

Petroleum and Natural Gas Regulatory Board

An Enabler, Facilitator and Regulator

March 2025



पी एन जी आर बी
PNGRB



Introduction

Petroleum and Natural Gas Regulatory Board established in 2007 by an Act of the Parliament with the mandate “to regulate the refining, processing, storage, transportation, distribution, marketing and sale of petroleum, petroleum products and natural gas so as to protect the interests of consumers and entities engaged in specified activities 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,” is working relentlessly to fulfill this mission.

In its near two decades history, PNGRB has initiated numerous actions and effected many regulatory changes with the motto of “Ease of doing Business” to facilitate the growth of this sector and de-bottleneck it after interacting with various stake holders, facilitating the entities in creating infrastructure and protecting the interest of consumers.

India has observed significant growth in the Natural Gas and Petroleum sector. Despite selected jurisdiction over the sector, PNGRB since its inception has facilitated creation of related infrastructure. It has authorized about 33,000 km of natural gas pipelines and almost completed the national gas grid and also reached all states of northeastern India. It has authorized more than 9,200 km of common carrier petroleum products pipelines. A large network is not in Board’s domain as it is purported to be captive petroleum product pipelines. After conclusion of 12A CGD Bidding Round in April 2024, it has authorized the entire mainland for development of CGD network thereby covering the entire population of mainland India. This will entail huge investment and creation of employment opportunities.

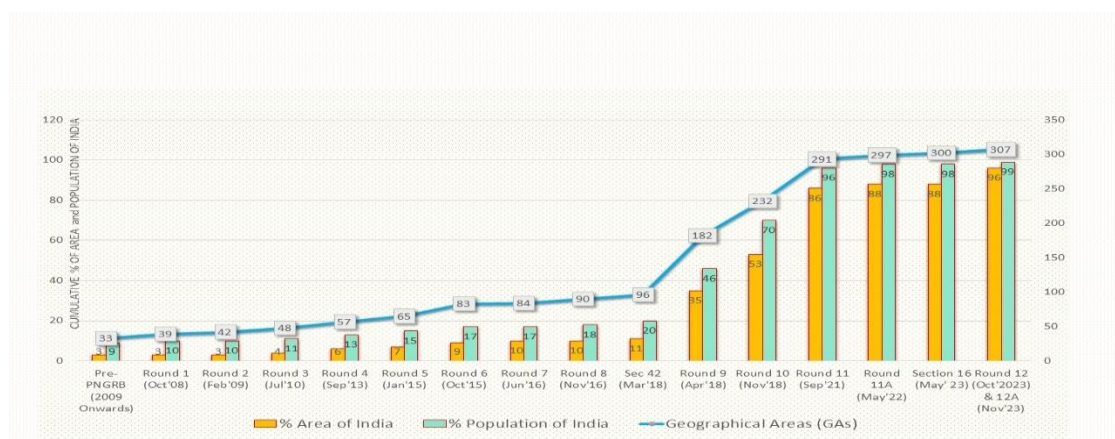


Figure 1: Growth of CGD network

Several cross-country natural gas pipelines have been constructed enabling domestic and imported gas to reach all parts of India. Key natural gas pipelines (NGPLs), including the Srikakulam–Angul NGPL, Mumbai–Nagpur–Jharsuguda NGPL, and the first phase of the Northeast Gas Grid, are expected to be commissioned soon. The commissioning of these pipelines will be a key step toward completing the National Gas Grid, a crucial milestone for enhancing the country’s energy security and infrastructure development. Additionally, various natural gas pipelines such as Ennore – Suryapet, Kochi – Thoothukudi and Mallavaram – Srikakulam are currently under various stage of bidding.

The Board is conscious of the responsibility placed on it to promote petroleum / natural gas infrastructure in the country and protect the interests of consumers. Not only does it implement the stated mandate in the PNGRB Act and Regulations under it, but it also take Suo-motto initiative to fulfil the spirit of the Act. The following endeavors offer a glimpse of the initiatives made to improve the efficiency of the sector:

1. Infrastructure

1.1 Allowing Mobile Refueling CNG Station against MWP Targets

The growing demand for cleaner and more sustainable energy sources has made natural gas a crucial component of India’s energy transition. However, its availability remains a challenge, especially in remote and underserved areas where pipeline infrastructure is limited or not available yet. For LNG transport by specialized tankers high capex needs to be incurred. To bridge this gap and enhance accessibility, PNGRB has taken the following initiatives to expand the reach of natural gas.

1.1.1 Entities authorized to develop CGD networks were facing problems in absence of availability of land for setting up the CNG Stations. They wanted to develop stations at the earliest for early seeding of CGD networks and monetizing. PNGRB vide Gazette notification dated 29.03.2023 amended the CGD Authorization Regulations and allowed consideration of Mobile Refueling Unit against CNG Stations for inclusion in work program target. This initiative is expected to provide support to early monetization and development of CNG infrastructure.

1.1.2 PNGRB has amended its T4S regulations for Retail Outlets to enable mobile dispensing of CNG and LNG, ensuring that even distant regions have access to cleaner fuel alternatives.

1.1.3 Additionally, initiatives such as Captive CNG stations and Small-Scale Liquefied Natural Gas (SS-LNG) units are being explored to further improve last-mile connectivity and increase supply flexibility.

These measures have helped entities which had hoped to ramp up gas volumes quickly but were constrained due to lack of land/trunk pipelines etc., could quickly setup their gas business due to liberal regulations provided by PNGRB.



Roundtable conference on Increase of alternate fuel in transportation

1.2 Setting up City Gate Station (CGS) outside their authorized Geographical Areas (GAs)

Many GAs are not connected with Natural Gas Pipeline and availability of natural gas through pipelines in those areas was hindering the growth of the networks. To address concerns of entities / stakeholders, PNGRB had brought following amendments in CGD Technical Standards and Specifications including Safety Standards (T4S) Regulations through

which the entities can setup City Gate Station (CGS,) compressor stations and pipelines outside their authorized GAs.

1.2.1 PNGRB brought the amendment in the Regulations vide notification dated 30.06.2020 and allowed entities to establish CGS (s) outside their Geographical boundaries. However, the entity was not allowed to carry any commercial activities that might violate the exclusivity of the adjoining territorial GA.

1.2.2 Further, an amendment was brought in the regulations to allow pipeline connectivity from CGS to pass through other authorized GAs. Additionally, entities were allowed to set up and operate compression facilities along with such CGS for an initial period of 2 years from the date of its authorization.

1.2.3 Subsequently, another amendment on 23.12.2024 was introduced in the regulations to allow entities for setting up of compression facilities along with CGS outside the GA boundary for an initial period of 2 years from the date of approval of PNGRB.

These amendments enabled in early monetization of GAs as well as ensuring availability of natural gas in the region, thereby improving the natural gas penetration in the country.

1.3 LNG Stations

PNGRB pioneered the initiative of making LNG available to the customers with specific reference to long haul commercial vehicles. Now, there is a goal of setting up of LNG Stations across all major highways, industrial corridors and mining sectors in the country in a bid to increase availability of clean fuel.

1.4 Suo-moto proposals for development of NGPL and PPPL infrastructure

PNGRB after internally deliberating the natural gas / petroleum product demand supply in a particular region, initiates suo-moto public

consultation process to determine whether bids for development of NGPL or PPPL should be initiated. After public consultation process, PNGRB finalizes the salient features of the proposed infrastructure and invites bids. Recently, PNGRB has initiated the process for invitation of bids for following pipelines on suo-motu basis:

1.4.1 Five ATF Pipelines connecting airports located in Trivandrum, Ahmedabad, Pune, Goa and Visakhapatnam

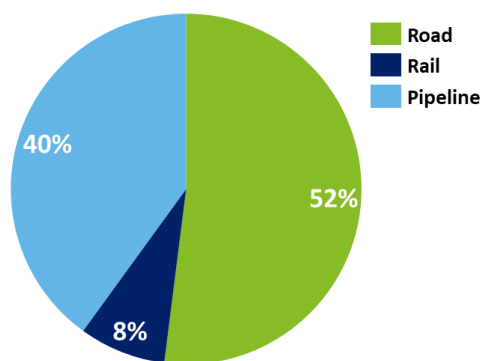
1.4.2 Three NGPLs i.e. Ennore – Suryapet NGPL, Kochi – Thoothukudi NGPL and Mallavaram – Srikakulam NGPL

1.5 Study on LPG Pipelines

LPG Product movement in India

The current LPG demand stands at 32 MMT, with the majority—16.6 MMT—transported by road, followed by 13 MMT via rail, while only 2.5 MMT is moved through pipelines.

PNGRB had carried out a “**Zonal study on LPG Pipelines: Recommendations on new LPG Pipelines to be bided out**” and observed that out of the total 210 Bottling Plants (BPs) in the country only 54 or approx. 25.7% are connected by pipelines.



Further, 84 BPs, representing about 40%, will be connected by pipelines upon completion of Kandla-Gorakhpur, Haldia-Panagarh and Kochi-Coimbatore-Erode-Salem LPG pipelines.

The limited pipeline infrastructure restricts large-scale adoption, underscoring the need for expansion to enhance supply chain efficiency. Increasing pipeline connectivity would significantly reduce transportation

costs, minimize environmental impact, and ensure uninterrupted supply to bottling plants and consumption hubs.

In this regard, public consultation process has been initiated on suo-moto basis for following 9 proposed LPG Pipelines having a total length of 3,470 km: -

1.5.1 Cherlapally - Nagpur - The proposed LPG pipeline will span 453 kilometres, transporting LPG from the existing Hassan Cherlapally pipeline to Nagpur via Chandrapur. The project will serve six bottling plants with a capacity of 510 TMT.

1.5.2 Shikrapur - Hubli – Goa - The proposed LPG pipeline from Shikrapur to Hubli, extending to Goa, will span 508 kilometres and aims to transport LPG from the existing Uran Chakan Shikrapur pipeline – provided the expansion of existing Uran Chakan Shikrapur pipeline. The project will connect five bottling plants with total capacity of 630 TMT.

1.5.3 Mumbai - Aurangabad – Jalgaon – The proposed 521-kilometer pipeline aims to connect bottling plants in the hinterlands of Maharashtra, specifically in the Nashik, Jalgaon, and Aurangabad districts evacuating products from HPCL and BPCL refineries, as well as the Aegis LPG Import terminal in Mumbai. The project will connect six bottling plants with total capacity of 510 TMT

1.5.4 Paradip – Raipur - It aims to transport LPG from IOCL's Paradip refinery and import terminal to the interior regions of Odisha and Chhattisgarh, extending up to Raipur. This 555-kilometer pipeline is designed to serve six bottling plants with a total capacity of 540 TMT.

1.5.5 Gwalior – Haldwani – This 531-kilometre pipeline aims to establish a network across the northern plains, serving seven bottling plants of capacity - 510 TMT in Uttar Pradesh and Uttarakhand. It will get LPG primarily through Kandla Gorakhpur.

1.5.6 Jalandhar – Jammu – The proposed LPG pipeline from Jalandhar to Jammu is an extension of the existing Panipat Jalandhar pipeline,

designed to transport LPG into the hinterland of Jammu. This 237-kilometer pipeline will serve four bottling plants with a capacity of 300 TMT.

1.5.7 Ennore – Puducherry – The proposed LPG pipeline from Ennore to Puducherry will stretch 192 kilometres, designed to transport LPG from the CPCL refinery and IPPL Ennore LPG import terminal southward along the coastal belt of northern Tamil Nadu. The pipeline will serve six bottling plants with a total capacity of 780 TMT.

1.5.8 CPCL Cauvery Basin Refinery-Trichy-Madurai - The proposed LPG pipeline from CPCL CBR refinery to Trichy and Madurai will span 431 kilometres, aiming to transport LPG from the upcoming CPCL CBR refinery to these regions. The project will serve eight bottling plants with a total capacity of 510 TMT.

1.5.9 Spur Lines proposed to connect nearby bottling plants from existing pipelines.

1.5.9.1 Spur line 1 - Bathinda Spur connecting the HMEL refinery with existing Panipat – Jalandar pipeline and connecting two bottling plants at Bathinda.

1.5.9.2 Spur line 2 - Bina Jabalpur linking KGPL and Bina refinery, facilitating LPG transport to hinterland bottling plants and reducing road movement. It is rail-connected at BPCL Jabalpur, enhancing logistics efficiency.

1.5.9.3 Spur line 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.

1.5.9.4 Spur line 4 - JLPL – Salempur connecting the existing JLPL with two bottling plants, IOCL Aligarh and BPCL Salempur. It will cover 105 km, enhancing LPG distribution in the area.

1.5.9.5 Spur line 5 - HPCL Yedyur – BPCL Bangalore addressing excessive road movement in the highly traffic-congested Bangalore region. Both bottling plants are currently rail-connected, and the spur will span 40 km to improve LPG transport efficiency.

1.5.9.6 Spur line 6 - Ennore - Gummidipoondi - A small spur line of Ennore Puducherry will extend northwest to connect additional four bottling plants in Chennai and Gummidipoondi.

With the proposed pipelines, it is expected to connect additional 60 Bottling plants, which is 68% connectivity by Pipeline.

1.6 Declaration of “Captive and Dedicated Pipelines” as Common Carrier / Contract Carrier Pipelines

PNGRB initiated the proposal to declare captive product pipelines as common carriers, a transformative step aimed at enhancing market accessibility, fostering competition, and delivering significant benefits to market participants and stakeholders by optimizing infrastructure utilization and ensuring equitable access to resources. Previously, a total of 14,920 km of captive petroleum product pipelines were owned and operated by OMCs, of which approximately 69% (~10,319 km) is currently in the process of being declared as common carriers.

PNGRB vide Gazette Notification dated 25.07.2023, declared two ATF pipelines, in Mumbai feeding to Mumbai International Airport as Common Carrier or Contract Carrier PPPLs under Section 20 of the PNGRB Act, 2006. Additionally, process for other such pipelines has been initiated. This will ensure establishment of competitive markets benefiting the consumers. However, the entities are resisting this initiative, and the matter is sub-judice.

1.7 Declaration of CGD Networks as Common Carrier / Contract Carrier – Opening of exclusivity of CGD entities:

For India’s City Gas Distribution (CGD) sector, PNGRB grants authorized entities a period of exclusivity to lay, build, operator or expand their

networks. This exclusivity allows entities to develop infrastructure without immediate competition. Once this exclusivity period concludes, the CGD networks are required to provide third-party access to their infrastructure.

Recently, PNGRB has initiated process for declaration of 74 CGD networks as common carrier or contract carrier. The declaration aims to enhance accessibility and transparency in the nation's gas infrastructure by allowing multiple entities to utilize these networks on a non-discriminatory basis.

This initiative is in line with the PNGRB's regulatory framework, which permits the declaration of CGD networks as common or contract carriers after the expiration of their exclusivity periods. PNGRB has notified the Guiding Principles Regulations and Access Code Regulations to facilitate this transition, ensuring fair access and competition within the sector. By opening these networks to multiple users, the PNGRB aims to promote a more competitive and efficient gas market, thereby benefiting consumers and fostering the overall growth of the industry by ending monopolistic control. With multiple players gaining access to existing networks, consumers may benefit from better pricing, improved services, and enhanced gas availability. Further, the entities are resisting this initiative also, and the matter is sub-judice.

PNGRB has also notified Determination of Transportation Rate for CGD and Transportation Rate for CNG Regulations, 2020 for determining transportation rates in respect of non-bid out GAs on a “cost of service” methodology. The methodology involves calculating tariffs based on a 12% post-tax return on capital employed, ensuring that the authorized entity recovers its costs of infrastructure post declaration of the network as common carrier and earns a reasonable return.

1.8 Capacity determination of NGPL and PPPL

The capacity determination of natural gas pipeline is being carried out through EIL as per the regulatory provisions. Thereafter, the capital expenditures on those pipelines could be considered for tariff determination and encouraging entities to incur further Capex.

Further, entities are being advised to share the capacity of the Petroleum and Petroleum Product Pipelines as per the capacity determination Regulations with the intent to have the optimal capacity utilization of the infrastructure. It has been seen that many captive pipeline owners understate the capacity to escape declaration of their pipeline as common carrier.

1.9 Increasing stakeholders' participation

1.9.1 PNGRB hosted the inaugural *Natural Gas and Petroleum Infrastructure Conclave: Fostering Growth* at Vizag in April 2024 bringing together prominent leaders from NGPL, PPPL and CGD sectors. The conclave served as a valuable platform for stakeholders to network, share ideas, and forge partnerships that will shape the future of India's oil and gas market and its transition towards a gas-based economy supported by robust POL infrastructure.



Natural Gas and Petroleum Infrastructure Conclave: Fostering Growth

1.9.2 PNGRB have also started dialogues with International Counterparts for knowledge sharing. In this regard the first “**International Conference of Petroleum & Natural Gas Regulators**” was organized in Goa in February 2024. The conference’s overarching theme, "Navigating Pathways for Natural Gas Development", helped to foster discussions on

various regulatory and industry facets of the petroleum and natural gas sector.



International Conference of Petroleum & Natural Gas Regulators

2. Attracting Investment

PNGRB took bold initiatives to attract investments in the sector which would be beneficial for the entities as well as the consumers. PNGRB is mandated under the PNGRB Act to determine the tariff of third-party users of the ‘common carrier’ Natural Gas Pipelines.

2.1 Unified Tariff for NGPL

2.1.1 To accelerate the development of the natural gas infrastructure and usher rapid growth of natural gas market in the country, PNGRB has brought out amendments in its three regulation(s) namely Natural Gas Pipeline Tariff, Authorization and Capacity Regulations. These amendments have acted as steppingstone for implementation of Unified Tariff regulations which has been made effective from 1st April 2023. This reform particularly benefits consumers in remote areas previously subject to additive tariffs. The initiative aims to facilitate the development of gas markets and supports the Government’s vision to enhance gas consumption in the country.



Narendra Modi 
@narendramodi · Follow



Noteworthy reform in the energy and natural gas sector.



Hardeep Singh Puri 
@HardeepSPuri

Another step towards Gas Based Economy under the visionary leadership of PM Sh @narendramodi Ji!

In line with objective of economic development of all regions of the country, PNGRB introduces implementation of Unified Tariff - a much awaited reform in natural gas sector.



Tweet by Hon'ble Prime Minister of India Shri Narendra Modi Ji and
Hon'ble Minister of Petroleum and Natural Gas Shri Hardeep Singh Puri Ji

The main features of the Unified Tariff are as follows:

2.1.2 The national gas grid covers 20 interconnected pipeline networks owned and operated by entities such as Indian Oil Corporation Limited (1), Oil and Natural Gas Corporation Limited (1), GAIL (India) Limited (10 - Integrated Network plus KG Basin), Pipeline Infrastructure Limited (1), Gujarat State Petronet Limited (2), Gujarat Gas Limited (1), Reliance Gas Pipelines Limited (1), GSPL India Gasnet Limited (2), and GSPL India Transco Limited (1), comprising 92% of the total Natural Gas Pipeline Infrastructure. With the commissioning of new interconnected pipelines, the national gas grid will continue expanding under the Unified Tariff regime.

2.1.3 There are three zones in the Unified Tariff. Zone 1 of 300 km, Zone 2 of 900 km (from 300 to 1200 km) and Zone 3 beyond 1200 km. Currently, the Board is considering a proposal to reduce the number of zones show that there is not much disparity in tariff across regions.

2.1.4 Unified tariff for the unified tariff zones is determined by the Board in a manner that the tariff for first tariff zone for unified tariff shall be 52.5% and tariff for the second tariff zone shall be 75% of the tariff for third tariff zone. The entities will get the tariff as per their entitlement while customers would pay unified tariff.

2.2 Introduction of new Petroleum and Petroleum Product Pipeline Tariff Regulations

Further, for liquid products pipelines, PNGRB introduced new Petroleum and Petroleum Product Pipelines tariff regulations for third party users of the 'common carrier' petroleum product pipelines. There are three kinds of petroleum product pipelines in existence: (i) Non-bid out pipelines commissioned before the notification of PPPL tariff regulations 2010 i.e. before 20.12.2010, (ii) Non-bid out pipelines commissioned after the PPPL tariff regulations 2010, and (iii) Bid-out pipelines.

For petroleum product pipelines, the Board had been relying on railway tariffs for the movement of petroleum products by rakes to fix the pipeline tariffs. These regulations, introduced in December 2010, were designed as a transitional measure with exclusive applicability to non-bid-out pipelines.

These tariffs were established by benchmarking against the alternate transportation mode of railways at 75% of the rail tariff, except for LPG, where it was set at 100% of the rail tariff, based on the equivalent rail distance along the pipeline route. However, as railway goods rates have not been revised since 2018, the pipeline tariffs based on these rates did not account for inflation during this period. Additionally, there was no assured rate of return based on railway tariffs. For these reasons, the tariff regulations were revised and notified in 2024. The main features of the new regulations are: -

For PPL commissioned before the notification of PPPL tariff regulations 2010 the transportation tariff for petroleum products (other than LPG) shall be 75% of basic railway freight and for LPG 100% of basic railway freight as per Railway goods tariff circular 19 of 2018 with a one-time escalation of 17% effective from the date these regulations came into force till 31st

March 2025. Additionally, these pipelines have been provided with a one-time option to get the tariff determined based on DCF method, in case they incur capex on its replacement, expansion or augmentation.

2.2.1 For the pipelines commissioned after the PPPL tariff regulations 2010, the transportation tariff shall be determined based on the DCF methodology with 12% post tax returns on capital employed over economic life of the pipeline.

2.2.2 Bid-out pipelines which have been authorized prior to PNGRB Amendment PPPL authorization Regulations, 2023 and authorized based on bidding parameters for first 10 years of pipeline operations, the transportation tariff for such bid-out pipelines shall be determined based on the DCF methodology with 12% returns over remaining economic life of the pipeline considering the Net Fixed Asset (NFA) as on beginning of the 11th year of operations. Post PNGRB authorization amendment regulations, bidders have to quote tariff for the entire life of 25 years.

These regulations came into effect from 1st August 2024. This reform aims to provide the financial stability and attractiveness needed to boost pipeline infrastructure growth in India. By prioritizing pipelines, the most efficient transportation mode, this initiative will help alleviate road congestion, minimize accident risks, and reduce pollution from road transport. Additionally, the new tariffs will benefit consumers by offering a more economical alternative to road transportation for moving goods, embracing the change, and supporting a greener, safer, and more efficient future for petroleum transportation in India.

2.3 Reduction in Performance Bank Guarantee (PBG) for CGD Sectors

As per the CGD Authorization Regulations of PNGRB, the Performance Bank Guarantee (PBG) has been prescribed for guaranteeing the timely commissioning of the proposed CGD network as per the prescribed targets and for meeting the service obligations by the selected entity during the operating phase of the project.

Earlier, the PBG of the entities were kept with PNGRB till the end of the authorisation. In few rounds, the value of the PBG was very high. The total PBG values of all the authorised 307 GAs is Rs. **28,641 crores**, ranging

from Rs. 3.0 crore to Rs. 4,248 crores. Even after completion of the Minimum Work Program of the GA, it used to be with PNGRB.

Subsequently, it was clarified that reduction in value of PBG to 40% of initial PBG after 100% achievement of the work programme as per the authorisation terms and conditions shall be applicable to all authorised entities irrespective of the year of authorisation. This helped in unlocking the capital for creation of the infrastructure.

2.4 Setting up Gas Exchange

The Board notified PNGRB (Gas Exchange) Regulations, 2020 in compliance to the directive issued by the Central Government under section 42(2) of the PNGRB Act. The gas exchange provides a trading platform to foster gas trading in a fair and transparent manner to promote an efficient and robust gas market in the country. Under these Regulations, Indian Gas Exchange Limited (IGX) has been authorised on 02.12.2020 by PNGRB as first Gas Exchange of India.

2.5 Imbalance Management

The Access Code for Common Carrier or Contract Carrier Natural Gas Pipeline Regulations, 2008 ensures a smooth operation maintain pipeline systems integrity as well as to make shippers responsible to maintain balance in gas injected by them in the pipeline system vis-a-vis gas off take by them from the pipeline system. Further, to provide appropriate mechanism to customers/ shippers to enable them to manage their imbalances in an orderly fashion, the Board notified the amendment in the PNGRB (Imbalance management Services) Regulations on 23.11.2020. This facilitated the pipeline entity to provide the following imbalance management services to a shipper to manage transportation imbalances, namely: -

- a. Parking service
- b. Lending service
- c. Netting service
- d. Trading service

3. Facilitation

Facilitating Growth in CGD Sector

PNGRB has also undertaken host of initiatives to expand the CGD network and increase the gas consumptions especially in the CGD sector. Some of these measures are enumerated below: -

3.1 PNG Drive

PNGRB along with City Gas Distribution entities launched National PNG Drive from 26th Jan 24 to 31st Mar 24 to promote the adoption of PNG among households and to expand PNG consumer base across a broader segment of the population.



Inauguration of PNG Drive of IGL

This was the first ever attempt to directly support entities in their normal business agenda. The campaign focussed on those areas where gas pipeline network has been laid or planned to be laid in the immediate future to encourage new PNG domestic connections, facilitate the conversion of households to PNG. Some key achievements from the National PNG Drive are as under: -

- a. GAs Gasified – 24
- b. Districts Gasified – 56
- c. Charge Area/Areas Gasified – 152
- d. Households contacted – 30,79,376
- e. Registrations – 10,87,500
- f. Connections provided – 5,96,956
- g. Billed connections provided – 3,13,866
- h. Pipeline Infrastructure (inch-km) laid– 19,759

3.2 Engagement with Central Government, State Governments, and others

3.2.1 Board has been periodically engaging with State & UT Administration through regular correspondences and meetings at the level of Lieutenant Governor, Chief Minister and Chief Secretary to discuss promotion of natural gas through formation of State-level CGD policies, rationalization of VAT on CNG & PNG

Meeting with the then LG of Chandigarh and Governor of Punjab Hon'ble Shri B.L. Purohit



Meeting with Chief Minister of Assam Hon'ble Shri Himanta Biswa Sarma

Meeting with Chief Minister of Madhya Pradesh Hon'ble Shri Mohan Yadav



3.2.2 As on Jan 25, 05 States have formulated their CGD policy and 04 are in the process of drafting their CGD policy. Further, VAT on natural gas has been reduced in Karnataka, Assam (CNG), Rajasthan, Chhattisgarh, Bihar and Andhra Pradesh.



Meeting with Chief Secretary of Maharashtra Smt. Sujata Saunik



Meeting with Chief Secretary of Uttar Pradesh Shri Manoj Kumar Singh



Meeting with Chief Secretary of Uttarakhand Smt. Radha Raturi



Meeting with Chief of Naval Staff Admiral Dinesh Kumar Tripathi, PVSM, AVSM, NM

3.2.3 The Chief of Naval Staff: A meeting was also held between Chairperson, PNGRB and Chief of Naval Staff on 3rd October 2024 to discuss the usage of natural gas in naval residential accommodations and messes.

3.2.4 Coordination between CGD and NGPL Entities: Regular meetings are being held with City Gas Distribution (CGD) and NGPL entities to

synchronize activities and facilitate early connectivity of CGD networks with NGPL.

3.2.5 PNGRB has also initiated the on-site review of the progress of the infrastructure projects for faster completion.



Review meet of Madhya Pradesh at Bhopal



Review meet of Uttarakhand at Dehradun



Review meet of West Bengal at Kolkata



Review meet of Telangana and Andhra Pradesh at Hyderabad

3.3 Addressing Environmental Concern: PNGRB is collaborating with CPCB and MoEFCC for implementation of the National Clean Air Programme (NCAP) and how PNGRB can contribute to enhancing the use of clean fuel, which will lead to an improvement in air quality. The Board is closely interacting with MoEFCC and NHA I to address challenges faced by entities and facilitate their early resolution.

3.4 Introduction of State Level Coordinators: To strengthen the coordination and communication between PNGRB, State Government Officials and CGD entities, PNGRB appointed State Level Coordinator (SLC) (PNGRB) in each state. The role of the SLC(PNGRB) involves coordinating with the State Government on CGD, NGPL, and PPPL activities, following up on PNGRB correspondence, liaising with state officials, facilitating meetings between Senior State Officials, PNGRB Board members/ officials and coordinating with CGD entities for policy formulation.

3.5 Streamlining procedure for settling Force Majeure (FM) Claims: To streamline the submissions and processing of claims of FM by the CGD entities under Regulation 2(1) (ga) and Regulations 14(11) to 14(13) of the PNGRB (CGD Authorization Regulations), the following formats for FM Notifications and Claim were web-hosted on PNGRB's website on 18th October 2024: -

3.5.1 FM Start cum Closure Notification: For notifying the beginning and conclusion of a FM event.

3.5.2 FM Claim Submission: For submission of FM claim.

4. Knowledge Sharing

PNGRB has started the process of Knowledge sharing through uploading papers and presentations on its website for the benefit of stakeholders, offering insights into different facets of the petroleum and natural gas sector:-

4.1 Optimizing Primary Transport of Petroleum Product to OMC Terminals - Case Study of North India

4.2 Optimizing LNG Supplies from Terminals in India

4.3 Analysis of GAs where MWP have been completed – detailed review of Geographical Areas (GAs) where the Minimum Work Program (MWP) commitments have been fulfilled, assessing progress, compliance, and future development.

4.4 Impact of VAT reduction – evaluation of the impact of VAT reduction in states where the VAT on natural gas has been reduced.

4.5 State-wise LPG and PNG Connections in India – analysis of LPG and PNG connections across different states, highlighting penetration levels, growth patterns, and accessibility of clean fuel.

4.6 Analysis on Growth of CNG Sales, CNG Stations and Vehicles Sales – analysis on the increasing adoption of CNG, covering trends in sales volume, expansion of CNG stations along with rise in CNG vehicle registrations.

4.7 Round-wise analysis of pipeline infrastructure (Steel & MDPE network) – analysis of the development and expansion of pipeline infrastructure across different bidding rounds, focusing on both Steel and MDPE pipeline infrastructure.

4.8 The sectoral data is also now made available on PNGRB web site to facilitate customers and other stake holders in taking informed decisions.

5. Ensuring high quality and safe infrastructure

PNGRB as the sole technical and safety regulator of the downstream of oil & gas sector is overseeing more than 91,000 Oil & Gas installations. To ensure high technical standards and safety in the petroleum and natural gas sector, mandated under the Act, PNGRB has taken the following steps: -

5.1 Introduction of new regulations: New regulations for T4S for Refineries and Gas processing Plants have been notified to ensure safety in the plants.

5.2 Ensuring Safety at Retail Outlets: Retail Outlets of OMCs are the maximum touch points. PNGRB has sensitised the OMCs about the vulnerability of RO and its customers. They are directed to carry out the comprehensive risk assessment and mitigate the same.

5.3 Promoting High Efficiency natural gas stove

5.3.1 PNGRB has authorized 307 Geographical Areas (GAs) covering mainland of the country with 1.39 crore domestic PNG (DPNG) connections at present and an MWP target of establishing approx. 12.63 crore PNG connections across the country by 2032. Most DPNG connections involve retrofitting of the existing LPG stoves for PNG use.

5.3.2 LPG stoves are designed for minimum 68% thermal efficiency. However, the conversion of these LPG stoves for PNG use, reduces their thermal efficiency to about 45-50%. As an estimate, each domestic connection having average 4 family members that switches from an LPG retrofitted stove to a dedicated high efficiency PNG stove can save an average of 0.125 SCM/day leading to 20-25% savings on monthly gas bill of domestic consumers and reducing GHG emissions. CSIR IIP has conducted extensive research in developing a high-efficiency PNG stove with an efficiency exceeding 65%. However, only a few manufacturers were producing these stoves, and their market presence remains limited. Additionally, from a regulatory standpoint, retrofitting an LPG stove for PNG use voids its BIS certification.

5.3.3 To address these issues, PNGRB has taken initiatives such as organizing conference to bring together key stakeholders from stove



manufacturers as well as CGD entities to discuss challenges and opportunities in adopting high-efficiency IS 17153 compliant PNG stoves. Additionally, PNGRB has circulated an advisory to all CGD entities, encouraging

the adoption of PNG stoves. PNGRB has also formulated draft amendment to the T4S CGD Regulations, incorporating the use of PNG stoves, and webhosted the same for public consultation. PNGRB envisages that these efforts will facilitate a smoother transition to high-efficiency IS 17153-compliant PNG stoves, enhancing energy efficiency, ensuring consumer safety, and promoting widespread adoption across the CGD sector.

5.3.4 Pilot Study on PNG Stoves: The ‘Promotion and Efficiency of d-PNG stoves’ has been initiated. For this, 5000 stoves will be made available to existing consumers in five matured GAs across the length and breadth of the country viz. National Capital Territory of Delhi (IGL), Mumbai & Greater Mumbai (MGL), Bengaluru Rural & Urban Districts (GAIL Gas), Ahmedabad City & Daskroi Area (ATGL), Upper Assam (Assam Gas).

5.4 Streamlining Third Party Inspection Audits

Periodic Technical and Safety Audits are mandatory as per PNGRB T4S, IMS & ERDMP Regulations to ensure smooth operations at these installations and prevent any incident which may cause loss of human life or property.

5.4.1 These audits are conducted by PNGRB empaneled Third Party Inspection Agencies (TPIAs). Currently, 33 TPIAs are empaneled by PNGRB. It has recently streamlined the auditing process for T4S, IMS and ERDMP Audits by formulating and webhosting Audit Man-days Matrix which provides clear and concise guidelines on the duration of audits based on the scale and complexity of installations. This has improved the safety standards of the installations.

5.4.2 Furthermore, to uphold the quality and effectiveness of these audits, Selection Criteria Matrix for Lead Auditors has been developed and webhosted. This framework ensures that only qualified and experienced professionals conduct these critical safety and compliance checks.

5.4.3 PNGRB has engaged 18 number of expert consultants to oversee the audit reports of TPIs. It will further improve the quality of the audits by TPIs. Thereby enhancing the overall reliability of the auditing process and improving the safety in the sector.

6. Delivering through creation of New Verticals

PNGRB has created three new Divisions namely Consumer Protection, Statistics and Strategic Planning Division to effectively implement the mandate given under the Act. It has also carved out three new cells i.e., Hydrogen, Compressed Bio-gas and Sustainability Cells.

6.1 Protection of Consumers' Interest

With the expansion of petroleum and natural gas sector, there has been a significant increase in consumer concerns related to pricing transparency, service quality, supply disruptions, and unfair trade practices. To further strengthen its commitment towards the consumers and enhance regulatory oversight, a new division - **Consumer Protection Division (CP Division)** has been established. A dedicated division provides an institutional mechanism towards the effort to address these grievances efficiently and fairly while providing insights on the ongoing activities by authorised entities.

6.1.1 Insurance for DPNG customers: PNGRB has successfully spearheaded a unanimous acceptance for the inclusion of insurance in the City Gas Distribution (CGD) sector, ensuring better consumer protection. Through this and upon its final implementation, CGD consumers PAN India including third party or collateral damage will be insured akin to LPG consumers.

6.1.2 Consumer Satisfaction Survey (CSS): To gain an insight on the Satisfaction level of consumers and effectiveness of entities grievance redressal mechanism, it has been decided to conduct yearly CSS for applicable GAs. To bring uniformity, the questions for the survey have been standardised and reputed Third party agencies are being empanelled to conduct the survey.

6.1.3 Consumer Awareness Initiatives:

6.1.3.1 Creation of awareness tab on the PNGRB website containing information about customer care & emergency numbers of entities, PNG & CNG rates, and FAQs related to CGD sector.

6.1.3.2 Sensitising all stakeholders regarding fraudulent activities and cyber-crimes facilitated by fake calls and messages to PNG consumers.

6.1.3.3 PNGRB has directed entities to remove convenience charges and ensured adherence to Quality of Service (QoS) regulations regarding duplicate bill charges levied by some CGD entities.

6.1.3.4 Consumer Complaint Management System: Developed a Management Information System (MIS) for consumer complaints across all the GAs since October. This will help to gain an insight on quantum of consumer complaints and its resolution time.

6.1.3.5 Institutional and Governmental Connectivity: Steps have been taken to add institutional connections and Government/PSU colonies by approaching concerned Ministries and CMDs of CPSEs. Formal engagement has been taken up with Defence Ministry at Service Chiefs level.

6.2 Statistics Division

The Statistics Division of the Petroleum and Natural Gas Regulatory Board (PNGRB) serves as a critical pillar in the organization's mandate for systematically collecting, analysing, and disseminating data, particularly relating to gas marketing and infra. The division provides the factual foundation that underpins policy decisions, regulatory actions, and market development in India's petroleum and natural gas sectors.

6.2.1 The Division has developed integrated databases that track the growth of pipeline infrastructure, city gas distribution networks, and petroleum product facilities nationwide.

6.2.2 The Division's digital data submission platforms have streamlined reporting processes for stakeholders, reducing compliance burdens while improving data quality.

6.2.3 The Statistics Division has been instrumental in facilitating market development by providing transparent and accessible information to all stakeholders. Its comprehensive market data on evolving patterns, consumption profiles, and infrastructure utilization has provided invaluable support for infrastructure development and investment decisions. The Division has played a crucial role in supporting PNGRB's bidding processes by providing relevant statistical inputs that help potential investors assess opportunities objectively.

6.2.4 The Division also facilitates the regulatory function of the organisation by mapping and monitoring of key performance indicators in the City Gas Distribution Network, Natural Gas Pipeline and Petroleum

Products pipeline to start with for facilitating and ensuring all regulated entities comply as per the provisions of the Act. In its endeavour, it aims to institutionalise the verification and validation protocols ensure the integrity of operational data submitted by entities against established regulatory benchmarks.

6.2.5 This reflects the Statistics Division's commitment to evolve with technological advancements and stakeholder needs, ensuring that PNGRB continues to fulfil its role as an effective Enabler, Facilitator, and Regulator in India's dynamic petroleum and natural gas sector.

6.3 Strategic Planning Division

6.3.1 India, the third largest consumer of energy in the world with per capita energy consumption lower than the world average and its energy demand set to triple by 2050, is aiming for Net-Zero by 2070. PNGRB has taken the onerous responsibility to deliver the nation's goal to increase the share of natural gas to 15 % by 2030 in the energy basket coupled with intent of optimal and efficient utilisation of P&NG sector infrastructure.

6.3.2 PNGRB, in its endeavours to deliver the holistic mandate of regulating the refining, processing, storage, transportation, distribution, marketing and sale of petroleum, petroleum products and natural gas to protect the interests of consumers and entities and to ensure uninterrupted and adequate supply in all parts of the country and to promote competitive markets and for matters connected therewith or incidental thereto, has created the Strategic Planning Division.

6.3.3 Strategic Planning Division with the aim, objective and intent to give deep insights to the market focussing on long term vision has carried out studies, organised workshops and recommended actionable points. Some of these are enumerated below: -

6.3.3.1 The Roundtable of Auto Manufacturers and CGD companies on growth of alternate fuels in the transport sector was conducted in April 2024, involving major auto manufacturers and CGD companies. The initiative was aimed at identifying and working on key elements to foster

growth and promoting the green fuel, CNG in the transport sector and taking strategic initiatives in the process.

6.3.3.2 A comprehensive study on all aspects of Optimising LNG flow into India was conducted. The wholistic study included detailed analysis on movement of LNG from across the globe from various geographical sources and optimisation of shipping costs. The study also worked out key recommendations on effective utilisation of LNG terminals in India, promoting terminal to terminal competition, efficient movement of gas



within the country to economise on the transport tariffs, ultimately promoting sectoral growth and benefitting the customer.

Roundtable conference for Growth of alternate fuels in transport

6.3.3.3 A detailed Case Study was carried out on “Optimizing Primary Transport of Petroleum Product to OMC Terminals of North India. This study delved into the optimization of transportation of petroleum products through pipelines infrastructure, a subject of significant relevance in today’s evolving energy landscape. This study highlighted the avoidable criss-cross movements of petroleum products from the far-flung areas. This study was carried out for the placement of the products in the northern states of the country. In similar way, this will be carried out for the whole country. MoPNG, based on the inputs of the study, has entrusted PPAC to carry out a detailed study for which a committee has been formed.

6.3.3.4 LNG/ CNG as a Transportation Fuel Conference was organised in partnership with GAIL in October 2024 to develop a roadmap towards a promising future of Natural Gas in the form of LNG particularly in heavy duty trucking. Leaders from the diverse fields of the Oil and Gas marketing, City Gas Distribution (CGD), Automobiles sector, Retrofitters and other organizations linked to these sectors were roped in for their views on the opportunities and challenges, potential synergies and growth

avenues as the country navigates through the pace of growth of LNG in the transport sector. Action was taken on issues that emerged. Also to handle the challenge of excess boil off, an industrial working committee was set up by PNGRB.

6.4 Hydrogen Cell

6.4.1 Making Infrastructure ready for Hydrogen Transmission

Government of India launched the National Green Hydrogen Mission (NGHM) on 4th January 2023, with an outlay of ₹ 19,744 crore with the mission target for development of green hydrogen production capacity of at least 5 MMT (Million Metric Tonne). India has long relied on imports to meet its energy needs. This mission was launched to enhance the country's self-reliance in energy sector. PNGRB identified that considering India's geographical versatility, the most efficient way to connect the production centers and demand centers for Hydrogen will be through gas pipelines by blending. PNGRB is expected to play a key role in regulating the transportation of hydrogen through pipelines. It may oversee the retrofitting of existing pipelines or the creation of new pipelines for hydrogen transportation, ensuring that safety and operational guidelines are adapted for hydrogen's unique properties.

6.4.2 PNGRB in association with World Bank conducted a study for Pathways for Transmission of Hydrogen in Natural Gas Pipelines and City Gas Distribution Networks. The study included five tasks including

demand-supply of low carbon hydrogen, technical & commercial assessment of pipeline sector, assessment of policy & regulatory frameworks and defining a future roadmap for pipeline infrastructure for hydrogen in alignment with the NGHM. PNGRB has also organised two

Round table discussion for Hydrogen transmission



conferences, bringing together representatives from Ministries, statutory/autonomous bodies, research institutions and Oil & Gas entities. The first mega stakeholder interaction was held on 07th March 2024 to discuss and gather inputs on the draft report of the study and the second major conference was held on 07th October 2024 to deliberate on the outcomes of the study.

6.4.3 PNGRB, has engaged ICF, to develop a roadmap for hydrogen blending in existing natural gas infrastructure, as well as development of dedicated 100% hydrogen pipelines, focusing on regulatory frameworks, safety standards, and technical specifications, including action plans and funding identification. This will serve as groundwork for all the entities/stakeholders with upcoming Hydrogen related projects supporting the country's self-reliance in terms of its energy needs and ensuring Energy Security.

6.5 Compressed Bio-gas Cell

6.5.1 Role of PNGRB for promoting CBG activities

India's CBG Market has been envisaged as 5.7 MMTPA (20.5 MMSCMD) considering production of 5000 CBG Plants as against total CGD demand of ~83 MMTPA (300 MMSCMD) during FY 2030. Nevertheless, progress in CBG development has been sluggish, with 110 (approx.) operational plants. Overall sale of CBG is estimated to be 0.15 MMSCMD at the end of year 2024-25 from functional CBG plants, which is short of target. Upto 5 % blending target of CBG has been fixed to promote the CBG usage by CGD networks by FY 2030.

6.5.2 PNGRB has the mandate to connect the CBG market through pipeline connectivity from CBG production plants. Production and usage of CBG is also a renewable source of energy, therefore more efforts are required for streamlining the whole process for increased usage.

6.5.3 In view of the aforesaid, a separate CBG Cell within PNGRB has been created to ensure synchronisation amongst CBG producers, Pipeline operators and City Gas Distribution Entities to maximise the CBG production and consumption within country. CGD entities are being sensitised for pipeline connectivities to CBG plants from its CGD network within operative geographical areas.

6.6 Sustainability Cell

6.6.1 The Sustainability Cell of the Petroleum and Natural Gas Regulatory Board (PNGRB) has been conceptualised to serve as a cornerstone in India's vision to transform into a gas-based economy. It is slated to play a crucial role in aligning the petroleum and natural gas sector with India's climate commitments while ensuring energy security and economic development.

6.6.2 The Sustainability Cell is scheduled to oversee India's transition to a cleaner energy future by ushering in efficiency in gas and petroleum transport. It has established frameworks to support the expansion of City Gas Distribution (CGD) networks, with minimum loss of natural gas in distribution network. The cell has conceptualised to provide technical guidance for measuring, reporting, and reducing natural gas leakages in pipelines. It will also encourage pipeline entities to substitute electricity in place of gas in compressors.

7. High-Level Expert Committee (HLEC) for Regulatory Reforms and to enhance Ease of Doing Business

The Indian Oil & Gas Sector has been exponentially increasing in size and reach over the last few decades in both public and private domain. The complex nature of the sector, its omnipresence, and its criticality in achieving energy security, accessibility with net zero by 2070 involves multitude of issues. As the responsible regulator with the intent to facilitate the acceleration, PNGRB formed four High-Level Committees comprising Subject Matter Eminent Experts to independently recommend for achieving its mandate.

7.1 HLEC on Safety: Safety is a paramount priority requiring continuous monitoring, regulatory enhancements, and adherence to best practices to ensure risk mitigation and operational integrity. In this regard, PNGRB constituted a High-level Expert Committee with Shri M B Lal (Ex-CMD, HPCL) as its Chairman and other distinguished experienced industry professionals to review the extant safety framework and recommend a way forward to ensure unified & comprehensive safety and integrity framework for the Indian Oil and Gas Sector.

7.1.1 The committee was tasked with examining PNGRB's regulatory regime, review the technical & safety framework, and explore inclusion of energy efficiency and environmental parameters in PNGRB T4S Regulations. Various public and private entities as well as Govt. officials

from PESO, DGH, etc were invited to discuss the safety issues persisting in the industry. The members also undertook site visits to get familiarity with the actual safety scenario at Ground Zero by doing interactions with different personnels.

7.1.2 The HLEC Report was submitted to the Board on 10th October 2024 and the same has been webhosted on the PNGRB's website. The HLEC Report outlined 21 recommendations to streamline and strengthen the whole safety ecosystem and enhance risk management and operational safety across the sector. An internal task force has been established and timelines have been set to implement the HLEC recommendations which will promote a safer, more efficient, and consumer-friendly Oil & Gas sector.

7.1.3 A mega conference on safety was held on 16th and 17th December 2024 in collaboration with FIPI to sensitize all entities in downstream petroleum and natural gas sector.

7.2 HLEC on Consumer Protection

7.2.1 PNGRB has mandate through the Act and thus the onerous responsibility to protect the interests of consumers and entities (both) engaged in activities relating to petroleum, petroleum products and natural gas. The functions of the Board include "protect the interest of consumers by fostering fair trade and competition amongst the entities". PNGRB desires to effectively implement the above mandate and put in place appropriate practices and regulations for protection of consumers in Oil and Gas Sector in the country.

7.2.2 With a view to obtain guidance from industry and experts, it has constituted a committee with Mr. Ratan P. Watal, Chairman CVOC and Former Finance Secretary, GoI and members from diverse fields to recommend the way ahead.

7.2.3 The HLEC Report was submitted to the Board on 11th March 2025 and the same is being webhosted on the PNGRB's website.

7.3 HLEC on Vision 2040 – Natural Gas Infrastructure in India

7.3.1 PNGRB has been mandated to develop infrastructure to transport natural gas to consumers across the country. The demand for natural gas is

poised to rise, supported by nation-wide award of CGD licenses and substitution of coal and liquid fuels in multiple sectors. The country has a target to increase the share of natural gas in the energy basket from the present share of about 6% to 15% by 2030.

7.3.2 In order to facilitate achieving 15% gas share by 2030 in the energy mix natural gas transport infrastructure has to be erected ex-ante. Further, it is desirable to generate natural gas demand scenarios with a Vision 2040. Thus, the Board formed an expert committee to examine various aspects of entire gas value chain like Gas/LNG prices, regasification charges, transportation charges, taxation, competition with alternate fuels, advancements in technologies and such other aspects as necessary.

7.3.3 They have to recommend measures to increase the share of natural gas in the energy basket to 15% by 2030; develop demand and supply scenarios for natural gas (RLNG & Domestic Gas separately) and recommend various policy and regulatory measures as well as infrastructure required including re-gas capacity, pipeline infrastructure and connectivity to demand centers keeping in mind availability, affordability and sustainability.

7.3.4 HLEC interacted with pipeline owners, natural gas marketer, different group of consumers and various stakeholders. The report is going to be submitted by end of March 2025.

7.4 HLEC on promoting competition and level playing field in gas transmission and distribution businesses.

7.4.1 To ensure a level playing field in the gas transmission and distribution sectors, PNGRB has constituted a high-level Expert Committee on 05.09.2024 chaired by Shri Ajay Tyagi, former SEBI Chairman. The committee has been formed in response to challenges in enforcing Section 21 of the PNGRB Act, 2006, which mandates the separation of natural gas marketing and transportation activities, including pipeline ownership. Despite the Affiliate Code Regulations requiring legal separation by March 31, 2017, this objective remains unachieved. Additionally, exclusivity in CGD networks, governed by Section 20 of the PNGRB Act, has posed hurdles in transitioning to an open-access regime.

The Board has faced difficulties in declaring authorized geographical areas as common or contract carriers, which is crucial for fostering competition and enabling third-party access while ensuring fair tariffs for authorized entities.

7.4.2 The Expert Committee, comprising experienced professionals from various domains, is tasked with analyzing global best practices on unbundling, assessing India's regulatory and market landscape, and recommending strategies for effective implementation. The Terms of Reference include evaluating the impact of unbundling on competition and efficiency, developing a model for separating transportation and marketing activities, and suggesting reforms in the CGD exclusivity framework. The committee will also explore solutions for post-exclusivity market conditions, ensuring that regulatory mandates are implemented in a manner that balances industry growth with consumer interests. The committee's findings are expected to guide PNGRB in shaping a more competitive, transparent, and efficient natural gas market in India.

8. Administration & Human Resources (HR)

Human Resources of any organization is the most critical resource. HR Division facilitates different verticals of PNGRB with manpower resources for performing the functions mandated by the PNGRB Act, 2006. As an enabler, HR division provided upskilling of the work force to align their performance with the requirement of regulatory framework in Oil & Gas Industry.

8.1 HR Division took several measures to bring professionalism in the work culture by organising onsite and off-site activities to bring real time experience of the work carried out for regulating the oil & gas industry by PNGRB.

8.2 HR Division took initiatives to bring a qualitative and quantitative change in the manpower and facilities for working as well as welfare activities for the workforce to keep them motivated:

8.3 The office establishment was moved to its modern, spacious, eco-friendly office of carpet area of 30,045 sq. ft. with adequate facilities conducive to carry out multifarious official activities in alignment with the changing business requirement of PNGRB.

8.4 Several field trips are organised for the targeted group of officials to keep them abreast with the various ground realities of Oil & Gas installations in different part of the country.

8.5 Eminent experts were invited to deliver talks to keep the work force abreast with the new technology and changing business dynamics in oil & gas sector.

8.6 It also organized leadership training programs for the officers to discharge their duties efficiently. Several programs also organised to upskill the work force for keeping them aligned with the business requirement of PNGRB.

8.6 For creating awareness and to ensure safety, PNGRB official were sent to participate in workshops/training programs organised by Oil & Gas industry, National Disaster Management Authority (NDMA), Ministry of Forests & Climate Change and CCI in various cities across the country to exchange information on technology upgradation preparedness, mitigation planning using onsite and offsite emergency planning, transportation of hazardous petroleum product and natural gas through pipeline and other modes etc.

8.7 HR Division inducted several Experts and Principal Consultants who are having domain knowledge of different verticals of PNGRB to bring synergy and expeditious execution of project in critical areas like Green Hydrogen, Compressed Biogas Cell, IT Cell etc.

8.8 HR Division introduced welfare measures for staff & officers with a view to motivate them to harness the best in the execution of ongoing activities of PNGRB. These welfare measures motivated them so that overall work culture in PNGRB remained conducive for achieving the target set for execution of projects for creating a vibrant energy market with high level of protection of consumer interest.

9. PNGRB has significantly enhanced its Information Technology infrastructure, focusing on network & cybersecurity, software upgrades, and procurement of new IT infrastructure. Some of the key achievements are enumerated below: -

9.1 Creation of new datacentre and network in PNGRB's new office, enhancement of cybersecurity, migration to new Email platform, upgrade, and migration of e-Office to cloud for enhanced availability & security, and development of new Web-based applications.

9.2 PNGRB has also started the project for implementation of SAP system for improved control and transparency.

9.3 GIS-based **National Hydrocarbon Infrastructure Monitoring System** (NHIMS) is currently under implementation for efficient Planning and Monitoring of Petroleum and Petroleum Products, Natural Gas and CGD infrastructure in the whole country.