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REVIEW OF PERFROMANCE OF PETROLEUM & NATURAL GAS SECTOR CPSUs

MINISTRY OF PETROLEUM AND NATURAL GAS

COMMITTEE ON PUBLIC UNDERTAKINGS (2025-26)

TWENTY-FIRST REPORT

(EIGHTEENTH LOK SABHA)

LOK SABHA SECRETARIAT

NEW DELHI

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MINISTRY OF PETROLEUM AND NATURAL GAS

Presented to Lok Sabha on 11 December, 2025
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LOK SABHA SECRETARIAT
NEW DELHI

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* Elected w.e.f. 19.12.2023 *vice* Shri Uday Pratap Singh resigned as Member of Lok Sabha w.e.f. 06.12.2023.

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Shri Santosh Kumar Gangwar - Chairperson

Members

LOK SABHA

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7. Smt. Poonamben Hematbhai Maadam
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INTRODUCTION

I, the Chairperson, Committee on Public Undertakings (2025-26), having been authorized by the Committee to submit the Report on their behalf, present this Twenty-First Report on 'Review of Performance of Petroleum and Natural Gas Sector CPSUs.'

2. The Committee on Public Undertakings (2022-23) of 17th Lok Sabha had taken up this subject for detailed examination and report. The subject was subsequently carried forward by the successor Committees in (2023-24) of 17th Lok Sabha, and (2024-25) and (2025-26) in the 18th Lok Sabha to complete the unfinished task.

3. The Committee on Public Undertakings initially took a briefing on the subject from the Ministry of Petroleum and Natural Gas. Thereafter, the Committee took evidence of the seven of the 12 Petroleum & Natural Gas sector CPSUs viz. Indian Oil Corporation Limited (IOCL), Bharat Petroleum Corporation Limited (BPCL), Hindustan Petroleum Corporation Limited (HPCL), Oil and Natural Gas Corporation Limited (ONGC), GAIL (India) Limited, Engineers India Limited (EIL) and Balmer Lawrie & Co. Ltd. For, Oil India Limited (OIL), the Committee examined the written submissions made by the Company. The Committee, then, finally took evidence of the Ministry of Petroleum and Natural Gas for concluding the examination of the subject.

3. The Committee on Public Undertakings (2025-26) considered and adopted the draft Report at their sitting held on 05 December, 2025.

4. The Committee wish to express their thanks to the representatives of the Ministry of Petroleum and Natural Gas and the afore-mentioned seven CPSUs for tendering their evidence before the Committee and furnishing the requisite information in connection with the examination of the subject.

5. The Committee also wish to express their sincere thanks to the predecessor Committees for their endeavours in examination of the subject.

6. For facility of reference and convenience, the Observations/Recommendations of the Committee have been printed in bold letters in Part - II of the Report.

New Delhi:
08 December, 2025
17 Agrahayana, 1947(S)

BAIJAYANT PANDA
Chairperson,
Committee on Public Undertakings

ABBREVIATIONS

1.	ADNOC	Abu Dhabi National Oil Company
2.	BBL/Day	Barrels per Day
3.	BCM	Billion Cubic Metres
4.	BPCL	Bharat Petroleum Corporation Limited
5.	CBAM	Carbon Border Adjustment Mechanism
6.	CBG	Compressed Bio-Gas
7.	CBM	Coal Bed Methane
8.	CCR	Continuous Catalytic Reforming
9.	CCS	carbon capture and storage
10.	CNG	Compressed Natural Gas
11.	CNT	Carbon Nanotube
12.	COP	Conference of the Parties to the United Nations Framework Convention on Climate Change
13.	CPSU	Central Public Sector Undertaking
14.	DGH	Directorate General of Hydrocarbons
15.	DSF	Discovered Small Field
16.	E&P company	Exploration and Production company
17.	EBP	Ethanol Blended Petrol
18.	EIL	Engineers India Limited
19.	EOI	Expression of Interest
20.	EOR	Improved Oil Recovery
21.	ESG	Environmental, Social and Governance
22.	EV	Electric Vehicle
23.	FCIL	Fertilizer Corporation of India Limited
24.	FY	Financial Year
25.	GCS	Gas Collection Station
26.	GHG	Greenhouse Gas
27.	HDPE	High-Density Polyethylene
28.	HELP	Hydrocarbon Exploration and Licensing Policy
29.	HMEL	HPCL-Mitttal Energy Limited
30.	HPCL	Hindustan Petroleum Corporation Limited
31.	HRRL	HPCL Rajasthan Refinery Limited
32.	ICV	In-Country Value

33.	IEBR	Internal and Extra Budgetary Resources
34.	IHB	IHB Limited (a Joint Venture of Indian Oil, Hindustan Petroleum & Bharat Petroleum)
35.	IOCL	Indian Oil Corporation Limited
36.	IoT	Internet of Things
37.	ISPRL	Indian Strategic Petroleum Reserves Limited
38.	JV	Joint Venture
39.	KG-PB Basin	Krishna-Godavari—Pranhita-Godavari Basin
40.	KPI	Key Performance Indicators
41.	LABFS	Linear Alkyl Benzene Feed Stock
42.	LKM	Line Kilometres
43.	LLDPE	Linear Low-Density Polyethylene
44.	LNG	Liquefied Natural Gas
45.	LPG	Liquefied Petroleum Gas
46.	MGD	Million Gallons per Day
47.	MMSCMD	Million Metric Standard Cubic Metres per Day
48.	MMT	Million Metric Tonnes
49.	MMTOE	Million Metric Tonnes of Oil Equivalent
50.	MMTPA	Million Metric Tonnes per Annum
51.	MoH&FW	Ministry of Health and Family Welfare
52.	MoPNG	Ministry of Petroleum and Natural Gas
53.	MWCNT	Multi-Walled Carbon Nanotube
54.	MWp	Megawatt Peak
55.	NELP	New Exploration Licensing Policy
56.	NFL	National Fertilizers Limited
57.	OALP	Open Acreage Licensing Programme
58.	OBE	Open Book Estimate
59.	OEM	Original Equipment Manufacturer
60.	OIDB	Oil Industry Development Board
61.	OIL	Oil India Limited
62.	OMCs	Oil Marketing Companies
63.	ONGC	Oil and Natural Gas Corporation Limited
64.	PDPP	Propylene Derivative Petrochemical Project
65.	P&NG	petroleum and natural gas

PART – I

CHAPTER-1
INTRODUCTION

The Ministry of Petroleum and Natural Gas (MoPNG) has informed the Committee that twelve Central Public Sector Undertakings (CPSUs) are currently operating within the petroleum and natural gas (P&NG) sector. Of these, eight—namely Indian Oil Corporation Limited (IOCL), Bharat Petroleum Corporation Limited (BPCL), Hindustan Petroleum Corporation Limited (HPCL), Oil and Natural Gas Corporation Limited (ONGC), Oil India Limited (OIL), GAIL (India) Limited (GAIL) formerly known as Gas Authority of India Limited, Engineers India Limited (EIL), and Balmer Lawrie & Co. Ltd. (Balmer Lawrie)— have been thoroughly examined by the Committee in relation to the subject under review. In their analysis, the Committee conducted an in-depth study of the CPSUs in the P&NG sector. However, it was noted that two CPSUs—EIL and Balmer Lawrie—operate within distinct segments of the industry. Regarding the various segments of the P&NG sector in which these CPSUs work, the representatives of MoPNG, during a deliberation on the subject, has stated as under:

> "... हमारे मंत्रालय के अधीन 12 सीपीएससीज हैं। उनमें से तीन एक्सप्लोरेशन और प्रोडक्शन में हैं। भारत में जो तेल और गैस प्रोड्यूस करते हैं, उनमें ओएनजीसी, ऑयल इंडिया और ओएनजीसी विदेश लिमिटेड हैं। उसके बाद गेल है जो गैस का ट्रांसपोर्टेशन करता है। उसको मिडस्ट्रीम कहते हैं। तीन ऐसी सीपीएससीज हैं, जो मार्केटिंग और रिफाइनिंग दोनों में हैं। वे इंडियन ऑयल कॉर्पोरेशन, भारत पेट्रोलियम कॉर्पोरेशन और हिन्दुस्तान पेट्रोलियम कॉर्पोरेशन हैं। हमारे पास तीन स्टैंड अलोन रिफाइनरीज हैं, जो अपनी रिफाइनरी प्रोडक्ट बनाती हैं और मार्केटिंग कंपनीज को बेचती हैं। वे चेन्नई पेट्रोलियम कॉर्पोरेशन लिमिटेड, नुमालीगढ़ रिफाइनरी लिमिटेड और मैंगलोर रिफाइनरी एंड पेट्रोकैमिकल्स लिमिटेड हैं। इसके अलावा हमारे दो सर्विस प्रोवाइडर्स पीएसयूज हैं। इंजीनियर्स इंडिया लिमिटेड, जो देश में कंसलटेंसी ऑफ प्रोजेक्ट मैनेजमेंट कंसलटेंसी देती हैं। उनके मुख्यत: आयॅल और गैस में ज्यादा एडवांटेजेज हैं। बामर एंड लॉरी भी हैं, जो लुब्रीकेशन और ट्रांसपोर्टेशन के क्षेत्र में छोटे-छोटे प्रोडक्ट्स बनाते हैं। इसके अलावा ये सर्विसेज सेक्टर में भी हैं।"

1.2 Regarding the Government's equity share in each of these CPSUs and their Ratna status, the representatives of MoPNG has submitted as under:

> "... गवर्नमेंट में इनके इक्विटी शेयर कैपिटल का लेखा-जोखा है। ओएनजीसी में लगभग 60 प्रतिशत और ऑयल इंडिया में 57 प्रतिशत इक्विटी है। ओवीएल में यह ओएनजीसी की सब्सिडियरी है। गेल में भारत सरकार का 51.45 प्रतिशत इक्विटी है। आईओसीएल में लगभग 51 प्रतिशत, बीपीसीएल में 53 प्रतिशत और एचपीसीएल जो पहले भारत सरकार के पास थी, अब उसके शेयर ओएनजीसी के पास है, वह लगभग 55 प्रतिशत है। ईआईएल में भारत सरकार की 51 प्रतिशत के

आस-पास इक्विटी है। सीपीसीएल आईओसीएल की एक सब्सिडियरी है, जिसमें आईओसीएल और गवर्नमेंट ऑफ ईरान की कुछ इक्विटी है। एनआरएल पहले बीपीसीएल की कंपनी थी, जिसमें गवर्नमेंट ऑफ असम की इक्विटी थी। अब ऑयल इंडिया लिमिटेड और ईआईएल ने बीपीसीएल की इक्विटी ले ली है। एमआरपीएल में ओएनजीसी और एचपीसीएल की इक्विटी है और बामर एंड लॉरी की इंवेस्टमेंट की 62 परसेंट है तथा गवर्नमेंट ऑफ इंडिया की करीब 59 परसेंट है।

1.3 Some details of the eight CPSUs examined by the Committee as on 31.03.2025 are tabulated below:

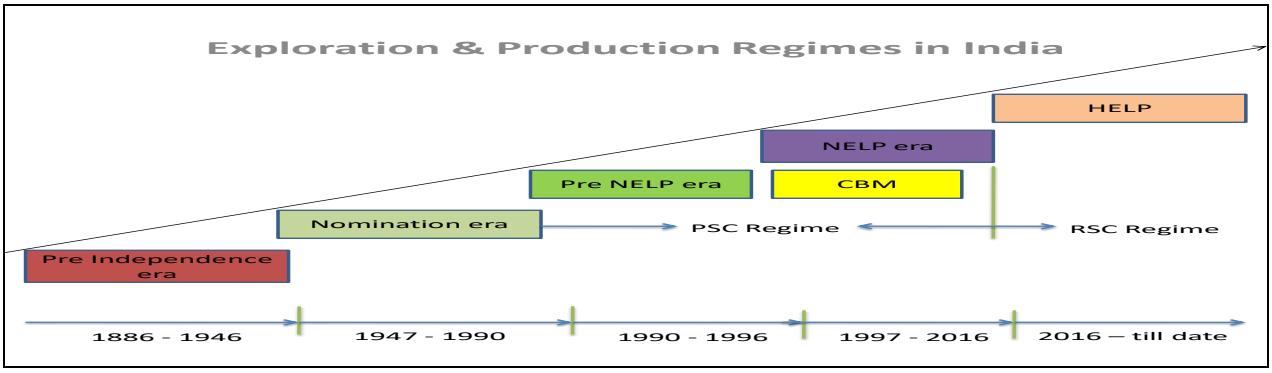
(₹ in crore)

Sl. No.	**Name of the CPSU**	**Ratna status**	**Authorised Capital**	**Paid up Capital**	**Net worth**	**Profit After Tax**
1.	ONGC	Maharatna	15,000.00	6,290.14	3,16,283.50	35,610.30
2.	OIL	Maharatna	2,000.00	1,626.61	39,530.52	6,114.19
3.	IOCL	Maharatna	30,000.00	13,771.56	1,78,677.00	12,962.00
4.	BPCL	Maharatna	11,935.00	4,272.58	81,384.00	13,337.00
5.	HPCL	Maharatna	5,000.00	2,128.21	45,958.00	7,365.00
6.	GAIL	Maharatna	10,000.00	6,575.10	63,241.00	11,312.00
7.	EIL	Navratna	400.00	281.02	2,620.00	465.24
8.	Balmer Lawrie	Mini Ratna Category-I	300.00	171.00	1,527.95	232.80

1.4 While the Committee have endeavored to take a comprehensive and inclusive view of the sector as a whole, certain unique issues concerning EIL and Balmer Lawrie have been addressed separately to ensure that their specific operational contexts are duly acknowledged and examined. Through this balanced approach, the Committee have striven to provide a thorough, nuanced understanding of the sector, considering both common challenges and specialized aspects unique to individual CPSUs.

A. BRIEF HISTORY OF PETROLEUM AND NATURAL GAS SECTOR

1.5 The history of oil and gas exploration in India began in the 19th century in Assam, where the first oil discovery occurred in Makum near Margherita in 1867, just nine years after the world's first commercial oil well in Pennsylvania. The industry's foundation was laid with the drilling of India's first commercial oil well, Digboi-1 (1889–1890), by the Assam Railway & Trading Company, marking the official birth of the Indian oil industry. Over the following decades, Digboi evolved into a significant oil field, and exploration efforts expanded across the region before India's independence.



1.6 To strengthen governance and efficiency in the energy sector, the Directorate General of Hydrocarbons (DGH) was established in 1993 under MoPNG to ensure environmentally sound and technologically advanced management of hydrocarbon resources. DGH oversees policies such as the Hydrocarbon Exploration and Licensing Policy (HELP) and Discovered Small Field (DSF) Policy, encouraging private and foreign investment in exploration. India's 26 sedimentary basins, spanning 3.36 million sq. km, are explored by national companies like ONGC and OIL, which remain dominant producers—contributing around 75.6% of crude oil and 61.5% of natural gas in FY 2023–24—while continuing to develop complex reservoirs and collaborate with private and joint-venture partners through various bidding rounds like New Exploration Licensing Policy (NELP), DSF, and Open Acreage Licensing Programme (OALP).

1.7 As per India Hydrocarbon Vision 2025, 100% Indian sedimentary area is to be appraised. Onland area covers 1.63 million sq. km (48.5%) and Offshore area covers 1.73 million sq. km. As of now, 72.8% of the basinal areas have been appraised. About 1.6% sedimentary basinal area has been declared as "NO GO area" by Ministry of Defence/Ministry of Environment, Forest & Climate Change (MoEF&CC), which remains unapprised. This means, about half of the Indian sedimentary basins have the undiscovered potential of hydrocarbons. The Indian sedimentary basins have been broadly divided into three categories based on their degree of prospectivity as presently known which is as under:

CATEGORIES OF INDIAN SEDIMENTARY BASINS			
Type of Basins	**Area (sq. km)**	**Hydrocarbons Prospectivity**	**Basins/ Region**
Category I (7 Basins)	9,98,325	Established commercial production	Cambay, Assam Shelf, Mumbai offshore, Krishna Godavari, Cauvery, Assam Arakan Fold Belt and Rajasthan
Category II (5 Basins)	7,80,974	Discovered accumulation of hydrocarbons but no commercial production as yet.	Kutch, Mahanadi-NEC & Andaman-Nicobar, Vindhyan, Saurashtra
Category III (14 Basins)	15,86,150	No known accumulation of hydrocarbon yet. Prospective by analogy	Himalayan Foreland, Ganga, Kerala-Konkan-Lakshadweep, Bengal, Karewa, Spiti-Zanskar, Satpura-South Rewa Damodar, Narmada, Decan Syneclise, Bhima-Kaladgi, Cuddapah, Pranhita-Godavari, Bastar, Chhattisgarh
Total	**33,65,449**		

1.8 India's petroleum refining sector has evolved dramatically since the establishment of the country's first refinery at Digboi in 1901, which had a modest capacity of 0.5 million metric tonnes per annum (MMTPA) and remained the only refinery until independence. The post-independence era marked rapid expansion, beginning with the Esso refinery (now HPCL Mumbai Refinery) in 1954, followed by facilities set up by Burmah Shell, Caltex, and others in both the public and private sectors. Over time, India transitioned from a refining deficit in 2001 to achieving self-sufficiency and becoming a global refining hub, with a total capacity of 256.8 MMTPA, making it the fourth largest in the world after the United States, China and Russia. The country now hosts 23 refineries—19 public, 3 private, and 1 joint venture—well-distributed and interconnected through a national pipeline network.

1.9 Refinery modernization in the late 1990s was driven by environmental imperatives, leading to the adoption of technologies such as Continuous Catalytic Reforming (CCR), Hydrocracking, Hydro-treating/Desulphurisation, and INDMAX for LPG maximization. A major policy milestone was the direct leap from BS-IV to BS-VI emission norms,

implemented nationwide on April 1, 2020, introducing 10-ppm sulphur fuels for cleaner combustion. India's refining capacity rose sharply from 62 MMTPA in 1998 to 256.8 MMTPA today, with public sector refineries contributing 157.32 MMTPA, private players 88.2 MMTPA, and a joint venture 11.3 MMTPA. Given the country's expanding economy and industrialization, energy demand continues to rise, cementing India's position as the world's third-largest oil consumer as of 2023.

B. OVERVIEW OF THE CPSUs

1.10 A brief overview of all the 12 CPSUs under MoPNG are given below:

(i) IOCL: Indian Oil Corporation Limited (IOCL) stands as a diversified and integrated energy major with a robust presence across the entire spectrum of oil, gas, petrochemicals and alternative energy. The brand embodies a commitment to responsible energy stewardship, leveraging high-calibre talent and cutting-edge technologies to deliver energy solutions that are both sustainable and affordable.

IOCL's operations span the full hydrocarbon value chain from refining, pipeline transportation and marketing to exploration and production of crude oil and natural gas, petrochemicals, gas marketing, and the development of alternative energy. Its global aspirations are reflected in its business forays in Sri Lanka, Mauritius, UAE and other international markets.

As a brand with one of the largest customer interfaces in India, IOCL reaches precious petroleum fuels to every nook and corner of the Country through its network of about 63,267 customer touch-points, surmounting the challenges of tough terrain, climate and accessibility. The marketing network is bolstered by 70.3 MMTPA of refining capacity and more than 20,005 km of cross-Country pipelines. Moreover, IOCL's R&D Centre at Faridabad, one of Asia's finest in downstream petroleum R&D, offers a competitive advantage to the Corporation through world-class technology and process solutions and innovative products. IOCL R&D has also been instrumental in pioneering path-breaking research to leverage the potential of Hydrogen and other cleaner fuels for the sustainable progress of the nation.

(ii) BPCL: Bharat Petroleum Corporation Limited (BPCL) was established on 24 January 1976 after the Government of India acquired Burmah-Shell Oil Storage &

Distribution Company of India and Burmah-Shell Refineries Limited. It attained *Maharatna* status in September 2017 for its consistent physical and financial performance. BPCL's operations span the entire hydrocarbon value chain — refining, marketing, pipeline transportation, exploration, petrochemicals, gas marketing and renewable energy. Its wholly owned subsidiary, *Bharat Petro Resources Limited (BPRL)*, was set up in October 2006 for exploration and production activities. BPCL operates three refineries — *Mumbai, Kochi,* and *Bina* — with a combined refining capacity of 35.3 MMTPA. The Mumbai Refinery, commissioned in 1955, was modernized to 12 MMTPA in 2005. The Bina Refinery, earlier a joint venture (BORL) with Oman Oil Company, was merged with BPCL in 2022 and has a capacity of 7.8 MMTPA, which will be expanded to 11 MMTPA through a ₹43,367 crore petrochemical and refinery expansion project including an Ethylene cracker unit. The Kochi Refinery, commissioned in 1966, has grown to 15.5 MMTPA and achieved a Nelson Complexity Index of 11.21, producing niche petrochemical products under the PDPP project.

BPCL has a strong nationwide marketing network supported by 80 depots, 55 LPG bottling plants and over 23,000 retail outlets as of March 2025. Its customer network includes 6,269 LPG distributors, 410 lube distributors, 108 industrial distributors, 2,332 CNG facilities and 6,104 EV charging stations. It also operates India's second largest petroleum product pipeline network — 2,600 km for products and 937 km for crude, with a combined capacity of 20.9 MMTPA. BPCL functions through 22 joint ventures and 2 subsidiaries across the oil and gas value chain and houses a state-of-the-art R&D Centre at Noida, driving technological innovation and sustainability in refining and energy operations.

(iii) HPCL: Hindustan Petroleum Corporation Limited (HPCL) was formed on July 15, 1974, through the amalgamation of ESSO Standard Refining Company of India Ltd. and Lube India Ltd., followed by the merger of Caltex Oil Refining Company in 1978. In 2018, the Government of India transferred its 51.11% equity stake in HPCL to ONGC, and in 2019, HPCL was granted *Maharatna* status for its consistent performance. HPCL operates two major refineries at Mumbai and Visakhapatnam with a combined capacity of 24.5 MMTPA and also owns India's largest lube refinery at Mumbai (428 TMTPA). Capacity enhancement projects such as the Mumbai Refinery Expansion (to 9.5 MMTPA)

and the Visakh Refinery Modernization (to 15 MMTPA) have strengthened its refining base. HPCL holds stakes in HMEL (48.99%) and MRPL (16.96%), adding to its refining footprint across India.

HPCL entered the petrochemical sector with its polymer brand *HP Durapol* in 2022, offering HDPE, LLDPE, and PP products. The company is investing in expanding petrochemical capacities, including a 9 MMTPA refinery-cum-petrochemical complex in Rajasthan with 2.4 MMTPA petrochemical output. It has a vast marketing and distribution network across India, supported by retail outlets, LPG and lube distributors, CNG facilities, and EV charging stations, along with a 5,134 km petroleum product pipeline network. Through 20 joint ventures and subsidiaries, HPCL operates across the oil and gas value chain. Its *HP Green R&D Centre* in Bengaluru drives innovation, technology development, and sustainability, while its CSR initiatives focus on environmental preservation, workplace safety, and community welfare.

(iv) ONGC: Oil and Natural Gas Corporation Limited (ONGC), a *Maharatna* company, is India's largest oil and gas exploration and production enterprise, contributing about 70% of the country's crude oil and 55% of its natural gas. Established initially in 1955 as the Oil and Gas Division under the Geological Survey of India, it became the Oil and Natural Gas Commission on 14 August 1956, and was later converted into a corporation in 1994. ONGC operates across the entire hydrocarbon value chain, with expertise in exploration, drilling, production, refining, transportation, and marketing. It has discovered seven of India's eight producing basins and holds about 83% of the country's hydrocarbon reserves. The company has developed strong in-house capabilities in seismic data processing, well operations, engineering, and applied R&D, supported by dedicated institutes for training and technological innovation.

For efficient operations, ONGC has established basin units, exploratory assets, production assets, and processing plants across India. Its major basins include Assam & Assam Arakan, Western Offshore (Mumbai), MBA (Kolkata), Western Onshore (Vadodara), KG-PG (Rajahmundry), Cauvery (Chennai) and Frontier (Dehradun). Exploratory assets are located in Rajasthan-Kutch and Assam Arakan Fold Belt. Key production assets include Mumbai High, Neelam & Heera, Bassein & Satellite, Eastern Offshore (Kakinada), and onshore assets in Gujarat (Ahmedabad, Ankleshwar, Mehsana,

Cambay), Andhra Pradesh (Rajahmundry), Tamil Nadu (Cauvery), Assam (Nazira, Jorhat), Tripura and CBM (Bokaro). ONGC also operates major processing plants at Dahej and Hazira in Gujarat and Uran in Maharashtra, producing value-added products. Through its extensive infrastructure and integrated operations, ONGC remains central to India's energy security and hydrocarbon development.

(v) OIL: Oil India Limited (OIL), one of India's oldest and most prominent hydrocarbon exploration and production companies, traces its origins to the first oil discovery in 1889. Over the decades, it has evolved into a fully integrated energy company, especially after acquiring a majority stake in *Numaligarh Refinery Limited (NRL)*. This acquisition expanded its presence across the entire energy value chain. OIL was conferred *Maharatna* status on August 4, 2023, recognizing its strategic importance in India's energy sector and its growing role in ensuring the nation's energy security. With over six decades of upstream experience, OIL contributes about 9% of India's total crude oil and natural gas production.

As of March 31, 2025, OIL's domestic operations span across Assam, Arunachal Pradesh, Tripura, Nagaland, Odisha, Andhra Pradesh and Rajasthan, along with offshore activities in the Andaman, Kerala-Konkan, and KG shallow waters. Internationally, OIL holds Participating Interests in 10 blocks across seven countries—Russia, Venezuela, Mozambique, Nigeria, Gabon, Bangladesh and Libya—covering producing, development, and exploratory assets. The Company also operates an extensive 1,900 km pipeline network, including a 1,157 km crude oil pipeline from Naharkatiya (Assam) to Barauni (Bihar), with branch lines to Digboi, and product pipelines from Numaligarh to Siliguri (654 km). This network ensures efficient crude and product transportation, strengthening OIL's position as a key player in India's hydrocarbon infrastructure and integrated energy ecosystem.

(vi) GAIL: GAIL (India) Limited (GAIL), incorporated in August 1984 under MoPNG, is India's largest natural gas Company with a mission to optimize the use of natural gas for the national economy. It operates an extensive gas pipeline network of around 16,420 km and an LPG pipeline network of 2,040 km. GAIL runs five gas processing plants producing about 1.4 MMTPA of LPG and other hydrocarbons, and an integrated

petrochemical plant with 810 KTPA polymer capacity. It is a co-promoter of the *Brahmaputra Cracker and Polymer Limited (BCPL)* in Assam and *ONGC Petro Additions Limited (OPaL)* in Gujarat. GAIL also has stakes in *Petronet LNG* (Dahej and Kochi terminals) and *Konkan LNG Pvt. Ltd.* (Dabhol terminal), along with investments in fertilizer ventures such as *Ramagundam Fertilizer & Chemicals Ltd.* and *Talcher Fertilizers Ltd.* Additionally, GAIL owns *GAIL Mangalore Petrochemicals Ltd.* (formerly JBF Petrochemicals) and has stakes in *ONGC Tripura Power Company* and *LNG Japonica Shipping Corporation Ltd.*

A pioneer in India's City Gas Distribution (CGD) business, GAIL and its group companies operate across 72 geographical areas with 8 JVs and 3 subsidiaries. Internationally, it has operations and offices in Russia, USA, Singapore, Myanmar, China and Egypt. Its subsidiaries, *GAIL Global (USA) Inc.* and *GAIL Global (Singapore) Pte. Ltd.*, manage overseas investments and LNG trading, with a total LNG sourcing portfolio of 16.56 MMTPA. GAIL has participating interests in 13 exploration blocks (10 in India, 2 in Myanmar, and 1 shale JV in USA) and equity in the *South East Asia Gas Pipeline Company (SEAGP)*. The Company is also expanding in renewables, with a portfolio of ~145 MW (118 MW wind and 27 MW solar), and is actively exploring new energy ventures including CBG, ethanol, hydrogen and coal gasification. GAIL commissioned India's first 10 MW green hydrogen electrolyzer at Vijaipur, Madhya Pradesh, and the Country's first Small Scale LNG (SSLNG) Skid at the same site. Committed to sustainability, GAIL aims to achieve Net Zero emissions for Scope 1 and 2 by 2035 and a 35% reduction in Scope 3 emissions by 2040.

(vii) EIL: Engineers India Limited (EIL), established in 1965, is a *Navratna* Public Sector Enterprise and an ISO 9001:2015 certified Company. It is India's only "Total Solution" engineering consultancy organization offering comprehensive services in *Design, Engineering, Procurement, Construction* and *Integrated Project Management* — from concept to commissioning — across the entire hydrocarbon value chain. Over the years, EIL has diversified beyond hydrocarbons into petrochemicals, fertilizers, gas processing, pipelines, offshore/onshore oil & gas terminals, storage, mining & metallurgy, and infrastructure & urban development. With over 59 years of service to the nation, EIL has successfully executed more than 7,000 projects valued at over USD 200 billion,

including 91 refinery projects (10 greenfield), 13 petrochemical complexes, 12 fertilizer plants, 45 oil & gas processing projects, 248 offshore platforms, 52 pipeline projects, 33 mining & metallurgy projects, 14 ports & terminals, 41+ infrastructure projects, and 24 turnkey projects, establishing it as a trusted engineering leader in India's industrial growth.

EIL has earned global recognition for its assignments across West Asia, North Africa, Europe, the Middle East and Southeast Asia, with projects in countries such as Algeria, Kuwait, Oman, Qatar, Saudi Arabia, Malaysia, UAE and Nigeria. Expanding into new-age infrastructure, EIL has showcased innovation through projects like Green Intelligent Buildings, Data Centres, High-Speed Rail and urban water management systems. It has provided *Urban Solutions* to several State and Central Government entities and has executed prestigious projects such as the modernization of domestic and international airports, institutional campuses, and the monitoring and redevelopment of the Central Vista Project in New Delhi — reinforcing its position as a premier engineering consultancy driving India's infrastructure and energy transformation.

(viii) Balmer Lawrie: Balmer Lawrie & Co. Ltd. is a multi-technology, multi-location Company headquartered at Kolkata with operations spread through India. The Company has significant transnational business interest with joint ventures in Dubai and Indonesia. The Company also has one subsidiary and several joint ventures in India. The Company's business interest spans both Manufacturing and Services. There is no direct holding by Government of India in Balmer Lawrie. Balmer Lawrie Investments Ltd., a Government Company holds 61.80% of shares in Balmer Lawrie. Central Government holds 59.67% in Balmer Lawrie Investments Ltd.

(ix) CPCL: Chennai Petroleum Corporation Limited (CPCL), a Schedule-A *Miniratna* and group company of IOCL, is one of the leading oil refining companies in Southern India with a refining capacity of 10.5 MMTPA at its Manali refinery in Chennai. Serving as a mother industry, CPCL provides key feedstocks like propylene, butylene and LABFS to downstream petrochemical and chemical industries. The Company is also setting up a new 9 MMTPA grassroots refinery at Nagapattinam in joint venture with IOCL and other strategic partners. Beyond refining, CPCL has made significant contributions to India's

strategic and scientific advancements — notably developing a JP-7 equivalent thermally stable fuel for the Defense Research and Development Laboratory (DRDL), Hyderabad, for use in hypersonic cruise missiles, successfully delivered in September 2022. Building on this success, CPCL also achieved the indigenous production of ISROSENE, a cryogenic rocket fuel, for the Indian Space Research Organisation (ISRO – IPRC Mahendragiri), and since March 2024, has been the official supplier of ISROSENE after meeting ISRO's stringent specifications, marking a major milestone in India's self-reliance in defense and space-grade fuels.

(x) NRL: Numaligarh Refinery Limited (NRL), incorporated on 22nd April 1993, was established as part of the historic *Assam Accord* of 1985 and is a subsidiary of *Oil India Limited (OIL)*. A Schedule-A, Category-I *Miniratna* CPSu under MoPNG, NRL began its commercial operations on 1st October 2000 and operates a state-of-the-art petroleum refinery at Numaligarh in Assam's Golaghat district. The refinery, known for its high complexity factor and advanced secondary processing technologies, produces a range of products including LPG, Naphtha, Motor Spirit, Aviation Turbine Fuel, High-Speed Diesel, Superior Kerosene Oil, Paraffin Wax, Petroleum Coke and Sulphur, and houses the largest wax-producing unit in India. NRL also operates an LPG bottling plant (capacity 42 TMTPA) and marketing terminals at Numaligarh and Siliguri, with white oil products transported through the *Numaligarh–Siliguri Product Pipeline (NSPL)* operated by OIL. As of 31st March 2025, NRL's shareholding pattern comprises OIL – 69.63%, Government of Assam – 26% and EIL – 4.37%, with no direct equity holding by the Government of India.

(xi) MRPL: Mangalore Refinery and Petrochemicals Limited (MRPL), a *Schedule-A Miniratna* Company under MoPNG, holds about 6% of India's total refining capacity and operates as a standalone refinery located in Mangalore, Karnataka. The refinery is equipped with its own captive power generation facilities and emphasizes sustainable water management — sourcing 3-4 MGD of treated wastewater from Mangalore city and operating a Sea Water Desalination Plant commissioned in December 2021 with a capacity of 6 MGD, later expanded to 8 MGD in February 2024, with provisions to scale up to 15 MGD. MRPL's logistics infrastructure includes two berths at the *New Mangalore Port Authority (NMPA)* and a Single Point Mooring (SPM) facility located 17 km offshore,

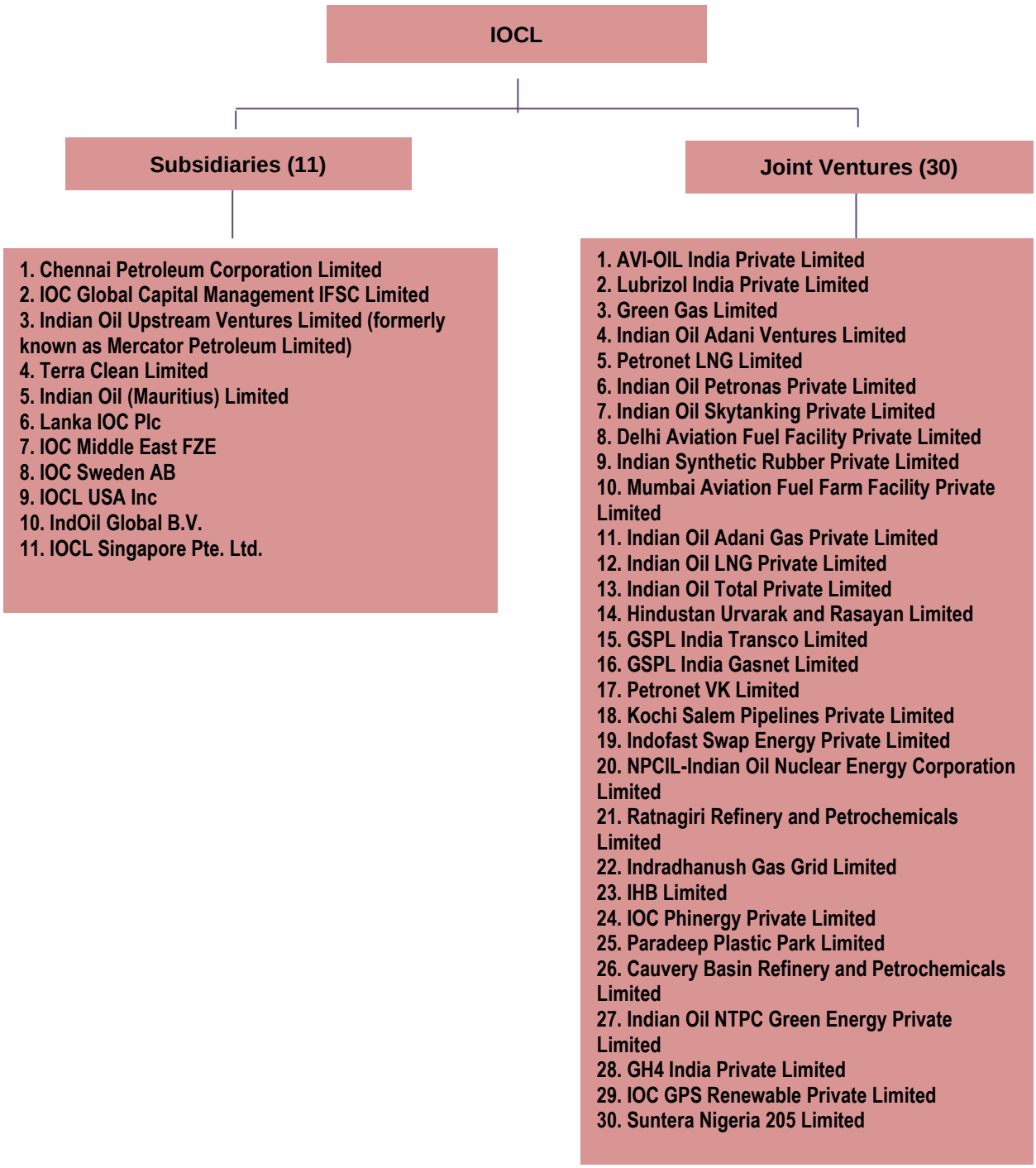
ensuring efficient crude handling. The Company also promotes renewable energy through an 8.56 MWp grid-interactive rooftop solar power plant and is steadily expanding its retail presence, operating 167 fuel outlets across India as of 31st March 2025, with plans for continued growth.

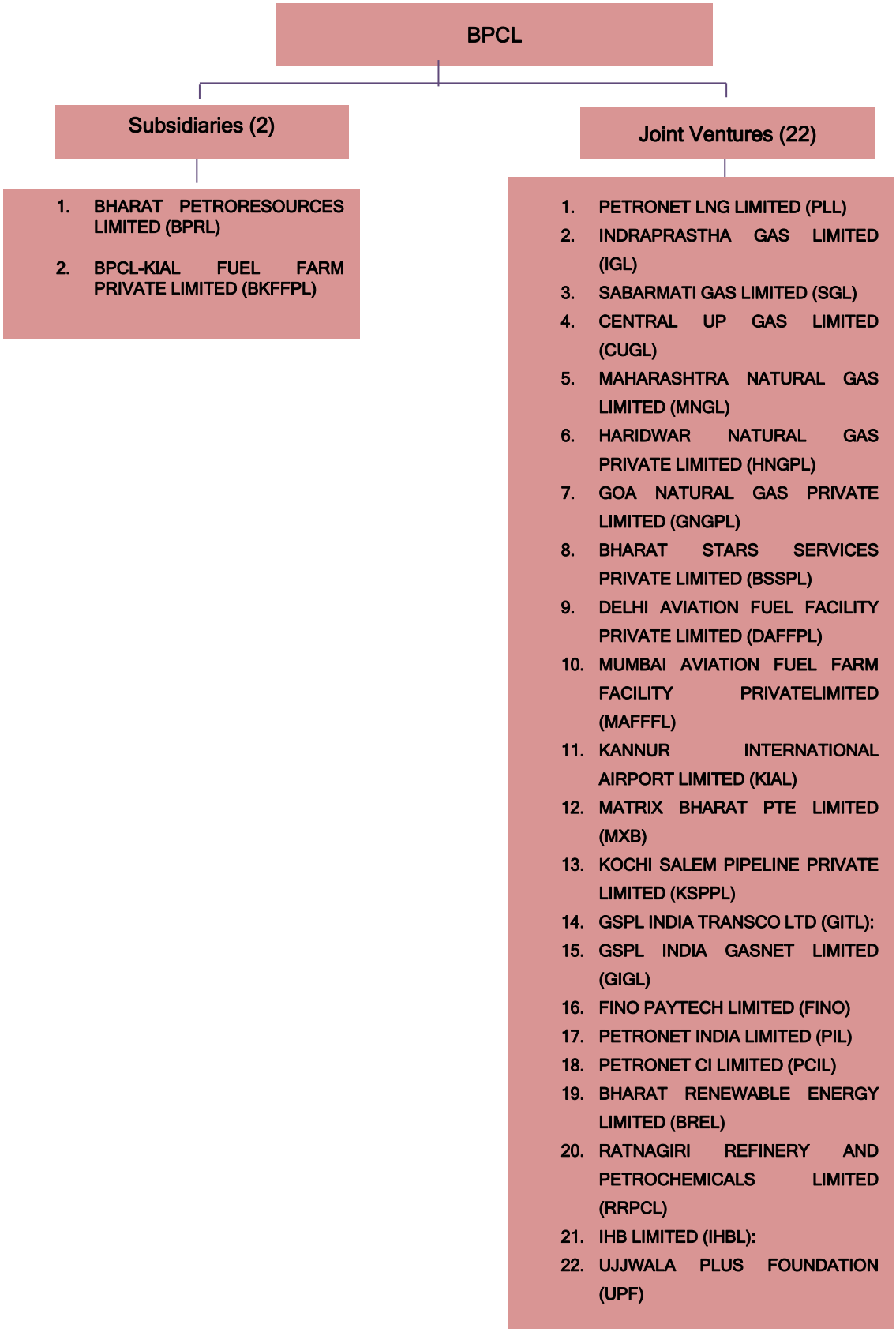
(xii) OVL: ONGC Videsh Limited (OVL), a *Navratna* Schedule "A" CPSU under MoPNG, is the wholly owned subsidiary and international arm of *ONGC*. OVL's core business involves exploration, development and production of oil and gas assets outside India, with the key objectives of enhancing India's energy security through equity oil and gas, saving foreign exchange, collaborating with global industry leaders, strengthening strategic bilateral relationships, diversifying energy sources, and establishing a presence in countries of strategic importance. As the second-largest petroleum company in India after ONGC, OVL produced 7.265 MMT of oil and 10.278 MMTOE of oil and gas in FY 2024–25, accounting for 25.3% of India's oil and 15.9% of its total oil and gas production.

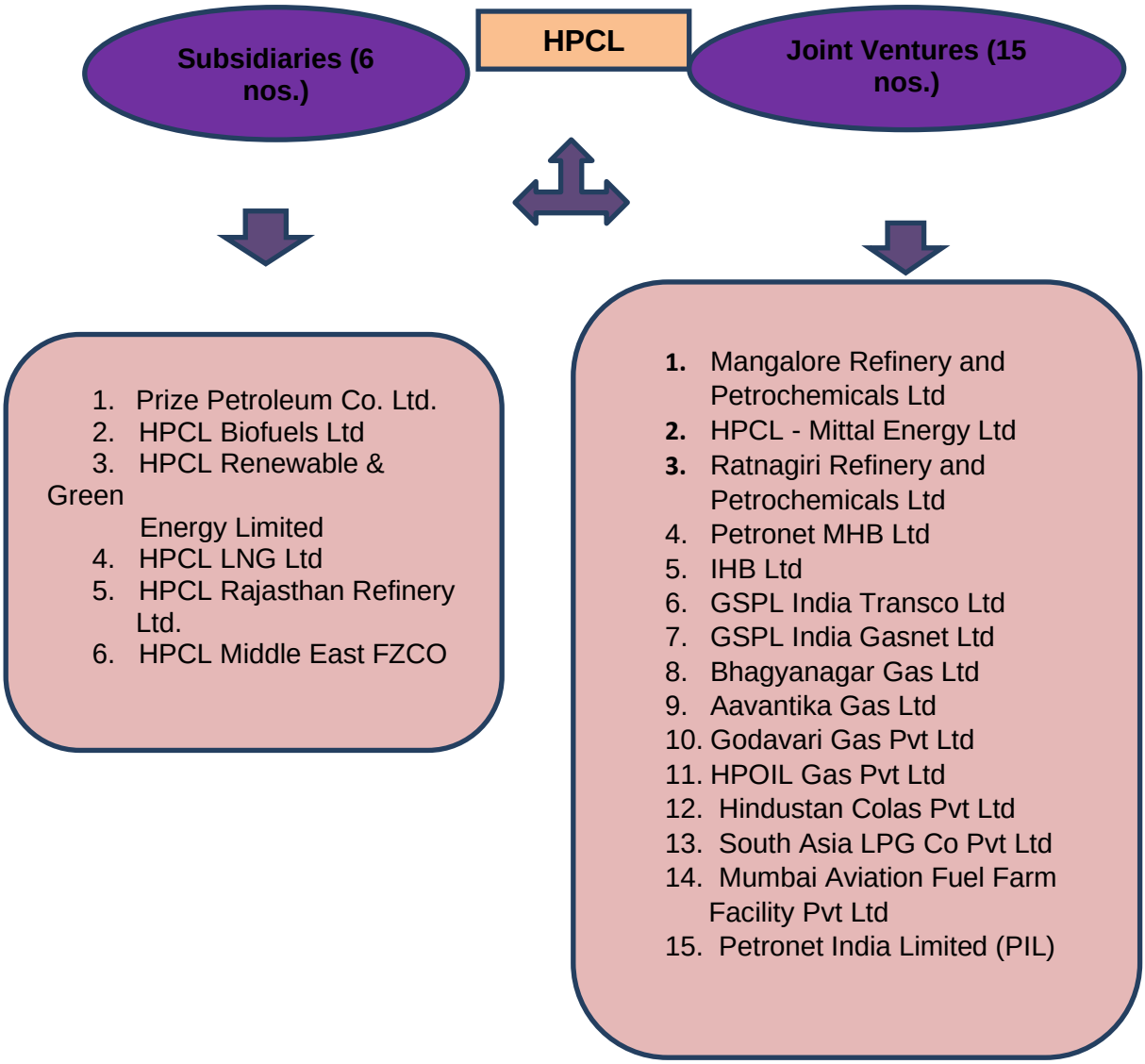
OVL has a global footprint with stakes in 32 exploration and production assets across 15 countries, including Azerbaijan, Bangladesh, Brazil, Colombia, Iran, Iraq, Libya, Mozambique, Myanmar, Russia, South Sudan, Syria, UAE, Venezuela and Vietnam. It operates in 19 countries overall, with overseas offices in Amsterdam (Netherlands), Singapore, and Houston (USA). To strengthen its international financial operations, OVL has also established a wholly owned subsidiary, OVL Overseas IFSC Ltd. (OOIL), at GIFT City, Gujarat. As India's only international E&P company, OVL continues to play a vital role in securing the nation's energy needs and expanding its global footprint in the oil and gas sector.

C. JOINT VENTURES AND SUBSIDIARIES

1.11 Details of Subsidiaries and Joint Venture Companies of P&NG CPSUs are as under:-


IOCL
Subsidiaries (11)
1. Chennai Petroleum Corporation Limited
2. IOC Global Capital Management IFSC Limited
3. Indian Oil Upstream Ventures Limited (formerly known as Mercator Petroleum Limited)
4. Terra Clean Limited
5. Indian Oil (Mauritius) Limited
6. Lanka IOC Plc
7. IOC Middle East FZE
8. IOC Sweden AB
9. IOCL USA Inc
10. IndOil Global B.V.
11. IOCL Singapore Pte. Ltd.
Joint Ventures (30)
1. AVI-OIL India Private Limited
2. Lubrizol India Private Limited
3. Green Gas Limited
4. Indian Oil Adani Ventures Limited
5. Petronet LNG Limited
6. Indian Oil Petronas Private Limited
7. Indian Oil Skytanking Private Limited
8. Delhi Aviation Fuel Facility Private Limited
9. Indian Synthetic Rubber Private Limited
10. Mumbai Aviation Fuel Farm Facility Private Limited
11. Indian Oil Adani Gas Private Limited
12. Indian Oil LNG Private Limited
13. Indian Oil Total Private Limited
14. Hindustan Urvarak and Rasayan Limited
15. GSPL India Transco Limited
16. GSPL India Gasnet Limited
17. Petronet VK Limited
18. Kochi Salem Pipelines Private Limited
19. Indofast Swap Energy Private Limited
20. NPCIL-Indian Oil Nuclear Energy Corporation Limited
21. Ratnagiri Refinery and Petrochemicals Limited
22. Indradhanush Gas Grid Limited
23. IHB Limited
24. IOC Phinergy Private Limited
25. Paradeep Plastic Park Limited
26. Cauvery Basin Refinery and Petrochemicals Limited
27. Indian Oil NTPC Green Energy Private Limited
28. GH4 India Private Limited
29. IOC GPS Renewable Private Limited
30. Suntera Nigeria 205 Limited


BPCL
Subsidiaries (2)
1. BHARAT PETRORESOURCES LIMITED (BPRL)
2. BPCL-KIAL FUEL FARM PRIVATE LIMITED (BKFFPL)
Joint Ventures (22)
1. PETRONET LNG LIMITED (PLL)
2. INDRAPRASTHA GAS LIMITED (IGL)
3. SABARMATI GAS LIMITED (SGL)
4. CENTRAL UP GAS LIMITED (CUGL)
5. MAHARASHTRA NATURAL GAS LIMITED (MNGL)
6. HARIDWAR NATURAL GAS PRIVATE LIMITED (HNGPL)
7. GOA NATURAL GAS PRIVATE LIMITED (GNGPL)
8. BHARAT STARS SERVICES PRIVATE LIMITED (BSSPL)
9. DELHI AVIATION FUEL FACILITY PRIVATE LIMITED (DAFFPL)
10. MUMBAI AVIATION FUEL FARM FACILITY PRIVATELIMITED (MAFFFL)
11. KANNUR INTERNATIONAL AIRPORT LIMITED (KIAL)
12. MATRIX BHARAT PTE LIMITED (MXB)
13. KOCHI SALEM PIPELINE PRIVATE LIMITED (KSPPL)
14. GSPL INDIA TRANSCO LTD (GITL):
15. GSPL INDIA GASNET LIMITED (GIGL)
16. FINO PAYTECH LIMITED (FINO)
17. PETRONET INDIA LIMITED (PIL)
18. PETRONET CI LIMITED (PCIL)
19. BHARAT RENEWABLE ENERGY LIMITED (BREL)
20. RATNAGIRI REFINERY AND PETROCHEMICALS LIMITED (RRPCL)
21. IHB LIMITED (IHBL):
22. UJJWALA PLUS FOUNDATION (UPF)



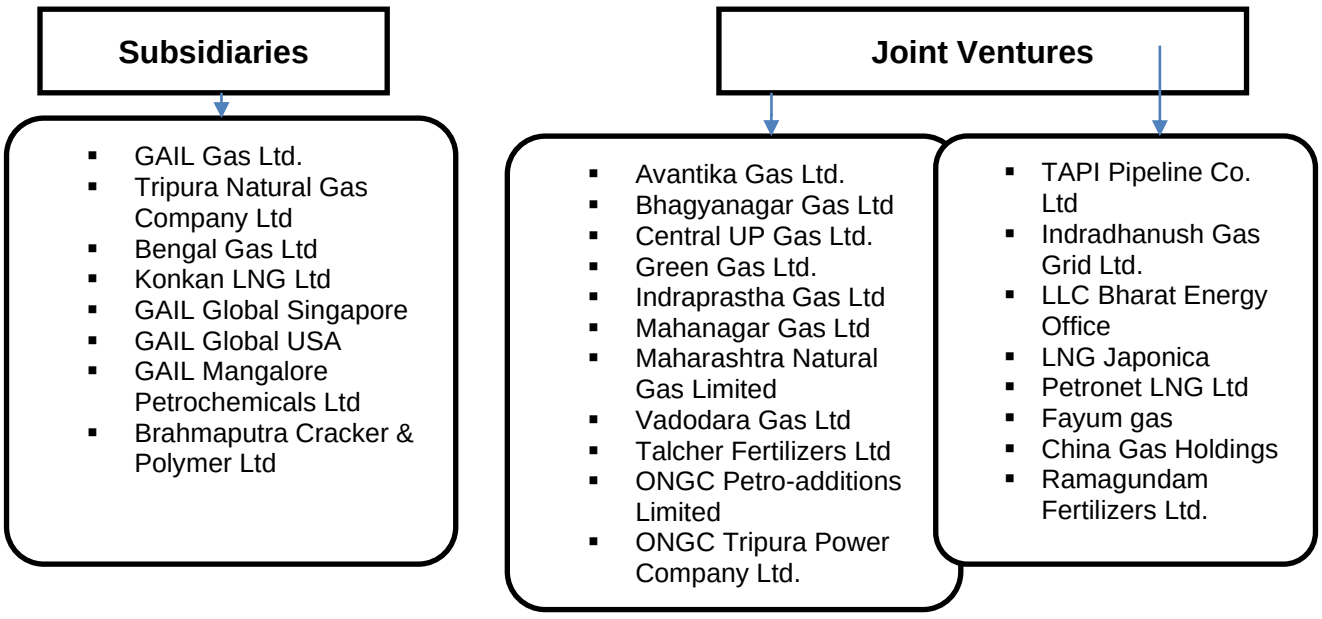
ONGC: The brief about the Joint Ventures and Subsidiaries is given below:

Subsidiaries	Joint Ventures
1) ONGC Videsh Limited 2) Hindustan Petroleum Corporation Limited (HPCL) 3) Mangalore Refinery and Petrochemicals Limited (MRPL): 4) Petronet MHB Ltd (PMHBL) 5) ONGC Green Limited (OGL) 6) ONGC Petro additions Limited (OPaL)	1) ONGC Petro additions Limited (OPaL) 2) ONGC Tripura Power Company Limited (OTPC) 3) ONGC TERI Biotech Limited (OTBL) 4) Dahej SEZ Limited (DSL) 5) Mangalore SEZ Limited (MSEZL) 6) Indradhanush Gas Grid Limited (IGGL) 7) Petronet LNG Limited (PLL) 8) Pawan Hans Limited (PHL) 9) Rohini Heliport Limited (RHL)

OIL: The brief about the Joint Ventures and Subsidiaries is given below:

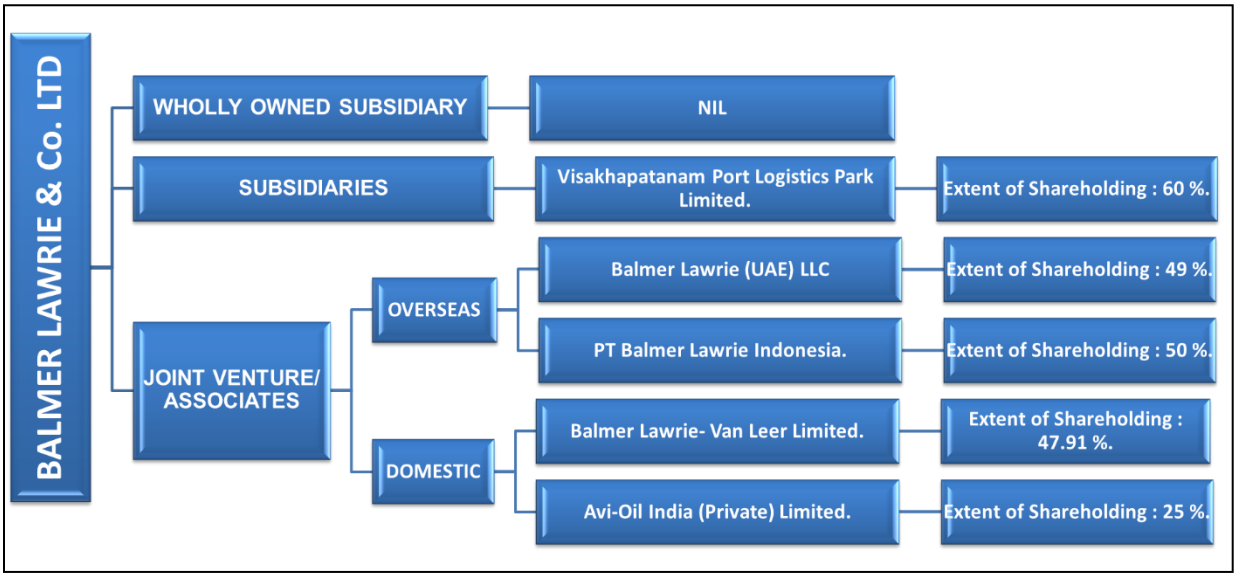
Subsidiaries	Joint Ventures
1) Oil India Sweden AB 2) Oil India International B.V. 3) Oil India International Pte. Ltd. 4) Numaligarh Refinery Limited 5) OIL Green Energy Limited (OGEL)	1) Ind Oil Netherlands BV, Netherlands 2) Worldace Investments Ltd, Cyprus 3) Vankor India Pvt Ltd, Singapore 4) Taas India Pvt Ltd Singapore 5) Beas Rovuma Energy Mozambique Ltd 6) Suntera Nigeria 205 Ltd 7) DNP Limited 8) Assam Petro - Chemicals Limited 9) Indradhanush Gas Grid Limited 10) HPOIL Gas Private Ltd. 11) Purba Bharati Gas Private Limited 12) Brahmaputra Cracker & Polymer Limited, (BCPL). 13) APGCL OIL Green Power Limited (AOGPL) 14) North East Gas Distribution Company Limited (NEGDCL)

GAIL:



EIL: EIL is part of joint venture Company Ramagundam Fertilizers and Chemicals Limited (RFCL) with M/s NFL and M/s FCIL with a shareholding of 26.0%. The plant established with design capacity of 2200 MTPD Ammonia and 3850 MTPD Urea declared its commercial operations in March 2021. EIL has a 100% owned subsidiary – Certification Engineers International Limited (CEIL), which provides services related to Certification, Re-certification, Safety Audit, and HSE management systems for offshore and onshore oil & gas facilities. It also undertakes Third Party Inspection of equipment and installations in the Hydrocarbon and other quality sensitive sectors. To garner businesses in new territories, EIL is part of the Bharat Energy office in Russia which is established by JV of five Oil & Gas sector companies viz; EIL, OIL, OVL, GAIL and IOCL with equal participation of 20%. EIL also holds 4.37% stake in NRL.

Balmer Lawrie:



D. PETROLEUM AND NATURAL GAS REGULATORY BOARD (PNGRB)

1.12 The Petroleum and Natural Gas Regulatory Board (PNGRB) was constituted under the Petroleum and Natural Gas Regulatory Board Act, 2006, (No. 19 of 2006) notified via Gazette Notification dated 31st March 2006. The Act provides for the establishment of Petroleum and Natural Gas Regulatory Board to protect the interests of consumers and entities engaged in specified activities relating to petroleum, petroleum products and natural gas and to promote competitive markets and for matters connected therewith or incidental thereto. Further as enshrined in the Act, the Board has

also been mandated 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 ensure uninterrupted and adequate supply of petroleum, petroleum products and natural gas in all parts of the Country.

1.13 PNGRB's vision is to establish world class regulatory regime that provides affordable and sustainable oil and gas energy to consumers through a vibrant and competitive energy market, and collaborate towards creation of a reliable infrastructure to deliver the same to consumers while ensuring highest standards of safety.

1.14 The PNGRB Act has formulated an action plan called the PNGRB Action Plan 2025-26 that outlines strategic priorities to strengthen India's downstream oil and gas ecosystem. The plan emphasizes transparency, efficiency and safety across the petroleum value chain, while supporting India's energy transition goals. Key divisions—such as Authorization, Monitoring, Commercial, Technical, Legal and Consumer Protection—are tasked with enhancing pipeline reach, promoting modal shifts in fuel transport, ensuring fair tariffs and expanding access to natural gas infrastructure.

1.15 For 2025–26, PNGRB aims to accelerate initiatives like the National Product Pipeline Grid, Unified Tariff Regime, and Digital Grievance Redressal System, while improving regulatory oversight and data transparency. The Action Plan also focuses on sustainability through greenhouse gas (GHG) monitoring, hydrogen blending readiness, and integration of Compressed Bio-Gas (CBG) into the national grid. Strategic and coordination divisions will work on establishing a petroleum products exchange, optimizing logistics, and formulating a National Distribution Logistics Plan. Additionally, the Administration Division will drive organizational modernization with e-governance, smart office initiatives and capacity-building programs. Overall, the plan envisions PNGRB as a proactive, technology-driven regulator promoting safety, innovation and environmental stewardship in India's energy sector.

E. INDIA'S STRATEGIC PETROLEUM RESERVES

1.16 As India is heavily dependent on import of crude oil, to support the economic activities for growth and to meet the energy needs of its citizens, Strategic Petroleum

Reserves (SPRs) were envisaged to serve as buffer to deal with any situation of supply chain disruptions, especially due to external reasons. In exceptional circumstances, the buffer stock of crude oil could be used to partially absorb an abnormal spike in the global oil prices. India's strategic petroleum reserves are stored in underground caverns at three locations: Visakhapatnam, Mangaluru, and Padur, with a total current capacity of 5.33 MMT.

1.17 Managed by Indian Strategic Petroleum Reserves Limited (ISPRL)—a wholly owned subsidiary of the Oil Industry Development Board (OIDB) under MoPNG—these SPRs act as a safeguard against global supply disruptions. Built as underground rock caverns on India's east and west coasts, they allow safe, long-term storage and can supply refineries via pipelines or coastal routes. The total project cost amounted to ₹4,098.35 crore, with HPCL contributing ₹265.79 crore for a 0.3 MMT compartment at Visakhapatnam, effectively increasing capacity by 30% with only a 15% additional cost. EIL served as the project management consultant, ensuring that the facilities meet high safety and operational standards.

F. ROLE OF THE SECTOR IN ATMANIRBHAR BHARAT

1.18 The P&NG sector plays a pivotal role in India's vision of *Atmanirbhar Bharat* (Self-reliant India) through multiple initiatives aimed at reducing the Country's dependency on energy imports and promoting domestic production and sustainable energy practices:

- **Increasing Domestic Oil and Gas Production**: India's efforts to boost domestic exploration and production (E&P) are essential for reducing reliance on imports. Through initiatives like HELP and DSF policy, the government encourages private sector investment in oil and gas fields, increasing production capacity.

- **Ethanol Blending Program (EBP)**: Public Sector Oil Marketing Companies (OMCs) such as IOCL, BPCL and HPCL are working on the Ethanol Blending Program to reduce India's dependence on imported crude oil by blending ethanol derived from domestic sources like sugarcane with petrol. The target is to achieve 20% ethanol blending by 2025, reducing the import bill and supporting domestic agriculture.

- **Gas Infrastructure Development**: India is rapidly expanding its Natural Gas (NG) infrastructure, aiming to increase the share of natural gas in its energy mix from current 6% to 15%. This includes building new LNG terminals, expanding the gas pipeline network, and increasing domestic gas production, making the sector more self-reliant.

- **Refining Capacity Expansion**: India's refining capacity has made it a significant player in the global petroleum product market. India is not only self-reliant in refining but also a net exporter of petroleum products, enhancing its position in the global energy market.

- **Promotion of Renewable Energy and Green Fuels**: The sector is increasingly focusing on alternative fuels such as biofuels, green hydrogen and compressed biogas (CBG) to reduce the carbon footprint and ensure a sustainable, self-reliant energy future. MoPNG initiatives in hydrogen blending and green energy projects align with the government's vision of energy self-sufficiency.

1.19 Moreover, through these initiatives, the P&NG sector plays a vital role in reducing India's import dependency and promoting energy self-sufficiency, supporting the broader *Atmanirbhar Bharat* mission.

1.20 The Committee have also learned that India's P&NG sector is also currently facing some significant challenges both internal and external. Internal challenges include ageing oil fields, crude oil production not commensurate with the CAPEX made, rising cost of land acquisition for new projects, delay in land acquisition, cost and time overruns of projects. India meets about 89% of crude oil requirements through imports and given the current geopolitical events such as Russia-Ukraine conflict, Israel-Hamas conflict, sanctions on some of the oil producing Countries (Eg: Iran, Venezuela, Russia), political/civil unrest/strikes in any oil producing Country anytime, India could face risk of crude oil import uncertainty, which in turn could have an adverse impact on smooth supply of crude oil and its prices. Moreover, P&NG sector faces several environmental concerns due to the nature of their operations, which include greenhouse gas (GHG) emissions, air and water pollution and waste management. Taking into consideration all these challenges being faced by P&NG sector today, the Committee have taken up this

subject for in-depth examination and report to the Parliament. In the succeeding Chapters of the Report, the Committee have discussed the main issues pertaining to the subject and in Part-II of this Report, the Committee have given their Observations/Recommendations.

CHAPTER-II

PHYSICAL PERFROMANCE

A. CAPITAL EXPENDITURE (CAPEX)

2.1 Stressing the imperative need of capital expenditure (CAPEX) for infrastructure development in P&NG sector, the representatives of MoPNG, during a deliberation, stated as under:

> "… हमारी कंपनियों ने पिछले चार सालों से एक लाख का कैपेक्स किया है। कैपेक्स में इन्वेस्टमेंट होती है। ऑयल एंड गैस के लिए इन्फ्रास्ट्रक्चर बहुत जरूरी है। जब कुएं से तेल निकलता है और नोजल तक बिना इन्फ्रास्ट्रक्चर किए हुए कहीं जा ही नहीं सकता है। तेल और गैस के विकास के लिए इन्फ्रास्टक्चर इन्वेस्टमेंट बहुत जरूरी है। हम लोग इस पर हर साल एक लाख करोड़ रुपये खर्च करते हैं।"

2.2 MoPNG has provided the details of CAPEX (IEBR) made by the CPSUs for the period 2020-21 to 2024-25 as reproduced below:

(₹ in Crore)

Sl. No.	CPSU Name	2020-21	2021-22	2022-23	2023-24	2024-25
i.	IOCL	28,684.35	30,391	37,287	42,236	40,374
ii.	BPCL	11064.39	11860	12120	11702	16966
iii.	HPCL	14700.29	16771	14084	14,342	14,508
iv.	ONGC	26859.27	27741	30208	37494	62,057
v.	GAIL	6253.48	7148	9,099	11,426	10,512
vi.	OIL	13331.93	4367	5534	5907	8467
vii.	EIL	732.74	70	62	132	72.11
viii.	Balmer Lawrie	42.94	22.49	51.71	56.88	61
ix.	OVL	5733.98	4681	2704	3259	5237
x.	MRPL	2178.88	674	625	1600	1156.18
xi.	CPCL	583.13	636	654	611	680.82
xii.	NRL	1028.99	3605	6,841	8,502	9,109

2.3 Trends of Production in Crude Oil and Natural Gas in the last 7 years are tabulated below:

Year	Crude Oil Production (MMT)	Natural Gas Production (BCM)
2018-19	34.20	32.87

2019-20	32.17	31.18
2020-21	30.49	28.67
2021-22	29.69	34.02
2022-23	29.18	34.45
2023-24	29.36	36.44
2024-25 (Provisional)	**28.7**	**36.11**

2.4 During the deliberations and from the above Tables, the Committee observed that despite increase in CAPEX by P&NG sector CPSUs over the past 5-6 years, crude oil production has not seen a corresponding increase, although there has been a steady increase in natural gas production. Elaborating on the above concern of the Committee, the Secretary, MoPNG during his deposition before the Committee on 15.10.2024 has stated as under:

> "... एक कैपिटल एक्सपेंडिचर वाली बात थी कि कैपिटल एक्सपेंडिचर बढ़ रहा है, लेकिन हमारा प्रोडक्शन उस अनुपात में क्यों नहीं बढ़ रहा है? इसकी दो प्रमुख वजह है। इसमें एक टाइमली अफेक्ट होता है। जब हम कहीं पर एक्सप्लोरेशन शुरू करते हैं और हमें कोई ब्लॉक मिलता है तो पहले पांच साल तो सर्वे और एनालिसिस में जाते हैं। दुनिया भर में यह बात है कि जो हमने एक्सपेंडिचर किया है, उसके 5 साल में हमें कुछ नहीं मिलता है। डिस्कवरी होती है, उसके बाद पांच साल उसको डेवलप करने में लगते हैं। ओएनजीसी और ओआईएल प्योर एक्सप्लोरेशन में जो खर्च कर रहे हैं, उसका जो टाइम फ्रेम रिटर्न है, वह कम से कम 8 से 10 साल का है, यदि हमें तेल मिल रहा है। तेल और गैस फील्ड में एक नेचुरल डिक्लाइन होता है। तेल में करीब 3 से 4 प्रतिशत किसी भी वैल की प्रोडक्शन में ऑटोमेटिक डिक्लाइन होता है और गैस में 7 से 8 परसेंट का डिक्लाइन होता है। यह एक नेचुरल जियोलॉजिकल फिनोमेना है। इसका मतलब यह है कि उसे डिक्लाइन को मेकअप करने के लिए अब एडिशनल कैपिटल एक्सपेंडिचर करना पड़ेगा। आपको नए वैल बनाने पड़ेंगे, आपको वैल में टेक्नोलॉजी इंटरवेंशन करना पड़ेगा, तब जाकर आप वहां वापस आ सकते हैं, जहां पर आप थे। अगर आपका पहले सौ लीटर कच्चा तेल आ रहा था और वह एक साल में घटकर 97 लीटर रह गया है तो आपको सौ लीटर तक लाने के लिए नया कैपिटल एक्सपेंडिचर करना पड़ेगा। A lot of expenditure actually goes into maintenance and restoring what was your previous production. आपको उसका आउटपुट नहीं दिखेगा, क्योंकि आप पुराना आउटपुट मेंटेन कर रहे हैं। That is also a big chunk of expenditure.
>
> The third expenditure on capital expenditure is towards energy transition. हम जो रिन्यूएबल में इंवेस्ट कर रहे हैं या गैस फ्लेयरिंग को कम करने की बात कर रहे हैं या हम इलेक्ट्रिकल पावर पर शिफ्ट कर रहे हैं, इस पर इंवेस्टमेंट्स आज किए जा रहे हैं और इनका इम्पैक्ट हमें तीन-चार साल में दिखेगा। एक टाइमलाइन हमारे केपिटल एक्सपेंडिचर में और उसके रिटर्न्स में हमेशा रहेगा। हमारी पुरानी ऑइल फील्ड्स के लिए क्या स्ट्रैटजी है, प्रोडक्शन डिकलाइन को एड्रेस करने के लिए? अगर हम देश का उदाहरण लें तो हमारा 84 परसेंट प्रोडक्शन ऑफ शोर से होता है सिर्फ 16 प्रतिशत जमीनी है। ऑफ शोर में हमारा सबसे बड़ा एरिया बॉम्बे हाई है। मुम्बई हाई बहुत पुरानी फील्ड है और वहां बहुत डिक्लाइन हुआ है। वहां यह स्पष्ट हो गया है कि इंटरनेशनल कटिंग

एज टेक्नोलॉजी इसमें चाहिए होगी to meet up the production decline. क्योंकि जितना इस देश में हम कर सकते थे, वह कर चुके हैं, क्योंकि कोई भी फील्ड 1972 से इतने साल तक नहीं चलती है। इसके लिए एक आरएफपी ओएनजीसी ने इश्यू कर रखा है to invite the best technical partners in the world, best oil companies in the world to collaborate with ONGC ताकि यहां पर जो डिक्लाइन है, उसको मेकअप किया जा सके। दूसरा, एक मेजर प्रोजेक्ट ओएनजीसी में लिया गया है which is for replacement of all the old steel pipes, all the maintenance expenditure, replacement of all compressors, जो कई साल से नहीं हुआ था, वह प्रोजेक्ट लिया गया है, which will also restore some of the production loss."

2.5 MoPNG has, in a written submission, stated regarding the declining trend in crude oil production despite increase in CAPEX that several interconnected factors have contributed to the decline in India's crude oil production, despite increased capital expenditure. Most of the producing fields are old and presently major producing fields of ONGC have crossed their plateau period of production and entered the natural decline phase. Execution of some of the projects got affected due to local and global supply chain disruptions due to COVID-19 lockdown resulting in delay in availability of inputs. Closure of wells due to less offtake by consumers and restriction of movements for field operations due to Covid-19 lockdown, resulting in less Oil/condensate production and consequential losses. Further, production and development activities during 2021-22 got severely impacted due to cyclone "Tauktae" which passed through Western Offshore/ Onshore fields and led to less than desired production from fields of ONGC.

2.6 It has also been submitted that in the year 2024-25, an amount of ₹22,973.48 crore has been spent towards Integration Projects which includes investment in OPaL (ONGC Petro Additions Ltd.) for ₹18,365.28 crore, OGL (ONGC Green Ltd.) for ₹4600 crore and IGGL (Indradhanush Gas Grid Ltd.) for ₹8.20 crore.

2.7 When enquired about the steps taken to stop the declining trend in crude oil production, MoPNG has submitted that the government has been taking various steps to boost domestic oil and gas production which, inter-alia, include:

i. Policy for Relaxations, Extensions and Clarifications under Production Sharing Contract (PSC) regime for early monetization of hydrocarbon discoveries, 2014.

ii. Discovered Small Field Policy, 2015.

iii. Hydrocarbon Exploration and Licensing Policy (HELP), 2016.

iv. Policy for Extension of Production Sharing Contracts, 2016 and 2017.

v. Policy for early monetization of Coal Bed Methane 2017.

vi. Setting up of National Data Repository, 2017. The National Data Repository (NDR) is now being further upgraded to a cloud-based system for seamless dissemination of Exploration & Production data to global investors.

vii. Appraisal of Un-appraised areas in Sedimentary Basins under National Seismic Programme, 2017.

viii. Re-assessment of Hydrocarbon Resources, 2017.

ix. Policy framework to streamline the working of Production Sharing Contracts in Pre-NELP and NELP Blocks, 2018.

x. Policy framework for extension of Production Sharing Contracts for Discovered Fields and Exploration Blocks under Pre-New Exploration Licensing Policy (Pre-NELP), 2016 and 2017.

xi. Policy to Promote and Incentivize Enhanced Recovery Methods for Oil and Gas, 2018.

xii. Policy framework for exploration and exploitation of Coal Bed Methane (CBM) from areas under Coal Mining Lease allotted to Coal India Limited (CIL) and its subsidiaries, 2018.

xiii. Policy Framework for exploration and exploitation of Unconventional Hydrocarbons under Existing Production Sharing Contracts (PSCs), Coal Bed Methane (CBM) Contracts and Nomination Fields, 2018.

xiv. Reforms in Hydrocarbon Exploration and Licensing Policy for enhancing domestic exploration and production of oil and gas, 2019.

xv. Natural Gas Marketing Reforms, 2020.

xvi. Reforms in Model Revenue Sharing Contracts (RSCs) for Blocks under Open Acreage Licensing Programme (OALP), 2023.

xvii. Lower Royalty Rates, Zero Revenue Share (till Windfall Gain) and no drilling commitment in Phase-I in OALP Blocks under Category II and III to attract bidders.

xviii. Release of about 1 million sq. km 'No-Go' area in offshore which were blocked for exploration for decades. In these erstwhile 'No-Go' area, after the release now, so far bids/expression of interests received for 1,52,325 sq. km area. Two gas discoveries have also been made by ONGC in Mahanadi offshore recently in a block having 94% area in 'No-Go' area. Andaman offshore area has also been opened for exploration and production activities after a long time post removal of restrictions imposed by defence and space agencies in 2022.

xix. Till now, 12 hydrocarbon discoveries have been made in blocks awarded under OALP, one already producing gas (0.44 MMSCMD) and condensate (819 BBL/Day) in Gujarat while other discoveries are under appraisal.

xx. Government is spending about ₹7,500 crore for acquisition of seismic data in onland and offshore areas and drilling of stratigraphic wells to make quality data of Indian Sedimentary Basins available to bidders.

xxi. Government has also approved acquisition of additional 2D Seismic data of 20,000 LKM in onland and 30,000 LKM in offshore beyond Exclusive Economic Zone (EEZ) of India.

xxii. Production of Coal Bed Methane (CBM) has reached 2 Million Standard Cubic Meters per day and is expected to increase further in coming years. More blocks are being identified for offer in future bid rounds.

xxiii. Cumulative production from Discovered Small Fields (DSF) till FY 2023-24 are ~5,56,000 bbl Oil and ~139 MMSCM Gas. More fields are being planned for offer in future rounds.

B. MAJOR PROJECTS

2.8 The Committee inquired about the timelines and current status of major projects undertaken by eight companies in the last five years, aimed at contributing to India's goal of becoming the world's third-largest economy. In this regard, details of the major projects completed costing more than ₹500 crore and above by the CPSUs in the last 6 years are given below:

Sl. No.	CPSUs Name	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**
1.	IOCL	10	1	5	7	15	8
2.	BPCL	3	1	2	3	9	-
3.	HPCL	1	1	1	3	2	2
4.	ONGC	8	2	1	3	3	3
5.	GAIL	2	-	1	1	3	-
6.	OIL	-	-	-	1	-	-
	Total	**24**	**5**	**10**	**18**	**32**	**13**

2.9 List of Major Ongoing Projects (Costing more than ₹500 crore) are:

Sl. No.	CPSU	Project Name	Approval Date	Approved Completion Date	Anticipated Completion Date	Anticipa-ted Cost (₹ Crore)	Physical Progress (%)
1	HRRL	Rajasthan Refinery Project	09/10/2017	31/10/2022	31/03/2025	72937	85.8
2	IOCL	Capacity Expansion of Panipat Refinery from 15 to 25 MMTPA	26/02/2021	30/09/2024	31/12/2025	38231	83.9
3	NRL	Numaligarh Refinery Expansion Project	27/07/2020	27/07/2024	31/12/2025	22494	71.9
4	IOCL	Petrochemical and Lube Integration Project at Gujarat Refinery	21/09/2020	31/08/2024	31/12/2025	18936	80.3
5	IOCL	Barauni Refinery Capacity Expansion from 6.0 to 9.0 MMTPA	30/01/2020	30/04/2023	31/12/2025	16228	84.4
6	IOCL	Integrated Para Xylene (PX) and Purified Terephthalic Acid (PTA) Project at Paradip Refinery	31/07/2020	31/01/2024	30/04/2025	13805	88.6
7	NRL	Paradip-Numaligarh Crude Oil Pipeline (PNCPL) & Crude Oil Import Terminal (COIT) at Paradip	28/01/2019	27/07/2024	31-10-2025	11407	83.8
8	GAIL	500 KTA PDHPP Project, Usar	08/04/2021	08/04/2025	31/10/2025	11256	81.9
9	IHB	Kandla Gorakhpur LPG Pipeline	31/12/2018	30/12/2021	31/03/2025	10088	90.0

10	GAIL	Kochi - Koottanad - Bangalore - Mangalore Pipeline Phase-II	22/06/2009	31/12/2012	31/12/2025	5909	93.7
11	GAIL	Durgapur - Haldia Pipeline (Section-3B of JHBDPL Project)	01/03/2017	31/12/2020	31/12/2025	2433.2	89.1
12	GAIL	Mumbai Nagpur Jharsuguda Pipeline Project	15/06/2020	14/05/2023	30/09/2025	8255	93.2

Note: Physical progress as on 31.03.2025

C. SEGMENT-WISE PERFORMANCE

a) Crude Oil and Ageing Oil fields

2.10 The Committee was informed by the Ministry in a written response that ONGC and OIL are actively involved in the domestic exploration and production of Oil and Gas, details of which are given below:

Name of the Company	***Total domestic production***		***Share of the Company (absolute and percentage basis)***	
	***Crude Oil* (TMT)**	***Gas* (MMSCM)**	***Crude Oil***	***Gas***
ONGC	19210.11	19315.66	65.4%	53.0%
OIL	3343.68	3090.46	11.4%	8.5%
Others	6802.70	14031.75	23.2%	38.5%
Total	29356.49	36437.86	100 %	100 %

Others include total Pvt/JVs production in PSC+RSC/CBM

2.11 The Committee sought information on the strategies employed by companies like ONGC and OIL to address the challenges posed by ageing oil fields and maintain or increase production levels. In this regard, the following information has been furnished:

> **"**ONGC is continuously undertaking various steps to enhance/sustain the production of crude oil & natural gas from existing matured fields and new fields through the following measures.
>
> • Development of small/marginal fields through integrated cluster development concept: In this pursuit some of the marginal fields have already been put into production. Presently, cluster development in Tapti Daman Block through Daman Upside Development Project (DUDP) and Integrated Development of 4 Contract

Areas under DSF-II are under implementation in Western Offshore region.

- ONGC is focusing on fast-track monetization of discoveries and development of fields. 24 discoveries have been monetized during the last four years till March 2025)

- Discoveries made in the Krishna Godavari basin in Eastern Offshore have been developed and put on production. Gas production commenced on 5th March 2020 and oil along with associated gas production commenced on 7th January 2024 from Cluster-II fields of NELP Block KG-DWN-98/2.

- In line with Cabinet decisions on Reforms in Exploration and Licensing Policy for enhancing domestic exploration and production of oil and gas, Production Enhancement Contracts (PEC) have been implemented by ONGC.

- Exploitation of unconventional resources like CBM: Development activities are ongoing in the four CBM blocks of ONGC viz. Jharia, Bokaro and North Karanpura. CBM Gas flow from Bokaro GCS to Urja Ganga pipeline network started on 16.07.2024. Also, gas sale from North Karanpura block started on 16th May 2025 by adopting 'Gas ready for cascades' model.

- Expediting the commissioning of critical ongoing projects, conceptualization & execution of new projects: During 2021-20 to 2024-25, 15 major projects have been completed with an investment of more than ₹21,000 crore and total envisaged project life-cycle hydrocarbon gain of around 34.124 MMTOE. At present, 21 major projects are under implementation with an estimated CAPEX of more than ₹66,000 crore from which a life cycle hydrocarbon gain of 83.728 MMTOE is envisaged.

- To improve oil and gas production from its Mumbai High field, ONGC has collaborated with BP Exploration (Alpha) as a Technical Services Provider (TSP) with enhanced recovery expertise. TSP will assess field performance and recommend improvements for increasing oil and gas production.

ONGC has aggressively participated in all the nine OALP rounds announced till date. Upto OALP-VIII, ONGC has been awarded 52 Blocks covering an area of around 1.20 Lakh sq. km. Additionally, ONGC has submitted several EOIs for an area of around 3.23 lakh sq. km which are likely to be awarded subject to successful bid in the future OALP rounds.

As far as exploration is concerned, ONGC is aggressively venturing into new frontier areas like deepwater and ultra-deepwater areas in Eastern Offshore Basins of Cauvery, Mahanadi, Bengal and Andaman, Kerala-Konkan and Saurashtra in Western Offshore of India. Besides, a number of blocks have been acquired in Category -I, II & III Basins both onland and offshore with lot of yet to find potential locked up. ONGC is focusing on drilling of wild cat wells in addition to near field exploration which is likely to increase the chances of increasing discovery.

Efforts have been made to have collaboration with Global E&P majors for knowledge sharing and adopt global best practices especially in cost intensive

forays into deep water and ultra-deepwater areas.

OIL: OIL has undertaken Improved Oil Recovery (EOR) techniques to offset the decline in production from aging oil fields. Suitable reservoirs have been subjected to water injection to maintain reservoir performance and is also planning to implement CO_2 based EOR technologies in matured reservoirs. In addition, reservoir monitoring and management practices are implemented by periodic recording of bottom hole pressure, well testing, pressure transient tests, PVT sampling, well integrity and production logging activities. OIL undertakes advanced workover operations like Hydrofrac, Radial Drilling, Gravel Pack for enhancing production along with drilling of suitable infill wells based on field development studies. Artificial lift technologies like SRP, Gas lift, Plunger Lift have also been implemented to sustain production.

OIL actively participated in the different bid rounds of Open Acreage Licensing Policy (OALP) and Discovered Small Fields (DSF) and has significantly increased its domestic acreages to 58,564 sq. km as on 31.03.2024. The Company acquired 30 nos. of exploration acreages in different OALP bid rounds falling in Assam Shelf, Assam Arakan Fold Belt, Mahanadi, Rajasthan, Kerela-Konkan shallow offshore and Andaman shallow offshore Basins and 3 nos. of DSF acreages in KG shallow offshore, Tripura and Rajasthan. With the objective of making new discoveries and commercial hydrocarbon resources, OIL is undertaking aggressive exploration activities in the frontier areas of Northeast like the north bank of River Brahmaputra in Assam, prospective hilly terrains of Tripura, sustained exploration in the onland part of Category-II Mahanadi Basin, Rajasthan's Bikaner Nagaur sub-basin to establish newer finds adjoining OIL's Baghewala heavy oilfield and the prospective areas located in Andaman & Kerala-Konkan shallow offshore. Under the GoI initiative, OIL is working alongwith ONGC to drill four stratigraphic wells in Mahanadi, Andaman, Bengal Purnea and Saurashtra Basins to acquire crucial geoscientific data for expediting efforts in making oil and gas discovery in the unexplored offshore frontier regions."

b) Refining

2.12 The Committee, recognizing India's projected rise in oil consumption from approximately 5 million barrels per day to around 8 million barrels per day by 2030, sought a comprehensive roadmap detailing how the Country plans to meet this demand. Specifically, the Committee requested insights into the role of eight key CPSUs and an overview of the nation's current refining capacity, including a comparative analysis of the private and public sectors. In response, MoPNG informed the Committee that India has emerged as one of the largest refining hubs in the world, with a total refining capacity of approximately 256.8 MMTPA or 5.13 million barrels per day as of 2024. The Country's refining sector plays a critical role in meeting domestic demand for petroleum products and also supports its status as a significant exporter of refined petroleum products. To

meet growing energy demand and enhance self-reliance, India is expanding its refining capacity. By 2030, India aims to raise its capacity to over 309.5 MMTPA or 6.2 million barrels per day. Grassroots Projects like the HPCL Rajasthan Refinery Limited (HRRL), CPCL-Nagapattinam restructuring and expansion of existing refineries contribute to this target.

2.13 It has further been informed that the expansion in refining capacity by 2030 is only due to public sector refinery expansion projects. The year-wise refining capacity expansion plan is as under:

Refinery	Current status (FY 2024-25)	Target (FY 2025-26)	Target (FY 2026-27)	Target (FY 2027-28)	Target (FY 2028-29)
IOCL	70.3	84.9	87.9	87.9	87.9
HPCL	24.5	24.5	24.5	24.5	24.5
BPCL	35.3	35.3	35.3	37.8	41
CPCL	10.5	10.5	10.5	10.5	10.5
MRPL	15	15	15	15	15
NRL	3	9	9	9	9
HRRL	0	9	9	9	9
CPCL-Nagapattinam	0	0	0	9	9
Total PSU	158.6	188.2	191.2	202.7	205.9
HMEL	11.3	11.3	11.3	11.3	11.3
Total JV	11.3	11.3	11.3	11.3	11.3
Nayara	20	20	20	20	20
RIL-SEZ	33	33	33	33	33
RIL-DTA	35.2	35.2	35.2	35.2	35.2
Total Private	88.2	88.2	88.2	88.2	88.2
Total Capacity	**258.1**	**287.7**	**290.7**	**302.2**	**305.4**

c) Market Share of CPSUs

2.14 In response to the Committee's inquiries regarding the marketing industry infrastructure, MoPNG has submitted a detailed report outlining the sector's current status (as on 31.03.2025):

Particulars	IOCL	BPCL	HPCL	RBML (RIL)	NYARA	SHELL	Others	Total
Terminal/ Depots	127	80	80	6	4		3	300
LPG Bottling	100	54	55				2	211

Plants								
AFS	130	77	57	26	0	1	1	292
Retail Outlets	40,221	23642	23,747	1,906	6,683	361	127	96,687
LPG Distributors	12,919	6269	6,378					25,566
SKO/LDO Dealers	3,830	927	1638					6,395
Consumer Pump	5,940	900	1440	32	6	0	2	8,320
Total	**63,267**	**31,949**	**33,395**	**1,744**	**6,609**	**344**	**135**	**1,37,771**

IOCL–Details w.r.t. IOCL for FY 2024-25 are given below-

Company	**Sector (Sec)**	**Market Share (MS)**	
IOCL - Entire hydrocarbon value chain - from refining, pipeline transportation & marketing to exploration & production of crude oil & gas, petrochemicals, gas marketing, alternative energy	**Sec Name 1 and % of total revenue and amount**	**MS 1**	**MS 2**
		Refining Thruput (MMT)	**Market Sales (MMT)**
	(100 % of total Revenue from Operations) ₹8,45,513 crore during 2024-25	71.564 MMTPA Refineries Throughput	100.292 MMT Total Product Sales Volume

HPCL-Details for FY 2024-25 are given below-

Company	Sector (Sec)	Market Share(MS)	
	Sec Name 1 and % of total revenue and amount	MS 1	MS 2
		Refining Thruput (MMT)	Market Sales (MMT)
HPCL	Sector: Refining & Marketing (100 % of total revenue) ₹4,66,346 crore	25.27	49.82 *

*** Domestic sales: 47.29 MMT, Exports: 2.53 MMT, Total Market Sales: 49.82 MMT**

BPCL – Segment revenue is as under:

Sector	Market Share	
Bharat Petroleum Corp. Ltd	MS 1	MS 2
Sector Name & % of total revenue and amount	Refining Thruput (MMT)	Market Sales (MMT)
Sector Refining & Marketing - ₹5,00,371.25 crore (99.97%)	40.51	52.40

ONGC: ONGC's share in Country's domestic oil and gas production in 2023-24 was 72.0% and 56.7% respectively. In terms of Oil and Gas Equivalent production, ONGC's share in the Country's domestic production was 63.51 % in 2023-24. In terms of Oil and Gas Equivalent production, ONGC's share in Country's domestic production was 63.39% in 2024-25.

OIL: OIL's share in the Country's domestic oil and gas production in 2023-24 was 11.4% and 8.7% respectively. In terms of Oil and Gas Equivalent production, OIL share in the Country's domestic production was 9.9% in 2023-24.

GAIL: Details are given below:

Sr. No.	Sector Name*	% of Total Revenue and Amount (in ₹ Cr.)	Market Share (by Volume w.r.t. Indian market)	Market Share of all the listed private sector Companies in each sector **	Number of Private sector companies in each sector **
1	Natural Gas Marketing	82%, ₹1,06,759 Cr.	48% *	-	-
2	Natural Gas Transmission	7.2%, ₹9431 Cr.	65% *	-	-
3	Petrochemicals (Poly Ethylene) sales	6%, ₹7,753 Cr.	11% *	-	-
4	LPG Transmission	0.6%, ₹725 Cr.	41% #	-	-
5	LPG and Other Liquid Hydrocarbons (LHC) sales	3.3%, ₹4,288 Cr.	2.2 % #	-	-

Source: * *GAIL Annual Report FY 2023-24; # PPAC Ready Reckoner FY 2023-24;* ** Data Not available

EIL: Details are given below:

Sr.NO	Sector	Major Competitors in the Sector	Remarks
1	Oil & Gas (Refining and Petrochemicals)	Technip, Toyo, Bechtel, Jacobs, L&T, Lummus, Amec Foster & Wheeler, Tebodin, Technicas Reunidas, TCE, Mott Mc Donald etc.	
2	Upstream Oil & Gas (strategic storage included)		
3	Specialty Chemicals/Niche Chemicals	Technip, Toyo, Bechtel, Jacobs, L&T, KBR	
4	Fertilizer	FEDO, FACT, PDIL	
5	LNG	L&T, Weso, IHI, Cinda, Toyo, Technip, TKIS, TCE	

6	Mining and Metallurgy	Dastur, Mecon, PDIL, EPIL, etc.	
7	Infrastructure	NBCC, RITES, IRCON, WAPCOS, NPCC, AECOM, EGIS, Meinhardt, etc.	
8	Green Business	TCE, Toyo, Technip Energies, L&T, etc.	
9	Pipelines	Mecon, PDIL, L&T, etc.	

Most of the private companies in competition with EIL are subsidiaries of Multinational consulting firms. In the Domestic sector, EIL also faces competition from PSUs of other Ministries. Presently, at EIL, market shares as per sectors is not prepared, as the business in most of the sectors in cyclic in nature.

Balmer Lawrie: The Company has significant market presence in Government travel business and trying to improve its penetration in private travel. In manufacturing and logistics services sector also the Company is an important player.

d) National Gas Grid

2.15 On being asked to provide a brief account of the National Gas Grid and which of the P&NG CPSUs are engaged and what is its current status, the Ministry has submitted that in line with vision of Government of India, the pipelines entrusted to GAIL as part of National Gas Grid are being implemented on progressive manner. At present, GAIL is executing below mentioned natural gas pipeline projects under National Gas Grid. Out of which, 3,851 km of pipeline sections have been commissioned and 3,189 km of pipeline section is under execution.

Sl.	**Project Details**	**Anticipated Completion**	**Status/Progress**
1	Jagdishpur-Haldia & Bokaro-Dhamra Pipeline (JHBDPL) Project Including Barauni-Guwahati Pipeline Total Length under execution – 3,289 Km	Progressively by Dec ’25	Overall Physical Progress: 98.7 % • Total 3,119 Km Pipeline Section has been commissioned. ✓ JHBDPL Phase-1: **Commissioned** ✓ Dhamra-Angul Pipeline (Section-2A of JHBDPL): **Commissioned** ✓ Dobhi-Durgapur Pipeline (Section-2B of JHBDPL): **Commissioned** ✓ Bokaro-Angul Pipeline (Section-3A of JHBDPL): **Commissioned**

Sl.	Project Details	Anticipated Completion	Status/Progress
			✓ Barauni-Guwahati Pipeline): **Commissioned** ✓ **Duragpur-Haldia Pipeline (Section-3B of JHBDPL):** Physical Progress: 90.0% (i) Durgapur to Kolkata Section (132 Km) **Commissioned.** (ii) Work is under progress in balance section (162 Km) up to Haldia.
2	Dhamra Haldia Pipeline Project (Expansion of JHBDPL) Total Length – 253 Km	Progressively by Dec ’25	Overall Physical Progress: 86.8 % • Odisha Section (153 KM): Pipeline completed. • West Bengal Section (99 KM): Construction work under progress.
3	Kochi - Koottanad - Bengaluru-Mangaluru Pipeline Project Ph-II Total Length – 901 Km	Progressively by Dec ’25	Overall Physical Progress: 94.2 % 579 Km Pipeline section commissioned (Completely in the States of Kerala & Karnataka partly in the Tamil Nadu) The detailed status is as below i. Kerala (514 Km): Entire Pipeline commissioned and operational. ii. Karnataka (58 Km): Entire Pipeline Commissioned and operational. iii. Tamil Nadu (329 Km): 7 Km pipeline section commissioned. Work is in progress for balance 322 Km. Bidadi Attibele 65 KM pipeline being taken up
4	Srikakulam Angul Pipeline Project Total Length – 744 Km	Mainline Completed. Spur line Progressively by Dec ’25	Overall Physical Progress: 94.6 % Construction work under progress.
5	Mumbai Nagpur Jharsuguda Pipeline Total Length – 1702 Km	Progressively by Sep ’25	Overall Physical Progress: 95.1 % Construction Work under progress.
6	Gurdaspur Jammu Pipeline Total Length – 152 Km	July ’26	Overall Physical Progress: 35.5 % Order for laying & associated works placed.

e. Shale Gas

2.16 As per the submission of the MoPNG**,** preliminary resource assessment of Shale gas/oil was carried out by three different organizations. In 2011, the United States Geological Survey (USGS) estimated the technically recoverable Shale gas/oil as 6.1 TCF for 3 basins: Cambay, Krishna-Godavari (KG), and Cauvery. Again in 2014, it estimated a technically recoverable volume of 62 million barrels of shale oil in Cambay Basin alone. In 2013, ONGC estimated Shale Gas resources of 187.5 TCF from 5 sedimentary basins: Cambay, KG, Cauvery, Ganga, and Assam. CMPDI in July 2013 had estimated around 45.8 TCF in the Gondwana basin.

2.17 On being asked about the cost of production of shale gas in India, it has been stated that shale gas/ oil in India is in the exploratory stage, with commercial production yet to be initiated.

f. Supply Chain and Distribution Networks

2.18 When asked to provide costs and timelines for the pipeline connectivity projects undertaken by CPSUs (out of the eight) and details about the projects facing cost or time overruns, MoPNG has furnished the following details:

"GAIL:

Sl. No.	Project Details	Approved Cost (₹ Cr.)	Anticipated Completion	Details about Time & Cost Overrun
1	Jagdishpur-Haldia & Bokaro-Dhamra Pipeline (JHBDPL) Project Including Barauni-Guwahati Pipeline Total Length under execution – 3,289 km	17,405	Progressively by Dec '25	Initial approved cost of the project is ₹16,248 Cr. with schedule completion of Dec'21. However, anticipated completion revised up to Dec'25 due to the following: • RoU related issues/encumbrances • COVID-19 induced lockdowns & restrictions • Delay in Forest Permission • Slow RoU acquisition in West Bengal • Presence of large number of fisheries in Purba Medinipur district of West Bengal Further, following are the reasons for Cost overrun in the project. • Increased RoU/Land acquisition cost • Time extension due to COVID - 19,

Sl. No.	Project Details	Approved Cost (₹ Cr.)	Anticipated Completion	Details about Time & Cost Overrun
				• Increase in other expenses due to delay in completion of the project.
2	Dhamra Haldia Pipeline Project (Expansion of JHBDPL) Total Length – 253 Km	1030	Progressively by Dec ’25	Anticipated completion revised up to Dec’25 due to the following: • Slow progress during the COVID-19 pandemic due to lockdowns and restrictions. • Delay in acquiring Right of Use (ROU) in West Bengal. • Slow disbursement of ROU compensation in sections where acquisition has been completed. • Presence of numerous fisheries in the ROU and slow compensation disbursement to fisheries owners/operators. Further, following are the reasons for Cost overrun in the project. • Increased in pipeline length for avoiding CRZ • High RoU/Land acquisition cost • Time extension due to COVID -19 Increase in other expenses due to delay in release of ROU
3	Kochi - Koottanad - Bengaluru-Mangaluru Pipeline Project Ph-II Total Length – 901 Km	5,909	Progressively by Dec ’25	Initial approved cost of the project is ₹2918.5 Cr. with schedule completion of Dec’12. However, project has been inordinately delayed due to the following: • Project was on hold in the State of Tamil Nadu due to stiff resistance from farmers/Land Owners insisting to lay the pipeline along NH/SH. • Project activities was kick started in Aug'22 after receiving go ahead from Govt of Tamil Nadu & pipeline route was changed to align along NH/SH. • Issues/Hindrances in NH RoW& pending permission from NHAI/MoRTH,

Sl. No.	Project Details	Approved Cost (₹ Cr.)	Anticipated Completion	Details about Time & Cost Overrun
				• Delay in allotment Govt. & Temple Land • Delay in Forest Permission Delay in Water Body Crossing Permissions. Further, following are the reasons for Cost overrun in the project. • Increase in Land/ ROU compensation, Line Pipe/ Line materials, laying & associated work Cost as compared to the initial estimate prepared in the year 2009. • Increased Owners Management Expenses due to substantial delay in completion.
4	Srikakulam Angul Pipeline Project Total Length – 744 Km	2658	Progressively by Dec '25	Anticipated completion revised up to Dec'25 due to the following: • Survey activities were repeatedly affected due to COVID19 induced lockdown & restrictions. • Obstacle crossing permissions are severely affected due to COVID19 induced lockdown & restrictions. • Delay in RoU acquisition in Andhra Pradesh due to non-availability of dedicated Competent Authority. • Delay in Forest Permission in Odisha Further, following are the reasons for Cost overrun in the project. • Increase in Land/ ROU compensation, Line Pipe/ Line materials, laying & associated work Cost due to increase in length to avoid forest area. • Increased Owners Management Expenses due to delay in receipt of forest permission.
5	Mumbai Nagpur Jharsuguda Pipeline Total Length – 1702 Km	7844	Progressively by Sept '25	Project has been inordinately delayed due to the following: • Survey activities were repeatedly affected due to COVID19 induced lockdown &

Sl. No.	Project Details	Approved Cost (₹ Cr.)	Anticipated Completion	Details about Time & Cost Overrun
				restrictions. • Obstacle crossing permissions are severely affected due to COVID19 induced lockdown & restrictions. • Delay in acquisition of land parcels acquired through Govt. acquisition. • Delay in obtaining Forest permission for 9.47 Ha (10.04 Km). Implication of FC rules 2023 for Compensatory Afforestation Land further delaying the Forest Permission. • Delay in NBWL permission for Wildlife corridor in Maharashtra under Nagpur-Jharsuguda Pipeline. • Hindrance in MSRDC (Maharashtra State Road Development Corporation) RoW along Mumbai Nagpur Expressway under Mumbai-Nagpur Section of Mumbai-Nagpur-Jharsuguda Pipeline. • Resistance of Farmer through Kisan Mukti Morcha and Bhartiya Kisan Union in Durg, Chhattisgarh and Farmer Resistance in different location in Maharashtra, Chhattisgarh & Odisha Further, following are the reasons for Cost overrun in the project. • Sharp increase in Raw material prices especially in steel prices post Covid 19 pandemic • Increase in HDD due to due to sharp gradient, huge elevation difference, highly undulating terrain and restricted RoU acquired by MSRDC • Increased other expenses due to delay in completion.
6	Gurdaspur Jammu Pipeline Total Length – 152 Km	522	July ’26	NA

IOCL:

Sl. No.	Project Details	Date of Approval	Approved Cost ₹ Cr.	Anticipated Completion	Reasons for time overrun	Reasons for cost overrun
1.	Ennore-Thiruvallur-Bengaluru-Puducherry-Nagapattinam-Madurai-Tuticorin Pipeline	10.12.15	6025	Jun-26	Delay due to Covid-19 • RoU issues • SV land acquisition issues •Delay in statutory clearances and crossing permissions Trunklines are complete. Spur lines are linked to CBR for which reconfiguration for viability is in progress and subsequent CCEA clearance.	• Increase in pipeline length, increase in pipeline scope of work. • Impact of Tamil Nadu State GO 54 dated 14.02.2020 on land and crop compensation • Implementation of new steel policy • Increase in construction cost due to increase in quantity of submerged crossing, HDD and rock trenching • Impact of GST
2.	Augmentation of SMPL crude oil pipeline systems for J-18	30.10.20	1614	Phase-1 - Jun-25 Phase-2 – Jun-26	• Delay in purchase of land at Vadinar and Surendra-nagar • Delay in shifting of existing colony of Gujarat Energy Transmission Co. (GETCO) at Vadinar • Hindrance in construction of boundary wall at Jamnagar due to expansion of	Not Applicable

					NH • High groundwater level led to difficulties in civil works at Surendra-nagar • Delay in supply of owner supplied materials like MLPUs • Delay in getting power supply from GETCO at Rajkot, Jamnagar and Surendra Nagar.	
3.	Mundra Panipat Crude Oil Pipeline	20.12.21	9028	Dec-25	• Delay in Environmental Clearance of Group-1(Gujarat) • Resistance from Landowners and farmers. • Non-availability of Competent Authority (CA) in Haryana. Delay in mobilization by CSW contractor in Haryana	Not Applicable
4.	Product pipeline from CBR to Asanur	16.03.22	564	-	Project is on hold pending CCEA clearance of CBR, Nagapattinam	Not Applicable

5.	ATF Pipeline from JNPT to NMIA	22.8.22	165	Mar-26	• Delay in receipt of statutory clearances viz. CRZ • Delay in receipt of RoU from CIDCO/ JNPT/ NHAI/ Railway etc. (Target- Nov'23). • Delay in handing over of SV stations	Not Applicable
6.	Branch pipeline on PRRPL to Meramandalli CUF	02.09.22	69.55	Jul-26	Not Applicable	Not Applicable
7.	Extension of Asanur-Sankari Section of CTMPL up to Irugur	31.01.23	346.7	-	Project is on hold pending CCEA clearance of CBR, Nagapattinam	Not Applicable
8.	Hazaribagh Ranchi NG Pipeline	09.02.23	202.07	Feb-26	Not Applicable	Not Applicable
9.	Extension of Panipat-Jalandhar LPG Pipeline to Goindwal Sahib BP	29.07.23	135	Jul-25	Not Applicable	Not Applicable
10	Replacement of LSHF HSD PL from IOC Karwar terminal to Karwar Naval Bas	22.10.20	86.88	Jun-25	• Non-availability of continuous front in pier area for pipeline laying	Not Applicable
11.	Pipeline from CPCL refinery to new lube oil complex at Amullavoyal and Tondiarpet	30.10.20	71.70	Nov-25	• Delay in receipt of statutory approval from TNPWD, Chennai	• Change in market dynamics and overall global / economic scenario • Increase in

	Railway station				Metropolitan Development Authority and Greater Chennai Corporation • Non-availability of work fronts due to inundation in the aftermath of Michaung Cyclone and antecedents rains • Poor performance of the contractor • Delay in availability of RoW inside inside M/s MFL • Delay in obtaining crossing permissions	Mainline Pipe cost post finalization of location of pump station inside CPCL premises and corresponding increase in heat tracing cost and associated civil works.
12.	POL Pipelines in Common Corridor Pipelines-Chennai	31.01.22	829	May-26	Not Applicable	Not Applicable
13.	Re-routing of BKPL for connectivity to proposed terminal at Mirzapur	29.09.22	96.03	Apr-27	Not Applicable	Not Applicable

BPCL:

Sr. No.	Project	Approved Cost (₹ Crore)	Completion Date	Reason for Cost and Time Overrun
1	Multiproduct Pipeline from Krishnapatnam to Hyderabad	2208	August 2025	Due to Covid-19 pandemic and delay in allotment of land by TSIIC for Malkapur Terminal
2	Multiproduct Pipeline from Irugur to Devangonthi	1725	October 2025	Due to non-availability of RoU in Tamil Nadu State

Sr. No.	Project	Approved Cost (₹ Crore)	Completion Date	Reason for Cost and Time Overrun
				and delay in release of Govt. Order on land and crop compensation by TN Govt.
3	POL and LOBS Installation with receipt pipelines at Rasayani	2585	May 2026	Not Applicable
4	ATF Pipeline from Piyala Terminal to Jewar Airport	138	February 2026	Not Applicable

HPCL:

Name of the Project:	Bathinda Sangrur Pipeline Project (BSPL)	Haldia Panagarh Pipeline Project (HPPL)	Visakh Raipur Pipeline
State	Punjab	West Bengal	Andhra Pradesh, Odisha & Chhattisgarh
Length	90 Km	215 Km	540 Km
Product	POL	LPG	POL
Diameter	10”	10”	14”/12”
Date of approval	02-11-2021	09-11-2022	11-09-2024
Approved Project Cost	₹367 Cr.	₹1010 Cr.	₹2212 Cr.
Revised Project Cost	₹397 Cr.	₹1010 Cr.	-
Cost Overrun	-	-	-
Scheduled Date of Completion	01-05-2024	08-11-2025	10-09-2027
Revised scheduled Date of Completion	01-02-2025	-	-
Anticipated Date of Completion	31-08-2025	08-11-2025	10-09-2027
Time Overrun	7 Months	-	-
Reasons for time overrun	ROU issues in 32 Km in Bathinda & Sangrur Districts; Sangrur District:	-	-

	• With HCPL's continuous follow-up, District Administration of Sangrur managed to open balance ROU of 14.5 Kms by last week of March 2025 and Pipeline laying completed in Sangrur District by May 2025. Bathinda District: • Citing urbanization and very high commercial value of the land along the last 4.7 Kms stretch, DC Bathinda advised HPCL in April 2025 to re-route the alignment through a corridor adjacent to Railway track. • Accordingly, Survey carried out and fresh 3(1) notification published & 6(1) Notifications approved & sent for Gazette Notification; publication awaited. Arrangements underway for work being taken up for last 4.7 km in Bathinda District immediately upon 6(1) Publication.		
Issues in the project	-	• Time lost due to cyclones & extended monsoon during 2024. • ROU issues in 28 KM for: o Demands for inordinately high ROU compensation-₹45 lakhs/acre-₹1 Cr./acre in Purba Medinipur & Purba Bardhmann Districts, West Bengal	

		o Deliberate expansion/ creation of new pisciculture ponds in ROU for claiming compensation in Purba Medinipur District, West Bengal o Fresh Betel leaf plantations for claiming high Compensation in Purba Medinipur District, West Bengal o Missing revenue records of Crop enjoyers & fractionated holdings Above issues were taken up with respective District Collectors and are being continuously pursued on bi-weekly basis for resolution and completion of Pipeline Laying in Pubra Medinipur & Purba Bardhmann Districts.	

OIL: OIL is presently executing a Pipeline Project Augmentation of Capacity of Numaligarh-Siliguri Product Pipeline (NSPL) from existing 1.72 MMTPA to 5.5 MMTPA at an estimated cost of ₹860 crore. The EDC of the Project is 31.10.2025. As on date no cost overrun is envisaged."

2.19 In the course of the examination of the subject, the Committee have learned that one of the most important challenges being faced by P&NG sector CPSUs is the rising cost of land acquisition for new projects and because of the delay in land acquisition due to high cost, there are cost and time overruns, thereby rendering the projects becoming unviable in the long run. Regarding challenges being faced by P&NG sector CPSUs in land acquisition and in acquiring right of user (RoU) for laying pipelines, the representatives of MoPNG, during deliberation with the Committee, stated the following:

"… नए प्रोजेक्ट्स के लिए लैंड का कॉस्ट बढ़ता जा रहा है। जैसे कि तमिलनाडु के नागापट्टनम में हमारी एक रिफाइनरी बन रही है। उसके लैंड के रेट बहुत ज्यादा बढ़ गए हैं। लैंड एक्विजिशन करने

में देरी हो रही है। जब कॉस्ट बढ़ जाती है, तो अनवॉयवल हो जाता है। इन्वेस्टमेंट करने वाले लोग इन्वेस्टमेंट से कतराते हैं। इससे हम जल्दी प्रोजेक्ट नहीं लगा पाते हैं, क्योंकि हमारे देश में पेट्रोलियम प्रोडक्ट की जरूरतें बढ़ती जाएंगी। अभी लगभग 5 मिलियन बैरल का यूटिलाइजेशन है, वर्ष 2030 तक हमें करीब 8 मिलियन बैरल प्रोसेस करना होगा, इसलिए हमें रिफाइनिंग कैपेसिटी भी चाहिए। ये कुछ एरियाज़ हैं, जहां पर हमें लैंड की जरूरत है, लेकिन लैंड एक्विजिशन में कठिनाई आ रही है।

दूसरा, जब हम लोग पाइपलाइन ले करते हैं, तो जिनकी लैंड होती है, उनसे राइट ऑफ यूजर लेते हैं, क्योंकि हम पाइपलाइन ले करने के बाद वापस लैंड कर देते हैं। उसमें भी काफी कठिनाइयां आती हैं। जब हम आरओयू लेने जाते हैं, बहुत राज्यों में लैंड के रिकॉर्ड्स भी नहीं होते हैं कि लैंड किसकी है। इससे भी बहुत सारे जो पाइपलाइन प्रोजेक्ट्स हैं, उनमें विलंब हो रहा है।"

2.20 In this regard, MoPNG was requested to provide the details of the steps/measures taken by the CPSUs to face the above challenges and in reply, MoPNG has furnished the following steps in land purchase policy:

i. In order to reduce the overall project cost including land of green field POL locations, common user facilities terminal is mostly adopted with OMCs (IOCL/BPCL/IOCL) wherever possible. Further, optimum plot required for construction of terminal to meet OISD/PNGRB/CPCB requirements are considered to reduce the land cost.

ii. District authorities are first contacted for acquisition / allotment of government land. However, in-case of non-availability of government land or no response from government authorities within definite time frame, process for procurement of land directly from landowners is immediately initiated to avoid delay in project execution.

iii. Clarity and transparency have been maintained for selection of land by introducing objective selection parameters in the process to avoid any delay in land selection.

2.21 On being asked about the steps being taken for a systematic and speedy solution for land acquisition and environmental and forest clearance issues, MoPNG has furnished the following:

"Delays in Land acquisition, Environment & Forest Clearance issues are minimized by initiating these approval processes well in advance as far as possible and also by maintaining close and effective coordination with concerned authorities and other stakeholders. In case of further delay, help of State/Central government authorities are sought."

2.22 When asked to elaborate the challenges that these CPSUs are facing in maintaining their supply chain and distribution network, with a special focus on remote and geographically challenging areas, MoPNG, in their reply, has submitted as under:

> "Supplies to remote and geographically challenging areas, say hilly terrains are maintained by road.
>
> Product placement in remote and geographically challenged areas are highly costly and incur more lead time. Any kind of disturbances on account of natural calamities (floods/ landslides/rains and cyclones), difficult weather conditions impacting road/rail movements and like unrests, impact the supply chain in these areas which becomes more challenging and may lead to product crisis in these areas.
>
> Some of challenges include planning for positioning advance winter stocking in Leh/Ladakh, Srinagar areas, handling of large tank lorry fleet particularly in these areas, tank lorry detentions due to limited space leading to disruptions of movements from other supply locations like Jalandhar, Bhatinda etc.
>
> The movement of tank lorry fleet to remote locations in Northeast like Manipur, Mizoram, Tripura faces challenges owing to poor road conditions, heavy rains, flooding in these areas. These are long lead road movements too.
>
> Jetty congestion at various ports, say Haldia, Kandla, Vizag etc., leading to vessel detention also affect supply lines.
>
> OMCs with its resilient supply chain – endeavour to prepare for these challenges through proactive planning & networking synergies."

2.23 Regarding how the CPSUs are optimizing their pipeline network to reduce operational costs and improve efficiency such as the steps taken by the BPCL for the Mumbai to Delhi and Kochi to Irugur pipelines, MoPNG has stated that the following steps for reduction of operational cost and improve efficiency:

- SCADA (Supervisory Control and Data Acquisition) System is implemented in across Pipeline network for real-time monitoring and control of Pipeline Operations.
- Running of Pipeline equipment to its best efficiency level and monitoring & regulating the pressure and flow to optimize energy consumption.
- Phase-wise Conversion/replacement of Engine Driven Pumping Unit with Motor Driven Pumping unit to reduce the O&M cost and reduction of greenhouse gas emission to achieve Net Zero commitment.

- Speed Optimization of Electric Driven Mainline Pumping unit through VFD Technology to meet the flow requirement resulting energy optimization.
- Indigenous developed Drag Reducing Agent (DRA) being used to optimize energy consumption.
- Automation and control system implemented through automated valve, pumps ad control system to optimize the pipeline operations.
- Central Pipeline Integrity management developed and implemented for inspection, monitoring and maintenance of pipeline infrastructure to ensure pipeline integrity.
- Developed indigenous Inline Inspection Tool for pipeline condition assessment and anomaly detection to mitigate any chance of pipeline failure.
- Implementation of advance Leak detection technology like Pipeline Intrusion Detection and warning System (PIDWS) to secure pipeline assets resulting minimum interruption in pipeline operations.
- Renewable energy sources dependency established in Pipeline Operation through implementation of Solar and Wind power generation projects.
- Optimization of product batching, sequencing, and scheduling through product Scheduler to reduce transit times, minimize product mixing through interface management and decrease downtime of system.
- Daily monitoring of overall pipeline operation through implementation of Digital initiative of e-Operation management system for collecting pipeline operational data across India, analysing and corrective action, if any, being taken.
- Use of AI and machine learning for predictive maintenance. By analysing data, AI systems can predict when equipment is likely to fail, reducing down time and repair costs.
- Use of solar power at remote pumping stations and terminals, minimizing dependency on conventional energy sources and reducing operational costs.

2.24 On being enquired about the steps taken by the CPSUs to safeguard their supply chains and distribution networks, MoPNG has submitted that OMCs have an agile and resilient supply chain network with the following key features:

- Close coordination with refineries on production of required products for the market along with smooth evacuation plan.
- Close coordination with OMCs for optimizing the logistics and ensuring positioning of products across the locations.
- Coordination with standalone refiners (SARs) like RIL, Nayara & MRPL for product availability to meet the deficit from own refineries.
- Maximizing movement of products through Pipelines being the safest, most eco-friendly and economical logistic.
- Exemplary coordination with Railways for maintaining the supply lines to rail fed locations.
- Hiring of sufficient number of coastal vessels for maintain the supply lines of port locations as well as smooth evacuation of coastal refineries.
- Engagement of sufficient tank truck fleet to meet the full requirement of secondary distribution. Specific attention for engagement of dedicated Tank Truck fleet for meeting the AWS requirement during the 6 months window.
- Close understanding and coordination of supply chain among Industry members with commitment to meet the demand of the Country in full.
- Mutual support among Industry on supply chain in case of natural calamities, refinery shutdown and any other unforeseen situation affecting the supply line.

CHAPTER-III

FINANCIAL PERFROMANCE

A. FINANCIAL PERFORMANCE

a. Highlights

3.1 Details of the financial performance of eight of the 12 CPSUs under MoPNG for the past 4 years are as follows:

FY 2024-25:

Sl. No.	Particulars	IOCL	BPCL	HPCL	ONGC	GAIL	OIL	EIL	Balmer Lawrie
a	Net Revenue (In ₹ Crore)	8,45,513	500,517	4,66,346	1,37,846	1,37,208	22117	3,029	2,578
b	Market Cap (In ₹ Crore)	1,80,328	120,806	76,634	3,09,953	1,20,160	62844	9025.28	3,157
c	EBIDTA (In ₹ Crore)	39,898	29,030	19,022	75,716	19,168	10636	658.67	380
d	Profit Before Tax (PBT) (In ₹ Crore)	15,882	18,182	9,621	46,760	14,825	7851	616.72	314
e	Profit After Tax (PAT) (In ₹ Crore)	12,962	13,337	7,365	35,610	11,312	6114	465.24	233
f	Taxes Paid by Govt. (In ₹ Crore)	2,27,198	144,785	105,196	48,118	15,366	10080	342.08	81
g	Dividend paid to Govt. (In ₹ Crore)	5,102	3,562	0	10,928	2,202	1152	86.54	#
h	Employee Expenses (In ₹ Crore)	10,364	3,509	3,335	10,713	2,040	1837	1003.31	255

Note: (1) Net Revenue is 'Revenue from Operations'. (2) Market cap is based on the closing price as on last working day of that financial year. (3) Dividend paid to Govt. is on cash basis and includes dividend paid to Central & State govts.

#: There is no direct holding by Govt. of India in Balmer Lawrie & Co. Ltd. Balmer Lawrie Investments Ltd., a Government Company holds 61.80% of shares in Balmer Lawrie & Co. Ltd. Central Govt. holds 59.67% in Balmer Lawrie Investments.

FY 2023-24:

Sl. No.	Particulars	IOCL	BPCL	HPCL	ONGC	GAIL	OIL	EIL	Balmer Lawrie
a	Net Revenue (In ₹ Crore)	8,66,345	5,06,993	4,61,638	1,38,402	1,30,573	24514	3,232	2,404
b	Market Cap (In ₹ Crore)	2,36,884	1,30,654	67,495	3,36,963	1,19,108	67748	11,350	4,083
c	EBIDTA (In ₹ Crore)	74,182	47,115	27,221	77,593	15,583	11643	508	340
d	Profit Before Tax (PBT) (In ₹ Crore)	52,344	36,194	19,153	53,016	11,555	6745	470	279
e	Profit After Tax (PAT) (In ₹ Crore)	39,619	26,859	14,694	40,526	8,836	5552	357	203
f	Taxes Paid	2,35,798	1,45,646	97,990	57,463	16,536	1142	295	75

	by Govt. (In ₹ Crore)								
g	Dividend paid to Govt. (In ₹ Crore)	5,831	2,873	-	7,594	1,863	1075	87	#
h	Employee Expenses (In ₹ Crore)	11,080	3,578	3,422	10,526	2,072	1809	969	243

Note: (1) Net Revenue is 'Revenue from Operations'. (2) Market cap is based on the closing price as on last working day of that financial year. (3) Dividend paid to Govt. is on cash basis and includes dividend paid to Central & State govt.

#: There is no direct holding by Govt. of India in Balmer Lawrie & Co. Ltd. Balmer Lawrie Investments Ltd., a Government Company holds 61.80% of shares in Balmer Lawrie & o. Ltd. Central Govt. holds 59.67% in Balmer Lawrie Investments.

FY 2022-23

Sl. No.	Particulars	IOCL	BPCL	HPCL	ONGC	GAIL	OIL	EIL	Balmer Lawrie
a	Net Revenue (In Crore)	9,34,953	5,33,547	4,66,192	1,55,517	1,44,250	23,260	3,284	2,383
b	Market Cap (In ₹ Crore)	1,10,004	74,633	33,591	1,89,962	69,203	27,289	4,181	1,928
c	EBIDTA (In ₹ Crore)	28,487	13,453	(5,453)	80,843	9,384	11,176	467	268
d	Profit Before Tax (PBT) (In ₹ Crore)	9,698	2,821	(11,915)	52,089	6,584	8,857	440	211
e	Profit After Tax (PAT) (In ₹ Crore)	8,242	2,131	(8,974)	40,097	5,302	6,810	342	154
f	Taxes Paid by Govt. (In ₹ Crore)	2,38,436	1,38,514	92,204	64,268	14,446	12,330	327	57
g	Dividend paid to Govt. (In ₹ Crore)	1,749	690	-	10,372	1,581	1,198	87	#
h	Employee Expenses (In ₹ Crore)	8,770	2,775	2,963	10,621	1,717	1,994	936	250

Note: (1) Net Revenue is 'Revenue from Operations'. (2) Market cap is based on the closing price as on last working day of that financial year. (3) Dividend paid to Govt. is on cash basis and includes dividend paid to Central & State govt.

Denoted by ( ) figures are negative

 # There is no direct holding by Govt. of India in Balmer Lawrie & Co. Ltd. Balmer Lawrie Investments Ltd., a Government Company holds 61.80% of shares in Balmer Lawrie & Co. Ltd. Central Govt. holds 59.67% in Balmer Lawrie Investments.

FY 2021-22:

Sl. No.	Particulars	IOCL	BPCL	HPCL	ONGC	GAIL	OIL	EIL	Balmer Lawrie
a	Net Revenue (In ₹ Crore)	7,28,445	4,32,570	3,73,897	16428	91,626	16428	2,870	2,105
b	Market Cap (In ₹ Crore)	1,11,981	77,920	38,209	25836	69,137	25836	3,597	1,985

c	EBIDTA (In ₹ Crore)	47,568	24,077	13,146	7266	15,876	7266	472	223
d	Profit Before Tax (PBT) (In ₹ Crore)	31,733	16,037	8,204	4987	13,590	4987	448	170
e	Profit After Tax (PAT) (In ₹ Crore)	24,184	11,682	6,383	3887	10,364	3887	344	123
f	Taxes Paid by Govt. (In ₹ Crore)	2,59,334	1,39,106	85,746	6675	13,090	6675	292	47
g	Dividend paid to Govt. (In ₹ Crore)	5,102	7,814	-	660	2,056	660	87	#
h	Employee Expenses (In ₹ Crore)	10,992	3,408	2,982	1700	1,711	1700	905	227

Note: (1) Net Revenue is 'Revenue from Operations'. (2) Market cap is based on the closing price as on last working day of that financial year. (3) Dividend paid to Govt. is on cash basis and includes dividend paid to Central & State govt.

 # There is no direct holding by Govt. of India in Balmer Lawrie & Co. Ltd. Balmer Lawrie Investments Ltd., a Government Company holds 61.80% of shares in Balmer Lawrie & Co. Ltd. Central Govt. holds 59.67% in Balmer Lawrie Investments.

b. Key Financial Performance Ratios

3.2 Details of the key financial performance ratios of the eight CPSUs of the last 4 years are given below:

FY 2024-25:

Sl. No.	Financial Ratios	IOCL	BPCL	HPCL	ONGC	GAIL	OIL	EIL	Balmer Lawrie
a	Earnings Per Share (EPS)	9.41	126	34.61	28.31	17.20	37.59	8.28	13.61
b	EPS Growth	-67%	1,160	(50%)*	-12.11%	28%	10%	30.39%	14.37%
c	Debt to Equity Ratio	0.75	0.60	1.38	0.03:1	0.26	0.27	-	-
d	Price to Equity Ratio	13.57	4.78	1.67	0.98	10.62	10.28	19.38	15.51
e	Return on Net Worth (RONW)	8.69	35.51	11.48%	11.26%	18	15.47%	17.76%	16 %
f	Operating Margin	2.11%	6.75	2.25%	37.26%	14	31.0%	14.76%	12%

***For EPS Growth, EPS for FY 24-25 ₹34.61 per share has been compared with Post Bonus Restated EPS for FY 23-24 of ₹69.06 per share.**

FY 2023-24:

Sl. No.	Financial Ratios	IOCL	BPCL	HPCL	ONGC	GAIL	OIL	EIL	Balmer Lawrie
a	Earnings Per Share (EPS)	28.77	126.08	103.58	32.21	13.44	34.13	6.35	11.90
b	EPS Growth	381%	1,159.83	Very High (since Previous Year was negative)	1.1%	67%	-18%	4.27%	32.22
c	Debt to Equity Ratio	0.66	0.60	1.47	0.02:1	0.29	0.26	EIL is a Zero Debt Company	-
d	Price to Equity Ratio	5.83	4.78	1.65	1.10	13.48	17.58	31.80%	20.06
e	Return on Net Worth (RONW)	29.75	35.51	42.75	13.2%	16	15.66%	15.45%	15%
f	Operating Margin	6.34%	6.75	4.18	41.3%	12	33.82%	7.61%	12%

IOCL: (1) EPS for 2021-22 is adjusted for bonus share issue in June 2022. (2) Return on Net Worth ratio is based on average net worth for that year. (3) Operating Profit for Operating Margin is PBT excluding finance cost and other non-operating income.

OIL: EPS for 2023-24 is adjusted for bonus share issue in July, 2024.

FY 2022-23:

Sl. No.	Financial Ratios	IOCL	BPCL	HPCL	ONGC	GAIL	OIL	EIL	Balmer Lawrie
a	Earnings Per Share (EPS)	5.98	10.01	(63.26)	31.87	8.06	41.87	6.09	9.00
b	EPS Growth	-66%	-81.77	(241)	-0.5%	-49%	75%	-0.65%	25.35
c	Debt to Equity Ratio	0.98	1.13	2.33	0.03:1	0.22	0.32	EIL is a Zero Debt Company	-
d	Price to Equity Ratio	13.02	34.38	1.21	0.73	13.05	6.01	12.22%	12.53
e	Return on Net Worth (RONW)	7.08	3.98	(27.03)	15.4%	10	21.55%	16.25%	12 %
f	Operating Margin	1.11%	0.46	(2.54)	41.2%	7	34.75%	8.25%	9%

IOCL: (1) EPS for 2021-22 is adjusted for bonus share issue in June 2022. (2) Return on Net Worth ratio is based on average net worth for that year. (3) Operating Profit for Operating Margin is PBT excluding finance cost and other non-operating income.

OIL: EPS for 2022-23 is adjusted for bonus share issue in July, 2024.

FY 2021-22:

Sl. No.	Financial Ratios	IOCL	BPCL	HPCL	ONGC	GAIL	OIL	EIL	Balmer Lawrie
a	Earnings Per Share (EPS)	17.56	54.91	44.94	32.04	15.76	35.85	6.13	7.18
b	EPS Growth	11%	-32.93	(36)	258.4 %	112%	123%	47.36%	5.43
c	Debt to Equity Ratio	0.84	1.08	1.12	0.03:1	0.15	0.39	EIL is a Zero Debt Company	-
d	Price to Equity Ratio	6.77	6.54	0.99	0.87	6.67	6.65	10.44%	16.17
e	Return on Net Worth (RONW)	22.59	22.51	17.05	17.0%	21	14.41 %	17.89%	9 %
f	Operating Margin	4.42%	2.92	1.66	39.3%	17	26.65 %	10.84%	8 %

IOCL: (1) EPS for 2021-22 is adjusted for bonus share issue in June 2022. (2) Return on Net Worth ratio is based on average net worth for that year. (3) Operating Profit for Operating Margin is PBT excluding finance cost and other non-operating income.

B. UNDER-RECOVERIES

3.3 In accordance with the Government's policy, the Oil Marketing Companies (OMCs) such as IOCL, BPCL and HPCL have to sell products like LPG, kerosene and diesel below their actual cost of production and import and have incurred financial loss. This difference between the cost price and the subsidized retail selling price is known as an under-recovery, which effectively acts as a subsidy to consumers, and is compensated to OMCs through a burden-sharing mechanism involving the government, other upstream oil companies and the OMCs themselves. As furnished by MoPNG, the details of under-recoveries faced by OMCs are given below:

> **"…** Consequent upon deregulation of Petroleum sector, initially it was decided that the price of indigenous crude oil produced by ONGC and OIL will be market determined w.e.f. Apr', 02. However, consequent upon steep increase in international crude oil price, Government decided to modulate the Retail Selling Price (RSP) of Domestic LPG and SKO PDS during 2003-04. As a result, public sector Oil Marketing Companies (OMCs) began to incur under-recoveries on sale of these products. Subsequently, during 2003-04, MoPNG vide its letter dated 30th Oct' 2003 issued a mechanism for sharing the under-recoveries of OMCs. The salient features of the mechanism are given below:
>
> a. OMCs would strive to make up for about 1/3rd of the projected under-recoveries by cross-subsidization through other retail products.

b. The balance under-recoveries of OMCs, after accounting for over-recoveries from other retail products, would be equally shared amongst the OMCs and upstream sector (ONGC and GAIL). OIL was also added subsequently.

c. The amount of under-recovery of each OMC to be made good by the upstream sector would be equal to half of the balance under- recoveries.

d. The contribution from ONGC, GAIL and OIL would come in terms of appropriate discounts on the prices of crude oil, Domestic LPG and PDS kerosene supplied by them to OMCs.

e. Contribution of upstream sector companies namely ONGC, GAIL and OIL would be broadly in the ratio of each company's PAT (profit after tax)

During 2004-05, Government did not allow OMCs to revise prices of MS and HSD (prices of which were decontrolled w.e.f. 1st Apr '02) also and directed upstream oil companies to share under-recoveries of OMCs on all four price sensitive petroleum products viz. Domestic LPG, SKO PDS, MS and HSD.

Based on the directives of MoPNG, effective from 2003-04 till 2015-16, under-recoveries of OMCs were shared among Govt. of India, upstream oil companies (including ONGC) and Oil Marketing Companies. In terms of the mechanism, upstream share of under-recoveries were passed on to OMCs by way of extending discount on sale of crude oil, domestic LPG and PDS-SKO to the OMCs/ refineries. Accordingly, discounts were extended by ONGC on sale price of crude oil supplied to refineries in terms of MoPNG directives issued from time to time and therefore the actual (post-discount) price realization by ONGC was significantly lower than the international price.

Year-wise break-up of sharing amongst Upstream oil companies is tabulated below:

(Amount in ₹ Crore)

Year	Upstream Sector			
	ONGC	**OIL**	**GAIL**	**TOTAL**
2003-04	2,690	0	428	3,123
2004-05	4,104	706	1,137	5,947
2005-06	11,958	978	1,064	14,000
2006-07	17,025	1,994	1,488	20,507
2007-08	22,000	2,307	1,401	25,708
2008-09*	28,226	3,023	1,694	32,943
2009-10	11,554	1,549	1,327	14,430
2010-11	24,892	3,293	2,111	30,297
2011-12	44,466	7,352	3,183	55,000
2012-13	49,421	7,892	2,687	60,000
2013-14	56,384	8,737	1,900	67,021
2014-15	36,300	5,523	1,000	42,823
2015-16	1,096	155	0	1,251
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0

2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
Total	**3,10,116**	**43,510**	**19,420**	**3,73,045**

(*) includes additional compensation for import cost of ₹943 crore.

Due to discount allowed on account of sharing of under-recoveries of OMCs, the net prices realized by ONGC during 2003-04 till 2015-16 were far below the international prices. ONGC's share or under-recoveries on the crude oil, the gross price and net price realized by ONGC are tabulated below:

Year	**ONGC share of under-recoveries (₹ Crore)**	**Gross Price (USD/ bbl)**	**Subsidy Discount (USD/ bbl)**	**% of Subsidy Discount to Gross Price**	**Net Price (USD/ bbl)**
2003-04	2,690	29.96	3.5	11.68%	26.46
2004-05	4,104	43.20	5.41	12.52%	37.79
2005-06	11,958	59.66	17.32	29.03%	42.34
2006-07	17,025	66.33	22.11	33.33%	44.22
2007-08	22,000	85.54	32.64	38.16%	52.90
2008-09	28,226	86.15	38.45	44.63%	47.70
2009-10	11,554	71.65	15.71	21.93%	55.94
2010-11	24,892	89.41	35.64	39.86%	53.76
2011-12	44,466	117.40	62.69	53.39%	54.72
2012-13	49,421	110.74	62.89	56.79%	47.85
2013-14	56,384	106.72	65.75	61.61%	40.97
2014-15	36,300	85.28	40.41	47.39%	44.87
2015-16	1,096	48.26	1.12	2.32%	47.14
2016-17	0	50.27	0	0%	50.27
2017-18	0	57.33	0	0%	57.33
2018-19	0	68.19	0	0%	68.19
2019-20	0	58.61	0	0%	58.61
2020-21	0	42.78	0	0%	42.78
2021-22	0	76.62	0	0%	76.62
2022-23	0	91.90	0	0%	91.90
2023-24	0	80.77	0	0%	80.77
2024-25	0	76.899	0	0	76.899
TOTAL	**3,10,116**				

As per the subsidy sharing mechanism, during 2003-04 till Q1 2015-16, ONGC shared considerable amount of under-recoveries of OMCs on sale of price sensitive petroleum Products and passed on the same to OMCs by way of extending discount on sale of crude Oil, domestic LPG and PDS-SKO to the OMCs/ refineries. Further, effective from Q1 FY' 15, crude oil price started moving to moderate levels. Lower crude pricing regime coupled with fiscal measures taken by Govt. resulted into considerable reduction in total under-recoveries of OMCs. Thus, effective from Q2 2015-16 onwards, upstream oil companies including ONGC have not been asked to share under-recoveries of OMCs."

C. IMPACT OF GOVERNMENT POLICIES

a. Disinvestment of HPCL

3.4 The Government decided to disinvest in HPCL by selling its controlling stake to ONGC in 2018 for strategic reasons. Although the government exited its direct shareholding, it retained indirect control of HPCL through ONGC. On being asked to furnish information on the impact of HPCL share transfer to ONGC and the rationale behind it, MoPNG has stated that Cabinet Committee on Economic Affairs (CCEA) in its meeting has given 'in principle' approval for strategic sale of the Government of India's existing 51.11 % of total paid up equity shareholding in Hindustan Petroleum Corporation Limited (HPCL) to Oil and Natural Gas Corporation Limited (ONGC) along with transfer of management control. The rationale behind it is to create a vertically integrated public sector 'Oil Major' company having presence across the entire value chain.

3.5 Regarding specific administrative changes, occurred within HPCL after the transfer of 51.11% shares to ONGC, it has been submitted that by virtue of the acquisition of 51.11% of total paid up equity shareholding in HPCL, ONGC has become part of the Promoter group of HPCL as per the Companies Act, 2013 along with Government of India (GOI). However, HPCL being a Government Company within the meaning of Section 2 (45) of the Companies Act, the power to appoint Directors etc. vests with GoI. Thus, HPCL became a Subsidiary company of ONGC as per the Companies Act, 2013.

3.6 When asked to provide a detailed explanation of the valuation process for the share transfer to ONGC, MoPNG has submitted as under:

"… For appointment of Asset Valuer for valuation of the assets of HPCL, a selection committee was constituted and based on their recommendation, Asset

Valuer was appointed. Simultaneously, DIPAM appointed Transaction Advisor and Legal Advisor. As per procedure laid down by DIPAM, an Evaluation Committee (EC) was constituted. The EC considered the report of Transaction Advisor / Asset Valuer and recommended "Reserved Price" for consideration of Core Group of Secretaries on Disinvestment (CGD). The CGD on 20.1.2018 recommended the sale of GOI existing shareholding of 51.11% in HPCL to ONGC. Thereafter, Alternative Mechanism headed by Finance Minister considered the recommendation of CGD and approved the sale of GOI share in HPCL to ONGC."

D. INTERNATIONAL PRESENCE

3.7 Regarding the international presence of P&NG sector CPSUs and their operations and details of their revenue from international operations, MoPNG has submitted the following:

"IOCL: IOCL generates revenue from domestic sales as well as exports to various countries. As on 31.03.2025, there are 7 foreign Subsidiaries of IOCL in Mauritius, Sri Lanka, Dubai, Sweden, USA, Netherlands & Singapore; and 1 Joint Venture in Nigeria.

Breakup of group revenue including exports to various geographical areas is as under:

2024-25	Revenue
India	₹8,14,976.16 Cr.
Outside India	₹44,386.57 Cr.

Note: Profit of the company is prepared at corporate level, hence break-up not available.

BPCL: The geographic information analyses the Group's revenue by the Country of domicile and other Countries. Segment revenue is based on countries from which group derives revenue. Profit is prepared at total level. Breakup of revenue for FY 2024 25 is as under:
Revenue from India – ₹494,348.79 Cr.
Revenue from other countries – ₹6,168.69 Cr.

BPRL has Participating Interest (PI) in seven overseas oil & gas blocks, along with equity stakes in two Russian entities holding the license to four producing blocks in Russia. Out of the seven overseas blocks, three are in Brazil, two in United Arab Emirates and one each in Mozambique and Indonesia. Details of revenue and profit (PAT) break up of BPRL of international and national operations during 2024-25.

Particulars (2023-24)	National Operations	International Operations	As per BPRL Consolidated Financials**
Revenue From Operations (₹ Lakhs)	14,622.30	-	14,622.30

Particulars (2023-24)	National Operations	International Operations	As per BPRL Consolidated Financials**
Profit After Tax/(Loss) (₹ Lakhs)	6,454.30	-203,083.30	-196,629.00
***** Figures are calculated based on BPRL Consolidated Financial Statements for the period ended 31st March 2025 which are further bifurcated into National and International Operations***			

HPCL: HPCL Middle East FZCO (HMEF), a wholly owned subsidiary of HPCL, markets lubricants and other petroleum products across various Middle East and Africa markets. The Company is registered under the Dubai Airport Free Zone Authority (DAFZA) and has a trade license for trading in lubricants & greases, petrochemicals and refined oil products.

HMEF has registered its highest-ever sales volume of 7,326 MT, comprising 1,502 MT of finished lubricants, 2,692 MT of fuels, and 3,132 MT of base oil. This resulted in a total revenue of AED 29.63 million (₹68.45 crore) and a Profit After Tax (PAT) of AED 0.57 million (₹1.324 crore). HMEF operates from the Middle East and Africa, is registered under the Dubai Airport Free Zone Authority (DAFZA), and holds a trade license for lubricants and greases, petrochemicals, and refined oil products.

In addition to above, HPCL exports various petroleum products to 20 countries, with details as follows-

Period	Products	Countries	Qty (MMT)	Value (Million USD)
FY 2024-25	Bitumen, FO, JBO, MS, HSD, Lubricants, Naphtha, VGO, LVFO, Sour HSD & MTO	Bhutan, Bangladesh, Nepal, Sri Lanka, Qatar, UAE, Oman, Myanmar, Den R Congo, Ecuador, Cambodia, Kenya, Mauritania, China, Japan, Senegal, Singapore, South Korea, Malaysia, USA	2.5	1271

OIL: OIL has expanded its global influence through strategic investments in overseas Exploration and Production (E&P) projects. Currently, the company has a presence in 10 assets spread across 7 countries: Russia, Mozambique, Venezuela, Nigeria, Bangladesh, Libya, and Gabon. This diverse portfolio encompasses 4 producing assets in Russia and Venezuela, 2 discovered and development assets in Mozambique and Nigeria, and 4 exploratory assets in Libya, Gabon, and Bangladesh. OIL's share of Oil and Gas Production from overseas assets for the period 2024-25 is 2.0971 MMTOE, whereas OIL's share of 2P oil & gas reserves in overseas producing and discovered assets as of 31.03.2025 stood at 40.90 MMTOE.

2024-25	Revenue	PAT
National operations	₹35876.0 crore	₹6956.0 crore
International operations	₹287.8 crore	₹83.5 crore

GAIL: GAIL jointly with ONGC Videsh Singapore Pte Ltd, IOCL Singapore Pte Ltd, Oil India International Pte Ltd, and Engineers India Ltd had formed Bharat Energy Office LLC (BEO) for exploring business opportunities in **Russia**. GAIL is involved in **Myanmar** as part of a consortium for two offshore exploration and production (E&P) blocks, A-1 and A-3. GAIL is also having presence in **United States** through its wholly-owned subsidiary GAIL Global (USA) Inc for acquiring Shale gas assets & GAIL Global (USA) LNG LLC (wholly-owned stepdown subsidiary) for sourcing of Natural Gas, pipeline transportation and liquefaction arrangements at Dominion Cove Point and formed GAIL Global Singapore Pte. Ltd (wholly-owned subsidiary) in **Singapore** for LNG trading.

(In ₹ Crore)

Particu-lars	National /Interna-tional Operations	FY 2021-22		FY 2022-23		FY 2023-24		FY 2024-25	
		Turnover	PAT	Turnover	PAT	Turnover	PAT	Turnover	PAT
GAIL (India) Limited	National Operations	91,426	10,364	1,43,976	5,302	1,30,284	8,836	1,36,960	11,312
GAIL Global (USA) Inc.	International Operations	7,561	(14)	9,809	5	6,206	(13)	6,785	(18)
GAIL Global Singapore Pte. Ltd	International Operations	4,177	6	13,568	3	6,231	11	9,112	18

EIL: In the fiscal year 2024-25, EIL has advanced its global footprint and project portfolio by securing assignments worth ₹1077 crore from International markets which includes highest-ever business in the Middle East from its Abu Dhabi office. Internationally, EIL's presence is spread across the Middle East, Africa, Central Asia and South America, demonstrating the company's ability to operate in diverse environments and deliver tailored solutions to a global clientele. EIL's presence in these geographies highlights its capability to undertake and execute projects of varying scales and complexities.

Leveraging its technical prowess and project management capabilities, EIL signed long-term agreements with ADNOC Group Companies for the following assignments.

- Framework Agreement for Concept Design, Pre-FEED & FEED Services Phase 1: for Projects with CAPEX more than USD 200M
- PMC Framework Agreement
- Engineering and Project Management Services for RSI

The company secured its highest order from ADNOC Offshore for Lower Zakum Long Term Development Plan Phase-1 Project. It also secured the Engineering and Project Management Services for RSI from M/s ADNOC Refining along with Engineering & Project Management Services for Fujairah Oil Tanker Terminal (FOTT): Berth-10 and Berth-11 from Port of Fujairah.

The company's international footprints were further strengthened with securing the projects from ADNOC Group, ENOC, NMDC Energy, Fujairah. EIL also secured projects from BAPCO (Bharain), KNPC (Kuwait), ACME (Oman), DOIL (Oman). Consolidating its position in Nigeria, EIL is in active discussions with various clients for Fertilizer and Petrochemical Projects in the African Continent as well as with clients in Central Asia and Latin America.

EIL is also leveraging its project management capabilities and track record to enter into new territories of Kuwait, Oman, Bahrain and has re-entered into Algeria with securing of prestigious assignments. Further, EIL has opened its office in Guyana where it is providing consultancy services for the Integrated NGL Plant as well as 300 MW CCGT Power Plant to scout for new projects in Guyana and neighbouring countries. EIL has also expanded its reach in the Middle East with several critical projects for ADNOC and other clients, thus, expanding its global footprint and enhancing its position within the global energy value chain.

Revenue of the Company from domestic and international operational for last three years is given below:

(₹ in Crore)

Revenue from Operations	2021-22	2022-23	2023-24	2024-25
Domestic	2,585.01	3,047.02	2,951.34	2,657.40
International	285.39	236.74	280.83	370.95
Total	2,870.40	3,283.76	3,232.16	3,028.35

ONGC: ONGC Videsh, a Navaratna Schedule "A" Central Public Sector Enterprise (CPSE) of the Government of India under administrative control of the Ministry of Petroleum & Natural Gas, is the wholly owned subsidiary and overseas arm of Oil and Natural Gas Corporation Limited (ONGC). ONGC Videsh's entire operations are overseas and all revenue and PAT is from international operations only as there are no operations in domestic sector.

ONGC Videsh has stake in 32 Exploration and Production (E&P) assets in 15 countries, viz. Azerbaijan (2 projects), Bangladesh (2 Projects), Brazil (2 projects), Colombia (4 projects), Iran (1 project), Iraq (1 project), Libya (1 project), Mozambique (1 Project), Myanmar (6 projects), Russia (3 projects), South Sudan (2 projects), Syria (2 projects), UAE (1 project), Venezuela (2 projects), and Vietnam (2 projects). The primary business of ONGC Videsh is exploration, development and production of oil and gas from E&P assets outside India.

In terms of reserves and production, ONGC Videsh is the second largest petroleum company of India, next only to its parent ONGC. The Company's FY

2024-25 production of oil and oil equivalent gas (O+OEG) was 10.278 MMToE.

The Company's Revenue from Operations for FY2024-25 was ₹12,995 crore, with the Profit after tax (PAT) being ₹457 crore.

Balmer Lawrie Ltd.: BLC doesn't have its own foreign office but have following global JV companies:

1. **Balmer Lawrie (UAE) LLC.:** BL also in the business of industrial packaging products in India did a technology transfer for setting up an overseas joint venture in UAE to capture the demand for barrels in that region. Over the years, the JV has built-up capability to manufacture various related packing products to build-up a portfolio across the spectrum of industrial packaging line.

2. **AVI-OIL India Private Limited (AVI-OIL):** This JV was formed with the aim of introduction of high grade and high-performance Lubricants for the aviation sector where BL does not have a presence. This was also an endeavour on the part of BL to introduce import substitute products in India. 50% of share were held by foreign entities (NYCO, France) and 25% each by Balmer Lawrie & IOCL.

3. **Balmer Lawrie - Van Leer Limited (BLVL):** Manufacturer of closure for steel barrels and Plastic packaging products. Closure and locking rigs for steel barrels which are some of the major raw materials for SBU Industrial Packaging are manufactured by this JV. This JV also manufactures plastic barrels of various sizes and complements the steel barrels product line of BL. 47.91 % of share were held by foreign entity (Grief International Holding B.V. Netherland), 47.91 % by Balmer Lawrie and 4.18 % by others.

4. **PT Balmer Lawrie Indonesia (PTBLI):** The business of the joint venture can be broadly categorized into Processing Business, Direct Sales, Institutional Sales and Export of lubricants to neighbouring countries. 50% of share were held by foreign promotors (PT. Imani Wicaksana, Indonesia) and 50% by Balmer Lawrie & Co. Ltd."

E. GEOPOLITICS

3.8 Regarding the impact of geopolitical headwinds and tailwinds on P&NG sector CPSUs and how they navigate these risks, MoPNG has submitted that IOCL's key raw material for its business is Crude Oil, of which about 89% is being imported, indicating high dependency on geopolitics around the world apart from the usual supply-demand scenario. Any kind of disruption in any of the oil producing countries that lead to fall in production of crude oil may result into increase in prices. Further, crude oil producing and

consuming countries are located across the globe and the crude oil is generally transported from one Country to another either through oil tankers or pipelines.

3.9 Elaborating on the geopolitical challenges being faced by P&NG CPSUs, the representatives of MoPNG in their deposition before the Committee have stated the following:

> "... ऑइल और गैस में जो जिओपोलिटिकल चैलेंजेस हैं, मैंने बताया था कि हम 39 देशों से कच्चा तेल लेते हैं और ये 39 देश सिर्फ मिडिल ईस्ट में नहीं हैं। हमारे पास ऑइल दुनिया में सब जगह से आ रहा है, चाहे वह अमेरिका हो, रशिया हो, कोलम्बिया हो, ब्राजील हो या मलेशिया हो, हम बहुत जगह से तेल खरीद रहे हैं। हमारी डिपेंडेंस मिडिल ईस्ट पर कम हुई है। उदाहरण के तौर पर सउदी अरब से पांच साल पहले 31 प्रतिशत एलपीजी आती थी, वह पांच-छ: साल में घटकर 18 प्रतिशत रह गयी है। हमने स्ट्रैटजिकली अपनी सोर्सेज़ डाइवर्सीफाई की हैं ताकि हम किसी एक जिओग्राफी पर ज्यादा डिपेंडेंट न हों। यह सिर्फ जिओग्राफी की भी बात नहीं है, यह रूट की भी बात है क्योंकि कल को अगर रेड सी वाले रूट में कोई समस्या आती है या अरब गल्फ के रूट में कोई समस्या आती है तो हमारे पास जो अल्टरनेट रूट्स हैं, उनके थ्रू आ रहा है। कई बार रशियन कार्गो केप ऑफ गुड होप से होकर आता है, उसमें समय ज्यादा लगता है, लेकिन हमें एक सर्टिनिटी हो जाती है। अमेरिका से भी कई बार अफ्रीका के रूट से आ रहा है। हमने प्रोएक्टिव स्टैप्स लिए हैं ताकि हमारी मिडिल ईस्ट की डिपेंडेंस कम हो। जहां तक जिओपोलिटिकल चैलेंजेस या जिओपोलिटिकल प्राइस प्रिमियम कहते हैं कि क्या उससे कच्चे तेल के दाम बढ़ेंगे? यह बात सही है कि इस महीने कुछ दिन कच्चे तेल के दाम इसलिए बढ़े क्योंकि ऐसा लगा कि शायद इस्राइल और ईरान में युद्ध होगा, लेकिन हम अगर आज देखें तो अभी युद्ध की संभावनाएं कम लग रही हैं, क्योंकि अभी कुछ स्टेटमेंट्स आयी हैं कि ईरान में जो ऑइल का इंफ्रास्ट्रक्चर है, उस पर शायद आक्रमण न हो, सिर्फ मिलिट्री असैट्स पर ही आक्रमण होगा। अगर किसी भी कंट्री के ऑइल असेट्स पर आक्रमण होता है तो मार्किट से ऑइल सप्लायी चली जाती है। हम ईरान से तेल नहीं खरीदते हैं, लेकिन कोई और खरीदता है और उसको अगर ईरान का तेल नहीं मिलेगा तो वह वही तेल खरीदने आएगा जो हम खरीदना चाह रहे हैं, इससे दाम बढ़ जाते हैं। अभी ऐसा लग रहा है कि जिओपोलिटिकल रिस्क प्रीमियम था, वह अब कम होता दिखायी दे रहा है, हमें उससे थोड़ी सी उम्मीद बंधी है कि प्राइसिंग का जो इश्यू था वह शायद इतना मुश्किल न हो। दूसरा, जो मीडियम टर्म फोरकास्ट है, अगले साल का भी जो प्राइस फोरकास्ट है, यह दिख रहा है कि चीन में भी ऑइल डिमांड की ग्रोथ कम हुई है, क्योंकि चीन की इकोनॉमी में स्लोडाउन दिख रहा है और वहां इलेक्ट्रिक व्हीकल पर जो शिफ्ट हुआ है, इससे भी चीन में क्रूड ऑइल की डिमांड कम हुई है। उसका लाभ भी हमें मिल रहा है क्योंकि बायर उस हिसाब से मार्किट में कम हो गए हैं। हिन्दुस्तान इस समय क्रूड ऑइन का बहुत बड़ा बायर बन गया है और कई देश हमारी तरफ देख रहे हैं कि किस तरह वह हमें अपना क्रूड ऑइल या गैस बेच सकें।"

3.10 It has further been submitted that there could be various geopolitical headwinds/risks which could have an adverse impact on smooth supply of crude oil and its prices such as:

❖ War in any oil producing Country (Eg: Russia-Ukraine War, Israel-Hamas War)

- ❖ Political/Civil unrest/Strikes in any oil producing Country adversely impacting the operation in production facilities and export terminals resulting in declaration of Force Majeure (Eg: Libya, Nigeria)
- ❖ Sanctions on any oil producing Country (Eg: Iran, Venezuela, Russia)
- ❖ Planned/Unplanned maintenance in oil producing Country.
- ❖ Any bottleneck in transportation of crude oil (Eg: Delays in transit through Suez Canal, Panama Canal etc.)
- ❖ Attack on any oil production/storage facility or oil tanker. (Houthi attacks on ships in Red Sea, Ukraine Drone attacks on Russian refineries etc.)
- ❖ Disruption in supply of other energy sources like natural gas, coal etc.

3.11 MoPNG has also stated that the tailwinds related to global crude oil supply include continued unwinding of OPEC+ production cuts, increased production from Non-OPEC+ countries like USA, Guyana, Brazil, Canada, Argentina etc., availability of temporary/permanent relief from US/EU/G7 sanctions for crude oil trade from Venezuela/Iran/Russia.

3.12 It has also been stated that geopolitical headwinds and tailwinds have an impact on a Country like India which meets about 89% of crude oil requirements through imports. Events in the last three years such as the Russia-Ukraine war, sanctions and price cap on Russian Oil and the Israel-Iran war have clearly demonstrated that. Russia-Ukraine war has changed the trade flow of oil and now lot of Russian Oil which has been displaced from Europe is finding home in countries like China, India and Turkey. The Israel-Iran war and the Houthi attacks on ships transiting through the Red Sea has compelled the ship owners to route their ships via Cape of Good Hope instead of the Suez Canal for transits from Asia to Europe and vice versa.

3.13 Regarding the steps taken to manage such geopolitical risk, MoPNG has furnished the following steps taken by IOCL:

- ➢ IOCL has been able to manage the geopolitical risk thus far largely through diversification of crude oil imports. Today IOCL is importing large chunk of its crude oil

from Middle East and Russia. However, constant efforts are being made to look for other sources like Africa, Americas etc.

- IOCL has also tried maintaining a judicious mix of various types of contracts such as Term/Spot, DAP/FOB/CFR which help in mitigating the geopolitical uncertainties to some extent.

- IOCL has also entered various optional term contracts which could prove to be useful in situations wherein our regular sources of supply are impacted due to some geopolitical uncertainties.

3.14 Regarding the geopolitical challenges being faced by ONGC Videsh and the steps taken to navigate such challenges, MoPNG has furnished as under:

> **"**ONGC Videsh operates in multiple countries, and its operations are affected by multiple geopolitical risks, such as political instability, regulatory changes and conflicts. These risks affect the ability to explore and produce oil and gas reserves, maintain existing assets and secure favourable terms for contracts. Also, fluctuations in global oil and gas prices significantly impact the financial performance of ONGC Videsh. Lower oil prices reduce revenues and profitability, affecting the company's ability to fund exploration and development activities. Additionally, undertaking overseas exploration and production activities requires significant capital investments. ONGC Videsh faced challenges in accessing capital, especially during the periods of financial market volatility or when competing with other global investment opportunities. Furthermore, the Company operates in diverse geographical locations, including offshore and remote areas, which poses operational and technical challenges. These challenges include harsh weather conditions, logistical complexities, infrastructure limitations, and remote asset management.
>
> Apart from the direct risk associated with the projects, the Company is also exposed to geopolitical realignments and continues to face headwinds in its various projects, due to adverse geopolitical developments and the positions taken by the host governments. Further, the impact is not limited just to project execution challenges but also encompasses various actions taken by multi-lateral agencies and countries in response including imposition of financial sanctions on the Country and or the national oil companies and or the national banks in these countries thereby impacting the investment and realization of income from the affected projects.
>
> Another challenge faced by the Company is the impairment of its ability to compete with global peers in securing oil & gas projects overseas due to the double tax exposure on its dividend income received from overseas companies incorporated in the Country where the project is situated.
>
> Some of the ways these challenges are navigated are:

OVL adopted ERM system which is in line with DPE guidelines etc. on Corporate Governance, ONGC Videsh had rolled out Enterprise Risk Management (ERM) System in 2012, which was further aligned with ISO 31000:2018, which is globally recognized Standard on Risk Management.

Risk registers are well documented for every project of the Company with designated risk owners monitoring and reviewing risks. In addition to that, wherever required, Govt of India intervention is sought to navigate through the geopolitical risks."

3.15 Regarding European Union's new climate-related tariff CBAM (Carbon Border Adjustment Mechanism) which imposes tariffs on certain imported goods from carbon-intensive industries, such as steel, cement and aluminum to ensure that they face the same carbon costs as those produced within the EU carbon pricing system and its possible impact on Indian exports especially petroleum products, representatives of MoPNG during a deliberation, have stated as under:

"We are self-sufficient as far as products are concerned, like petrol, diesel, naphtha, and aviation turbine fuel. डिमांड होने पर हम यह प्रोडक्ट एक्सपोर्ट करते हैं और कई देशों को हमारा एक्सपोर्ट होता है। पिछले साल हमारा बहुत एक्सपोर्ट हुआ। कई देशों में या तो रिफाइनरीज़ बंद हो गयी हैं या रशिया में रिफाइनरीज़ डैमेज हुई हैं, दोनों चीजों के होने से यूरोप को पेट्रोल और डीजल की बहुत जरूरत होती है, लेकिन वह हमारे इतना बड़ा मार्किट नहीं और कंट्रीज हमारे लिए बड़ी मार्किट हो गयी हैं। अगर वह पेट्रोल और डीज़ल पर हम पर सी-बैम लगाते भी हैं तो उनकी समस्या यह है कि वह हम से नहीं लेंगे तो किससे लेंगे, क्योंकि रिफाइनरी में नंबर चार के बाद, वह रशिया से नहीं लेंगे, अमेरिका, चीन और इंडिया के बाद नंबर पांच और छ: के देश बहुत नीचे हैं और उनके पास बेचने के लिए सरप्लस प्रोडक्ट ही नहीं है। उनके पास चॉइस नहीं होगा, उन्हें हम से लेना ही पड़ेगा, चाहे वह सी-बैम का वेवर दें या कुछ करें और हमें ऐसी कोई आफत नहीं है कि हमें उनको ही बेचना है। हमारे पास बहुत सारे बायर्स हैं जो हमारा प्रोडक्ट खरीद सकते हैं। कम से कम इस सेक्टर में हमें सी-बैम के विषय में इतनी चिंता नहीं है।"

CHAPTER-IV

TRANISITION TO CLEANER ENERGY

A. ENVIRONMENTAL EXTERNALITIES

4.1 When asked about the environmental concerns associated with the activities of P&NG sector CPSUs and the measures being adopted to mitigate environmental impact and promote sustainable practices, MoPNG has submitted as under:

> "The Public Sector Undertakings (PSUs) in the Petroleum and Natural Gas (P&NG) sector, face several environmental concerns due to the nature of their operations, which involve refining, distribution and consumption of fossil fuels. These concerns include greenhouse gas emissions, air and water pollution, and waste management. Below are some of the key environmental concerns and the measures being taken to mitigate them:
>
> ➢ **Environmental Concerns:**
>
> ❖ Greenhouse Gas (GHG) Emissions: The P&NG sector contributes significantly to GHG emissions, both operational (Scope 1 and 2) and across the value chain (Scope 3). The burning of fossil fuels, transportation and refining processes emit large amounts of carbon dioxide (CO_2), methane (CH_4) and other pollutants.
>
> ❖ Air Pollution: The sector's operations lead to the emission of sulphur oxides (SO_x), nitrogen oxides (NO_x), and particulate matter (PM), all of which contribute to air pollution. This is particularly critical around refinery sites and transportation hubs.
>
> ❖ Water Management: Large volumes of water are used in refining and petrochemical processes, leading to concerns about water scarcity and pollution from wastewater. This is compounded by climate change effects like water scarcity.
>
> ❖ Biodiversity Loss: Habitat destruction caused by the refinery and other major installations poses a significant risk to biodiversity. The extraction of fossil fuels can disturb wildlife habitats leading to the loss of species and ecosystem imbalance.
>
> ❖ Waste Management: The sector generates hazardous and non-hazardous waste, including plastic and organic waste, which requires sustainable disposal mechanisms.
>
> ➢ **Mitigation Measures:**
>
> CPSEs are actively addressing these environmental challenges and implementing various measures to reduce their environmental footprint, align with international

climate goals, and contribute to sustainable development:

- ❖ Cleaner Fuel Adoption: The transition towards greener fuels, such as compressed biogas (CBG), Ethanol blended fuel, green hydrogen and sustainable aviation fuels (SAF), forms a core part of strategy to combat environmental challenges.
- ❖ Additionally, in alignment with the Government's Ethanol Blended Petrol (EBP) Programme, OMCs offer E20 (20% ethanol blended in petrol) and E100 fuel blends.
- ❖ Water Management: CPSUs have invested in technologies to recycle and reuse wastewater in its operations. They are also working with local communities and stakeholders to promote sustainable water use practices.
- ❖ Renewable Energy and Green Projects:
- ❖ Waste Management: CPSEs are committed to adopting efficient waste management practices to reduce environmental impact through the identification and segregation of operational waste, recycling and ethical disposal to reduce the volumes going to landfills. Hazardous and non-hazardous waste is treated, reused and disposed through specific processes as permissible by the CPCB and SPCB."

B. <u>NET ZERO EMISSIONS & RENEWABLE ENERGY INITIATIVES</u>

4.2 Regarding how P&NG CPSUs are aligning themselves with goal of achieving 'net zero emissions' by 2070 and the steps being taken by them in this regard, MoPNG has stated that OMCs are playing an important role in aiding to the adoption of Electric Vehicles (EVs) in the Country by setting up charging infrastructure for creating consumer confidence. As on 31.03.2025, OMCs have installed 26,279 EV charging stations (EVCS) with their own fund, the details are as under:

OMC	No. of Vehicle Charging Stations	No. of Battery Swapping Stations	Total
BPCL	6,549	14	6,563
HPCL	5,872	102	5,974
IOCL	13,614	128	13,742
Total	26,035	244	26,279

4.3 MoPNG has also submitted the Net Zero target and the planned investments to be made by P&NG CPSUs in this regard, the details of which are given in the table below:

CPSU	Net Zero Target	Planned Capex Investments (₹ Crore)
ONGC	2038	2,00,000
OIL	2040	-
GAIL	2035	38,025
IOCL	2046	2,47,160
BPCL	2040	99,600
HPCL	2040	1,35,347
EIL	2035	49.98
NRL	2038	17000

4.4 For Balmer Lawrie, it has been submitted that it complies with the Government of India's mandate to achieve 50% of its electricity requirements from renewable energy sources by 2030 and accordingly planning to set up solar plants.

4.5 Regarding the future roadmap and concrete plans of the CPSUs regarding their initiatives in the renewable energy sector and integrating green power into their portfolios, MoPNG has furnished as under:

> **"IOCL** - IOCL aims to achieve Net Zero for its Scope 1 and Scope 2 greenhouse gas emissions by 2046. The company has conducted a comprehensive review of its operations and identified both short-term and long-term strategies to cut emissions and reach its Net Zero targets. A major focus is on Renewable Energy (RE) to meet internal power needs through sustainable sources. IOCL has already incorporated a Wholly Owned Subsidiary (Terra Clean Ltd) to pursue its aspirations in low carbon & green energy sector including RE power.
>
> **BPCL:** BPCL aims to achieve Net Zero for its Scope 1 and Scope 2 greenhouse gas emissions by 2040. The company has conducted a comprehensive review of its operations and identified both short-term and long-term strategies to cut emissions and reach its Net Zero targets. A major focus is on Renewable Energy (RE) to meet internal power needs through sustainable sources.

HPCL: HPCL has formed a wholly owned subsidiary HPCL Renewable & Green energy Ltd (HPRGE) in January 2024 for future expansion into the Renewables sector and meeting the captive needs of HPCL. HPRGE has taken various initiatives for building RE capacities to meet the Captive Greening needs across Refineries & Marketing Locations, started initial built ups for C&I and working towards Utility Bidding. HPCL is additionally actively solarizing its Retail Outlets across India and also installing rooftop solar on HPCL Buildings.

ONGC: ONGC is looking forward to diversifying into renewable energy space including Solar, Wind (onshore and offshore), RE-RTC, RE-Hybrid, Green Hydrogen, Geothermal, Bioenergy, Storage projects in India. The Company has also set its Net Zero goal by 2038 for scope 1 & 2.

Giving the stride to its endeavours, ONGC has incorporated a hundred percent subsidiary ONGC Green Limited (OGL) on 27.02.2024. The wholly owned subsidiary is primarily engaged in green energy businesses viz. renewable energy (solar, wind, hybrid, hydel, tidal and geothermal etc.), biofuels/ bio-gas business, green hydrogen and its derivatives such as green ammonia, green methanol, storage, carbon capture utilization and storage.

OIL: OIL is actively diversifying its energy portfolio by venturing into renewable and alternate energy sources for meeting the Country's energy need in a clean and sustainable manner. OIL has created a wholly owned subsidiary called "Oil India Green Energy Ltd" to follow up green initiatives and invest in renewable and alternate energy portfolio. By the year 2040, OIL intends to diversify its energy portfolio by 12-14%. To increase the Company's share of Renewable energy portfolio in the current energy mix and chart the following steps have been undertaken so far:

i. OIL has established 174.1 MW of wind energy power plants in Rajasthan, Gujarat, and Madhya Pradesh, along with 14.0 MW solar energy power plants in Rajasthan. Thus, OIL has a total of 188.1 MW of renewable energy plants in their portfolio, in addition OIL is planning to add about 800 KW of captive solar plants by 2030.
ii. OIL Board approved the formation of a JVC with Assam Power Generation Corporation Limited to take up the initiative in the field of green energy, beginning with the 25 MW solar project at Namrup, Assam of which foundation stone already laid by honorable CM of Assam. The proposed JVC has a plan to take up additional 620 MW of green energy projects in Assam, for which Govt of Assam has provided the in-principle approval.
iii. In addition, OIL is committed to deploying 5 - 5.5 gigawatts of renewable energy capacity by 2040, emphasizing wind, solar, and other sustainable energy sources. OIL has also inked an MoU with NTPC to explore collaboration in the areas of renewable energy, green hydrogen and its derivatives, geothermal and other de-carbonisation initiatives.

GAIL: GAIL promotes use of superior, sustainable, environment-friendly and efficient energy sources including natural gas, renewables and other clean alternative energies. Presently, GAIL has a total installed capacity of 145 MW of renewable energy (out of which 118 MW is wind and 27 MW are solar energy projects including small solar rooftop plants). Accordingly, GAIL is presently working on the following Projects for enhancing its RE Portfolio:

- 1.8 MW ground mounted Solar Plant at Vijaipur.
- 7.75 MW Floating Solar Plant at Vijaipur.
- 17.5 MW Floating Solar Plant at Pata.
- We are also exploring options to set-up Solar Plant in Rajasthan, UP and Mahasrashtra."

4.6 Regarding solar capacity installed and the expenditure incurred in the last 5 years by P&NG CPSUs and target for the next 5 years and estimated investment in renewable energy, MoPNG has furnished the following details:

S. N.	CPSU Name	Solar Energy Capacity Installed during the last 5 years/ targets for the duration	Expenditure on installation of Solar Energy during the last 5 years	Targets (in MW) and Investments (in Cr.) set for the next 5 years	Investment in other renewable energy sources and the details	Installed Renewable Energy projects during the last 5 years (with details)
	BPCL	143.06 MW	₹211 Cr. Includes upcoming solar project at Prayagraj	5000 MW (₹25000 Cr.)	100 MW (₹966 Cr.)	143.06MW Kochi Refinery – 18.86 MW Bina Refinery – 22.55 MW Mumbai Refinery - 3.05 MW Marketing Locations, Residential Colonies and RO – 98.6 MW
	IOCL	25.65 MW from 01.04.2020 till 31.03.2025	~₹120.40 Cr.	Plan of ~31,000 MW by 2031 (~₹96,000 Cr.), depending upon market scenario.	₹1042.1 Cr. investment made for 167.6 MW Wind Power Projects till date.	25.65 MW from 01.04.2020 till 31.03.2025
	HPCL	123.43	₹217.98 Cr.	5799 MW / Equity Investment of ₹6000 Cr.	Nil	123.43

	ONGC	15.56 MW (installed) 907.5 MW(Acquired)	₹4695 Cr. approx.	8400 MW (Included Solar, Wind, BESS) ₹50400 Cr. approx.)	25 CBG plants at estimated capex of ₹50 Cr. each	509.8 MW wind power through acquisition
	GAIL	12.64 MW Solar Power Plant	₹63 Cr. inclusive of GST	1700 MW at ₹13,400 Cr.	26 CBG plants at estimated capex of 73 approx. ₹1000 Cr.	2.64 MWp – Rooftop Solar Power Plant at Pata, UP 10 MW Ground-mounted Solar Power Plant at Vijaipur, MP
	OIL	1.054 MW Rooftop solar installed	-	1 MW solar power project to offset electricity requirement with total budget of 7 Cr. and additional 1.5 MW of rooftop solar is planned.	-	-
	EIL	1292 KW/ 1422 KW roof top SPV System across India	₹7.88 Cr. including GST	~130KW to be installed by end of FY 25-26	Wind mill of capacity 600 Wp installed at Roof top of EIB, Khargar, Mumbai at total cost of ₹3,33,000/- plus GST	1292 KW
	Balmer Lawrie	1130 KW	₹8.56 Cr.	500 KW with an estimated Cost of ₹4 - 4.5 Cr.	-	1130 KW Solar Plant installed at IP Silvassa, IP Taloja, IP Asaoti, G&L Silvassa, CFS Navi Mumbai, Cold Chain Rai, Cold Chain Patalganga & Cold Chain Bhubaneswar

4.7 The Table below shows estimated comparative analysis of the cost of production of electricity using different renewable sources of energy:

	Solar Energy	Wind Energy	BESS (Battery Energy Storage System)	Pump Storage Project	Wind + Solar Hybrid
Cost of production (₹/kWh)	₹2.62	₹3.60	₹8.00	₹9.0	₹3.64

4.8 On being asked to provide details on the initiatives undertaken by P&NG CPSUs to enhance the value chain in solar cell module manufacturing, it has been stated that IOCL has deployed the Solar PV Systems at it's different divisions to enhance the Solar Energy Utilisation across the organisation, however no initiative undertaken for solar cell module manufacturing by any of the P&NG CPSUs as yet.

C. ETHANOL BLENDING

4.9 Regarding ethanol blending programme being implemented by the Government, MoPNG has submitted that the Ethanol Blending Programme of the Government of India is a major initiative aimed at reducing the Country's dependence on crude oil imports, promoting sustainable energy, and providing additional revenue streams for farmers. As per the submission, some of the key highlights of Ethanol Blending Programme include:

- **Blending Targets:** The programme sets progressive blending targets for ethanol in petrol. The blending rate has increased from 1.53% in Ethanol Supply Year (ESY) 2013-14 to 14.60% in ESY 2023-24, with a goal of reaching 20% ethanol blending by 2025-26. As on 31-03-2025 cumulative blending achieved was 18.36%.
- **Expansion of Retail Outlets:** The number of retail outlets selling ethanol-blended petrol has steadily increased, (Retail Outlet No – 22832)
- **Feedstocks:** Ethanol is produced from various feedstocks like sugarcane juice/Sugar/ Sugar syrup, molasses (B-Heavy Molasses, C-Heavy Molasses), damaged food grains, surplus rice, Maize and agricultural residues, diversifying the sources of ethanol production.
- **Economic and Environmental Benefits:** The programme is projected to save approximately USD 4 billion annually in foreign exchange by reducing crude oil imports once the 20% blending target is met. As of November 2022, cumulative

foreign exchange savings were estimated at ₹53,894 crore (as of March 2025, cumulative foreign exchange saving was estimated at ₹1.4 Lakh crore).

- **Government Initiatives:** To support ethanol production, the government has provided pricing incentives, reduced GST on ethanol, and introduced long-term contracts between ethanol suppliers and oil marketing companies (OMCs).

4.10 Regarding the initiatives undertaken by MoPNG to promote ethanol blending and increase adoption rates, MoPNG has furnished the following steps:

- Setting Blending Targets: MoPNG has set progressive ethanol blending targets. These targets are outlined in the "Roadmap for Ethanol Blending in India 2020-2025," which aims to achieve 20% ethanol blending by 2025-26.
- Expansion of Feedstocks: To boost ethanol availability, MoPNG has allowed ethanol production from various feedstocks, including sugarcane juice, B and C-heavy molasses, damaged food grains, and surplus rice and Maize.
- Pricing Incentives and Tax Reductions: The government has introduced pricing incentives for ethanol producers and reduced GST on ethanol from 18% to 5%, making it more economically viable to produce and blend ethanol.
- Infrastructure Development: The Ministry is working with OMCs to develop storage and distribution infrastructure for ethanol across the Country to handle the increased blending rates.
- Promotion of Biofuels: MoPNG has implemented various policies like the National Biofuels Policy and the Pradhan Mantri JI-VAN Yojana, which provide financial support for ethanol production and infrastructure.
- EOIs and Contracts: OMCs under the guidance of MoPNG have floated Two Expressions of Interest (EOIs) for setting up 238 dedicated ethanol plants (with offtake quantity of 805 crore litres) ensuring a stable supply.

4.11 It has also been submitted that OMCs namely BPCL, IOCL and HPCL have a role to play in ethanol blending program by blending ethanol in petrol and selling the same to consumers.

4.12 When asked about the steps being taken to secure sufficient ethanol supply, MoPNG has submitted as under:

> "Steps taken to secure sufficient ethanol supply are as follows:
>
> - OMCs under the guidance of MoPNG have floated Two Expressions of Interest (EOIs) for setting up of 238 dedicated ethanol plants (with offtake quantity of 805 crore Litres) ensuring a stable supply.
> - OMCs have entered into long-term agreements with ethanol suppliers to ensure a stable and consistent supply of ethanol, with a primary focus on grain based distilleries. These agreements provide certainty to suppliers, encouraging them to invest in ethanol production and expand their capacities.
> - Oil CPSEs are setting up 2G ethanol bio-refineries in the Country at Panipat (Haryana), Bathinda (Punjab), Numaligarh (Assam), Davangere (Karnataka), Bargarh (Odisha)
> - Govt. is now focussing to promote the Maize based ethanol production, maize being less water intensive crop and has also increased the price to ₹71.86/L.
> - Diversification of feedstocks would help in mitigating the risks associated with over-reliance on a single feedstock and ensures a more sustainable ethanol supply chain. Advanced research and field trials can be carried out on new crops such as Sweet sorghum, Pearl millet etc. These crops can be grown with much less water and have short gestation period and can be grown as an intercrop in existing sugarcane acreage. They produce both grains as well as biomass useful for both 1G, 2G Ethanol."

4.13 Regarding the plan to address the cost and technological challenges in setting up 2G and 3G ethanol plants compared to 1G ethanol plants, it has been submitted that to encourage setting up of 2G Bio-refineries, Government launched a scheme "Pradhan Mantri JI-VAN (Jaiv Indhan-Vatavaran Anukool fasal awashesh Nivaran) Yojana" for providing financial assistance to integrated bio-ethanol projects. Under this scheme, financial assistance of ₹1208.25 crore has been approved to Public and Private Sector OMCs.

4.14 On being asked whether there are any plans to increase the ethanol quota for States like Bihar, which have a high potential for ethanol production from sugarcane and other feedstocks, MoPNG has furnished the following:

> "OMCs procure the Ethanol through Invitation of Bid. Bidders are invited to submit offers for supplying denatured anhydrous ethanol to OMCs for a prescribed period (Ethanol Supply Year). The total required quantity is based on the targeted

Ethanol Blending and projected MS Sales.

Bidders must submit their offers via the designated e-tendering portal, where they will fill in a quantity bid form indicating the amount of ethanol they can supply, categorized by feedstock and divided into quarterly offers. The feedstock categories include ethanol from sugarcane juice, molasses, damaged food grains, and surplus rice from the Food Corporation of India (FCI).

After bid submission by Bidders, the allocation of ethanol quantity by OMCs is based on the feedstock category and the supplier's location relative to the OMC's location. Priority is given to ethanol produced within the same State as the delivery location to minimize transportation costs. Ethanol from dedicated ethanol plants (DEPs) with valid long-term offtake agreements is given preferential allocation."

CHAPTER 5

NICHE INITIATIVES

A. GREEN HYDROGEN

5.1 Regarding green hydrogen's importance in the context of India's initiatives on the Climate Change mitigation and challenges being faced by the world today to de-carbonise the economy, MoPNG has submitted that to combat climate change, nations around the globe are striving to reduce greenhouse gas emissions and transition towards cleaner energy sources. International conferences like COP 26 (2021) and COP 28 (2023) have played a crucial role in fostering global collaboration on this front. In this context, green hydrogen emerges as a game-changer. Produced using renewable energy sources like solar, wind, hydro and biomass, green hydrogen offers a clean and sustainable alternative to fossil fuels. It can de-carbonize sectors like steel, cement, and transportation, store surplus renewable energy, reduce reliance on fossil fuels, and create new jobs. India's abundant renewable resources position it well to become a global leader in green hydrogen production and contribute to a sustainable future. However, large-scale production necessitates significant renewable energy capacity. Green hydrogen is the key to help meet India's energy security needs while reducing emissions in hard-to abate sectors such as Steel, Fertilizers, Refinery, Cement and Mobility, and bring them on the path to Net-Zero.

5.2 Regarding the steps being taken by the MoPNG to produce green hydrogen, it has been submitted that the Government of India launched the National Green Hydrogen Mission in 2023 with an aim to establish India as a global hub for green hydrogen production, usage and export. The mission seeks to:

- Drive down production costs through financial incentives for electrolyser manufacturing and green hydrogen production.
- Boost domestic demand by mandating minimum green hydrogen consumption in specific sectors.
- Facilitate exports by establishing supportive policies and strategic partnerships.

5.3 MoPNG has further submitted that the National Green Hydrogen Mission has set a target to produce 5 MMTPA of green hydrogen by 2030. The National Green Hydrogen

Mission aims to provide a comprehensive action plan for establishing a green hydrogen ecosystem and catalysing a systemic response to the opportunities and challenges of this sunrise sector. The Union Cabinet has approved National Green Hydrogen Mission on 4th of January 2023. The initial outlay for the Mission is ₹19,744 crore, including an outlay of ₹17,490 crore for the SIGHT programme, ₹1,466 crore for pilot projects (₹455 crore up to 2029-30 for low carbon steel projects, ₹496 crore up to 2025-26 for mobility pilot projects, ₹115 crore up to 2025-26 for shipping pilot projects. ₹400 crore up to 2025-26 for Hubs and other projects), ₹400 crore for R&D, and ₹388 crore towards other Mission components. The Government of India has a strong focus on renewable energy with ambitious targets for capacity expansion. To achieve its target of 5 MMT of green hydrogen production, India will need 125 GW of Renewable Energy by 2030.

5.4 It has also been submitted that all the eight MoPNG CPSUs under review are actively involved in various aspects of the green hydrogen value chain, including R&D, setting up of pilot plants, and commercial-scale production with an aim to reduce reliance on fossil fuels, promote renewable energy and achieve climate change goals. IOCL has awarded the tender for setting up a 10 KTPA Green Hydrogen Generation Unit at its Panipat Refinery & Petrochemical Complex. IOCL has also entered into a JV to source renewable power for producing green hydrogen. HPCL is proposing to have 50 KTPA green hydrogen production capacity (29 KTPA by Electrolysis and 21 KTPA by biomass pathway) for partially replacing grey hydrogen at its refineries by 2030.

5.5 MoPNG has also furnished that the CPSUs have specific strategies and plans for green hydrogen production, storage, and distribution and these plans often align with the government's National Hydrogen Mission and aim to position India as a global leader in green hydrogen technologies.

5.6 On being asked how the CPSUs are planning to integrate green hydrogen into their existing infrastructure, such as refineries, pipelines, and distribution networks, MoPNG has submitted as under:

> "CPSEs plans to integrate green hydrogen in the existing infra as under:
>
> **Refineries –** Green hydrogen produced at the Refineries/procured by the refineries shall be used for captive consumption replacing part quantity of the total grey hydrogen being produced at the refineries currently.

Distribution Network – Effects of Pilot blending of hydrogen in existing CNG distribution network is being studied by R&D."

5.7 When asked whether there are any ongoing or planned pilot projects for the utilization of green hydrogen in the CPSU's refining or transportation processes, MoPNG has furnished as under:

Organization	**Project Site**	**Green Hydrogen Capacities (KTA)**	**Electrolyzer Capacities (MW)**
	Green H2	**Year - 2030**	**Year - 2030**
IOCL	IOCL Refineries	350	1,816

BPCL: Various ongoing projects for the utilization and production of green hydrogen are as under:

- **Hydrogen Refuelling Station at Cochin International Airport**: In collaboration with CIAL, BPCL has completed construction of the first green hydrogen refuelling station supported by indigenously developed electrolyser. The commissioning of the green hydrogen refuelling station is expected shortly

- **5MW Electrolyser Plant at Bina Refinery, MP:** Supporting the National Hydrogen mission and to meet the long-term emission, BPCL has commissioned a 5MW green hydrogen plant at Bina Refinery in Madhya Pradesh. This facility will generate 700 tonnes of green hydrogen annually.

- **Biomass Route Production**: BPCL is set to produce 2000 tonnes of green hydrogen per annum through biomass, with 500 tonnes at Kochi Refinery which is nearing commissioning and 1500 tonnes at Bina Refinery.

BPCL has also floated tender for setting up 5 KTPA, green hydrogen production facility and supply to Mumbai Refinery/ Kochi Refinery/ Bina Refinery on Build, Own & Operate (BOO) Basis which is the final stages of award.

HPCL: HPCL commissioned a 370 TPA green hydrogen plant at Visakh refinery. HPCL in collaboration with Volvo, had submitted its proposal in response to the Request for Proposal (RfP) released by ARAI for "Pilot Project for Use of Green Hydrogen in Transport Sector". ARAI has issued the LOA for setting up the Hydrogen Filling Station at Visakhapatnam.

HPCL has commissioned India's First Solid oxide electrolyzer for production of green hydrogen.

Indigenous Alkaline water electrolyzer of 25 kW has been constructed and integrated with BoP.

- HPCL's proposal on Pilot Project for Use of Green Hydrogen in the Transport Sector along with Volvo (H2-ICE) has been accepted by MNRE. The project is proposed to be located at a HPCL Retail Outlet near Visakhapatnam.
- HPCL has signed a MoU with University of Birmingham, UK for setting up a Centre of Excellence in fuel cell research. Under this, different projects like hydrogen fuel dispensers and material development are also being taken up. It will also help in developing local supply chains for making the dispensing stations in India.

OIL: OIL's projects are as under-

- 100 KW capacity green hydrogen pilot plant commissioned in April, 22 and hydrogen is blended with PNG @ 2%
- Development of Hydrogen fuel cell e-bus
- OIL is developing a 1 MW green hydrogen plant in Himachal Pradesh in collaboration with HPPCL. Plant is under construction

NRL: NRL is about to commission 2.4 KTPA green hydrogen plant and has also floated tender for 10 KTPA green hydrogen

GAIL: A pilot project was undertaken by GAIL in Jan 2022 for blending of 2% hydrogen in natural gas through its CGD JV company i.e. Avantika Gas Limited, at CGS Indore (PNG Network) and further, the hydrogen blending enhanced to 5% in MDPE network.

GAIL has installed and commissioned its first green hydrogen plant at GAIL Vijaipur in Madhya Pradesh on 24th May, 2024. This green hydrogen plant has a capacity for producing 4.3 TPD Initially the hydrogen produced from this unit will be used as a fuel along with Natural Gas for captive purpose in the various processes and equipment running in the existing plant at Vijaipur. Further, this hydrogen is planned to be dispensed to retail customers in the nearby geographies, transported through high pressure cascades."

5.8 Regarding the kind of R&D initiatives which have been undertaken in regarding green hydrogen, MoPNG has submitted the following:

"Initiatives by IOCL R&D Centre for new age fuel Hydrogen:

- **Hydrogen Fuel Cell Technology:** IOCL R&D is working on the development and demonstration of commercially viable fuel cell buses based on hydrogen produced from multiple pathways. Major objectives of this project are demonstration and conducting field trials (cumulative 3 lakh kms) & assessment of different green hydrogen based on bio and renewable sources and integration of fuel cell stack with electric powertrain of the bus. IOCL has signed MoU with M/s High Energy Battery for the development of Fuel cell system (2.4 kW) for mobility application. IOCL has also awarded projects under Startup scheme on development of Range extended LCV vehicles using hydrogen fuel cell (5kW) and Fuel cell system (1 kW) development for mobility application.

IOCL has developed 1 kW fuel cell stack and scaling up from 1 kW to 2.4 kW for mobility application is under progress.

- IOCL has also awarded projects under Startup scheme on development of Range extended LCV vehicles using hydrogen fuel cell (5kW) and Fuel cell system (1 kW) development for air mobility application. Under this scheme, 1 kW stack has been assembled and planning to integrate stack with drone for hydrogen air mobility application.
- **Pilot Demonstration for Hydrogen Production:** IOCL R&D is in the process of setting up ~ 700 Kg per day capacity pilot plants based on various innovative hydrogen production technologies:
  - **Solar powered electrolyser-based hydrogen generation:** Purchase orders for setting up of green hydrogen production system and dispensing station has been placed. PESO Approval for establishment of the facility has been obtained. Factory Acceptance Test (FAT) of Alkaline and PEM Electrolyzers has been completed. Alkaline & PEM Electrolyzer, Buffer Vessel, Type III H2 storage tubes, Hydrogen compressors and Hydrogen Dispensers have been supplied at plant site. Vendor has started the work of marking and preparation of civil foundations for the installation of equipment at plant site. PESO approvals of Type IV storage tubes, compressors and dispensers are under progress. 1 MW Solar PV system for supplying power to generate green hydrogen has been installed and commissioned.
  - **CBG Reforming Based Hydrogen Refueling Station:** IOCL R&D has set up CBG reforming based hydrogen refuelling station. All the equipment has been installed & reformer and PSA packages have been commissioned and generation of fuel cell grade hydrogen with carbon monoxide content <0.2 ppm has been demonstrated. PESO approval for high pressure hydrogen storage tube and dispensers is under progress. PESO approval for high pressure hydrogen storage tube and dispenser are under progress.
  - **Biomass gasification-based hydrogen generation**: IOCL R&D in collaboration with Indian Institute of Science (IISc), Bangalore developed oxy-steam biomass gasification-based hydrogen generation technology. Generation of fuel cell grade hydrogen at 5 kg/hr scale at IISc for woody biomass and bagasse briquettes has been demonstrated. Currently, testing of agro residue briquettes with high ash content is under progress.
- **Hydrogen Storage:** IOCL R&D in collaboration with IIT Kharagpur has designed and developed a Type III composite cylinder for storage of compressed hydrogen at 350 bar which is suitable for storage of compressed H2 in cars/light duty vehicles. The developed prototype has passed all the tests as per ISO 15869. Efforts are currently underway for trials of developed cylinder prototype on Fuel Cell based Golf cart.

- **Performance Evaluation and Field Trials on Fuel Cell** Buses: With the joint efforts of IOCL and Tata Motors Ltd, Fuel cell buses have been developed and deployed at IOCL R&D. Currently field trials are being undertaken on 15 fuel cell buses in Delhi NCR region. For a comprehensive assessment of fuel cell-based powertrain for public transit buses, trials will be undertaken on various drive cycles and ambient scenarios, this includes operation of fuel cell buses with Indian Army, Indian Navy (1 each) & other defence organization (under discussions). Additionally, 4 FCBs have been deployed in Vadodara for operation within municipality limits and transit between Vadodara and Statue of unity. The field evaluations covering will 20,000 kms on each fuel cell bus will provide valuable insights into operational requirements, maintenance needs, user preferences, and the overall reliability of fuel cell buses. These trials in real-world conditions will yield invaluable data for developing an understanding of hydrogen infrastructure and wide scale implementation of fuel cell technology for public transit applications. As on March 2025, a cumulative mileage of 60000 kms have been completed on all fuel cell buses."

B. GREEN MOBILITY

5.9 As per MoPNG's submission, currently EV sale penetration in Indian market is 4.5% for cars, 7.3% for two-wheelers and 21.3% for three-wheelers. As per the Niti Aayog, the expected sale penetration of EV in Indian market in 2030 is as follows: 30% for private cars, 70% for commercial vehicles, and 80% for two- and three-wheelers.

5.10 When asked about the current condition of EV infrastructure in India and the kind of EV infrastructure requirements will be required for the booming EV market, MoPNG has furnished as under:

"OMCs are playing an important role in aiding to the adoption of EVs in the Country by setting up charging infrastructure for creating consumer confidence. As on 31.03.2025, OMCs have installed 26,279 EVCS with their own funds, the details are as under:

OMC	NO. OF VEHICLE CHARGING STATIONS	NO. OF BATTERY SWAPPING STATIONS	Total
BPCL	6549	14	6563
HPCL	5872	102	5974
IOCL	13614	128	13742
Total	**26035**	**244**	**26279**

5.11 Regarding the value chain in EV infrastructure in India with the specific focus on Public Sector participation in this value chain, MoPNG has stated that OMCs are actively

participating in setting up of EV charging infrastructure and EV value chain mainly encompasses the following activities:

i. Cell manufacturing
ii. Battery pack manufacturing
iii. Development of battery management system
iv. Electric vehicle manufacturing & sale
v. Manufacturing of EV chargers
vi. Setting up of EV charging infrastructure
vii. Development of Mobile application for operating of chargers

5.12 On being asked Which of the CPSUs are engaged in EV infrastructure market and the details of Research and Development activities being carried out by them to boost the EV infrastructure in India, MoPNG has submitted as under:

> "All the 3 Oil Marketing Companies (OMCs) namely IOCL, BPCL and HPCL are engaged in the EV charging infrastructure development.
>
> Research and Development activities being carried out by IOCL R&D to boost the EV infrastructure in India are as follows

- IOCL R&D has signed LOI with M/s Tata Green, Pune to jointly launch CNT additized lead acid battery for e-rickshaw and other applications. TATA Green proposed to launch the Batteries at ROs as part of non-fuel retail business of IOCL.
- IOCL R&D has prepared prototype pouch cells using in-house produced MWCNT with different Li-ion cathode electrode chemistries. After promising initial results at electrode level, ISRO R&D, Battery Division at Trivandrum placed order for supply of MWCNT. In addition, some of commercial players like Exide Energy, Rajesh Exports are also in discussion with IOCL for Indigenous supply of MWCNTs for Li-ion cells."

5.13 When asked whether there are any planned partnerships or collaborations for developing EV charging infrastructure and what are the challenges the CPSUs anticipate in this transition, MoPNG has stated that partnerships are crucial in the EV charging business for increasing the utilization of the Chargers. Accordingly, OMCs are exploring partnerships with private and startup players bringing in technology in the EV ecosystem. IOCL has signed MoU with Tata power, BPCL has entered into partnerships with Ola Electric, Hero MotoCorp and Ather Energy for setting up 2-wheeler fast charging stations at the Retail Outlets. BPCL has also entered into partnerships with Tata Motors and MG

Motor. HPCL has tied up with Tata Passenger Electric Mobility, MG Motors, Hero Motocorp, Ather, Ola Electric, Ultraviolette etc.

C. INNOVATION AND ARTIFICIAL INTELLIGENCE (AI)

5.14 Regarding the initiatives that have been taken by the MoPNG CPSUs in leveraging digital technologies, like AI and IoT, to enhance their operations, from refinery processes to customer interactions, etc., MoPNG has submitted as initiatives being taken by IOCL, BPCL, HPCL, ONGC and Balmer Lawrie, details of which are as under:

IOCL: With a vision to be a digital leader, IOCL had launched one of India's largest and most ambitious digital transformation programs, Project i-DRIVE (IOCL's Digital Readiness and IT Vision Enablement project). IOCL outlined key steps as part of our digital strategy, including Next Gen Operations, Commercial Excellence, Smart Maintenance, and Paperless Office, Advance Analytics, to name a few. These were then broken down initially into ~80 initiatives, which were then included in the digital strategy for IOCL. IOCL created a Digital Center of Excellence (DCoE) and have launched 200+ digital initiatives to harness the power of digitalization and leverage data. The DCoE is operating at full capacity and developing specialized teams with an emphasis on cutting-edge analytics and new technologies like Generative AI, RPA, mobility, IoT, AI/ML, AR/VR, etc. IOCL have a large-scale adoption of emerging technologies and advanced analytics. Additionally, 50+ custom tools and solutions are being deployed across the organization. Some of the major digital initiatives are mentioned below:

Customs Tools and Solutions: Altogether 56 plus different customs tools and solutions have been either implemented or at different stages of development. A few of such initiatives are mentioned below:

Crude Scheduler for Shipping

Shipsol (Crude Scheduler) developed under Project i-DRIVE is a bespoke scheduling tool tailored for IOCL's Crude shipping operations. This software is utilizes AI/ML to meticulously manage and generate crude loading schedules in alignment with refinery processing plans, optimizing vessel utilization and leveraging IOCL's disport infrastructure. Prioritizing the use of time charter (TC) vessels, the scheduling process

aims for utmost efficiency while ensuring reliable cargo deliveries at discharge ports and minimizing overall vessel operation costs. The solution was launched in the month of November 2024.

Refinery Production Scheduler (RPS)

RPS is a specialized software tool playing a crucial role in planning and optimizing the production processes of IOCL refineries. The tool is configured to efficiently allocate resources, manage inventories, and schedule operations to meet production targets while considering various constraints and objectives. It provides the Aggregated Inventory (Crude, Products, etc) monitoring at HQ level and gives an advanced visibility of Rail Wagon movement. The tool has been instrumental in providing a recurring benefit of 1.5 billion INR annually.

Integrated Planning Tool (IPT)

It facilitates the optimization and coordination of various planning activities across the entire value chain of IOCL. This tool integrates multiple functions, data sources, and processes to streamline planning, enhance decision-making, and improve operational efficiency. The tool has been instrumental in providing a recurring benefit of 1.9 billion INR annually.

Cascading Dashboard

A dashboard cascading across the hierarchy from Chairman to Operational leaders for keeping track of key performance matrix (KIP). The dashboard had been launched for Functional Directors of the board since February 2025.

Generative AI: IOCL has been leveraging Generative AI (Gen-AI) for various tasks, such as document summarization, project analysis, project delay analysis, and document Q&A. The deployment of these technologies has been crucial in driving digital transformation within the organization. IOCL has utilized a combination of OpenAI API keys, private pre-trained models like LLaMA 2 7B, Mistral 7B, and solutions from third-party vendors like AWS, IBM Watson AI, and Azure.

IOCL has successfully deployed over 10+ use-cases leveraging Generative AI across the organization. These use-cases were identified and developed end-to-end in-house, showcasing IOCL's capability to harness advanced AI technologies effectively.

Use Cases and Applications:

1. Project Compendium Insight Tool.
2. Image Recognition Tool: Deployed to perform various image recognition tasks.
3. Aspect Based Sentiment Analysis of Retail Outlets: This tool analyses Google reviews of retail outlets to assign ratings based on different aspects of the customer experience.
4. NLP based Sentiment Analysis: Utilized by the International Trade Team, this tool analyses news articles to track fluctuations in crude oil prices. By examining the sentiment and trends in news content, it supports market analysis and strategy formulation for international trade activities.
5. Intelligent Cognitive Insights and Summarization Tool: This AI tool is used by the International Trade Team to summarize large volumes of data and reports. It improves information accessibility and supports better decision-making by providing concise and relevant summaries.
6. HR GPT Bot: Designed to assist HR departments, this bot enables employees to interact with a Generative AI system to get answers about HR manuals, including information on leaves, pay, and allowances. It streamlines HR operations and enhances employee support.
7. Smart Chat-with-your-PDF: This bot supports the security team by providing a Generative AI-driven Q&A system on the company's security manual. It allows security personnel to quickly access information and clarifications related to security protocols and guidelines.
8. Law GPT Bot: Tailored for the legal team, this bot offers a Generative AI-based Q&A system for the company's law manual. It enables legal professionals to obtain information and answers on legal policies and procedures, facilitating efficient legal operations and compliance.
9. GenAI based tender evaluation project has been kicked off in March 2025. The project aims at downloading of the bids through an RPA, Scrutiny of the bids using GenAI and preparation of comparative statement for raising technical queries to the bidders.

Robotic Process Automation (RPA): IOCL is betting big on RPA and has collaborated with Automation Anywhere, a global leader in Robotic Process Automation (RPA) technology. In September 2020, IOCL embarked on its RPA journey by developing four

enterprise-wide RPA bots for automating Bulk Repetitive Processes (Travel & Expense, OFFCYCLE payment for employee claims reimbursements, Payroll validations & Material code deduplication). To support these developments, IOCL set up a platform for RPA (Automation Anywhere) and till date have successfully scaled no of use cases to 40 plus. Another 40 use cases have been identified for implementation in next 12 months.

Analytics and Big Data: 50 initiatives based on Analytics and Big Data are being implemented across IOCL. The internal analytics hub of the Digital Centre of Excellence has been driving use-cases such as Video Analytics at marketing terminals, AR/VR deployment across refineries, Central Data Management Platform, Robotic process Automation, and blockchain based discounting platform to name a few. These initiatives have resulted in better customer understanding, efficiency and oversight and hence better service delivery, greater profitability, and safer operations. These results have only increased our appetite to accelerate our digital journey and create more value.

ML based advanced analytics business use cases have been developed and implemented during the FY across various lines of businesses for achieving Process optimisation, Customer behaviour insights and Customer satisfaction. These business use cases include 'branded LPG white space analysis', 'Customer Churn Prediction for Retail and Lubes LoBs', 'Bitumen demand Forcasting', 'Lube Product Recommender', 'Truck Requirement estimator' etc.

(i) BPCL: BPCL has launched "Project Anubhav", a digital transformation initiative to facilitate it's end customers. The project also leverages advance analytics to assist business in efficient decision making. Apart from this, our refineries and subsidiaries are also leveraging digital technologies to achieve operational efficiency. The key initiatives taken by BPCL are as follows:

i. Urja Chatbot: Urja is an omnichannel chatbot powered by NLP and ML, trained for multiple use cases. The chatbot is available in 13 languages and can be used by BPCL end customers for order management, information, product details and feedback. The chatbot can be accessed on WhatsApp, Corporate Website & HelloBPCL App. The key performance metrics for Urja in FY 2024-25 is as below:
    - 9+ lakh unique users/month

- 104.16 lakh LPG bookings
- 1.07 l I&C users since June 24
- 40 k LPG feedback received since Nov ‘24

ii. IRIS (Digital Nerve Centre): BPCL has implemented Digital Command & Control Centre which is being referred as IRIS. This is a cloud based 24x7 live system with one physical centre at Noida. This is an aggregator of various Operational Technologies (OT) already in vogue at various functions, operations, business units under marketing. It collects information and supervises operations on pre defined deviations. The platform generates alerts or arrests deviations by evoking algorithm-based interlocks on operational process related to Price, Safety, Quality & Quantity. IRIS also leverages video analytics i.e. train AI models to identify anomalies using the camera feed from locations to alert locations/plants etc.

iii. Advance Analytics (ML): Under advance analytics, the following use cases help BPCL to take business decisions:
   a) Identify Fleet Customers likely to disengage in future for their Fuel Sales and arrest potential loss through pre-emptive action.
   b) Leverage fuel pattern of BPCL Fleet Customers to mine routes across India w.r.t to movement density & opportunity on routes.
   c) Evaluate New RO potential in a given geography / Identifying areas having high potential for CNG sales to set up a CNG Outlet.
   d) Identify macroeconomic indicators impacting fuel sales.
   e) Estimation of dry-out by Retail Outlet and Product combination along with time window of probable dry-outs.
   f) Minimizing the secondary cost to supply LPG to dealers by finding optimal combination of dealers and plants thereby meeting the overall demand.
   g) Estimating the LPG refill delivery time after booking for customer delight and to ensure that distributors are meeting TAT for delivery of cylinder.

iv. Retail and CNG Operations: IoT based devices are installed in Retail Outlets for Dispensers, Tanks etc. and CNG Stations for Dispensers, Compressors etc. The input

from these IoT devices flows to Head Office Systems and is used for Business Reporting, improving outlet uptime, price and quality assurance.

v. Refinery Operations: Across BPCL refineries, use case for digital technologies like AI/ML are:

a) Ultra Critical job monitoring using AI technology in identifying safety norms violations in running plants.
b) Use of AI technology for identifying safety norms violation (use of drones to cover large area & large number of manpower)
c) AI based Predictive Analytics for Anomaly Detection in Critical Rotary Equipment.
d) Reduce steam and energy consumption at by Real Time Continuous Monitoring using "AI Expert" software.

vi. Exploration: BPRL, a subsidiary of BPCL, is using, AI/ML algorithms in Seismic Data Interpretation for exploration, appraisal and development of Hydrocarbon Resources. Using AI/ML, different data sets can be generated depicting probable distribution of different reservoir facies in the subsurface. This has resulted in better understanding of reservoir distribution and improved prospectively.

(ii) **HPCL:** In alignment with its digital vision to evolve as a digitally empowered, future-ready enterprise, Hindustan Petroleum Corporation Limited (HPCL) has undertaken a structured and outcomes-driven digital transformation program. The focus areas of this transformation include the deployment of Generative AI, Robotic Process Automation (RPA), and Advanced Data and Analytics to enhance process efficiency, decision intelligence, and stakeholder value.

HPCL has established specialized teams at Corporate, Marketing and Refinery to steer the organization’s digital agenda, has operationalized numerous technology-led interventions across key business functions. These initiatives are aligned with the Corporation’s broader objectives of achieving operational excellence, customer-centricity, and data-driven governance.

Generative AI: HPCL has initiated the development and deployment of Generative AI (GenAI)-based solutions to facilitate prompt information, contextualization and rapid

decision support. A number of GenAI use cases are being implemented using on-premise Gen AI platform that utilizes open-source as well as proprietary Large Language Models (LLMs).

Key Gen AI Use cases:

1. Inspection GPT: Provides instant, contextual responses to queries about Refinery Inspection standards, codes, and manuals.
2. HR GPT: Offers personalized responses to employee queries about HR policies, simulating the guidance of an experienced HR officer.
3. Safety GPT: Offers instant, context-aware responses to queries about Safety Manuals, Standards, Guidelines, and Statutory Rules/Acts.
4. PME Data Extraction AI Agent: Utilizes vision-based Large Language Models (LLMs) for efficient data extraction from PME reports.
5. Vigilance GPT: Enables instant, contextual responses to queries on Vigilance Manual, CVC Circulars, CDA Rules, and internal vigilance guidelines.
6. Procurement GPT: Delivers instant, clause-based responses to procurement-related queries by referencing Procurement Manual, government policies, circulars, and tender documents.
7. Material Master AI agent: Enables intuitive, natural language-based search across SAP Material Master to identify materials and detect duplicates with contextual accuracy.

   Apart from the above, HPCL has implemented many production level GenAI use cases and there are additional deployments under progress across Corporate, Refinery and Marketing verticals.

Robotic Process Automation (RPA): HPCL's RPA program was initiated with a clear objective of automating transactional and rules-based activities that are repetitive in nature and consume significant man-hours. In partnership with global RPA technology providers, HPCL has deployed a scalable RPA platform and set up centralized governance and monitoring infrastructure.

Key RPA Implementations include automation of business processes across Finance, HR, Procurement, Marketing and Refinery leveraging technologies like RPA, OCR, Gen-AI and Computer vision to enhance efficiency, accuracy and scalability. To date, 40+ enterprise bots have been deployed with 25+ additional bots in the development

roadmap for the current fiscal year.

The project includes multiple modules addressing critical areas such as Bank Reconciliation, Bill verification & processing, Order creation, Data updation in SAP, File reading and reconciliation, Data collection and MIS creation, Invoice creation and posting.

Advanced Analytics & Big Data: HPCL continues to make substantial investments in developing its data infrastructure and analytics capabilities to enable predictive, prescriptive, and real-time decision support across the value chain. We are constantly driving the design, implementation, and adoption of data-led use cases across business units.

Key Analytics and AI-ML Use Cases:

1. AI/ML based Analytical use cases: Implemented ML/DL/Advanced Statistics based Customer Analytics for analysing customer data to gain insights into purchase preference and patterns to create segments, predict churn and analyse sentiments for data driven decision making.
2. Human Capital Management Analysis – For insights across various cross sections of the organizational hierarchy.
3. Anomaly detection systems in loyalty program to detect any suspicious transactions.
4. Demand Forecasting Solution – To project product demand across various business touch points of organization i.e. Retail Outlets, LPG Distributors and Industrial & Commercial consumers.
5. Price Sensitivity/Elasticity models to estimate the sensitivity/elasticity of price of the SKU w.r.t its sales at regional office level.
6. Growth analytics across key segment areas of Retail fuels marketing viz. Highway analysis and Trading Area analysis.
7. AR/VR/XR - Based Training Modules for operational and safety readiness and training without accessing hazardous environments.
8. Predictive Maintenance Models for critical equipment at refinery and pipeline assets.

The organization continues to work towards strengthening internal competencies, fostering a culture of innovation, and building future-ready digital systems that can drive

efficiency, agility, and stakeholder satisfaction across all operational domains.

HPCL has imbibed digital technologies in many areas of its business through a large digital transformation program ‘Project Parikalp’. While the organization has harnessed the power of digitalization across various focus areas, specific thrust has been laid to leverage Digital for achieving value gains through major digital technologies, viz., Artificial Intelligence & Machine Learning, Augmented & Virtual Reality, IoT, Robotic Process Automation, Generative AI etc. across various spheres of business.
Under Parikalp at HPCL, various digital initiatives have been undertaken:

i. Pan-India Roll out of ‘AI/ML Based Demand Forecasting Solution’ across Retail, LPG and DS SBUs. The initiative utilizes AI/ML based comprehensive demand forecasting solution that provides granular forecast. Developing AI/ML models to generate forecast for customers using millions of internal & external data points.
ii. HPCL has successfully set up a unified enterprise data repository and an advanced analytics & visualization solution. This initiative is aimed at comprehensively addressing data analytics, visualization and data reporting automation requirements of the organization. Customer Analytics (Retail/LPG/Direct Sales/Lubes),), Inventory Optimisation Analytics (MS, HSD and Lubes), Human Resource Analytics (Manpower Planning) & Pricing Analytics use cases have been successfully completed and rolled out as part of this project.
iii. Robotic Process Automation project was commenced which is an innovative initiative and marks a significant milestone in Project Parikalp. This initiative utilizes Robotic Process Automation technology, employing Software Robots or BOTS to automate repetitive and rule-based business processes, thereby enabling our officers to focus on high value tasks.
iv. Generative AI: In-house GPT based on LLM deployment, has been initiated for Inspection at Refineries, HR policies (personnel manual/CDA rules) and Safety Standards & Statutory Rules/Acts.
v. HPCL has implemented AI-based Video Analytics solutions across all supply locations and LPG plants, to ensure safety measures and ensure adherence to standard operating practices, thereby fortifying our commitment to safety and operational excellence.AI based Video Analytics has been implemented at over 600

Retail Outlets for monitoring Customer Service, SOP Compliances and ensuring Safety.

vi. Other IoT sensors-based initiatives at Refineries are: Real time pipe thickness monitoring, Online SUPS monitoring system, Real time wireless thermal & humidity monitoring in Electrical Panels, Smart Gas Detectors and Ultrasound Analyzer for Condition Monitoring.

vii. HPCL has implemented Centralised Retail Information System (CRIS) for ensuring right price, correct quantity and centralised management of all fuelling operations at automated fuel retail outlets. The system has capability for remote monitoring and management of fuelling operations.

viii. HP Happy Chatbot: HPCL has implemented an omnichannel NLP chatbot which is available in 13 languages. Customer can use the chatbot on HP Portal/websites, HP Pay and on WhatsApp platform for various fuel, LPG and Lube services, information, price, product, and channel partner details.

ix. HPCL has implemented Hyperlocal Search Marketing, which is helping tech savvy next gen customers in 'near me' searches across search platforms and identifying retail outlets for fuel requirements based on available services, amenities, price, customer ratings etc. and analyse customer reviews on search engines to improve customer service.

x. HPCL has implemented unique Voice based payment where customers can just make payment using voice command on HP Pay App without need to scan any QR code at Retail Outlet. In another initiative, customer can generate a Pay code on HP Pay App & share with their driver or family members for fuelling at Retail outlet, without the need of sharing cash or card for fuel payment.

(iii) **ONGC:** ONGC has been proactively leveraging digital technologies such as Artificial Intelligence (AI), Internet of Things (IoT), and Big Data Analytics to modernize and enhance its operational capabilities. In the domain of Exploration and Geoscience (G&G), the company has undertaken extensive digitalization initiatives by introducing state-of-the-art technologies for G&G interpretation and dynamic reservoir modeling, both within its R&D institutes and across various operational basins.

Key areas where AI/ML and advanced digital technologies are being implemented include the following:

- **AI/ML in Seismic Data Processing & Interpretation**: ONGC has integrated Artificial Intelligence and Machine Learning models for efficient seismic data analysis. These models assist in automatic fault detection, horizon picking, and reservoir characterization, significantly reducing interpretation time and improving subsurface imaging accuracy.
- **Advanced Reservoir Modeling:** AI-driven workflows are being used to build high-resolution reservoir models by integrating seismic, well log, and core data. These models support better decision-making in field development planning and hydrocarbon volume estimation.
- **Geo-analytics Platforms:** ONGC has developed and deployed geoscientific analytics platforms that consolidate large volumes of geophysical and geological data. These platforms utilize machine learning algorithms to identify prospective zones and optimize exploration targets.
- **IoT-Enabled Field Data Acquisition Systems**: IoT-based sensors and telemetry systems have been introduced in field data acquisition units, enabling real-time monitoring of exploration activities, such as seismic surveys and well logging operations.
- **Predictive Modeling for Exploration Success**: Machine learning models are being trained using historical exploration data (geological, geophysical, petrophysical) to predict the probability of exploration success in unexplored basins and frontier areas.
- **Digital Rock Physics**: ONGC is implementing AI-based digital rock physics to evaluate reservoir quality by simulating core properties and fluid interactions, improving assessments in areas where physical core data is limited.
- **Automation of Geological Workflows**: Several routine geological interpretation tasks (e.g., lithofacies classification, depositional environment prediction) are being automated using data-driven algorithms, leading to faster project turnaround and consistency in evaluations.
- **IDAS (Integrated Digital Analytics System) in MH Asset**: This centre of excellence aims to serve as the single integrated ecosystem well-management and production management tool and Management Informatics Centre for the complete well, network and field-related decision-making for Mumbai High. The ecosystem is based on hybrid modelling with physics-based modelling as backbone.

- **Water flood optimization in Heera & South Heera Fields using AI/ML based data physics technique by M/s Tachyus:** AI/ML based data physics technique by M/s. Tachyus has been adopted for water flood optimization in the water injection wells in ONGC Heera field. The Implementation is a dynamic process & production-injection performance is being monitored regularly to evaluate the effectiveness of WI optimization.
- **An Integrated Operations Systems (IOPS) at Eastern Offshore Asset- Kakinada:** An Integrated Operations Systems (IOPS) to monitor and manage production and processing activity, across different assets and locations is being implemented as part of KG DWN 98/2 Development. An Integrated Data Centre (IDC) is used as central monitoring facility of multiple onshore and offshore facilities of Eastern Offshore to meet the key objectives such as Fully integrated Digital fields with Real-time Reservoir and Production Optimization, Holistic field surveillance by collecting comprehensive well, process & asset instrumentation data in real time.

(iv) <u>Balmer Lawrie:</u>

- Balmer Lawrie & Co. Ltd. is actively enhancing its operations through increased industrial automation and digital technologies across various SBUs.
- In the Chemicals division, a pilot trial of IoT-enabled condition monitoring devices on the Reactor 301 has successfully provided real-time analytics for predictive maintenance, helping to reduce equipment downtime.
- Additionally, the Logistics Service Business is leveraging AI and robotics for process automation in air import operations, streamlining document processing and improving operational efficiency.
- In the Cold Chain SBU, the implementation of a Vehicle Tracking System (VTS) allows for real-time monitoring of vehicle locations and temperatures, ensuring product integrity during transport.
- The Travel division has improved customer engagement through META integration for instant document delivery and launched a chatbot for efficient query resolution.
- Overall, Balmer Lawrie's initiatives in AI, IoT, and automation are driving significant improvements in supply chain efficiency and customer interactions across its diverse business operations.

D. RESEARCH AND DEVELOPMENT

5.15 Regarding the details about the investments by the CPSUs in research and development to innovate in new products or improve existing operations, MoPNG has submitted as under:

"The details of R&D spend by CPSUs for FY 2021-22, 2022-23, 2023-24 and 2024-25 to innovate in new products or improve existing operations are as under:

Financial Year	IOCL (in ₹ Crore)	HPCL (in ₹ Crore)	ONGC (in ₹ Crore)	OIL (in ₹ Crore)	GAIL (in ₹ Crore)
2021-22	576.55	364	532	100.96	243.70
2022-23	698.21	320	570	179.03	180.71
2023-24	946.14	352	687	149.22	250.20
2024-25	1067.03*	390.52	667	204.36	-

***Expenditure on R&D and major innovation initiatives in IOCL**

Balmer Lawrie & Co. Ltd:

- Balmer Lawrie & Co. Ltd. is making investments to enhance its technology and product development capabilities, including the establishment of a Technology and Product Development (T&PD) center in Chittor with an investment of ₹6.5 crores. This center will focus on creating specialized machines and improving production processes across BL's Industrial Products plants.
- Individual plants are also investing in capital expenditures to launch new products, such as ISO-OH drums and upgraded lacquer drum manufacturing facilities.
- In the SBU-G&L, R&D expenses have steadily increased over the past three fiscal years, reflecting a commitment to innovation. The Chemicals SBU is also focused on efficiency, with small capital investments supporting R&D personnel.
- Additionally, the Cold Chain division has developed a Rack Assisted Temperature Controlled Warehouse technology to streamline operations.
- Travel division has implemented new digital solutions, including a chatbot and apps integrated with Meta, to improve operational efficiency with a total investment of approximately ₹50 lakhs.
- These initiatives collectively underscore Balmer Lawrie's focus on innovation and operational excellence across its diverse business units.
- SBU-G&L has invested ₹4.41 Cr., ₹5.09 Cr. & ₹5.46 Cr. in R&D expenses in the FYs 21-22, 22-23 & 23-24 respectively."

CHAPTER 6

MISCELLANEOUS

A. HUMAN RESOURCES

6.1 As furnished by MoPNG, status of vacancies in eight P&NG CPSUs as on 31.03.2025 is given below:

Sl. No.	Number of vacancies
IOCL	1080
BPCL	308
HPCL	517
ONGC	135
GAIL	865
OIL	651
EIL	161
Balmer Lawrie	26

6.2 When asked whether the shortage of workforce affects the functioning and operation of the Companies, MoPNG has submitted the following:

> **"**In CPSUs each year the vacancy analysis is carried out using Manpower Optimisation templates which were created after rigorous analysis of manpower requirement and vacancies catering the current operations of company as well as upcoming projects and thereafter same is filled as per requirement of the Corporation. These Manpower Optimisation templates help the company in mitigating the risks of shortage of workforce.
>
> **IOCL -** At IOCL, each year analysis of manpower requirement is carried out based on the Corporation's business requirements. The recruitment is thereafter made for ensuring business continuity.
>
> **BPCL -** BPCL conducts regular workforce planning aligned with business strategy, operational needs and upcoming projects. Any vacancies that arise are marginal and effectively managed through internal mobility and digital enablement to ensure seamless operations without major disruption.
>
> **HPCL -** Manpower is positioned as per the actual business requirements and therefore is a continuous process at HPCL. Based on the inputs from business lines regarding their requirement and taking into account separations, manpower is deployed. Vacancies are filled up through fresh recruitment on regular basis.

Furthermore, regular commitment to automation and the integration of advanced technology at HPCL has significantly enhanced productivity. By streamlining processes and optimizing workflows, workforce is rationalised effectively."

6.3 Regarding the roadmap of the Companies to fill up the vacancies, MoPNG has stated that CPSUs follow a careful and systematic manpower planning which is carried out annually by a senior management along with HR functionaries considering future work, separations and by taking inputs from various user departments. Recruitment is done on the basis of Manpower Planning Process that identifies vacancies at different Levels and salary grades in the company. The Annual Recruitment Plan is prepared well in advance to fill up the vacancies arising due to separations, transfer, promotions etc., positions likely to fall vacant arising out of succession planning and if any new positions or job roles necessitated by an assessment of business environment, strategy and business plan, and changes in structure.

6.4 MoPNG has submitted the recruitment strategies adopted by IOCL, BPCL and HPCL, details of which are given below:

- **IOCL** - At IOCL, each year analysis of manpower requirement is carried out based on the Corporation's business requirements. The recruitment is thereafter made for ensuring business continuity.
- **BPCL –** BPCL follows 'Twin Track' method of recruitment, i.e. recruitment through Campus selection and Open Competition. For recruitment of Engineers from Campuses, BPCL visits IITs, NITs and leading Govt. Engineering colleges. Further to create equal employment opportunities for all candidates across the Country, BPCL also recruits Engineers at Entry/ Mid-level through Open Competition route by advertising in leading newspapers.
- **HPCL** - HPCL has developed a comprehensive 5-year workforce strategy designed to address current and future staffing needs. This plan takes into account various factors, including existing gaps in positions, anticipated attrition rates, and projected retirements, as well as other organizational changes. Furthermore, it is noteworthy that regular commitment to automation and the integration of advanced technology, streamlining processes and automation of works, etc. at HPCL has significantly enhanced productivity. Manpower is positioned as per the actual business requirements and is a continuous process at HPCL. Vacancies are filled up through

fresh recruitment on regular basis.

6.5 When asked whether there are challenges related to skill gaps and workforce development in the PNG sector and the initiatives which are being taken to enhance the skills and capabilities of the workforce, MoPNG has submitted as under:

> "**IOCL** - Yes, the PNG sector, like many others, faces challenges related to skill gaps and workforce development. As the industry evolves, there is an increasing need to equip employees with both technical and behavioral competencies to keep pace with changing demands. To address these challenges, the company has put in place several initiatives aimed at enhancing the skills and capabilities of the workforce through the democratization of learning and comprehensive talent development strategies.
>
> **Key initiatives include:**
>
> - **Structured Onboarding & Mentoring**: Structured onboarding processes (Common Corporate Induction Module (CCIM) & Divisional Induction Module (DIM), On the job training (OJT)) ensure that new employees are effectively integrated into the organization, The **Gurumitra** mentoring initiative provides support to new employees from experienced mentors to accelerate their learning and productivity.
> - **Mid-Career Training Programs**: The company's 'Madhyama' training program focuses on employees at mid-career stages, ensuring they remain equipped to handle new challenges. Additionally, the collaboration with **Harvard Manage Mentor®** ensures access to world-class leadership and management training resources, preparing a future-ready workforce.
> - **Swadhyaya:** Our e-learning platform Swadhyaya provides our employees access to more than 1900+ self-learning modules based on various technical competencies developed in-house**.**
> - **Eklavya – MOOC Courses**: Through Eklavya initiative, company provides access of world class content available on MOOC platforms to its employees.
> - **Specialized Leadership Programs**: Customized leadership development initiatives such as **Nav-Urja Nirman**, a comprehensive program aimed at building capabilities in alternate energy (solar and wind energy), are designed for junior, mid & senior level executives. This program includes a mix of residential and virtual learning spread over phases to ensure that executives gain in-depth knowledge about emerging energy solutions.
> - **Psychometry-Based Interventions & Women Leadership Development**: For first-time managers, psychometry-based interventions are used to enhance self-awareness and leadership effectiveness through the **Soopan** Initiative. Moreover, the **Aprajita** initiative is designed to develop women leaders at junior/mid-levels, ensuring diversity and inclusion in leadership.
> - **Flagship Leadership Programs**: A variety of flagship programs such as the **Cutting Edge** for Grade C and D officers, and advanced leadership programs like the **Senior Management Programme** and the **Advanced Management Programme** for higher grades, aim to foster leadership competencies and drive organizational growth.

- **Executive Coaching & Mentoring**: Through programs like the Executive Coaching project and structured mentoring, employees are able to develop leadership skills and technical expertise. External coaching agencies (e.g., Saarthi) and internal coaches contribute to this effort to develop leadership at all levels.
- IOCL also offers select potential leaders the opportunity to participate in Executive Education programs at premier institutes. These programs focus on developing general management skills and cross-functional understanding, equipping officers for higher responsibilities and fulfilling their aspirations for advanced education.

These initiatives are part of a holistic strategy to bridge skill gaps, promote continuous learning, and build a resilient workforce capable of thriving in the fast-evolving PNG sector.

BPCL: 'Development of People', is a core value at BPCL and at the heart of the organisation's endeavour towards building a stronger workforce. Bharat Petroleum Learning Centre (BPLC), which is the corporate Learning & Development (L&D) centre, works towards creating a multitude of learning opportunities for management employees across the organisation, that cater to their overall development. The learning and development initiatives are designed and administered to strongly align with the company's current and future requirements. The major focus of BPLC is in the development of leadership, managerial and behavioural competencies across senior, middle, and junior management levels. This includes both synchronous learning in the form of classroom learning held within the organisation and through nominations for external development programs; and asynchronous learning in the form of self-paced e-learning opportunities. The business centres of excellence, the refinery learning centres and individual entities oversee the development and deployment of functional and technical learning to the respective businesses, refineries, and entities. The aim is to build organizational capabilities required for achieving corporate plans by developing the human capital across the organization.

A summary of the key initiatives to building workforce capabilities are as below:

Behavioral Learning Framework (BLF): BPCL is committed to cultivating holistic leadership development through its Behavioral Learning Framework (BLF), based on Professor Ram Charan's Leadership Pipeline model. This framework encompasses programs tailored to specific leadership levels, from early-career professionals transitioning from campus to corporate life, to seasoned managers leading teams and business units. This structured approach ensures employees are equipped with the right competencies at every career stage, enabling smooth transitions into leadership roles.

a. **Customized Programs:** Customized and carefully curated interventions are designed and delivered to meet the specific needs of Business units and support functions by incorporating a blend of interactive discussions, relevant stories, self-assessments, experiential simulations, case studies, reflective practices etc. and supplemented by e-learning to ensure comprehensive understanding and retention of key concepts. For example, 99 employees of the

Corporation were imparted 5-day classroom preparatory program for Project Management Professional (PMP) Certification.

b. **Executive Education / External Nominations:** BPCL also offers select potential leaders the opportunity to participate in Executive Education programs at premier institutes. These programs focus on developing general management skills and cross-functional understanding, equipping officers for higher responsibilities and fulfilling their aspirations for advanced education. Programs are selected based on a thorough assessment of institutional expertise and organizational needs.

   Moreover, BPCL also nominates employees to premier management institutes across the Country for specialized learning programs. These programs cover a broad range of topics and areas, aimed at enhancing individual competencies and supporting business requirements. Nominations are made in consultation with Business or Entity Heads, ensuring a wide cross-section of employees benefit from these opportunities.

   2-Tier Leadership Development Journey: To further develop mid and senior-level leaders, BPCL re-launched the 2-Tier Leadership Development Journey to support its ambitious Project Aspire, which aims to double profits and quadruple market capitalization by 2028-29. The senior-level program, eXcelerator, is a 9-month journey designed for DGMs and GMs, focusing on high-level strategic skills such as crafting organization strategy, managing ambiguity, and driving commercial success. The mid-level program, eXceed, spans 6 months and targets Senior Managers and Chief Managers, with an emphasis on business strategy, execution excellence, data-driven decision-making, and resilience. Both programs incorporate classroom learning from globally reputed institutes, online learning resources, certifications, master classes, action learning projects, and group coaching—ensuring alignment between corporate strategy and business-level execution.

d. **Alternate Learning Platforms:** BPCL's focus on alternative learning extends beyond traditional methods through innovative platforms that cater to diverse employee needs and capabilities. These include:

- Socratix, a case study competition aimed at fostering innovation, analytical rigor, and strategic thinking.
- Mercurix, a corporate storytelling platform that strengthens leadership and communication by encouraging employees to share valuable insights and experiences.
- Rytink, a case-writing competition that captures the organization's best practices and knowledge, some of which have been published externally.
- Biz X, an immersive business simulation that sharpens decision-making and business acumen in dynamic environments.
- Vizdome, a video-learning platform that enables employees to share knowledge and expertise through curated video content.
- Talent Triathlon (2023), where Socratix, Mercurix, and Biz X were amalgamated into a single program. Designed to harness the collective strength of employees, this initiative required teams to participate in at least two out of three events, promoting collaboration and diverse learning experiences through case studies, storytelling, and simulations.

f. **Learning Experience Platform:** BPCL's learning experience platform (LXP), 'My Sphere', offers 10,000+ online modules on interest basis as well as articles, videos, and podcasts from reputed sources personalized to employees' learning preferences. This platform ensures that employees have access to world-class content anytime, supporting ongoing development in key leadership, functional, and technical areas.
g. Together, these initiatives underscore BPCL's commitment to cultivating a robust learning ecosystem that prepares its workforce for the future.

HPCL- HPCL takes a proactive approach to identify and address skill gaps challenges. HPCL Learning & Development initiatives are based on Role-based Competency Frameworks. CFW are developed for all roles in the organisation. The competencies are based on strategic direction of organisation and respective role analysis. Role-wise Competency Management system is in place at HPCL. All internal & External trainings follow this methodology. We have a 52-hour Mandatory Training for all Officers up to Salary Grade F which includes 16 hours of Classroom Training. Role Based Technical Competency Test based on these approved frameworks are conducted for all officers up to Salary Grade C. Our classroom trainings are delivered at our Management Development Institute at Nigdi, Pune.

Additionally, HPCL Tie-Ups with Worlds Leading Massive Open Online Course (MOOC) Platforms. HPCL has tied up with several leading MOOC Platforms like COURSERA/ SKILLSOFT/ EBSCO/ IHRDC which gives our Employees a cutting-edge advantage in accessing content from some of the Leading Universities and Technical Institutes of the World. This has helped in bringing in the world's perspective into Corporation's Learning & Development.

To promote a learning and development culture, HPCL initiates Academic Collaborations with CoE/Premier Institutes: HPCL works continuously and has tie-ups/ MoUs signed with IIMs/IIT/NIT to bring in the collaboration of Academia & Industry for a Top-class learning opportunities to employees."

B. SAFTEY AND SECURITY

6.6 The MB Lal Committee was constituted following a fire incident in 2009 at the IOCL terminal at Jaipur. The said Committee had nearly 118 recommendations with regard to safety guidelines to be followed by oil companies at their installations. When asked whether the recommendations of the MB Lal Committee are being followed by the P&NG CPSUs, the Ministry, in their reply, has furnished the status of implementation of the recommendations by IOCL only, and not of the other CPSUs. The status of implementation of the recommendations of MB Lal Committee Report by IOCL is given below:

"Summary of M. B. Lal Committee Recommendations Status

Total Recommendations:118

Recommendations Related to Ministry:5

Recommendations Related to Industry: 113

Recommendation related to OISD:10

Recommendations With Industry for Implementation:103

Sr. No.	IOCL	Recommendation Applicable	Recommendation Implemented	Recommendation pending	% Compliance
1	Refinery	103	103	0	100.0%
2	Pipeline	101	101	0	100.0%
3	Marketing	113	112	1*	99.1%

***The only pending point is "Wherever there is a cluster of terminals of different companies, an emergency response centre equipped with advanced firefighting equipment, viz., fire tenders and trained manpower shall be considered on cost sharing basis or on outsourcing basis".**

6.7 When asked whether the Companies have faced any difficulties in implementing the said recommendations in letter and spirit, it has been stated that **i**mplementation of MB Lal Committee recommendations in operating locations/ units was a challenging task; however, the compliances were achieved with focused and time bound action plan.

6.8 On being asked how do the Companies ensure the safety of workers and communities in the PNG sector and whether there are reported incidents or accidents, and what steps have been taken to prevent them, MoPNG has furnished as under:

"**OMCs** has a well-defined Health, Safety & Environment (H,S&E) Policy approved by the Board, which gives direction for various safety, occupational health, and environment protection related activities. To implement the provision of the HSE policy effectively, a structured HSE management system has been implemented in IOCL. This HSE management system encompasses various elements for ensuring the safety of workers at workplace. The elements are as under:

- **Employee Participation**- Employees are encouraged to participate in various safety related activities like safety quiz, safety slogan competition, safety suggestion scheme etc so as to create greater awareness towards safety and inculcate a sense of involvement amongst employees. Further, representatives of the workers are made member of the safety committee at locations, wherein, the worker's representative and management participate together in the Safety Committee meetings as per prescribed norms and safety related matters are discussed in detail. Such participative meetings help in enhancing the safety standards at locations/ units.
- **Process Safety information**- To ensure an effective safety management system, adequate and comprehensive process safety information is being

maintained. This information is shared with the workers involved in the process beforehand so as to ensure safe execution of works.

- **Hazard Identification, Risk Analysis and Management-** For identification, assessment and control of process hazard, Hazard and Operability (HAZOP) study and Quantitative Risk Analysis (QRA) are carried out for any new unit or facilities and thereafter every three years (for refinery)/ five years (for rest) in line with PNGRB (Petroleum and Natural Gas Regulatory Board) Regulations/ OISD (Oil Industry Safety Directorate) Standards. Actions are taken based on QRA/ HAZOP study to mitigate or minimize/ eliminate the hazards and ensure safe working environment.
- **Reliability of critical systems & devices and Integrity Management System:** Mechanical integrity of equipment/ system is ensured through condition monitoring, periodic inspection and preventive/ predictive maintenance for reliable and safe operation which are being properly documented and analysed.
- **Facilities Design and Construction -** Installations are designed/ constructed and provided with various safety measures in accordance with PNGRB Regulations/ OISD Safety Standards. Centralized control rooms are provided that are manned throughout the operations and equipped with modern communication facilities like walkie-talkies for prompt action in case of any emergency. Further, hydrocarbon detectors for A-class products have been installed at all potential places of leakages for early detection & warning. Installations have also been provided with various safety measures such as pressure limiting devices, overfill protection systems, gas monitoring system, Remote Operated Shut-off valves (ROSOVs) etc. for storage tanks storing crude/ petroleum products. These measures ensure safe working and early intervention for preventing any eventuality.
- **Personnel Safety –** Workers are provided with good quality and reliable job specific Personal Protective Equipment (PPE) such as safety helmet, safety shoes, Inherent Fire Retardant (IFR) suit, safety goggles, etc. for protecting them from work related hazards. Further, while carrying out critical activities such as working at height, working in confined space, etc. various specialized safety equipment such as Rescue tripod, trolley mounted breathing apparatus, safety net, fall protection system, etc. are provided for preventing any mishaps.
- **Operation and Maintenance Procedure -** Standard Operating Procedures (SOPs) related to operation, maintenance and inspection are available for all equipment and are prominently displayed. Same are disseminated to all workers and it is ensured that works are carried out as per the laid down procedures.
- **Training** - Safety training forms the crux of any Safety Management System. In line with this idea, various training programs are conducted for workers through induction training, process specific training and refresher trainings. Training is also conducted for contract labourers, TT drivers, Customer Attendants, LPG Deliverymen, security personnel etc. in line with PNGRB Regulations/ OISD Standards. PNG Sector leverages the use of latest technologies such as Artificial Intelligence (AI) and Virtual Reality (VR) based software for training of employees as well as contractor workers.
- **Contractor & Business Associate Safety and Customer Safety** - Inclusion of guidelines on safety in the tendering stage itself like General Conditions of Contract (G.C.C)/ Special Conditions of Contract (S.C.C) ensures safety standards during the execution of the contract. It is also ensured that OISD-

GDN-207 on “Contractor Safety” is strictly adhered to by the contractors. It is ensured that the contractor provides adequate means including requisite PPEs to his workers and establishes a suitable programme on safety & health for workers, consistent with National/ State laws and regulations. Measures such as ensuring delivery of safe and quality products, and customer awareness on safe handling & usage of products ensures customer safety at IOCL.

- **Work Permit System** - All maintenance/ other non-routine jobs in the units are carried out through a systematic Work Permit System to ensure that safety precautions are taken in line with the norms of OISD. Job Safety Analysis (JSA) & toolbox talks are held before starting any maintenance/ construction job.
- **Management of Change** - Any change in process/ operating procedures before implementation is approved through the Management of Change process in line with OISD standards. Any change in the facility/ standard operating procedures is apprised to all the workers concerned to ensure their proper understanding.
- **Emergency Planning and Response** - A well-structured Emergency Response Disaster Management Plan (ERDMP), certified by a PNGRB accredited third party, and approved by IOCL Board, has been devised at each location. System effectiveness is ensured through regular on-site and off-site mock drills. Workers are involved in these mock drills with specific roles assigned to them thereby ensuring their emergency preparedness. Learnings from the drills are also shared with all for better coordination.
- **Incident Investigation and Analysis** - All incidents are investigated in accordance with the company guidelines with the objective of learning and avoiding repetitive shortcomings. Recommendations are implemented in a time-bound manner. Dissemination of information and learning is carried out to prevent recurrence.
- **Safety Audit** - To ensure the effectiveness of all the components of our safety system and activities, various internal and external audit systems are in place – which include a Self-Safety Audit of units/ locations, Internal Safety Audit by multi-disciplinary teams, External Safety Audit/ Surprise Safety Audit of existing locations by OISD/ PNGRB and inspections by other statutory bodies. Strict monitoring of the audit recommendations is carried out at various levels.

OMCs ensure safety of community by engaging in various activities such as:

- Village awareness programmes are conducted in villages around refineries, marketing and pipelines installations, pipeline ROW to increase awareness on impending danger, about risk of pipeline transportation, safety measures to be followed by the villagers, common health and hygiene tips, swachhta sandesh etc. to increase awareness on safety/ health.
- Awareness programs on mainline emergency scenario like leakage/ pilferage is also conducted on fortnightly basis for the nearby villagers.
- Response of villagers is checked during offsite mock drills.
- Various awareness programs related to Environment Protection are conducted every year at neighbouring villages and schools by conducting training programs, workshops etc.

Incidents/ accidents are reported to OISD (Oil India Safety Directorate) and PNGRB (Petroleum and Natural Gas Regulatory Board) within the set timelines.

These incidents are investigated, and recommendations are complied in a time bound manner.

Steps being taken to prevent accidents are:

- Implementation of issuing of Work Permit & Job Safety Analysis (JSA) in SAP and interlinking of JSA with the Work Permit.
- Online portals for reporting of Near Miss Incidents, Unsafe Acts, Unsafe Conditions, and their analysis.
- Mandatory wearing of Personal Protective Equipment such as inherent fire-retardant (IFR) suits, safety helmets, safety shoes, etc. while carrying out all jobs. In addition, use of safety harness and other fall protection system being ensured while work at height jobs.
- Use of rescue tripods and Trolley mounted Air Breathing Apparatus (TABA) at locations.
- Provision of Unitized portable Gas detector with alarm system being ensured for continuous monitoring of flammable mixture during the critical works.
- Provision of fixed or Portable wireless flameproof CCTVs being ensured for continuous monitoring and recording of all critical activities.
- Focused campaigns are conducted periodically in the form of Monthly Safety Day observance, SOP adherence campaigns, Road Safety Campaigns and RO Safety campaigns to address specific issues identified.
- Refineries have engaged Safety supervisors with requisite skill and qualification for monitoring and ensuring safety compliance at project site.
- Regular safety visit by Senior management for observance of non-compliances and corrective action.
- Implementation of Mobile Safety Training Van “Suraksha Rath” for contract workers at project sites.
- Periodic training to DGR Guards for valve operation, starting and stopping of DG sets, power changeover, operation of fire extinguishers etc.
- Sharing of lessons learnt from major accidents across the corporation to prevent recurrence.
- Provision of remote operated valves in critical circuits in refinery process units (e.g., column bottom circuit with operating temperature of hydrocarbon fluid above the auto ignition level).
- Refineries are implementing Risk- based Process Safety Management in line with OISD-GDN-206 and Centre for Chemical Process Safety (CCPS) Risk-Based PSM model.
- Safety Innovation Parks have been developed at Refineries to strengthen safety culture through experiential learning, innovative practices, and digitalization. Specialized Safety Training Halls with job-specific modules (Hot Work, Height, Confined Space, Electrical, Excavation, Hydro-jetting, etc.) have been set-up in these parks.
- Specialized trainings on Construction Safety and Electrical Safety through reputed third-party agencies are being imparted to concerned officers posted at locations/ project sites.”

C. CSR ACTIVITIES

6.9 Every company registered under Companies Act, 2013, with specified thresholds of turnover, or net worth, or net profit during immediately preceding financial year, is mandated to spend at least two percent of the average net profits made during the three immediately preceding financial years on welfare works under Corporate Social Responsibility (CSR). Such companies as a part of their CSR, undertake CSR activities under the heads identified under Schedule VII of the Companies Act 2013 with special focus on Health (Nutrition, Sanitation, and Drinking Water), Education, Skill Development, Rural Development, Women Empowerment, Environment Oriented Initiatives and Care for the Elderly & Differently-abled Persons, around their work centers.

6.10 As furnished by MoPNG, CSR is a Board-driven process, and the Board of the Company is empowered to plan, approve, execute, and monitor the CSR activities of the company based on the recommendations of its CSR Committee and MoPNG has no role in allocation of CSR fund by the CPSUs under it.

6.11 The details of CSR activities by some of the P&NG CPSUs are enumerated in the succeeding paragraphs.

(II) IOCL

6.11 As per the submission of MoPNG, IOCL's Corporate Social Responsibility (CSR) thrust areas include 'Safe Drinking Water and Protection of Water Resources', 'Healthcare and Sanitation', 'Education and Employment-enhancing Vocational Skills', 'Rural Development', 'Environment Sustainability', 'Empowerment of Women and Socially/Economically Backward Groups', etc. IOCL achieved 100% CSR budget utilization for the eight years in a row exemplifying its commitment as a responsible corporate.

6.12 The following is the budget and expenditure of last 5 years:

Sl. No.	Financial Year	Budget including carry forward (Mandated) (₹ Crore)	Expenditure (₹ Crore)	Achievement against mandated budget
1	2019-20	543.38	543.38	100%
2	2020-21	342.00	460.37	135%
3	2021-22	204.77	298.29	146%

4	2022-23	257.55	264.03	103%
5	2023-24	422.42	457.71	108%
6	2024-25	539.17	583.04	108%

6.13 Some of the major projects implemented by IOCL in last 3 years includes:

- **Intensive TB elimination project:** In line with the vision of the Hon'ble PM, the Government of India is committed to eradicate TB. Since 2022-23, IOCL, in collaboration with the Ministry of Health and Family Welfare (MoH&FW), Central TB Division (CTD), and State Health Departments of Uttar Pradesh, Chhattisgarh, Maharashtra, Uttarakhand, Haryana, Tamil Nadu, Madhya Pradesh, and Rajasthan, has been actively working towards TB elimination by bridging testing gaps and enhancing access to early diagnosis. During 2024-25, IOCL provided 249 molecular diagnostic machines in the States of Madhya Pradesh, Rajasthan, Gujarat & Bihar. As a part of TB Elimination Program, IOCL also made provision for 102 handheld X-ray machines in the States of Madhya Pradesh and Rajasthan. In 2024-25, IOCL spent ₹52.13 crore towards this initiative. Till March 2025, IOCL has provided 688 molecular diagnostic machines & 124 handheld X-ray machines across various States and contributed ₹124.95 crore toward TB Elimination Program. More than 10 lakh beneficiaries have been screened through these machines resulting in identification of about 60,000 positive cases. In addition, under "Pradhan Mantri TB Mukt Bharat Abhiyaan" (PMTBMBA) and "Ni-kshay Mitra" initiative, aiming for effective community engagement in the fight against TB, IOCL has provided nutrition kits across various States, benefiting more than 21,000 TB patients.
- **Comprehensive Cancer Care:** IOCL being a responsible corporate citizen has come up with a focused approach towards facilitating affordable cancer care treatment to the society. During last few years, IOCL has partnered with several leading institutions viz., Tata Medical Center, Tata Memorial Center, Tata Trusts, Sir Ganga Ram Hospital etc., providing infrastructure & equipment support, and has contributed ₹216.16 crore towards its cancer care initiative till March 2025. In 2024-25, IOCL strengthened cancer care infrastructure by providing equipment viz., LINAC machine, PET-CT machine, Brachytherapy equipment and Radiotherapy CT Planning Scanner etc., worth ₹53.15 crore at various hospitals across the Country. Some of the major hospitals where IOCL provided cancer care equipment are Tata

Medical Centre, Kolkata, West Bengal, Mahamana Pandit Madan Mohan Malviya Cancer Centre, Varanasi, Uttar Pradesh, Homi Bhabha Cancer Hospital, Muzaffarpur, Bihar, Dr. B Barooah Cancer Institute, Guwahati, Assam and Homi Bhabha Cancer Hospital, Visakhapatnam, Andhra Pradesh. These cancer care initiatives of IOCL are likely to benefit more than 1 lakh beneficiaries every year.

- **Sickle Cell Anaemia (SCA) Eradication:** Sickle Cell Disease is an inherited red blood cell disorder, which leads to complications viz., pain, anaemia, increased risk of infections, stroke, etc. prominent in tribal groups. The Hon'ble PM of India launched the National Sickle Cell Anaemia Elimination Mission in July- 2023 with the aim to eliminate sickle cell disease from India by 2047. Initially, the mission focused on individuals aged 0-18, with plans to incrementally include those up to 40 years of age. The aim is to screen approximately 7 crore people over a 3-year period and prioritize tribal and high-prevalence States/UTs in its initial stages, with a plan to expand to all States/ UTs in a phased manner. Aligning with the mission, IOCL, in collaboration with the Indian Institute of Science (IISc), Bengaluru, and the Government of Karnataka, undertook Project Chandana (Comprehensive Healthcare for Anemic and Sickle-Cell Diseased Adivasis in Karnataka), under which a breakthrough innovative point-of-care testing device developed by IISc Bengaluru has been deployed at various Government health facilities viz., Primary Health Centers/ Community Health Centers, in tribal areas, which offers a quick, cost-effective and efficient method for SCA screening & testing. The project aims for screening and testing of around 2.56 lakh tribal population in 3 districts (Mysuru, Chamarajanagar & Kodagu) of Karnataka, and awareness/ IEC activities, genetic counselling, treatment & medication etc., for a period of 2 years starting from 2024-25. Till March 2025, more than 1.95 lakh tests have been conducted resulting in more than 9,900 positive cases of sickle cell disease. For this innovative project, IOCL contributed ₹11.35 crore during 2024-25.
- **Development of tourist friendly facilities:** IOCL's CSR initiatives have significantly impacted various cultural and historical landmarks across India. IOCL through the Indian Oil Foundation (IOF) has been working towards promotion of Indian art & culture including development of tourist friendly facilities in and around sites of archaeological importance. In Varanasi, with the completion of Phase 2 renovation/redevelopment of NamoGhat, it has become the longest and most

accessible ghat in the city. The addition of modern facilities such as wide promenades, a multipurpose platform, and water sports areas enriches the visitor experience while preserving cultural heritage. IOCL has contributed ₹67.28 crore during FY2023-24 & FY 2024-25 to the IndianOil Foundation towards its various projects under CSR.

- **Assam Oil School of Nursing, Digboi, Assam:** The Assam Oil School of Nursing (AOSN), Digboi was established in 1986 with the dual objective of providing stable career and livelihood opportunities to young underprivileged girls and ensure availability of qualified nurses in the Country. AOSN offers 3-year diploma in General Nursing and Midwifery (GNM) to young girls and enrolls 30 students every year. For the 4-year B.Sc. (Nursing) course, 30 students are offered admission every year (since 2014). During 2024-25, 30 girl students each in GNM and B.Sc. (Nursing) program have benefited from the initiative. Since its inception, with 581 graduates from the GNM program and 202 graduates from the B.Sc. (Nursing) course, AOSN has achieved a remarkable 100% placement record. In 2024-25, an amount of ₹3.63 crore was spent by IOCL towards this initiative.
- **Cheetah Introduction at Kuno National Park, Madhya Pradesh:** Cheetahs went extinct in India in 1952 due to excessive exploitation. Under the 'Species Recovery Program' of the Government of India, the Ministry of Environment, Forests, and Climate Change (MoEF&CC) selected Kuno National Park (KNP), Madhya Pradesh, as the first site for the Cheetah Introduction Project to restore the species in their historic habitat. In 2022-23, IOCL became the first corporate partner with the National Tiger Conservation Authority (NTCA) for this initiative. As part of the project, 20 cheetahs were brought from Namibia and South Africa to Kuno National Park. At present, 31 cheetahs, including 12 adults and 19 cubs are thriving in the habitat, and NTCA plans to introduce more cheetahs from Africa over the next 3-4 years. Out of the total committed amount of ₹50.22 crore, IOCL has contributed ₹34.00 crore for the project till March 2025. This is first of its kind Intercontinental large carnivore Translocation of across the globe. During the last 3 FYs, IOCL has incurred a CSR expenditure of ₹1304.78 crore with major focus on Healthcare (54.9%), Education (12.9%), Environmental sustainability (8.2%) & Sanitation (7.1%), etc."

(III) BPCL

6.14 It has been furnished that over the past years, BPCL has consistently met the thematic area targets set by the Department of Public Enterprises (DPE) and is committed to transforming lives and strengthening communities by expanding access to education, advancing healthcare, fostering sustainable practices, and empowering individuals through skill development.

6.15 BPCL's CSR expenditure for the period 2019-2020 to 2024-25 is as follows:

Amount in ₹ Crore

Fin. Year	Budget Allocated	Carry Forward	Total Budget	Actual Exp.
2019-20	199.09	172.25	371.34	345.68
2020-21	136.24	25.66	161.91	144.90
2021-22	166.73	17.01	183.74	137.78
2022-23	191.63	45.96	237.59	128.67
2023-24	206.76	79.99	286.28	158.19
2024-25	358.14	157.49	515.63	179.37

6.16 Major CSR initiatives undertaken by BPCL during the last 5 years are highlighted below:

(i) Health and Sanitation: BPCL's CSR initiatives are redefining healthcare accessibility across India through innovative, large-scale interventions. The flagship Hospital on the Train – Lifeline Express has provided free specialized majorly in the aspirational districts, offering critical treatments for disabilities, cancers, and sensory impairments. Complementing this, initiatives for inclusion the differently abled individuals were provided with mobility aids, educational support, and AI-powered smart vision devices.

(ii) Education: BPCL empowers underserved communities through transformative education initiatives. The DAV School, a CBSE-affiliated school (Nursery to Class XII) offering Science and Commerce streams, recognized for academic excellence with 100% CBSE pass rates in the academic year of 2024. Annually benefiting 1,000+ students, this institution exemplifies the commitment to provide quality education.

(iii) Environmental Sustainability: BPCL demonstrates its commitment to environmental sustainability through innovative green initiatives, including drone-

based aerial seeding across Bihar and Maharashtra, and planting 65,000 trees along Mumbai's railway corridors. Our sustainability efforts extend to installing solar lights in rural communities and solar-powered RO plants in water-scarce regions, reducing carbon footprints while improving living conditions. Solar lights in rural communities were installed, bringing energy-efficient illumination to schools, hospitals, and public spaces while reducing carbon footprints. Solar-powered RO plants were implemented in water-scarce regions, addressing both sustainability and clean water access.

(iv) Skill Development: BPCL drives comprehensive skill development programs across India to enhance employability and livelihood opportunities. The corporation supports Skill Development Institutes, delivering certified technical training for the oil & gas sector. We empower women artisans through traditional craft programs in beadwork, embroidery, and Zari work across Rajasthan, Madhya Pradesh, and Haryana. Pune-based Nursing & Skill Development Institute addresses healthcare skilling needs and integrated community programs near refinery locations create localized livelihood solutions.

(v) Community Development and Other Initiatives: As part of our community development initiatives, we focus on creating sustainable infrastructure that enhances quality of life and social cohesion. We construct and upgrade essential community facilities including multipurpose halls, sanitation units, and public amenities across both rural and urban locations. These projects address critical infrastructure gaps while fostering stronger community networks.

(IV) HPCL

6.17 The focus areas of HPCL CSR initiation include:

i. Child Care
ii. Education
iii. Health Care
iv. Skill Development
v. Sports
vi. Environment & Community Development
vii. Contribution to incubators and public funded Universities

6.18 Details of HPCL's CSR obligation and expenditure for the past five years are given in the table below:

						₹ in Crore	
Sl. No.	**Account Description**	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Budget							
1	Minimum Prescribed Budget	182.13	129.97	161.86	154.85	64.22	92.05
2	Amount Set Off from excess spent during the previous year	-	-	26.38	-	-	11.69
3	CSR obligation for the year	182.13	129.97	135.48	154.85	64.22	80.36
4	CSR Expenditure	182.24	156.35	135.56	154.85	75.91	87.35

6.19 Major CSR initiatives undertaken by HPCL during the last 5 years are highlighted below:

(i) Project ADAPT; Children with Special Needs: Project ADAPT aims to enhance the quality of life of Children with Special Needs (CwSN) through provision of online education, individual training and therapeutic treatment. In addition to online educational classes for 'Children with Special Needs (CwSN)' uninterrupted therapy services were provided through Tele-Rehab, which emerged as a key vehicle for delivery of services.

(ii) Project Nanhi Kali; Girl Child Education: Project Nanhi Kali provides holistic development and support academic pursuit of girl child from tribal and urban slum locations. The project address 'challenges and constraints' faced due to gender gap in communities and aim to develop gender equality. 'Nanhi Kali' girls are provided with remedial classes, material kits, sports curriculum and other guidance & counselling on personal hygiene and career development.

(iii) Project Dhanwantari; Rural Healthcare Program: To provide diagnosis, treatment and health awareness, Mobile Medical Units (MMU) are operated as 'Reach-In approach' to the people residing in rural and urban slum communities. The MMU offer basic medicines, consultation and referrals. The majority of beneficiaries are women, children and elderly from less-privileged sections of society whose health is neglected due to poverty and lack of resources, awareness and facilities.

(iv) Project Dil without Bill; Heart surgeries of Children: Project 'Dil without Bill', one

of the Flagship Initiatives of the Corporation, provides financial support for conducting heart surgeries and treatment of other cardiac ailments of patients from socio-economically weaker sections, particularly children. Awareness camps are carried out for identifying patients from low-income groups, especially children with heart ailments and support is extended for conducting heart surgeries.

(v) Project Kashmir Super-50 Medical: This project provides mentoring and coaching to aspiring students from Jammu and Kashmir for preparing them for various Medical Entrance Examinations in India. This residential training program gives wings to academic aspirations of youth for their career development. This project supports the 'Sadhbhavna' (Goodwill) efforts undertaken by Indian Army in Jammu and Kashmir Svalley. This project is in partnership with XV Corps or Chinar Corps of Indian Army.

(vi) Project Ladakh Ignited Minds Super- 45 'Medical & Engineering': This project supports the Indian Army's initiative in 'Winning Hearts and Minds' of the local population. This project supports the less-privileged yet aspiring students of Leh district, Ladakh UT in enabling them to compete in various streams like Engineering, Medical and other career-oriented programs. This project is in partnership with XIV Corps or Fire and Fury Corps of Indian Army is bringing potential career opportunities for students and help in pursuing higher education.

- **Project Kargil Ignited Minds Super- 50 'Medical & Engineering':** This project supports the less-privileged yet aspiring girl students Kargil district, Ladakh UT in enabling them to compete in various streams like Engineering, Medical and other career-oriented programs. This project shall lead to empowerment of disadvantaged girls of the region to become a valuable contributor in the mainstream. This project is in partnership with XIV Corps or Fire and Fury Corps of Indian Army in Kargil, Ladakh UT.
- **Project White Knight Centre Super- 45 'Medical & Engineering':** This project supports the less-privileged yet aspiring students from Rajouri and Poonch District, Jammu & Kashmir UT in enabling them to compete in various streams like Engineering, Medical and other career-oriented programs and is in partnership with XVI Corps or White Knight Corps of Indian Army in Rajouri, Jammu and Kashmir.
- **Swachh Bharat Abhiyan:** HPCL has undertaken various activities under the nationwide movement that is aimed to promote cleanliness and hygiene among the masses. These include major initiatives like Construction of more than 4,500 toilets

in Government schools and public places, providing drinking water facilities in Government schools, rural areas and urban slums. Adoption of urban slums to ensure clean and hygienic surroundings etc. These Swachh Bharat Abhiyan projects were implemented in the communities that are economically and socially underprivileged. Many of such communities had large population of people belonging to weaker section of the society like SC, ST and OBC. HPCL has bagged prestigious Award for Swachhta Pakhwada Campaign instituted by MoPNG.

- **Skill Development Institutes:** Skill Development Institutes (SDI) conceptualized by Government of India and operationalized by Oil & Gas CPSEs with a special focus on imparting skills in industry-oriented trades for enhancing employability. HPCL supported Skill India Mission by establishing Skill Development Institute at Visakhapatnam and supported other SDIs at Rae Bareli, Ahmedabad, Kochi, Bhubaneswar and Guwahati for imparting skills to youth in various sectors.

(xi) Community Development: HPCL has conducted various field-level activities with special focus on all round development of society especially women. These projects and field activities undertaken by HPCL aim to provide basic amenities in rural areas. Activities like support to old age homes, orphanage, Anganwadi, providing basic amenities in schools, improvement of rural infrastructure, improvement of basic infrastructure in Government Hospitals have supported in development of local communities.

(V) ONGC

6.20 As submitted by MoPNG, ONGC implements its CSR activities through a structured, project-based approach. Projects are based on identified need which can come from stakeholders, social and environmental groups, etc. Ministries often refer projects for implementation by ONGC, based on need assessment. Location of implementation can be pan-India. Projects addressing needs in aspirational districts are often prioritized, along with projects falling in annual theme as prescribed by DPE every year. The CSR expenditure of ONGC for last 5 years are as below:

FY	CSR Budget (₹ Crore)	Total CSR Expenditure (₹ Crore)
2019-20	571.81	606.97
2020-21	538.77	553.07
2021-22	436.02	457.99

2022-23	429.76	475.89
2023-24	604.20	634.57
2024-25	877.90	929.08

6.21 It has also been submitted that ONGC has been consistent in overachieving its targeted CSR expenditure for the eighth consecutive year, spending ₹ 929.08 crore in FY 2024-25. With over 1400 projects covering 29 States and union territories, ONGC has impacted the lives of 2.5 crore Indians. ONGC's biggest contributions this year are in the areas of healthcare, education, environment and community development, with a special emphasis on building durable community assets at par with global standards, details of which are as under:

(i) Healthcare: ONGC has provided financial assistance of over ₹180 crore for the procurement of High Energy Linear Accelerators (HELA), which create precise high energy beams that targets tumours from any angle, killing cancer cells without harming healthy tissue. In the first phase, these machines have been provided at 3 AIIMS and 3 government hospitals in Delhi, Punjab, Maharashtra, Jharkhand, Telangana and Kerala. Upon their installation and commissioning, these machines are expected to benefit as many as 10 thousand patients annually. ONGC has also provided financial assistance of over ₹ 60 crore for the procurement of PET-CT scanner machines to 2 AIIMS and a government medical college at Gujarat and Punjab, which are expected to benefit approximately 30 thousand patients annually. In addition to the Swargadeo Siu-ka-pha hospital in Sibasagar, Assam, which has been ONGC's flagship hospital since its dedication to the public in 2019, ONGC this year has provided infrastructure support to multiple government and charitable hospitals at all levels of care.

(ii) Education: ONGC this year has provided construction and infrastructure support of ₹50 crore to 120 odd educational institutes in 18 States of the Country, involving building of classrooms, laboratories, hostel blocks and providing furniture and transportation. Key projects include the support for construction of the PARAM Science and Innovation Centre, Bengaluru, the Institute of Education and Development Studies, NOIDA and the comprehensive residential training block at Churachandpur, Manipur which accommodates 100 orphaned or otherwise underprivileged tribal children. With total financial assistance of ₹26 crore, 5500 students of higher professional courses from economically and socially

underprivileged background have benefited from ONGC foundation's merit scholarships this year. A further 700 students from the SC/ST community in professional courses have received aid through the annual component plan. Inspired by the resounding success of ONGC's existing Super 30 projects running since 2014-15, support for residential coaching programmes have been expanded to 14 centres in 8 States benefiting 1400 students. In the academic year 2024-25, 93% of engineering aspirants have qualified JEE mains, while 96% medical aspirants have qualified NEET. 385 interns have also been inducted into ONGC under the first phase of the Pradhan Mantri Internship Scheme (PMIS), whose stipends, teaching, transport and accommodation are being supported to the tune of ₹30 crore.

(iii) Disaster Management and Public Infrastructure: ONGC developed Disaster Management and Yatri Niwas Complexes across four key locations in Jammu & Kashmir—Baltal, Nunwan, Bijbehara, and Sidhra. The project aims to enhance pilgrimage infrastructure and emergency response capacity in support of the annual Amarnath Yatra. Undertaken at a total cost of ₹248 crore, the complexes are spread over an average area of 1.8 acres each and consisting of Yatri Niwas (dormitory), Watch Towers, Toilet Blocks, and related external works.

(iv) Environment: As an energy company moving towards sustainable and unconventional sources, ONGC's efforts extend beyond business to its CSR spending, with an expenditure of ₹ 42 crore this financial year specifically in the areas of solar-powered street lighting, solar power generation capacity in various public institutions and biofuel generation projects. Over 6000 solar lights have been installed in rural areas in 39 districts across the Country. Since the institution of the Ek Ped Ma Ke Naam Campaign by Hon'ble Prime Minister in July 2024, ONGC has received one of the biggest afforestation targets among the central PSUs. ONGC has over achieved this target by planting 3 lakh trees this financial year in a single project, with 1.5 lakh trees in Mehsana district, Gujarat and Sivagangai district, Tamil Nadu, with around 1.3 lakh trees planted in and around ONGC's operational areas in 8 States.

(v) Eradicating Hunger, Poverty Alleviation and Livelihood Enhancement: In the interest of uninterrupted and holistic poverty eradication, ONGC's CSR projects cover the entire life cycle, from supporting the PM-POSHAN yojana to feed school students

to providing training in innovative forms of agriculture, fisheries and animal husbandry, along with other forms of vocational training. Over 3 lakh people in 19 States have benefited from a 100 food and nutrition, poverty alleviation, vocational training and livelihood generation projects this year.

(vi) Reducing Inequality: ONGC's CSR projects target three main areas – nutritional and educational needs of girls and women, women's reproductive health and livelihood generation projects specially geared towards women. Covering 12 thousand odd beneficiaries in 13 States, the livelihood generation projects include training and support of women in geriatric care and healthcare jobs, handicrafts such as coir toys, handloom and mechanised weaving, tailoring and fashion designing courses. 50 thousand women and their families benefited from projects include providing specialised nutrition kits catering to anaemic, pregnant and lactating women; awareness and material support for sustainable menstrual hygiene.

(vii) Enabling The Differently Abled: ONGC remains steadfast in its mission to promote equal employment opportunities and enhance the quality of life through 37 projects benefiting 38 thousand differently abled people in 15 States. The biggest of these projects benefits 3400 odd visually impaired persons in 20 aspirational districts and surrounding areas through the distribution and training of Saarthi Assistive Mobility Aid & Jyoti AI Pro.

(VI) GAIL

6.22 About GAIL's CSR activities, it has been stated that in compliance with DPE guidelines, GAIL has committed to spending around 60% of its mandated CSR budget for FY 2024-25 on identified thematic areas, 'Health & Nutrition, PM Internship Scheme.'' GAIL consistently exceeds this mandated spending each financial year, ensuring adherence to regulatory requirements. Additionally, GAIL aligns its CSR activities with the Government of India's Swachh Bharat Mission by allocating funds to cleanliness initiatives, which are monitored by the administrative ministry. The allocation of CSR funds also considers guidelines for activities in Aspirational Districts. Given that GAIL operates in multiple States, its CSR initiatives are widespread, addressing the diverse needs of communities across the Country.

6.23 The funds allocated by GAIL in the last six years for CSR activities as well as the actual expenditure incurred is as below:

Sl. No.	Year	CSR Allocation (2% of average Net Profits made during 03 immediately preceding FYs – set off amount)	CSR Expenditure
1	2019-20	124.79	125.30
2	2020-21	141.91	147.67
3	2021-22	130.70	204.97
4	2022-23	90.78	99.1
5	2023-24	142.45	175.71
6	2024-25	149.06	183.77

(VII) OIL

6.24 Regarding CSR activities of OIL, it has been submitted primary (but not limited to) CSR activities are in the thrust area of Healthcare & Nutrition, Drinking Water & Sanitation under Swachh Bharat Abhiyan, Education, Skill Development, Sustainable Livelihood, Women Empowerment, Rehabilitation & Empowerment of Persons with Disability, Promotion of Sports, Preservation & Promotion of Art, Culture & National Heritage, and Rural Development through Augmentation of Rural Infrastructure. OIL CSR spending in the last five years is as follows:

(₹ in Crore)

Financial Year	*Prescribed CSR Budget: As per the Companies Act i.e. 2% of the Average Net Profit of 3 preceding years*	*Actual CSR Expenditure*	*CSR Expenditure as % of Average Net Profit of Last 3 preceding years*
2019-20	55.67	125.41	4.50
2020-21	49.12	105.25	4.28
2021-22	25.91	163.74	12.63
2022-23	32.93	98.21	5.96
2023-24	74.74	122.80	3.28
2024-25	115.96	129.53	2.23

(VIII) EIL

6.25 As for EIL's CSR activities, MoPNG has submitted that the company has a Board approved CSR Policy which states that "CSR activities shall be undertaken preferably in and around EIL's area of operation, which includes but are not limited to Project sites and offices within India with special focus on backwards areas and Aspirational districts

notified by the Government of India." The main focus areas of EIL's CSR are: Healthcare & Nutrition, Education, Skill Development, Drinking/Sanitation, Rural Development Environment Protection/Sustainability, Upliftment of underprivileged, Women Empowerment and Supplement specific Government programmes/schemes.

6.26 EIL's CSR Budget & Expenditure of last 5 years:

Financial Year	CSR Budget (₹ in Crore)	CSR Expenditure (₹ in Crore)
2019-20	10.78	11.28
2020-21	11.94	12.65
2021-22	10.47	33.51
2022-23	4.13*	6.42
2023-24	2.75^	11.87
2024-25	3.10^^	4.34

***CSR Budget for FY 2022-23 was ₹9.44 Cr. However, available CSR fund for expenditure (post set-off and transfer to Unspent A/c) was ₹4.13 Cr.**

^CSR Budget for FY 2023-24 is ₹7.50 Cr. However, available CSR fund for expenditure (post set-off) is ₹2.75 Cr.

^^CSR Budget for FY 2024-25 was ₹8.10 Cr. However, available CSR fund for expenditure (post set-off) was ₹3.10 Cr.

6.27 The Major CSR Projects undertaken by EIL in the last five years creating a significant impact in Aspirational Districts and other locations are outlined below:

(i) Health Care & Nutrition - <u>Sanjivani</u>

a. Aspirational Districts:

- Support for conducting eye screening and cataract operation camps for the poor and needy persons in **Visakhapatnam** District, **Darrang, Udalgiri, Baksa** Districts of Assam and **Haridwar**, Uttarakhand.
- Establishing 140 nos. of Model Anganwadi Centres by providing basic infrastructure with 'Nutri Garden, Supply of kitchenware, supply & installation of LPG with all accessories including Bhattichula with Regulator & Hose and supply of Kent Gold with UF Membrane (Water Purifier)' at **Dhubri**, Assam.
- Conducted 12 camps for awareness, screening and detection of anaemia and malnutrition and distribution of Govt. approved health and supplement to the identified needy cases in **Haridwar**, Uttarakhand.

- Conducted Camps (Assessment and Distribution) for distribution of assistive aids & appliances to poor and needy Persons with Disabilities (PwDs) in **Dhubri**, Assam, **Narmada,** Gujarat, **Mewat**, Haryana, **Chattarpur**, M.P., **Balangir**, Odisha, **Jaisalmer**, Rajasthan and **Virudhunagar &Ramanathapuram**, Tamil Nadu.
- Support for organizing health and eye checkup Camps in four Aspirational Districts viz. **Baksa, Udalgiri, Barpeta** and **Hailakandi** in Assam.
- Supported Comprehensive health outreach programme for screening and eradication of Anaemia in aspirational district Mewat (Nuh), Haryana.

b. Fight against Covid-19 Pandemic:

- Established 09 nos. of 500 LPM Pressure Swing Adsorption (PSA) Oxygen Plants at 7 Government Hospitals in Karnataka, needed to treat Covid patients.
- Procured and supplied 1000 nos. of Oxygen Cylinders, Regulators, High Flow Nasal Cannula &Non rebreather masks as a part of pool of Oil PSUs.
- Procured and supplied 250 nos. of Oxygen Concentrators as a part of pool of Oil PSUs.

(ii) Drinking Water & Sanitation - <u>Jal-Dhara & Swachh Kiran</u>

a. Aspirational Districts:

- Maintenance of toilets constructed by EIL under Swachh Bharat Abhiyan for at least 5 years by EIL at **Darrang, Dhubri, Barpeta, Baksa, Hailakandi and Udalgiri** Districts of Assam.
- Installed RO Water Purifiers and Chiller Units in Govt schools (6 nos.) in **Mewat**, Haryana.
- Support for setting up of 100 nos. of individual toilet facility to promote health & hygiene in remote communities at **Haridwar**, Uttarakhand.
- Supported installation of 5 Nos. RO water vending machines in Aspirational district of **Purnia,** Bihar.

b. Other Locations:

- Constructed and installed three water purification plants (ROs) in villages of Sheohar district, Bihar.
- Installed RO Plants in villages of Dharwad District, Karnataka.
- Installed RO Water Purifiers and Chiller Units in NDMC Schools / unaided Schools at Delhi.

- Supported installation of 4 units of water coolers at common public places in Guloathi, Buland Shahar, Uttar Pradesh.

(iii) Education & Skill Development - <u>Pragyata and Praveen</u>

a. Aspirational Districts:

- Contribution to initial corpus & operational funding for five years of SDI, **Visakhapatnam**.
- Constructing additional classrooms in Govt schools of **Darrang**, Assam.
- Contribution towards additional one-year of annual operational funding to Skill Development Institute at Visakhapatnam.

b. Other Locations:

- Constructed state-of-art school building (consisting of 10 classrooms, laboratory, auditorium, teachers' rooms and all amenities including furniture, electrification, water supply & sanitation) for a Govt. School at Kabenur, Dharwad District, Karnataka.
- Supported 100 Ekalavya Vidyalayas in rural/tribal areas of Dibrugarh, Assam for imparting training and basic informal education to children.
- Constructed six classrooms and a toilet at Lala Baijnath Pathshala (LBJP) in Tilhar District, Shahjahanpur, Uttar Pradesh.
- Constructing additional classrooms in Govt Schools of Karaikal district, Puducherry.
- Provided Initial corpus for establishing Skill Development Institutes at Guwahati, Kochi, Raebareli, & Ahmedabad.
- Provided Operational funding to SDI Bhubaneswar, Kochi, Raebareli, Guwahati & Ahmedabad, for five years.
- Contribution to SDI Bhubaneswar towards setting up of permanent campus.
- Provided residential Skill Development Training Programme (SDTP) of 1600 candidates from backward classes across India in trades as Plastic Processing and Extrusion, Injection Molding and Blow Molding.
- Contribution towards additional one-year of annual operational funding to Skill Development Institutes at Bhubaneshwar, Raebareli, Guwahati, Kochi and Ahmedabad.
- Providing Internship opportunity for youth at various locations of EIL under Prime Minister's Internship Scheme (PMIS) of Govt. of India.

(iv) Women Empowerment - Shakti

a. Aspirational Districts:

- Support for health and menstrual hygiene management of rural girls/ women in **Giridih** district (aspirational), Jharkhand.
- Conducted functional literacy programme for economic empowerment of 240 nos. of tribal women of **Balangir,** Odisha.

b. Other Locations:

- Installedand commissioned Solar Photovoltaic based LED Street Lighting Systems in various villages of Bhadohi &Shrawasti District, Uttar Pradesh, and Jagatsinghpur, Odhisha.
- Support for conducting skill training for 49 nos. of women inmates of District Jail Gautambudh Nagar at Kasna, Greater Noida in Tailoring, Dress Making and Beautician Trade.
- Support for setting up of sanitary napkin vending machines at 10 Govt schools of Noida and Greater Noida, Uttar Pradesh.
- Support for providing 75 no. of Sanitary napkin Vending Machines in 4 districts of Uttar Pradesh.

(v) Environment Protection/ Sustainability –Prakriti

- Established plant for conversion of plastic waste to fuel at Mathura (plant capacity 5TPD).
- Supported restoration and development of water body viz. Anjani Kund at Palwal, Haryana and Gauri Kund at Bharatpur, Rajasthan.
- Support for development of Miyawaki Forest in Gurugram, for improving ambient Air quality, Water conservation, flora & fauna and overall Environment & eco system for the benefit of the general population in and around the area.

(vi) Rural Development - Pragati

a. Aspirational Districts:

- Support for installation of 100 Solar Photovoltaic based LED Street Lighting Systems in villages of **Purnia District**, Bihar.

b. Other Locations:

- Installed and commissioned Solar Photovoltaic based LED Street Lighting Systems in various villages of Bhadohi and Shrawasti District, Uttar Pradesh, and Jagatsinghpur, Odhisha.
- Support for Rural Infrastructure Development (Construction of Community Hall) in a village in Nalanda district, Bihar.

(VIII) Balmer Lawrie

6.28 As furnished by MoPNG, based on these priorities, Balmer Lawrie invites and collects proposals from NGOs and development partners, carefully shortlisting them according to the thematic focus provided by the DPE, NITI Aayog, and the MoPNG. Once shortlisted, all projects are submitted to the CSR Committee of the company, which subsequently presents them to the Board for final approval. CSR expenditure of Balmer Lawrie of the last 5 years are mentioned below:

Sl. No.	Year	CSR Allocation (2% of the average net profit made during 03 immediately preceding FY's (in Lakhs)	CSR Expenditure (In Lakhs)
1	2019-2020	471.00	514.36
2	2020-2021	511.15	514.15
3	2021-2022	441.00	1048.16
4	2022-2023	360.46	377.74
5	2023-2024	341.42	441.64
5	2024-2025	420.41	428.31

6.29 When asked whether MoPNG or the CPSUs has developed a mechanism to assess the impact of their CSR activities over the years, MoPNG has submitted as under:

> **"IOCL:** As per the extant CSR Rules, IOCL has been undertaking impact assessment of its CSR projects having outlays of one crore rupees or more and which have been completed not less than one year before undertaking the impact study, through independent agencies.
>
> In the last 4 FYs, impact assessment has been carried out for 18 CSR projects of IOCL by and these reports have been placed before the IOCL Board which form a part of the Annual Report(s) of the company. These reports are also published on the website of the company.
>
> **BPCL:** In line with the CSR Rules of Companies Act, Impact Assessment is conducted through an independent agency for its CSR projects with an outlay of

INR 1 crore or more and Projects completed at least 1 year before the study.

In the last three years, impact assessment has been carried out by independent agencies to measure the effectiveness of CSR activities that were implemented, it's significant of changes, sustainability & approaches of activities and contribution to the society at large. These reports have been placed before the Board and formed part of the Annual Report(s) of the company. These reports are also published on the website of the company.

HPCL: Hindustan Petroleum Corporation Limited (HPCL), being a responsible Corporate Citizen and in Compliance with Section 135 of Companies Act 2013, implements various CSR initiatives aimed at bringing positive impact in the lives of the underprivileged. In line with the requirement of CSR Rules, Impact Assessment is conducted of the CSR Projects for CSR projects with an outlay of INR 1 crore or more and Projects completed at least 1 year before the study. The impact assessment is undertaken through an independent agency to ensure an unbiased evaluation of CSR projects. The report of impact assessment is placed before Board of Directors of HPCL and annexed to the annual CSR report, ensuring accountability and transparency.

The key objectives of these studies are:

1. Relevance and Contribution: To assess how the projects contribute to the welfare and development of beneficiaries.
2. Effectiveness of Project Strategies: To evaluate whether the project's strategies were successful in achieving their objectives.
3. Performance Evaluation: To gauge how effectively and efficiently the expected outputs were delivered.
4. Impact on Beneficiaries: To measure the direct benefits of the project activities on the target group.
5. Sustainability: To determine the potential long-term viability of the projects post-completion.
6. Recommendations: To offer suggestions for similar future CSR projects.

HPCL has previously conducted impact assessment of its CSR projects / activities through reputed institutions, year-wise details are provided below:
FY 2016-17: NCSR Hub at Tata Institute of Social Sciences (TISS)
FY 2017-18: Department of Social Work at University of Delhi
FY 2018-19: EdCIL (India) Limited
FY 2020-21: Department of Social Work at Jamia Millia Islamia
FY 2021-22: Department of Humanities and Social Sciences at IIT, Kharagpur
FY 2022-23: Department of Social Work at Jamia Millia Islamia

ONGC: Impact Assessment rules are laid down as per Section 8 of MCA gazette notification dt. 22-Jan-24 wherein third party Impact assessment has been mandated for CSR projects having outlays of one crore rupees or more and which have been completed not less than one year before undertaking the impact study.

The minimum expenditure for impact assessment has been increased to 2% of CSR expenditure or ₹50 lakhs, whichever is greater.

Every year, ONGC engages a third party professional agency for impact assessment and impact assessment report is included in the annual report of the company.

GAIL: Impact Assessment of the eligible CSR projects are carried out through independent agencies like reputed consultancy firm (KPMG, Deloitte, PwC, etc.), reputed educational institutions, etc. as per the provisions of Rule 8(3) of the Companies (CSR Policy) Rules, 2014. Complete impact assessment reports are available on GAIL's website at this link (https://www.gailonline.com/CSRIndex.html), while executive summaries of these reports are published in the CSR section of the company's annual report. This ensures transparency and provides stakeholders with insights into the effectiveness of GAIL's CSR initiatives."

6.30 On being asked how do CPSUs engage with local communities, particularly in areas where there is resistance to new projects such as the pipeline issue in Tamil Nadu faced by BPCL, MoPNG has submitted CPSUs, while dealing with the resistances being faced with the local communities while laying of the pipelines, observe the following approaches:

I. **Engagement and Communication-** Initiation of conversations with community members to understand their concerns is started at early stage of the project. Project benefits and current & future positive impacts on localities have been shared with local communities.

II. **Liaisoning with State administration-** Frequent meetings have been carried out site office with local authorities like Tehsildar, Deputy District Magistrate, Police stations, Superintendent of Police, District Magistrate etc. Regular meeting are done with Secretaries & Chief Secretaries of State government by senior officials from regional office and at ministries of central government by Head Office.

Regular public hearing in the presence of the District Authority involving local team of CPSU and stakeholders are carried out. The public hearing targets to address the concerns of the stakeholders and to provide the safety measures, environmental protections, and economic benefits of the pipeline.

III. **Compensation and Benefits-** Social community requirements of local villagers near Right of Way are considered and executed through CSR/CER activities or

through special approval of management. IOCL in recent projects have successfully executed several CSR/CER projects as per the need of the local communities.

IV. **Involvement of ministries-** If any issue remains unresolved, help from State government is also sought that helps in engagement with local representatives. Meetings with MoPNG is held in which the issues are discussed and our requested is routed through Ministry to the concerned State government. In many projects State government advise the Police authorities to help the CPSUs to carry out the construction activities under Police protection in the affected areas.

D. BALMER LAWRIE-SPECIFIC ISSUES

6.31 When enquired about the core competency of Balmer Lawrie and how do the diversified sectors (like travel, logistics, and chemicals) complement or augment this core business, MoPNG, in a written submission has stated that Balmer Lawrie excels in two primary manufacturing verticals: Greases & Lubricants, which began operations in 1937, and Industrial Packaging, established in 1944. In Industrial Packaging, the company holds a significant 45% share in steel barrels, with opportunities for growth in other packaging segments and export markets. Conversely, its Greases & Lubricants division faces stiff competition from major players like IOCL, HPCL, and BPCL, indicating potential for market expansion. Additionally, Balmer Lawrie has diversified into the Travel and Logistics sectors, becoming one of three authorized travel agents for the Central Government. Balmer Lawrie also offers integrated logistics solutions through its Logistics Services, Infrastructure, and Cold Chain verticals. This comprehensive approach allows the company to provide end-to-end services, including the export of finished products and the import of raw materials

6.32 When asked to explain the rationale behind keeping the Company under the purview of MoPNG, the Ministry has merely stated that since becoming a public sector undertaking in 1972 through a stake acquisition by IBP (erstwhile Indo-Burma Petroleum Company), Balmer Lawrie's shareholding transitioned to Balmer Lawrie Investments Limited following IBP's merger with IOCL, with the President of India holding a majority stake in the company.

6.33 Regarding Balmer Lawrie's plan to align its operations with the global trend of shifting towards de-carbonization and sustainable practices to maintain competitiveness and the initiatives undertaken to develop green products, MoPNG has furnished as under:

> "Balmer Lawrie is actively aligning its operations with global de-carbonization trends by developing green products and implementing sustainable practices across its divisions. In the Greases and Lubricants (G&L) segment, the company has developed ester-based products derived from fatty acids and polyols, which enhance the thermal and oxidation stability of fire-resistant hydraulic oils. Additionally, G&L is working on polymerizable esters that can act as partial substitutes for synthetic oils, offering varying viscosities. The division has also commercialized long-life greases for automobiles, designed to last for upto 150,000 kilometers, reducing the need for frequent re-greasing. Further R&D efforts include developing greases with improved surface adhesion and enhanced oxidation and thermal stability.
>
> In the Chemicals division, Balmer Lawrie is making significant strides to reduce its environmental impact. The company is transitioning from furnace oil, a polluting fuel, to cleaner LPG for its boilers, which significantly lowers carbon emissions. Similarly, they have replaced Light Diesel Oil (LDO) with bio-diesel, an eco-friendly fuel derived from agro based plants, for their spray dryer equipment. This switch has resulted in a 30% reduction in emissions and a 12% cost savings. Moreover, Balmer Lawrie is expanding its use of renewable energy. The company has installed solar panels with a current annual generation capacity of 250 KW, and plans are underway to increase this capacity to 500 KW, further reducing their dependence on commercial electricity and promoting the use of green energy. These efforts underline Balmer Lawrie's commitment to sustainability and competitiveness in an eco-conscious market."

6.34 In a written reply, MoPNG has outlined the following steps being taken to maintain and increase Balmer Lawrie's share of 40% in industrial packaging:

- Balmer Lawrie conducts competition research to identify market gaps and strategies for customer acquisition and retention.
- Maintains a strong presence in industrial areas for maximum client engagement.
- Long-term contracts with high-volume customers ensure steady volumes and loyalty through transparent, formula-based pricing.
- Focuses on quality, innovation, and technology investments to enhance customer experience and meet demand.
- Implements eco-friendly practices, like using DOS-A steel, to align with sustainability goals and appeal to environmentally conscious consumers.

6.35 Regarding Balmer Lawrie's plan to compete against well-established private players like Castrol, Shell, and P&NG CPSUs like IOCL in the lubricants market, the following measures have been submitted:

- To effectively compete against established players like Castrol, Shell, and IOCL in the lubricant market, G&L will adopt a multifaceted strategy focusing on niche sectors such as Railways, Defence, and heavy industries, where tailored lubricants can meet the high-performance demands of mining, steel, and power generation.
- By offering competitively priced, high-quality products and enhancing its distribution network, the company aims to penetrate price-sensitive markets while establishing brand awareness through targeted marketing and sponsorship of industry events.
- Furthermore, G&L will prioritize innovation by developing eco-friendly lubricants and collaborating with OEMs for co-branded products, ensuring its offerings are synonymous with reliability and sustainability.
- Embracing digital transformation through e-commerce platforms and predictive analytics will not only streamline customer engagement but also provide added value, positioning G&L as a forward-thinking leader in the lubricant industry.

6.36 When asked how Balmer Lawrie plans to capitalize on opportunities in the cold chain logistics market, especially with the increasing demand for temperature-controlled storage and transport solutions, MoPNG has outlined the following steps:

- The Cold Chain SBU (Strategic Business Unit) of Balmer Lawrie aims to expand its presence across India by establishing Mega Temperature Controlled Warehousing Units (TCWs) in Tier-I cities and Mini TCWs in Tier-II and Tier-III cities, accommodating approximately 3,500-4,000 and 1,500-2,000 pallet positions, respectively.
- This strategic move will enhance service availability nationwide, particularly in rapidly growing Tier-II and III markets. The Mega TCWs will serve as hubs, while the Mini TCWs will function as spokes to effectively reach customers.
- Additionally, the SBU plans to increase its vehicle fleet to improve First Mile and Last Mile operations, providing a comprehensive cold chain logistics solution that includes end-to-end support and Distribution Centre services, managing the entire logistics process from primary distribution to final delivery on behalf of customers.

6.37 Regarding any partnerships or collaborations being considered to strengthen Balmer Lawrie's position in the logistics market, MoPNG has stated that Balmer Lawrie's Cold Chain SBU has signed an MoU with "Central Warehousing Corporation" to use their existing warehouse locations for building up chain of Temperature Controlled warehouses in Tier - II & III cities. This facilitates quick acquisition of the land and choose a location which is most favourable to the business. It will help cut down lead time for the projects. It has also been stated that Balmer Lawrie has formed a joint venture with Visakhapatnam Port Trust (VPT) as Visakhapatnam Port Logistics Park Ltd. (VPLPL), which was incorporated in 2014 to establish a Multi-Modal Logistics Hub (MMLH) in Visakhapatnam, Andhra Pradesh. The MMLH provides a variety of logistics services, including warehousing, container freight station, and inland container depot. The MMLH has a total capacity of 81,955 sq. m, including warehouses, cold storage, and truck parking.

6.38 Regarding Balmer Lawrie's plan to expand its cold chain services to tap into the growing demand from the pharmaceutical and perishable goods sectors, it has been submitted that the Cold Chain SBU is in the process of making ready some of its facilities to accommodate Pharma customers, which requires dust free environment in the storage area. SBU is getting its floors changed to Epoxy coating to prevent dust accumulation. It is also in the process of acquiring Drug Licence for selected unit which is mandatory to store pharma products. SBU is also in discussion with various State and Central health authorities to provide storage and transport facility for the pharma products, especially Vaccines and Insulins. As for perishable goods, SBU's infrastructure are all designed in a manner that it can store items at varied temperature as per the requirement. Some of its facilities are also equipped with sorting and grading facilities for fruits and vegetable products. VAS like blast freezing are also provided.

6.39 As Balmer Lawrie aims to become an integrated logistics player, when enquired about the specific steps taken to enhance its capabilities in air freight, ocean freight, and last-mile delivery services, MoPNG has stated that two SBUs- Logistics Infrastructure (LI) and Logistics Services (LS) have identified traffic in heavy flow zones where it has captive competitive advantages. Customer segments are being identified in specific trade-lanes with a single moto to increase their customer base and volumes. By building

on economies of scale, it is in a position to get price advantage from carriers thus creating end customer competitiveness in their competitive environment. For last mile deliveries, Balmer Lawrie, at regional and organisation level, is encouraging transporters to enlist with them based on their capabilities and capacities. Also, as a process, it regularly revisit/align its internal policies to ensure that it seamlessly integrate its service portfolios to achieve service deliveries as per contractual obligation on a sustainable basis.

6.40 With regard to Balmer Lawrie's plan to differentiate its travel services and attract a broader customer base, particularly in the B2B sector, given the rise of digital travel platforms and apps, MoPNG has submitted the following:

> **"Travel:**
> Balmer Lawrie is foraying into expanding its customer base through the appointment of Passenger Sales Agents PAN India. In the near future, these PSAs will be developed as extended arms of Balmer Lawrie and will have access to the Balmer Lawrie travel technology to increase the customer base in remote locations.
>
> Balmer Lawrie is also extending Online travel booking facilities to retried government employees and PSUs family member through its Self-Booking Tool with travel benefits.
>
> Provision for an Online hotel booking/cab booking facility for existing travel customers is in the offing in near future.
>
> Achieving operational excellence with 24 X7 presence through helpdesk services for all customers.
>
> **Vacations Exotica:**
> - B2B website to be more transactional website booking Hotel, cab, Insurance for public / Retail clients.
> - Channel sales: Focusing on local travel agencies in Tier-2 & Tier-3 cities to capture GIT bookings as most of the DMC (Destination Management Company from Abroad visit all the travel agencies and offer the same to them)
> - Lead Generations through social media - FB, Insta & LinkedIn, google ads,
> - Regular emailer campaign whereby we are making awareness of our packages to Travel Data.
> - Competitive Differentiation: Personalized service: Offer dedicated travel consultants and Leverage Balmer Lawrie's 158 years of travel experience.
> - Account-based marketing: Target specific corporate data to remarket them with our GIT product offers."

6.41 On being asked about the specific plans for expanding its travel business beyond government contracts and leveraging its existing customer relationships to offer value-added services like holiday packages, corporate travel management, and concierge services, it has been submitted that Balmer Lawrie plans to expand its travel business beyond government contracts by growing its B2C model, offering competitive ticketing and holiday packages under the Vacations Exotica brand. It is targeting private entities, corporate travel, and MICE, with a focus on digital marketing, partnerships, and concierge services to enhance customer value.

6.51 In light of the challenges faced by the leather chemicals division, it has been submitted that the leather chemicals division is pivoting towards agrochemicals by developing and launching spreading agents in tea estates, with future plans for wetting agents. In textile chemicals, the strategy is to target the printing and dyeing segments, leveraging existing facilities, while specialty textile chemicals are being developed in collaboration with IIT.

6.52 Regarding Balmer Lawrie's plan to develop a competitive edge in the specialty chemicals sector, especially against larger global competitors who have more extensive R&D capabilities, MoPNG has outlined the following steps:

- Collaborating with renowned institutes like IIT, IISc, IICT, and ICT.
- Focus on synthesis, characterization, and process engineering in product development.
- Interact with institutes to refine the product development approach.
- Conduct multiple in-house trials to align with market needs.
- Academic-industry collaboration bridges the gap to meet market demands.
- Helps compete with multinational companies.

E. EIL-SPECIFIC ISSUES

6.53 When asked how EIL integrates its services across the entire hydrocarbon value chain, and what specific roles does it play in EPC contracts to enhance project delivery and client satisfaction, MoPNG, in a written submission, has stated as under:

> **"**EIL provides design, engineering, procurement, construction and integrated project management services from 'Concept to Commissioning' with highest quality and safety standards. EIL's QMS, OHSMS and EMS are certified to ISO

9001, OHSAS 18001 and ISO 14001 respectively. It also provides specialist services such as heat and mass transfer equipment design, environmental engineering, specialist materials and maintenance and plant operations and safety services.

EIL's area of services are currently focused in the fields of Petroleum Refinery, Petrochemicals, Pipelines, Offshore & Onshore Oil and Gas Processing, Ports, Terminals, Alternate Fuels, Fertilizers, LNG Regasification, Underground storage caverns etc.

EIL's unmatched experience in execution of Projects on OBE mode & the fact that EIL as a Public Sector Organization strictly adheres to the CVC and Public Procurement Guidelines for procurement on Competitive route, holds it in good stead to offer maximum advantage to the Owner as OBE contractor. The OBE Mode of Implementation provides the Owner benefits of a competitive cost towards the plant & machinery component involved in the Project, transparently shared with the Owner. Besides, the approach also provides the benefit of a firm and focused schedule to the Owner similar to EPC contracts. This, in a way, provides an avenue of a win-win situation for the Owner in terms of direct cost benefit arising out of a transparent procurement process along with a firm time frame of implementation and a reasonable fee to the contractor towards services rendered."

6.54 Regarding the core competencies of EIL that differentiate it from both domestic and international competitors in the engineering consultancy and EPC (Engineering, Procurement, and Construction) space, MoPNG has submitted that EIL is a 'Total Solutions' global engineering consultancy company providing design, engineering, procurement, construction and integrated project management services from 'Concept to Commissioning' with highest quality and safety standards. EIL's QMS, OHSMS and EMS are certified to ISO 9001, ISO 45001 and ISO 14001 respectively. EIL is the only major Engineering Consultancy Organisation to house all disciplines under its umbrella. With In house support from IT Team, EIL has developed Softwares and Dashboards for utilization by Project Team.

6.55 It has also been stated that EIL has a strong track record of successfully expanding its operations internationally. EIL has earned recognition for jobs executed in several countries of Middle East, North Africa and South East Asia including Algeria, Bahrain, Iraq, Kuwait, Qatar, Saudi Arabia, UAE etc. Most of the major oil and gas companies in these regions like Sonatrach, GASCO, ADCO, ZADCO, KNPC, BAPCO, BANAGAS etc. have utilized EIL's services for their prestigious projects.

6.56 The Committee sought information on how EIL manages financial aspects of EPC contracts, including budgeting, cash flow, and cost control, what strategies EIL uses to ensure that projects are delivered within the contracted budget and timeline and how EIL handles variations or changes in contract terms that may impact the financial performance of an EPC project, MoPNG gave the Committee the following information:

> **"**EIL is presently executing Consultancy contracts only along with few Open Book Estimate (OBE) Contracts. However, EPC contracts have been executed by EIL in the past.
>
> Contracted budget i.e. lumpsum awarded value and project completion timelines as agreed in contract with Clients are the essence of EPC Contracts and all out efforts are made to complete the project within stipulated cost and time.
>
> Following broad aspects are ensured to meet the above objective-
>
> 1. Due Diligence is carried out while bidding for EPC Tenders by EIL and accordingly, decision to participate is based on detailed evaluation of the bid and risk analysis.
> 2. In case it is decided to participate, Task Force is constituted comprising of Proposal Coordinator, Engineering Team Members, Cost Engineering team along with Project Controls Team, Finance and Supply Chain Management personnel etc.
> 3. Task Force carefully studies and understands the requirements indicated in bidding document and carries out pre-bid engineering for finalizing the MTO's (Material Take Off) and clarifications required from the client.
> 4. Detailed schedules (Level 2 & Level 3) are prepared pre award during bidding stage which are further developed into Level 4 & Level 5 schedules during post award and timelines monitored accordingly along with activities on Critical Path."

6.57 On being asked how EIL leverages its in-house technological expertise and innovation capabilities to provide cost-effective, high-quality solutions for complex engineering projects, MoPNG has stated that with constant eye on the future requirements as well as existing scenario, EIL R&D identifies the focus areas on basis of front-end technical studies and feasibility reports. Some of the key focus areas are: Product Quality Up-gradation, Clean Coal Technologies, Bio-Technologies, Renewable Energy Technologies, Hardware Development, Technology Gaps and Environmental Technologies. In addition, EIL-R&D also provide specialized technical services such as Computational Fluid Dynamics (CFD) and energy optimization to both external and internal customers.

6.58 It has further been stated that EIL generates significant intellectual wealth in form

of patents and trademarks during the process. During various stages of technology development like experimentation, testing, prototype development, technology demonstration etc. there are novel and innovative ideas which emerge and are included in the technology. In order to protect the ideas from infringement, patents are regularly filed for process as well as products. EIL has filed over a hundred patents and majority of them have been commercialized (commercialization~>60%). This helps EIL to establish technological advantage and check the price of technology for domestic clients.

6.59 Regarding the methodologies or practices EIL employs to ensure excellence in project management and execution, particularly in complex and large-scale projects, it has been submitted that EIL is providing consultancy services for projects related to Refineries, Petrochemicals and Gas plants which are generally mega projects with huge investments. Successful completion of these projects within budgeted cost and time largely depends upon project management and execution methodology adopted for the same. Following major aspects are practiced to ensure excellence in Project Management & Execution:

i. Detailed Project Implementation Plan is prepared upfront which primarily includes Mode of Execution, Contracting Philosophy, Procurement Methodology, Identification of Long lead Items, Warehousing Philosophy, Inspection Methodology etc.
ii. Award of Process licensors/Technology providers within schedule to ensure availability of Basic Design Package for carrying out detailed engineering and procurement. Deputation of EIL specialists to licensors office for requisite reviews and coordination for an extended duration to ensure minimum residual work post receipt of the Design Package
iii. Detailed surveys are carried out at the beginning of the project like Over Dimensional Consignment (ODC) Survey to finalize the maximum transportable size of equipment, Topographical Survey, Geotech Survey to finalize the type of foundations etc.
iv. Detailed Project Schedule along with Function Schedules/Resource Loaded Schedules are prepared which are monitored by a dedicated Planning & Controls Team. Critical paths are identified periodically and completion of the same is monitored at highest levels.
v. Modularization of Structures/Equipment is planned considering the time schedule and other aspects. Other practices such as Erection of equipment in Dressed up

condition, mobilization of Field engineering cell at site for quick resolution of site issues after 60% progress of works etc. are implemented.

vi. Billing break up & payment terms are prepared considering Cash flow to contractors and vendors is ensured to avoid any financial issues with them.

vii. GPS monitoring of Cargo specifically critical equipment is carried out to monitor the availability of equipment at site

viii. Warehouse management/ Material Control is carried out at site using proven inhouse software's for efficient monitoring and control of material.

ix. Regular review meetings like Weekly, Fortnightly and Monthly are conducted between all stakeholders to resolve various issues and ensure smooth execution.

6.60 Regarding the Assam Bio Refinery Project at Numaligarh, the largest planned bamboo-based bio refinery in India, the Committee sought information on its current status and anticipated challenges, project timelines and expected cost, projected output capacity upon full operation, and alignment with India's broader renewable energy and sustainable development goals, Ministry gave the Committee following information:

> "EIL, in addition to provide its design engineering and project management services for ABRPL project has also contributed immensely in the commercialization of the technology which is being deployed in this project i.e. conversion of Bamboo feedstock to Bio-fuel and other value-added products. Leveraging the technological prowess of EIL, the Technology Readiness Level (TRL) was augmented from level 4/5 to Level 9, i.e. commercial stage.
>
> The project is being implemented by Assam Bio Ethanol Pvt. Ltd. (ABEPL), a joint venture company (formerly ABRPL), with Numaligarh Refinery Limited (NRL) holding a 50% equity stake, alongside two foreign partners—Fortum and Chempolis. NRL has assumed the investment risk in commercializing this pilot-scale technology and has engaged Engineers India Limited (EIL) as the EPCM consultant. As this is the first-ever commercial implementation of the technology, the project has faced several challenges. The mechanical completion of the project has been achieved and is currently under commissioning stage.
>
> For the ABRPL project, as on 31.03.2025, 99.2 % overall progress has been achieved. The major challenge faced /anticipated is adverse impact in progress of the project due to heavy rainfall (in earlier years) also this is the 'First of its kind technology'. However, the above challenge alongside with others are being mitigated to ensure the timely completion of the project.
>
> The mechanical completion of the project has been achieved and is currently under commissioning stage. The approved cost of the project is ₹4,930 crore.

Expected output capacity of Ethanol from Assam Bio 2G Refinery is 185 kilo litres per day once the plant becomes fully operational). The state-of-the-art facility can handle 5,00,000 MT of Bamboo Annually to Produce 49,000 MT/annum Ethanol. The plant can also produce 11600 MT of Acetic Acid, 18600 MT of Furfural Alcohol and 31680 MT of LiquidCO2.

The bio refinery project aims to reduce greenhouse gas emissions, reduce crude oil import dependency, and achieve forex savings, provide remunerative income to farmers, and create employment opportunities by way of engagement of local population in the region. It is envisaged that large scale livelihood employment opportunity will be generated in bamboo farming, harvesting and transportation. Ethanol produced from the plant will substitute petrol and thereby reduce import of crude required for production of petrol in the Country. It is aligned to National Biofuel policy of Government of India as the Country plans to double the mixing of ethanol with gasoline to 20% by 2025."

6.61 Having learned that EIL is also looking into the possibility of creating underground storage for oil in salt caverns in Rajasthan and this aligns with the Government's goal of boosting India's strategic oil reserves capacity, the Committee wanted to know the salient features of this project and its contribution in increasing strategic oil storage capacity of the Country. MoPNG, in a written submission has provided the following information:

"(i) ISPRL has awarded job of carrying out feasibility study for building salt caverns.

a. EIL has presently submitted the feasibility to store crude oil
b. Revised Feasibility is being carried out to enhance the storage capacity of crude oil.
c. Once executed crude oil can be stored at a safe depth of 500 to 600 m below the mean sea level. This will safeguard the crude oil from external attacks and fire hazard.
d. ISPRL, in past, have only constructed Rock Caverns. ISPRL has not constructed Salt Caverns in past. After completion of feasibility study, proposal shall be put up for necessary approvals from the Competent Authority.

To augment its capabilities in this domain, EIL has entered into an MoU with DEEP.KBB GmbH for executing projects in the domain of underground salt cavern storages of crude and petroleum products.

EIL has undertaken the feasibility studies and once approved is geared up to take up the execution.

EIL is the only Indian company to have undertaken such feasibility jointly with foreign consultant."

6.62 Having learned that EIL has entered into Technical Service Contracts with major clients in UAE as well as empanelled itself for projects in the entire hydrocarbon value chain, the Committee sought information about details of projects executed or being

executed by EIL in UAE and other parts of the world. MoPNG, in their reply, has furnished the following information:

"The details of major projects executed or being executed by EIL in UAE are:

- Pre-FEED and FEED Services for Valorizing Excess Ethylene from RFCC - FW for Concept Design, Pre-Feed & FEED Services ADNOC Refining – Under execution
- Ghasha Concession Projects- Mishrif Oil Development Project FW for Concept Design, Pre-Feed & FEED Services ADNOC HQ – Completed
- CED FWA T.2: Brown Field EWRs- PMRs for LZ and DAS -FW for Concept Design, Pre-Feed & FEED Services ADNOC Offshore – Completed in 2024
- CED FWA T.1: Brown Field EWRs- PMRs for ZIRKU and SARB -FW for Concept Design, Pre-Feed & FEED Services ADNOC Offshore – Completed in 2023
- CED FWA T.3: EWRs- PMRs for US NASR and UZ - for Concept Design, Pre-Feed & FEED Services ADNOC Offshore – Completed in 2023
- FEED for Debottlenecking existing Produced Water Treatment Plant from 200 MBD to 300 MBD for 1 MMBD Phase-1 project: of ADNOC Offshore– Completed in 2022
- FEED for Automatic Overfilling Protection for HC Tanks of ADNOC Refining – Completed in 2020
- T20: PMRs/FCs Zirku Pkg-6, ZR Sarb Pkg 3, Operator Shelter and Blasting & Painting Yard for ADNOC Offshore – Under Progress.
- T19: PMRs/FCs for LZ Pkg-8 & Das Pkg-5, FEED for Alarm System Upgrade for AQ/BQ Building & for F&G System for ADNOC Offshore – Under Progress.
- T24: UZ EI Studies/Engineering Packages (Package 3) & Upper Zakum Facilities Plant Modifications (Package 10) for ADNOC Offshore – Under Progress.
- Design -Basic Engg./ FEED & PMC Services FOTT Berth 10 &11 for Port of Fujairah – Under Progress.
- PMC Services for Lower Zakum Long Term Development Plan (LTDP-1) Projects – Under Progress
- Engineering and Project Management Services for RSI Ruwais Site Projects - Under Progress."

6.63 Regarding the financing mechanism and viability for these projects and the quantum of revenue earned from these projects, it has been submitted that finances of these projects are arranged by the Clients. EIL is paid for the services provided i.e. Engineering Services or PMC services depending upon the type of contract. The contracts are either lumpsum or Rate reimbursable basis. The quantum of revenue earned by EIL in last 6 years is given below:

Financial Year	Value in INR Crore	Value in Million AED
2018-19	13.20	5.57
2019-20	27.04	13.95
2020-21	33.73	16.47
2021-22	22.38	10.94
2022-23	35.89	16.09
2023-24	112.75	48.61
2024-25	150.80	64.17

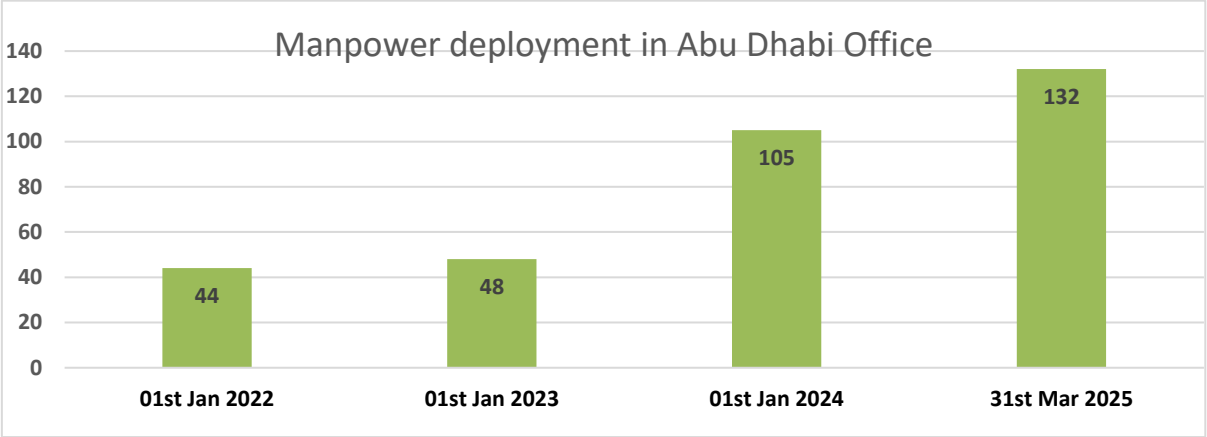
6.64 Regarding the challenges EIL has faced in establishing itself in the UAE market, particularly in competition with other international firms, MoPNG has submitted that some of the challenges faced by EIL in establishing itself in UAE Market are:

(i) In Country Value (ICV): Most of the tenders for the ADNOC Group companies includes the evaluation of bids based on ICV Score. The consultant having higher ICV score is given preference.

(ii) Deployment of resources: The Clients in UAE are very demanding regarding the deployment of resources. Before award of the job, name of the Engineers who will work on the particular project is required. In addition, ADNOC is insisting on inclusion of CV's of personnel of diverse nationality and accordingly most of the CV's of Indian nationals are not being accepted.

6.64 When asked how EIL plans to leverage its experience in the UAE for future projects in the region, MoPNG has submitted that EIL plan to use the opportunities and leverage its experience in UAE for future projects in the region by following the below steps:

i. EIL have tripled its manpower in UAE in last 2 years to the current strength of approx. 140 and further plan to secure more jobs and increase the manpower:



ii. Also, in the last 2 years, EIL has generated the PTR by executing more FEED & Engineering projects. There is continuous growth in business secured by EIL during each year.

iii. EIL also registered itself for another mega framework Concept & FEED Contract – Tier 1 (applicable for the value of more than 200 million USD projects) and getting Orders.

iv. Also, aiming for further ICV improvement, which will help EIL to secure more projects in future in UAE.

Part-II

OBSERVATIONS/RECOMMENDATIONS OF THE COMMITTEE

Overview

The Committee note that the Petroleum and Natural Gas (P&NG) sector plays a critical role in India's energy security, economic growth and self-reliance goals. The Ministry of Petroleum and Natural Gas (MoPNG) oversees twelve Central Public Sector Undertakings (CPSUs) operating across this sector, eight of which — Indian Oil Corporation Limited (IOCL), Bharat Petroleum Corporation Limited (BPCL), Hindustan Petroleum Corporation Limited (HPCL), Oil and Natural Gas Corporation Limited (ONGC), Oil India Limited (OIL), GAIL (India) Limited (GAIL), Engineers India Limited (EIL), and Balmer Lawrie & Co. Ltd. (Balmer Lawrie)— have been extensively reviewed by the Committee. While the review takes a holistic approach, special attention is given to the unique operational contexts of EIL and Balmer Lawrie. The Committee recognize that these CPSUs operate across upstream, midstream, and downstream segments of the hydrocarbon value chain, ensuring energy accessibility, affordability, and sustainability.

The Committee observe that India's oil and gas exploration history dates back to 1867, culminating in the discovery of the first commercial well at Digboi in 1889, marking the birth of the Indian petroleum industry. The establishment of the Directorate General of Hydrocarbons (DGH) in 1993 was a landmark step toward structured exploration and production (E&P) governance, policy promotion, and environmental and safety stewardship. Presently, India's 26 sedimentary basins span 3.36 million sq. km., with 72.8% of basinal areas appraised. The basins are categorized into three groups based on proven and potential hydrocarbon reserves, reflecting untapped exploration opportunities.

India's refining sector, which began with the Digboi refinery in 1901, has evolved into the world's fourth-largest refining hub with a total capacity of 256.8 MMTPA, spread across 23 refineries. The Committee note that India has transitioned from a deficit to a surplus refining nation, exporting quality petroleum

products globally. Key technology upgrades—such as catalytic reforming, hydrocrackers, de-sulphurisation, and LPG maximisation—have been instrumental in achieving BS-VI fuel standards from April 2020, reinforcing India's leadership in clean fuels.

The Committee further note that CPSUs in the P&NG sector are major contributors to India's energy infrastructure. Companies such as IOCL, BPCL and HPCL have integrated operations in refining, marketing, petrochemicals and renewable energy, while ONGC and OIL lead in domestic exploration and production, contributing over 75.6% of crude oil and 61.5% of natural gas production in FY 2023-24. GAIL remains a pioneer in natural gas transmission, city gas distribution, LNG sourcing and green hydrogen initiatives, while EIL provides world-class engineering and project management services, and Balmer Lawrie maintains a strong presence in manufacturing and logistics. Subsidiaries and Joint Ventures across these entities support pipeline networks, LNG terminals, refineries, petrochemical complexes and renewable energy projects.

The Committee also learn that the Petroleum and Natural Gas Regulatory Board (PNGRB) was established to protect consumer interests, promote competition, and regulate the refining, processing, storage, transportation, distribution, marketing, and sale of petroleum, petroleum products, and natural gas (excluding production) to ensure an uninterrupted and adequate supply across the country. Its Action Plan 2025–26 outlines strategic priorities to strengthen India's downstream oil and gas ecosystem, emphasizing transparency, efficiency, and sustainability while supporting the country's energy transition goals. Moreover, India currently maintains Strategic Petroleum Reserves in underground rock caverns for crude storage at Visakhapatnam, Mangaluru, and Padur with a combined capacity of 5.33 Million Metric Tonnes (MMT) as a critical buffer during emergencies and price volatility.

The Committee appreciate the sector's significant role in Atmanirbhar Bharat through initiatives to increase domestic oil and gas production, ethanol blending, natural gas infrastructure expansion, refining capacity augmentation,

and promotion of renewable and green fuels. Programmes such as Hydrocarbon Exploration & Licensing Policy (HELP), Discovered Small Fields (DSF) policy, and city gas distribution expansion underscore the government's efforts to reduce import dependency, enhance domestic resource utilization, and foster energy security.

Overall, the Committee recognize that India's P&NG sector has transformed from its nascent beginnings in Assam to a globally competitive industry with strong upstream, midstream and downstream capacities. The CPSUs under MoPNG continue to demonstrate operational excellence, technological advancements and robust financial performance, while aligning with national priorities of sustainability and energy transition.

The Committee are also aware of the fact that India's P&NG sector is also currently facing some significant challenges both internally and externally. Internal challenges include ageing oil fields, crude oil production not commensurate with the CAPEX made, rising cost of land acquisition for new projects, delay in land acquisition, cost and time overruns of projects. India meets about 89% of crude oil requirements through imports and given the current geopolitical events such as Russia Ukraine conflict, Israel-Hamas conflict, sanctions on some of the oil producing Countries (Eg: Iran, Venezuela, Russia), Political/Civil unrest/Strikes in any oil producing Country anytime, India could face risk of crude oil import uncertainty, which in turn could have an adverse impact on smooth supply of crude oil and its prices. Moreover, P&NG sector faces several environmental concerns due to the nature of their operations, which include greenhouse gas emissions, air and water pollution, and waste management. Taking into consideration all these challenges being faced by P&NG sector today, the Committee have put forth their Observations/ Recommendations in the subsequent paras after having heard the views of MoPNG and eight of the P&NG sector CPSUs. The Committee hope that MoPNG would make earnest efforts for implementation of the Observations/ Recommendations contained in this Report for helping P&NG sector CPSUs to grow holistically.

Optimizing Capital Expenditure (CAPEX) for Production Enhancement and Energy Transition

2. The Committee note that despite a steady increase in CAPEX by petroleum and natural gas sector CPSUs from ₹1,33,331.93 crore in 2020-21 to a projected ₹1,69,966 crore in 2024-25, crude oil production has declined from 34.20 MMT in 2018-19 to a projected 28.70 MMT in 2024-25, while natural gas output has shown modest growth. The Committee observe that long gestation periods in exploration, ageing oil fields, natural production declines, and COVID-19-related disruptions have constrained output growth despite substantial investments. While appreciating the steps taken, such as technology upgrades, replacement of ageing infrastructure, and collaborations with global experts, the Committee recommend that CAPEX allocations be closely linked to measurable production enhancement outcomes through accelerated development of newly discovered fields, wider adoption of Enhanced Oil Recovery (EOR) techniques, and efficient maintenance of existing assets. The Committee would like to a balanced approach where investment in conventional oil and gas production is complemented with clear, time-bound allocations for energy transition initiatives like renewable energy integration, gas flaring reduction, and electrification of operations, thus ensuring both energy security and sustainability.

Strengthening Infrastructure, Policy Implementation and CAPEX Monitoring

3. The Committee take note of significant CAPEX allocation towards major integration projects such as OPaL (ONGC Petro Additions Ltd.) for ₹18365.28 crore, OGL (ONGC Green Ltd.) for ₹4600 crore and IGGL (Indradhanush Gas Grid Ltd.) for ₹8.20 crore, as well as reforms like Open Acreage Licensing Programme (OALP), Discovered Small Fields (DSF), and opening of 'No-Go' areas for exploration, which are expected to boost long-term domestic energy security. The Committee recommend a robust monitoring framework to track CAPEX allocation, ensure timely completion of infrastructure projects, and avoid cost overruns or implementation delays. The Committee also highlighted the need for MoPNG and CPSUs to leverage policy reforms, accelerate appraisal of newly acquired exploration blocks, and strengthen global technology partnerships to maximize

resource monetization. The Committee expect that sustained investment in infrastructure, data acquisition, and exploration under a structured review mechanism will optimize returns on CAPEX and contribute to India's self-reliance in energy production over the medium to long term.

Crude Oil, Ageing Fields and Exploration

4. The Committee note that ONGC and OIL together account for nearly 77% of India's domestic crude oil production and 61.5% of natural gas production, with ONGC contributing 65.4% of crude oil output and OIL 11.4%. The Committee also observe that a significant portion of India's oil production is derived from ageing fields, which have entered natural decline phase despite heavy investments. While appreciating the initiatives undertaken by ONGC and OIL, including water injection, Enhanced Oil Recovery (EOR) techniques, adoption of Artificial Lift Technologies, strategic collaborations with international experts, and aggressive participation in Open Acreage Licensing Policy (OALP) rounds, the Committee desire that these companies further expedite field development activities, adopt cutting-edge recovery methods, and prioritize exploration in frontier basins. The Committee emphasize that with sustained investments, systematic reservoir management, and global technology tie-ups, India's upstream oil and gas sector should aim to reverse declining trends and increase domestic production in the medium to long term.

Refining Capacity and Marketing Infrastructure

5. The Committee note that India has emerged as one of the largest refining hubs globally, with a total installed refining capacity of 258.1 MMTPA in FY 2024-25, projected to increase to over 305 MMTPA by FY 2028-29, primarily through public sector expansions such as HRRL (HPCL Rajasthan Refinery Limited) and CPCL-Nagapattinam projects. The Committee appreciate the proactive steps taken by CPSUs to meet India's growing oil demand, which is expected to reach 8 million barrels per day by 2030, and desire that these companies ensure timely execution of planned capacity expansions, strengthen export competitiveness, and maintain global quality standards. The Committee further emphasize the importance of

optimizing marketing and distribution networks, given the wide reach of CPSUs such as IOCL, BPCL and HPCL, which together manage about 1,37,000 retail outlets, terminals, depots and bottling plants. Enhanced integration of supply chain operations with pipeline networks and digital infrastructure is recommended to improve operational efficiency, reduce costs, and strengthen India's position as a regional refining and marketing hub.

Natural Gas Grid and Pipeline Infrastructure

6. The Committee note that GAIL and other CPSUs are executing major pipeline projects under the National Gas Grid (NGG), including the Jagdishpur-Haldia & Bokaro-Dhamra (JHBDPL) and Mumbai-Nagpur-Jharsuguda pipelines, with over 3,851 km already commissioned and 3,189 km under execution. While appreciating these efforts, the Committee acknowledged areas requiring attention, including delays, cost overruns, and land acquisition challenges in several projects. In view of this, the Committee recommend that CPSUs strengthen coordination with Central and State authorities for faster clearances, adopt standardized compensation frameworks, and leverage technology for pipeline integrity and safety. Further, measures like Supervisory Control and Data Acquisition (SCADA), predictive maintenance through AI, and renewable energy integration at pumping stations should be accelerated to ensure cost efficiency, safety, and timely delivery of the NGG vision.

Supply Chain, Distribution Networks and Strategic Resilience

7. The Committee observe that supply chain operations in remote and geographically challenging areas such as the Northeast, Ladakh, and flood-prone regions face high operational costs and lead times. The Committee appreciate the resilience of CPSUs in maintaining uninterrupted fuel supplies through coordinated logistics with refineries, ports, and railways, and stress the need for strategic investments in advanced storage facilities, AI-driven demand forecasting, and digitalized inventory management. The Committee further recommend strengthening emergency preparedness to counter natural disasters, port congestion, and other disruptions to ensure seamless delivery. The Committee

also desire that CPSUs adopt greener logistics solutions, enhance collaboration with private refiners, and create shared infrastructure to reduce duplication and operational costs.

Financial Performance

8. The Committee highlighted that the financial performance of major CPSUs under MoPNG has reflected revenue and profitability variations over the last four years, shaped by crude oil price dynamics, moderate operating margins, and higher overhead costs in certain entities, with corresponding variations in EBITDA and PAT. While companies like ONGC and OIL have consistently contributed substantial profits and taxes to the Government, some downstream companies like HPCL have faced sharp declines in profitability in certain years, reflecting high vulnerability to crude oil price volatility and market fluctuations. The Committee also observe that despite large revenues and significant contributions to the Government exchequer through taxes and dividends, the return on net worth (RONW) and operating margins of several CPSUs remain relatively modest when compared with global benchmarks. For instance, while ONGC has maintained strong margins, companies such as IOCL and HPCL have reported consistently low operating margins in recent years. Further, high employee expenses in certain entities like IOCL and EIL continue to weigh on profitability. To ensure long-term financial resilience, the Committee recommend that the CPSUs should strengthen risk management mechanisms by adopting better hedging practices, diversifying revenue sources, and improving efficiency in refining and marketing operations. The Ministry may also explore policy support measures to ensure that the financial health of downstream CPSUs remains stable and resilient to global energy price shocks. The Committee also recommend that CPSUs under MoPNG should adopt robust cost-optimization strategies, including digital transformation, energy efficiency measures, and rationalization of overheads. The Ministry may regularly monitor the implementation of these measures to ensure long-term financial sustainability of CPSUs.

Under Recoveries

9. The Committee note that under-recoveries arose because Oil Marketing Companies (OMCs) such as IOCL, BPCL, and HPCL were mandated to sell products like LPG, kerosene, and diesel below cost, with the gap compensated through a burden-sharing mechanism involving the Government, upstream oil companies (ONGC, OIL, GAIL), and OMCs themselves. Between 2003-04 and 2015-16, ONGC alone contributed ₹3,10,116 crore by way of discounts on crude oil and other petroleum products, significantly reducing its net realizations compared to international prices. The Committee observe that this prolonged subsidy-sharing arrangement adversely affected the financial performance of upstream companies, particularly ONGC, by lowering profitability and limiting reinvestment capacity. With under-recoveries reduced to zero since 2016-17, the Committee recommend that the Government should ensure predictability and stability in the pricing policy framework, so that upstream companies are not subjected to ad-hoc burden-sharing in the future. Further, the Committee desire that ONGC's financial resilience be strengthened by providing clarity on subsidy management, thereby enabling long-term planning and investment in exploration and production activities.

10. The Committee note that deregulation of petroleum pricing, coupled with lower crude prices and fiscal measures, has eliminated the need for sharing under-recoveries post 2015-16. However, historical under-recovery sharing has already imposed a cumulative burden of over ₹3.7 lakh crore on upstream oil companies. The Committee are of the view that such financial transfers, though intended to protect consumers, created structural inefficiencies and curtailed the growth potential of the upstream sector. Going forward, the Committee suggests that the Government consider developing a transparent compensation mechanism for OMCs, designed to safeguard the profitability of upstream producers and align with adjustments under the Government's windfall tax system. The Committee also advise that in case of extraordinary volatility in international crude prices, a balanced approach should be adopted wherein fiscal support measures are prioritized over mandatory discounts by upstream companies if it is costing too

much under-recoveries. This will safeguard both consumer interest and the financial sustainability of India's strategic energy companies.

Impact of Geopolitics on India's crude oil import and energy security

11. The Committee note that India imports nearly 89% of its crude oil requirements, exposing the Country to heightened geopolitical risks such as conflicts in oil-producing regions, sanctions, civil unrest, and disruptions in key transport routes like the Suez Canal and the Red Sea. Recent global events, including the Russia-Ukraine conflict and tensions in the Middle East, have underscored the vulnerability of India's energy supply chain and its dependence on international trade flows. In view of this, the Committee recommend that MoPNG and CPSUs should intensify efforts to diversify crude oil sourcing both geographically and contractually, strengthen strategic petroleum reserves, and enhance alternative import routes. Further, risk management practices, including hedging and flexible term contracts, must be institutionalized to safeguard India's energy security against future geopolitical shocks.

12. The Committee observe that while proactive steps have been taken by CPSUs such as IOCL and ONGC Videsh to diversify crude oil sources and manage geopolitical risks, challenges persist due to sanctions, financial market volatility, and regulatory changes in host countries where overseas projects are located. These issues not only affect India's energy import bill but also impede the ability of CPSUs to secure overseas exploration and production assets, thereby limiting long-term energy security. The Committee recommend that MoPNG should work closely with the Ministry of External Affairs (MEA) and other relevant Government agencies to strengthen diplomatic engagement with oil-producing nations, secure favourable investment terms, and address taxation and regulatory hurdles faced by CPSUs abroad. At the same time, CPSUs should adopt digital and enterprise risk management frameworks to continuously assess geopolitical vulnerabilities, ensuring a more resilient and sustainable energy strategy for the Country.

Environmental concerns and Net Zero Emissions Initiatives

13. The Committee note that the operations of P&NG sector CPSUs affect significantly to environmental externalities such as greenhouse gas emissions, air and water pollution, biodiversity loss, and hazardous waste generation. Despite ongoing measures such as ethanol blending, adoption of compressed biogas, green hydrogen, and sustainable aviation fuel, as well as efforts in wastewater recycling and waste segregation, the sector continues to face critical challenges in reducing its environmental footprint. The Committee recommend that MoPNG and CPSUs consider setting clear, time-bound targets for emission reductions, enhancing monitoring mechanisms, and investing in advanced technologies for carbon capture, utilization, and storage (CCUS). Further, CPSUs must ensure robust water conservation strategies and biodiversity protection measures in all project areas to balance industrial growth with environmental sustainability.

14. The Committee observe that while P&NG CPSUs have announced ambitious Net Zero targets—ranging from ONGC's 2038 goal to IOCL's 2046 roadmap—and initiated substantial investments in renewable energy, EV charging infrastructure, and green subsidiaries, challenges remain in scaling renewable capacity, managing costs of emerging technologies like battery storage, and ensuring supply chain integration. The Committee recommend that MoPNG should prepare a coordinated roadmap to align CPSUs' Net Zero strategies with India's 2070 climate commitment, with clear interim milestones, cross-sector collaboration, and periodic reviews. CPSUs should prioritize accelerated deployment of renewable energy projects, indigenous technology development in solar modules and green hydrogen, and enhanced public-private partnerships to ensure affordable, reliable, and sustainable energy transition.

Ethanol Blending Programme

15. The Committee note that the Government's Ethanol Blending Programme (EBP) has emerged as a significant initiative to reduce dependence on crude oil imports, promote sustainable energy, and enhance farmers' income. The blending rate has risen steadily from 1.53% in Ethanol Supply Year (ESY) 2013-14 to 18.36% as on March 2025, with a target of achieving 20% blending by 2025-26. As

submitted by the Ministry, the programme has already resulted in estimated foreign exchange savings of about ₹1.4 lakh crore as of March 2025 and has expanded ethanol supply by diversifying feedstocks to include sugarcane juice, molasses, damaged food grains, surplus rice, maize, and agricultural residues. To secure adequate supply, Oil Marketing Companies (OMCs) under MoPNG have initiated long-term contracts, floated Expressions of Interest for setting up 238 dedicated ethanol plants, and supported the establishment of 2G bio-refineries. While appreciating the efforts, the Committee recommend that MoPNG should ensure time-bound completion of these bio-refineries, incentivize diversification into low-water and climate-resilient crops such as maize, sweet sorghum, and pearl millet, and strengthen storage and distribution infrastructure across the Country. At the same time, the Committee feel that research and technology adoption for 2G and 3G ethanol production must be accelerated through schemes like the Pradhan Mantri JI-VAN Yojana, with adequate financial and policy support. The Ministry may regularly monitor blending targets, regional supply imbalances, and cost efficiency to ensure that the EBP not only achieves its environmental and economic objectives but also contributes to long-term energy security and rural development and employment.

India's Green Hydrogen Mission

16. The Committee note that green hydrogen has emerged as a transformative clean energy solution for meeting India's Net Zero goals and de-carbonizing hard-to-abate sectors such as steel, cement, fertilizers, refineries, and mobility. The Government launched the National Green Hydrogen Mission in 2023 with an outlay of ₹19,744 crore, targeting 5 MMTPA of green hydrogen production by 2030, requiring 125 GW of renewable energy capacity. MoPNG CPSUs have already initiated significant projects—IOCL's 10 KTPA green hydrogen plant at Panipat, BPCL's hydrogen refuelling station at Cochin Airport and 5 MW plant at Bina, HPCL's pilot projects in refineries and transport, GAIL's 4.3 TPD green hydrogen plant at Vijaipur, and OIL's pilot blending initiatives—indicating progress across the value chain. The Committee recommend that MoPNG should ensure time-bound implementation of these projects, establish a robust regulatory framework

for hydrogen production, storage, transport and blending, and incentivize large-scale electrolyser manufacturing to reduce costs. Further, CPSUs should accelerate R&D collaborations on hydrogen fuel cells, biomass-to-hydrogen pathways, and storage technologies, while also building hydrogen hubs, refuelling infrastructure, and export-oriented capacities. The Ministry may regularly monitor milestones under the National Green Hydrogen Mission to ensure India emerges as a global leader in this sunrise sector, contributing to energy security, emission reduction, and industrial competitiveness.

17. The Committee observe that while CPSUs under MoPNG have undertaken several initiatives such as pilot hydrogen blending in city gas networks, development of hydrogen fuel cell buses, indigenous electrolyser technologies, and small-scale biomass-to-hydrogen projects, challenges remain in scaling up these innovations to commercial levels. Furthermore, global competition and rapidly evolving technologies necessitate accelerated R&D, technology transfer, and international partnerships to keep pace with global leaders. The Committee recommend that MoPNG, in collaboration with MNRE and other relevant agencies, should establish a coordinated research and innovation framework for hydrogen, integrating CPSUs, academia, and private sector start-ups. Greater emphasis should be placed on pilot demonstrations of hydrogen in public transport, heavy-duty vehicles, and shipping, with comprehensive field trials and cost-benefit assessments. CPSUs should also leverage international collaborations and joint ventures to access cutting-edge technologies in fuel cells, hydrogen storage, and supply chain infrastructure. The Ministry may lay down clear timelines and performance benchmarks for these initiatives to ensure that R&D efforts translate into commercially viable solutions, positioning India as a competitive hub for green hydrogen technologies globally.

Green Mobility initiatives

18. The Committee note that with India's transition towards clean mobility, OMCs under MoPNG have played a significant role in enabling adoption of Electric Vehicles (EVs) by establishing 26,279 EV charging stations and 244 battery

swapping stations across the Country as on March 2025. These initiatives align with NITI Aayog's projections of 30% EV penetration in private cars, 70% in commercial vehicles, and 80% in two- and three-wheelers by 2030. The Committee also observe that CPSUs are actively engaged across the EV value chain through research and development of advanced battery chemistries, indigenous multi-walled carbon nanotube (MWCNT) technologies for Li-ion cells, and collaborations with key automobile and technology players such as Tata Power, Ola Electric, Hero MotoCorp, Ather Energy, Tata Motors, and MG Motor. The Committee recommend that MoPNG should ensure timely scaling up of EV charging and swapping networks, promote indigenous battery manufacturing capabilities, and facilitate greater integration of CPSUs with private sector partnerships to enhance infrastructure utilization. Further, targeted R&D support and financial incentives should be extended to accelerate the commercialization of advanced battery technologies and develop a resilient domestic supply chain. The Ministry should periodically review progress to ensure that CPSUs significantly contribute to India's green mobility ecosystem, thereby reducing dependence on fossil fuels and strengthening energy security.

Human Resource Management

19. The Committee note that as on 31.03.2025, eight CPSUs under MoPNG together had more than 3,700 vacancies, with IOCL, GAIL and OIL accounting for a significant share. While the CPSUs have developed systematic manpower planning mechanisms and recruitment strategies—including BPCL's twin-track recruitment through campus selection and open competition, HPCL's 5-year workforce strategy, and IOCL's annual business-linked workforce analysis—persistent gaps in staffing remain, particularly in technical and specialized roles. The Committee also observe that CPSUs are making commendable efforts to bridge skill gaps through structured onboarding, leadership development programs, e-learning platforms like IOCL's *Swadhyaya*, BPCL's Behavioral Learning Framework and leadership journeys, and HPCL's role-based competency frameworks supported by MOOC platforms and academic collaborations. The Committee are in praise of the thoughtful efforts but at the same time recommend that MoPNG should ensure

timely recruitment to fill critical vacancies, strengthen workforce planning with predictive analytics, and adopt a unified skill development framework across CPSUs to meet the evolving demands of the energy transition. Further, CPSUs should expand leadership programs, women workforce participation initiatives, and collaborations with premier institutes to create a future-ready workforce. The Ministry may monitor progress regularly to ensure that human resource strategies contribute effectively to operational efficiency, contemporary technical know-how skills of youth, innovation, and long-term sustainability of the sector.

Safety and Security of workers in oil fields and refineries

20. The Committee note that safety and security remain critical concerns in the Petroleum and Natural Gas sector given the hazardous nature of operations in oil fields, pipelines, and refineries. Following the IOCL Jaipur fire incident in 2009, the MB Lal Committee made 118 safety recommendations, most of which have been implemented by IOCL, though similar status across other CPSUs remains unclear. The Committee also observe that OMCs have adopted comprehensive Health, Safety & Environment (HSE) management systems, incorporating hazard identification and risk analysis, integrity management, personal protective equipment (PPE), work permit systems, and regular mock drills under certified Emergency Response Disaster Management Plans (ERDMPs). Further, training initiatives using AI/VR tools, contractor safety protocols, safety audits, and innovative approaches such as Safety Innovation Parks have enhanced preparedness and awareness. While these are welcome steps, the Committee also recommend that MoPNG should ensure uniform compliance with MB Lal Committee recommendations across all CPSUs, strengthen periodic safety audits by independent agencies, and mandate the adoption of digital monitoring tools such as AI-enabled hazard detection, Internet of Things (IoT) based sensors, and real-time risk dashboards. The Committee also desire that CPSUs must institutionalize regular training for employees and contract workers, improve community safety awareness around installations, and enhance coordination with local authorities for emergency response. The Ministry may closely monitor implementation of the above step to ensure zero tolerance towards shortcomings

in safety standards, thereby safeguarding workers, assets and communities.

Corporate Social Responsibility (CSR) activities

21. The Committee note that Petroleum and Natural Gas CPSUs such as IOCL, ONGC, HPCL, and BPCL have made significant contributions in the area of public healthcare through large-scale CSR programmes. Notable initiatives include IOCL's Intensive TB Elimination Project in partnership with MoH&FW, ONGC's financial support for high-end cancer care equipment in government hospitals, and HPCL's rural healthcare programmes through Mobile Medical Units under Project Dhanwantari. These initiatives have benefitted millions of citizens, particularly those from underprivileged and tribal communities, by improving access to diagnostics, treatment, and preventive care.

While appreciating these commendable interventions, the Committee recommend that CPSUs continue to prioritise healthcare as a thrust area of CSR and scale up their investments in preventive healthcare, including nutrition, sanitation, and maternal and child health. The Committee also desire that CPSUs develop long-term partnerships with State Governments, public hospitals, and research institutions to ensure sustainable delivery of health services and measurable outcomes. Special focus should be placed on addressing region-specific health challenges such as sickle cell anaemia in tribal regions, cancer prevalence in North-East India, and communicable disease control. Further, CPSUs must conduct regular impact assessments through independent agencies and publish results transparently to ensure accountability and replication of best practices.

22. The Committee observe that P&NG CPSUs have been actively supporting educational infrastructure, skill-building initiatives, and community empowerment programmes under CSR. ONGC has expanded its successful 'Super 30' model to 14 centres across eight States, achieving high success rates in JEE and NEET examinations. BPCL and HPCL have established Skill Development Institutes, empowering youth and women artisans with employable skills in traditional and modern sectors. IOCL has consistently supported nursing education through

Assam Oil School of Nursing, providing livelihood opportunities for underprivileged girls with a 100% placement record. Such initiatives are transformative in reducing inequality and fostering socio-economic development.

The Committee, while lauding these initiatives, desire that CPSUs further strengthen their CSR programmes in education and skill development by aligning them with the national priorities of the Skill India Mission, Digital India, and *Atmanirbhar Bharat*. The Committee desire that CPSUs should focus on modern vocational training in emerging areas such as renewable energy, AI, and healthcare technologies, while continuing to promote traditional crafts and women's empowerment. They should also adopt a cluster-based approach in Aspirational Districts to integrate education, digital literacy, livelihood generation, and entrepreneurship. Furthermore, CPSUs should leverage digital platforms for wider outreach, ensure gender equity in participation, and establish robust monitoring frameworks to evaluate the long-term impact of such programmes on community empowerment. The Committee are hopeful that these initiatives under CSR will go a long way for achieving the goal of '*Vikshit Bharat*' in near future.

Balmer Lawrie's Business Strategy, Diversification and Sustainability

23. The Committee note that Balmer Lawrie has retained strong capabilities in Industrial Packaging, holding about 45% of the steel barrels market, while its Greases & Lubricants division faces stiff competition from both private and public sector players. The company has also diversified into travel and logistics, expanding its presence as one of the few authorized travel agents for the Central Government and offering integrated logistics solutions. While this diversification complements its core operations, the Committee highlighted opportunities for the company to build on its core strengths in greases, lubricants, and packaging by sharpening focus in these areas to strengthen competitiveness and profitability.

The Committee, while appreciating Balmer Lawrie's strategy of focusing on niche segments like Railways, Defence, and Industries, recommend that the company should substantially strengthen its R&D investments, improve branding and distribution networks, and develop eco-friendly, high-performance lubricants in collaboration with OEMs (original equipment manufacturers). The Committee

further desire that Industrial Packaging should be expanded into new product lines and export markets through adoption of sustainable materials and automation. To ensure long-term viability, the company must strike a balance between strengthening its core sectors and judiciously scaling up diversification, ensuring clarity in its market positioning.

24. The Committee observe that Balmer Lawrie has identified significant opportunities in cold chain logistics, particularly for pharmaceuticals and perishable goods, and has initiated steps such as establishing Mega and Mini Temperature Controlled Warehouses (TCWs) across Tier-I, II, and III cities. The Committee also note that the company has partnered with Central Warehousing Corporation to speed up location acquisition and developed a joint venture with Visakhapatnam Port Trust to set up a Multi-Modal Logistics Hub. These steps are commendable as India's demand for temperature-controlled storage and efficient supply chain systems is growing rapidly, especially in food and pharma sectors.

The Committee recommend that Balmer Lawrie should expedite its cold chain expansion by prioritising dust-free, pharma-compliant facilities, acquiring necessary licences, and building integrated end-to-end logistics solutions including first-mile and last-mile delivery. The Committee further desire that Balmer Lawrie should leverage digital technologies such as IoT-enabled monitoring and predictive analytics to improve efficiency, reduce wastage, and ensure regulatory compliance in temperature-sensitive sectors. The company should also expand its logistics footprint in emerging Tier-II and III markets and explore public-private partnerships to strengthen infrastructure, positioning itself as a leading integrated logistics provider.

25. The Committee acknowledge Balmer Lawrie's initiatives to align with global de-carbonisation trends by developing ester-based and long-life lubricants, replacing fossil fuels in boilers and dryers with LPG and bio-diesel, and scaling up renewable energy through solar panel installations. These efforts, coupled with its Chemicals division's shift towards eco-friendly products, demonstrate the company's recognition of sustainability as a driver of competitiveness. However,

the Committee note that given the increasing international pressure on reducing carbon footprints, such initiatives need to be more ambitious and consistently scaled up.

The Committee recommend that Balmer Lawrie should adopt a comprehensive roadmap for sustainability across all divisions, with measurable targets for emission reduction, renewable energy adoption, and circular economy practices. The Committee desire that the company intensify its collaboration with premier institutions like IITs and IISc for green R&D, expand bio-based and biodegradable chemical solutions, and adopt green packaging practices in its Industrial Packaging division. Furthermore, the company must integrate sustainability reporting into its annual disclosures, ensuring transparency and alignment with global ESG benchmarks. Such measures would not only future-proof Balmer Lawrie's business but also strengthen its reputation as an environmentally responsible PSU.

EIL's Business Strategy, Innovation and International Presence

26. The Committee note that Engineers India Limited (EIL) plays a vital role in the hydrocarbon value chain by providing integrated services from concept to commissioning, including engineering, procurement, construction, and project management. The Committee also observe that EIL has significant experience in Open Book Estimate (OBE) mode, which ensures transparency and competitive costs to project owners, while adhering to public procurement guidelines. However, given the rising global competition and complexity of mega projects in the energy and petrochemicals sector, the Committee believe that EIL must further enhance its project execution methodologies to deliver projects within time and cost parameters while managing risks effectively.

The Committee, while appreciating EIL's efforts in risk analysis, due diligence and adoption of modularization and digital monitoring tools, strongly recommend that EIL should strengthen its project management systems by integrating advanced digital technologies such as AI-driven project monitoring, predictive analytics, and BIM (Building Information Modelling). The Committee also desire that EIL enhance its capacity in managing EPC contracts by building

stronger in-house expertise in cost control, cash flow management, and supply chain resilience. The Committee believe that greater collaboration with global technology licensors and capacity-building of human resources through specialised training in project execution will further improve EIL's competitiveness in this domain.

27. The Committee observe that EIL has demonstrated commendable capabilities in developing indigenous technologies, filing over a hundred patents, and commercialising more than 60% of them. The Committee further note its contribution to frontier projects such as the Assam Bio Refinery Project, the first-of-its-kind bamboo-based bio-refinery in the Country, which is expected to produce ethanol, acetic acid, and furfural alcohol while generating employment and reducing crude oil imports. The Committee feel that these efforts underline EIL's potential as a leader in India's energy transition and sustainability agenda.

The Committee, while appreciating these achievements, recommend that EIL should significantly scale up its R&D investment in emerging areas such as green hydrogen, carbon capture and storage (CCS), waste-to-energy and advanced biofuels. The Committee also desire that EIL strengthen partnerships with leading academic and research institutions, both in India and abroad, to fast-track innovation in clean energy technologies. The Committee feel that EIL should also build pilot-scale demonstration plants for new technologies before commercial roll-out and ensure that its R&D outcomes are aligned with the Government's renewable energy and de-carbonisation targets. By doing so, EIL can position itself as a strategic enabler of India's net-zero vision while building a global reputation for innovation-driven consultancy.

28. The Committee note that EIL has successfully executed projects in the Middle East, North Africa, and South-East Asia, including several prestigious contracts for ADNOC (Abu Dhabi National Oil Company) and other major oil and gas companies. The Committee also recognise that EIL has scaled up its presence in the UAE by tripling manpower and securing framework agreements for large projects. However, challenges such as In-Country Value (ICV) requirements,

restrictions on deployment of Indian manpower, and intense competition from international firms continue to hinder its ability to secure larger contracts.

The Committee, while appreciating EIL's efforts to improve its ICV score and increase its global footprint, recommend that EIL should adopt a multi-pronged strategy to strengthen its international business. This includes forging joint ventures with reputed global engineering firms, recruiting multinational teams to meet client requirements, and setting up regional centres of excellence to improve client engagement. The Committee also desire that EIL diversify its global portfolio by tapping opportunities in renewable energy, LNG, and petrochemicals in emerging markets such as Africa, Central Asia and Latin America. By enhancing its competitiveness and adaptability in international markets, EIL can significantly increase foreign exchange earnings and reinforce India's position as a trusted global engineering solutions provider.

The Committee are hopeful that all the above Observations/ Recommendations will be implemented in letter and spirit by MoPNG in specific CPSUs in constructive manner bearing positive outcomes in P&NG sector.

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New Delhi:
08 December, 2025
17 Agrahayana, 1947(S)

BAIJAYANT PANDA
Chairperson,
Committee on Public Undertakings

APPENDIX - I

COMMITTEE ON PUBLIC UNDERTAKINGS (2022-23)

MINUTES OF THE NINTH SITTING OF THE COMMITTEE

The Committee sat on Thursday, the 21st July, 2022 from 1530 hrs. to 1645 hrs. in Committee Room. 'D', Ground Floor, Parliament House Annexe (PHA), New Delhi.

PRESENT

Shri Santosh Kumar Gangwar - Chairperson

MEMBERS

Lok Sabha

2. Shri Chandra Prakash Joshi
3. Smt. K. Kanimozhi
4. Shri Lavu Sri Krishna Devarayalu
5. Smt. Poonamben Hematbhai Maadam
6. Shri Janardan Mishra
7. Shri Ram Mohan Naidu Kinjarapu
8. Shri Sushil Kumar Singh
9. Shri Uday Pratap Singh

Rajya Sabha

10. Shri Anil Desai
11. Shri Prakash Javadekar
12. Dr. Amar Patnaik

SECRETARIAT

1.	Shri V.K. Tripathi	-	Joint Secretary
2.	Shri Srinivasulu Gunda	-	Director
3.	Shri G.C. Prasad	-	Additional Director
4.	Smt. Mriganka Achal	-	Deputy Secretary

REPRESENTATIVES OF MINISTRY OF PETROLEUM & NATURAL GAS (MoPNG)

1.	Shri Pankaj Jain	-	Secretary
2.	Shri Sunil Kumar	-	JS (Refinery & Exploration)
3.	Shri A.S. Pardha Saradhi	-	ED/CS
4.	Shri P. Shyam	-	GM

2. The Chairperson welcomed the Members of the Committee at the sitting convened to have a briefing from the representatives of the Ministry of Petroleum & Natural Gas (MoPNG) in connection with the examination of the subject 'Review of Performance of Petroleum & Natural Gas Sector CPSUs'. The Committee Secretariat, then, made a power-point presentation explaining major issues relating to the subject.

[The witnesses were, then, called in]

3. Hon'ble Chairperson welcomed the representatives of MoPNG to the sitting of the Committee and drew their attention to Direction 55(1) of the 'Directions by the Speaker' regarding maintaining confidentiality of briefing before the Parliamentary Committee.

4. Thereafter, the representatives of MoPNG made a presentation giving a broad overview of functioning of Petroleum & Natural Gas Sector CPSUs, which, *inter-alia*, included names of CPSUs under the administrative control of MoPNG, equity holding patterns by the Government of India in these CPSUs, turnovers of the Companies, their net profits and dividend payments in the last 5 years. The presentation also shed light on the petroleum refining capacity of PNG sector CPSUs, their Capex expenditure, crude oil and natural gas production in the last 5 years, various challenges faced by these CPSUs and so on.

5. The Members then raised various issues on the subject pertaining to impact of the ongoing Russia-Ukraine conflict on the cost of import of oil, fate of future of investments made by Indian oil companies in Russian oil fields/companies, need for amendment in the existing ethanol quota fixation and ethanol industry policies, policy on utilization of corn and broken rice for ethanol production, need for bringing petroleum and petroleum products under the ambit of GST, reasons and logic behind Government's plan for disinvestment of HPCL and BPCL, status of implementation of M.B. Lal Committee

Report, reasons for decreasing oil production even when Capex is increasing, importance of having an oil reserve for hedging against any future uncertainty, need for increasing exploration activity in view of many oil fields being matured resulting in natural decline in their productivity, production and refining cost per barrel of Indian companies *vis-a-vis* that of international oil companies and steps being taken to achieve the production target set for 2030. The other issues which were discussed included land acquisition issue, environment, forest and other statutory clearances to be taken by these CPSUs, steps being taken to achieve net zero targets, feasibility of diversifying into renewable and other non-conventional energy sources, plans to fill up vacancies of more than 3600 posts in PNG CPSUs, need for audit regarding impact of petroleum exploration and production activities on environment, issues regarding consent fee for establishment and consent fee for operation being imposed by Andhra Pradesh Government, impact of bio-diesel production in the business of the CPSUs, etc.

6. The representatives of MoPNG clarified issues on which information was readily available with them. In respect of other points for which information was not readily available, the Chairperson desired that written replies may be furnished to the Committee Secretariat within 10 days.

The Committee, then, adjourned.

(A copy of the verbatim proceedings has been kept on record)

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APPENDIX – II

COMMITTEE ON PUBLIC UNDERTAKINGS (2022-2023)

MINUTES OF THE TENTH SITTING OF THE COMMITTEE

The Committee sat on Thursday, the 28th July, 2022 from 1500 hrs. to 1600 hrs. in Committee Room '3', Block A, Ground Floor, Extension to Parliament House Annexe (EPHA), New Delhi.

PRESENT

Shri Santosh Kumar Gangwar - Chairperson

MEMBERS

LOK SABHA

2. Shri Sudip Bandyopadhaya
3. Dr. Heena Vijaykumar Gavit
4. Shri Lavu Sri Krishna Devarayalu
5. Smt. Poonamben Hematbhai Maadam
6. Shri Janardan Mishra
7. Shri Kinjarapu Ram Mohan Naidu
8. Shri Arvind Kumar Sharma
9. Shri Uday Pratap Singh
10. Shri Ramdas Chandrabhanji Tadas

RAJYA SABHA

11. Shri Syed Nasir Hussain
12. Shri Anil Jain
13. Shri Prakash Javadekar
14. Dr. Amar Patnaik

SECRETARIAT

1. Shri Vinod Kumar Tripathi - Joint Secretary
2. Shri Santosh Kumar - Director
3. Shri G.C. Prasad - Additional Director
4. Smt. Mriganka Achal - Deputy Secretary

REPRESENTATIVES OF THE BHARAT PETROLEUM CORPORATION LIMITED (BPCL)

1.	Shri Arun Kumar Singh	-	CMD
2.	Shri Vetsa Ramakrishna Gupta	-	Director (Finance)
3.	Shri Sanjay Khanna	-	Director (Refineries)

2. At the outset the Chairperson welcomed the Members of the Committee at the sitting convened to have a briefing from the representatives of the Bharat Petroleum Corporation Limited (BPCL) in connection with the examination of the subject 'Review of Performance of Petroleum & Natural Gas Sector CPSUs'. The Committee Secretariat, then, made a power point presentation explaining major issues relating to the subject.

[The witnesses were, then, called in]

3. Hon'ble Chairperson welcomed the representatives of BPCL to the sitting of the Committee and drew their attention to Direction 55(1) of the 'Directions by the Speaker' regarding maintaining confidentiality of briefing before the Parliamentary Committee.

4. Thereafter, representatives of BPCL made a power point presentation highlighting BPCL's Corporate Overview, background, composition of the Board, infrastructure and upstream assets, major Subsidiaries, Joint Ventures and Associates, physical and financial performance, marketing initiatives, major projects completed during the last 10 years, current status of ongoing projects and CSR activities, etc. The presentation also showed BPCL's policy imperatives, strategic aspiration upto 2027, future petrochemicals roadmap, net zero target, capex spending, status of City Gas Distribution allotment to various districts and so on.

5. The Members then raised various issues and sought clarification from the representatives of BPCL on various issues related to the subject *viz.* current status of disinvestment of BPCL, reduction of import of petroleum, contribution to the exchequer, current production of ethanol in the Country and related issues with sugarcane, pending projects of BPCL, strategic plans for achieving EV bases from one million to 100 million by 2030, performance of BPRL's project in Russia and impact of Russia-Ukraine war on it, domestic PNG connections and its distributions and comparable unit cost of refining in India and abroad.

6. The representatives of the BPCL clarified on some of the issues on which information was readily available with them. In respect of points for which information was not readily available, the Chairperson desired that written replies to be furnished to the Committee Secretariat within 10 days.

The Committee, then, adjourned.

(A verbatim copy of the proceedings has been kept on record.)

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APPENDIX – III

COMMITTEE ON PUBLIC UNDERTAKINGS (2022-2023)

MINUTES OF THE ELEVENTH SITTING OF THE COMMITTEE

The Committee sat on Thursday, the 5th August, 2022 from 1500 hrs. to 1615 hrs. in Committee Room '3', Block A, Ground Floor, Extension to Parliament House Annexe (EPHA), New Delhi.

PRESENT

Shri Santosh Kumar Gangwar - Chairperson

MEMBERS

LOK SABHA

2. Shri Chandra Prakash Joshi
3. Shri Janardan Mishra
4. Shri Kinjarapu Ram Mohan Naidu
5. Shri Sushil Kumar Singh
6. Shri Uday Pratap Singh

RAJYA SABHA

7. Shri Anil Desai
8. Dr. Anil Jain
9. Shri Prakash Javadekar
10. Dr. Amar Patnaik
11. Shri M. Shanmugam

SECRETARIAT

1.	Shri Vinod Kumar Tripathi	-	Joint Secretary
2.	Shri Santosh Kumar	-	Director
3.	Shri G.C. Prasad	-	Additional Director
4.	Smt. Mriganka Achal	-	Deputy Secretary

REPRESENTATIVES OF THE HINDUSTAN PETROLEUM CORPORATION LIMITED (HPCL)

1.	Shri Pushp K. Joshi	-	CMD

2.	Shri Vinod K. Shenoy	-	Director (Refinery)
3.	Shri Rajnish Narang	-	Director (Finance)

2. At the outset the Chairperson welcomed the Members of the Committee at the sitting convened to have a briefing from the representatives of the Hindustan Petroleum Corporation Limited (HPCL) in connection with the examination of the subject 'Review of Performance of Petroleum & Natural Gas Sector CPSUs'. The Committee Secretariat, then, made a power point presentation explaining major issues relating to the subject.

[The witnesses were, then, called in]

3. Hon'ble Chairperson welcomed the representatives of HPCL to the sitting of the Committee and drew their attention to Direction 55(1) of the 'Directions by the Speaker' regarding maintaining confidentiality of briefing before the Parliamentary Committee.

4. Thereafter, representatives of HPCL made a power point presentation highlighting HPCL's Corporate Overview, background of the Company, composition of the Board, human resource, its diversified portfolio, its refineries, pipeline network and supply infrastructure, contribution to the exchequer, HPCL's major Subsidiaries, Joint Ventures and Associates, physical and financial performance, LPG and SOD projects completed in the last 10 years, current status of ongoing major projects and CSR activities, etc. The presentation also showed HPCL's vision and strategic objective and framework, capex expenditure in the last 10 years, current status and future plan of expanding footprint in renewables, bio-fuels, alternate energy, R&D, net zero target and so on.

5. The Members then raised various issues and sought clarification from the representatives of HPCL on various issues related to the subject *viz.* controversy surrounding transfer of GoI's share in HPCL to ONGC, issue regarding alleged overcharging of petrol and diesel price from consumers, pending and ongoing litigations on HPCL and their age profile, ethanol policy and the need to rationalise ethanol quota allocation considering States' sugarcane production, permissible limit of ethanol blending in petrol and diesel, viability of ethanol production from broken rice and corn, R&D on crude oil refining, implementation of reservation policy in recruitment, HPCL's CSR

initiatives, lesser visible impact of CSR projects on the ground level, steps to set up EV charging points and gas pumps as per demands in future, etc.

6. The representatives of the HPCL clarified on some of the issues on which information was readily available with them. In respect of points for which information was not readily available, the Chairperson desired that written replies of the same to be furnished to the Committee Secretariat within 10 days.

The Committee, then, adjourned.

(A verbatim copy of the proceedings has been kept on record.)

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APPENDIX - IV

COMMITTEE ON PUBLIC UNDERTAKINGS (2022-2023)

MINUTES OF THE TWELFTH SITTING OF THE COMMITTEE

The Committee sat on Friday, the 26th August, 2022 from 1100 hrs. to 1245 hrs. in Committee Room 'D', Ground Floor, Parliament House Annexe, New Delhi.

PRESENT

Shri Santosh Kumar Gangwar - Chairperson

MEMBERS

LOK SABHA

2. Shri Chandra Prakash Joshi
3. Shri Lavu Sri Krishna Devarayalu
4. Smt. Poonamben Hematbhai Maadam
5. Shri Arjunlal Meena
6. Shri Arvind Kumar Sharma

RAJYA SABHA

7. Shri Anil Desai
8. Ms. Indu Bala Goswami
9. Shri Prakash Javadekar
10. Dr. Amar Patnaik
11. Shri M. Shanmugam

SECRETARIAT

1.	Shri V.K. Tripathi	-	Joint Secretary
2.	Shri Santosh Kumar	-	Director
3.	Shri G.C. Dobhal	-	Additional Director
4.	Smt. Mriganka Achal	-	Deputy Secretary

REPRESENTATIVES OF THE INDIAN OIL CORPORATION LIMITED (IOCL)

1.	Shri S.M. Vaidya	-	Chairman

2.	Shri Sandeep K. Gupta	-	Director (Finance)
3.	Shri V. Satish Kumar	-	Director (Marketing)
4.	Shri Sujoy Choudhury	-	Director (P&BD)
5.	Ms. D. Padma	-	ED (CP&ES)
6.	Shri J.S. Oberoi	-	ED (Coordn.)

2. At the outset the Chairperson welcomed the Members of the Committee at the sitting convened to have a briefing from the representatives of the Indian Oil Corporation Limited (IOCL) in connection with the examination of the subject 'Review Of Performance Of Petroleum & Natural Gas Sector CPSUs'. The Committee Secretariat, then, made a power point presentation explaining major issues relating to the subject.

[The witnesses were then called in]

3. Hon'ble Chairperson welcomed the representatives to the sitting of the Committee and emphasized on important aspects related to the functioning and performance of IOCL, *viz*. (i) reasons behind the increase in the Company's liabilities from ₹2,23,554.04 crore in 2020-21 to ₹2,57,052.74 crore during 2021-22, (ii) reason behind pay-out of high dividend of 297% in the year 2019-20 while it is less in the Financial Years 2018-19 and 2020-21, (iii) reason behind the negative profit before tax in the year 2019-20 i.e. ₹ -3,694 crore but its profit after tax is positive i.e. ₹1,313 crore, and (iv) the current status of the performance of the Joint Ventures and Subsidiaries companies of IOCL, etc.

4. Hon'ble Chairperson also drew attention of the representatives of IOCL to Direction 55(1) of the 'Directions by the Speaker' regarding maintaining confidentiality of briefing before the Parliamentary Committee.

5. Thereafter, representatives of IOCL showed a short video on IOCL's journey and made a Power Point Presentation highlighting the Company's background, Composition of the Board, completed and ongoing projects in India and abroad, physical and financial performance and current status of projects and CSR activities of IOCL, etc.

6. Members then raised important issues and sought clarification from the representatives of IOCL on various issues related to the subject, viz. amount of windfall

tax imposed by Government of India in 2021-22, reason behind some Joint Ventures and Subsidiaries running into losses continuously, regarding expansion of vapor recovery system, projects and plants for alternative fuels like hydrogen energy, biodiesel, compressed biogas, bio-CNG and ethanol, deadline of completion of mega bio refinery in Andhra Pradesh, reasons behind decreasing profits of retail outlets, consideration to set up CBG plant to use Agriculture waste, exploring ways for selling and marketing of items made by women at IOCL outlets through CSR fund. The other issues which were discussed included provision for benefits of social schemes for the Company's employees and contract workers, policy for setting up charging stations for electric vehicles, issues regarding pilferage of gas from LPG cylinder, adulteration and pilferage in the petroleum products, use of digital technology for the entire supply chain management, comparison of Company's performance throughout with global companies, MSME/Youth participation, various human resources issues and steps being taken to improve environmental footprints before reaching to the end consumers.

7. The representatives of the IOCL clarified on some of the issues on which information was readily available with them. In respect of points for which information was not readily available, the Chairperson desired that written replies to be furnished to the Committee Secretariat within 10 days.

8. The Committee also decided to undertake a study visit to Goa, Mumbai and Kochi in the month of September, 2022.

The Committee then adjourned.

(A verbatim copy of the proceedings has been kept on record.)

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APPENDIX - V

COMMITTEE ON PUBLIC UNDERTAKINGS (2022-2023)

MINUTES OF THE THIRTEENTH SITTING OF THE COMMITTEE

The Committee sat on Thursday, the 1st September, 2022 from 1100 hrs. to 1250 hrs. in Committee Room 'D', Ground Floor, Parliament House Annexe, New Delhi.

PRESENT

Shri Santosh Kumar Gangwar - Chairperson

MEMBERS

LOK SABHA

2. Shri Lavu Sri Krishna Devarayalu
3. Dr. Arvind Kumar Sharma
4. Shri Ravneet Singh
5. Shri Uday Pratap Singh
6. Shri Ramdas Chandrabhanji Tadas

RAJYA SABHA

7. Shri Anil Desai
8. Dr. Anil Jain
9. Dr. Amar Patnaik

SECRETARIAT

1.	Shri V.K. Tripathi	-	Joint Secretary
2.	Shri Santosh Kumar	-	Director
3.	Shri G.C. Dobhal	-	Additional Director
4.	Smt. Mriganka Achal	-	Deputy Secretary

REPRESENTATIVES OF THE OIL AND NATURAL GAS CORPORATION LIMITED (ONGC)

1.	Shri R.K. Srivastava	-	CMD (Additional Charge) & Director (Exploration)
2.	Shri Anurag Sharma	-	Director (Onshore)

3.	Shri Pankaj Kumar	-	Director (Offshore)
4.	Shri Vijay Prakash	-	Advisor, Corporate & Parliamentary Affairs
6.	Shri Pawan Agarwal	-	CCM-Chief (CS&P)

2. At the outset the Chairperson welcomed the Members of the Committee at the sitting convened to have a briefing from the representatives of the Oil & Natural Gas Corporation Limited (ONGC) in connection with the examination of the subject 'Review Of Performance Of Petroleum & Natural Gas Sector CPSUs'. The Committee Secretariat, then, made a Power Point Presentation explaining major issues relating to the subject.

[The witnesses were, then, called in]

3. Hon'ble Chairperson, then, welcomed the representatives of ONGC to the sitting of the Committee and drew their attention to Direction 55(1) of the 'Directions by the Speaker' regarding maintaining confidentiality of briefing before the Parliamentary Committee.

4. Thereafter, representatives of ONGC made a Power Point Presentation highlighting ONGC's journey, its group companies, its Boad structure, its assets and basins for exploration and production, its plants and processing units in the country and its R&D institutes and learning centres across the country. The presentation also shed light on ONGC's physical and financial performance, capital expenditure, its performance *vis-a-vis* Global peers, major projects undertaken in the last five years, its CSR activities and challenges faced by the Company.

5. The Members, then, raised various issues and sought clarifications from the representatives of ONGC on various issues related to the subject *viz.* need for systematic solution for issues regarding land acquisition and forest clearance, declining production and exploration activities, maturing oil fields, quantum and output of investment in R&D in oil exploration, falling cash reserves of ONGC, reasons for not starting of KG Basin causing loss to the exchequer to the tune of Rs. 18,000 crore in foreign exchange, cost per barrel of oil production *vis-a-vis* international peer Companies, efforts and money spent on decarbonising and going wholly into renewables, application of new technology in the field of wave/tidal energy, status of the sale of 1.5% stake of the Government in ONGC and issue regarding not having a full-time CMD in ONGC since April, 202. The

other issues which were discussed were profitability of ONGC's foreign assets, role of ONGC in ethanol production/blending, need to bring change/update in CSR policy of PSUs, impact of imposition of windfall tax by the Government on oil PSUs, number of litigation and their status in the last 5 years, losses, if any, in investment in securities from ONGC's PF Trust during 2019-20, rotation of employees deployed in Bombay High on monthly basis, establishment of ONGC institutes in inland areas instead of only at coastal areas, model tender conditions, recent helicopter accidents, fatalities, compensation and steps taken and so on.

6. The representatives of the ONGC clarified on some of the issues on which information was readily available with them. In respect of points for which information was not readily available, the Chairperson desired that written replies to be furnished to the Committee Secretariat within 10 days.

[The witnesses, then, withdrew]

7. Thereafter, tentative tour program was discussed to finalize dates and stations.

The Committee, then, adjourned.

(A verbatim copy of the proceedings has been kept on record.)

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APPENDIX -VI

COMMITTEE ON PUBLIC UNDERTAKINGS (2022-2023)

MINUTES OF THE TWENTY-EIGHTH SITTING OF THE COMMITTEE

The Committee sat on Thursday, the 2nd March, 2023 from 1100 hrs. to 1245 hrs. in Committee Room 'D', Ground Floor, Parliament House Annexe, New Delhi.

PRESENT

Shri Santosh Kumar Gangwar - Chairperson

MEMBERS

LOK SABHA

2. Shri Janardan Mishra
3. Dr. Arvind Kumar Sharma
4. Shri Uday Pratap Singh
5. Shri Ramdas Chandrabhanji Tadas

RAJYA SABHA

6. Shri Anil Desai
7. Dr. Anil Jain
8. Shri M. Shanmugam

SECRETARIAT

1.	Shri Chander Mohan	-	Joint Secretary
2.	Shri Santosh Kumar	-	Director
3.	Shri G.C. Dobhal	-	Additional Director
4.	Smt. Mriganka Achal	-	Deputy Secretary

REPRESENTATIVES OF THE GAIL (INDIA) LIMITED

1.	Shri Sandeep Kumar Gupta	-	CMD
1.	Shri M.V. Iyer	-	Director (Business Devt.)
2.	Shri R.K. Jain	-	Director (Finance)
3.	Shri Deepak Gupta	-	Director (Project)
4.	Shri Ayush Gupta	-	Director (HR)

6.	Shri Sunit Verma	-	Executive Director
7.	Shri A.K. Tripathi	-	Executive Director

2. At the outset the Chairperson welcomed the Members of the Committee at the sitting convened to have a briefing from the representatives of the GAIL (India) Limited in connection with the examination of the subject 'Review of Performance of Petroleum & Natural Gas Sector CPSUs'. The Committee Secretariat, then, made a Power Point Presentation explaining major issues relating to the subject.

[The witnesses were, then, called in]

3. The Chairperson, thereafter, welcomed the representatives of GAIL to the sitting of the Committee and drew their attention to Direction 55(1) of the 'Directions by the Speaker' regarding maintaining confidentiality of briefing before the Parliamentary Committee.

4. Thereafter, representatives of GAIL made a Power Point Presentation highlighting GAIL's journey, shareholding pattern, its entire gas value chain structure, major business portfolio, global presence, LNG portfolio, sectoral breakup of India's gas consumption, natural gas pipeline and LNG infrastructure, major pipeline projects, City Gas Distribution (CGD) infrastructure across the country, its subsidiaries, Joint Ventures and Investments. The PPT also highlighted GAIL's physical and financial performances for the last six years, its human capital, CSR activities, new initiatives, net zero target, renewable energy, hydrogen generation, etc.

5. The Members, then, raised various issues and sought clarifications from the representatives of GAIL on various issues related to the subject *viz.* number of contract workers in GAIL and their social security initiative, technical innovation in the field of gas distribution, investment plan of company, compensation to farmers for laying pipelines on their farmlands, issue of not getting RoU in Tamil Nadu and status of RoU issues regarding GAIL pipeline projects in different States, complaints from farmers for non-receipt of compensation amounts, decreasing production and consumption of gas, roadmap for biogas development, ethanol production, diversification, timeline/target for completion of laying of pipelines, quantum of gas import and its cost-effectiveness, etc.

6. The other issues which were discussed were impact of Supreme Court ruling regarding Employees' Pension Scheme (EPS) 1995 on GAIL balance sheet, steps taken to reduce long queues at CNG stations, role of GAIL in the Government's SATAT programme, ethanol blending with petrol, status of biogas production from municipal waste in cities, status of increasing LNG stations to 80 by the year 2024, reasons for delay in providing PNG connections in Bareilly and Kanpur areas, status of private parties participating in CGD programme in Delhi and Mumbai, non-supply of gas to some industries as agreed upon due to disputes, the benefits arising from investing in Egypt, China and other countries, impact of gas from Russia *vis-à-vis* other countries, impact of Ukraine-Russia war on GAIL, etc. The representatives of GAIL clarified on certain issues.

7. In the end, the Hon'ble Chairperson thanked the representatives of GAIL and directed that in respect of points for which information was not readily available, written replies thereon may be furnished to the Committee Secretariat within 10 days.

The Committee, then, adjourned.

(A verbatim copy of the proceedings has been kept on record.)

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APPENDIX – VII

COMMITTEE ON PUBLIC UNDERTAKINGS (2023-2024)

MINUTES OF THE THIRD SITTING OF THE COMMITTEE

The Committee sat on Thursday, the 8th June, 2023 from 1100 hrs. to 1220 hrs. in Committee Room 'D', Ground Floor, Parliament House Annexe, New Delhi.

PRESENT

Shri Santosh Kumar Gangwar - Chairperson

MEMBERS

LOK SABHA

2. Shri Sri Krishna Devarayalu Lavu
3. Shri Ravneet Singh

RAJYA SABHA

4. Shri Syed Nasir Hussain
5. Shri Prakash Javadekar
6. Dr. Amar Patnaik
7. Shri Binoy Biswam

SECRETARIAT

1.	Shri Chander Mohan	-	Joint Secretary
2.	Shri Santosh Kumar	-	Director
3.	Shri G.C. Dobhal	-	Additional Director

REPRESENTATIVES OF THE ENGINEERS INDIA LIMITED (EIL)

1.	Smt. Vartika Shukla	-	CMD
2.	Shri Ashok Kumar Kalra	-	Director (HR)
3.	Shri Rajeev Gupta	-	Director (Projects)
4.	Shri Vijay Malik	-	DGM (CMD Office)

2. At the outset the Chairperson welcomed the Members of the Committee at the sitting convened to have an evidence of the representatives of the Engineers India

Limited (EIL) in connection with the examination of the subject 'Review of Performance of Petroleum & Natural Gas Sector CPSUs'. The Committee Secretariat, then, made a Power Point Presentation explaining major issues relating to the subject.

[The witnesses were, then, called in]

3. The Chairperson, thereafter, welcomed the representatives of EIL to the sitting of the Committee and drew their attention to Direction 55(1) of the 'Directions by the Speaker' regarding maintaining confidentiality of briefing before the Parliamentary Committee.

4. Thereafter, a short film on the journey and achievements of EIL was shown by the representatives of EIL. The Members, then, sought clarifications from the representatives of EIL on various issues related to the subject *viz.* rationale of existence and relevance of EIL as PSU in the engineering and project management consultancy sector where there is stiff competition from several domestic and international private corporations, USP of EIL, innovations, R&D and patented technologies developed by EIL, process of securing of projects of EIL on nomination basis and on competitive bidding process, recruitment and retention system of talents in EIL, up-skilling, re-skilling of engineers and staff, regular and outsourced staff, their salary and social security arrangement, position of reserved and women employees in EIL, safeguarding of their rights, etc.

5. The other issues which were discussed were EIL’s emphasis for preference to QCBS (quality cum cost based selection) for assessment of Consultant, evaluation of EIL projects based on parameters like completion of a project within the original estimated cost and time, role and contribution of EIL in the Atma Nirbhar Bharat Mission and National Bio Fuel Policy, decreasing earning of EIL from projects in foreign countries, question of competency built in EIL for diversifying into other non-core business projects like bio-fuels, steel, hydrogen, water and waste water management, infrastructure, fertilizers, airports, defence, etc., steps taken in bringing energy efficiency and decarbonisation in EIL projects for reducing their impact on environment and so on.

6. In the end, the Hon'ble Chairperson thanked the representatives of EIL and directed that in respect of points for which information was not readily available, written

replies thereon may be furnished to the Committee Secretariat within 10 days.

The Committee, then, adjourned.

(A verbatim copy of the proceedings has been kept on record.)

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APPENDIX – VIII

COMMITTEE ON PUBLIC UNDERTAKINGS (2023-2024)

MINUTES OF THE FIFTEENTH SITTING OF THE COMMITTEE

The Committee sat on Tuesday, the 19th September, 2023 from 1530 hrs. to 1635 hrs. in Committee Room 'C', Ground Floor, Parliament House Annexe, New Delhi.

PRESENT

Shri Santosh Kumar Gangwar - Chairperson

MEMBERS

LOK SABHA

2. Shri Sudip Bandyopadhyay
3. Shri Sri Krishna Devarayalu Lavu
4. Smt. Poonamben Hematbhai Maadam
5. Shri Nama Nageswara Rao
6. Shri Sushil Kumar Singh
7. Shri Uday Pratap Singh

RAJYA SABHA

8. Shri Syed Nasir Hussain
9. Dr. Anil Jain
10. Shri Prakash Javadekar
11. Dr. Amar Patnaik
12. Shri V. Vijayasai Reddy

SECRETARIAT

1.	Shri Neeraj Semwal	-	Joint Secretary
2.	Shri Santosh Kumar	-	Director
3.	Shri G.C. Dobhal	-	Additional Director
4.	Smt. Mriganka Achal	-	Deputy Secretary

REPRESENTATIVES OF BALMER LAWRIE & CO. LTD.

1.	Shri Adika Ratna Sekhar	-	CMD
2.	Shri Adhip N. Palchaudhuri	-	Director (Service Business)
3.	Shri Saurav Dutta	-	Director (Finance)

2. At the outset, the Chairperson welcomed the Members of the Committee at the sitting convened to have evidence of the representatives of the Balmer Lawrie & Co. Ltd. in connection with the examination of the subject 'Review of Performance of Petroleum & Natural Gas Sector CPSUs'.

[The witnesses were, then, called in]

3. The Chairperson welcomed the representatives of Balmer Lawrie to the sitting of the Committee and drew their attention to Direction 55(1) of the 'Directions by the Speaker' regarding maintaining confidentiality of the discussion held before the Parliamentary Committee.

4. The Chairperson, then, recalled that the last sitting of the Committee held on 5 September, 2023 was adjourned due to lack of quorum, in which the Committee informally deliberated on various issues with the representatives of Balmer Lawrie. Dr. Amar Patnaik, Member of the Committee, then, proposed that all the issues informally discussed with the representatives of Balmer Lawrie at the sitting of the Committee held on 5 September, 2023 may be taken on record officially and treated as prelude to the discussion being held in the sitting to which the Committee agreed. The issues such as declining percentage of profit vis-à-vis Company's increasing turnover during the last several years; decreasing annual production of barrels & drums and grease & lubricants; rationale behind diversifying into various sectors instead of focusing more on the Company’s core competency; stiff competition from the private sector in all its business segments; impact of MSME Policy restrictions on purchase; better utilisation of the Company's reserves & surplus; impact of GST regime on its manufacturing & service segments; listing by NITI Ayog for disinvestment; new opportunities before the Company; future strategy & roadmap; R&D initiatives including carbon neutrality, green initiatives were discussed during the sitting.

5. Thereafter, the representatives of Balmer Lawrie made a Power Point Presentation highlighting the physical and financial performances of the nine Strategic Business Units (SBUs) of Balmer Lawrie one by one *viz.*, Industrial Packaging, Grease & Lubricants, Chemicals, Travel & Vacations, Logistics, Logistics Infrastructure, Cold Chain and Refinery & Oilfield Services. The Members, then, sought clarifications from the representatives of Balmer Lawrie on various issues related to the subject *viz.,* rationale for diversifying business of the Company into various sectors; strategic plan of the Company; developing and strengthening of the Company's core competence; exploring the possibility of winding up of non-profitable businesses of the Company; reasons for having flat business/turnover in the last 8 years; decreasing earnings per share (EPS) of the Company; new and emerging business areas of the Company, etc.

6. In the end, the Chairperson thanked the representatives of Balmer Lawrie and directed that in respect of points for which information was not readily available, written replies thereon may be furnished to the Committee Secretariat within 10 days.

The Committee, then, adjourned.

(A copy of verbatim proceedings of both the sittings has been kept on record.)

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APPENDIX – IX

COMMITTEE ON PUBLIC UNDERTAKINGS (2024-25)

MINUTES OF THE SIXTH SITTING OF THE COMMITTEE

The Committee sat on Tuesday, 15 October, 2024 at 1130 hrs. to 1310 hrs. in Committee Room '1', Extension to Parliament House Annexe (EPHA), New Delhi.

PRESENT

Shri Baijayant Panda - Chairperson

MEMBERS

LOK SABHA

2. Shri Tariq Anwar
3. Shri R.K. Chaudhary
4. Shri Chandra Prakash Joshi
5. Smt. Kanimozhi Karunanidhi
6. Shri Kaushalendra Kumar
7. Shri Shankar Lalwani
8. Shri B.Y. Raghavendra
9. Shri Mukesh Rajput
10. Shri Pratap Chandra Sarangi
11. Shri Kodikunnil Suresh

RAJYA SABHA

12. Shri Neeraj Dangi
13. Shri Narain Dass Gupta
14. Dr. Bhagwat Karad
15. Shri Debashish Samantaray
16. Shri Arun Singh

SECRETARIAT

1. Shri Neeraj Semwal - Joint Secretary
2. Smt. Jyochnamayi Sinha - Director
3. Smt. Mriganka Achal - Deputy Secretary

REPRESENTATIVES OF MINISTRY OF PETROLEUM & NATURAL GAS (MoPNG)

1. Shri Pankaj Jain - Secretary
2. Shri Praveen Mal Khanooja - Addl. Secretary
3. Mrs. Sujata Sharma - Joint Secretary (M&OR)
4. Sh. Vinod Seshan - Joint Secretary (Exploration)

2. At the outset, the Chairperson welcomed the Members of the Committee at the sitting convened to have evidence by the representatives of the Ministry of Petroleum & Natural Gas (MoPNG) in connection with horizontal examination of the subject 'Review of Performance of Petroleum & Natural Gas Sector CPSUs'. The Committee Secretariat, then, made a Power Point Presentation explaining major issues relating to the subject.

[The witnesses were, then, called in]

3. The Chairperson welcomed the representatives of MoPNG to the sitting of the Committee and put forth the major points the Committee desired to discuss relating to the subjects. He, then, drew their attention to Direction 55(1) of the 'Directions by the Speaker' regarding maintaining confidentiality of the discussion held before the Parliamentary Committee.

4. Thereafter, the representatives of MoPNG made a Power Point Presentation which highlighted the mandate of the Ministry, physical and financial performances, net turnovers, net profits and CSR expenditures of 12 Petroleum & Natural Gas sector CPSUs in the last 5 years. The presentation also shed light on the various activities, milestones and infrastructures in the field of exploration & production, refining, petrochemicals, marketing and transportation, and current status of Bio-fuel production and use, National Gas Grid, City Gas Distribution and LNG Terminals. It also highlighted various investments made in hydrocarbon sector, quantum of IEBR Expenditure by each CPSUs, various challenges faced by these Companies and various initiatives in International cooperation.

5. The Members then raised various issues on the subject, which, interalia included the need for bringing PNG products under the ambit of GST, losing of the logic for imposing windfall tax on oil production which has become disincentive for these Companies, reasons for decreasing oil production even when Capex is increasing, importance of self-sufficiency and strategic storage of oil and gas to face any supply disruption and future uncertainty, capital expenditure on energy transition, import export dynamics, impact of recent geopolitical events such as Russia-Ukraine war and Iran-Israel conflict on India's oil and gas import and energy security scenario, potential negative impact of EU's newly introduced carbon tariff CBAM (Carbon Border Adjustment Mechanism) on India's export in the EU region, current scenario of ethanol production in the Country and the possibility and roadmap of ethanol blending in petrol going beyond 20% and coming of flex-fuel vehicle in the near future and augmenting of EV infrastructure such as increasing number of charging stations. The other issues which were discussed included the current projects going on to augment India's refining capacity, opening up of new areas for exploration and production activities, green hydrogen production scenario, long queues at CNG stations and the need for increasing the number of CNG stations, steps being taken to achieve net zero targets, etc.

6. Thereafter, the representatives of MoPNG responded on majority of the issues raised by the Members. In the end, the Chairperson thanked the representatives of MoPNG and directed that in respect of points for which information was not readily available or if more information were required to be furnished, written replies thereon may be furnished to the Committee Secretariat within 10 days.

The Committee, then, adjourned.

(A copy of verbatim proceedings of the sitting has been kept on record.)

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APPENDIX - X

COMMITTEE ON PUBLIC UNDERTAKINGS (2025-26)

MINUTES OF THE FIFTEENTH SITTING OF THE COMMITTEE

The Committee sat on Friday, 5 December, 2025 from 1000 hrs. to 1045 hrs. in Committee Room No. '2', Ground Floor, Extension to Parliament House Annexe, New Delhi.

PRESENT

Shri Baijayant Panda - Chairperson

MEMBERS

LOK SABHA

2. Shri Tariq Anwar
3. Shri Chandra Prakash Joshi
4. Shri Kaushalendra Kumar
5. Shri Shankar Lalwani
6. Shri B.Y. Raghavendra
7. Shri Mukesh Rajput
8. Shri Sukhjinder Singh Randhawa
9. Shri Prabhakar Reddy Vemireddy
10. Shri Lalji Verma

RAJYA SABHA

11. Dr. John Brittas
12. Shri Neeraj Dangi
13. Shri Milind Murli Deora
14. Dr. Bhagwat Karad
15. Shri Surendra Singh Nagar
16. Shri Debashish Samantaray
17. Shri Arun Singh

SECRETARIAT

1. Shri Anjani Kumar - Joint Secretary
2. Smt. Mriganka Achal - Director
3. Shri Tenzin Gyaltsen - Deputy Secretary

2. The Hon'ble Chairperson briefly apprised the Members on the Eleven draft Reports. The Committee then considered and adopted the following draft reports, without any changes/modifications: -

i. Sagarmala Finance Corporation Limited (SFCL) (Comprehensive Examination);

ii. Rural Electrification Corporation Limited (REC Limited) (Comprehensive Examination);

iii. Nuclear Power Corporation of India Limited (NPCIL) (Comprehensive Examination);

iv. Review of Performance of Petroleum & Natural Gas Sector CPSUs (Horizontal Examination);

v. "Para No. 2.4 of C&AG Report No. 14 of 2021 regarding 'Loss due to flaring of High-pressure gas' relating to Oil & Natural Gas Corporation (ONGC) Limited. (Audit Based Examination);

vi. Action Taken by the Government on the Observations/ Recommendations contained in the First Report (18th Lok Sabha) on "Procurement of hardware/software item to the tune of Rs. 890.34 Crores through strategic alliance" relating to National Informatics Centre Services Inc. (NICSI)" [Based on Audit Para No. 6.1 of C&AG Report No. 03 of 2021];

vii. Action Taken by the Government on the Observations/ Recommendations contained in the Third Report (18th Lok Sabha) on "Undue enrichment through recovery of turnover tax from consumer" relating to Indian Oil Corporation Limited (IOCL) [Based on Audit Para No. 2.1 of C&AG Report No. 14 of 2021];

viii. Action Taken by the Government on the Observations/ Recommendations contained in the Ninth Report (18th Lok Sabha) on "Industrial Finance Corporation of India Limited (IFCI ltd)";

ix. Action Taken by the Government on the Observations/ Recommendations contained in the Tenth Report (18th Lok Sabha) on "Design and Development (D&D) in Hindustan Aeronautics Limited (HAL)" [Based on Chapter-II of C&AG Report No. 18 of 2023];

x. Action Taken by the Government on the Observations/ Recommendations contained in the Eleventh Report (18th Lok Sabha) on "Reviewing timely

submission of Action Taken Notes (ATNs) on C&AG Paras/Reports (Commercial) by the Ministries/Departments"; and

xi. Action Taken by the Government on the Observations/ Recommendations contained in the twelfth Report (18th Lok Sabha) on "IREL (India) Limited".

3. The Committee authorized the Chairperson to finalize the draft Reports on the basis of factual verification as suggested by the concerned CPSUs/Ministry/ Department/C&AG and presentation of the same during the current session of Parliament.

The Committee, then, adjourned.

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