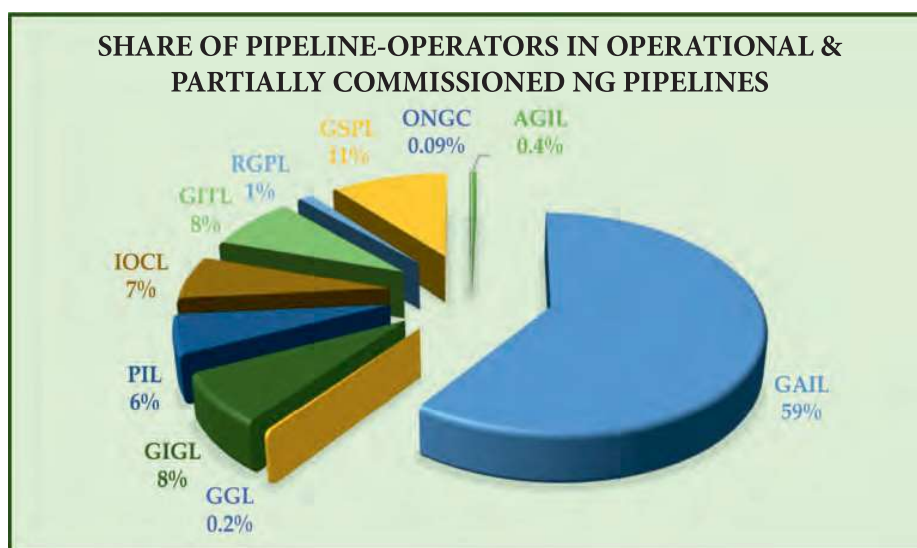


Table 5.2 : Existing major crude oil pipelines in India

Type of Pipeline -Onshore/ Offshore	Name of the pipeline	Owner	Length (KM)	Capacity (MMT)	Throughput (MMT)	Percentage utilisation during
			30.09.2023	30.09.2023	Apr-Sep 2023(P)	Apr-Sep 2023(P)
Onshore	CTF (Central Tank Farm) Kalol to CTF Nawagam - New	ONGC	63	3.1	0.4	27.9
Onshore	Nawagam-Koyali (18" line) New		80	5.4	1.9	70.7
Onshore	Nawagam-Koyali (14" line) (Old)		78	3.3	0.0	0.0
Onshore	Mehsana-Nawagam trunk line - New		77	2.3	1.1	95.7
Onshore	CTF, Ankleshwar to Koyali oil pipeline		95	2.2	0.3	22.9
Onshore	CTF, Ankleshwar to CPF (Central Processing Facility), Gandhar		44	0.4	0.0	0.0
Onshore	CPF, Gandhar to Saraswani 'T' point		57	1.8	0.2	20.6
Onshore	Akholjuni- Koyali oil pipe line. Akholjuni to Laxmipura T' point		66	0.5	0.1	61.6
Onshore	Lakwa-Moran oil line (New)		15	1.5	0.3	35.5
Onshore	Lakwa-Moran oil line (Old)		18	1.5	0.0	0.0
Onshore	Geleki-Jorhat oil line		49	1.5	0.0	0.0
Onshore	Geleki-Jorhat oil line (New)		48	1.5	0.2	20.2
Onshore	Borholla- Jorhat oil line		43	0.6	0.0	0.0
Onshore	Borholla- Jorhat new TPL (New)		43	0.6	0.1	35.3
Onshore	NRM (Narimanam) to CPCL		5	0.7	0.0	0.0
Onshore	KSP-WGGS to TPK Refinery		14	0.1	0.03	61.8
Onshore	GMAA EPT		4	0.1	0.02	50.3
Offshore	Mumbai High - Uran - Trunk (MUT) 30" pipeline		204	15.6	1.6	20.0
Offshore	Heera - Uran - Trunk (HUT) 24" pipeline		81	11.5	3.0	52.3
Offshore	Bombay-Uran Trunk (BUT) 30" pipeline		203	6.4	0.7	20.9
Sub total ONGC			1284	60.6	9.8	32.4
Onshore	Salaya-Mathura pipeline (SMPL)	IOCL	2646	25.0	13.5	108.3
Onshore	Paradip-Haldia-Barauni pipeline (PHBPL)		1873	20.4	8.5	83.1
Onshore	Mundra-Panipat pipeline		1194	8.4	3.5	82.6
Offshore	Salaya Mathura Pipeline (Offshore segment)		14	-	0.0	-
Offshore	Paradip Haldia Barauni Pipeline (Offshore segment)		92	-	0.0	-
Sub total IOCL			5819	53.8	25.5	94.7
Onshore	Duliajan-Digboi-Bongaigaon-Barauni pipeline	OIL	1193	9.0	3.1	69.4
Onshore	Mangla-Bhogat pipeline	CAIRN	660	8.7	2.4	54.1
Offshore	Bhogat Marine	CAIRN	28	2.0	0.6	61.2
Sub total CAIRN			688	10.7	3.0	55.4
Onshore	Mundra- Bathinda pipeline	HMPL	1017	11.3	6.6	116.7
Onshore	Vadinar-Bina pipeline	BPCL	937	7.8	3.0	77.6
Total Crude pipelines			10938	153.1	51.0	66.6

Source : Oil companies (P): Provisional

Notes: Figures are rounded off

Pipeline utilisation is calculated using formula = (Throughput in MMT * 100) / (Annual capacity in MMTPA*0.5)

IOCL

1) Haldia-Barauni section of Paradip Haldia Barauni Pipeline commissioned on 27th July 2023 (Commissioned section length = 518 km, Dia = 30", Capacity of PHBPL increased from 15.2 to 20.4 MMTPA)

5.3 Existing major POL pipelines in India

Type of Pipeline -Onshore/ Ofshore	Name of the pipeline	Owner	Length (KM)	Capacity (MMT)	Throughput (MMT)	Percentage utilisation during	
			30.09.2023	30.09.2023	Apr-Sep 2023(P)	Apr-Sep 2023(P)	
Petroleum Products Pipelines							
Onshore	Barauni - Kanpur pipeline	IOCL	1227	3.5	2.1	118.1	
Onshore	Guwahati -Siliguri pipeline		435	1.4	1.0	139.7	
Onshore	Haldia-Barauni pipeline		526	1.3	0.8	127.8	
Onshore	Haldia-Mourigram-Rajbandh pipeline		277	1.4	1.0	152.9	
Onshore	Koyali-Ahmedabad pipeline		79	1.1	0.4	81.6	
Onshore	Koyali-Jaipur-Panipat pipeline		1644	5.0	2.5	98.7	
Onshore	Koyali-Ratlam pipeline		265	2.0	0.7	74.8	
Onshore	Koyali-Dahej pipeline		197	2.6	0.3	25.2	
Onshore	Mathura-Agra-Gawria pipeline		311	4.0	0.8	38.0	
Onshore	Mathura-Bharatpur pipeline		21	1.2	0.1	14.0	
Onshore	Mathura-Delhi pipeline		147	3.7	1.1	60.9	
Onshore	Panipat-Amabala-Jalandhar (Including Kurukshetra-Roorkee-Najibabad branch line)		495	3.5	1.5	88.5	
Onshore	Panipat-Delhi (Including Sonapat-Meerut branch line) pipeline		189	3.0	0.1	5.5	
Onshore	Panipat Bijwasan ATF pipeline		111	1.0	0.6	111.4	
Onshore	Panipat-Bathinda pipeline		219	3.0	0.9	59.3	
Onshore	Panipat-Rewari pipeline		155	2.1	0.8	72.4	
Onshore	Chennai-Trichy-Madurai pipeline		683	3.9	1.5	75.1	
Onshore	Chennai - Meenambakkam ATF pipeline		95	0.2	0.1	153.3	
Onshore	Chennai-Bengaluru pipeline		290	2.5	1.2	94.4	
Onshore	Devangonhi - Devanhalli pipeline		36	0.7	0.3	81.5	
Onshore	Paradip Raipur Ranchi pipeline(PRRPL)		1073	5.0	2.2	88.0	
Onshore	Kolkata ATF Pipeline		27	0.2	0.1	68.0	
Onshore	Lucknow ATF Pipeline		6	0.2	0.05	43.8	
Onshore	Paradip Hyderabad Pipeline		958	4.5	0.2	8.6	
Onshore	Paradip-Somnathpur-Haldia Pipeline (2)		341	4.6	0.1	2.2	
Onshore	Koyali-Ahmednagar-Solapur Pipeline (4)		515	5.0	0.3	12.1	
Onshore	18" HBPL (Haldia - Barauni) Conversion Project (3)		10	0.0	0.0	-	
	Sub total IOCL			10332	66.4	20.6	61.9
Onshore	Mumbai-Manmad-Bijwasan pipeline (MMBPL)		BPCL	1392	6.0	3.9	130.9
Onshore	Bina-Kota pipeline (BKPL)			259	4.4	1.2	53.2
Onshore	Bina Panki Pipeline			355	3.5	0.8	43.9
Onshore	ATF P/L Mumbai Refinery (MR)-Santacruz	15		1.0	0.3	68.1	
Onshore	ATF P/L Kochi Refinery (KR)-Kochi Airport	34		0.6	0.2	67.6	
Onshore	Kota - Jobner branch pipeline(1)	211		1.7			
Onshore	Mumbai Refinery- Wadilube Pipeline	12		1.3	0.2	28.0	
Onshore	Cochin-Coimbatore-Karur (CCK) pipeline (2)	293		3.3	2.0	123.2	
	Sub total BPCL		2571	21.8	8.6	79.1	
Onshore	Mumbai-Pune-Solapur pipeline	HPCL	508	4.3	1.8	83.5	
Onshore	Vizag-Vijaywada-Secunderabad pipeline (6)		572	7.7	2.9	76.3	
Onshore	Mundra-Delhi pipeline (1)		1054	6.9	2.3	68.0	
Onshore	Ramanmandi-Bahadurgarh pipeline (2)		243	7.1	3.0	83.6	
Onshore	Ramanmandi-Bathinda pipeline		30	2.1	0.7	65.3	
Onshore	Awa-Salawas pipeline		93				
Onshore	Bahadurgarh-Tikrikalan pipeline		14				
Onshore	Rewari- Kanpur Pipeline		443				

Type of Pipeline -Onshore/ Ofshore	Name of the pipeline	Owner	Length (KM)	Capacity (MMT)	Throughput (MMT)	Percentage utilisation during
			30.09.2023	30.09.2023	Apr-Sep 2023(P)	Apr-Sep 2023(P)
Onshore	ATF pipeline from Mumbai Refinery to Mumbai Airport		20	0.5	0.2	88.2
Onshore	Black Oil Pipeline (BOPL)		22	1.5	0.8	104.9
Onshore	Lube Oil Pipeline : Trombay to Wadibundar (3)		17	1.0	0.3	51.7
Onshore	Palanpur-Vadodara Pipeline		235			
Onshore	Vijaywada Dharmapuri (VDPL) Pipeline		697			
		Sub total HPCL	3947	31.1	12.0	77.2
Onshore	Mangalore-Hassan-Bengaluru (MHB) pipeline (1)	Petronet MHB	363	5.6	2.1	73.3
Onshore	Numaligarh-Siliguri pipeline	OIL	654	1.7	0.4	43.1
Total Petroleum product pipelines (w/o LPG pipelines)			17867	126.6	43.6	68.9
LPG Pipelines						
Onshore	Panipat-Jalandhar pipeline	IOCL	280	0.7	0.3	88.0
Onshore	Paradip Haldia Barauni Motihari pipeline (1)		1598	3.5	1.0	56.9
		Sub total IOCL	1878	4.2	1.3	62.1
Onshore/ offshore	Mumbai-Uran pipeline	BPCL	28	0.8	0.3	78.9
Onshore	Jamnagar-Loni pipeline	GAIL	1427	3.3	1.6	98.1
Onshore	Vizag-Secunderabad pipeline		609	1.3	0.6	88.9
		Sub total GAIL	2036	4.6	2.2	95.4
Onshore	Mangalore-Hassan-Mysore-Bangalore LPG (5)	HPCL	356	3.1	0.9	55.4
Onshore	Uran-Chakan-Shikrapur LPG Pipeline (4)		171	1.0	0.5	94.9
Onshore	Hassan-Cherlapalli LPG Pipeline		649			
		Sub total HPCL	1176	4.1	1.3	65.0
Total LPG pipelines			5118	13.7	5.1	75.1
Total POL pipelines			22985	140.3	48.8	69.5

Source : Oil Companies (P): Provisional

Notes: Figures are rounded off

Pipeline utilisation is calculated using formula = (Throughput in MMT * 100) / (Annual capacity in MMTPA*0.5)

IOCL

- (1) Hatidah - Muzaffarpur section (10") of PHBMPL (LPG Pipeline) commissioned on 17th May 2023, adding a length of 130 km to existing pipeline
- (2) Somnathpur-Haldia section (18") of PSHPL commissioned on 7th August 2023 with a length of 176 km
- (3) PSHPL Haldia - Haldia refinery section (18" HBPL Conversion Project) of 18" HBPL conversion project commissioned on 8th August 2023 with a length of 10 km
- (4) Manmad-Ahmednagar section (18") of KASPL commissioned on 25th August 2023 with a length of 163 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 pipeline.
- (2) Petronet CCK was merged with BPCL w.e.f 1st June 2018

HPCL

- (1) Thruput of Mundra-Delhi Pipeline is including thruputs of branchlines viz. Awa Salawas Pipeline, Rewari Kanpur pipeline & Palanpur Vadodara Pipeline
- (2) Thruput of Ramanandi Bahadurgarh Pipeline is including thruput 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) Thruput of UCSPL includes both HPCL & BPCL volumes.
- (5) Thruput of Mangalore Bangalore Pipeline includes thruput of branchline viz Hassan Cherlapally pipeline
- (6) Thruput of Vizag Vijaywada Secunderabad pipeline includes thruput of branchline viz Vijaywada Dharmapuri Pipeline

Petronet MHB

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