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Petroleum and Natural Gas Regulatory Board

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Committee Report on Optimization of LPG and Petroleum Product Movements

July 2026

Preface

India's petroleum logistics network is vast and complex, involving multiple refineries, terminals, pipelines, rail routes and road movements for POL and LPG across diverse geographies. With changing demand centres, expanding refining capacity and growing consumption, there is a need to progressively restructure and optimize the logistics network for the future. Optimum modal mix of pipelines, rail, coastal movement and road transport can improve efficiency, reduce costs and strengthen security of supply. Recognizing this emerging requirement, PNGRB has highlighted the need to minimize infructuous movement of petroleum products. Accordingly, PNGRB has constituted a committee comprising industry experts to examine the existing logistics framework and recommend a more efficient, sustainable and future-ready transportation model.

The Committee aims to focus on following aspects of LPG and Petroleum product movements.

1. Optimization of Pipelines and other infrastructure usages on Industry basis
2. Minimization of road transportation
3. Ensuring uninterrupted supply during unforeseen exigencies
4. Development of pipeline infrastructure on Industry basis.

Committee undertook a series of discussions and consultations with key stakeholders, including OMCs, private import terminal companies and industry experts. Through detailed analysis, the Committee has evaluated the current systems in place, identified constraints and explored various possibilities.

I wish to extend our sincere gratitude to all the Committee members and industry experts, who contributed their valuable insights & experience during this process. Their dedication and expertise were instrumental in shaping the recommendations contained in this report.

In particular, I would like to express my deepest appreciation to the Chairperson PNGRB, Dr. A.K. Jain, IAS, whose unwavering support, leadership, and vision have been pivotal in guiding this initiative. I would also like to thank the officials at Authorization and Strategic Planning department, PNGRB and representatives from Deloitte for their continuous cooperation and assistance throughout the course of our deliberations.

The recommendations outlined in this report reflect the collective effort and thought put into solving the pressing challenges surrounding the movement of petroleum products. It is our hope that these recommendations will help in optimizing the logistics infrastructure, thereby reducing inefficiencies, improving service delivery, and ensuring that India's energy sector continues to thrive sustainably.

Arvind Kumar

Acknowledgement

This report on the Optimization of Transportation of Petroleum Products is the outcome of a focused and collaborative effort undertaken by the Committee constituted by the Petroleum and Natural Gas Regulatory Board (PNGRB) to examine the infructuous movement of LPG and petroleum products and to recommend measures for its optimization.

PNGRB wishes to place on record its sincere appreciation to all the Committee members representing GAIL, HPCL, IOCL and BPCL for their active participation, valuable insights and sustained engagement through the course of the deliberations, despite their demanding professional responsibilities. Their operational expertise and considered inputs have been instrumental in shaping the findings and recommendations contained in this report.

We place on record its deep gratitude to Dr. A. K. Jain, IAS, Chairperson, PNGRB, for his continued guidance, strategic direction and support throughout this initiative.

Special appreciation is due to Shri Arvind Kumar, Expert Advisor I/C, Strategic Planning, PNGRB, who served as Convener of the Committee and played a central role in steering the stakeholder consultations and Committee deliberations, and in the preparation of this report.

PNGRB also acknowledges the research support and professional commitment of Shri Prashant Verma from Deloitte, Shri Balaji Sehgal and Shri Manoj Kumar from PNGRB for their diligence, sectoral expertise, and valuable contributions to shaping and drafting this report.

It is hoped that the recommendations contained in this report will support PNGRB and the industry in optimizing petroleum product logistics, minimizing inefficiencies and strengthening the security of energy supply across the country.

Committee Members

Sr. No.	Name	Designation and Organization	Position	Committee Presence
1	Shri S Ramakrishnan	ED (HSE-Marketing) HPCL.	Member	Present
2	Shri Kamlesh Sharma, Shri H. K. Garg	ED (Marketing-Retail), GAIL ED (Gas), GAIL	Member	Till 30.09.2024 From 01.10.2024
3	Dr. Bhuwan Chandra Joshi	CGM (Biofuels), IOCL	Member	Present
4	Shri Vikas Kumar Shri Sachin Gupta	GM, (LPG-Ops), IOCL	Member	Till 17.03.2025 From 18.04.2025
5	Shri Raguraman M Iyer	GM Distribution (Retail), HQ, BPCL	Member	Present
6	Shri V R Rajeev	DGM Logistics (LPG), HQ BPCL	Member	Present
7	Shri Arvind Kumar	Expert Advisor I/C, Strategic Planning, (PNGRB)	Convener	Present

The term of the reference of the Committee is as follow: -

A. To examine the movement of products (MS, HSD, ATF, LPG) taking into account the following aspects pertaining to the products: -

i. Current hospitality arrangements and exchange of products among OMCs

ii. Storage capacities of different products at different locations of OMCs i.e. port facilities, terminals, depots etc.,

iii. Pipelines network including Common Carriers, other than Common Carriers etc.

iv. Supply and Distribution plan of OMC

B. To propose the recommendations for avoiding infructuous movement and optimization for the movement of the products with the intent of following: -

i. Minimization of road movement

ii. Security of supply

iii. Optimization of pipelines and other infrastructure usages

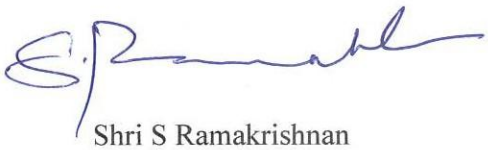
iv. Development of infrastructure on industry basis as per requirement

v. Any other areas or activities as may be required to achieve the intended objectives.

Further, the committee is divided into two groups, one for LPG and another for other liquid products. The LPG group comprises the following members:

LPG	POL
Shri H K Garg	Shri S Ramakrishnan
Shri S Ramakrishnan	Dr. Bhuwan Chandra Joshi
Shri V R Rajeev	Shri Raguraman Iyer
Shri Sachin Gupta	
Shri Arvind Kumar	

Signature

 Shri H K Garg GAIL	 Shri S Ramakrishnan HPCL
 Dr. Bhuwan Chandra Joshi IOCL	 Shri Raguraman Iyer BPCL
 Shri Sachin Gupta IOCL	 Shri V R Rajeev BPCL
 Shri Arvind Kumar PNGRB	

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Executive Summary

A large share of India's LPG moves by road tanker. Road is the costliest mode available, the most polluting, and the least reliable. Liquid petroleum products, on the other hand, depend heavily on rail. Rail is best applied to products and destinations that pipelines cannot serve, which suggests the present distribution of traffic across modes is not the most efficient one available. The result is avoidable movement, higher delivered cost, and exposure to disruption.

PNGRB has constituted an Expert Committee under the chairmanship of Shri Arvind Kumar to examine infructuous movement of LPG and petroleum products and recommend measures to optimise it. The terms of reference are:

- Optimization of pipeline usage on an industry basis
- Minimization of road transportation
- Uninterrupted supply during unforeseen exigencies
- Development of pipeline infrastructure on an industry basis

The Committee has worked with the Oil Marketing Companies to assess storage capacity, hospitality arrangements, product exchange mechanisms, and supply plans at both OMC and private facilities. The review covers common carrier as well as proprietary pipelines. The purpose is to locate bottlenecks, identify assets that are underused, and set out how the pipeline grid should be expanded and integrated.

LPG. Reduce dependence on road, strengthen pipeline connectivity to bottling plants, and enable shared use of existing infrastructure. A common carrier framework would underpin this by giving all entities equitable access.

Petroleum products. Fast-track the proposed pipelines connecting critical demand nodes, with corresponding gains in safety, operating efficiency, and emissions.

Where pipelines are not viable. For short-haul and last-mile links where pipeline investment does not stand up economically, the Committee favours multimodal solutions, including rail-fed facilities developed under the PM Gati Shakti National Master Plan.

Across both segments the Committee is working towards a coordinated, industry-wide approach to infrastructure planning and use: a common carrier framework for equitable access, optimised storage and distribution logistics, and closer collaboration between entities. Taken together, these measures would give India a more resilient, lower-cost, and environmentally responsible fuel distribution system, strengthening energy security while supporting long-term sustainability goals.

PART A – LPG Pipelines

Chapter 1: Introduction

India's LPG market has undergone significant transformation in recent years, driven by robust demand growth, government policies, and evolving consumer preferences. LPG is catering to a wide range of domestic, commercial, and industrial applications. The country's LPG consumption has increased substantially after 2015, primarily fueled by the Pradhan Mantri Ujjwala Yojana (PMUY), which expanded domestic LPG coverage to almost every household as of 2022.

This government initiative, coupled with a burgeoning population and rapid urbanization, has made India one of the largest LPG-consuming nations globally. The domestic sector accounts for nearly 89% of total consumption, while industrial and commercial segments contribute to 9%, Bulk LPG & Auto LPG have remaining share, highlighting the dependence on LPG as a primary fuel for cooking and industrial applications[2].

Though domestic LPG production has also increased significantly during the period, the increase in domestic production is not commensurate with surge in demand. This has necessitated a heavy reliance on imports.

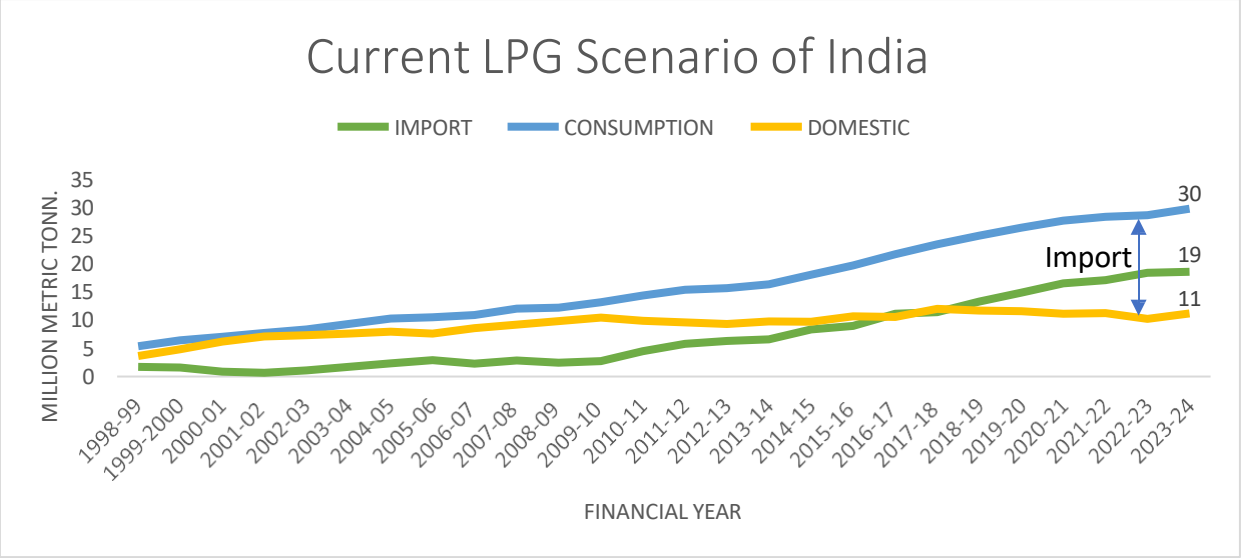


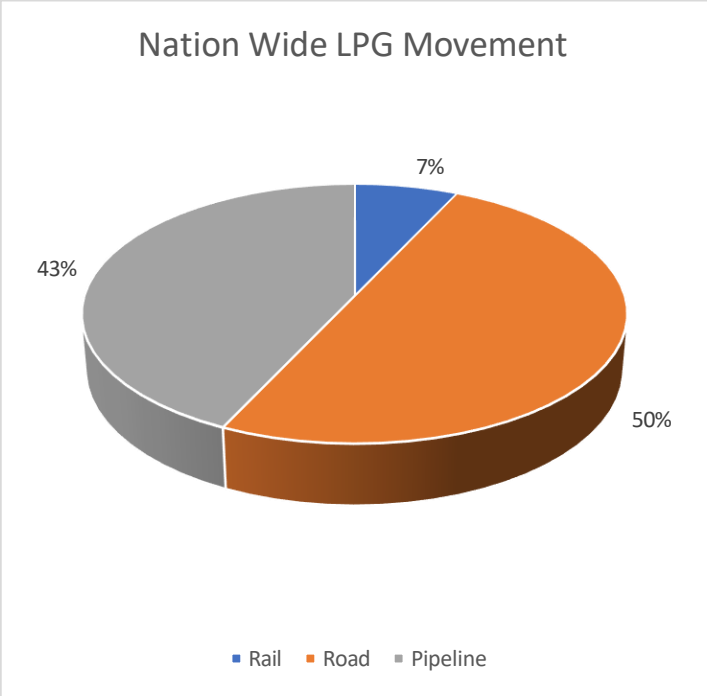
Figure 1: Current LPG Scenario of India

To address this gap, the entities have invested in expanding refining capacities vis a vis import infrastructure. At the same time, OMCs have significantly increased Pipeline infrastructure and Pipeline transportation of LPG. However, a sizeable quantity of bulk LPG is still transported by Road. **Road transportation is** comparatively costlier, less reliable, and environmentally taxing compared than pipeline networks.

While the Committee did not explicitly deliberate on road safety issues, it is important to recognize that LPG transportation by road is inherently exposed to external risk factors such as poor infrastructure, adverse weather, and third-party errors and conditions beyond the control of operators. These vulnerabilities can lead to disruptions, public concern, and economic consequences. In contrast, pipelines offer a more reliable and environmentally friendly mode of transportation. Therefore, without attributing recent incidents solely to road-based LPG movement, it is prudent to explore options for enhancing the share of pipelines to promote long-term efficiency and resilience in supply chain.

Considering pipeline being safer and environmentally friendly mode of transportation, it is necessary to explore feasibility of increasing pipeline volume share.

Chapter 2: Existing LPG Marketers



India's LPG market is dominated by three major public sector OMCs

1. Indian Oil Corporation Limited (IOCL)
2. Bharat Petroleum Corporation Limited (BPCL) and
3. Hindustan Petroleum Corporation Limited (HPCL)

Along with the major OMCs, private players such as Aegis, Supergas and Total Energies contribute to the marketing of LPG in different parts of India. These entities collectively drive LPG production, imports, storage, bottling, and distribution, ensuring the availability of this essential fuel to households, commercial establishments, and industries across the nation.

Table 1: LPG Market Share and Bottling Plant Capacity Share of OMCs

Entities	Market Share (%)	Bottling Plant Capacity Share (%)
IOCL	44.8%	~52%
BPCL	27.3%	~24%
HPCL	27.9%	~18%

Largely, PSUs dominates the LPG ecosystem, ensuring widespread distribution and consistent supply, particularly in rural and underserved areas. While private players contribute minimally to the domestic segment, their focus on industrial LPG provides diversification. Collectively, these marketers have ensured that India remains self-sufficient in LPG supply and distribution, balancing domestic production with imports and investing in infrastructure to meet future demand challenges.

This cohesive ecosystem, driven by strategic planning and investments by major marketers, forms the backbone of India's LPG market, enabling its rapid growth and transformation into a more efficient, sustainable supply chain.

Chapter 3: Current Scenario

3.1 Movement of LPG through different modes

During FY 2023–24, LPG was primarily transported from source locations to bottling plants through road, rail, and pipelines. About 15,665 TMT moved by road, 2,166 TMT by rail, and 13,455 TMT through pipelines. Despite their efficiency, pipelines accounted for only 45% of the total LPG movement, highlighting significant scope to expand pipeline connectivity and reduce dependence on road and rail transport. This share is expected to increase significantly with the commissioning of the KGPL, KSPPL, and Haldia–Panagarh pipelines.

Though railway offers an alternative to the pipeline operations, scaling up LPG rail transport faces notable constraints. A key challenge is the need to free up rail lines for dedicated LPG wagons, which disrupts regular train services and affects network efficiency. This can cause delays in LPG shipments as well as in passenger and other freight services.

Additionally, there is a persistent shortage of LPG-specific rail wagons, extending transit times and limiting the ability to meet growing demand. Developing the required infrastructure specialized terminals, storage facilities, and enhanced safety systems demands significant capital outlay and long lead times.

These logistical, infrastructural, and operational challenges limit the viability of rail as the primary mode for scaling LPG transportation in India. Given the rising demand, **pipelines** are more **reliable, cost-effective, and scalable** alternatives to meet future requirements.

In addition to the high transportation costs, the data in the **Table-2** below depicts the cost incurred by OMCs on movement of LPG in 2023-24 via road, rail tankers & Pipeline.

Detailed analysis of the individual LPG pipelines in operation in **Annexure-I** illustrates the specific details of the volume of LPG moved by road and rail tankers from source.

Annexure-II provides details on the quantity of LPG received by each bottling plant through Pipeline during the year 2023-24.

To address these gaps, PNGRB initiated to optimize the LPG supply chain by proposing new pipelines and spur connections, aiming to reduce dependency on road tankers for primary movement of LPG, ensure supply security, and support India's long-term energy goals.

By prioritizing sustainability and operational efficiency, the LPG market is poised to meet the growing needs of both domestic and industrial consumers while transitioning toward a cleaner energy future.

3.2 LPG Demand / Consumption

With over **34 crore LPG connections**, LPG has become the primary cooking fuel for a vast majority of households. The increasing penetration in rural and semi-urban areas has led to a surge in demand, with **domestic consumption accounting for nearly 90%** of total LPG usage. Additionally, rise in commercial and industrial sectors, including hotels, manufacturing, and automotive applications, are contributing to the rising consumption.

In 2024-25, the total LPG consumption of India constituted to **32 MMT** annually which further increased to **34 MMT** in the year 2025-26 reflecting a growth of ~6% compared to the previous year.

3.3 LPG Production

India's refineries, majorly operated by companies like Indian Oil Corporation (IOCL), Bharat Petroleum Corporation Limited (BPCL), Hindustan Petroleum Corporation Limited (HPCL), and private sector players, play a central role in meeting the country's LPG demand. Refineries contribute a substantial portion of the overall LPG supply. In fact, out of the total LPG produced domestically, more than 85% of LPG is currently being produced by these refineries and rest is made available from LPG fractionators.

LPG production by various entities in the year 2023-24 is tabulates in the following table:

Table 2: LPG production by entities

Entity	LPG Production (TMT)
IOCL	3129
BPCL	1864

Entity	LPG Production (TMT)
HPCL	945
CPCL	404
NRL	42
MRPL	1028
HMEL	677
RIL	1812
NEL	1197
Fractionators	1678

3.4 LPG Import Scenario

Currently India's LPG import has been rising sharply to meet the increasing domestic demand, driven by growing household consumption, government initiatives like the **PMUY**, and expanding industrial applications. In the year 2025-26, India imported a total of 20.4 MMT of LPG which is nearly three times the amount of LPG imported in 2013. Despite significant refinery capacity expansions, domestic production remains insufficient to cater to the escalating demand.

As a result, India relies heavily on imports, primarily from the **Middle East (Saudi Arabia, UAE, Qatar, Kuwait, and Oman)**. The country's LPG import dependency has exceeded **60-65% of consumption in recent years**, with OMCs downstream marketer's projections indicating a continued rise due to urbanization, rural penetration, and increasing per capita energy consumption. To have supply security, India had and has been investing heavily in infrastructure development and improvements, including **LPG import terminals, pipeline connectivity, and strategic storage facilities**.

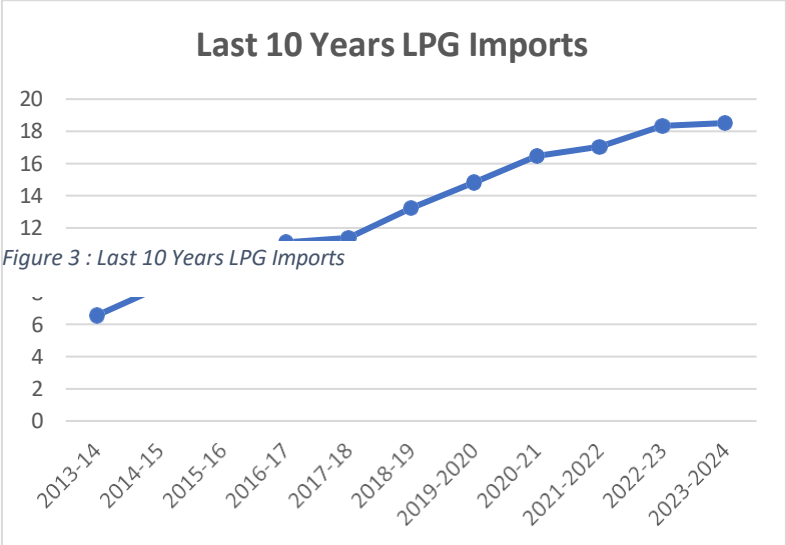


Figure 3 : Last 10 Years LPG Imports

3.5 Demand – Supply Scenario

India's rising LPG demand, coupled with the relatively modest growth in domestic production, is expected to increase the country's dependence on imports to meet future requirements. Over the next 15 years, the LPG market is projected to witness sustained growth, driven by rising household penetration, expanding industrial consumption, and continued policy support for cleaner energy.

According to projections by various agencies, LPG demand is expected to increase from **35.3 MMT in 2030** to **40.2 MMT in 2035**, reaching **44.7 MMT by 2040**, subject to geopolitical developments and force majeure events. In contrast, domestic refinery production is projected to remain largely stagnant, increasing only marginally from **15.5 MMT in 2030** to **15.7 MMT by 2035**, with production remaining at a similar level through **2040**. Consequently, India's LPG import requirement is expected to rise significantly, from approximately **20.0 MMT in 2030** to **24.7 MMT in 2035**, and **29.2 MMT by 2040**.

Given the substantial investments already made by the Oil Marketing Companies (OMCs) in developing LPG import infrastructure, the country's existing import handling capacity is considered adequate to meet the projected demand through **2040**.

3.6 Infrastructure

3.6.1 Import Terminals- Operational

India's dependency on imported LPG has grown significantly due to the exponential increase in consumption, which domestic production has been unable to match. Currently, nearly 60% of India's LPG requirements are met through imports. To support this reliance, India has developed an extensive network of LPG import terminals along its coastline, ensuring efficient handling, storage, and transportation of LPG to meet domestic demand.

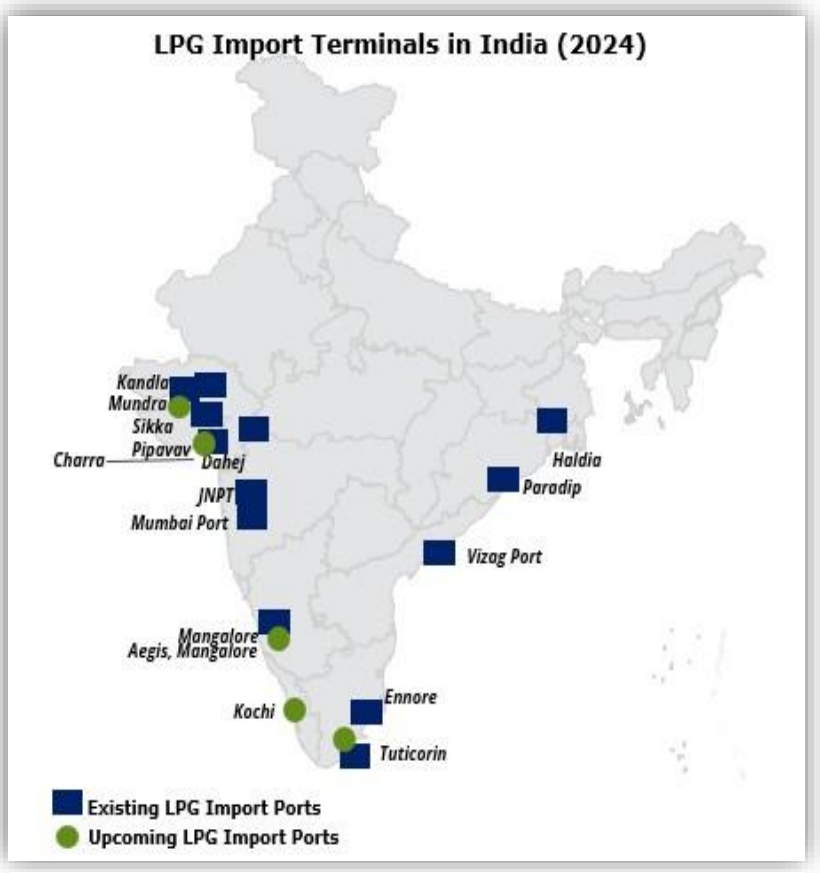


Figure 4: LPG Import Terminals In India

These terminals are managed by both public and private sector players, strategically positioned along both the eastern and western coastline to cater to various regions across the country.

India's LPG import infrastructure is well-distributed across key coastal locations, ensuring efficient supply chain management to meet the country's growing demand. Major players such as **IOCL, BPCL, HPCL, IPPL, Adani, Aegis, and SHV** operate terminals with varying capacities.

India has been making significant investments to expand its LPG infrastructure against the growing demand of the nation. These investments are critical for ensuring the efficient import, storage, and distribution of LPG to meet the needs of both urban and rural populations. At present India's total LPG import terminal capacity currently stands at approximately 40 MMTPA, with 33 MMTPA already operational and an additional 7 MMTPA under construction. These developments reflect India's strategic approach to meeting rising domestic demand through a well-integrated LPG import network.

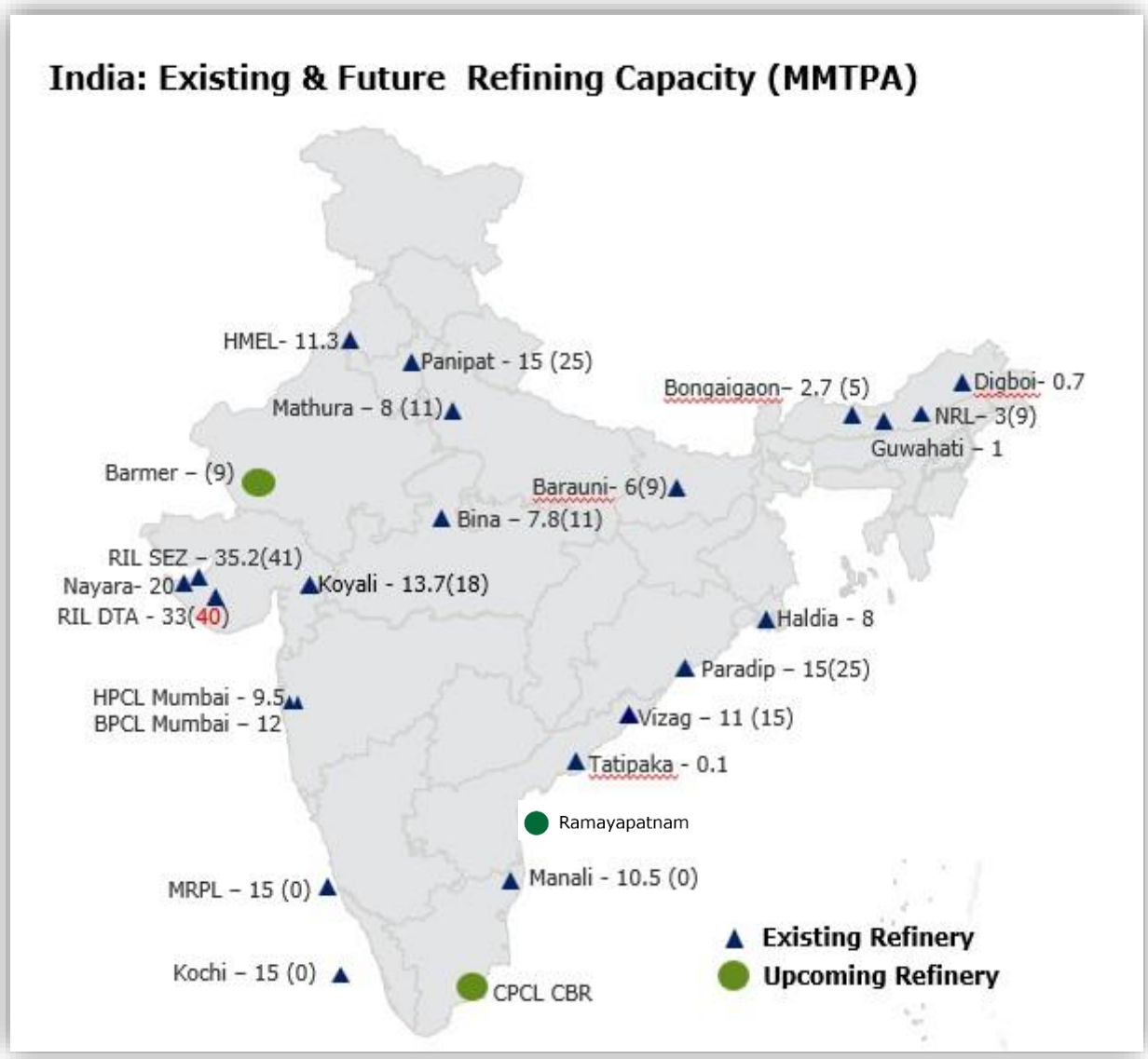
The details of operating import terminals are mentioned in the following table:

Table 3: Operating import terminals across India

Details of Facilities at Ports for LPG handling				
Sr No	PORT/OPERATOR	Location	Company	CAPACITY (MMTPA)
1	Ennore/IPPL	Ennore	IPPL	1.8
2	Haldia/IPPL	Haldia	IPPL	2.5
3	Dahej/GCPTCL	Dahej	GCPTCL	1.8
4	Mangalore/HPCL	Mangalore	HPCL	2
5	Mangalore/Total	Mangalore	TEMIPL	0.7
6	Vishakhapatnam/SALPG	Vizag	SALPG	1.8
7	Vishakhapatnam/EIPL	Vizag	EIPL	0.6
8	Porbandar/SHV	Porbandar	SHV	0.4
9	Tuticorin/SHV	Tuticorin	SHV	1
10	Kandla/IOC	Kandla	IOC	2.5
11	Kandla/Aegis	Kandla	AEGIS	1
12	Mundra	Mundra	Adani	2.3
13	JNPT/BPCL	Mumbai	BPCL	1
14	Mumbai/Aegis	Mumbai	AEGIS	1.5
15	Pipavav / Aegis	Pipavav	AEGIS	3.5
16	Haldia/Aegis	Haldia	AEGIS	1.5
17	BPCL Haldia	Haldia	BPCL	1.5
18	IOCL Cochin	Cochin	IOC	0.6
19	IOC Paradip	Paradip	IOC	1
20	Krishnapatnam	Krishnpatnam	Petregaz	1.4
21	Jaigargh	Jaigarh	JSW	0.4
22	Mangalaore	Manglore	Aegis	1.5
	GRAND TOTAL			32.3

3.6.2 Refinery

Refineries in India and their Contribution to LPG Production are as tabulated below.



** Map is not to scale*

Figure 5 : India's Existing and Future Refiing capacty (MMTPA)

Table 4: LPG Production Refinery Wise

Sr. No.	Entity	Refinery Name	State	LPG Production (TMT)
1	IOCL	Guwahati	Assam	47
2	IOCL	Barauni	Bihar	379
3	IOCL	Koyali	Gujarat	425
4	IOCL	Haldia	West Bengal	233
5	IOCL	Mathura	Uttar Pradesh	398
6	IOCL	Digboi	Assam	12
7	IOCL	Panipat	Haryana	697
8	IOCL	Bongaigaon	Assam	250
9	IOCL	Paradip	Odisha	633
10	BPCL	Mumbai	Maharashtra	490
11	BPCL	Kochi	Kerala	1251
12	BPCL	Bina	Madhya Pradesh	222
13	HPCL	Mumbai	Maharashtra	479
14	HPCL	Vishakhaptnam	Andhra Pradesh	446
15	CPCL	Manali	Tamil Nadu	370
16	NRL	Numaligarh	Assam	55.4
17	MRPL	Managalore	Karnataka	1180
18	HMEL	Bathinda	Punjab	408
19	RIL	Jamnagar	Gujarat	669
20	RIL	SEZ-Jamnagar	Gujarat	1166
21	NEL	Vadinar	Gujarat	1188
		TOTAL		**11016**

Source: *Industry Data FY-25*
Capacity Augmentation is being done at Baruni, Panipat, Koyali, NRL

HRRL Barmer is under commissioning LPG availability will be during commissioning and turnaround of Petchem units

Cumulatively, **11,102 MMT** of LPG was produced domestically in India during **FY 2025-26.** LPG production by Fractionator is around 1652 TMT.

3.6.3 LPG Fractionators

LPG fractionators play a crucial role in LPG value chain. India has multiple LPG fractionators operated by key entities such as **GAIL, ONGC, and OIL**, strategically located across states to optimize gas processing and supply. The combined LPG production capacity from these fractionators stands at **1678 TMT**, supporting both refinery operations and pipeline transportation.

Table 5: LPG Prodcution Via Fractionator

Name of Fractionator	State	Owned by	LPG Availability (MMTPA)
Vijaipur	MP	GAIL	0.429
Auraiya	UP	GAIL	0.185
Vaghodia	Gujarat	GAIL	0.016
Gandhar	Gujarat	GAIL	0.101
Uran	Maharashtra	ONGC	0.447
Hazira	Gujarat	ONGC	0.413
Dahej	Gujarat	ONGC	0.019
Ankleshwar	Gujarat	ONGC	0.007
Gandhar	Gujarat	ONGC	0.003
Duliayjan	Assam	OIL	0.033
TOTAL			**1.65**

3.6.4 LPG Pipeline

Pipeline connectivity, considered a more efficient and sustainable mode of transportation, currently caters to a limited number of bottling plants. Out of 213 bottling plants, over 60% remain unconnected by pipelines. **Table-8** lists out the number of bottling plants which currently receives LPG through pipeline and those not connected with the pipeline network along with their cumulative bottling and storage capacity.

Table 6: LPG Bottling Plant Pipeline Connectivty Status

Entity	No. of Bottling Plant	Connected to P/L	Not Connected to P/L
IOCL	102	42*	60
HPCL	55	23	32
BPCL	57	21	36

Source: *Data from IOCL, BPCL and HPCL*

IHB Limited, a joint venture of IOCL, HPCL & BPCL is soon going to commission a new pipeline project of Kandla-Gorakhpur pipeline. This new pipeline project stands as a significant step towards enhancing the accessibility of LPG across north India, ensuring a more efficient and reliable supply to the country's bottling plants, reducing the dependency on road transportation. This shift will significantly minimize the congestion on roadways, alleviating logistical challenges and reducing carbon emissions associated with traditional transportation methods.

1. - Post full commissioning of KGPL and KSPL total IOCL plant connected to Pipeline

Commissioning of the Kandla-Gorakhpur LPG Pipeline (KGPL) will enable 22 bottling plants to be directly connected to the main LPG transmission network, after completion of ongoing pipeline works 86 plants out of 214 Plats of OMC will be directly connected

Details of the current operating LPG pipelines are tabulated below:

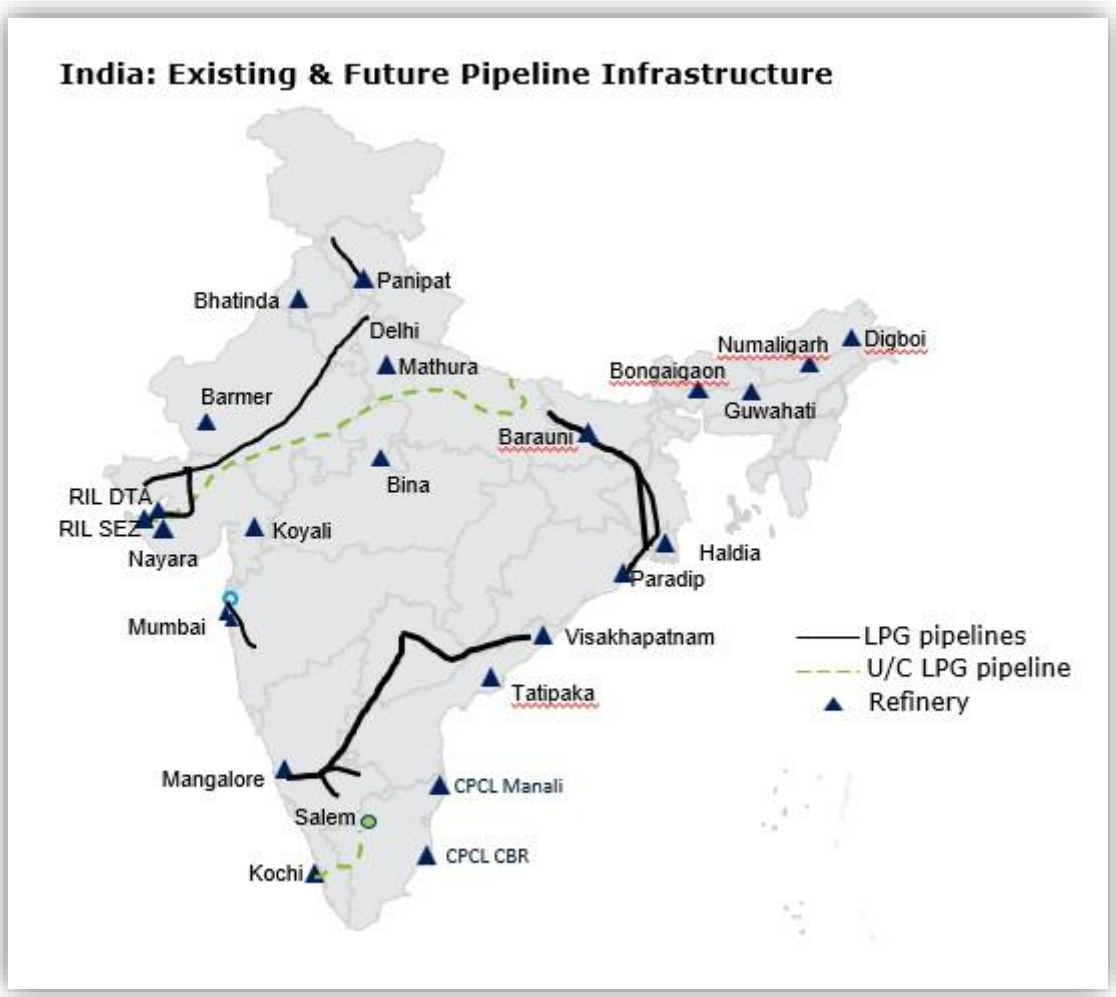
Table 7: List of Operating LPG Pipelines across India

Sr. No.	Pipeline	Entity	Length (km)	Capacity (MMT)	Throughput (MMT)
1	Panipat-Jalandhar Pipeline*	IOCL	280	0.7	0.6
2	Paradip Haldia Barauni Motihari Pipeline*	IOCL	1707	3.5	2.0
3	Mumbai-Uran Pipeline*	BPCL	58	0.8	0.8
4	Jamnagar-Loni Pipeline	GAIL	1427	3.3	3.2
5	Vizag-Secunderabad Pipeline	GAIL	609	1.3	1.2
6	Mangalore-Hassan-Mysore-Bangalore Pipeline	HPCL	356	3.1	2

Sr. No.	Pipeline	Entity	Length (km)	Capacity (MMT)	Throughput (MMT)
7	Hassan-Cherlapalli Pipeline	HPCL	650	-	-
8	Uran-Chakan-Shikrapur Pipeline	HPCL	171	1.16	1.17

* *- Self Use Pipeline*

Source: *PPAC India's Oil & Gas Ready Reckoner FY 2024-25*
Note: *Throughput of Mangalore-Hassan-Mysore-Bangalore pipeline includes throughput of branch line Hassan-Cherlapalli LPG Pipeline.*



With above pipelines, OMCs have significantly reduced long distance road transportation. Many plants, although fed by road, are supplied from nearby pipeline/rail fed plant, thereby reducing lead distance by road for the plant.

3.6.5 Bottling Plants

India's reliance on LPG has not only led to the development of extensive import terminal infrastructure but also to the expansion of its LPG bottling plant network across the country, which plays a critical role in ensuring the efficient delivery of LPG to consumers across the country. India currently operates a total of **214** LPG bottling plants managed by public sector undertakings (PSUs), with a limited presence of private players in the industry, which are spread across the country to serve both urban and rural area.

Table 8: Overview of LPG Bottling Plants

Bottling Plant Connectivity (Nos) with Total Bottling and Storage Capacities

Entities	Pipeline	Rail	Road	Bottling Capacity (TMT)	Storage Capacity (TMT)
IOCL	42	2	58	11243	266
HPCL	23	4	28	6370	123
BPCL	21	3	33	5370	105
Total	**86**	**13**	**115**	**22983**	**494**

- At present, IOCL leads with the largest network with 102 plants, a bottling capacity of **113 TMT**, and storage infrastructure of **266 TMT**. Out of total capacity **6285 TMT** i.e. 55% is connected to pipeline.
- HPCL follows with 55 plants, a capacity of **6,470 TMT**, and storage of **123 TMT**.
- BPCL operates 57 plants, providing a total capacity of **5,28 TMT** and a storage capacity of **105 MT**. These facilities are vital for maintaining a reliable supply chain and efficient distribution of bottled products.

The combined bottling infrastructure of three major entities (OMCs) - comprises a total of 214 plants, with a collective bottling capacity of **22983** TMT and a storage capacity of **494** MT.

In addition to extensive Pipeline network build up by the OMCs, huge no. of bottling plants have been added by OMCs, not only to cater the demand, but also to reach near demand center, thereby reducing road movement of packed LPG. At the same time bulk LPG tankers are moving in hinterland.

3.6.6 Rail Infrastructure

Rail infrastructure comprises rail loading locations, rail unloading locations, and LPG rakes. As on date, the industry has a total of 52 LPG rakes, of which 33 are industry-owned, 12 are privately owned by BPCL, and 7 are privately owned by HPCL. Additionally, Industry can load approx. 200 rake trips per month.

4. Chapter 4: Future Scenario

4.1 LPG Demand / Consumption Projections

The per capita LPG consumption in India is expected to rise further to 27.5 kg in 2040 due to population growth, urbanization, and improving economic conditions. Despite efforts to enhance domestic production, demand continues to outpace supply, necessitating higher imports to bridge the gap.

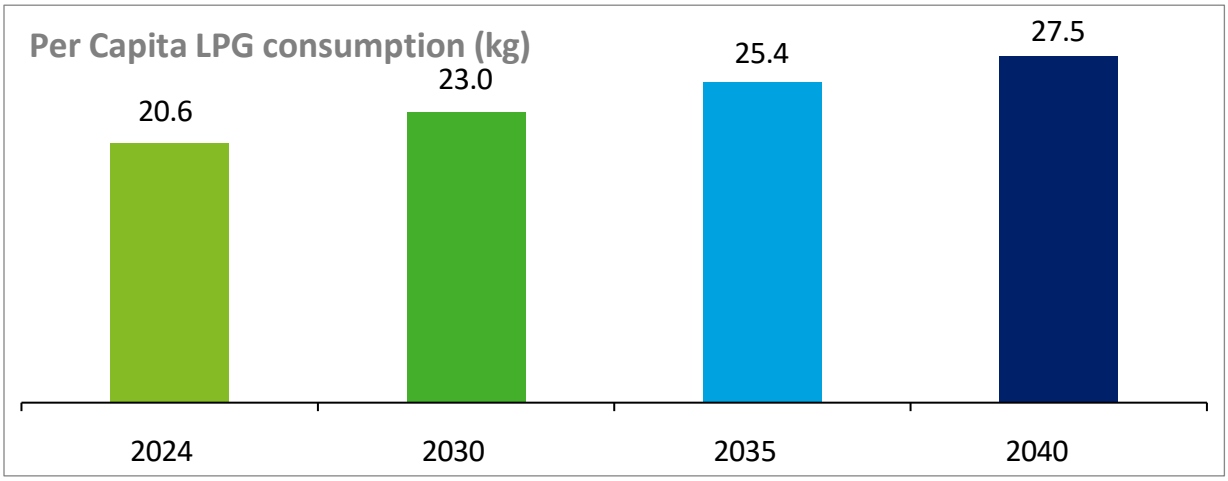


Figure 6: Per Capita LPG consumption

Source: *OMCs and Our world in data*

Year	2024	2030	2035	2040
Population (In Billion)	1.46	1.53	1.58	1.62
LPG Consumption (MMT)	30.07	35.20	40.13	44.55

Source : Our world in Data and PNGRB internal deliberations

With India's growing population and its status as a developing nation, **the demand for LPG continues to outpace supply** despite efforts to enhance domestic production. This ongoing gap necessitates higher imports to meet the rising demand.

4.2 Domestic LPG Projection

Industry-wide LPG production projections by refineries have been conducted. The LPG refinery capacity trend from 2017 to 2040 showed fluctuations in the initial years, followed by a general upward trend, with stabilization from 2033 onwards.

4.2.1 Key Observations:

1. **Fluctuations (2017-2024):** Refinery LPG capacity currently fluctuates between 11,700 TMT and 13,687 TMT, indicating variations in production capability or operational constraints.
2. **Growth Phase (2024-2032):** A significant increase in refinery capacity may occur, peaking at 15,785 TMT in 2031, suggesting planned capacity expansion projects.
3. **Stabilization (2033-2040):** From 2033 onwards, India's refining capacity is projected to stabilize at around 15,738 TMT, indicating a plateau in expansion and LPG demand. However, this may change as new greenfield and brownfield refineries come online. As of 2025, India's refining capacity comfortably exceeds domestic demand, creating consistent exportable surpluses of petrol and diesel. This self-sufficiency is driven by greenfield projects such as HPCL's Barmer Refinery in Rajasthan and the planned Ratnagiri Refinery in Maharashtra, along with brownfield expansions at IOCL Panipat, BPCL Kochi, and MRPL Mangalore.

   This trend suggests initial volatility, followed by strategic expansion and eventual capacity stabilization, aligning with long-term infrastructure planning.

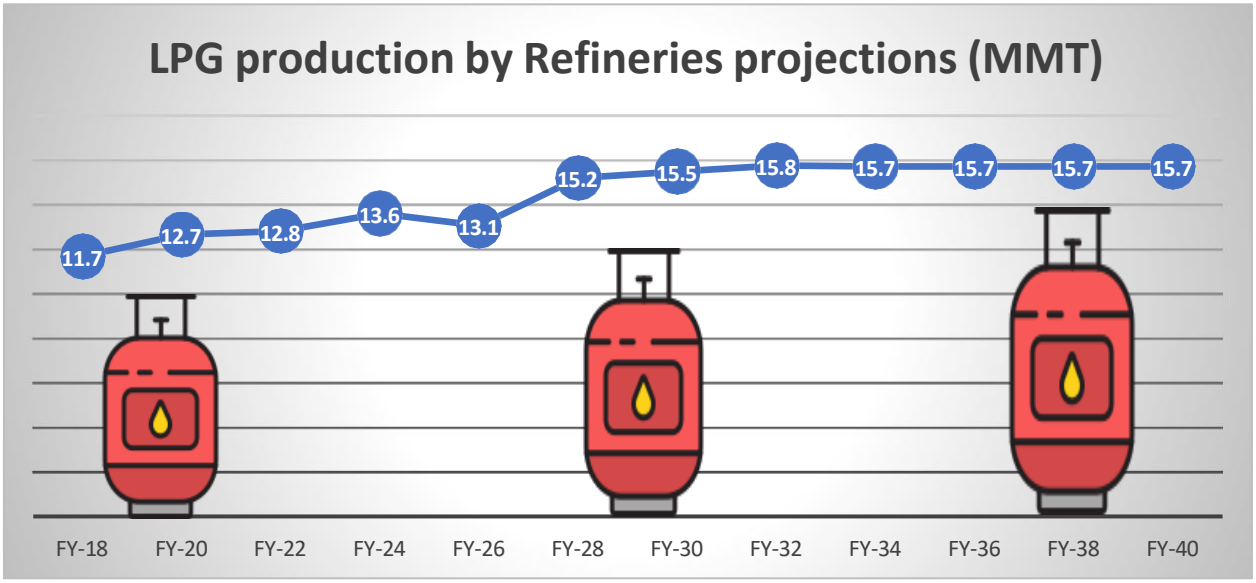


Figure 7: LPG Production by Refineries Projection (MMT)

Source: *IOCL*

4.3 LPG Import Projection

The import projections of Liquefied Petroleum Gas (LPG) in India are a critical component of the nation's energy strategy, reflecting the increasing demand for clean cooking fuel and its reliance on international markets.

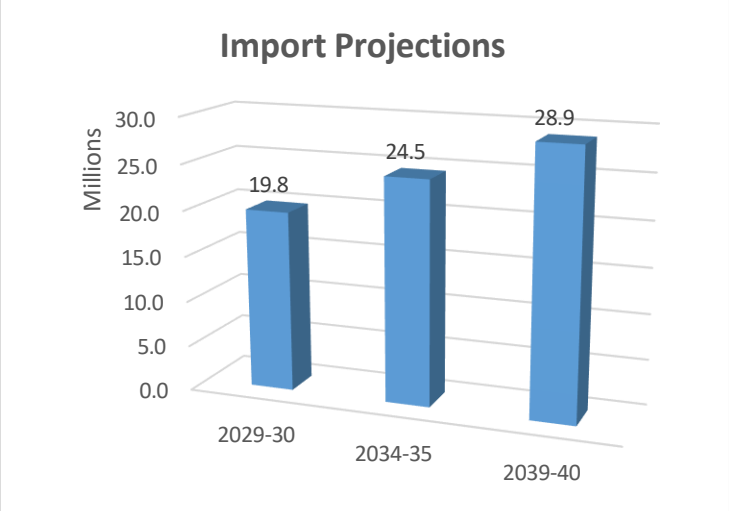


Figure 8: LPG Import Projections

At present import projections indicate a steady rise in LPG imports to supplement domestic production and ensure an uninterrupted supply of this vital energy resource. Although domestic production may continue to expand, industry internal findings suggest a possibility that it could eventually become saturated, as the pace of growth in production may struggle to keep up with the continually rising demand. With LPG production projected to reach saturation at 15.7 million metric tons (MMT) between FY 2033 and 2040, Based on current demand projections and prevailing assumptions regarding domestic production, LPG imports could increase significantly, potentially reaching up to 28.9 MMT by FY2040. Actual import requirements will depend on factors such as domestic production, demand growth, infrastructure expansion, policy interventions, geopolitical factors and technological advancements.

4.4 Next 10 - 15 Year Growth

India’s LPG market is set for substantial growth, driven by rising domestic consumption, supportive government policies, and increasing industrial demand. According to a PNGRB-Deloitte study, India's LPG consumption stood at **29.6 MMT in 2024** and is projected to reach **33 MMT by 2040** under post-demand erosion. Demand erosion will be driven by multiple factors, including the expansion of CGD networks, the adoption of green hydrogen for industrial use, and the shift to electric induction cooking and EVs & CNG cannibalizing Auto LPG demand. However, this decline is offset by government initiatives like PMUY and PMUY 2.0, which continue to promote LPG as a cleaner fuel, expanding access for economically weaker sections. However, the industry’s internal projections indicate a more aggressive growth trajectory, estimating **35.3 MMT by FY 2030, 40.2 MMT by FY 2035, and 44.6 MMT by FY 2040**, citing increasing demand trends. This divergence suggests potential for higher-than-expected

consumption, warranting further investments in infrastructure, imports, and domestic production capacity to meet future demand.

Infrastructure development will play a critical role in supporting the anticipated demand growth. Current LPG pipeline connectivity remains underdeveloped, with over 120 bottling plants still unconnected. However, the planned expansion of pipeline networks, such as the proposed Kandla-Gorakhpur LPG pipeline, Kochi Salem LPG Pipelines and Haldia Panagarh LPG Pipeline is expected to enhance connectivity, reduce transportation costs, and improve supply chain efficiency. By transitioning from road to pipelines, the LPG market can reduce carbon emissions and ensure a more resilient supply chain.

4.5 LPG Infrastructure Development

4.5.1 LPG Import Terminal

Along with the OMCs, private players and Joint venture of MNCs have also played a pivotal role in developing and increasing the Import capacity of India. **Table 11** below outlines the list of import terminals that are either undergoing expansion or currently under construction.

Table 9: LPG Import Termianl - Under Construction

Terminal	Company	Expansion Capacity (MMTPA)
JNPT - Uran	Aegis	**1.5**
Kandla	BPCL	3.6
JNPT Mumbai	Aegis	1.5
Jaigarh	JSW	1
Total		**7.6**

Aegis Logistics continues to operate multiple large terminals that enhance overall handling capacity. Ongoing infrastructure developments, including SHV's expansion and new LPG facilities by EPIL and SA LPG in Vizag, reflect steady progress toward greater self-sufficiency. Additionally, initiatives by Adani and GCPTL are helping to reinforce the LPG import network along India's western coast.

Committee's Observations

- Aegis is coming up with grass root LPG Import terminal at JNPT with 123 TMT refrigerated Storage and Import handling capacity of 1.5 MMTPA
- BPCL is also in the process of construction of Grass root LPG Import terminal at Kandla with Storage capacity of 80 TMT and LPG Import Handling capacity of 3.6 MMTPA.

- 30TMT additional Cryogenic LPG storage is under construction at BPCL Uran LPG Terminal, Maharashtra as a part of the "Debottlenecking and Augmentation of Cryogenic Import LPG Facilities at Uran" with additional 20" pipeline of 12 .5 Km Jetty Pipeline for propane & Butane and new LPG marine unloading arms to increase the LPG Import capacity of the terminal from the current 1MMTPA to 1.8 MMTPA
- Capacity Augmentation at Dahej LPG Import terminal by adding additional storage of 16 TMT along with addition of rail loading facility.
- JSW, Jaigarh is also in the process of adding storage at Jaigarh thereby increasing the available LPG Import Handling capacity at Jaigarh by 1 MMTPA

4.5.2 Under Construction – LPG Pipeline

Presently there are three common carrier pipelines that are under-construction and are poised to enhance country's LPG distribution network, ensuring a more efficient and reliable supply of LPG to both urban and rural areas. Once operational, these pipelines will play a crucial role in reducing logistical bottlenecks and supporting the government's efforts to provide LPG to a larger portion of the population.

Table 10 : LPG Pipelines – Under Construction

Sr. No.	Pipeline	Entity	Length (km)	Capacity (MMT)
1	Kandla Gorakhpur Pipeline*	IHB	2805	8.25
2	Haldia-Panagarh Pipeline	HPCL	215	1.45
3	Kochi-Coimbatore-Erode-Salem Pipeline*	KSPPL	429	1.53

Source: PNGRB

** - 1. Partially Commissioned till Jhansi, 3. Partially commissioned till Palakkad*

PNGRB Suo Moto Bidded pipeline

Sr. No.	Pipeline	Entity	Length (km)
1	Jhansi Sitarganj Pipeline	GAIL	611
2	Shikra Hubballi Goa Pipeline	GAIL	633

Sr. No.	Pipeline	Entity	Length (km)
3	Cherlapally Nagpur Pipeline	GAIL	556
4	Paradeep Raipur LPG Pipeline	Dilip Buildcon	555

4.5.3 Upcoming Bottling Plant

LPG bottling infrastructure for the nation is set for significant expansion with multiple ongoing and upcoming projects across various states. The initiatives include setting up of new bottling plants, capacity augmentations, and mini-LPG plants ensuring enhanced supply chain efficiency and meeting rising demand. Along with the existing bottling plants, these upcoming plants shall also to be connected to the LPG pipeline network for better transportation of the bulk product from port locations to refinery/fractionators and finally to destined bottling plants. A list of the upcoming bottling plants is provided in **Table-13** below**.**

Table 11: List of Upcoming LPG Bottling Plants

State	Location	**Capacity**		**Entity**	**Target Commissioning**
Andhra Pradesh	Vizag	30	New	BPCL	March'27
Assam	Matia	30	New	BPCL	Sept'26
Bihar	Gopalganj	120	New	BPCL	Dec'26
J&K	Kashmir	30	New	BPCL	Sep'27
Maharashtra	Badnera	30	New	BPCL	Jul'26
	Manmad	120	Capacity Augmentation	IOCL	June'25
Gujarat	Nandesari	30	New	HPCL	Sep'26
Meghalaya	Umiam, Barapni	30	New	IOCL	Sep'26
Mizoram	Mualkhang	30	New	IOCL	Oct'28

Uttar Pradesh	Kanpur	60	New	BPCL	Mar'27
Uttar Pradesh	Najibabad	30	New	HPCL	Sep'26
Karnataka	Bangalore	-	Capacity Augmentation	BPCL	March'27

The upcoming plants and expansions reflect India's commitment to **energy security, regional LPG availability, and improved logistics**, catering to both domestic and commercial users. These projects are expected to be completed in a phased manner, spanning from **December 2024 to October 2027**, reinforcing India's long-term LPG distribution network.

List of all bottling plants those presently owned and operated by public sector undertakings (PSUs) is attached as **Annexure-III.**

4.5.4 Upcoming Rail infrastructure

Several key rail infrastructure projects are under development to enhance LPG and POL logistics efficiency and reduce dependence on road transport:

1. New Rail Unloading Facility at Madurai LPG Plant - A new rail siding connecting to the existing HPCL's Madurai LPG Plant is being developed at an investment of ₹135 crore. This facility is expected to reduce approximately 0.2 MMTPA of road movement currently handled from Mangalore and Yediyur. Additional reduction in road transport may be achieved with participation from other OMCs. Similar rail unloading facilities are also being developed by BPCL at Kanpur and Gopalganj, while feasibility studies are underway for new facilities at Bathinda and Singrauli.
2. New POL-cum-LPG Rail-fed Depot at Kamardanga, Assam - This project is being established as an integrated POL and LPG depot, with LPG-specific investments estimated at ₹157 crore. The integrated setup will optimize infrastructure utilization and significantly reduce road movement within the North-Eastern region, improving overall supply reliability. BPCL has already procured 11 owned rakes, with one additional rake expected within the next four months, taking the total to 12 owned rakes. HPCL currently has 7 owned 7 rakes with one additional rake expected within next 2 months i.e Sept 2026, taking the total to 8 owned rakes, while IOCL has no owned rakes.

Chapter 5: Taxation

Taxation plays a crucial role in promoting the use of fuel. While a basket of refined products like petrol and diesel falls under the VAT regime, LPG is categorized under GST, which is an added benefit for promoting its use. However, there are underlying challenges within the LPG tax brackets:

Domestic LPG is subsidized and attracts a lower tax rate of 5%, while LPG utilized for industrial applications, including manufacturing processes, is subject to an 18% GST rate, similar to commercial usage.

Commercial and industrial LPG is eligible for Input Tax Credit (ITC), allowing businesses to offset this tax against their output tax liability. The inclusion of LPG in the GST regime offers balanced taxation, enabling effective navigation of financial obligations for commercial and industrial units within India's tax framework.

An additional benefit is that the transportation of LPG through various modes rail, road, and pipeline is included under the GST framework, attracting a uniform tax rate of 18%. This integration within the GST regime ensures streamlined taxation across different modes of transportation, reducing complexity and promoting efficiency in logistics. A consistent tax rate has enabled businesses to manage transportation costs more effectively while maintaining compliance with tax regulations & getting tax offsetting benefit. This also facilitates smoother inter-state movement of goods, eliminating cascading taxes and fostering a unified market.

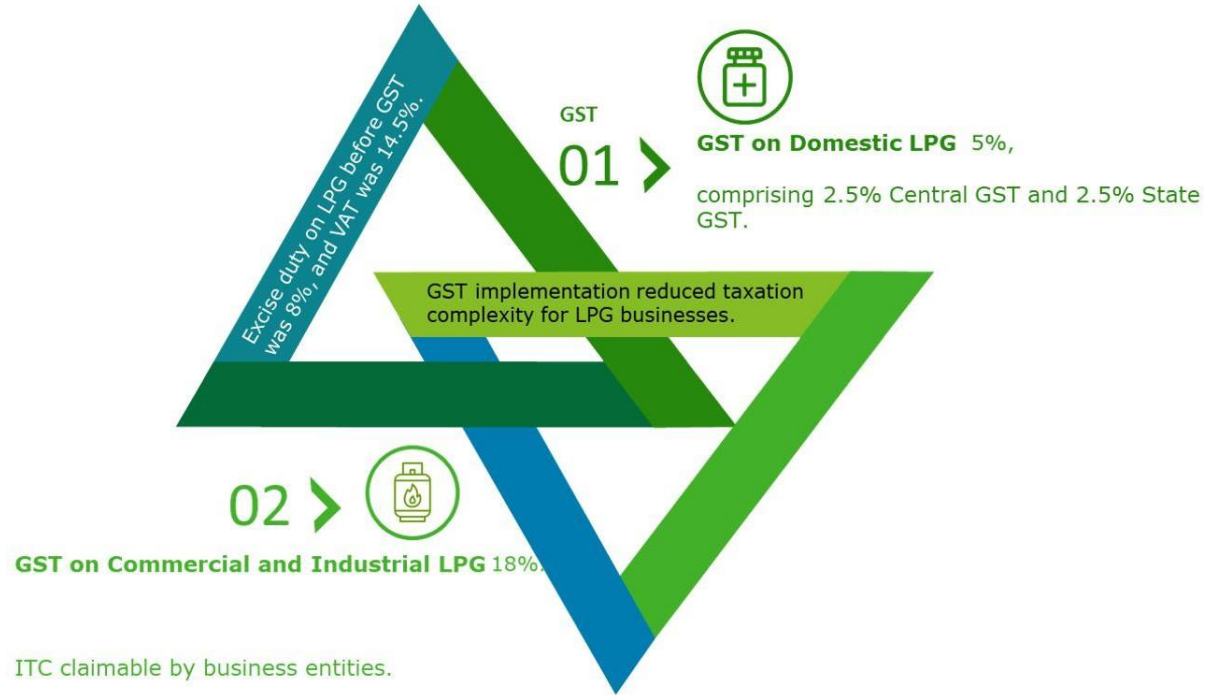


Figure 9: Taxation Analogy

Chapter 6: Analysis of Present LPG Infrastructure

Zone wise analysis of modal share of LPG transportation has been carried out for the states of India.

6.1 Eastern Zone

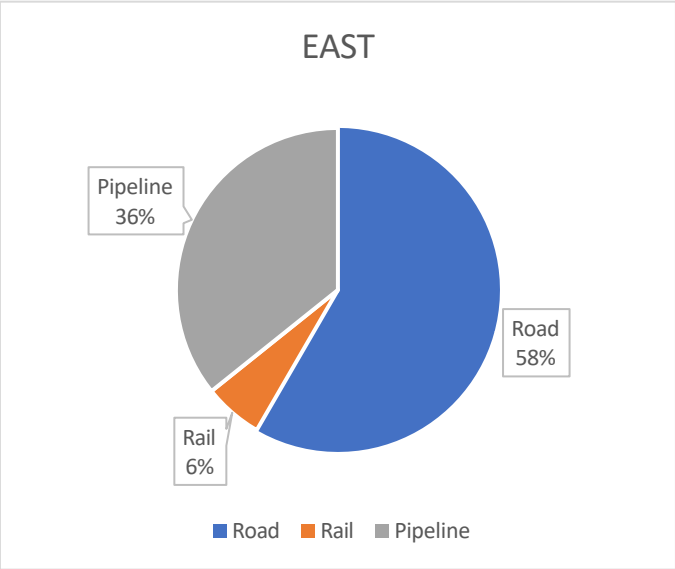


Figure 10 : Eastern Zone LPG Movement

In 2023-24, the eastern region of India, due to limited pipeline infrastructure with the North-Eastern region having no pipelines saw approximately 58% of LPG movement via road and 6% via rail wagons. Only 36% of the total LPG was transferred to the bottling plants through pipelines, which also included the local pipelines connecting refineries to bottling plants, contributing to the higher percentage of pipeline-based transportation.

During the year 2023-24, the eastern region of India, which includes the states of West Bengal, Bihar, Jharkhand, Odisha, and the Seven Sister States, recorded a total of 59.25 TMT of primary LPG movement. This was supported by 47 bottling plants with an overall bottling capacity of 5.2 TMT. Of this total primary movement, the Seven Sister States contributed 5.66 TMT, which was handled by 11 bottling plants with a combined bottling capacity of 0.8 MMT. Since the North-Eastern region lacks presence of an LPG pipeline, all of this LPG was transported by road via bulk truck tankers. This road transport also included the transfer of LPG between different bottling plants within the region. For example, IOCL's Agartala Bottling Plant received 16.53 TMT of LPG from the IOCL Sarpara Plant and 35.54 TMT from the IOCL North Guwahati Plant. Also, HPCL's Goalpara bottling plant received all of its product of around 33.71 TMT all the way from Haldia Port location located nearly 1000 km away. HPCL is coming up with the rail gantry at Kamardanga, Assam which will provide bulk to Golpara LPG plant.

6.2 Southern Zone

The Southern region of India, comprising the states of Karnataka, Telangana, Tamil Nadu, Andhra Pradesh, and Kerala, in 2023-24 witnessed a total of 8.43 MMT of LPG movement. The region is supported by 52 bottling plants with a combined bottling capacity of 5.83 MMT.

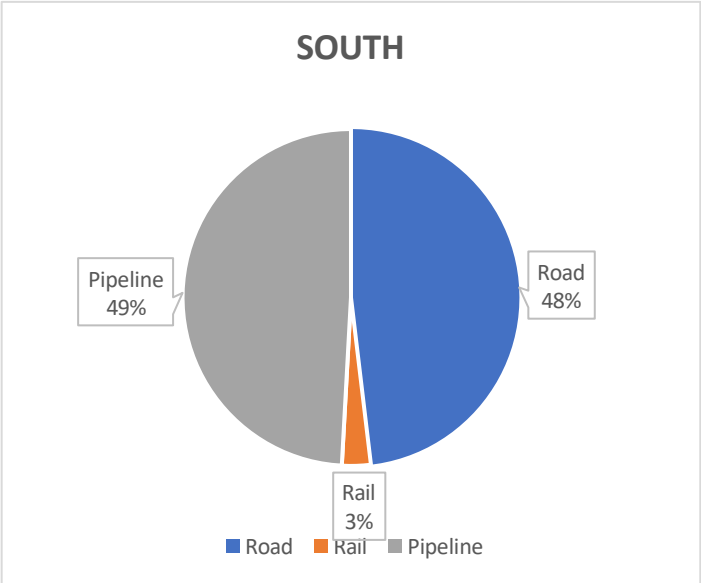


Figure 11 : Southern Zone LPG Movement

Despite having a relatively robust pipeline infrastructure, including the Mangalore-Hassan-Mysore-Bangalore Pipeline (MHMBPL), Hassan-Cherlapalli Pipeline (HCPL), Vizag-Secunderabad Pipeline (VSPL), and the partially operational Kochi-Salem pipeline under construction, road transport remains the dominant mode of LPG movement in the region. In the same year, approximately 48% of primary LPG transfer was carried out by road, while pipeline transportation accounted for 49%, and rail transport contributed just 3%. After full Commissioning of. KSPL, the road transportation in the southern region will get reduced.

<u>Other observations pertaining to LPG movement.</u>

1. Mysore region already has a common carrier LPG pipeline i.e. Mangalore-Hassan-Mysore-Bangalore Pipeline (MHMBPL), still the plants in the vicinity of Mysore receive LPG from distant locations such as Ennore, and Mangalore through truck tankers also via road due to constraint in the pipeline capacity MHMBPL
2. As Bangalore Plant of BPCL is not connected to MHMBPL, early 40% LPG received in Bangalore region is through road truck movement., however, it is noted by the committee that IOC Devangunthi plant is planned to be fed entirely by road
3. LPG plant at Erode, Salem, Coimbatore etc receive their LPG from road and are in the process of getting connected with pipeline which is expected to be completed by Mar'27
4. BPC Solur plant to be connected via pipeline from Yediyur to avoid road movement in Bangalore region.
5. Product from major refineries such as Mangalore, CPCL Manali and Kochi refinery reaches out to distant bottling plants located as far as 1000 km away.

The southern states are entirely surrounded by coastal regions, which host the majority of the country's import terminals and a significant number of refineries. Both the import terminals and refineries play a crucial role in the nation's LPG supply chain. Therefore, developing a robust pipeline infrastructure that connects the maximum number of bottling plants in the region would enable Oil Marketing Companies (OMCs) and private players to efficiently transport LPG from import terminals and refineries to end locations, reducing reliance on road and rail infrastructure. The under-construction Kochi-Salem pipeline will also further connect four bottling plants at Coimbatore, Erode and Salem along its route, further enhancing the use of pipeline infrastructure for LPG delivery to these plants.

6.3 Western Zone

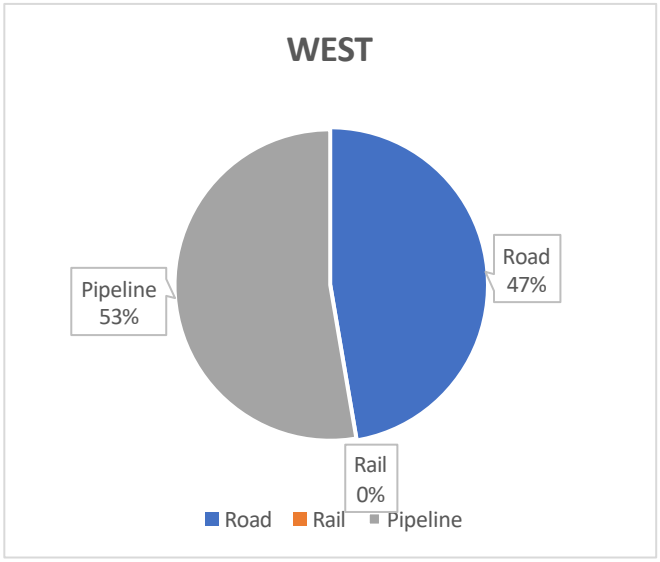


Figure 12 : Western Zone LPG Movement

The western region of India is home to the two LPG pipelines in the country, spanning 2805 Kms & 1,427 km i.e JLPL and KGPL. The pipelines connect northern India to import terminals and refineries in the western states. It transports a significant quantity of LPG annually to the bottling plants located along the route in Gujarat Rajasthan, MP and Uttar Pradesh. Though Rajkot Plants of IOCL and BPCL are located near to JLPL but are not connected to JPLL due to non-viability of the project.

The proposed capacity augmentation of JLPL from existing 3.5 MMTPA to 6.5 MMTPA will further reduce dependency on road transportation in the state of Rajasthan and Uttar Pradesh along with connectivity of JLPL with Tikri Kalan LPG Plant of IOCL .

With commissioning of Kandla-Gorakhpur pipeline, along with the planned expansion of the Jamnagar-Loni pipeline, will help increase the share of LPG transported via pipeline in the western region. These developments will also strategically connect several major bottling plants, thereby strengthening the primary network for LPG transmission.

6.4 Northern Zone

Similar to the southern part of India, the northern region also plays a significant role in LPG distribution and tops the nation in LPG consumption. The northern zone includes the states of Uttar Pradesh, Uttarakhand, Punjab, Haryana, Himachal Pradesh, and the Union Territories of Jammu & Kashmir and Ladakh, accounting for approximately 8.7 MMT of product movement in 2023-24 across these states. Among these, Uttar Pradesh, with 28 bottling plants, has the highest consumption, totaling 4.25 MMT.

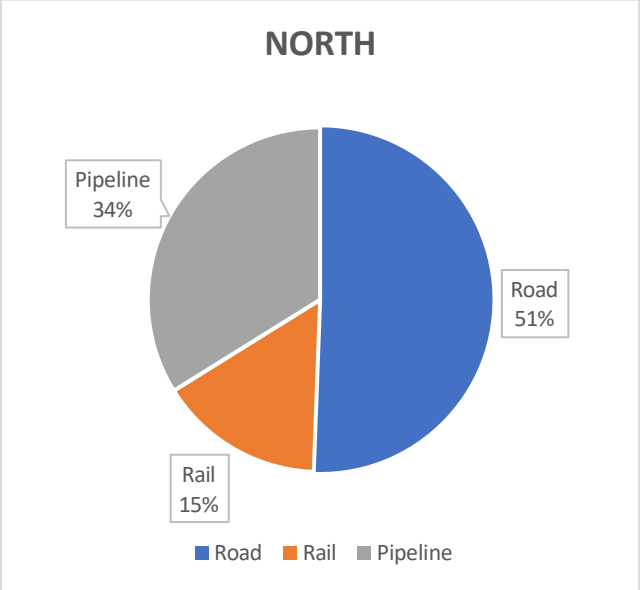


Figure 13 : Northern Zone LPG Movement

In the northern region, LPG is primarily transported via rail, contributing approximately 15% of the movement, with 51% of the product being transferred through road tankers. Additionally, the region is served by the common carrier Jamnagar-Loni pipeline, which terminates in Uttar Pradesh, and the self-use Panipat-Jalandhar LPG pipeline of IOCL. The latter, however, is dedicated solely to IOCL's use and caters only to the demand of its bottling plants along the pipeline's route.

Currently, most bottling plants in the northern states are not connected to the main transmission LPG pipelines. The commissioning of the KGPL pipeline, which facilitates connections to various bottling plants in Uttar Pradesh, is a positive development. However, several high-demand bottling plants, such as those in Gonda, Sultanpur, and Trishundi, also need to be connected directly to this pipeline. With nodal loading planned from KGPL TOPs, road movement lead to these plants will significantly reduce. These plants lie along the route of the KGPL small spur line, and connecting them would contribute significantly to reducing the use of road tankers, thereby enhancing both environmental and personal safety. However, viability of last mile connectivity through pipeline needs to be explored.

After Uttar Pradesh, Punjab ranks second with approximately 2.06 MMT of primary LPG movement. The absence of a common carrier pipeline infrastructure forces the transportation of LPG within the state via road tankers.

6.5 Central Zone

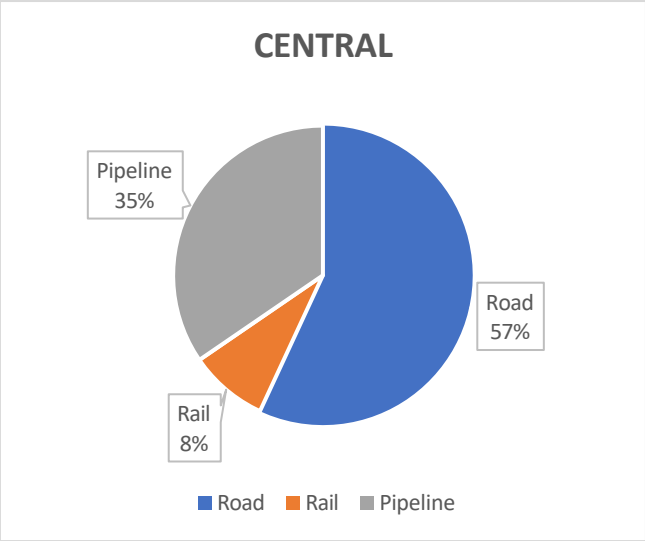


Figure 14 : Central Zone LPG Movement

Central India with states of Madhya Pradesh, Maharashtra and Goa in 2023-24 moved a total of nearly **4.7 MMT** of LPG to the bottling plants. This zone collectively houses 35 bottling plants out of which only 7 receives LPG through pipelines. Bina refinery along with one fractionator in Vijaipur are one of the key sources for LPG in the state. Central India accounts for second highest movement of LPG via. road with an approximate share of 57%.

The region currently has only two LPG pipelines viz. Mumbai Uran LPG pipeline and Uran Chakan Shikarpur pipeline both located in Maharashtra near refineries of HPCL and BPCL. An under-construction KGPL is passing through Madhya Pradesh which in some of the major location such as Ujjain, Bhopal, Indore in Madhya Pradesh, KGPL shall establish spur line connections to the bottling plants along with connectivity to one of the major refineries in the region. Since, major part of the total product received within the state of Madhya Pradesh is from Gujarat region, commissioning of KGPL is poised to enhance the LPG infrastructure in central India.

Within the state of Maharashtra nearly 3.53 MMT of LPG was transported in the year 2023-24 out of which only 43% was delivered to bottling plants via. pipeline, 7% via. and rest nearly 50% was transported via road infrastructure.

Further, bottling plants in Goa receives 100% of their product via. bulk road tankers from distant locations such as Mangalore.

The committee unanimously recommended transitioning LPG transport from road tankers to an alternative, safer medium depending upon economic viability of the project pipelines. The committee has outlined several key recommendations for the development of pipeline infrastructure, which would reduce the dependence on road transport and help enhance safety. This shift to pipelines would not only minimize the risk of accidents but also ensure a more efficient and sustainable method of transporting LPG, ultimately benefiting both public safety and the environment.

During the committee deliberations, it is highlighted that while rail transportation of LPG is cost-effective for specific routes, pipelines remain the most economically viable mode of transport

when considered from the operating point of view.. Pipelines not only offer long-term cost savings but also provide operational efficiency, safety, and reliability in LPG distribution. Additionally, they significantly reduce environmental impact compared to rail and road transport by minimizing carbon emissions, fuel consumption, and potential hazards associated with bulk LPG movement. The committee acknowledged that a well-planned pipeline network would enhance supply chain optimization and contribute to sustainable energy logistics in India.

Though economic viability of pipeline on longer route carrying high volume may be more than road transportation, economic viability of pipeline on shorter route for last mile connectivity remains a challenge.

As such committee has not carried out economic viability of pipelines and cost/benefit analysis in terms of Cost of pipeline laying and operations, Savings in transportation cost, Transportation safety and ease of operations need to be analyzed for arriving at feasibility of pipeline connectivity to road fed plants.

6.6 Hospitality Arrangement Details of LPG

The OMCs operate an extensive nationwide LPG supply chain comprising import terminals, refineries, cross-country pipelines, and bottling plants. To improve supply reliability and logistics efficiency, the OMCs have established hospitality arrangements under which one OMC utilizes another OMC's infrastructure for primary transportation and bottling operations. Such arrangements are particularly beneficial where an OMC lacks infrastructure in a specific region, during infrastructure outages, seasonal demand surges, or to optimize transportation distances. Hospitality arrangements reduce empty movements, improve asset utilization, minimize logistics costs, and ensure uninterrupted LPG availability while leveraging the combined infrastructure of the three PSU OMCs. They also enhance supply chain resilience by enabling operational flexibility without requiring duplication of infrastructure. These collaborative arrangements align with the broader objective of improving efficiency across the national LPG distribution network.

The operational framework is supported through a product exchange mechanism, whereby LPG volumes handled by one OMC on behalf of another are recorded, reconciled, and commercially settled. Under this mechanism, LPG may be transferred through another OMC's pipeline, received at its storage facility, or bottled at its bottling plant for onward distribution to the owning OMC's distributors. Product exchanges are accounted for on an agreed quantity and quality basis, with periodic reconciliation of inventory movements, operational losses, handling charges, pipeline tariffs, bottling charges, and other service costs. The commercial settlement ensures that while physical movement of LPG is optimized through shared infrastructure, ownership, financial accountability, and inventory balances remain accurately maintained among participating OMCs. Such a framework facilitates efficient utilization of national LPG infrastructure while maintaining transparency, operational integrity, and equitable cost allocation.

Chapter 7: Recommendations as per Terms of Reference of the Committee

1. **Minimization of Road Transportation**
   - **Exploring Pipeline / Rail Connectivity to Road fed bottling Plants**

The Committee observed that most LPG bottling plants with an installed bottling capacity of 180 TMT and above have already been connected to the LPG pipeline / rail network. Apart from 180 TMTPA and above, many LPG Bottling Plant with capacity less than 180 TMTPA are also connected with LPG pipelines.

I. The Connectivity of Rail / Pipeline of balance LPG plants may be explored wherever feasible.
II. Hub and Spoke model with hub movement by pipeline / Rail may be explored for cluster of location to reduce the lead of road movement.

2. **Supply Security**
   I. To ensure supply security in the event of any disruption in one of the companies, local pipeline connectivity among companies may be helpful in maintaining continuous supply of products by studying techno – commercial and operational feasibility.
   II. Also, to explore more than one mode of supply on Industry basis in major demand pockets.
   III. Possibility of creating LPG pipeline grid and reverse pumping shall be explored with subject to techno – commercial feasibility.

3. **Optimization of pipelines and other infrastructure usages**
   I. Transportation through Pipeline has to be maximized considering cost economics, safety and product security. Entities to explore available pipelines wherever slack is available.
   II. Committee Recommend band of freight rate (Rs/MT/km) with identification of floor and ceiling freight to be declared which will in reducing road transportation and increasing pipeline / rail transportation.
   III. Committee recommend that OMC conduct yearly study for optimization and share available Rail/Pipeline Infrastructure amongst them to minimize road movement.

4. **Development of Pipeline infrastructure on industry basis as per requirement.**
   I. Entities may proactively evaluate techo- commercial feasibility of JV / CUF model to optimize capex / Opex.

Enablers

i. Viability Gap Funding (VGF):
The Government of India may consider providing Viability Gap Funding (VGF) for eligible LPG pipeline projects to bridge the gap between the Modified Internal Rate of Return (MIRR) and the applicable WACC, thereby enabling investments in strategically important but financially marginal pipeline projects.

7.1 Minimization of Road Movement

It is Pertinent that movement of LPG via road transport has remained dominant mode However, its share has gradually decreased from 64% in FY 2017 to 49% in FY 2023. Meanwhile, pipeline transport has gained prominence, increasing from 31% in FY 2017 to 45% in FY 2023 by addition of pipeline network wherever found economically viable, reflecting a shift toward cost-efficient and possibly more environmentally friendly transport methods. Rail transport, on the other hand, has maintained a steady but minimal share of around 5–6% throughout the years.

The LPG transportation have shown notable trends from FY 2017 to FY 2023. Over the years, the transportation cost for LPG has generally increased, with road transport consistently being the most expensive mode. The cost for rail transport has risen from ₹1,890 per MT in FY 2017 to ₹2,120 per MT in FY 2023. OMCs have deliberately planned longer movement by rail and shorter movement by road, while road transport costs have fluctuated, peaking at ₹3,629 per MT in FY 2022 before dropping to ₹3,422 per MT in FY 2023. Reduction in road transportation cost indicates significant reduction in road movement and focus of OMCs on reducing road transportation wherever viable and feasible. Pipeline transport remains the cheapest option as far as operations cost is concerned, though its cost has also varied, reaching its lowest point of ₹763 per MT in FY 2018 and rising to ₹926 per MT in FY 2023. The increase in PL operations cost is attributable to longer PL movement and shorter road movement. However, huge CAPEX of pipelines makes it unviable for short lead/low volume connectivity, making last mile connectivity of all plants challenging.

As of now, approximately 50000 trucks engaged by OMCs operate daily on the roads, covering an average distance of about 120 km each collectively amounting to nearly 1 Crore kilometers of travel every day.

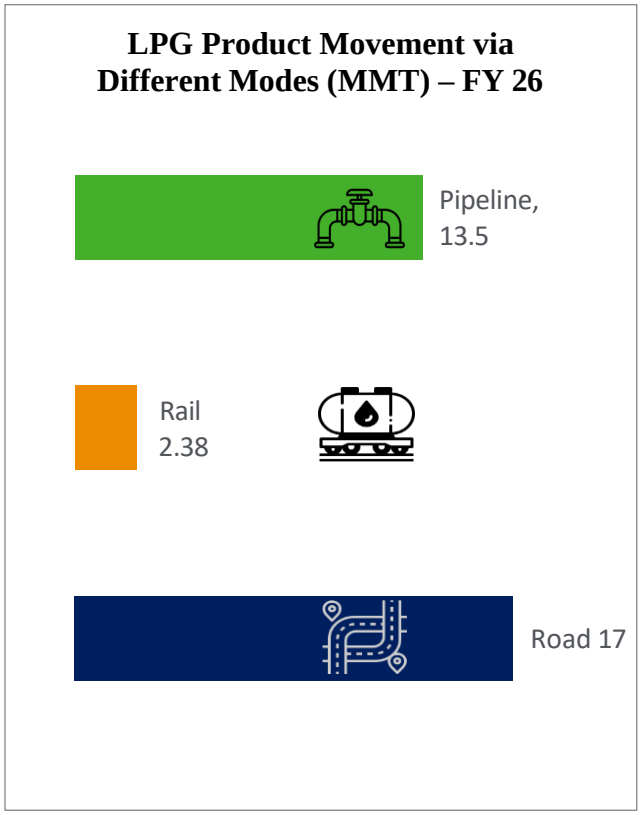
Pipeline is preferred mode of transport, wherever available and viable. Committee also noted that reduction of Road movement is pivotal for robust supply chain optimization.

As an alternate solution, Multimodal transportation as envisaged in PM Gati Shakti National Master Plan for reducing Road transportation leading to Logistics savings and ensuring continuous supply is an effective solution. Also, Integrated POL & LPG Depots in future for capacity addition depending upon increase in LPG demand will enable sharing of facilities and optimization of Capex across segments will be effective optimization.

Table 12: LPG Transportation Cost and Modal share by Mode

Year	LPG transportation cost / MT			% of quantity transfer by various modes		
	Rail	Road	Pipeline	Rail	Road	Pipeline
FY - 17	1890	2509	834	5	64	31
FY - 18	1900	2841	763	6	58	37
FY - 19	1910	3228	847	6	56	38
FY - 20	1919	3245	818	6	56	38
FY - 21	2063	3520	786	6	54	40
FY - 22	1940	3629	894	6	54	40
FY - 23	2120	3422	926	6	49	45
FY - 22	2322	3476	913	7	51	41
FY - 23	2120	3422	926	7	50	43

Source: *IOCL*



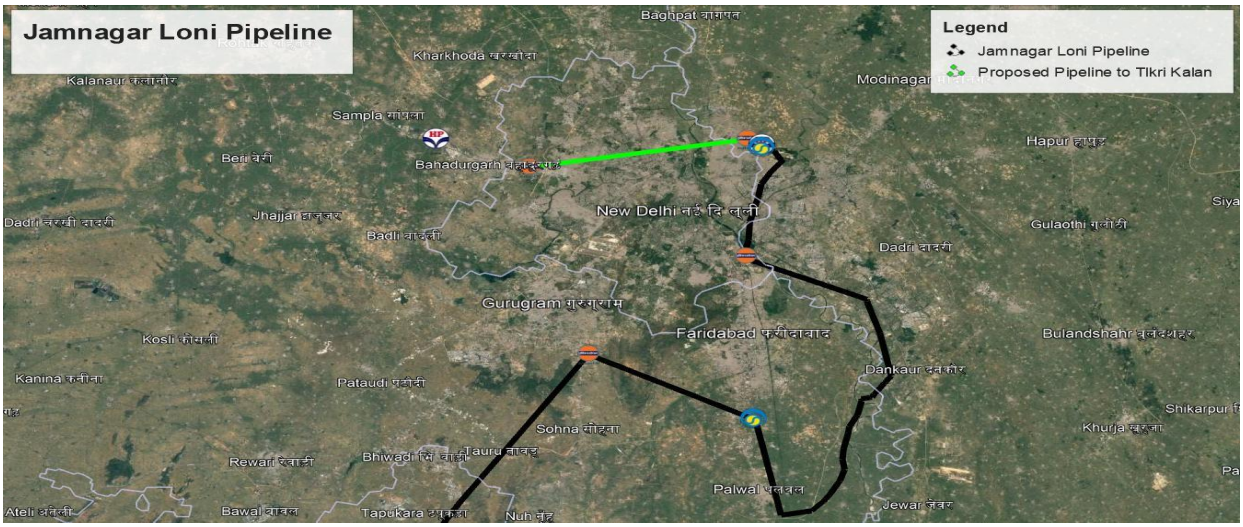
- **The committee has emphasized the need to minimize the reliance on road tankers for LPG transportation. This includes prioritizing the development of a comprehensive network of pipelines that connect refineries, LPG import terminals, and bottling plants reducing the distance required for road transport.**
- **Heavy reliance on road transport increases costs, emissions, and supply risks, underscoring the need to shift toward pipeline and rail-based logistics for greater efficiency and resilience.**

Figure 15: LPG Product Movement via Different Modes (MMT)

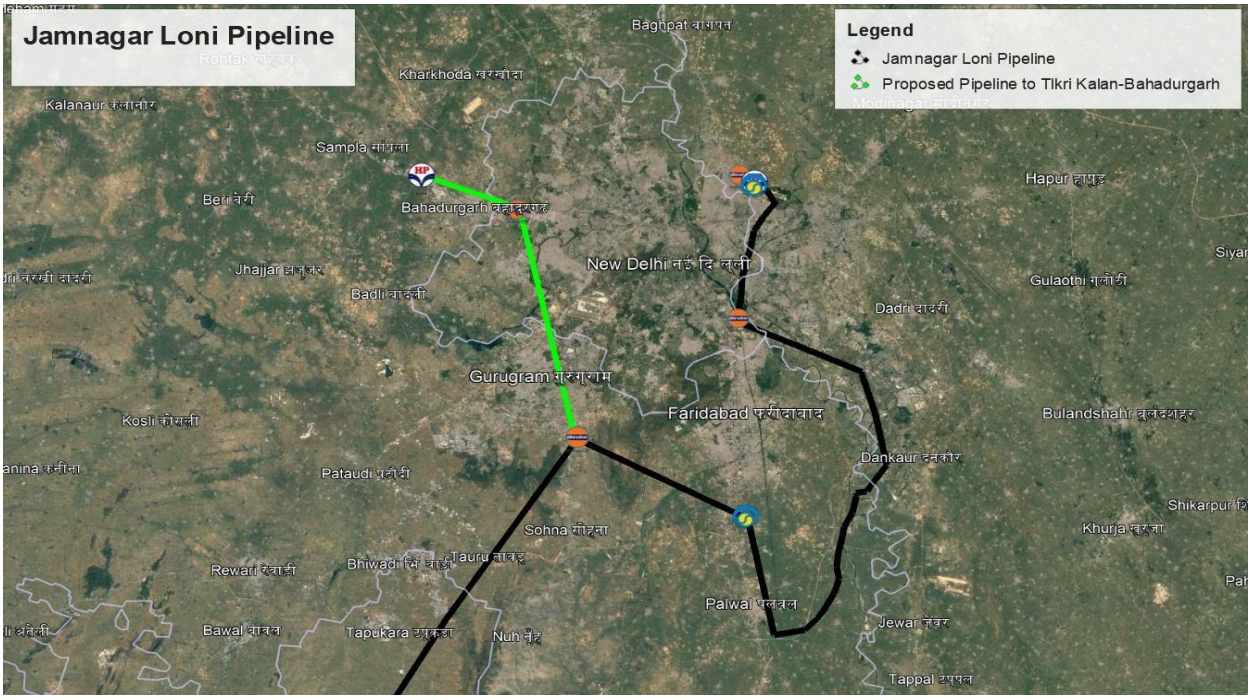
7.1.1 Extension of Jamnagar-Loni LPG Pipeline from Loni till Tikri Kalan (240 TMT) by laying a pipeline section of approximately 45-50 km.

Tikri Kalan (IOCL) LPG bottling plant receives an extensive amount of product from port locations such as Hazira, Kandla, Jamnagar but all this product is transferred through Rail racks. Also, significant product is being received from Pipavav, Gujarat through Rail Racks. Extending the JLPL pipeline up to Tikri Kalan may allow the bottling plant to receive product through the existing pipeline from Jamnagar putting a gradual stop to rail movement of LPG on the said route.

Delivery Depot/Terminal	Source Point	Qty. (TMTPA)	Mode of Transportation	Total Charges (In Cr)
TIKRI KALAN (IOCL-240 TMT)	Hazira	31.06	Rail	6.96
	Jamnagar	55.12	Rail	12.89
	Kandla	70.57	Rail	14.74
	LPG BP -Loni	0.48	Road	0.05
	LPG BP -Mathura	4.20	Road	0.56
	Pipavav	122.71	Rail	29.60
	Uran	4.60	Rail	1.33

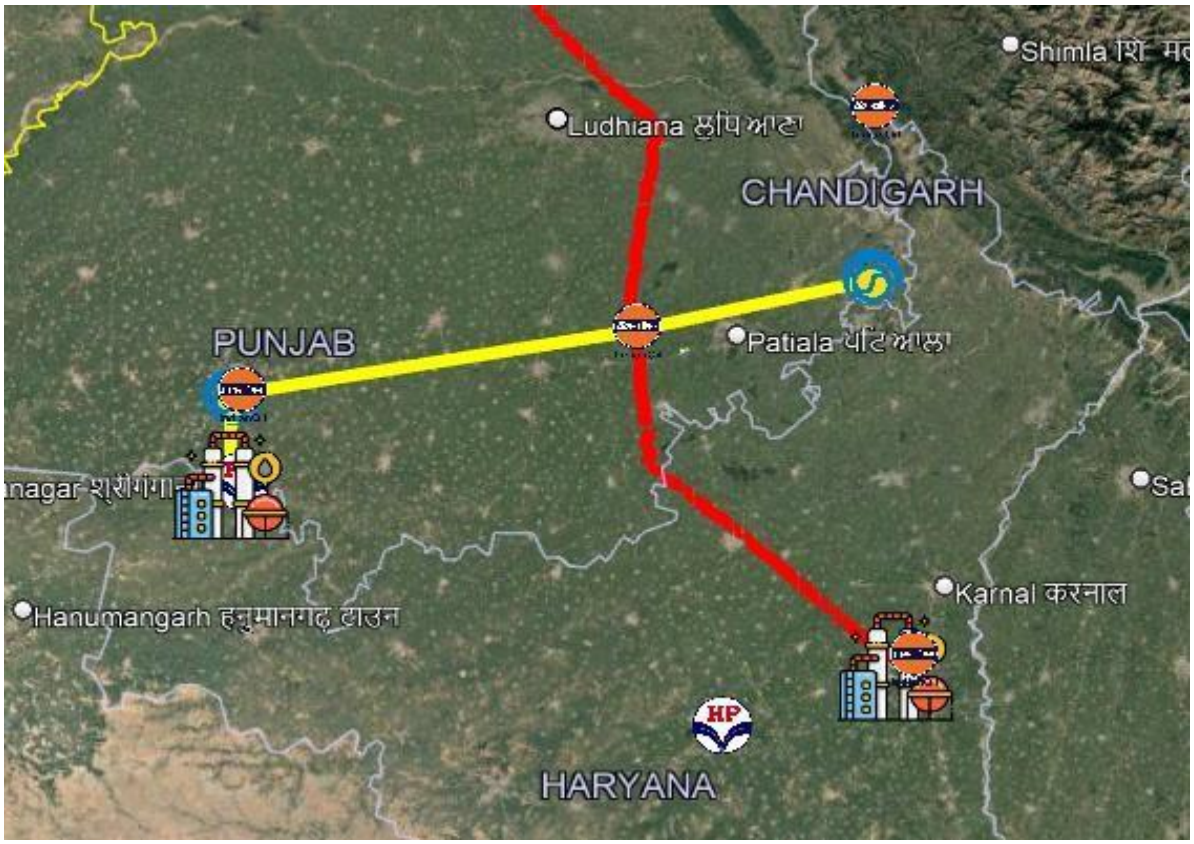


7.1.2 An alternative to extending the Jamnagar-Loni Pipeline (JLPL) from Loni could involve exploring the possibility of constructing a new spur line at Gurugram or Sohna. This new spur line would establish a direct connection to Tikri Kalan and subsequently to Bahadurgarh. It would serve as an alternative to the Gurugram-Loni section of the JLPL while also providing redundancy for the National Capital Region.



Additionally, bottling plants near KGPL pipeline like Trishundi, Sultanpur, Mirzapur and Chandauli & Gonda shall be considered for connectivity with KGPL's spur pipeline.

A new 250 km long pipeline starting from Bathinda Refinery-Bathinda-Nabha-Lalru may be proposed. This pipeline shall help in reducing the load on Panipat Jalandhar pipeline by passing through one of the common point i.e. Nabha LPG bottling plant which has a current capacity of 180 TMT. This shall help in moving product from both Panipat and Bathinda refinery up till Jammu via. Jalandhar-Jammu pipeline. Laying a new pipeline from Panipat to Jalandhar or augmenting the capacity of the existing pipeline to meet the demand of plants located further north.



Exploring the possibility of extending the Lucknow spur line of KGPL up till Gonda in Uttar Pradesh which is a promising market and has two bottling plant of HPCL (120 TMT) and BPCL (30 TMT). Also, these plants have an option to be connected via. spur line from Gorakhpur plant.

7.1.3 Further in Uttar Pradesh, Lakhimpur Kheri BP may be connected via. a spur line from one of the extensions of KGPL i.e. Jhansi to Sitarganj as proposed by the Board. This spur line may be extended from Shahjahanpur BP to Lakhimpur Kheri BP.

7.1.4 LPG bottling plants of Trishundi (IOCL) and Sultanpur (BPCL) BPs falls in the near vicinity of the KGPL. Hence, the possibility of connecting these two via. two separate spur lines or a single spur line which passes from both these depots.

7.1.5 In the Southern region two of the LPG bottling plants have been identified for direct connection to Hassan-Cherlapally pipeline of HPCL. These two bottling plants viz. Thimnapur and Kurnool fall in the near vicinity of Hassan-Cherlapally common carrier pipeline. Hence, HPCL may be approached to connect both these plants for direct supply to these plants via. pipeline and avoiding Road and Rail movement of LPG. IOCL is already in discussion with HPCL to connect Thimmapur to HCPL BPCL has also approached HPCL to connect Kurnool LPG plant to this section of pipeline. Committee recommends expediting the connectivity of Thimnapur and Kurnool BPs with Hassan-Cherlapally pipeline.

7.1.6 Connection of Mangalore-Hasan-Yediyur section of pipeline to Solur LPG plant to be considered considering very high volume of road movement in Bangalore region.

7.1.7 With Madurai rail unloading facility project in progress will become the HUB location and can support by shortening the Road movement significantly. Further PNGRB's has already invited EOI for eight strategic LPG pipelines & five spur pipelines routes

7.1.8 There is a strong need to augment the capacity of the Uran–Chakan–Shikrapur pipeline to effectively serve the bottling plants located in South Maharashtra and North Karnataka. the Uran – Chakan -Shikrapur pipeline to Aegis Mumbai to diversify input sources and product availability constrain at BPCL Uran and ONGC Uran. Type.

7.1.9 Since the proposed Cherlapally–Nagpur pipeline passes within approximately 100 km of IOCL's Dhanaj depot/terminal, it is recommended to connect the bottling plant through a spur line from the main pipeline.

7.1.10 The Paradip–Raipur pipeline may be considered for connectivity to IOCL's Khurda, Jharsuguda, and Korba bottling plants, as well as BPCL's Bolangir bottling plant.

7.1.9.1 Spur Pipelines

SPURLINE 1 - Bathinda Spur connecting the HMEL refinery depending upon LPG availability from Bhatinda Refinery with existing Panipat – Jalandar routes and two bottling plants at Bathinda.

SPURLINE 2 - Bina–Jabalpur pipeline links KGPL with Bina Refinery, enabling LPG transportation to hinterland bottling plants while reducing rail movement.

SPURLINE 3 - Baitalpur – Mothari (KGPL Extension) to increase redundancy in the KGPL and Haldia Mothari LPG pipelines by connecting both East and West side terminals with a single pipeline. It will span 102 km, focusing on improving network reliability.

SPURLINE 4 - HPCL Yediyur – BPCL Bangalore addressing excessive road movement in the highly traffic-congested Bangalore region. Both bottling plants are currently road-connected, and the spur will span 40 km to improve LPG transport efficiency.

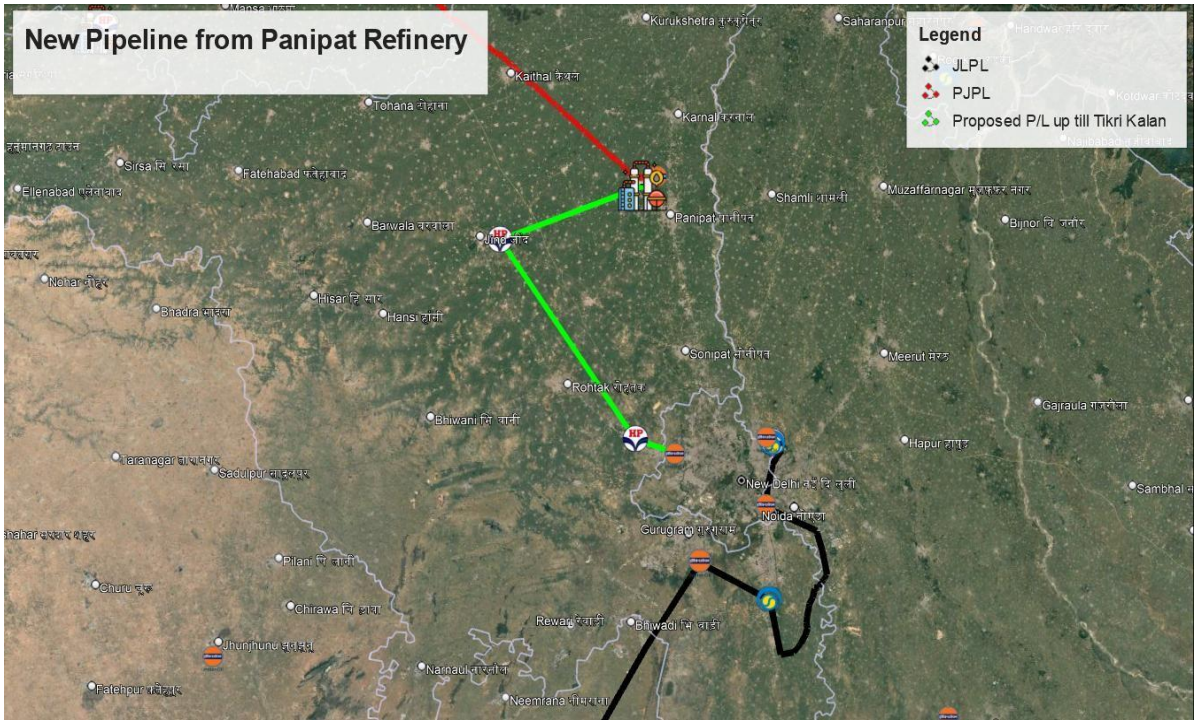
7.2 Security of Supply

It is pertinent to mention that OMCs have consistently maintained uninterrupted LPG supplies in the Country. There has not been any supply security issues in so many years of LPG marketing. With increase in PL network, reduced road distance from supply point to Plant and improved roads and Highway infrastructure in the Country, supply security of LPG is bound to improve further and does not seem to be an area of concern at this moment. However, for further enhancement of supply security. The committee has recommended the establishment of new pipelines with adequate redundancy to handle maintenance or operational disruptions without affecting supply especially during emergencies or peak demand periods.

7.2.1 Laying of new LPG Pipeline from Panipat Refinery via. Jind (60 TMT) to Bahadurgarh (180 TMT) and further connection to Tikri Kalan (240 TMT) in Haryana.

Bahadurgarh and Jind bottling plants in Haryana receives significant product through road and rail rack movement from distant locations such as Bathinda, Loni, Ajmer LPG Plants and as well as from LPG facilities in Gujarat. This eventually shall help in eliminating the bulk road movement of LPG in the region and save heavy transportation cost. This pipeline is being proposed with an intention to maintain security of supply for the National Capital Region.

Delivery Depot/Terminal	Source Point	Qty. (TMTPA)	Mode of Transportation	Total Charges (In Cr)
BAHADURGARH (HPCL-180 TMT)	Bathinda LPG Plant	13.47	Road	2.99
		171.34	Rail	26.43
	Loni LPG Plant	9.37	Road	1.00
JIND (HPCL-60 TMT)	Bathinda LPG Plant	80.12	Road	12.4
	AVTL Kandla LPG Pvt Import Fac.	17.67	Road	14.4
	Loni LPG Plant	5.01	Road	0.51
	MLTPL Mundra LPG Pvt Import Fac.	4.87	Road	4.15
	GCPL Dahej LPG Pvt Import Fac.	0.58	Road	0.44
	Ajmer LPG Plant	0.26	Road	0.08
TOTAL				**62.4**



7.2.2 To ensure redundancy, supply security, and consistent product availability in northern India, particularly in the high-demand NCR region, it is proposed to establish interconnectivity between the KGPL and JLPL pipelines. This interconnection can be implemented at Samakhiali, a common location traversed by both pipelines.

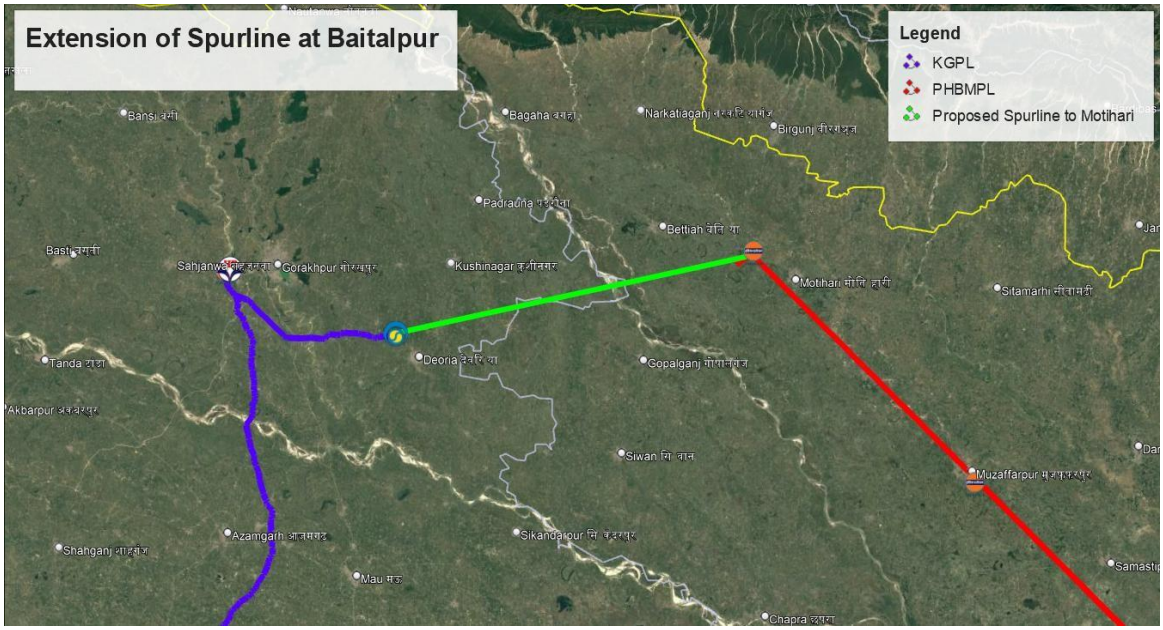
7.2.3 The spur line of KGPL from Gorakhpur to Baitalpur could be further extended to the Motihari bottling plant in Bihar. Currently, the Motihari plant receives LPG via the Haldia-Motihari pipeline from the eastern coast. However, this proposed extension would enhance supply security for the Motihari plant, which has a capacity of 120 TMT. Also, future possibility of connectivity of this pipeline up till bottling facility in Champaran region in Bihar (presently under-construction) may be explored.

7.2.4 One of the pipelines proposed is Mumbai-Aurangabad which may be extended till Nagpur via. Dhanaj from West and similarly from East the Committee proposed Paradip-Bhubhneshwar-Jharsuguda-Raipur-Korba that may be extended via. spur line from Raipur till Nagpur in Central India. These extensions from both east and west direction shall help in formation of a national LPG grid in Central India which may be proposed to connect with Southern India through a pipeline extending from Cherlapally till Nagpur.

7.2.5 It was also deliberated in the committee meetings that, to enhance supply security in the northern region, the Jamnagar-Loni pipeline could be strategically extended to Roorkee and Haridwar, reducing reliance on bulk road tanker transportation.

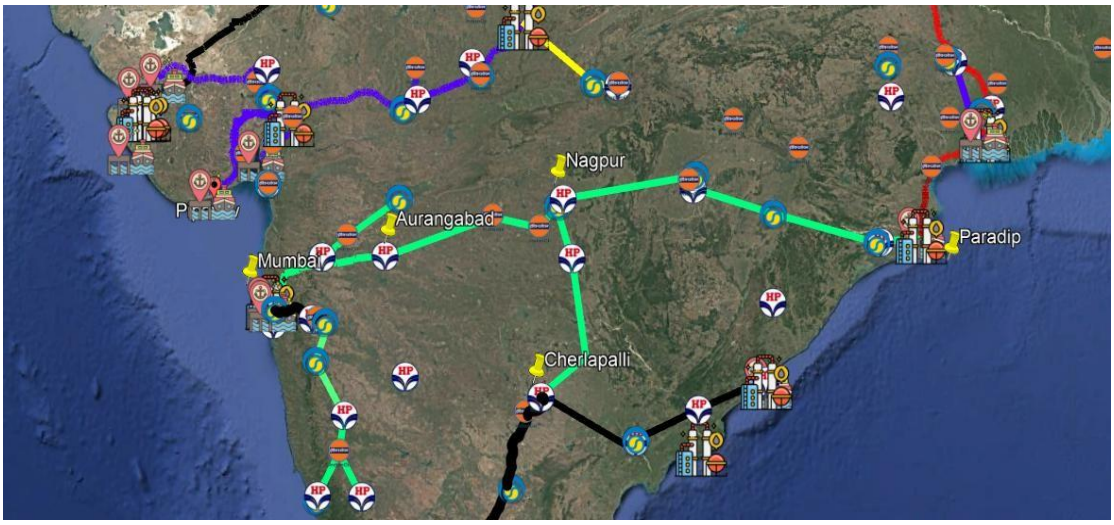
7.2.6 GAIL's operational sustainability for LPG production relies heavily on the availability of domestic natural gas or RLNG at viable costs. The recent reduction in NAPM gas allocation

by MOPNG presents a potential challenge to LPG production at Gandhar, Vijaipur, and Vaghodia plants. However, GAIL's proactive approach in sourcing RLNG and alternative domestic gas sources indicates a commitment to maintaining steady production levels. Auraiya LPG plants are expected to continue operations, ensuring supply security. However, reduction in production at Gandhar and Vagodia plants resulted in increase in road movement from alternate sources. Hence GAIL is to bring back normalcy in production in Gandhar and Vagodia plants also.



7.3 Optimization of Pipelines and Other Infrastructure Usage

To maximize the efficiency of the infrastructure, the committee has suggested integrating existing pipeline networks and expanding them where necessary. A coordinated approach to infrastructure utilization would ensure that pipelines operate at optimal capacity, reducing transportation costs. The use of Industry wide synchronized optimization tools and advanced monitoring systems and automation technology may also be recommended to enhance the operational efficiency and safety of pipelines.



7.3.1 GAIL has offered four of its storage plants on sharing basis viz. Vijaypur/Guna, Gandhar, Pata, Vaghodia. Also, it is proposed to connect GAIL's Vijaypur plant with KGPL and Pata Plant to one of the already proposed spur line which is Jhansi-Sitarganj spur line of KGPL through a strategically planned tap-off point. Also, the spur line to Vijaypur can also be connected to nearby IOCL's plant in Guna.

7.3.2 The expansion of JLPL from 3.25 to 6.5 MMTPA reflects a strong push towards increasing pipeline connectivity for LPG transportation. This expansion is crucial in reducing dependency on costly road transport and aligning with the broader industry shift towards pipeline logistics. The proposal to PNGRB for this expansion is expected to facilitate more efficient LPG distribution, particularly to bottling plants such as Abu Road, Bahadurgarh, and Tikri Kalan.

7.3.3 Additionally, feasibility studies for linking other key bottling plants (Haridwar, Roorkee, Aligarh, and Salempur) to JLPL suggest a long-term vision for an integrated pipeline network. The exploration of a spur line to connect Rajkot BPC and HPC LPG bottling plants further underscores GAIL's strategic push to enhance pipeline infrastructure for LPG distribution.

7.4 Development of Infrastructure on an Industry Basis as per requirement

Further, the committee has also deliberated and suggested for a collaborative approach among stakeholders, including public sector undertakings, private players, and government agencies, to develop infrastructure based on industry demand and number of expansions in the existing LPG pipeline network have been put forward. This includes identifying key areas for pipeline expansion and ensuring investments are aligned with long-term industry growth.

7.4.1 Bhavnagar and Gandhar spur line connectivity to KGPL may be explored on the basis of LPG product availability in both these regions.

7.4.2 One leg of the KGPL pipeline currently extends to Dahej port. Exploring the possibility of extending this branch further to connect with Hazira, Gujarat, could be beneficial, as it would serve three LPG bottling plants (IOCL, BPCL and HPCL) located in Hazira. These depots currently receive LPF partially through local pipeline from ONGC Hazira and balance requirement through bulk road tanker movement

7.4.3 Rajkot bottling plants uses Reliance Industries Ltd (RIL) and Nayara Refinery's product from Jamnagar. A separate pipeline from Jamnagar to theses bottling plants instead of a new spur line in KGPL may be considered This shall avoid additional tariff charges on KGPL and pressure drop issue in main transmission pipeline. Also, the cost implications shall be evaluated on both the said options.

7.4.4 IOCL is planning one of its new bottling plants in Chittoor. Therefore, a new common carrier pipeline Ennore-Chittor-Devangonthi may be recommended from East Coast. Further to connect Kadapa region a strategic spur line either from the former or from Hassan-Cherlapalli may be extended towards the bottling plant.

7.4.5 Gwalior-Sitarganj pipeline, with an interconnection to KGPL at Jhansi and Jhansi-Bathinda LPG pipeline that would connect nine bottling plants along its route may be considered.

7.4.6 For North-East region, out of the total demand of 800 TMT approximately 400-500 TMT is sourced from other states. Possibility of exploring IGGL or any other Joint venture entity to lay LPG pipeline in the same ROU that of IGGL may be considered.

7.4.7 The committee recommends developing a National Logistics Distribution Plan on an industry-wide basis, focusing on integrated infrastructure planning rather than entity-wise development. The optimization plan should consider the collective industry infrastructure to ensure efficiency and synergy, while also incorporating environmental and social considerations, and not only economic consideration, in the planning process to serve the best interests of both the industry and the nation.

To maximize infrastructure utilization and efficiency, industry-wide Common User Facilities (CUF) should be established. These shared facilities will enable multiple stakeholders to optimize resource like Bottling plants, storage facilities and pipeline use and reduce redundancy across the sector.

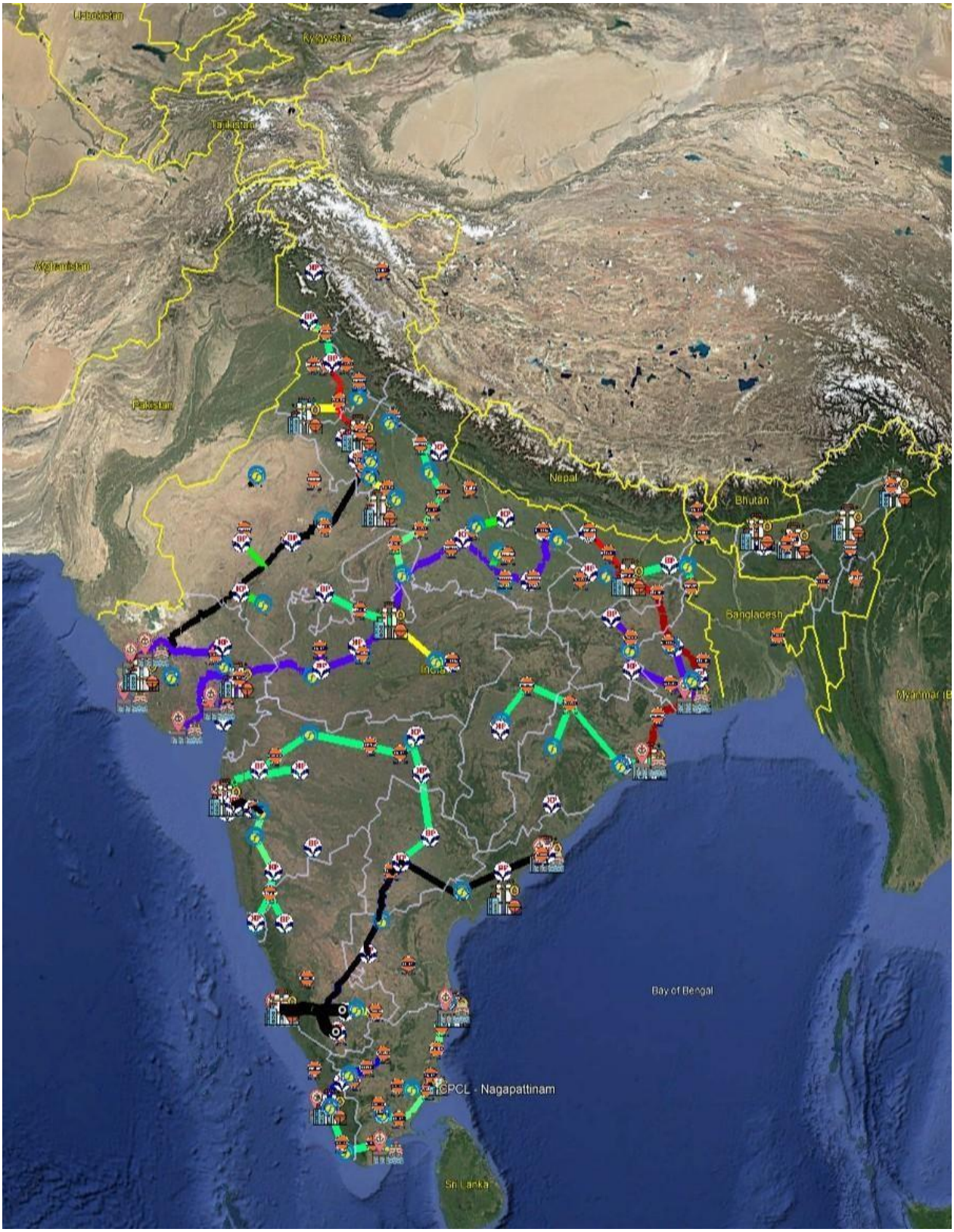


Figure 16: Map of LPG Pipelines, Bottling Plants, Refineries and Import Terminal

Conclusion : LPG

India's LPG sector has undergone remarkable transformation and further development yet to happen. Currently LPG demand is driven by rising domestic demand, strategic government interventions like PMUY & PMYU 2.0.

The report underscores the need to minimize road movement of LPG by expanding and better utilizing the existing pipeline network to form a fully integrated national LPG supply grid. Such an integrated system would be supported by a common carrier framework, enabling shared access for both public sector undertakings and private players. Alongside this, improved storage and distribution logistics, coupled with collaborative infrastructure planning, can deliver a streamlined and resilient supply chain.

Policy support, targeted investment in infrastructure, and adoption of modern technologies will be critical to achieving these goals. While long-haul, high-volume pipelines are generally more economical than road transport, shorter last-mile routes often present viability challenges. In such cases, the report recommends exploring multimodal approaches under the PM Gati Shakti framework, including rail-fed bottling plants and procurement of additional LPG rakes. Implementing these recommendations will enhance safety, reduce emissions, lower costs, and increase resilience ultimately ensuring more reliable access to LPG and supporting India’s broader energy security and sustainability agenda.

PART B – Petroleum Product Pipelines

Chapter 1: Introduction

India's energy landscape for petroleum products is characterized by high import dependence on crude oil and distance between locations of production (refineries) and consumption. India is importing approximately 88% of its crude oil requirements. Consequently, major refining infrastructure is concentrated along the East and West coasts to facilitate access to imported crude. The country currently has 23 refineries with a total processing capacity of about 258 MMTPA. Despite this reliance on imported crude, India's refining capacity exceeds domestic demand – 240 MMT, MS: ~40 MMT and HSD: ~91 MMT for petroleum fuels making the country a net exporter of refined petroleum products in aggregate.

Demand centers for petroleum fuels are dispersed across the vast geography of India, far from many coastal refineries. There are 367 petroleum product depots/terminals nationwide (about 70 operated by private companies and the rest by public-sector firms). This mismatch of production and consumption locations necessitates large-scale transportation of refined products from coastal/inland refineries to inland terminals and depots. Petroleum products are transported through a multimodal logistics network comprising pipelines, railway tank wagons, road tankers, and coastal shipping. An extensive pipeline network (over 20,000 km of product pipelines are currently operational, with another ~ 4,300 km under construction) has been established to carry fuels. More than 60% of the POL volume is transported through pipelines 29% still move by rail, 10% through costal and 1% through road. This part of the committee report aims to assess the petroleum product market and infrastructure and recommend measures to improve connectivity, reduce transportation costs, enhance supply security, and achieve safer and more efficient fuel distribution across India.

Chapter 2: Existing Petroleum Product Marketers

India's downstream petroleum market is majorly served by three public-sector OMCs: IOCL, BPCL, HPCL. These OMCs own the majority of refining and distribution assets, having a reach via pipeline and rail networks. IOCL is the largest, with 10 refineries (including CPCL) and having capacity of 90.5 MMTPA and a vast marketing network including over 40,000 retail outlets and 124 depots/terminals. IOCL operates the largest pipeline network - 28 product pipelines totaling more than 11,000 km (24 dedicated pipelines for its exclusive use and 4 common-carrier lines) with combined capacity of 72 MMTPA. BPCL operates 3 refineries of 35 MMTPA, about 25,000 retail outlets, 86 depots/terminals, and 9 pipelines (3,000 km total, 3 common carrier) with ~21 MMTPA capacity. HPCL has 2 refineries of 23 MMTPA, ~25,000 retail outlets, 80 depots, and 16 pipelines (4,303 km, 6 common-carrier) with ~57 MMTPA capacity.

POL Terminals/Depots - Mode-wise Distribution

Modal Input	BPCL	HPCL	IOCL	Jio BP	MRPL	Nayara	NRL	Grand Total
Pipeline#	33	41	66		1		1	142
Rail	37	24	29	3	4	7	1	105
Coastal	10	9	22	15		9		65
Road*	6	6	7	36				55
Grand Total	**86**	**80**	**124**	**54**	**5**	**16**	**2**	**367**

*-All road fed locations cannot be connected by Rail or Pipeline.

#-Includes OMC PLT fed/Refineries/Cross country pipelines

Table 13: Depot / Terminals across India

In addition to the public OMCs, a few private companies operate in the petroleum product market. These include MRPL, Jio-BP, Nayara Energy and Shell. MRPL has one refinery with capacity of 15 MMTPA but a very limited marketing presence of 36 Retail Outlets and 5 Depots. Jio-BP leverages Reliance's massive Jamnagar refining hub with two refineries in Gujarat with combined 68.2 MMTPA capacity and has around 1,700 retail outlets with plans to expand to 5,500 and 54 terminals across India. Nayara operates a 20 MMTPA refinery at Vadinar, Gujarat, with a growing network of 6,600 retail outlets and 16 terminals countrywide. Unlike the OMCs, these private players have no proprietary product pipelines. As a result, they depend on Rail, Coastal and Road Transport to move petroleum products. They further get the products from PSU OMCs under hospitality/ Sale-Purchase arrangements.

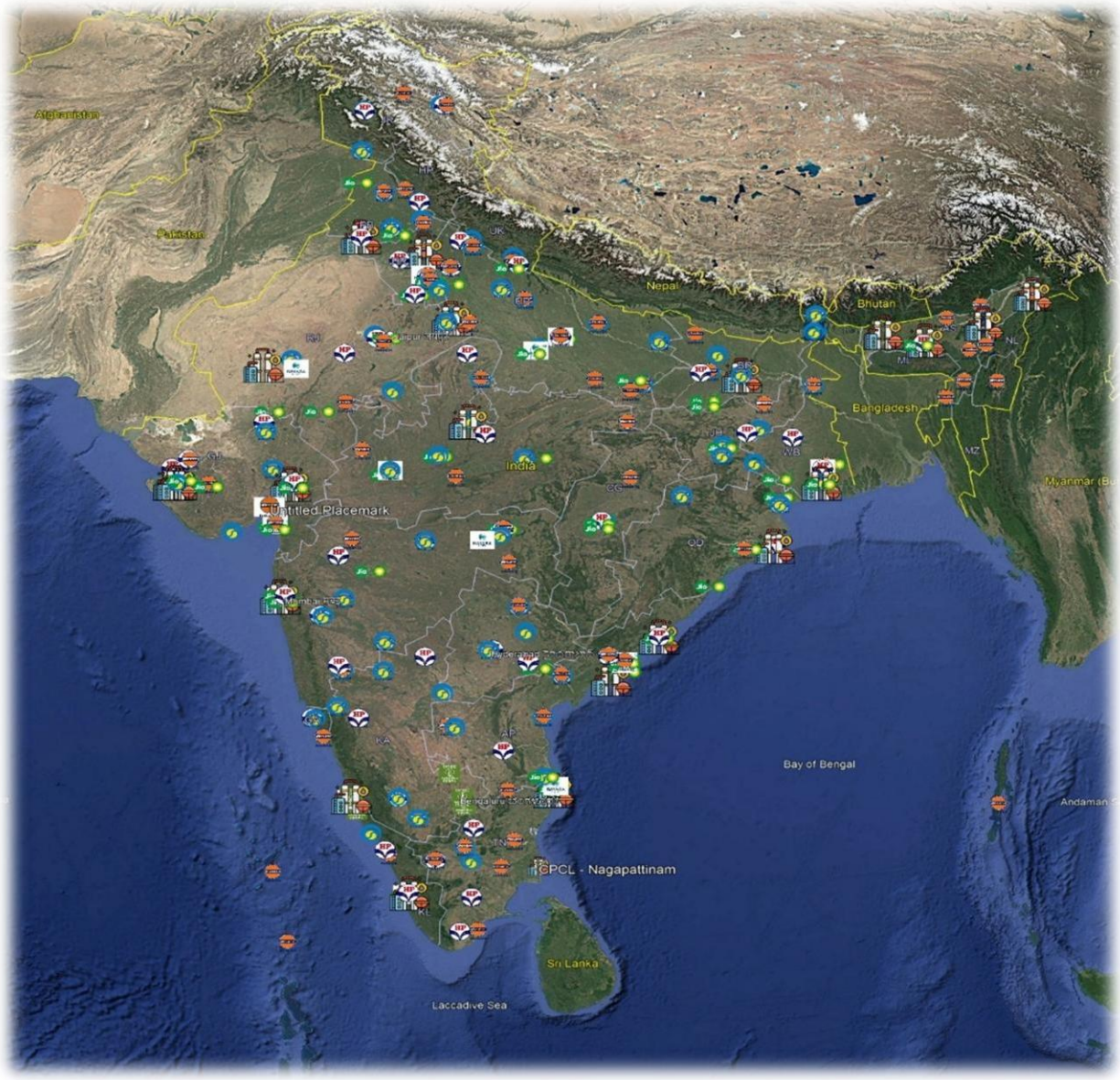


Figure 16: Map showimg Petroleum Product Infrastructure

Jio-BP's terminals are predominantly supplied by rail (~67%) and road (~28%), with minimal pipeline access. Nayara relies on a mix of rail and coastal shipping to feed its 16 terminals. In recent years, private players have been expanding their retail footprint, but their distribution logistics remain primarily Coastal/rail/road-based.

Chapter 3: Current Scenario

India's petroleum product distribution is driven by its modal transport mix dominated by pipelines followed by railways and coastal mode with road transport accounting for only a minor share (about 1% only).

Figure 178: Map depecting POL Pipeline, Depot/Terminal & Refineries

Source: Industry Interactions

Movement of Petroleum Product through Different Modes

India's POL distribution network comprises a wide base of terminals and depots operated by major OMCs and private sector companies, supported through multiple transportation modes. Across the network, 142 terminals are pipeline-fed, 105 are rail-fed, 65 are coastal-fed and 55 are road-fed. IOCL has the largest terminal network, followed by BPCL and HPCL. Overall, the distribution system reflects a diversified multimodal infrastructure designed to serve demand centres across the country.

Rail: Rail mode of transport is essential, to meet the demand of more than 105 POL locations in the country. Rail transport has traditionally played a major role in petroleum product movement. Petroleum Products account for 3.2% of the total freight handled by railways. Railways have 220 BTPN rakes for transporting POL products across the country. The utilization of these rakes are impacted by seasonal demand variations. Rail transport is less capital intensive than pipelines and offers flexibility in a batch size (each wagon carries around 50 MT) and destination choice wherever rail network exists.

Operationally, the rail network in India has high-density network in west to north and east to north corridors with the utilization up to 150%. Indian railways are laying dedicated freight corridors through a separate company to overcome these capacity constraints.

The pipeline, rail and road movement complement each other and the logistics is done on multi modal systems.

While cross country pipelines are preferred in connecting markets with consistent high demand and steady supply sources like refineries and major Port terminals, Pipelines, particularly multi-product pipelines require large batch sizes, large tankages at end terminals. Unlike in natural gas or LPG pipelines where the product transported is fungible and transit times are practically nil, petroleum product pipelines move different products sequentially with very little flexibility in batch sizes with longer lead times.

Rail transportation is suitable where the receiving installations are smaller or flexible mix of different products / batch sizes is required or seasonal variations in supply demand necessitating changes in supply / demand centres. Rolling stock is shifted from one loading base to another depending on market dynamics and demand variations. Rail movement of petroleum products is an essential mode and cannot be entirely replaced with pipelines or coastal.

Currently around 29% of movements is carried out by rail, primarily to moderate volume pockets where cross country pipelines are not commercially viable. With the rising POL demand, the existing Rail Wagons fleet will soon be insufficient. Investing in POL rail wagons is essential as the current fleet cannot meet the projected demand of Rail-fed locations.

Road: Road transport is the least utilized mode for primary transportation while the last mile connectivity is essentially by road. Primary road movement accounts for around 1% of total

volume. Road fed storage points of PSU OMCs are limited to hilly terrain where rail network is not available or demand of POL products is not adequate for rail / pipeline movement. Private companies have invested in very few smaller road fed storage points and mainly utilizing road transport for hinterland movements. Road transport has highest transportation cost per ton-km and this is least capital-intensive mode. However, it is prone to road accident leading to public safety hazard and higher carbon footprint. Thus, industry strategy has been to minimize long-haul road movement of fuels, except in difficult terrain or remote areas.

Coastal Shipping: Coastal movement of petroleum products involves transferring fuels between ports and accounts for around 10% of primary transportation. Port facilities for handling coastal petroleum movements remain limited across the country. Coastal shipping is the most economical and environmentally efficient modes for transporting large volumes, but its applicability is restricted to coastal locations. It also offers greater flexibility in terms of batch sizes and source–destination combinations compared to pipelines. Notably, around 65 terminals are currently served through the coastal mode. However, severe congestions in Jetty capacities at Old Ports and high terminaling costs at private port facilities, along with constraints related to port infrastructure and limited connectivity to hinterland markets, continue to restrict wider utilization of coastal movement.

Apart from meeting coastal location demand coastal movement is crucial for the following:

- For OMCs, the primary driver is refinery evacuation. While products from hinterland refineries are largely evacuated through pipeline networks and partly absorbed through exchanges, coastal refineries such as Paradeep (IOC), Kochi (BPCL), and Visakhapatnam (HPCL) have production levels that exceed their captive demand envelopes. This necessitates the movement of products to deficit consumption regions coastally.

- MS/HSD demand ratio as compared to refinery configurations (Ex: CPCL MS input from IOC Paradeep) also has necessitated coastal movements.

- Planned or unplanned refinery shutdowns also necessitate the movement of petroleum products from alternate refinery envelopes to ensure continuity of supply and meet regional demand.

- It is also noted that the applicability of Central Sales Tax (CST) at 2%, translating to approximately ₹1,400 per kL, renders the product commercially unviable for absorption in nearby states by other OMCs. This tax incidence distorts inter-state movement economics and constrains the ability of surplus product to be efficiently absorbed outside the originating state.

Pipelines: Pipeline transport of petroleum products offers numerous advantages that make it the preferred mode whenever available. Pipelines provide a low-cost, energy-efficient means of moving large volumes continuously. They have negligible environmental impact and minimal

product losses compared to road or rail. Pipeline operations are also safer and more reliable – modern pipelines employ advanced monitoring and leak detection systems, and they are less prone to disruptions from accidents or weather. Importantly, pipelines ensure uninterrupted supply, fuel flow is continuous and not subject to the constraints that affect the delays in the rail movement and road congestion faced by tank trucks. By diverting volumes from highways, pipelines help reduce road traffic congestion and accident risks, contributing to overall public safety. Owing to these benefits, pipeline transport has been prioritized for new capacity addition.

India's existing pipeline network (about 20,000+ km of product pipelines in operation) already plays a vital role in fuel distribution. The main limitation is that pipeline infrastructure requires high upfront investment and routing feasibility, and historically pipelines have been developed as dedicated assets by individual OMCs to connect their refineries to consumption centers. This has led to gaps where some depots remain off the pipeline grid, especially those of private companies or in less accessible markets. The tariff regulation for pipelines has recently been reformed (in 2024) to ensure pipeline operators get assured returns (decoupling tariffs from rail freight parity), which is expected to improve the viability of new pipelines and encourage investment in expanding the network.

All in all, the current modal mix relies heavily on pipelines and rail for bulk long-distance transport, with road transport minimized and coastal shipping playing a niche role. The efficiency and safety benefits of pipelines make them the ideal mode to expand further, substituting remaining rail/road routes wherever economically and logistically feasible.

Chapter 4 : Petroleum Product Demand / Consumption

India's petroleum product consumption has been on an upward trend, driven by macro-economic growth, although the pace of growth is expected to moderate going forward due to various emerging factors. In FY 2025, India's consumption reached approximately 40 MMT of MS, 91 MMT of HSD (diesel), and 9 MMT of ATF. Gasoline demand has grown rapidly over the past decade (about 7.7% annual average growth), fueled by rising personal vehicle ownership, expanding road infrastructure & connectivity, and increasing mobility needs. Diesel demand which accounts for the largest share of India's fuel basket on the other hand grew at a more modest 2.8% annual average in the last 10 years. Diesel usage is tied to freight transport, commercial vehicles, railways, and industry; its growth has been tempered by improvements in efficiency and competition from alternative transport, as well as a policy push for gas-based fuels in some segments. ATF consumption, reflecting air travel, saw around 4.6% annual growth over the decade with a sharp pandemic-related drop in 2020 followed by recovery.

Looking ahead, MS demand is expected to continue rising in absolute terms but at a gradually slowing rate. Factors such as the penetration of EVs and the expansion of metro rail and other public transport are emerging as degrowth factors that will likely curtail the otherwise strong growth drivers (like increasing vehicle ownership and highway expansion). Similarly, HSD

demand growth is projected to moderate. While economic growth and improved logistics infrastructure support diesel use, there is a concerted push towards electrification of public transport and freight, the introduction of LNG/CNG trucks, and stricter fuel efficiency norms – all of which could dampen diesel's growth trajectory. Some forecasts indicate diesel demand may plateau or see much slower growth by the late 2020s as these trends accelerate. ATF demand, on the other hand, is expected to grow steadily in line with rising air traffic (both domestic and international). Government initiatives like UDAN (expanding air connectivity to smaller cities) and ongoing airport development will boost jet fuel consumption, although high taxes on ATF and impact from virtual meetings (reducing business travel) could temper growth to some extent.

Overall, total petroleum product consumption is expected to grow over the next decade, but the pace will be slower than pre-2020 trends. The COVID-19 shock in 2020 reset the demand base, and subsequent growth has resumed, but on a more moderate trajectory due to efficiency improvements and alternative energy adoption. The consensus is that India's fuel demand will continue to rise in the medium term, peaking only in the long term, which underlines the need for robust distribution infrastructure to handle higher volumes. Even as growth slows in percentage terms, the absolute volume increase will be significant given the large base for instance, the combined demand of MS+HSD+ATF could easily exceed 150 MMT by 2030, depending on economic scenarios. This growing demand must be met efficiently, which provides a strong case for expanding pipeline infrastructure as the optimal means to transport the additional volumes.

Chapter 5 : Petroleum Product Production

India's domestic production of refined petroleum products comes from its network of 23 refineries with18 in the public sector, 5 in the private/JV sector. As noted, the total refining capacity is about 258 MMTPA, which exceeds the current domestic demand for petroleum products. In FY 25, Indian refineries produced enough petrol, diesel, and other fuels not only to meet internal consumption but also to export of surplus. India has been a net exporter of refined products for several years.

India's refining landscape exhibits a pronounced coastal concentration, with nearly three-fourths of the nation's refining capacity situated in coastal states. This distribution pattern reflects logistical and economic advantages facilitating the import of crude oil and export of surplus products through well-developed ports. Prominent coastal refineries such as Reliance Jamnagar and Nayara-Vadinar on the west coast, alongside Kochi, Chennai, Vizag, Paradip, and Mumbai refineries, dominate the national refining landscape. Conversely, inland refineries located at Mathura, Bina, Panipat, Bathinda, and Barauni account for a smaller share of total capacity. While coastal refineries offer superior connectivity for international trade, their inland product evacuation depends heavily on pipelines, rail, and road networks, thereby increasing the importance of robust transport infrastructure to ensure efficient domestic distribution.

As of 2025, India's refining capacity comfortably exceeds domestic demand for petroleum products, resulting in consistent exportable surpluses of petrol and diesel. This self-sufficiency is underpinned by both brownfield expansions and new greenfield projects. Upcoming green field refinery developments such as HPCL's Barmer refinery in Rajasthan and brown field capacity augmentations at existing sites are expected to further strengthen supply resilience. Consequently, in the medium term, India's challenge is not one of refining adequacy but of strategic optimization ensuring balanced distribution of refinery output across regions to minimize logistical inefficiencies and enhance market accessibility.

Chapter 6 : Infrastructure

6.1 Refinery

India has 23 refineries out of which majority owned by public-sector companies IOCL, BPCL, HPCL, etc., few by private company Reliance & Nayara. The total installed refining capacity stands at 258 MMTPA. Notably, 12 key refineries account for ~75% of this capacity, and most of these are located in coastal states. Since refinery capacity is coastal-skewed, these refineries serve as source points for pipelines and rail routes that feed inland markets.

Expansion projects, once completed, will raise the total capacity well beyond 300 MMTPA by 2030. The presence of this robust refining base means infrastructure planning must ensure evacuation routes preferably pipelines keep up so that additional fuel production can reach consumers efficiently.

The demand–supply scenario is such that the nation as a whole has a surplus, though certain regions far from refineries depend on receiving supplies via long pipelines or rail haulage. This underscores the importance of strengthening the pipeline network to distribute the plentiful production to deficit areas efficiently, reducing reliance on slower or costlier transport modes. We need to work in totality to optimize the movement of product.

6.2 Petroleum Product Pipelines

The pipeline network has grown tremendously spanning major regions of the country. As of 2025, India has 56 multiproduct product pipelines excluding crude oil pipelines that are either operational or under construction, totaling roughly 20,260 km in length. Of these, about 18,858 km are operational and 1,401 km are under construction. These pipelines collectively have a throughput capacity of around 149 MMT per year currently, which will increase to 174 MMT once the under-construction lines commission.

Most pipelines originate at refineries or coastal terminals and connect to inland depots. For example, IndianOil operates pipelines like the Mathura–Delhi pipeline, Panipat–Jalandhar pipeline, Guwahati–Siliguri etc., connecting its refineries to distribution hubs. BPCL and HPCL similarly have pipeline networks e.g., BPCL's Mumbai–Manmad–Piyala pipeline, HPCL's Vizag–Vijayawada–Secunderabad pipeline, etc.

Summary of Operational Pipeline Infra

Entity	Pipeline Type	Length	MMTPA	Number
IOCL	**Dedicated Pipeline**	9547	60.2	24
	Common Carrier	2046	16.6	4
HPCL	**Dedicated Pipeline**	2128	36.3	10
	Common Carrier	2481	27.6	6
BPCL	**Dedicated Pipeline**	1978	14.3	4
	Common Carrier	1419	17.2	3
OIL*	**Common Carrier**	660	**5.5**	**1**
Total	**Dedicated Pipeline**	**13653**	**110.8**	**38**
	Common Carrier	**6606**	**66.9**	**14**
Grand Total		**20919**	**177.7**	**52**

Table 15: Summary of Pipeline Infra

Out of 52 pipelines, 14 are common carrier while 38 functions as dedicated pipelines. This is how pipelines were built by each OMC focusing on its own refinery evacuation and optimization of placement of products. On the other hand, private marketers have not come up with pipeline infrastructure for their use.

Table : Details of Dedicated Multi-Product Pipelines and Capacity Utilization

S.No	Name of the pipeline	Owner	Length (KM)	Capacity (MMT)	Utilization (FY - 26)
1	Panipat - Delhi **(PDPL)**	IOCL	189	3	7.9
2	Paradip – Somnathpur – Haldia	IOCL	341	4.6	9.7
3	Mathura – Bharatpur	IOCL	21	1.2	17.3
4	Vijaywada-Dharmapuri (VDPL)	HPCL	697	4.2	24
5	Koyali -Dahej	IOCL	197	2.6	28.9
6	Palanpur – Vadodara Pipeline	HPCL	235	4.5	31.9
7	Lucknow ATF	IOCL	6	0.2	36.2
8	Barwala – Hisar Pipieline (BHPL)	HPCL	10	1	39
9	Koyali – Ratlam **(PRPL)**	IOCL	265	2	42
10	Bahadurgarh - Tikrikalan (BTPL)	HPCL	14	0.8	48.7
11	Paradip – Hyderabad	IOCL	1219	4.5	49.4
12	Mathura - Agra - Gawria	IOCL	311	4	50.3
13	Ramanmandi - Bathinda (RBhPL)	HPCL	30	2.1	53.6
14	Panipat - Bhatinda	IOCL	219	3	54.1
15	Mathura - Delhi **(MDPL)**	IOCL	147	3.7	58.2
16	Bina – Kota	BPCL	259	4.4	65.4
17	Panipat - Rewari	IOCL	155	2.1	70.6
18	Koyali - Ahmedabad	IOCL	79	1.1	77.4
19	Koyali – Ahmednagar - Solapur	IOCL	752	5	77.4
20	Ramanmandi - Bahadurgarh (RBPL)	HPCL	243	7.1	80.6
21	Koyali - Jaipur - Panipat (Earlier Koyali-Sanganer Pipeline) **KJPPL**	IOCL	1664	5	81
22	Visakh-Vijaywada (VVSPL)	HPCL	572	7.7	81.4
23	Panipat -Ambala -Jalandhar **(PAJPL)**	IOCL	495	3.5	87.9
24	Chennai – Bangalore Pipeline	IOCL	290	2.5	97.1
25	Kolkata ATF	IOCL	27	0.2	97.5
26	Kochi Refinery – Kochi Airport	BPCL	34	0.6	103.3
27	Panipat –Bijwasan	IOCL	111	1	111.1
28	Mumbai - Vashi Black Oil (BOPL)	HPCL	21	1.5	112
29	Cochin – Coimbatore – Karur	BPCL	293	3.3	131.1

30	Mumbai – Manmad – Bijwasan	BPCL	1392	6	133.1
31	Haldia -Barauni	IOCL	526	1.3	137.6
32	Guwahati - Siliguri	IOCL	435	1.4	145.1
33	Barauni - Kanpur	IOCL	1227	3.5	145.1
34	Chennai ATF	IOCL	95	0.2	150.6
35	Haldia -Mourigram - Rajbandh	IOCL	277	1.4	165.3
36	Conversion of Haldia – Barauni Crude Oil to Product Service	IOCL	499	3.4	
37	Barmer -Palanpur (BPPL)	HPCL	216	6	
38	Bhatinda - Sangrur (BSPL)	HPCL	90	1.4	

Details of common carrier Multi product Pipeline with Capacity Utilization

S.No	Name of the pipeline	Owner	Length (KM)	Capacity (MMT)	Utilization (FY - 26)
1	Krishnapatnam – Hyderabad	BPCL	455	2.6	2
2	Kota – Jobner	BPCL	211	1.7	19.3
3	Awa – Salawas (ASPL)	HPCL	93	2.3	28.8
4	Rewari – Kanpur (RKPL)	HPCL	443	8	49.4
5	Bina – Panki	BPCL	355	3.5	59.6
6	Mundra – Delhi (MDPL)	HPCL	1054	6.9	68.4
7	Mumbai Refinery – Mumbai International Airport (Santacruz)	BPCL	12	1.3	70
8	Mangalore-Hassan-Bangalore (PMHBPL)	HPCL	363	5.6	72.6
9	Chennai – Trichy – Madurai	IOCL	683	3.9	74.6
10	Mumbai – Pune – Solapur (MPSPL)	HPCL	508	4.3	78.8
11	Paradip – Raipur – Ranchi	IOCL	1073	5	89.5
12	Mumbai Refinery - Mumbai International Airport	HPCL	20	0.5	99.3
13	Numaligarh Siliguri Pipeline	OIL	660	1.7	100.2
14	Devangonthi – Devanhalli	IOCL	36	0.7	116.2
15	JNPT to Navi Mumbai International Airport	IOCL	22	4.45	
16	Devangonthi – Chitradurga	IOCL	232	2.6	
17	Irugur – Devangonthi	BPCL	352	3.52	
18	Piyala – Jewar	BPCL	34	4.58	

Source : PPAC and PNGRB

6.3 Depot and Terminals Infrastructure

The depots and terminals are the final nodes in the primary bulk transport network, where products are received via pipeline, rail, or road, and then stored and dispatched in smaller lots. Currently, India has around 367 depots/terminals handling petroleum products. These include facilities owned by IOCL, BPCL, HPCL across all states, as well as some owned by private companies (Reliance's Jio-BP, Nayara etc.), and a few joint/contract terminals.

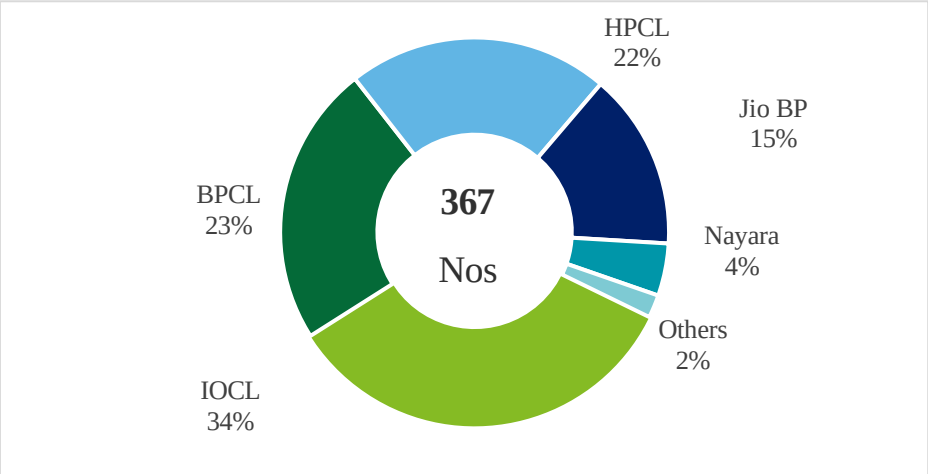


Figure 18: Depot and Terminal Infrastructure via Different Entities

As of current status, roughly 131 terminals are connected by pipeline. These enjoy the security and efficiency of pipeline supply. 163 terminals are rail-fed, which means they rely on receiving product by railway tank wagons, this requires the terminal to have a rail siding and unloading facilities. 46 terminals are coastal fed (located near ports, receiving product by ships). Lastly, 43 terminals are road-fed only which are docking points with very low storage capacities, not connectible to pipelines or rail.

From a security-of-supply perspective, maintaining multiple supply nodes for each demand region is a critical resilience measure in India's petroleum logistics network. Redundancy in supply infrastructure ensures that no single point of failure can disrupt the overall product flow. In the event of an operational disruption such as a pipeline rupture, depot shutdown, or rail bottleneck neighboring depots or terminals can mobilize product through road tankers, thereby sustaining regional availability. This mutual backup-supply mechanism becomes highly effective contingency framework, minimizing the risk of stockouts and service interruptions.

Moreover, the geographical overlap of depot hinterlands across marketing companies enhances systemic flexibility. Each depot's catchment area partially intersects with others, allowing redistribution of load based on real-time operational conditions and demand fluctuations. This overlapping supply geography acts as a buffer during emergencies, maintenance shutdowns, or sudden demand spikes ensuring supply continuity even in stressed conditions. Strategically, such multi-nodal connectivity also aligns with PNGRB's broader objectives & supporting the long-term

vision of a robust, integrated petroleum product supply chain capable of withstanding infrastructural or geopolitical shocks.

6.4 Current Hospitality arrangement & exchange of products

Oil company Supply chain maintains near perfect operational precision to ensure supply security of every area of the nation is intact. The exchange model among the Oil Marketing Companies is one of the unique mechanisms to support uninterrupted Six Sigma level deliveries to the customer which happen through consistent synergy and collaboration amongst not only oil PSUs but also stand-alone refiners and private players. This mechanism is solely developed to exploit positional advantages of other players and placing at optimized cost.

A substantial share of OMCs demand i.e., about 20 MMTPA (more than 20% of POL demand) is being met through this structured inter- OMC exchange mechanism at multiple locations (currently, 55 locations) in the country. Those exchanges are executed on a ton-to-ton basis and are priced on Refinery Transfer Price (RTP) principle, which reflects least placement cost outcomes. Such exchanges are not confined to PSU marketing companies alone but also extend to Private & Joint Venture Stand-Alone Refineries (SARs).

Oil company Supply chain maintains near perfect operational precision to ensure supply security in country and this resilient mechanism enables to face any type of disruption in the country. All 23 Refineries and allied network is part of this exchange mechanism, which helps in achieving logistical efficiency in POL movements. The exchange mechanism bridges the gap between supply and demand, achieving logistics cost savings, enable in optimal sharing of infrastructure facilities and reduces product placement time.

Beyond routine operations, the inter-OMC exchange mechanism plays a critical role during disruptions such as refinery shutdowns, pipeline outages, weather-related constraints, or sudden demand spikes. By enabling quick re-routing of supplies from alternate refinery envelopes and locations, the system ensures continuity of supply without the need for ad-hoc emergency arrangements. This built-in redundancy significantly enhances the robustness of the national fuel supply chain.

From a strategic perspective, the exchange framework also reduces the need for duplication of infrastructure investments by promoting shared use of existing assets across entities. This not only improves capital efficiency for individual companies but also aligns with broader policy objectives of optimizing national logistics infrastructure, reducing emissions from avoidable transportation, and strengthening cooperative market behavior. As demand patterns evolve and supply chains become more complex, the inter-OMC exchange mechanism will continue to remain a cornerstone of India’s petroleum logistics architecture.

Chapter 7: Recommendation on the basis of TOR

To recommend measures for minimizing infructuous movement and optimizing the transportation of petroleum products, with the following objectives:

TOR 1: Minimization of road movement

POL road transport accounts for around 1% of total primary transportation. Particularly the road movements are undertaken for serving hilly low volume locations (Smaller states of Northeast, Sikkim, Ladakh, J&K, Uttarakhand, Himachal Pradesh).

Last mile connectivity i.e., secondary transportation is through road. Non-inclusion of MS, HSD, ATF in GST and CST implication on interstate movements is constraining to undertake long lead within state movements to those pockets which are near to supply locations of other states.

OMC depots such as Belgaum, Hubli, Bharatpur, Goa and other locations situated close to inter-state supply sources could be rationalized or closed if MS and HSD are brought under GST.

Recommendation 1:

The committee recommends for inclusion of MS, HSD, ATF under GST so that intra-state long lead movements can be replaced by inter-state short lead movements. This will not only lead to significant reduction in road km travel but also accrue savings in transportation cost and significantly reduce net carbon footprint for the nation. In the interim till the above could be realized, CST may be abolished / brought to 'NIL' as originally proposed in the budget of 2007 (proposed to reduce from 4% to Nil in 4 years).

TOR 2: Security of Supply

The total all India refinery production capacity (MS, HSD, ATF) exceeds the market demand. Hence, product security is assured. However, the demand growth is varying from state to state, season to season, and impacted by many factors like rainfall, SGDP growth, Individual growth of OMCs. Therefore, the placement capabilities and redundancies in each state vary from company to company depending upon the market share.

Recommendation 2:

To ensure supply security in the event of any disruption in one of the companies, local pipeline connectivity among companies may be helpful in maintaining continuous supply of products.

Recommendation 3:

Sudden spike or drop in demand/ pipeline disruptions/shutdowns in refineries impacting one of the products (MS, HSD, ATF) leads to stoppage of multi-product pipeline causing inflexibility in

responding to events. Hence, providing rail unloading facilities at rail loading TOPs of pipelines gives agility in the system.

TOR 3: Optimization of pipelines and other infrastructure usages:

Proprietary pipeline capacities are usually utilized at much higher extent in view of security of Supply from originating Refineries and security of demand from the catchment areas. From the year 2005, Pipeline laying companies have been mandated to provide 20% of additional capacities towards Common carrier involving additional capital expenditure. However, the utilization of Common carrier capacities is an issue the pipeline owners are grappling with.

The common carrier capacities of major pipelines and their utilization is tabled below:

S.No	Name of the pipeline	OMC	Length (KM)	MMT	Tput'26 HI prorate	Comm.	Common Carrier capacity	Other Parties	FY'25 use	Remarks
1	Chennai-Trichy-Madurai pipeline	IOCL	683	3.9	2.8	2005	1		0	
2	Devangonthi - Devanhalli pipeline	IOCL	36	0.7	0.8		0.2	BPC, HPC	0.2	Fully utilized (Ded ATF)
3	Paradip Raipur Ranchi pipeline (PRRPL)	IOCL	1073	5	4.4	2017	1		0	
4	Bina Panki Pipeline	BPCL	355	3.5	1.8	2021	1	0	0	
5	Kota - Jobner branch pipeline(1)	BPCL	211	1.8		2015	0.5	0	0	
6	Mundra-Delhi pipeline (1)	HPCL	1054	6.9		2007	1.38	NEL,BPCL	0.5	Since FY23-24
7	Awa-Salawas pipeline	HPCL	93	6.9	4.6	2015	0.5		0	
8	Rewari - Kanpur Pipeline	HPCL	443			2016	1.6	BPCL	0.05	FY24, FY25 only
9	Mangalore-Hassan-Bengaluru (MHB)	Petronet	363	5.6	4	2003	1.6		0	Exclusive for MRPL
	Total		4311	27.4	18.4		8.8		0.75	8.5%

The declared common carrier capacity across petroleum product pipelines in the country is 8.8 MMTPA. However, as observed by the Committee, this capacity is used only intermittently and not on a regular basis, raising concerns over whether the investments made by pipeline owners to allocate such capacity are justified.

In FY 2024–25, actual utilization was only about 8.5 percent, indicating the need for re-examination of policy interventions to encourage greater use of the pipeline network by third parties.

The committee visited two pipelines (Paradip-Raipur pipeline, Mangalore Hassan Bengaluru pipeline) to study under-utilisation issues & suggest certain policy interventions for further consideration:

Case I:

IOCL's Paradip – Raipur pipeline capacity was 5 MMTPA with 1.5 MMTPA common carrier capacity. This pipeline was commissioned in March-2016, till now shippers have neither used this capacity nor booked the capacity for future use. The capacities remained idle for nearly 10 years.

Case II:

MHBPL's Mangalore – Bangalore pipeline capacity is 5.6 MMTPA. Common carrier capacity is 1.12 MMTPA. This pipeline is not a common carrier but a contract carrier where in contract quantities are finalized between MRPL & individual OMC guided by product purchase MOUs under oil exchange mechanisms and allocation of thruput by respective OMC/ MRPL basis the contractual volumes and demand projections ex Hassan and Bengaluru Locations. The pipeline utilization is limited to the extant of monthly requirement of product purchase from MRPL.

The pipeline's current utilization is to evacuate MRPL product only & placement of product by other shippers are not enabled due to lack of access arrangement to MHBPL source tanks. Hassan Bangalore section of this pipeline is underutilized and there is a potential of reverse pumping from Bangalore to Hassan for shipper's requirement. Currently, all OMCs are placing products at Bengaluru terminals from their own sources through their own Pipeline or by Rail from their sources. If reverse pumping from Bengaluru to Hassan is enabled, OMCs can transport products to Hassan from Bengaluru side for pipeline utilization in reverse direction.

Recommendation 4:

The committee is of the view that the common carrier capacity should be built based on actual commitments backed duly by financial guarantees by prospective shippers to bring security of Supply and demand for the pipeline. This shall ensure avoiding infructuous investment and idling of pipeline capacities.

Recommendation 5:

Policy intervention suggested to review current practice of allotting 25% capacity for common carrier in every upcoming pipelines. Fixing a lower fixed percentage viz., 5% and additional allocation over and above 5% basis the commitments by Shippers for at least next 5 years is recommended for future pipelines.

Recommendation 6:

For common carrier pipelines possibilities should be explored jointly by shipper and transporter for increasing the connectivity and the reverse pumping.

TOR 4: Development of Pipeline infrastructure on industry basis as per requirement:

Recommendation 7:

The cost of creating common carrier capacity should be borne proportionately by the interested parties. In lieu of ownership rights, such parties may be charged variable operating costs for pumping and operations. This can be effectively carried out through a unincorporated JV model similar to the CUF model of depots rather than a JV or third party for better cost/ Tax efficiency and faster execution of project.

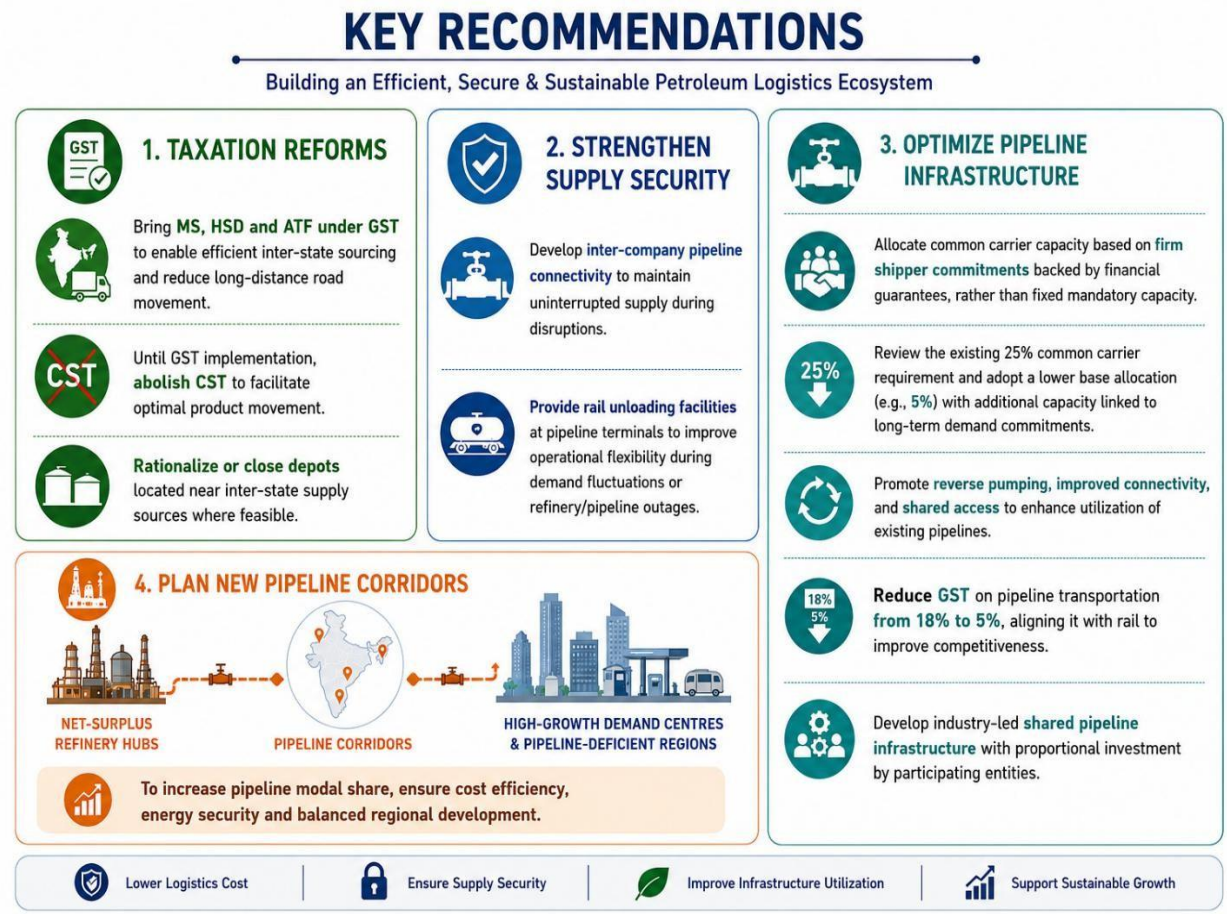
Recommendation 8:

OMCs may proactively evaluate building of future pipelines corridors from upcoming net surplus refining hubs such as Northeast, Haryana & Rajasthan to high growth demand centers, economically viable consumption clusters and pipeline deficient regions of central India. Expanding the pipeline network from these emerging supply centers would establish pipeline as preferred mode of transportation thereby achieving reduced dependency on long lead rail movement, improved supply chain resilience, lowered logistics cost, decongested rail network and significantly reduced carbon footprint in petroleum product distribution.

TOR 5: Any other areas or activities as may be required to achieve the intended objectives:

Recommendation 9:

GST on pipeline transportation is charged at 18% while GST on rail transportation is 5%. For transportation of non-GST products, MS, HSD and ATF, GST input tax credit is not available. This difference is making rail mode more attractive than pipelines. Pipeline GST to be brought to 5%, in line with Rail.



Chapter 8: Conclusion

The above recommendations align with the broader national objective of creating safer, more efficient, and environmentally sustainable petroleum product transportation systems. Increasing the modal share of pipelines over long-distance rail and road transport will improve logistics efficiency, strengthen supply security, reduce transportation costs, and significantly lower the carbon footprint of petroleum product distribution.

The Committee recognizes that taxation and logistics reforms are key enablers for achieving these objectives. Inclusion of MS, HSD and ATF under GST, or abolition of CST as an interim measure, would enable optimal inter-state sourcing, rationalization of depots, and reduction in unnecessary transportation distances. At the same time, strengthening inter-company connectivity, optimizing common carrier capacity, and developing future pipeline corridors will ensure better infrastructure utilization and enhanced resilience of the petroleum supply chain.

Appendix

1. https://pib.gov.in/PressReleasePage.aspx?PRID=1918364
2. https://ppac.gov.in/uploads/rep_studies/1682658855_ICR_March_2023.pdf
3. https://mopng.gov.in/files/TableManagements/IPNG-Statistics-Report_2023-24_Final.pdf
4. https://www.theglobaleconomy.com/rankings/lpg_consumption/
5. https://www.smf.com.sg/wp-content/uploads/2024/07/WLPGA-Statistical-Review-2023.pdf

West Bengal							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
1	Durgapur	BPCL	120	Haldia	138	-	-
2	Uluberia		120	Haldia	180	-	-
3	Raiganj		120	Haldia	137	-	-
4	Paharpur	HPCL	120	HALL HALDIA LPG PVT IMPORT FACILITY	189.35	-	-
				JATNI LPG PLANT	4.02	-	-
				VISAKH NEW LPG TERMINAL	0.75	-	-
			250	HALL HALDIA LPG PVT IMPORT FACILITY	136.37	-	-
				JATNI LPG PLANT	0.58	-	-
5	Budge Budge	IOCL	120	Haldia	-	-	147.49
				Paradeep	-	-	10.90
6	Calicut		120	Mangalore	46.98	-	-
				Ennore	0.96	-	-
				LPG BP -Cochin	3.03	-	-
				OMC-HPC-LPG Hosp Locn-Mangalore	1.37	-	-
				Mangalore	80.78	-	-
7	Durgapur		1 80	Haldia	-	-	368.89
				Paradeep	-	-	35.01
8	Kalyani		180	Haldia	-	-	156.10
				Paradeep	-	-	14.61
9	Kharagpur		60	Haldia	46.46	-	-
				LPG BP -Haldia Installation	0.31	-	-
10	Malda		60	Haldia	34.96	-	-
				LPG BP -Durgapur	27.45	-	-
				LPG BP -Haldia Installation	0.25	-	-
11	Raninagar		120	Haldia	155.88	-	-
				LPG BP -Banka	9.46	-	-
				LPG BP -Barauni	5.61	-	-

West Bengal							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
				LPG BP -BRPL	0.33	-	-
				LPG BP -Durgapur	9.98	-	-

Bihar							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
1	Champaran	HPCL	120	HALL HALDIA LPG PVT IMPORT FACILITY	70.78	-	-
2	Purnea	HPCL	120	HALL HALDIA LPG PVT IMPORT FACILITY	163.27	-	-
			120	JATNI LPG PLANT	0.11	-	-
3	Patna	BPCL	120	Haldia	190	-	-
		HPCL	120	HALL HALDIA LPG PVT IMPORT FACILITY	158.77	-	-
				GAIL AURIYA LPG TOP	7.66	-	-
				GAIL VIJAPUR HPC LPG TOP	0.92	-	-
		IOCL	270	Haldia	1.52	-	501.97
				LPG BP -Barauni	0.11	-	-
				LPG BP -Durgapur	1.12	-	-
				LPG BP -Kanpur	0.21	-	-
				LPG BP - Muzaffarpur	0.90	-	-
				PARADEEP	-	-	47.23
4	Banka	IOCL	120	Haldia	-	-	199.55
				Paradeep	-	-	17.82
5	Barauni		120	Barauni Refinery	-	-	138.86
				Haldia	-	-	7.01
6	Motihari		120	HALDIA	-	-	19.83
				LPG BP -Banka	8.54	-	
				Barauni	42.74	-	1.01
				LPG BP -Durgapur	12.44	-	-

Bihar							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
				LPG BP - Muzaffarpur	30.98	-	-
				LPG BP -PATNA	7.94	-	-
				PARADEEP	-	-	1.00
7	Muzaffarpur		120	HALDIA	0.04	-	178.06
				LPG BP -Banka	6.58	-	-
				Barauni	2.38	-	12.08
				LPG BP -Durgapur	9.21	-	-
				PARADEEP	-	-	3.99

North-East States							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
1	Agartala	IOCL	60	Guwahati RC Office	0.35	-	-
				LPG BP -BRPL	0.35	-	-
				LPG BP -Sarpara	16.53	-	-
				LPG BP-North Guwahati	35.54	-	-
2	Bongaigaon	IOCL	60	BRPL	-	-	82.35
3	Dimapur	IOCL	120	DIGBOI DESPATCH UNIT	0.19	-	-
				Guwahati RC Office	4.63	-	-
				Haldia	3.35	-	-
				LPG BP -Banka	1.16	-	-
				LPG BP -BRPL	12.60	-	-
				LPG BP -Durgapur	0.05	-	-
4	Gopanari	IOCL	120	DIGBOI DESPATCH UNIT	11.43	-	-
				Guwahati RC Office	6.94	-	-
				Haldia	31.42	-	-
				LPG BP -Banka	9.67	-	-
				LPG BP- DULIAJAN DU	19.08	-	-
				LPG BP -BRPL	14.44	-	-
				LPG BP -Durgapur	1.50	-	-

North-East States							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
5	North Guwahati	IOCL	180	Guwahati RC Office	1.40	-	-
				Haldia	11.13	-	-
				LPG BP -Banka	4.64	-	-
				LPG BP -BRPL	4.41	-	-
				LPG BP -Durgapur	2.40	-	-
6	Rangpo	IOCL	12	LPG BP -Raninagar	15.17	-	-
7	Sarpara	IOCL	60	Guwahati RC Office	6.29	-	-
				Haldia	51.72	-	-
				LPG BP -Banka	16.25	-	-
				LPG BP -BRPL	17.72	-	-
				LPG BP -Durgapur	12.07	-	-
				LPG BP -Haldia Installation	0.02	-	-
8	Sekmai	IOCL	30	LPG BP -BRPL	0.13	-	-
				LPG BP -Sarpara	2.60	-	-
				LPG BP-North Guwahati	41.73	-	-
				LPG BP--Silchar BP	0.32	-	-
9	Silchar	IOCL	120	Guwahati RC Office	0.78	-	-
				LPG BP -BRPL	17.82	-	-
				LPG BP -Sarpara	17.48	-	-
				LPG BP-North Guwahati	56.36	-	-
10	Goalpara	HPCL	30	HALL HALDIA LPG PVT IMPORT FACILITY	33.71	-	-

Jharkhand							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
1	Bokaro	IOCL	120	Haldia	94.821	-	-
				LPG BP -Balasore	122.89	-	-
		BPCL	60	Haldia	80.2	-	-
2	Barhi	HPCL	120	Haldia	43.35	-	-

Jharkhand							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
				Jatni LPG Plant	1.12	-	-
3	Jamshedpur	IOCL	120	Haldia	108.36439	-	-
				LPG BP -Durgapur	0.54241	-	-
				LPG BP -Haldia Installation	12.73141	-	-
		HPCL	60	HALL HALDIA LPG PVT IMPORT FACILITY	70.37951	-	-
				JATNI LPG PLANT	12.52581	-	-
				VISAKH NEW LPG TERMINAL	0.88876	-	-

Odisha & Chattisgarh							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
1	Jharsuguda	IOCL	120	Haldia	6.1	-	-
				IOC LPG Mkt Terminal-Paradeep	55.9	-	-
				LPG Import Terminal VIZAG	0.21	-	-
2	Korba	IOCL	60	DAHEJ	0.36	-	-
				IOC LPG Mkt Terminal-Paradeep	9.88	-	-
				LPG BP -Dumad	0.21	-	-
				LPG Import Terminal VIZAG	39.71	-	-
				VIZAG LPG RC CELL	2.71	-	-
3	Raipur	IOCL		DAHEJ	0.63		
				Haldia	1.21		
				IOC LPG Mkt Terminal-Paradeep	21.73		
				LPG BP -Bhopal	2.39		
				LPG BP -Dumad	0.70		
				LPG BP-Jabalpur	0.09		
				LPG Import Terminal VIZAG	82.86		

Odisha & Chattisgarh							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
				VIZAG LPG RC CELL	11.10		
		BPCL	30	VIZAG REFINERY	56.50		
		HPCL	120	VISAKH NEW LPG TERMINAL	6.60	152.43	
				CHERLAPALLY LPG PLANT	0.91	-	-
4	HPCL	Jatni	180	VISAKH NEW LPG TERMINAL	10.62	197.18	
				HALL HALDIA LPG PVT IMPORT FACILITY	1.30	-	-
5	BPCL	Khurda	60	Vizag	27.00	-	-
				Haldia	68.00	-	-
6	Bolangir	BPCL	120	Vizag	30	-	-
				Haldia	21.6	-	-
7	Balasore	IOCL	120	Haldia	8.11	-	18.35
				Paradeep	-	-	155.64
8	Rayagada	HPCL	60	VISAKH NEW LPG TERMINAL	33.78	-	-

Gujarat							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
1	Ahmedabad	IOCL	180	DAHEJ	39.51	-	-
				Kandla LPG Import Terminal	60.98	-	-
				LPG BP -Dumad	73.00	-	-
				LPG Import Terminal PIPAVAV	0.37	-	-
				NEL Vadinar - RC Office	36.50	-	-
2	Baroda		120	Dumad	-	-	120.75
3	Bhavnagar		60	Kandla LPG Import Terminal	0.21	-	-
				LPG BP -Dumad	6.18	-	-

Gujarat							
Sr. No.	**Depots/ Terminals**	**Entity**	**Capacity (TMT)**	**Product Origin**	**Qty. (TMTPA) and Mode of Transportation**		
					Road	**Rail**	**Pipeline**
				LPG Import Terminal PIPAVAV	14.65	-	-
				NEL Vadinar - RC Office	46.22	-	-
4	Gandhar		60	GANDHAR	-	-	47.43
5	Hazira		60	HAZIRA	-	-	76.16
6	Rajkot		120	Kandla LPG Import Terminal	24.83	-	-
				LPG BP -Dumad	18.32	-	-
				LPG Import Terminal PIPAVAV	0.44	-	-
				Mundra LPG Terminal Pvt Ltd	12.51	-	-
				NEL Vadinar - RC Office	101.26	-	-
7	Rajkot	BPCL	60	Jamnagar	87.00	-	-
8	Ahmedabad		120	Dahej	120.00	-	-
				Kandla	28.00	-	-
9	Surat		120	ONGC Hazira	-	-	144.00
				Dahej	50.00	-	-
10	Gandhinagar	HPCL	120	NAYARA VADINAR LPG TOP	55.37	-	-
				AVTL KANDLA LPG PVT IMPORT FAC	30.44	-	-
				RIL JAMNAGAR HPC LPG TOP	21.81	-	-
				IOC GANDHAR HPC LPG HOSP	13.03	-	-
				GCPL DAHEJ LPG PVT IMPORT FAC	5.74	-	-
				IOC KANDLA LPG IMPORT FAC	4.96	-	-
				IOC SAVALI HPC LPG TOP	1.46	-	-
				ONGC DAHEJ HPC TOP	0.68	-	-

Gujarat							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
11	Hazira		120	GCPL DAHEJ LPG PVT IMPORT FAC	33.03	-	-
				NAYARA VADINAR LPG TOP	1.82	-	-
				MAHUL LPG PLANT	1.72	-	-
				IOC GANDHAR HPC LPG HOSP	1.55	-	-
				ONGC DAHEJ HPC TOP	0.65	-	-
				ONGC ANKLESHWAR HPC TOP	0.53	-	-
				AVTL KANDLA LPG PVT IMPORT FAC	0.09	-	-
				ONGC Hazira	-	-	192.75

Rajasthan							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
1	Ajmer	IOCL	180	Jamnagar	-	-	32.95
				Kandla	-	-	48.56
				Mundra	-	-	37.74
				Nayara	-	-	12.51
2	Bikaner		60	Kandla LPG Import Terminal	63.02	-	-
				LPG BP - Jaipur	4.06	-	-
				LPG BP -Dumad	4.30	-	-
				LPG BP -Mathura	0.58	-	-
				Mundra LPG Terminal Pvt Ltd	11.31	-	-
				NEL Vadinar - RC Office	2.85	-	-
3	Jaipur		180	Jamnagar	-	-	185.10
				Kandla	-	-	89.17
				Mundra	-	-	36.23

Rajasthan							
Sr. No.	**Depots/ Terminals**	**Entity**	**Capacity (TMT)**	**Product Origin**	**Qty. (TMTPA) and Mode of Transportation**		
					Road	**Rail**	**Pipeline**
				Nayara	-	-	127.47
4	Jhunjhunu		30	Dahej	5.42	-	-
				Kandla LPG Import Terminal	24.31	-	-
				LPG BP- Jaipur	7.57	-	-
				LPG BP- Dumad	3.00	-	-
				LPG BP- Mathura	0.48	-	-
				Mundra LPG Terminal Pvt Ltd	2.65	-	-
				NEL Vadinar - RC Office	1.03	-	-
5	Jodhpur		60	Kandla LPG Import Terminal	3.91	-	-
				LPG BP - Ajmer	0.60	-	-
				LPG BP -Dumad	0.34	-	-
6	Jaipur	BPCL	60	Jamnagar Refinery	-	-	117.00
				Kandla	24.00	-	-
7	Udaipur		60	Mundra Port	70.00	-	-
8	Bikaner		60	Mundra Port	55.00	-	-
				Jamnagar	5.00	-	-
9	Ajmer		120	NAYARA	-	-	164.00
				Kandla	26.00	-	-
10	Kota	HPCL	60	GCPL DAHEJ LPG PVT IMPORT FAC	51.18	-	-
				AVTL KANDLA LPG PVT IMPORT FAC	13.29	-	-
				BHATINDA LPG PLANT	5.12	-	-
				RIL JAMNAGAR HPC LPG TOP	1.83	-	-
				AJMER LPG PLANT	1.74	-	-
				NAYARA VADINAR LPG TOP	0.11	-	-
11	Ajmer		180	AVTL KANDLA LPG PVT IMPORT FAC	93.50	-	-

Rajasthan							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
				NAYARA VADINAR LPG TOP	5.40	-	-
				MLTPL MUNDRA LPG PVT IMPORT FAC	1.89	-	-
				RIL JAMNAGAR HPC LPG TOP	1.07	-	-
				GCPL DAHEJ LPG PVT IMPORT FAC	0.47	-	-
				Jamnagar (thru JLPL)	-	-	212.42
12	Jodhpur		60	AVTL KANDLA LPG PVT IMPORT FAC	29.70	-	-
				NAYARA VADINAR LPG TOP	11.51	-	-
				MLTPL MUNDRA LPG PVT IMPORT FAC	8.86	-	-
				BHATINDA LPG PLANT	3.11	-	-
				AJMER LPG PLANT	2.63	-	-
				IOC KANDLA LPG IMPORT FAC	2.09	-	-
				RIL JAMGAR HPC LPG TOP	0.04	-	-
13	Pindwara		120	BHATINDA LPG PLANT	13.52	-	-
				AVTL KANDLA LPG PVT IMPORT FAC	8.11	-	-
				LONI LPG PLANT	6.69	-	-
				GCPL DAHEJ LPG PVT IMPORT FAC	3.45	-	-
				MLTPL MUNDRA LPG	2.92	-	-

Rajasthan							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
				PVT IMPORT FAC			
				GAIL AURIYA LPG TOP	0.19	-	-

Madhya Pradesh							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
1	Bhopal	IOCL	180	DAHEJ	71.40	-	-
				HAZIRA	-	1.15	-
				JAMNAGAR	-	3.44	-
				KANDLA	-	9.83	-
				LPG BP -Dumad	25.73	-	-
				PIPAVAV	-	21.51	-
2	Guna		120	GAIL-VIJAYPUR	-	-	87.36
3	Gwalior		60	DAHEJ	2.70	-	-
				IOC CELL , GAIL , VIJAYPUR	31.78	-	-
				LPG BP -Dumad	22.97	-	-
4	Jabalpur		60	DAHEJ	10.46	-	-
				LPG BP -Dumad	48.83	-	-
5	Ujjain		180	DAHEJ	171.17	-	-
				LPG BP -Dumad	15.06	-	-
				OMC(ONGC) LPG Cell, Dahej	5.27	-	-
				ONGC-Gandhar, IOCL Cell	0.27	-	-
6	Indore	BPCL	60	DAHEJ	103	-	-
7	Bakania		30	DAHEJ	67	-	-
8	Bhitoni		60	JNPT URAN	-	106	
				DAHEJ	4	-	-
9	Jabalpur	HPCL	120	CHERLAPALLY LPG PLANT	59.01	-	-
				RAIPUR LPG PLANT	16.73	-	-
				GAIL VIJAPUR HPC LPG TOP	3.19	-	-
10	Indore		120	GCPL DAHEJ LPG PVT IMPORT FAC	80.27	-	-

Madhya Pradesh							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
				IOC GANDHAR HPC LPG HOSP	11.84	-	-
				GAIL VIJAPUR HPC LPG TOP	7.65	-	-
				ONGC ANKLESHWAR HPC TOP	6.85	-	-
				ONGC DAHEJ HPC TOP	0.88	-	-
				NAYARA VADINAR LPG TOP	0.54	-	-
				MAHUL LPG PLANT	0.14	-	-
				IOC SAVALI HPC LPG TOP	0.14	-	-
11	Bhopal		60	GCPL DAHEJ LPG PVT IMPORT FAC	49.60		
				IOC SAVALI HPC LPG TOP	15.04		
				GAIL VIJAPUR HPC LPG TOP	11.13		
				RAIPUR LPG PLANT	1.97		
				HAZIRA LPG ONGC	1.38		
				NAYARA VADINAR LPG TOP	0.56		
				ONGC DAHEJ HPC TOP	0.38		
				MAHUL LPG PLANT	0.30		

Maharashtra							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
1	Chakan	IOCL	120	MUMBAI	104.98	-	-
				DAHEJ	1.42	-	-
				OMC (BPC)-IMPORTED LPG-URAN	10.37	-	-
				OMC (BPC)LPG Hosp.Locn- URAN	17.46	-	-
2	Dhannaj		120	DAHEJ	25.85	-	-
				MUMBAI	97.99	-	-
				LPG BP -Dumad	9.10	-	-
				OMC (BPC)LPG Hosp.Locn- URAN	0.04	-	-
3	Manmad		60	DAHEJ	3.02	-	-
				MUMBAI	76.29	-	-
				LPG BP -Dumad	1.38	-	-

Maharashtra							
Sr. No.	**Depots/ Terminals**	**Entity**	**Capacity (TMT)**	**Product Origin**	**Qty. (TMTPA) and Mode of Transportation**		
					Road	**Rail**	**Pipeline**
				OMC (BPC)-IMPORTED LPG-URAN	9.00	-	-
4	Nagpur		60	DAHEJ	8.13	-	-
				MUMBAI	39.32	-	-
				LPG BP -Dumad	6.26	-	-
5	Uran	BPCL	180	Uran	-	-	283.00
6	Nagpur		30	Uran	-	-	-
				Dahej	30.00	-	-
7	Pune		180	JNPT Uran	25.00	-	322.00
				Mumbai	11.00	-	-
8	Wai		120	AGIES Mumbai	121.00	-	-
				Pune	16.00	-	-
9	Solapur		120	Pune	142.00	-	-
				MUMBAI	54.00	-	-
10	Nasik		120	JNPT Uran	138.00	-	-
				DAHEJ	19.00	-	-
11	Jalgaon		120	JNPT Uran	80.00	-	-
				DAHEJ	48.00	-	-
12	Mumbai Refinery		180	Mumbai Refinery	-	-	197.00
13	Nasik	HPCL	120	AEGIS LOGISTICS LIMITED	76.32	-	-
				URAN LPG BPC	32.50	-	-
				MAHUL LPG PLANT	6.26	-	-
				GCPL DAHEJ LPG PVT IMPORT FAC	0.02	-	-
14	Chandrapur		60	CHERLAPALLY LPG PLANT	64.76	-	-
				RAIPUR LPG PLANT	0.56	-	-
				CHAKAN LPG PLANT	0.49	-	-
15	Khapri		120	CHERLAPALLY LPG PLANT	135.70	-	-
				RAIPUR LPG PLANT	6.30	-	-

Maharashtra							
Sr. No.	**Depots/ Terminals**	**Entity**	**Capacity (TMT)**	**Product Origin**	**Qty. (TMTPA) and Mode of Transportation**		
					Road	**Rail**	**Pipeline**
				CHAKAN LPG PLANT	5.76	-	-
				MAHUL LPG PLANT	1.45	-	-
				URAN LPG BPC	0.09	-	-
16	Usar		60	URAN LPG BPC	40.51	-	-
				MAHUL LPG PLANT	9.55	-	-
				AEGIS LOGISTICS LIMITED	7.53	-	-
17	MAHUL		120	Mumbai Refinery	-	-	204.99
18	Chakan		180	AEGIS LOGISTICS LIMITED	0.39	-	-
				URAN LPG BPC	0.31	-	-
				Mumbai Refinery (Thru USCPL)	-	-	355.65
19	Hazarwadi		120	CHAKAN LPG PLANT	1.36	-	-
				MAHUL LPG PLANT	0.09	-	-
				Mangalore LPG Import Facility	-	258.58	-
20	Solapur		120	HAZARWADI LPG PLANT	91.14	-	-
				CHAKAN LPG PLANT	20.56	-	-
				URAN LPG BPC	12.63	-	-
				CHERLAPALLY LPG PLANT	3.69	-	-
				MAHUL LPG PLANT	0.53	-	-
21	Aurangabad		120	AEGIS LOGISTICS LIMITED	89.09	-	-
				CHAKAN LPG PLANT	24.59	-	-
				URAN LPG BPC	4.24	-	-
				GCPL DAHEJ LPG PVT IMPORT FAC	2.77	-	-
				MAHUL LPG PLANT	1.58	-	-

Maharashtra							
Sr. No.	**Depots/ Terminals**	**Entity**	**Capacity (TMT)**	**Product Origin**	**Qty. (TMTPA) and Mode of Transportation**		
					Road	**Rail**	**Pipeline**
				HAZARWADI LPG PLANT	0.26	-	-
22	Patalganga		180	URAN LPG BPC	0.40	-	-
				MAHUL LPG PLANT	0.07	-	-
				Mumbai Refinery (Thru USCPL)	-	-	170.81

Goa							
Sr. No.	**Depots/ Terminals**	**Entity**	**Capacity (TMT)**	**Product Origin**	**Qty. (TMTPA) and Mode of Transportation**		
					Road	**Rail**	**Pipeline**
1	Goa	BPCL	30	MANAGALORE LPG IMPORT FACILITY	33.00	-	-
2		HPCL	60	MANAGALORE LPG IMPORT FACILITY	51.96	-	-
				HAZARWADI LPG PLANT	0.72	-	-
				URAN LPG BPC	0.42	-	-

Karnataka							
Sr. No.	**Depots/ Terminals**	**Entity**	**Capacity (TMT)**	**Product Origin**	**Qty. (TMTPA) and Mode of Transportation**		
					Road	**Rail**	**Pipeline**
1	Bangalore/ Devangonthi	BPCL	120	KRL	110.60	-	-
				Mangalore	102.00	-	-
		IOCL	300	Mangalore	33.16	229.81	
				Mysore(ex-HPCL Mysore via MHMSPL)	0.71	-	-
				Ennore	26.74	-	-
				Yediyur	94.00	-	-
2	Mysore	IOCL	60	IOC Cell - MRPL	0.07	-	-
				Ennore	0.98	-	-
				Mysore LPG Cood Pt (HPCL) Mangalore-MHMSPL	88.79	-	-

Karnataka							
Sr. No.	**Depots/ Terminals**	**Entity**	**Capacity (TMT)**	**Product Origin**	**Qty. (TMTPA) and Mode of Transportation**		
					Road	**Rail**	**Pipeline**
				Mangalore	3.39	-	-
		HPCL	120	MANAGALORE LPG IMPORT FACILITY (Thru MHMBPL)	-	-	145.19
3	Mangalore	BPCL	120	MRPL	-	-	200.00
		HPCL	120	MANAGALORE LPG IMPORT FACILITY	-	-	166.82
4	Yediyur	HPCL	310	MANAGALORE LPG IMPORT FACILITY (Thru MHMBPL)	-	-	477.47
5	Dharwad	BPCL	60	Mangalore	95.00	-	-
				Pune	10.00	-	-
6	Hubli	HPCL	120	MANAGALORE LPG IMPORT FACILITY	107.58	-	-
				ANANTAPUR LPG PLANT	1.51	-	-
				YEDIYUR LPG PLANT	0.95	-	-
				MAHUL LPG PLANT	0.70	-	-
7	Belgam	IOCL	120	Mangalore	42.06	-	-
				MUMBAI	44.11	-	-
				OMC (BPC)-IMPORTED LPG-URAN	11.77	-	-
				OMC (BPC)LPG Hosp.Locn- URAN	1.48	-	-
				OMC-HPC-LPG Hosp Locn-Mangalor	1.38	-	-
				Mangalore	52.18	-	-
				Yediyur LPG co-od Pt (HPC)	1.58	-	-
8	Shimoga	IOCL	120	IOC Cell - MRPL	40.91	-	-
				Ennore	0.80	-	-
				Mysore LPG Cood Pt (HPCL)	1.66	-	-

Karnataka							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
				OMC-HPC-LPG Hosp Locn-Mangalor	0.47	-	-
				Mangalore	51.04	-	-
				Yediyur LPG co-od Pt (HPC)-MHMSPL from Mangalore	56.94	-	-

Tamil Nadu							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
1	Chengalpet	IOCL	120	CPCL Manali - Chennai RC Offic	22.80	-	-
				Ennore	124.98	-	-
				Yediyur via MHMSPL	0.52		
2	Chennai	BPCL	120	CPCL/ENNORE	113.00	-	-
				KRL	48.00	-	-
3	Coimbatore	IOCL	120	BPC Palakkad BP	4.68	-	-
				CPCL Manali - Chennai RC Offic	16.29	-	-
				IOC Cell - MRPL	1.16	-	-
				Ennore	66.55	-	-
				LPG BP -Cochin	6.54	-	-
				Mangalore	30.09	-	-
		BPCL	120	KRL	175.00	-	-
				Uran	-	2.00	-
4	CPCL Manali	IOCL	120	CPCL	-	-	151.16
				CHENNAI PORT	217.95	-	-
5	ENNORE	IOCL	180	ENNORE	-	-	188.52
6	ERODE	IOCL	120	BPC Palakkad BP	10.68	-	-
				CPCL Manali - Chennai RC Offic	17.06	-	-
				Ennore	60.29	-	-
				LPG BP -Cochin	14.23	-	-
				Mangalore	22.53	-	-

Tamil Nadu							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
				Yediyur LPG co-od Pt (HPC)-MHMSPL from Mangalore	0.25	-	-
7	GUMMIDIPOONDI	HPCL	120	ANANTAPUR LPG PLANT	67.32	-	-
				IOTL IOC CHENNAI HPC LPG HOSP	57.49	-	-
				VISAKH NEW LPG TERMINAL	4.09	-	-
				YEDIYUR LPG PLANT	3.94	-	-
8	ILAYANGUDI	IOCL	30	BPC Palakkad BP	1.33	-	-
				CPCL Manali - Chennai RC Offic	6.01	-	-
				Ennore	24.21	-	-
				LPG BP -Cochin	0.25	-	-
				SHV Tuticorin	13.76	-	-
9	Madurai	IOCL	60	BPC Palakkad BP	1.99	-	-
				CPCL Manali - Chennai RC Offic	6.55	-	-
				Ennore	36.18	-	-
				Tuticorin	26.81	-	-
				Mangalore	8.20	-	-
		BPCL	60	KRL	71.00	-	-
		HPCL	120	YEDIYUR LPG PLANT	147.20	-	-
				KOCHI LPG PLANT	3.49	-	-
10	MANNARGUDI	IOCL	30	CPCL Manali - Chennai RC Offic	11.27	-	-
				Ennore	18.38	-	-
11	MAYILADUTHURAI		30	CPCL Manali - Chennai RC Offic	11.55	-	-
				Ennore	17.01	-	-
12	Salem		60	BPC Palakkad BP	2.17	-	-
				CPCL Manali - Chennai RC Offic	10.63	-	-
				Ennore	65.90	-	-
				LPG BP -Cochin	1.62	-	-

Tamil Nadu							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
				Mangalore	1.59	-	-
				Yediyur LPG co-od Pt (HPC)-MHMSPL from Mangalore	13.05	-	-
13	THANJAVUR	BPCL	60	KRL	-	-	-
14	TIRUNELVELI	IOCL	120	BPC Palakkad BP	2.22	-	-
				CPCL Manali - Chennai RC Offic	4.48	-	-
				Ennore	47.62	-	-
				LPG BP -Cochin	7.48	-	-
				Tuticorin	57.90	-	-
				Mangalore	13.55	-	-
15	TRICHY		120	BPC Palakkad BP	2.89	-	-
				CPCL Manali - Chennai RC Offic	13.13	-	-
				Ennore	76.18	-	-
				LPG BP -Cochin	4.48	-	-
				Tuticorin	29.81	-	-
16	Tuticorin	BPCL	60	KRL	78.00	-	-

Andhra Pradesh							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
1	ANANTPUR	HPCL	120	Mangalore (Thru HCPL)	-	-	266.60
2	CUDDAPAH	IOCL	120	Ennore	141.07	-	-
				Yediyur (via MHMSPL)	14.24	-	-
3	KONDAPALLI	HPCL	180	CHERLAPALLY LPG PLANT	37.85	-	-
				VISAKH NEW LPG TERMINAL	4.40	-	-
				VLIF (Thru VSPL)	-	-	125.51
4	KURNOOL	BPCL	60	KRL	39.44	-	-
				Pune	55.20	-	-
5	RAJAHMUNDARY	HPCL	120	VISAKH NEW LPG TERMINAL	11.37	-	-

Andhra Pradesh							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
				CHERLAPALLY LPG PLANT	0.60	-	-
				VLIF (Thru VSPL)	-	-	132.45
6	Vijayawada	IOCL	120	VIZAG	-	-	173.32
7		BPCL	60	Vizag	-	-	96.00
8	Visakhapatnam	HPCL	120	VISAKH REFINERY	-	-	466.65
		IOCL	120	LPG Import Terminal VIZAG	34.79	-	-
				VIZAG LPG RC CELL	93.92	-	-

Telangana							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
1	CHERLAPALLY	IOCL	180	Vizag	-	-	248.10
		HPCL	180	ANANTAPUR LPG PLANT	0.23	-	
				VLIF (Thru VSPL)	-	-	2.64
				Mangalore (Thru HCPL)	-	-	669.71
2	Thimmapur	IOCL	120	MUMBAI	3.75	-	-
				Ennore	6.67	-	-
				LPG BP - CHERLAPALLY	155.47	-	-
				LPG BP - KONDAPALLI	6.71	-	-
				OMC (BPC)-IMPORTED LPG-URAN	2.18	-	-
3	Hyderabad	BPCL	180	VIZAG IMPORT	-	-	235.00
				Uran	-	1.00	-
4	Warangal	HPCL	60	CHERLAPALLY LPG PLANT	57.68	-	-
				YEDIYUR LPG PLANT	0.30	-	-
				CHAKAN LPG PLANT	0.30	-	-
				VISAKH NEW LPG TERMINAL	0.21	-	-

Telangana							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
5	Pondicherry	IOCL	60	CPCL Manali - Chennai RC Offic	9.56	-	-
				Ennore	63.39	-	-

Kerala							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
1	Calicut	IOCL	120	Mangalore	46.98	-	-
				Ennore	0.96	-	-
				LPG BP -Cochin	3.03	-	-
				OMC-HPC-LPG Hosp Locn-Mangalor	1.37	-	-
				Mangalore	80.78	-	-
2	Cochin / Kochi	IOCL	180	COCHIN PORT	-	-	88.87
				COCHIN REFINERY	-	-	53.49
		BPCL	120	KRL	-	-	167.00
		HPCL	60	MANAGALORE LPG IMPORT FACILITY	12.01	-	-
				BPC KOCHI REFINERY	-	-	88.89
3	Palghat	HPCL	60	MANAGALORE LPG IMPORT FACILITY	67.94	-	-
				KOCHI LPG PLANT	8.17	-	-
				YEDIYUR LPG PLANT	1.27	-	-
4	Quilon	IOCL	120	IOC Cell - MRPL	40.95	-	-
				Ennore	0.56	-	-
				LPG BP -Cochin	15.10	-	-
				OMC-HPC-LPG Hosp Locn-Mangalor	1.68	-	-
				Tuticorin	16.26	-	-
				Mangalore	68.01	-	-
5	TRIVANDRUM	BPCL	30	KRL	47.00	-	-

Uttarakhand							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
1	Kashipur	IOCL	120	Kandla LPG Import Terminal	58.65	-	-
				LPG BP - Jaipur	4.32	-	-
				LPG BP - Tikri Kalan	11.80	-	-
				LPG BP- Karnal	0.65	-	-
				LPG BP- Madanpur Khadar	12.99	-	-
				LPG BP -Mathura	8.11	-	-
				Mundra LPG Terminal Pvt Ltd	9.21	-	-
2	Sitarganj	IOCL	60	LPG BP -Loni	0.61	-	-
				LPG BP -Mathura	0.77	-	-
3		HPCL	60	BHATINDA LPG PLANT	13.52	-	-
				AVTL KANDLA LPG PVT IMPORT FAC	8.11	-	-
				LONI LPG PLANT	6.69	-	-
				GCPL DAHEJ LPG PVT IMPORT FAC	3.45	-	-
				MLTPL MUNDRA LPG PVT IMPORT FAC	2.92	-	-
				GAIL AURIYA LPG TOP	0.19	-	-
4	Roorkee	BPCL	60	Lalru/Piyala	53.00	-	-
				Mundra/Bina	49.00	-	-
5	Haldwani	IOCL	60	LPG BP - Jaipur	6.39	-	-
				LPG BP - Tikri Kalan	3.81	-	-
				LPG BP -Loni	22.66	-	-
				LPG BP- Madanpur Khadar	18.03	-	-

Uttarakhand							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
				LPG BP -Mathura	7.13	-	-
6	Haridwar	IOCL	60	LPG BP - Jaipur	12.08	-	-
				LPG BP - Tikri Kalan	2.66	-	-
				LPG BP -Karnal	0.07	-	-
				LPG BP -Loni	19.09	-	-
				LPG BP- Madanpur Khadar	30.28	-	-
				LPG BP -Mathura	6.53	-	-
				Mundra LPG Terminal Pvt Ltd	9.21	-	-

Haryana							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
1	Bahadurgarh	HPCL	180	BHATINDA LPG PLANT	13.47	171.34	-
				LONI LPG PLANT	9.37	-	-
2	JIND	HPCL	60	BHATINDA LPG PLANT	80.12	-	-
				AVTL KANDLA LPG PVT IMPORT FAC	17.67	-	-
				LONI LPG PLANT	5.01	-	-
				MLTPL MUNDRA LPG PVT IMPORT FAC	4.87	-	-
				GCPL DAHEJ LPG PVT IMPORT FAC	0.58	-	-
				AJMER LPG PLANT	0.26	-	-
3	PIYALA	BPCL	300	Kandla	-	-	253
				Uran/pipavav	-	276	-

Haryana							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
4	Gurgaon	IOCL	120	JAMNAGAR	-	-	120.36
				KANDLA	-	-	39.64
				MUNDRA	-	-	14.35
				NAYARA	-	-	1.81
5	Karnal	IOCL	180	PANIPAT	-	-	35.59

Punjab							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
1	Bathinda	IOCL	60	Kandla LPG Import Terminal	37.91	-	-
				LPG BP - Jaipur	4.74	-	-
				LPG BP - Tikri Kalan	0.60	-	-
				NEL Vadinar - RC Office	0.62	-	-
				LPG BP- Nabha	24.97	-	-
				LPG BP -Mathura	0.34	-	-
				Mundra LPG Terminal Pvt Ltd	3.39	-	-
2		HPCL	60	HMEL (Local Pipeline)	685.00	-	-
3		BPCL	60.00	Kandla	93.00	-	-
				Lalru	9.60	-	-
4	Hoshiarpur	BPCL	120	BATHINDA LPG PLANT	142.52	-	-
				LONI LPG PLANT	5.35	-	-
				AVTL KANDLA LPG PVT IMPORT FAC	2.47	-	-
5	Lalru	BPCL	240	AEGIS PIPAVAV	-	175.00	-

Punjab							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
				Uran	-	171.00	-
6	Nabha	IOCL	180	PANIPAT	-	-	272.25
				Kandla LPG Import Terminal	10.87	-	-
				LPG BP - Jaipur	4.54	-	-
				LPG BP - Tikri Kalan	0.89	-	-
				LPG BP - Tikri Kalan	0.44	-	-
				LPG BP -Loni	1.78	-	-
				LPG BP -Mathura	18.77	-	-
				Mundra LPG Terminal Pvt Ltd	0.61	-	-
7	Jalandhar	IOCL	180	PANIPAT	-	-	321.92
8	Goindwal Sahib	IOCL	60	Kandla LPG Import Terminal	22.05	-	-
				LPG BP - Tikri Kalan	3.52	-	-
				LPG BP- Jalandhar	22.75	-	-
				LPG BP -Loni	15.22	-	-
				LPG BP -Mathura	0.86	-	-
				LPG BP -Nabha	5.41	-	-
				LPG BP- Una	0.29	-	-
				Mundra LPG Terminal Pvt Ltd	3.18	-	-

Himachal Pradesh							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
1	Baddi	IOCL	30	LPG BP - Tikri Kalan	3.31	-	-
				LPG BP- Jalandhar	8.69	-	-

				LPG BP -Loni	22.63	-	-
				LPG BP -Mathura	2.08	-	-
				LPG BP -Nabha	6.32	-	-
				OMC-BPC-LPG Hosp Locn-Lalru	0.05	-	-
2	Una	IOCL	60	LPG BP - Tikri Kalan	1.12	-	-
				LPG BP- Baddi	0.10	-	-
				LPG BP- Jalandhar	24.41	-	-
				LPG BP -Loni	16.77	-	-
				LPG BP -Mathura	4.06	-	-
				LPG BP -Nabha	10.41	-	-
				OMC-BPC-LPG Hosp Locn-Lalru	0.53	-	-

UT of J&K							
Sr. No.	**Depots/ Terminals**	**Entity**	**Capacity (TMT)**	**Product Origin**	**Qty. (TMTPA) and Mode of Transportation**		
					Road	**Rail**	**Pipeline**
1	Jammu	IOCL	30	LPG BP - Tikri Kalan	1.58	-	-
				LPG BP- Jalandhar	47.09	-	-
				LPG BP -Loni	17.48	-	-
				LPG BP -Mathura	1.23	-	-
				OMC-BPC-LPG Hosp Locn-Lalru	0.41	-	-
2	Leh		60	LPG BP - Jammu	5.51	-	-
3	Jammu	HPCL	60	BHATINDA LPG PLANT	66.93	-	-
				LONI LPG PLANT	3.12	-	-
4	Pampore		60	BHATINDA LPG PLANT	69.34	-	-
				LONI LPG PLANT	1.79	-	-

Uttar Pradesh							
Sr. No.	**Depots/ Terminals**	**Entity**	**Capacity (TMT)**	**Product Origin**	**Qty. (TMTPA) and Mode of Transportation**		
					Road	**Rail**	**Pipeline**
1	Etawah	IOCL	30	IOC CELL , GAIL , VIJAYPUR	6.10	-	-

Uttar Pradesh							
Sr. No.	**Depots/ Terminals**	**Entity**	**Capacity (TMT)**	**Product Origin**	**Qty. (TMTPA) and Mode of Transportation**		
					Road	**Rail**	**Pipeline**
				Kandla LPG Import Terminal	6.97	-	-
				LPG BP - Jaipur	9.61	-	-
				LPG BP -Loni	3.82	-	-
				LPG BP -Mathura	4.54	-	-
				Mundra LPG Terminal Pvt Ltd	1.00	-	-
				OMC(GAIL) LPG Hosp.Locn- PATA	7.17	-	-
2	Farrukhabad	IOCL	60	IOC CELL , GAIL , VIJAYPUR	7.74	-	-
				Kandla LPG Import Terminal	11.96	-	-
				LPG BP - Jaipur	14.64	-	-
				LPG BP -Loni	10.36	-	-
				LPG BP -Karnal	0.14	-	-
				Mundra LPG Terminal Pvt Ltd	1.61	-	-
				LPG BP- Madanpur Khadar	3.03	-	-
				LPG BP- Mathura	6.65	-	-
				NEL Vadinar - RC Office	0.11	-	-
				OMC(GAIL) LPG Hosp.Locn- PATA	8.33	-	-
3	Shahjahanpur	IOCL	120	DAHEJ	3.72	-	-
				IOC CELL , GAIL , VIJAYPUR	2.66	-	-
				Kandla LPG Import Terminal	53.32	-	-
				LPG BP - Jaipur	0.51	-	-
				LPG BP - Tikri Kalan	0.03	-	-
				LPG BP- Karnal	0.19	-	-
				LPG BP -Loni	0.34	-	-

Uttar Pradesh							
Sr. No.	**Depots/ Terminals**	**Entity**	**Capacity (TMT)**	**Product Origin**	**Qty. (TMTPA) and Mode of Transportation**		
					Road	**Rail**	**Pipeline**
				LPG BP- Madanpur Khadar	2.40	-	-
				LPG BP -Mathura	6.40	-	-
				Mundra LPG Terminal Pvt Ltd	7.57	-	-
				OMC(GAIL) LPG Hosp.Locn- PATA	14.65	-	-
4	Lakhimpur	IOCL	60	DAHEJ	0.02	-	-
				IOC CELL , GAIL , VIJAYPUR	5.09	-	-
				Kandla LPG Import Terminal	8.49	-	-
				LPG BP - Jaipur	2.29	-	-
				LPG BP - Tikri Kalan	2.47	-	-
				LPG BP -Loni	13.68	-	-
				LPG BP- Madanpur Khadar	10.07	-	-
				LPG BP -Mathura	4.30	-	-
				Mundra LPG Terminal Pvt Ltd	1.10	-	-
				OMC(GAIL) LPG Hosp.Locn- PATA	9.83	-	-
5	Bareilly	BPCL		Mundra/Kandla	79.00	-	-
				Bina	21.00	-	-
6	Aligarh	IOCL	120	Kandla LPG Import Terminal	73.60	-	-
				LPG BP - Jaipur	23.49	-	-
				LPG BP - Tikri Kalan	1.09	-	-
				LPG BP -Dumad	0.23	-	-
				LPG BP -Kanpur	1.21	-	-
				LPG BP -Loni	23.59	-	-
				LPG BP- Madanpur Khadar	7.85	-	-

Uttar Pradesh							
Sr. No.	**Depots/ Terminals**	**Entity**	**Capacity (TMT)**	**Product Origin**	**Qty. (TMTPA) and Mode of Transportation**		
					Road	**Rail**	**Pipeline**
				LPG BP -Mathura	10.50	-	-
				Mundra LPG Terminal Pvt Ltd	8.20	-	-
				NEL Vadinar - RC Office	0.39	-	-
7	Allahabad	IOCL	120	IOC CELL , GAIL , VIJAYPUR	14.29	-	-
				Haldia	23.89	-	-
				Kandla LPG Import Terminal	4.27	-	-
				LPG BP - Jaipur	10.18	-	-
				LPG BP -Durgapur	19.83	-	-
				LPG BP -Kanpur	1.09	-	-
				LPG BP -Mathura	7.95	-	-
				LPG BP -Muzaffarpur	0.33	-	-
				LPG BP -PATNA	41.05	-	-
				OMC(GAIL) LPG Hosp.Locn- PATA	8.96	-	-
		BPCL	120	Haldia	130.00	-	-
				Bina/Vijaipur	16.00	-	-
8	Baitalpur	BPCL	60	Haldia	97.00	-	-
				Mundra/Bina	3.50	-	-
9	Gonda	BPCL	30	Haldia	23.00	-	-
				Bina	3.40	-	-
		HPCL	120	BHATINDA LPG PLANT	31.06	-	-
				GCPL DAHEJ LPG PVT IMPORT FAC	26.93	-	-
				GAIL VIJAPUR HPC LPG TOP	11.45	-	-
				GAIL AURIYA LPG TOP	0.41	-	-

Uttar Pradesh							
Sr. No.	**Depots/ Terminals**	**Entity**	**Capacity (TMT)**	**Product Origin**	**Qty. (TMTPA) and Mode of Transportation**		
					Road	**Rail**	**Pipeline**
				HALL HALDIA LPG PVT IMPORT FACILITY	0.27	-	-
				LONI LPG PLANT	0.19	-	-
				AJMER LPG PLANT	0.11	-	-
10	Gorakhpur	IOCL	120	IOC CELL , GAIL , VIJAYPUR	12.23	-	-
				Haldia	25.43	-	-
				LPG BP -Durgapur	1.85	-	-
				LPG BP -Kanpur	1.30	-	-
				LPG BP -Mathura	12.88	-	-
				LPG BP -Muzaffarpur	11.73	-	-
				LPG BP -PATNA	83.20	-	-
				OMC(GAIL) LPG Hosp.Locn- PATA	4.89	-	-
		HPCL	120	HALL HALDIA LPG PVT IMPORT FACILITY	121.08	-	-
				BHATINDA LPG PLANT	35.72	-	-
				GAIL AURIYA LPG TOP	7.70	-	-
				GAIL VIJAPUR HPC LPG TOP	4.27	-	-
				GCPL DAHEJ LPG PVT IMPORT FAC	1.80	-	-
11	Jhansi	BPCL	60	BINA REF	85.00	-	-
				Vijaipur	20.00	-	-
12	Kanpur	IOCL	240	HAZIRA	-	18.51	-
				JAMNAGAR	-	8.06	-
				IOC CELL , GAIL , VIJAYPUR	6.82	0.00	-
				KANDLA	-	66.99	-

Uttar Pradesh							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
				PIPAPAV	-	130.73	-
				JAMNAGAR	-	34.32	-
				URAN	-	1.10	-
				KANDLA	-	6.80	-
				Kandla LPG Import Terminal	1.29	-	-
				LPG BP - Jaipur	1.04	-	-
				LPG BP -Dumad	0.04	-	-
				LPG BP -Durgapur	0.03	-	-
				LPG BP -Mathura	7.72	-	-
				LPG BP -PATNA	18.38	-	-
				OMC(GAIL) LPG Hosp.Locn- PATA	1.82	-	-
				URAN	-	9.28	-
				VIJAYPUR	-	1.11	-
13	Loni	IOCL	180	JAMNAGAR	-	-	220.94
				KANDLA	-	-	129.27
				MUNDRA	-	-	41.98
				NAYARA	-	-	158.86
		BPCL	240	Mundra Port	-	-	378
				Mundra/Kandla	53	-	-
		HPCL	180	Jamnagar (Thru Jamanagar Loni LPG Pipeline)	-	-	436.56
14	Lucknow	IOCL	180	DAHEJ	0.70	-	-
				IOC CELL , GAIL , VIJAYPUR	37.08	-	-

Uttar Pradesh							
Sr. No.	**Depots/ Terminals**	**Entity**	**Capacity (TMT)**	**Product Origin**	**Qty. (TMTPA) and Mode of Transportation**		
					Road	**Rail**	**Pipeline**
				Haldia	0.05	-	-
				Kandla LPG Import Terminal	12.26	-	-
				LPG BP - Jaipur	47.16	-	-
				LPG BP -Durgapur	0.37	-	-
				LPG BP -Kanpur	2.18	-	-
				LPG BP- Madanpur Khadar	0.23	-	-
				LPG BP -Mathura	11.75	-	-
				LPG BP -PATNA	32.25	-	-
				LPG BP- Trisundi	0.16	-	-
				LPG BP-Allahabad	0.14	-	-
				Mundra LPG Terminal Pvt Ltd	0.58	-	-
				OMC(GAIL) LPG Hosp.Locn- PATA	11.45	-	-
		BPCL	60	Haldia	56.00	-	-
				Bina/Auriya	89.00	-	-
15	Mathura	IOCL	120	MATHURA	-	-	162.21
				LPG BP - Jaipur	3.97	-	-
				LPG BP -Loni	0.02	-	-
16	Salempur	BPCL	120	Jamnagar/Mundra/Kandla	101.00	-	-
				Bina/Vijaipur	74.00	-	-
17	Sultanpur	BPCL	30	Haldia	16.00	-	-
				Bina/Auriya	4.00	-	-
18	Trishundi	IOCL	60	IOC CELL , GAIL , VIJAYPUR	10.86	-	-
				Haldia	10.37	-	-

Uttar Pradesh							
Sr. No.	Depots/ Terminals	Entity	Capacity (TMT)	Product Origin	Qty. (TMTPA) and Mode of Transportation		
					Road	Rail	Pipeline
				LPG BP -Durgapur	4.34	-	-
				LPG BP -Kanpur	2.68	-	-
					0.00	-	-
				LPG BP -Mathura	3.81	-	-
				LPG BP -PATNA	31.26	-	-
				OMC(GAIL) LPG Hosp.Locn- PATA	7.68	-	-
19	Unnao	HPCL	120	GCPL DAHEJ LPG PVT IMPORT FAC	59.88	-	-
				BHATINDA LPG PLANT	44.55	-	-
				GAIL VIJAPUR HPC LPG TOP	41.06	-	-
				GAIL AURIYA LPG TOP	11.18	-	-
				AVTL KANDLA LPG PVT IMPORT FAC	5.54	-	-
				HALL HALDIA LPG PVT IMPORT FACILITY	3.79	-	-
				IOC GANDHAR HPC LPG HOSP	1.91	-	-
				LONI LPG PLANT	1.22	-	-
20	Varanasi	IOCL	180	IOC CELL , GAIL , VIJAYPUR	16.73	-	-
				Haldia	45.24	-	-
				LPG BP - Jaipur	3.72	-	-
				LPG BP -Balasore	2.42	-	-
				LPG BP -Durgapur	15.08	-	-
				LPG BP -Kanpur	2.08	-	-
				LPG BP -Mathura	16.07	-	-
				LPG BP -PATNA	105.09	-	-

Uttar Pradesh							
Sr. No.	**Depots/ Terminals**	**Entity**	**Capacity (TMT)**	**Product Origin**	**Qty. (TMTPA) and Mode of Transportation**		
					Road	**Rail**	**Pipeline**
				OMC(GAIL) LPG Hosp.Locn- PATA	3.72	-	-
		HPCL	120	HALL HALDIA LPG PVT IMPORT FACILITY	0.93	-	-

LPG Bottling Plant	Source	Qty (TMT)	Mode	Cost	Distance from Source (Km)	Nearest available bottling Plant & Road distance from it. (Km)	
Panipat Jalandhar Pipeline (IOCL)							
Hoshiarpur (HPCL)	Bathinda LPG Plant	142.52	Road	24.91	200	45	Jalandhar
	Loni LPG Plant	5.35		1.50	385		
	AVTL KANDLA LPG PVT IMPORT FAC	2.47		2.25	1225		
Lalru (BPCL)	AEGIS PIPAVAV	175.00	Rail	56.40	1400	93	Nabha
	Uran	171.00		62.00	1650		
Bhatinda (BPCL)	KANDLA	93.00	Road	73.00	1000	140	
Goindwal Sahib (IOCL)	Kandla LPG Import Terminal	22.05		19.18	1200	45	Jalandhar
	LPG BP - Tikri Kalan	3.52		1.06	424		
	LPG BP- Jalandhar	22.75		0.94	50		
	LPG BP -Loni	15.22		4.53	460		
	LPG BP -Mathura	0.86		0.38	590		
	LPG BP- Nabha	5.41		0.68	240		
	LPG BP- Una	0.29		0.03	135		
	Mundra LPG Terminal Pvt Ltd	3.18		2.93	1250		
Jamnagar Loni Pipeline (GAIL)							
Tikri Kalan (IOCL)	HAZIRA	31.1	Rail	7.0	1200	45	Loni
	JAMNAGAR	55.1		12.9	1250		
	KANDLA	70.6		14.7	1150		
	LPG BP -Loni	0.5	Road	0.0	45		
	LPG BP -Mathura	4.2		0.6	200		
	PIPAVAV	122.7	Rail	29.6	1300		
	URAN	4.6		1.3	1400		
BAHADURGARH (HPCL)	BHATINDA LPG PLANT	171.3		26.4	300	50	
		13.5	Road	3.0	300		
	LONI LPG PLANT	9.4		1.0	50		
Aligarh (IOCL)	Kandla LPG Import Terminal	73.6		56.8	1135	100	Piyala
	LPG BP - Jaipur	23.5		5.0	312		
	LPG BP - Tikri Kalan	1.1		0.1	175		
	LPG BP -Dumad	0.2		0.2	1000		
	LPG BP -Kanpur	1.2		0.3	315		
	LPG BP -Loni	23.6		2.3	142		

LPG Bottling Plant	Source	Qty (TMT)	Mode	Cost	Distance from Source (Km)	Nearest available bottling Plant & Road distance from it. (Km)	
	LPG BP- Madanpur Khadar	7.8		0.9	118		
	LPG BP -Mathura	10.5		1.1	93		
	Mundra LPG Terminal Pvt Ltd	8.2		6.7	1200		
	NEL Vadinar - RC Office	0.4		0.3	1269		
SALEMPUR (BPCL)	Jamnagar/Mundra/Kandla	101.0		80	1300	135	
	Bina/Vijaipur	74.00		17	435		
JODHPUR (HPCL)	AVTL KANDLA LPG PVT IMPORT FAC	29.70		13.00	550	200	Ajmer
	NAYARA VADINAR LPG TOP	11.51		6.07	690		
	MLTPL MUNDRA LPG PVT IMPORT FAC	8.86		4.22	600		
	BHATINDA LPG PLANT	3.11		1.30	530		
	AJMER LPG PLANT	2.63		0.42	200		
	IOC KANDLA LPG IMPORT FAC	2.09		0.94	550		
	RIL JAMGAR HPC LPG TOP	0.04		0.02	635		
JODHPUR (IOCL)	Kandla LPG Import Terminal	3.91		1.70	640		
	LPG BP - Ajmer	0.60		0.09	220		
	LPG BP -Dumad	0.34		0.14	608		
Paradip-Haldia- Barauni-Motihari Pipeline							
PURNEA (HPCL)	HALL HALDIA LPG PVT IMPORT FACILITY	163.27	Road	74.61	600	175	Begusarai/ Barauni
	JATNI LPG PLANT	0.11		0.07	820		
Raiganj (BPCL)	Haldia	137.00		5.33	520	220	Banka
Hassan-Cherlapally Pipeline							
KURNOOL (BPCL)	KRL	39.44	Road	26.9	900	140	Ananthpur
	Pune	55.20		25.7	700		
Thimmapur (IOCL)	MUMBAI	3.75		1.80	710	60	Cherlapally
	Ennore	6.67		2.93	650		
	LPG BP - CHERLAPALLY	155.47		14.66	56		

LPG Bottling Plant	Source	Qty (TMT)	Mode	Cost	Distance from Source (Km)	Nearest available bottling Plant & Road distance from it. (Km)	
	LPG BP - KONDAPALLI	6.71		1.33	295		
	OMC (BPC)- IMPORTED LPG- URAN	2.18		1.03	700		
Mangalore Hassan Mysore Bangalore pipeline							
BANGALORE (BPCL)	KRL	110.60	Road	48.6	600	45	Yadiyur
	Mangalore	102.00		24.7	310		

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S.No.	**Entity**	**Bottling Plant Name**	**State**	**Connectivity / Fed Through**	**Capacity (TMT)**	**Storage capacity (MT)**
1	IOCL	Agartala	Tripura	Road	60	1350
2	IOCL	Ahmedabad	Gujarat	Road	180	4400
3	IOCL	Ajmer	Rajasthan	Pipeline	180	4400
4	IOCL	Aligarh	Uttar Pradesh	Road	120	2400
5	IOCL	Allahabad	Uttar Pradesh	Road	120	1850
6	IOCL	Baddi	Himachal Pradesh	Road	30	300
7	IOCL	Balasore	Odisha	Pipeline	120	1365
8	IOCL	BANKA	Bihar	Pipeline	120	1800
9	IOCL	BARAUNI	Bihar	Pipeline	120	0
10	IOCL	BARODA	Gujarat	Pipeline	120	8350
11	IOCL	Belgaum	Karnataka	Road	120	2850
12	IOCL	Bhatinda	Punjab	Road	60	1800
13	IOCL	Bhavnagar	Gujarat	Road	60	1850
14	IOCL	Bhopal	Madhya Pradesh	Road	180	8200
15	IOCL	Bikaner	Rajasthan	Road	60	1860
16	IOCL	Bokaro	Jharkhand	Road	120	1850
17	IOCL	Bongaigaon	Assam	Local Pipeline	60	0
18	IOCL	Budge Budge	West Bengal	Pipeline	120	1850
19	IOCL	Calicut	Kerala	Road	120	2700
20	IOCL	Chakan	Maharashtra	Road	120	1800
21	IOCL	Chengalpet	Tamil Nadu	Road	120	1800
22	IOCL	CHERLAPALLi	Telangana	Pipeline	180	2300
23	IOCL	Cochin	Kerala	Pipeline	180	4350
24	IOCL	Coimbatore	Tamil Nadu	Road	120	1800
25	IOCL	CPCL Manali	Tamil Nadu	Pipeline	120	4800
26	IOCL	CUDDAPAH	Andhra Pradesh	Road	120	1850
27	IOCL	Devanagonthi	Karnataka	Rail	300	6650
28	IOCL	DHANAJ	Maharashtra	Road	120	1850
29	IOCL	DIMAPUR	Nagaland	Road	12	366
30	IOCL	Durgapur	West Bengal	Pipeline	180	2600
31	IOCL	ENNORE	Tamil Nadu	Pipeline	180	2250
32	IOCL	ERODE	Tamil Nadu	Road	120	3650
33	IOCL	Etawah	Uttar Pradesh	Road	30	600
34	IOCL	Farrukhabad	Uttar Pradesh	Road	60	960

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S.No.	**Entity**	**Bottling Plant Name**	**State**	**Connectivity / Fed Through**	**Capacity (TMT)**	**Storage capacity (MT)**
35	IOCL	Gandhar	Gujarat	Pipeline	60	2000
36	IOCL	Goindwal Sahib	Punjab	Road	60	1800
37	IOCL	GOPANARI	Assam	Road	120	1800
38	IOCL	Gorakhpur	Uttar Pradesh	Road	120	1800
39	IOCL	Guna	Madhya Pradesh	Pipeline	120	900
40	IOCL	Gurgaon	Haryana	Pipeline	120	1650
41	IOCL	Gwalior	Madhya Pradesh	Road	60	1800
42	IOCL	Haldwani	Uttarakhand	Road	60	300
43	IOCL	Haridwar	Uttarakhand	Road	60	1910
44	IOCL	Hazira	Gujarat	Pipeline	60	6600
45	IOCL	ILAYANGUDI	Tamil Nadu	Road	30	450
46	IOCL	Jabalpur	Madhya Pradesh	Road	60	1800
47	IOCL	Jaipur	Rajasthan	Pipeline	180	4200
48	IOCL	Jalandhar	Punjab	Pipeline	180	6600
49	IOCL	Jammu	UT of J&K	Road	60	1800
50	IOCL	Jamshedpur	Jharkhand	Road	120	3700
51	IOCL	JHARSUGUDA	Odisha	Road	60	1050
52	IOCL	Jhunjhunu	Rajasthan	Road	30	1050
53	IOCL	Jodhpur	Rajasthan	Road	60	1800
54	IOCL	KALYANI	West Bengal	Pipeline	180	2800
55	IOCL	KANPUR	Uttar Pradesh	Rail	240	6000
56	IOCL	Kanpur	Uttar Pradesh	Rail	240	6000
57	IOCL	Karnal	Haryana	Pipeline	180	7200
58	IOCL	Kashipur	Uttarakhand	Road	120	2750
59	IOCL	Kharagpur	West Bengal	Road	60	1800
60	IOCL	Vijayawada	Andhra Pradesh	Pipeline	120	3150
61	IOCL	Korba	Chattisgarh	Road	60	1800
62	IOCL	Lakhimpur Kheri	Uttar Pradesh	Road	60	1850
63	IOCL	Leh	UT of J&K	Road	6	3300
64	IOCL	Loni	Uttar Pradesh	Pipeline	180	9300
65	IOCL	Lucknow	Uttar Pradesh	Road	180	4200
66	IOCL	MADANPUR KHADAR	Delhi	Pipeline	240	4500
67	IOCL	Madurai	Tamil Nadu	Road	60	2700
68	IOCL	Malda	West Bengal	Road	60	1050
69	IOCL	Manmad	Maharashtra	Road	60	1850
70	IOCL	MANNARGUDI	Tamil Nadu	Road	30	99
71	IOCL	Mathura	Uttar Pradesh	Pipeline	120	3900

S.No.	Entity	Bottling Plant Name	State	Connectivity / Fed Through	Capacity (TMT)	Storage capacity (MT)
72	IOCL	MAYILADUTHURAI	Tamil Nadu	Road	30	99
73	IOCL	Motihari	Bihar	Pipeline	120	3600
74	IOCL	Muzaffarpur	Bihar	Pipeline	120	1800
75	IOCL	MYSORE	Karnataka	Road	60	1800
76	IOCL	Nabha	Punjab	Pipeline	180	3800
77	IOCL	Nagpur	Maharashtra	Road	60	1800
78	IOCL	North Guwahati	Assam	Road	180	2520
79	IOCL	PATNA	Bihar	Pipeline	270	3250
80	IOCL	Pondicherry	Pondicherry	Road	60	900
81	IOCL	Quilon	Kerala	Road	120	3300
82	IOCL	Raipur	Chattisgarh	Road	120	2950
83	IOCL	Rajkot	Gujarat	Road	120	2800
84	IOCL	RANGPO	Sikkim	Road	12	300
85	IOCL	Raninagar	West Bengal	Road	120	3050
86	IOCL	Salem	Tamil Nadu	Road	60	2700
87	IOCL	Sarpara	Assam	Road	60	900
88	IOCL	SEKMAI	Manipur	Road	30	1800
89	IOCL	Shahjahanpur	Uttar Pradesh	Road	120	3250
90	IOCL	Shimoga	Karnataka	Road	120	1800
91	IOCL	Silchar	Assam	Road	120	1800
92	IOCL	Sitarganj	Uttarakhand	Road	60	1800
93	IOCL	Thimmapur	Telangana	Road	120	1800
94	IOCL	Tikri Kalan	Delhi	Rail	240	10600
95	IOCL	Tirunelveli	Tamil Nadu	Road	120	1800
96	IOCL	Trichy	Tamil Nadu	Road	120	1900
97	IOCL	Trishundi	Uttar Pradesh	Road	60	1800
98	IOCL	Ujjain	Madhya Pradesh	Road	180	1850
99	IOCL	Una	Himachal Pradesh	Road	60	900
100	IOCL	Varanasi	Uttar Pradesh	Road	180	3800
101	IOCL	Visakhapatnam	Andhra Pradesh	Road	120	1800
102	BPCL	KURNOOL	Andhra Pradesh	Road	60	988
103	BPCL	VIJAYAWADA	Andhra Pradesh	Pipeline	60	450
104	BPCL	Patna	Bihar	Road	120	2842
105	BPCL	Raipur	Chattisgarh	Road	30	987
106	BPCL	GOA	Goa	Road	30	438
107	BPCL	RAJKOT	Gujarat	Road	60	629
108	BPCL	AHMEDABAD	Gujarat	Road	120	1851

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S.No.	**Entity**	**Bottling Plant Name**	**State**	**Connectivity / Fed Through**	**Capacity (TMT)**	**Storage capacity (MT)**
109	BPCL	Surat	Gujarat	Pipeline	120	600
110	BPCL	PIYALA (ASAOTI)	Haryana	Pipeline	300	8420
111	BPCL	BOKARO	Jharkhand	Road	60	987
112	BPCL	BANGALORE	Karnataka	Road	120	2740
113	BPCL	Mangalore	Karnataka	Local Pipeline	120	1288
114	BPCL	DHARWAD	Karnataka	Road	60	1676
115	BPCL	Cochin	Kerala	Pipeline	120	13500
116	BPCL	TRIVANDRUM	Kerala	Road	30	1202
117	BPCL	INDORE	Madhya Pradesh	Road	60	1063
118	BPCL	BAKANIA	Madhya Pradesh	Road	30	987
119	BPCL	Bhitoni	Madhya Pradesh	Road	60	7071
120	BPCL	Uran	Maharashtra	Pipeline	180	6493
121	BPCL	NAGPUR	Maharashtra	Road	30	450
122	BPCL	PUNE	Maharashtra	Pipeline	180	1865
123	BPCL	WAI	Maharashtra	Road	120	1127
124	BPCL	Solapur	Maharashtra	Road	120	1900
125	BPCL	NASIK	Maharashtra	Road	120	1795
126	BPCL	JALGAON	Maharashtra	Road	120	987
127	BPCL	BOLANGIR	Odisha	Road	30	987
128	BPCL	Khurda	Odisha	Road	60	987
129	BPCL	Lalru	Punjab	Rail	240	8519
130	BPCL	JAIPUR	Rajasthan	Pipeline	60	1476
131	BPCL	UDAIPUR	Rajasthan	Road	60	500
132	BPCL	Bikaner	Rajasthan	Road	60	470
133	BPCL	Ajmer	Rajasthan	Pipeline	120	1950
134	BPCL	CHENNAI	Tamil Nadu	Road	120	2740
135	BPCL	MADURAI	Tamil Nadu	Road	60	987
136	BPCL	THANJAVUR	Tamil Nadu	Road	60	450
137	BPCL	Coimbatore	Tamil Nadu	Road	120	3300
138	BPCL	Tuticorin	Tamil Nadu	Road	60	925
139	BPCL	BAREILLY	Uttar Pradesh	Road	60	500
140	BPCL	LUCKNOW	Uttar Pradesh	Road	60	1121
141	BPCL	Sultanpur	Uttar Pradesh	Road	30	188
142	BPCL	SALEMPUR	Uttar Pradesh	Road	120	1063
143	BPCL	Allahabad	Uttar Pradesh	Road	120	1413
144	BPCL	Jhansi	Uttar Pradesh	Road	60	1437
145	BPCL	Loni	Uttar Pradesh	Pipeline	240	3900

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S.No.	**Entity**	**Bottling Plant Name**	**State**	**Connectivity / Fed Through**	**Capacity (TMT)**	**Storage capacity (MT)**
146	BPCL	GONDA	Uttar Pradesh	Road	30	60
147	BPCL	BAITALPUR	Uttar Pradesh	Road	60	987
148	BPCL	Roorkee	Uttarakhand	Road	60	450
149	BPCL	Uluberia	West Bengal	Road	120	2122
150	BPCL	Raiganj	West Bengal	Road	120	987
151	BPCL	DURGAPUR	West Bengal	Road	120	1127
152	BPCL	Bhatinda	Punjab	Road	60	1437
153	BPCL	Hyderabad	Telangana	Pipeline	180	3019
154	BPCL	Mumbai Refinery	Maharashtra	Pipeline	180	4590
155	HPCL	VISAKH NEW	Andhra Pradesh	Local Pipeline	120	4400
156	HPCL	ANANTPUR	Andhra Pradesh	Pipeline	120	1050
157	HPCL	KONDAPALLI	Andhra Pradesh	Pipeline	180	2500
158	HPCL	RAJAHMUNDARY	Andhra Pradesh	Pipeline	120	900
159	HPCL	GOALPARA	Assam	Road	30	1050
160	HPCL	PATNA	Bihar	Road	120	2500
161	HPCL	PURNEA	Bihar	Road	120	2100
162	HPCL	CHAMPARAN	Bihar	Road	120	1050
163	HPCL	RAIPUR	Chattisgarh	Rail	120	3300
164	HPCL	GANDHINAGAR	Gujarat	Road	120	1050
165	HPCL	HAZIRA	Gujarat	Local Pipeline+Road	120	750
166	HPCL	BAHADURGARH	Haryana	Rail	180	6400
167	HPCL	JIND	Haryana	Road	60	1285
168	HPCL	BARHI	Jharkhand	Road	120	1050
169	HPCL	JAMSHEDPUR	Jharkhand	Road	60	100
170	HPCL	MANGLORE	Karnataka	Local Pipeline	120	200
171	HPCL	MYSORE	Karnataka	Pipeline	120	1950
172	HPCL	YEDIYUR	Karnataka	Pipeline	310	4200
173	HPCL	HUBLI	Karnataka	Road	120	1950
174	HPCL	PALGHAT	Kerala	Road	60	600
175	HPCL	KOCHI	Kerala	Local Pipeline	60	900
176	HPCL	JABALPUR	Madhya Pradesh	Road	120	1450
177	HPCL	INDORE	Madhya Pradesh	Road	120	1800
178	HPCL	BHOPAL	Madhya Pradesh	Road	60	1500
179	HPCL	NASIK	Maharashtra	Road	120	1390
180	HPCL	CHANDRAPUR	Maharashtra	Road	60	570
181	HPCL	KHAPRI	Maharashtra	Road	120	3477
182	HPCL	USAR (closed)	Maharashtra	Road	60	2000

S.No.	Entity	Bottling Plant Name	State	Connectivity / Fed Through	Capacity (TMT)	Storage capacity (MT)
183	HPCL	MAHUL	Maharashtra	Local Pipeline	120	600
184	HPCL	CHAKAN	Maharashtra	Pipeline	180	4200
185	HPCL	HAZARWADI	Maharashtra	Rail + Road	120	2400
186	HPCL	SOLAPUR	Maharashtra	Road	120	1500
187	HPCL	AURANGABAD	Maharashtra	Road	120	1500
188	HPCL	JATNI	Odisha	Rail	180	2800
189	HPCL	RAYAGADA	Odisha	Road	60	900
190	HPCL	HOSHIARPUR	Punjab	Road	120	1500
191	HPCL	BHATINDA	Punjab	Local Pipeline	60	6000
192	HPCL	KOTA	Rajasthan	Road	60	1550
193	HPCL	AJMER	Rajasthan	Pipeline + Road	180	4200
194	HPCL	JODHPUR (closed)	Rajasthan	Road	60	276
195	HPCL	GUMMIDIPOONDI	Tamil Nadu	Road	120	1750
196	HPCL	MADURAI	Tamil Nadu	Road	120	1500
197	HPCL	WARANGAL	Telangana	Road	60	900
198	HPCL	CHERLAPALLY	Telangana	Pipeline	180	4000
199	HPCL	LONI	Uttar Pradesh	Pipeline	180	6300
200	HPCL	UNNAO	Uttar Pradesh	Road	120	2500
201	HPCL	GONDA	Uttar Pradesh	Road	120	1050
202	HPCL	GORAKHPUR	Uttar Pradesh	Road	120	1500
203	HPCL	GOA	Goa	Road	60	600
204	HPCL	JAMMU	UT of J&K	Road	60	2070
205	HPCL	PAHARPUR	West Bengal	Road	120	1300
206	HPCL	PAMPORE	UT of J&K	Road	60	3520
207	HPCL	PANAGARH	West Bengal	Road	250	1500
208	HPCL	PATALGANGA	Maharashtra	Pipeline	180	1000
209	HPCL	PINDWARA	Rajasthan	Road	120	1050
210	HPCL	SITARGANJ	Uttarakhand	Road	60	1050
211	HPCL	VARANASI	Uttar Pradesh	Road	120	1050
212	BPCL	Haldia	West Bengal	Road	60	450
213	BPCL	Kalaburgi	Karnataka	Road	20	216
TOTAL					**22940**	**488561**

Annexure - III

पेट्रोलियम एवं प्राकृतिक गैस विनियामक बोर्ड
Petroleum and Natural Gas Regulatory Board
प्रथम तल, वर्ल्ड ट्रेड सेंटर, बाबर रोड, नई दिल्ली – 110001
1st Floor, World Trade Centre, Babar Road, New Delhi – 110001

PNGRB/SP/3-PPPL(02)/2024 (E-5155) **31st July 2024**

ORDER

Subject: Constitution of a Committee to look into infructuous movement of LPG and Petroleum Products and Optimize the same

PNGRB has been established under the PNGRB Act, 2006 inter alia with vision to regulate the refining, processing, storage, transportation, distribution, marketing and sale of petroleum, petroleum products and natural gas excluding production of crude oil and natural gas so as to protect the interests of consumers and entities engaged in specified activities relating to petroleum, petroleum products and natural gas and to ensure uninterrupted and adequate supply of petroleum, petroleum products and natural gas in all parts of the country and to promote competitive markets and for matters connected therewith or incidental thereto.

2. The above vision can be better realised by connecting storage depots with markets by pipelines rather than through road tanker and railway rake deliveries. It has been seen that a sizable share of liquid petroleum products is still being transported by means other than pipelines, which is not only more costly, but is also polluting and does not instil confidence in security of supply. In the last one decade the OMCs have proposed few PPPL and the share of petroleum products delivered by pipelines (particularly common carrier) has not increased appreciably. Wherever pipelines exist, they tend to be used by the pipeline owning entity captively and even hospitality arrangements of product sharing is not institutionalised. Resultantly, there are a large number of instances of criss-cross movement of petroleum products that could have been avoided and wasteful expenditure curbed. This concern of the Board has been brought to the notice of the MoPNG and OMCs, through written communication and in meetings. In order to address the above, a joint meeting of IOCL, BPCL, HPCL and GAIL (India) Limited expressly for minimizing the road movement of Petroleum Products through trucks was held on 14.02.2024 at PNGRB.

3. After deliberations, the Board decided to form a committee to look into infructuous movement of LPG and Petroleum Products and Optimize the same taking into account the following aspects pertaining to the LPG and Petroleum Products Pipeline: -

i. Optimization of pipelines usage on industry basis
ii. Minimization of road movement
iii. Ensuring uninterrupted supply during unforeseen exigencies
iv. Development of pipeline infrastructure on industry basis

4. In this regard an Expert Committee consisting of the following Members is being constituted: -

4.1. **Members of the Expert Committee:**

Sr. No	Name	Designation and Organisation	Position
1	Shri Kamlesh Sharma,	ED (Marketing-Retail), GAIL	Member
2	Shri S Ramakrishnan	CGM, Product Placement Planning, HPCL	Member
3	Shri B C Joshi,	CGM, (LPG-Ops), IOCL	Member
4	Shri Vikas Kumar	GM (LPG-Ops), IOCL	Member
5	Shri Raghuram Iyer,	DGM Distribution (Retail), HQ, BPCL	Member
6	Shri V R Rajeev	Chief Manager Logistics (LPG), BPCL	Member
7	Shri Arvind Kumar	Principal Consultant, Strategic Planning, (PNGRB)	Convener

4.2. **Terms of Reference: -**

A. To examine the movement of products (MS, HSD, ATF, LPG) taking into account the following aspects pertaining to the products:

i. Current hospitality arrangements and exchange of products among OMCs
ii. Storage capacities of different products at different locations of OMCs i.e. port facilities, terminals, depots etc.,
iii. Pipelines network including Common Carriers, other than Common Carriers etc.
iv. Supply and Distribution plan of OMC

B. To propose the recommendations for avoiding infructuous movement and optimization for the movement of the products with the intent of following:-

i. Minimization of road movement
ii. Security of supply
iii. Optimization of pipelines and other infrastructure usages
iv. Development of infrastructure on industry basis as per requirement
v. Any other areas or activities as may be required to achieve the intended objectives.

5. The Committee will submit its final report within **two** months from the date of its first meeting.

6. This has been issued with the approval of the competent authority.

Vandana Sharma

(Vandana Sharma)
Secretary

Copy to:

1. **Secretary, Ministry of Petroleum and Natural Gas**
2. **Chairman, IOCL**
3. **Chairman and Managing Director, BPCL**
4. **Chairman and Managing Director, HPCL**
5. **Chairman and Managing Director, GAIL (I) Ltd.**
6. **All Committee Members**

Annexure - IV

Field Visit Notes

Undersigned visited the Paradip and Raipur petroleum products installations with reference to the usage of IOCL's Paradip-Raipur-Ranchi Petroleum Products Common Carrier Pipeline (PRRPL) as Convener of the "Committee to look into infructuous movement of LPG and Petroleum Products and Optimize the same". The important observations are mentioned herein for information and record.

PRRPL is evacuating approximately 61 % of the production of Paradip Refinery. 71 % of the LPG and 12 % of the ATF productions are getting evacuated through pipeline.

The average capacity utilisation of the pipeline as per PPAC Report is 82 % for 1st HY 24. It was observed at Paradip that the line pressure of PRRPL being maintained at about 50 % of the Maximum Allowable Pressure (MAOP) and pumps are also running at lesser than the rated RPM. The MAOP of the line is 127 kg/cm2 and the normal operating pressure is 68.3 kg/cm2. The normal flow rate is 450 kL/hr. Thus, the capacity utilisation figure may be considered based on the nameplate capacity and not that of capacity as per the PNGRB Regulations. The capacity of the pipeline as per the PNGRB Regulations may be more than the nameplate capacity.

There is a pipeline of BPCL from North Oil Jetty, which is being used for bringing products through coastal route. BPCL's tanks are also connected with IOCL's tanks. Thus, this pipeline can be used for BPCL's or HPCL's products to be brought through coastal route and to be moved through PRR PL or they can take the products from Paradip Refinery and give it back at Kochi or Vizag.

Further, PRR PL is being connected with Meramandali, a Common User Facility (CUF). All CUFs are green field project. CUFs, unlike common carrier, are being considered to succeed as the CAPEX sharing and firm commitments of the OMCs are available, unlike common carrier. Infrastructures of the entities are being shared since inception. Earlier these were coordinated through OCC.

45 % of PRRPL product is being delivered at Raipur. Raipur products pricing is linked with Vizag and not with Paradip. The design of the infrastructure linked with PRRPL is in the ratio of 1:3.5 for MS: HSD, whereas the current market is 1:2.

BPCL is taking Paradip Refinery products at Raipur through the terminal of Indian Oil Adani Ventures Pvt. Ltd. (IOAVPL). PRRPL is transporting product to IOAVPL. At Raipur, BPCL is seeking more products. But they are not getting as they do not have the sufficient exchange volume. The terminalling charges of IOAVPL are more in Raipur. Operational efficiency at IOAVL Raipur is less and the capacity of per day tanker filling can be easily enhanced. BPCL is taking 46 % of its products requirement at Raipur from IOCL through PRRPL. 50 % of its requirement is met by Mumbai Refinery products and balance 4 % from Bina Refinery. It is bringing products from both refineries through rail.

HPCL is bringing products through rail rakes and sourcing 69 % from Vizag refinery, 27 % from Kanpur, 5 % from Loni and 1 % from Paradip. Kanpur is getting products through Rewari Kanpur Pipeline. Rewari is getting products from Bathinda Refinery through Ramanmandi Bahadurgarh pipelines. Loni is getting products from Mumbai Refinery through Mundra Delhi pipeline. Raipur terminal is catering all the districts of Chhattisgarh.

Raipur Terminal of HPCL is under augmentation since 28.2.2025. A pipeline is under construction to bring the Vizag Refinery's augmented capacity products. From Raipur, HPCL will take its products up to Northeastern States also.

Distance between HPCL and IOCL/IOAPL terminals is about 12 km. They are not linking in the absence of guarantee of long-term products supply assurance. For the product supply security reasons, both the terminals should be linked. In addition, all such terminals / depots in the country should be linked.

OCC was disbanded on 31st March 2002. ILP was also ended on 31st March 2004. Since then, though there is less coordination among the industry members. There is a need of Centralised Infrastructure plan.

It may be concluded that due to some reasons, HPCL chose not to take products of Paradip Refinery and cater their market in Odisha, Jharkhand, and Chhattisgarh through the products of their own refineries, even though the cost of transportation of these products is more.

Later on, undersigned, and other committee members visited the Petronet MHB Limited's (PMHBL) Mangalore Hassan Bengaluru Pipeline (MHB PL) stations and the associated facilities of those stations.

PMHBL exists as a separate legal corporate entity and offers its petroleum product transport services on a level playing field to all OMCs and private players. PMHBL is a common carrier pipeline of 5.60 MMTPA capacity which is available for the petroleum product shippers to transport the product. However, the pipeline is designed for a throughput of 8.5 MMTPA.

PMHBL is only in transportation and based on operation of cross-country petroleum product pipeline without any overriding refinery control or receipt terminals.

As of now, the customers are HPCL, IOCL, BPCL and MRPL (included in December 2024) and the highest throughput achieved till date is 4.05 MMTPA during the FY 2023-24.

The monthly pumping plan for this pipeline is finalized in Monthly Distribution Plan (MDP) meeting amongst HPCL, IOCL, BPCL, MRPL & PMHBL, wherein various business factors are considered by the OMCs. Actual offtake at each tap off point viz. Hassan and Devangunthi is based on OMCs dynamic requirements based on their own business plans, broadly in alignment to the MDP numbers.

Interface is being handled by PMHBPL and mixed with products as per the industry norm in the products.

Till date, there is no disruption in MRPL production on account of either MDP or dynamic changes in MDP of OMCs. MRPL and OMCs do not have any transport agreement with PMHBL and the capacity utilisation of PMHBL pipeline continues ad hoc basis.

Now a days IOCL is not taking any product from PMHBL at Devangunthi (Bangalore) as it is being fed from Chennai through its CBPL pipeline. BPCL is participating at Devangunthi for 25% of its requirement of HSD only. HPCL does source part of its HSD & MS requirement at Devangunthi from PMHBL pipeline.

MRPL has been operating more than 16 MMTPA for the past many years. MRPL produces more than 6 MMT of HSD, 1.8 MMT of MS and nearly 2.8 MMT of ATF annually.

PSU OMCs take about 50% and Private OMCs take about 23% of their requirement of Karnataka market through MRPL. 276 TMT of MS and HSD was supplied to Mangalore market only via coastal routes by the OMCs.

MRPL has adequate products available to meet the hinterland demand of Karnataka. Considering the lesser offtake by OMCs and loss in exporting their products, they are expanding their retail business significantly.

Significant volumes of MS and HSD for the Mangalore and other Karnataka region are being transported inefficiently into Karnataka via coastal, pipeline, or rail from other refineries. All alternate sources for Karnataka, involve additional movement of crude coastally and products by ship, pipelines and rail to reach Karnataka's demand centres.

MRPL POL terminal at Devangunthi is commissioned during FY 2024-25. Post stabilization of marketing business of MRPL will increase the throughput of PMHBL at Devangunthi. MRPL is also catering the requirement of Shell & Reliance from their Devangunthi Terminal.

PMHBL is soon going to commission Hassan Pumping station to enhance the pumping capacity of Hassan – Devangunthi section of the pipeline. They have to take care of frequent power supply breakdown of Neriya pump station during monsoon.

There is an issue of ullage availability of tanks at Hassan. On an average, only 400 TTs were loaded daily in FY2024-25 against the 600 TTs capacity. Similarly, average 58 rakes loadings were done in FY 2024-25 against the monthly capacity of 75 due to lower IOC/BPC linkages to PMHBL.

Based on the Volume commitments of OMCs, PMHBPL can run up to designed pipeline capacity of 8.5 MMTPA. And the coastal inputs to Mangalore can also be shifted to MRPL.

PMHBPL has achieved the revenue of Rs. 202.13 crore in FY 2024-25 and earned a profit after tax of Rs. 82.0 Crore. It is important to note that PMHBL has only petroleum products transportation business.

It is understood that presently, OMCs are having surplus products and if the same is exported, they will incur loss. The cost of transportation in the overall products' price is less and at times getting factored in the pricing system. It encourages OMCs to sell their products domestically even with the higher cost of transportation.

List of Abbreviation

BPCL	Bharat Petroleum Corporation Limited
CBG	Compressed Biogas
CGD	City Gas Distribution
EAC	Energy Advisory Committee
EPC	Engineering, Procurement, and Construction
EV	Electric Vehicle
FY	Financial Year
GAIL	Gas Authority of India Limited
GST	Goods and Services Tax
HPC	Hindustan Petroleum Corporation
HPCL	Hindustan Petroleum Corporation Limited
IAS	Indian Administrative Service
IGGL	Indradhanush Gas Grid Limited
IHB	Indian Oil Hindustan Petroleum Bharat Petroleum Consortium
IOCL	Indian Oil Corporation Limited
IPPL	Indian Ports Private Limited
ITC	Input Tax Credit
JLPL	Jamnagar-Loni Pipeline
JV	Joint Venture
KGPL	Kandla-Gorakhpur Pipeline
LPG	Liquefied Petroleum Gas
MMT	Million Metric Ton

MMTPA	Million Metric Ton Per Annum
MMTPA	Million Metric Ton Per Annum
MT	Metric Ton
NAPM	Non-Administered Price Mechanism
NCR	National Capital Region
OISD	Oil Industry Safety Directorate
OMCs	Oil Marketing Companies
PMUY	Pradhan Mantri Ujjwala Yojana
PNGRB	Petroleum and Natural Gas Regulatory Board
PPAC	Petroleum Planning and Analysis Cell
PSU	Public Sector Undertaking
RIL	Reliance Industries Limited
RLNG	Regasified Liquefied Natural Gas
ROU	Right of Use
SATAT	Sustainable Alternative Towards Affordable Transportation
SHV	SHV Energy
TMT	Thousand Metric Ton
VAT	Value Added Tax