

Synergy for Green Energy



Sustainability Report 2021-22

Energizing Possibilities



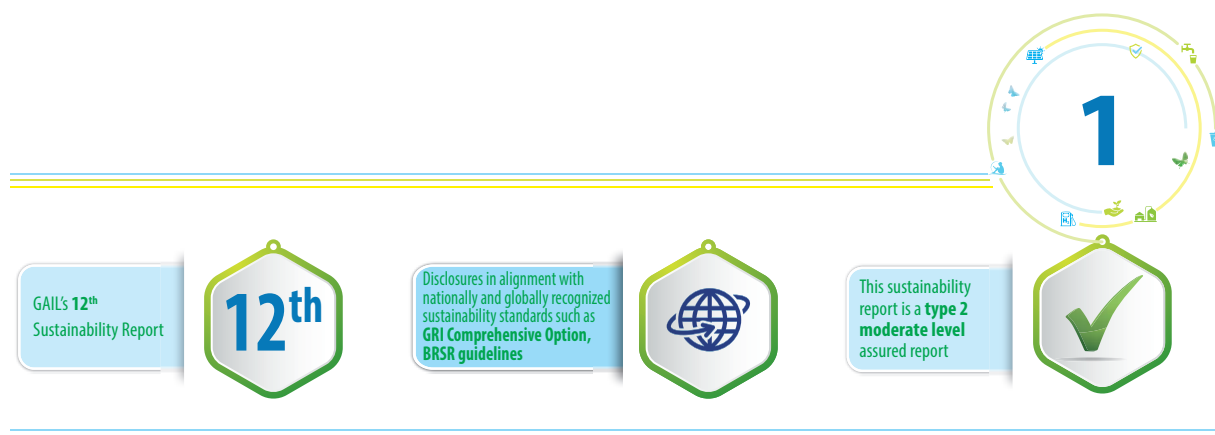
Synergy for Green Energy

The world's growing concerns regarding global warming and climate change call for a concerted global transition to sustainable energies. As an Energy Leader, GAIL has been playing a significant role in India's energy security with a focus on clean and affordable fuels. GAIL's relentless pursuit to expand natural gas network in India continues to yield visible results in shape of CGD reaching new towns and cities. The Company has further opened up its energy basket with forays into Wind, Solar, CBG and Hydrogen towards shaping a Net Zero future for our coming generations. With this 'Synergy for Green Energy', GAIL ushers in the winds of change towards a better world.

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About the Report

Since 2011, GAIL (India) Limited (hereinafter referred to as GAIL) has been disclosing the Company’s environmental, economic and social performance through its dedicated annual sustainability reports. Through sustainability reporting, we endeavour to disclose our Company’s strategy, goals, targets and performance. This will enable us to eventually create a sustainable business model that creates long-term value for our stakeholders.

This Sustainability Report outlines our company’s engagements with our stakeholders and the programs and initiatives that were undertaken to achieve our shared mission. Details pertaining to the material topics that are important to our business and stakeholders are also provided in this report.

1.1 Reporting Year and Cycle

The financial accounting and performance data provided in the report covers information from GAIL’s financial year, 01st April 2021 to 31st March 2022. The same period is used to report sustainability performance as well. The sustainability report for the financial year 2020-21 was published on 31/08/2021. This is GAIL’s 12th sustainability report, showcasing the environmental, economic and social performance

for the financial year 2021-22. The electronic version of the report can be found on our website (<https://gailonline.com/SbSustainability.html>)

1.2 Reporting Standards

We report in accordance with the latest version of the International Petroleum Industry Environmental Conservation Association (IPIECA) guidelines, which is a global oil and gas industry association for environmental and social issues. Our disclosure is also aligned with GRI Sustainability Reporting Standards; Sustainability Accounting Standards Board (SASB); National Guidelines for Responsible Business Conduct (NGRBC) principles & SEBI’s Business Responsibility and Sustainability Reporting (BRSR) requirements, Sustainable Development Goals (SDGs), Task Force on Climate Related Financial Disclosures (TCFD). The American Petroleum Institute (API) guidelines, ISO 26000:2010 and the United Nations Global Compact (UNGC).

1.3 Reporting Scope

The scope of reporting covers GAIL’s performance on various environmental, economic, social and governance parameters across all the locations. Company-joint ventures, subsidiaries, leased facilities, outsourced operations and other entities have been excluded from the scope.

GRI 102-1, GRI 102-8, GRI 102-49, GRI 102-52, GRI 102-50, GRI 102-51

Until otherwise mentioned, India is our significant location of operations. The word 'local' refers to India, wherever applicable.

1.4 Reporting Boundary

Until otherwise mentioned, our reporting boundary includes:

- GAIL's Manufacturing and Processing Plants at Pata, Vijaipur, Vaghodia, Gandhar
- Natural gas compressor stations (Hazira, Vaghodia, Jhabua, Khera, Vijaipur, Dibiyapur, Kailaras and Chhainsa)
- Liquefied Petroleum Gas (LPG) pumping/receiving stations (Loni, Mansarampura, Nasirabad, Abu Road, Samakhiali, Jamnagar, Kandla, Vizag, G Konduru and Cherlapalli)
- Regional pipeline offices at NCR, Baroda, Mumbai, Puducherry, Rajahmundry, Agartala and Dhabol Bengaluru Pipeline (DBPL)
- E&P business
- Office buildings at the corporate office in New Delhi
- GAIL Training Institute at Noida and Jaipur
- Info-Hub and Jubilee Tower offices at Noida
- Zonal marketing offices (Noida, Chandigarh, Jaipur, Lucknow, Bhopal, Hyderabad, Bengaluru, Chennai, Bhubaneshwar, Kolkata, Guwahati, Ahmedabad, Mumbai.)

1.5 Data Management

This report has been prepared in accordance with the GRI standards : Comprehensive option. Our sustainability coordinators at all plants/

offices are responsible for implementing various initiatives and collecting data for reporting. We have a robust governance mechanism to track sustainability data. The coordinators leverage our internal sustainability portals to track and report the data which is further verified by respective departmental heads for accuracy.

1.6 Data Validation and Assurance

This report has been assured by an external assurance agency. This sustainability report is a type 2 moderate level assured report following the AA1000ASV3 standard. The assurance process includes physical assurance at multiple factories and offices, corporate departments and virtual assurance at multiple locations to validate the data provided. The data of material topics is compiled by each of the process owners from functional departments and it is then used to develop the report by the Sustainability Department, which is approved by the Sustainable Development Committee of the Board.

The Sustainability Report, in hand, is both a communication tool for all our stakeholders and an operational document that assists us in informed decision-making. Any feedback or query related to this report can be communicated to Mr. R K Mittal, CGM (SD) rk.mittal@gail.co.in, Mr. S K Agarwal, GM (SD) skagarwal@gail.co.in. Readers can also reach out to us at sustainability@gail.co.in to provide feedback on improving our performance and sustainability disclosures.

Disclaimer : Statements in the GAIL Sustainability Report FY 2021-22 may be "forward looking statements", identified by words such as 'plans', 'expects', 'will', 'anticipates', 'believes', 'intends', 'projects', 'estimates' and may be progressive within the meaning of the applicable laws and regulations. The Company disclaims any obligation to update these forward-looking statements, except as may be required by law.

GRI 102-46, GRI 102-45, GRI 102-48, GRI 102-49, GRI 201-1, GRI 102-45, GRI 102-54, GRI 102-56, GRI 102-55, GRI 102-30, GRI 102-31, GRI 102-32, GRI 102-45, GRI 102-46, GRI 102-53



Message from CMD

“With the insurgencies brought by the climate crisis, ‘Synergy for Green Energy’ will be a key enabler to move towards a better world”

Dear Stakeholders,

I am pleased to present GAIL's 12th Sustainability Report, 'Synergy for Green Energy', which demonstrates our efforts to improve Environmental, Social and Governance (ESG) performance. GAIL's resilience has been a key driver this year in enabling us to thrive, despite the challenges of a post pandemic world. Our employees and systems are adapting to the urgency of climate change and we are working on effective mitigation and adaptation strategies. Additionally, geopolitical changes leading to disruptions in supply chains and volatile commodity prices have also highlighted the need for GAIL to remain agile during this time. GAIL has focused this year on ensuring growth in the supply of gas, as the transition fuel, towards India's goal of reaching Net Zero by 2070.

GAIL is dedicated to reducing its carbon impact by diversifying into renewable energy, alternate fuels and exploring innovative technologies. Committed to meet India's target of reaching Net Zero by 2070, GAIL has already embarked on its Net-Zero journey through science based ambition and action plan with the aim of achieving "100% reduction in Scope 1 and Scope 2 emissions and a 35% reduction in Scope 3 emissions by 2040". Additionally, GAIL is participating in the Internal Carbon Pricing project supported by GIZ, Germany coordinated by SCOPE. In FY 2021-22, we achieved another milestone in

our sustainability journey with GAIL Pata (one of the few manufacturing locations) receiving a GreenCo "Gold" rating from CII, that indicates sustainability is deeply ingrained in our operations.

Our organization has a significant responsibility to uphold & achieve the Government of India's vision of "One Nation, One Gas Grid". While fulfilling this, GAIL strives to create a positive impact on the environment and society. Our growing contribution towards energy security and meeting India's growing energy demands in a low carbon economy is unmatched. GAIL currently operates around 14,500 km of pipeline network and markets two-thirds of the total quantity of Natural Gas sold in the country. Additionally, we will add another 5,000 km of pipeline length in the next five years.

Natural Gas, will be a key transition fuel which is going to shape the decarbonisation journey across sectors. Apart from large corporations, medium and small businesses are also switching to Natural Gas to reduce the environmental impact. Our overall strategic intent is supported by reviewing and reframing our operational systems and procedures to mitigate risks and tap emerging opportunities.

This financial year, GAIL has taken further initiatives to promote gas markets in new cities and create

GRI 102-14, 103-2, 103-3

new market opportunities. We have focused on expansion and ensured that we are on track to meet the ambitious targets that were set on the 'Urja Ganga' project, to bring clean energy to eastern India.

Additionally, through our synergistic acquisition of 26% equity stake in ONGC Tripura Power Company (OTPC), we will further strengthen our presence in the North Eastern region of the country. Furthermore, in line with the National Hydrogen Mission, GAIL has commenced, a first of its kind, pilot project to mix hydrogen into natural gas to work towards a hydrogen-based and Net-Zero future. GAIL is setting up a 10 MW Green Hydrogen plant at Vijaipur (Guna District, Madhya Pradesh), as we march towards establishing hydrogen economy in India, GAIL is also exploring the viability of possible hydrogen derivatives in India such as ammonia, methanol etc.

GAIL is committed in upholding world-class standards to ensure operational safety, performance and growth. We take numerous measures to ensure better health and well-being of our employees and community, through our CSR initiatives. Under the 'GAIL Hriday' initiative, we aim to improve the lives of thousands of underprivileged people by generating social capital in the areas of education, healthcare, skill development, women empowerment and environmental protection. As a responsible company, we have spent ₹ 204.97 crore under various initiatives of 'Hriday'.

We are also committed to increase the participation of local vendors and suppliers in our supply chain, in line with the PM's goal of 'Vocal for Local'. We believe, this will not only reduce the environmental impact but also create a positive social impact in the long run.

At GAIL, our mission is to be focused on "Enhancing quality of life through clean energy and beyond" across the nation by connecting various households, industries and the transport sector with eco-friendly fuel. Creating a positive customer experience and driving value through quality, innovation and responsiveness is a strategic pillar in our business growth model.

GAIL has always strived for strong governance and a robust set of triple bottom line management

strategies and policies. This guides us into consistent implementation of our sustainability agenda throughout our joint ventures, locations and subsidiaries. By establishing the right leadership, we aim to foster a culture of ethics and trust. GAIL's code of conduct is designed to support our commitment towards conducting business with the highest possible ethical standards. Our business processes and practices are focused on achieving excellence while addressing issues such as the environment, health, safety and human rights. The robustness of our governance practices has made GAIL achieve performance and operational excellence every year, while delivering and serving the nation with top notch quality. We are consistently providing steady long-term returns on the investments to our shareholders. This year marked the highest ever dividend payment by GAIL in terms of the total dividend amount.

Our report follows the Global Reporting Initiative's "Comprehensive" reporting standards. It also complies with the updated Business Responsibility and Sustainability Report (BRSR), National Guidelines on Responsible Business Conduct (NGRBC), IPIECA 2020, Sustainability Accounting Standards Board (SASB) requirements. I would like to thank all the GAIL employees for their ongoing dedication and hard work.

It gives us immense pride to mention that GAIL (India) Limited was featured at COP26 as part of the UN Global Compact-Accenture CEO Study on Sustainability for 2021. This was the largest CEO study on sustainability and climate change ever conducted in the history of global sustainability conferences. Out of the numerous businesses present across the world, only ten Indian businesses were featured in the report and GAIL was one of them.

Additionally, GAIL won the prestigious "Sustainably Growing Corporation of the Year" award from Federation of Indian Petroleum Industry (FIPI) this financial year. GAIL has been awarded for its conservation practices by PCRA (Petroleum Conservation Research Association) 'Saksham' a campaign launched by MoP&NG. These awards are a recognition of GAIL's continued sustainability efforts. We look forward to continue our sustainability journey and are delighted to share our progress, thus far, through this report.



Manoj Jain

Chairman & Managing Director



Message from Director (Business Development)

GAIL is cognizant of the fact that embedding ESG is imperative to business growth. It helps assess and mitigate risks and maximize opportunities that fuel business growth. Our continued business resilience is testament to the holistic approach GAIL has taken over the years to embed sustainability as a core business strategy.

We are committed to providing uninterrupted service connecting the length and breadth of the country helping India achieve energy accessibility and affordability. While we continue to grow and strengthen our overall performance, we are leaving no stone unturned to abate the emissions generated through our own operations and supply chain. Foraying into new avenues of cleaner and greener energy will help us in our stride of decarbonization while ensuring energy security.

GAIL has also embarked upon an ambitious journey to become Net Zero vis a vis Scope 1 and Scope 2 emissions by 2040. CBG, Renewable energy projects, Green hydrogen, efficiency improvement etc. are few of the key levers identified to help achieve this ambitious target.

GAIL has successfully commissioned India's first project for blending of Hydrogen in City Gas Station, Indore. GAIL is currently in the process of building one of India's largest PEM based green hydrogen plant. GAIL is also setting up 10 MW ground mounted solar project at Vijaiapur.

We are committed to collaborate with other agencies and institutes to contribute in tackling the complex climate change issue. We have collaborated with International Solar Alliance (ISA) as a corporate partner. Currently we have an ambition of adding 1 GW of renewable energy in our current portfolio both through organic and inorganic route.

Our business strategy and growth plans consider sustainability aspects to ensure that we operate in an environmentally responsible manner and create value for all stakeholders. We look forward to our continued business growth and contribution towards nation development with the support from our valued and trusted stakeholders.

A handwritten signature in blue ink, appearing to read 'M V Iyer'.

M V Iyer

Director (Business Development)

Message from Director (Finance)



The Financial Year 2021-22 has been the year of revival from the COVID-19 pandemic, which had adversely affected the industry and economy in multiple ways. In order to sustain and overcome the difficult period, we at GAIL took various measures to increase the operations and profitability. GAIL recorded 62% increase in Revenue from Operations to ₹ 91,646 crore in FY 2021-22 as against ₹ 56,738 crore in FY 2020-21, Profit before Tax (PBT) increased by 113% to ₹ 13,590 crore in FY 2021-22 as against ₹ 6,386 crore in FY 2020-21. The Profit after Tax (PAT) increased by 112% to ₹ 10,364 crore in FY 2021-22 as against ₹ 4,890 crore in FY 2020-21. We feel immense pride in sharing that this is the highest ever financial results on all the three parameters ever reported by the company in its history.

GAIL has paid Dividend for ₹ 3,996 crore (@ ₹ 9/share), in addition GAIL Board has recommended Final Dividend @ ₹ 1/share subject to approval of Shareholders, which makes total Dividend for the FY 2021-22 to ₹ 4,435 crore, which is also highest ever by GAIL. Besides this, GAIL completed buyback of ~5.70 crore shares at price of ₹ 190/share amounting to ₹ ~1,083 crore (excl. tax thereon).

Post the Covid-19 Pandemic, while the things have started to normalise, Digitization and Digital technologies have taken over the conventional way of doing business and is playing important role in sustainable growth and maintaining business continuity. We took many new steps in digital initiatives and e-initiatives in addition to previously existing initiatives to smoothen the business process and technicalities.

At GAIL, we are in the process of identifying investment opportunities in upcoming clean and green technologies to help our business tackle with climate related concerns, contribute on our part to stay in alignment to Intergovernmental Panel on Climate Change (IPCC's) 1.5°C pathway and India's Net-Zero target and make GAIL future ready for business transition.

GAIL's Board has also accorded approval for setting up 10 MW electrolyser for producing Green hydrogen at a project cost of ₹ 231 Crore.

We have created an enabling environment to assess risk and implement mitigation measures to improve the company's financials in the coming years.

AT GAIL, we not only took care of its business but also taken various relief measures for its employees and society. In FY 2021-22, GAIL has spent ₹ 204.97 crores (~ 3% of average PAT of last three years as against the mandated 2%) through various social projects.

GAIL has also Credit Ratings Domestic 'AAA', International 'Baa3' with Stable outlook (Moody's), BBB- with stable outlook (Fitch) - Equivalent to sovereign rating of India. The ratings are indicators of Company's strong performance and future outlook. Further, I am confident that we will be able to outperform the current margins and grow sustainably.

Rakesh Kumar Jain
Director (Finance)



Message from Director (Projects)

At GAIL, we recognise that sustainable growth can only be achieved through purposeful integration of economic, environment and social aspects. The overall performance of our company is the result of all our efforts in this direction. GAIL is continually striving to fulfil rising energy demand to serve our country become self-sufficient.

We are working diligently to achieve energy security while also addressing growing concerns about climate change and carbon emissions.

GAIL is expanding its pipeline network by over 5,400 kilometres during the next few years, at an investment of more than ₹ 25,000 crore. While completion of PM Urja Ganga pipeline Project is in full swing, GAIL is also executing 1755 Km long Mumbai-Nagpur-Jharsuguda Pipeline (MNJPL) under PM Gati Shakti, which connects Maharashtra, Madhya Pradesh, Chhattisgarh and Odisha. Apart from this, Barauni- Guwahati (729 Km) Srikakulam- Angul (744 Km), Dhamra – Haldia (252 Km), etc. are other major pipelines under execution to connect to National Gas Grid.

We are making strides in our efforts to achieve a zero-emission future. Accordingly, GAIL has successfully commissioned India's First Project for Hydrogen Blending in City Gas Station (Avantika Gas Ltd.), Indore on 31st January 2022. GAIL's Board has also approved the construction of a 10 MW electrolyser to produce Green hydrogen at a cost of ₹ 231 crore.

In our efforts to reduce carbon emissions, GAIL has a total installed capacity of 131.75 MW of alternative energy, of which 118 MW are wind energy and 13.8 MW are solar energy projects. GAIL has installed India's second largest solar rooftop, a 6 MW grid-connected captive solar power plant at the Pata Petrochemical Complex. Furthermore, roof-top and ground-mounted solar modules are being installed in a variety of office buildings for captive usage. We aspire to accomplish 1 gigawatt of renewable energy in the next three to four years, either via solar and wind together or through any other renewable component.

We have already begun a revolutionary, long-term route towards being a self-sufficient nation for our energy requirements, while also having a positive impact on the planet and society. I have full confidence in our commitment and potential to outperform current levels and expand in a sustainable manner.

Deepak Gupta
Director (Projects)

Message from Director (HR)



GAIL acknowledges that Sustainability is most effective when integrated into a company's strategic framework. GAIL, as a responsible corporate, is mindful of the impact of our operations in the society and the environment. The past few years have been critical for the environment and the climate agenda. As the push towards decarbonization strengthens, we are mobilizing all our stakeholders in the value chain to come together to support our vision of sustainable development.

The pace at which the social, political and technological environment is changing around us, HR is expected to respond, even at a faster pace or rather proactively. The next generation of workers are craving to work for meaningful organisations that offer more than just a steady income and progression opportunities. At GAIL, we constantly focus our endeavours on building capabilities, nurturing a learning environment, implementing the best HR practices in line with global standards, Digitalization of HR process and helping leaders prepare in the face of business volatility. Our aim is to nurture a positive culture through pay equity, workforce inclusion, diversity and gender sensitivity.

GAIL has been keenly interested in developing Human Capital of the employees through job training and coaching. In alignment with GAIL's philosophy of attaching high priority to Learning & Development, GAIL Training Institute (GTI), established in the year 1997 as the intellectual and knowledge management wing of the organization, this year completed 25 years of its glorious existence. As part of our skill development efforts, total 325 no. of apprentices were engaged in FY 2021-22 which is 6.69% of total workforce including contractual staff.

GAIL Medical Department, along with HR Department, put their untiring efforts in ensuring availability of timely and efficient Medical care through 24x7 Online Consultation, Home Isolation kits in case of COVID-19 positive detection and organizing Vaccination Camp for employees, their dependent family members and PRMS beneficiaries. We concerted all our efforts and resources in ensuring that we prepare our employees in their fight against Covid-19 and its after effects, by providing adequate knowledge and support to deal with the pandemic, all the while maintaining their spirit. Comprehensive relief measures were notified to take care of the dependents of the deceased employees by providing for Education, Medical, Accommodation facilities so as to mitigate the hardships of the family.

During the peak of Covid-19 2nd wave (April 2021 -June 2021), a unique initiative named SPARSH was re-launched which was aimed at providing a healing touch to the Covid infected employees and their family members. The Sparsh team provided daily support and coordinated with Covid task force in providing medical resources like medicine, beds, oxygen concentrators etc, to the employees at the earliest.

During lock down period, security personnel provided security services round the clock, at all Offices/Townships/ Pipeline installations with zero breach of security.

GAIL's CSR Projects such as Aarogya, Ujjwal, Kaushal, Unnati, Sashakt, Harit under GAIL's Hriday program are a direct representation of our endeavor to support long-term sustainable and inclusive development of the society. As part of our social commitment, GAIL spent ₹ 204.97 crore (3% of the average net profit of the preceding three years) on CSR activities during FY 2021-22 which is more than the statutory mandated expenditure of 2% (₹ 136.46 crore) of average net profit of the preceding three years.

I strongly believe that a culture of Sustainability helps in creating a competitive advantage by encouraging and maintaining a collective sense of the social environment in the organization. Sustainable business and commercial success need to support one and other. By harnessing the unique energy and capability of our organisation, the sustainability strategy can create value for society and the company.

Ayush Gupta
Director (Human-Resource)



GAIL (India) Limited



Existing Gas Pipeline Network of **14,500 km** and additional **5,000 km** under construction

Total **46%** of CNG station operated by GAIL

Total **67%** of domestic PNG connection in India supplied by GAIL with 11.5 lakhs new connections in FY 2022

2nd largest player in polyethylene portfolio

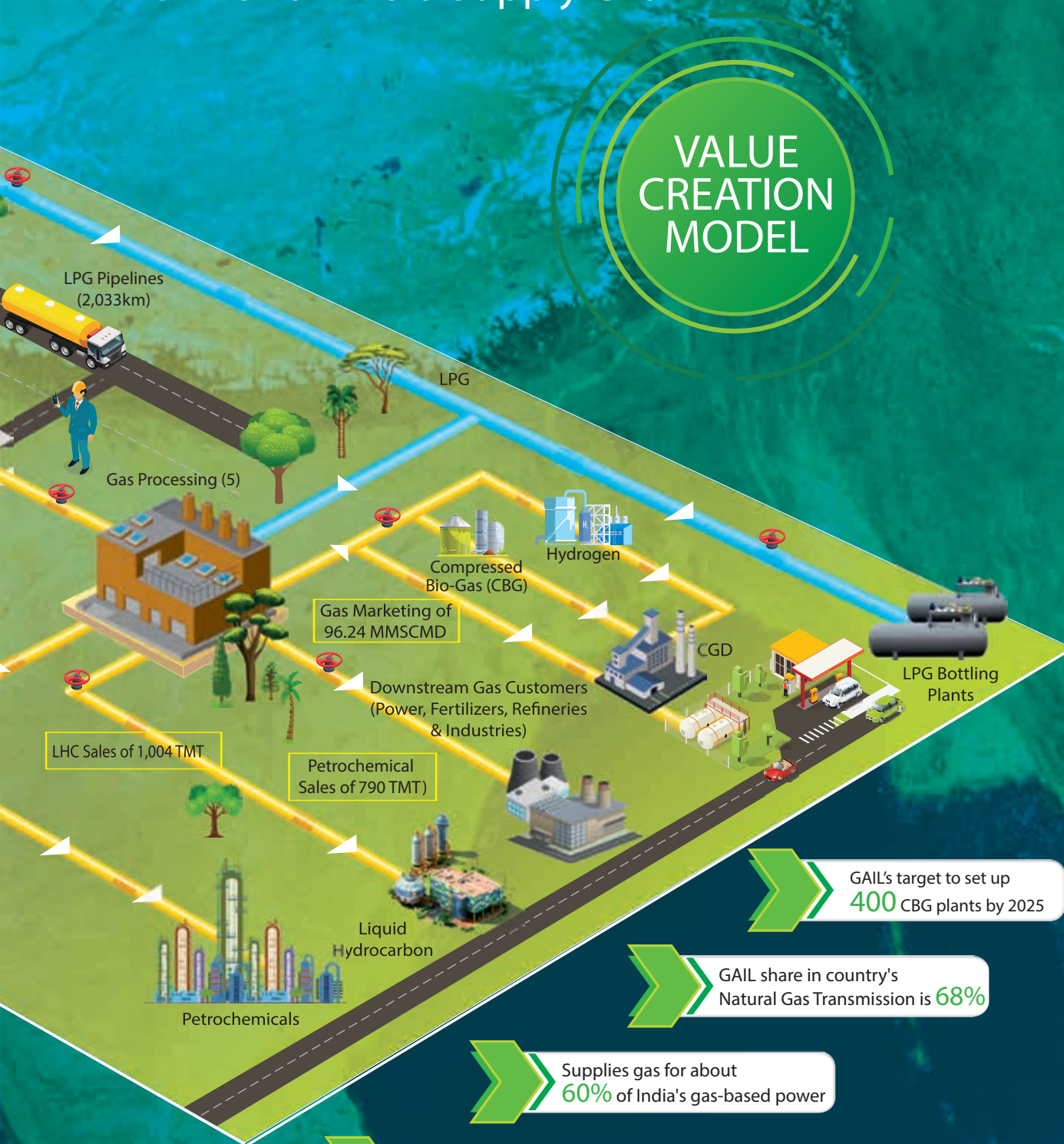
Authorized to operate in **67** geographical areas throughout India

15% domestic market share in Petrochemicals

GRI 102-9, GRI 102-10, GRI 103-2, GRI 103-3

GAIL's Pan India Supply Chain

VALUE CREATION MODEL



GAIL's target to set up **400** CBG plants by 2025

GAIL share in country's Natural Gas Transmission is **68%**

Supplies gas for about **60%** of India's gas-based power

Setting up the largest PEM Electrolyser for producing **4.3 TPD** Green Hydrogen.

GAIL Supplied around **69%** of the gas consumed in the Fertilizer Sector in the country in FY 2022.



GAIL Highlights



Hon'ble Prime Minister, Shri Narendra Modi dedicated the Bokaro-Angul Natural Gas Pipeline to the Nation



Shri Hardeep Singh Puri, Hon'ble Minister of Petroleum & Natural Gas and Housing & Urban Affairs inaugurated 166 CNG stations of GAIL Group of Companies



Inauguration of GAIL-HPCL Mittal Energy Ltd's (HMEL) Natural Gas Pipeline by Manoj Jain, Chairman & Managing Director, (GAIL) and Prabh Das, Managing Director and CEO (HMEL) in the presence of Deepak Gupta, Director (Projects) from GAIL and others.



GAIL (India) Limited's Annual Report and Financial Statement for the year ended 31st March 2021 has won the 'Gold Shield' in the Institute of Chartered Accountants of India Awards for Excellence in Financial Reporting for 2020-21.



GAIL's won "Trend Setting Creative Marketing Campaigns Category Award" for *Hawa Badlo* campaign by Bharat Prakashan Ltd. The award was received by Shri M. V. Iyer, Director (Business Development) and Shri Rakesh Kumar Jain, Director (Finance) along with senior officials



GAIL won National Award for Excellence in Cost Management from ICAI presented by Shri Piyush Goyal, Hon'ble Union Minister, Commerce & Industry, Textiles, Consumer Affairs and Food & Public Distribution. The award was received by Shri Rakesh Kumar Jain, Director (Finance) and Shri Deepak Gupta, Director (Projects)



GAIL was awarded Golden Peacock Award for Corporate Social Responsibility for the Gas sector by Shri Arjun Ram Meghwal, Hon'ble Union Minister of State for Parliamentary Affairs and Culture. Shri Rakesh Kumar Jain, Director (Finance) along with senior officials received the prestigious award



GAIL awards contract to set up largest PEM Electrolyser for producing 4.3 TPD Green Hydrogen

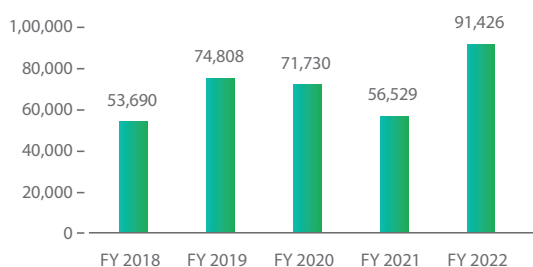
GAIL awards contract to set up largest PEM Electrolyser for producing 4.3 TPD Green Hydrogen (about 10 MW capacity) of 99.99% purity at Guna in Madhya Pradesh to produce green hydrogen by the end of 2023.

Performance Highlights

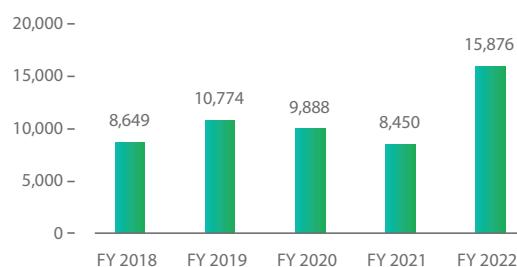
Financial Performance - Standalone



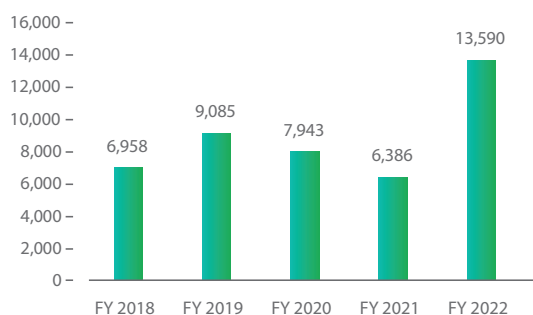
Turnover (Gross) (INR crore)



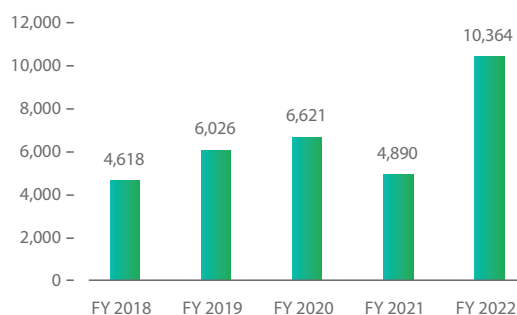
Gross Margin (EBIDTA) (INR crore)



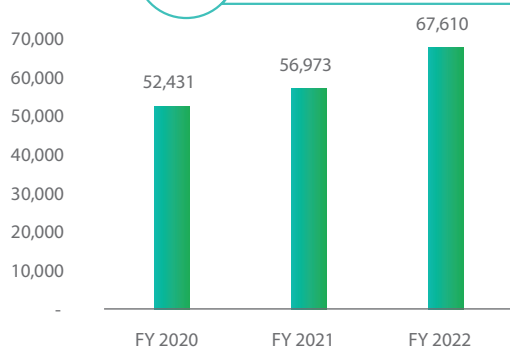
Profit Before Tax (PBT) (INR crore)



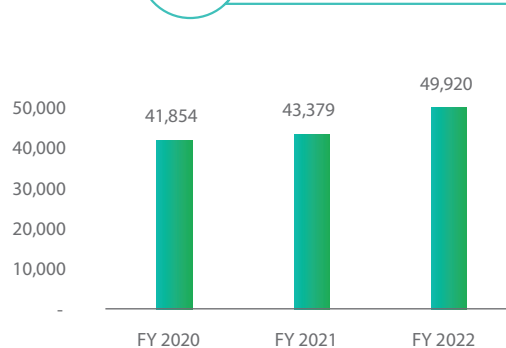
Profit After Tax (PAT) (INR crore)



Capital Employed (INR crore)



Net Worth* (INR crore)

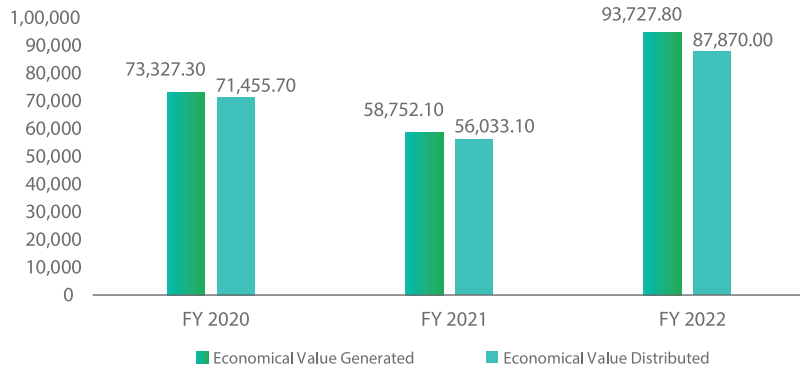


*as per companies act

Economic, Social & Environmental Performance



Economic Value Generated vs Distributed* (in INR crore)



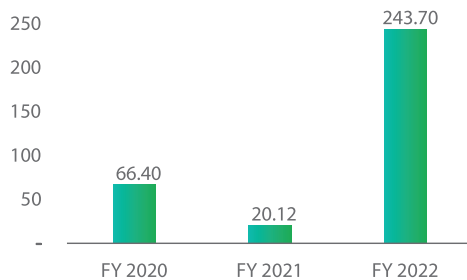
*Economic value generated, and distributed calculation methodology is different from other reported data



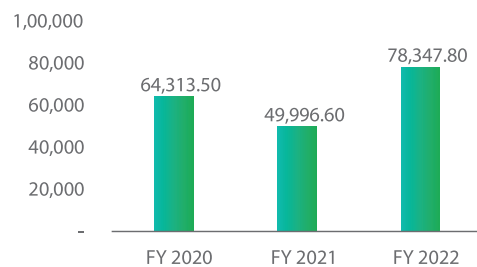
Procurement Highlights (in INR crore)



R&D Expenditure (in INR crore)

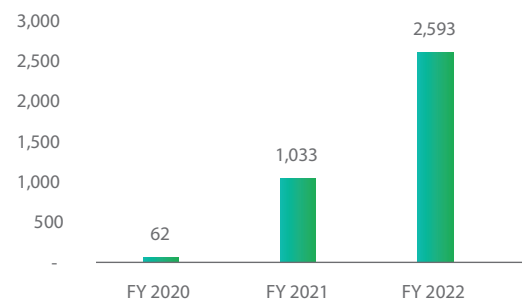
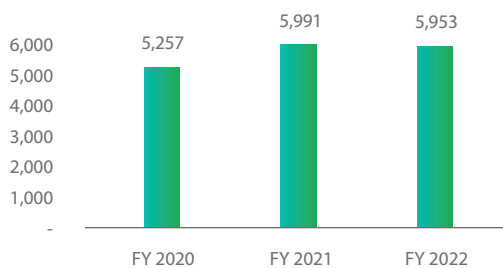
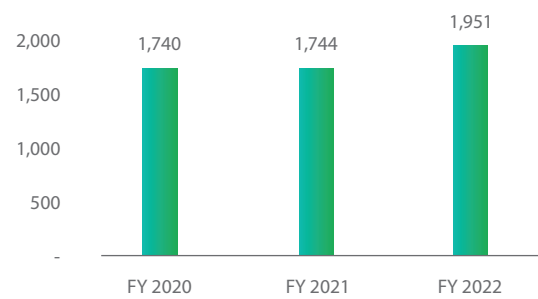
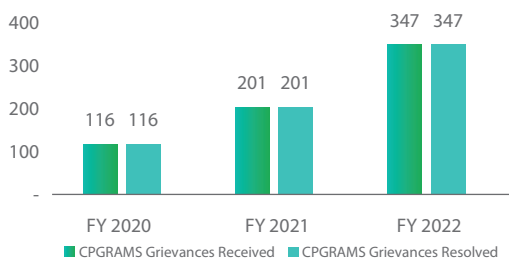
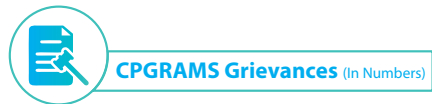
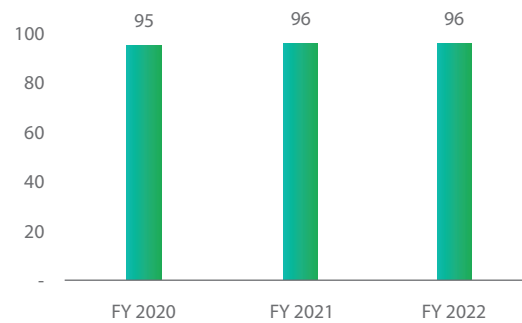
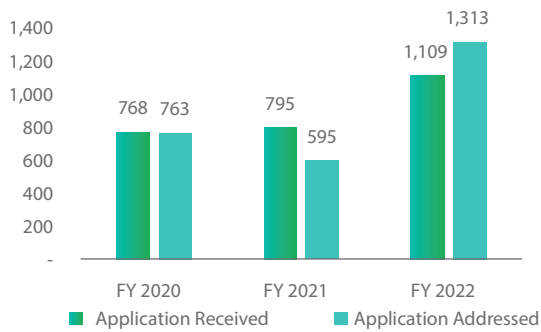


Operating Cost (in INR crore)



GRI 201-1, GRI 204-1

Economic, Social & Environmental Performance

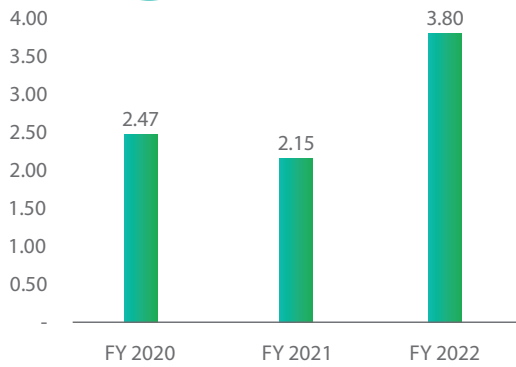


*Excluding lease liability

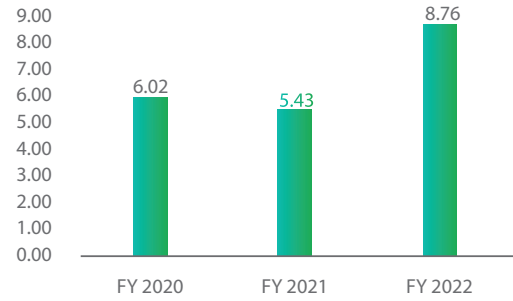
Economic, Social & Environmental Performance



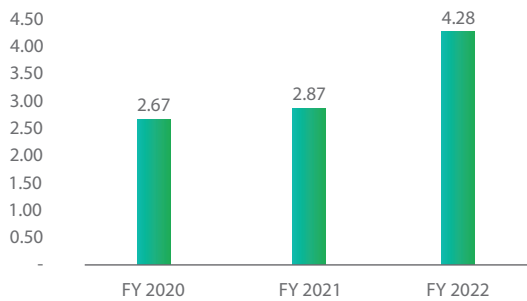
Value Add Per Employee (INR crore)



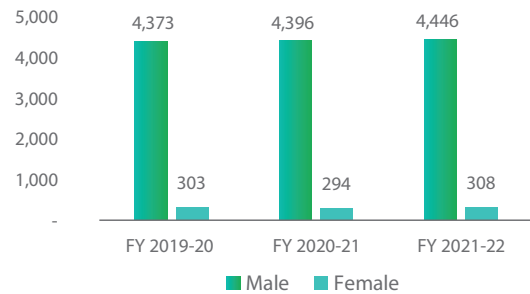
Human Capital Return on Investment



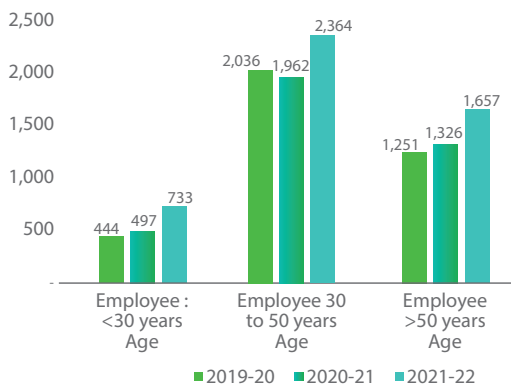
Total employee turnover rate (In %)



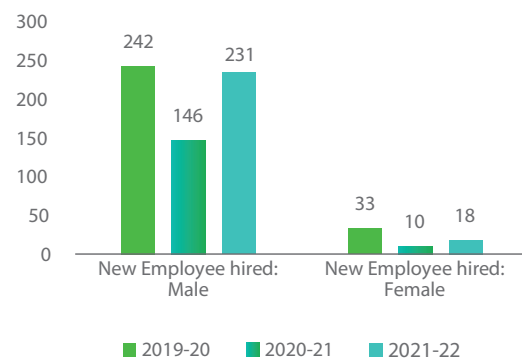
Permanent Employee Distribution (In Numbers)



Permanent Employee Distribution (Age) (In Numbers)



New Permanent Employee (In Numbers)

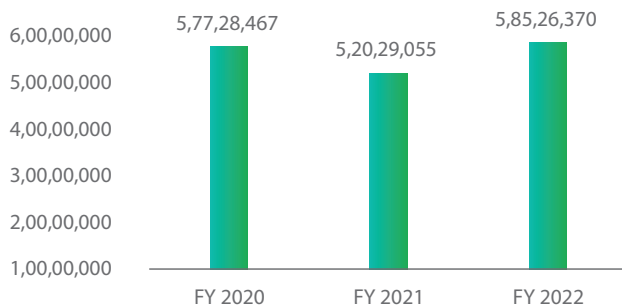


GRI 401-1, GRI 405-1

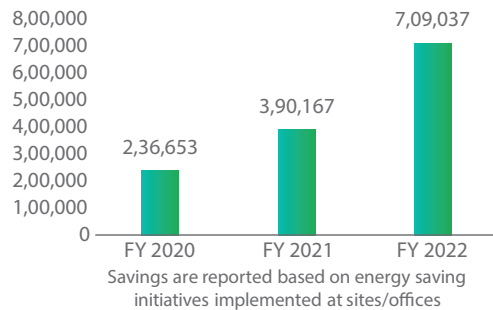
Economic, Social & Environmental Performance



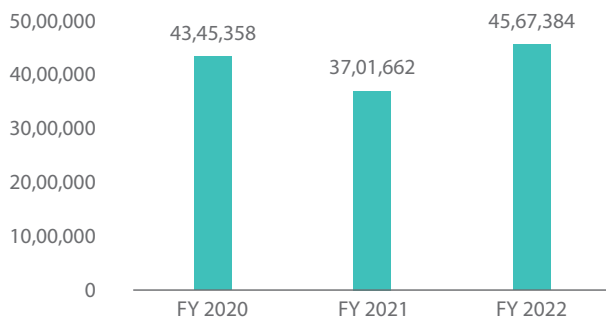
Energy Consumption (in GJ)



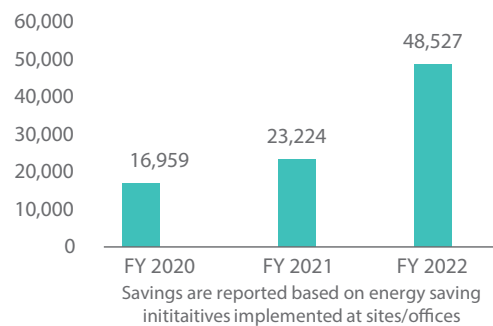
Energy Savings (in GJ)



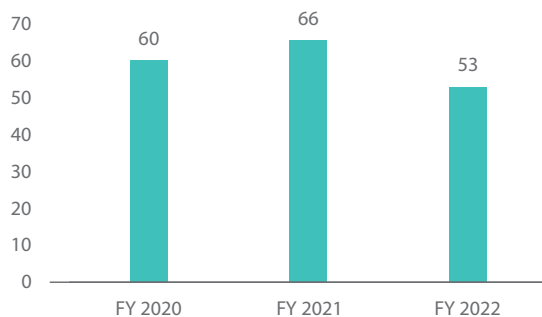
GHG Emissions (in tCO₂e)



GHG Savings (in tCO₂e)



GHG Intensity (Scope 1+2)
(in tCO₂e/turnover in INR Crore)

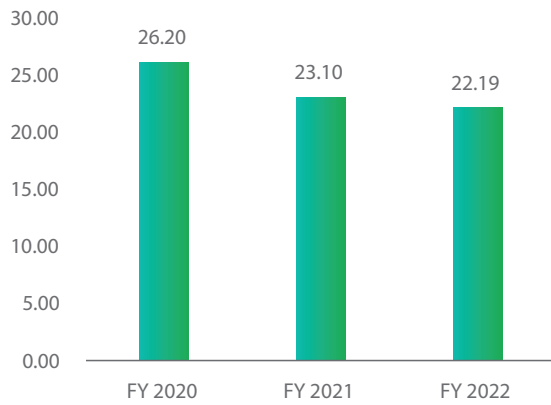


GRI 302-1, GRI 302-2, GRI 302-3, GRI 302-4, GRI 305-1, GRI 305-2, GRI 305-3, GRI 305-4, GRI 305-5

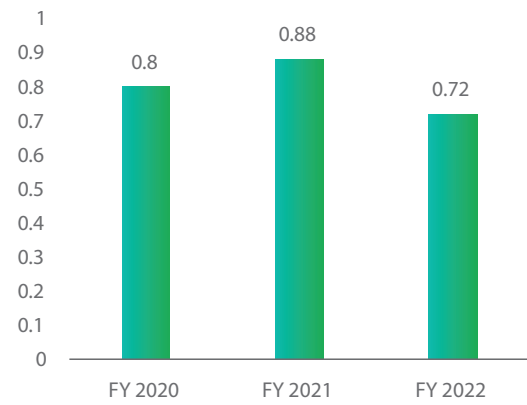
Economic, Social & Environmental Performance



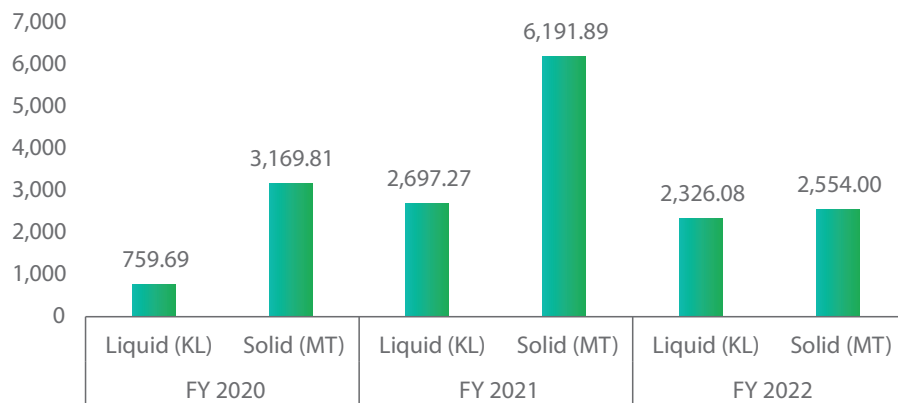
Water Consumption (in million m³)



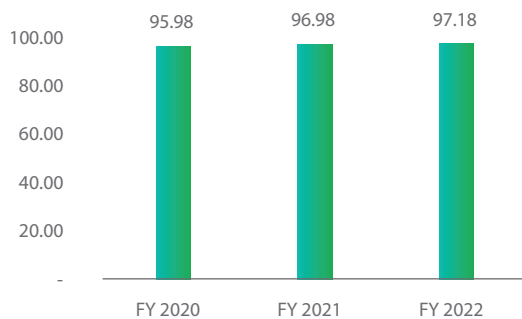
Water Recycling (in million m³)



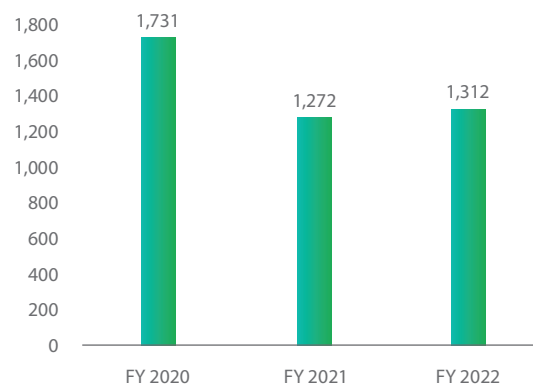
Waste Recycling (Including Hazardous and Non-Hazardous)



Health Safety & Environment Score




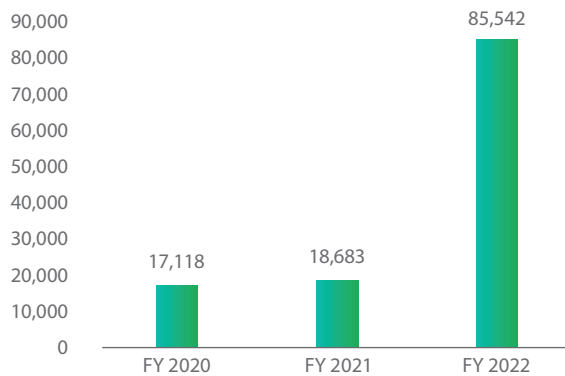
Total Near Miss cases (In Numbers)



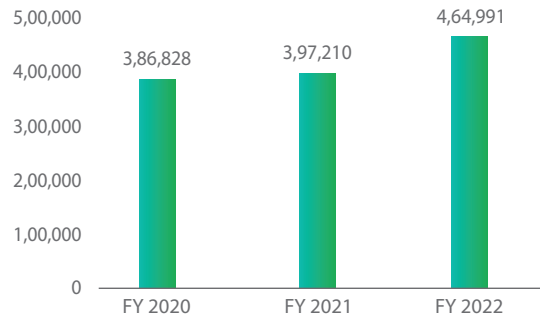
GRI 303-5

Economic, Social & Environmental Performance

 **Tree Plantation (in Numbers)**

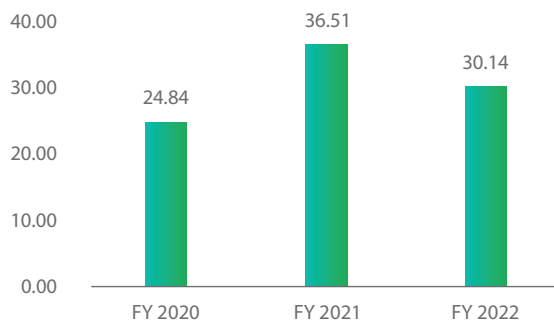



 **Cumulative No. of tree Plantation (Sites+Township) (In Numbers)**

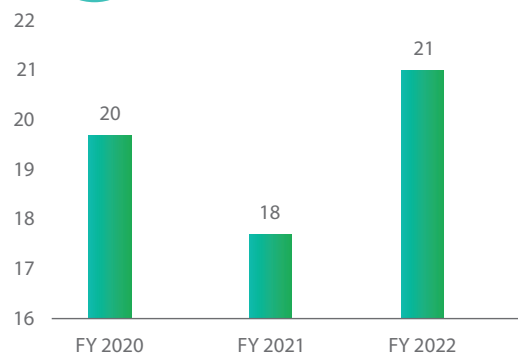


We are streamlining the process of plantation data collection from various sites/offices in our sustainability portal

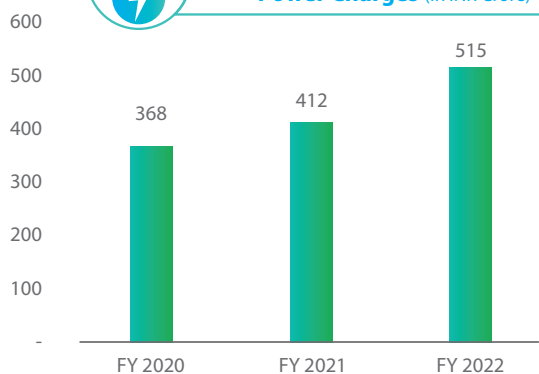
 **Total Environmental Expenditure (In INR Crore)**



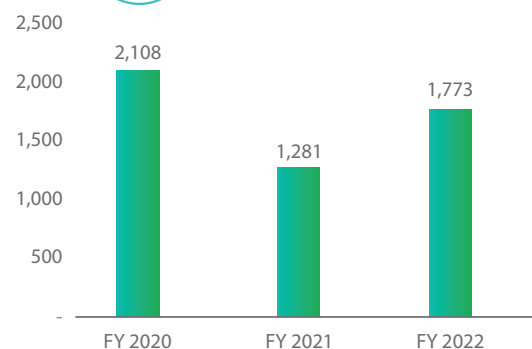
 **Water Charges (in INR Crore)**



 **Power Charges (in INR Crore)**



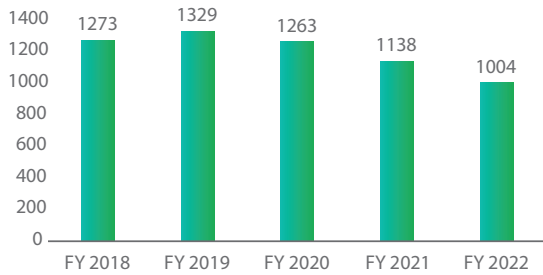
 **Gas Charges (in INR Crore)**



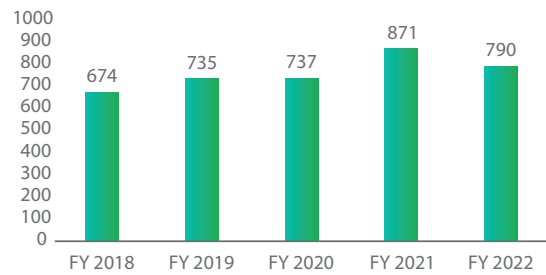
Operational Performance



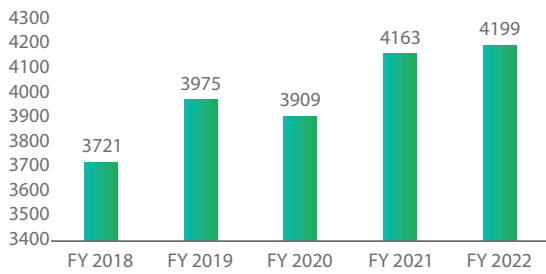
Liquid Hydrocarbons Sales (TMT)



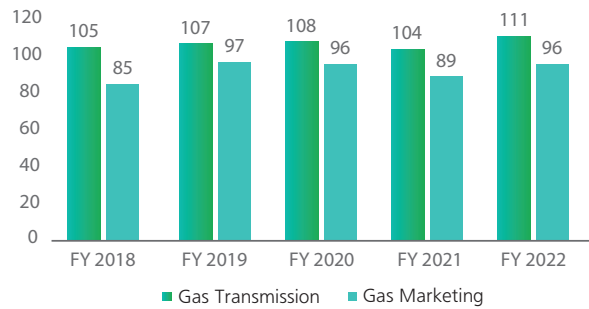
Petrochemicals Sales (TMT)



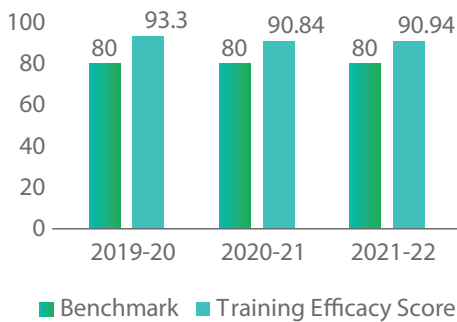
LPG Transmission (TMT)



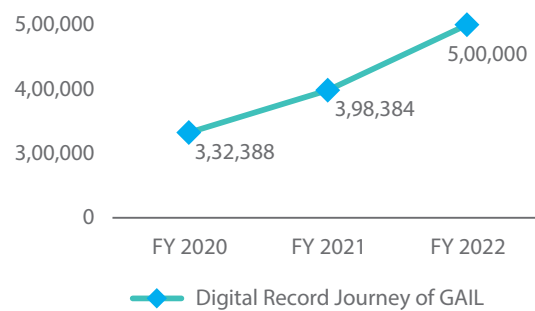
Gas Volume Trend (MMSCMD)



Training Efficacy Score

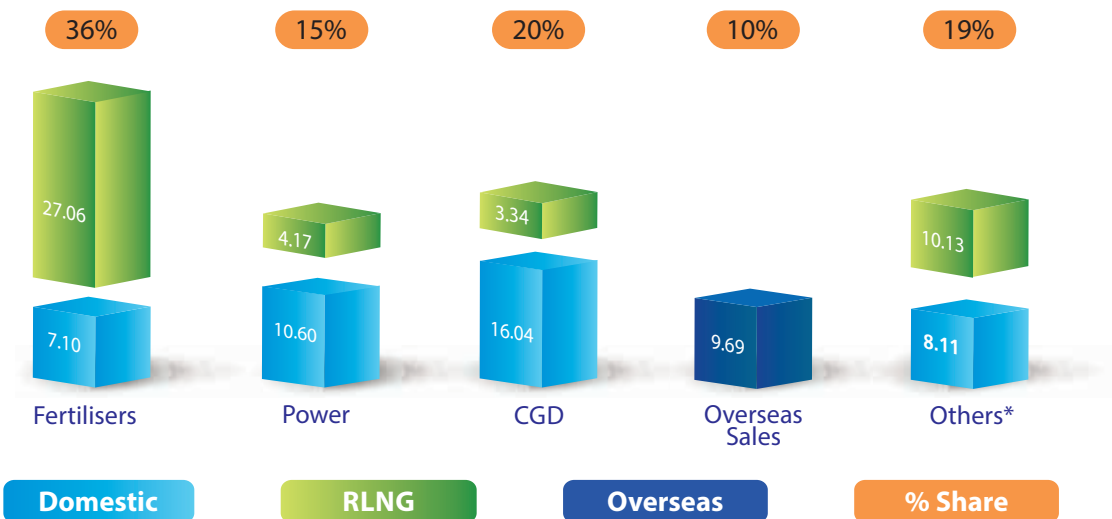
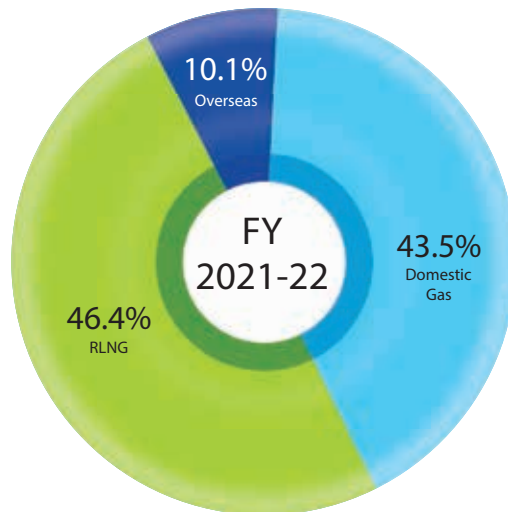


Digital Record Journey of GAIL



Gas Sourcing & Sector Wise Supply (FY 2021-22)

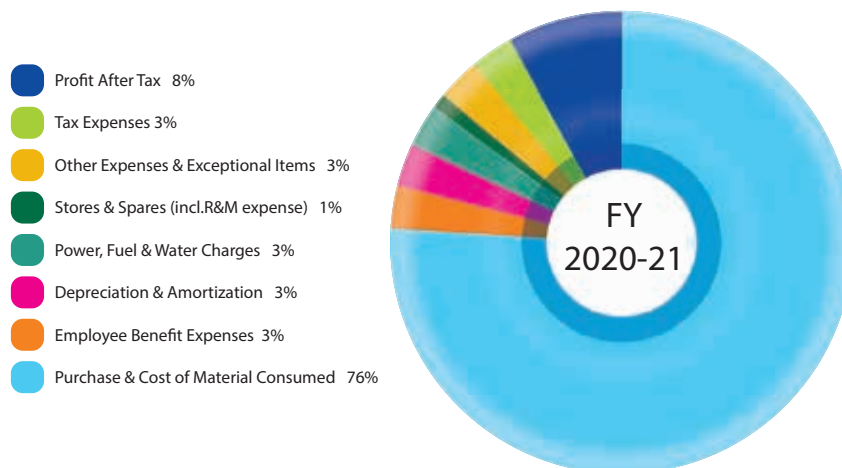
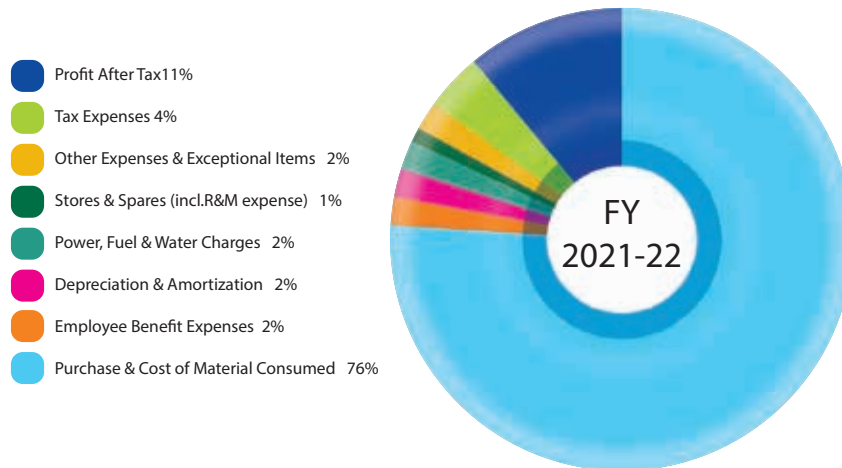
(Total 96.24 MMSCMD, % share)



- Imported Gas primarily consists of Long Term RLNG and Spot
- Major sources for domestic gas are ONGC (APM & MDP), Ravva, Ravva satellite, CBM etc.

** Others include Steel, Refinerie, Sponge Iron, Petrochemicals, GAIL Internal consumption etc.

Cost & Profit as a Percentage of Total Income





GAIL at a glance

3.1 Overview of GAIL

With a distinguished history of 38 years, GAIL (India) Limited began its journey in August 1984 and today stands with much pride as country's leading natural gas distributor. The central Public Sector Undertaking (PSU) under Ministry of Petroleum and Natural Gas (MoP&NG) was given a prestigious Maharatna status in 2013 by Government of India (GoI). The journey spans from laying pipeline to a commendable global presence with subsidiaries in the United States of America as well as Singapore in a short span of time.

Operating 14,500 km of Natural gas pipeline network and 2,023 km of LPG pipelines across the length and breadth of country with diversified interest across natural gas value chain including exploration, production, processing and transmission, distribution and marketing, we are playing a pivotal role in development of Indian energy sector. GAIL is recognized as a pioneer in establishing City Gas Projects in India, supplying gas to homes, businesses and the transportation industry through subsidiaries and joint venture companies.

We are on a mission to enhance the quality

of life through clean energy and beyond. A steppingstone in this direction is integrating green energy forms like solar, wind and biofuel into our current business portfolio. With this, we also intend to generate maximum value for all the stakeholders in the value chain.

In alignment with global and national commitments of reducing carbon emissions, we have laid a strategic action plan to strengthen our role with an image of eco-sensitive and responsible corporate. The strategy adds to our adaptability in this dynamic market by reducing risks and tapping opportunities in several areas ranging from renewable energy to expansion of natural gas pipelines and start-ups focussing on electric vehicles, innovation and digitization.

GAIL accounts for nearly 66 percent of India's total gas transmission and trading. GAIL and its subsidiaries/JVs also have a sizable market share in the city gas distribution market. We also have a sizable LNG portfolio and are expanding our presence in the renewable energy sector. By creating resilient business models, leveraging market positions and bolstering value-creation areas, our objective is to support each company sector in realising its full potential.

GRI 102-2, GRI 102-7, GRI 102-1, GRI 102-5, GRI 102-4, GRI 102-6

With a farsighted approach, we strive to provide energy to the nation for years to come in most sustainable way through R&D, collaborations, acquisitions and expansion. Sustainability considerations are ingrained across operations where our renewable energy portfolio today stands at 131.75 MW and is intended to reach 1GW in next 3-4 years. Apart from this, new business explorations continue to happen. To name a few - the setting up of an ethanol plant for ethanol blending, the setting up of 23 LNG stations along the Golden Quadrilateral and major highways and the setting up of mobile CNG stations.

Headquartered in New Delhi, India, GAIL is a public-sector enterprise, with the Government of India (GoI), holding the largest share in paid-up equity capital at 51.45%, while FPIs hold 19.49%, Mutual Funds/UTI hold 9.06%, ONGC holds 4.91%, LIC Ulip Growth-fund holds 5.62%, Indian Oil Corporation Limited (IOCL) holds 2.45%, Financial Institutions/Banks holds 0.08% and others hold 6.94% as on 31st March 2022. The company is listed and publicly traded on both the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE).



Shri Manoj Jain, CMD GAIL, inaugurated the GAIL Pavilion at the AKAM Mega Show inaugural session

GRI 102-3, GRI 102-5, GRI 201-4

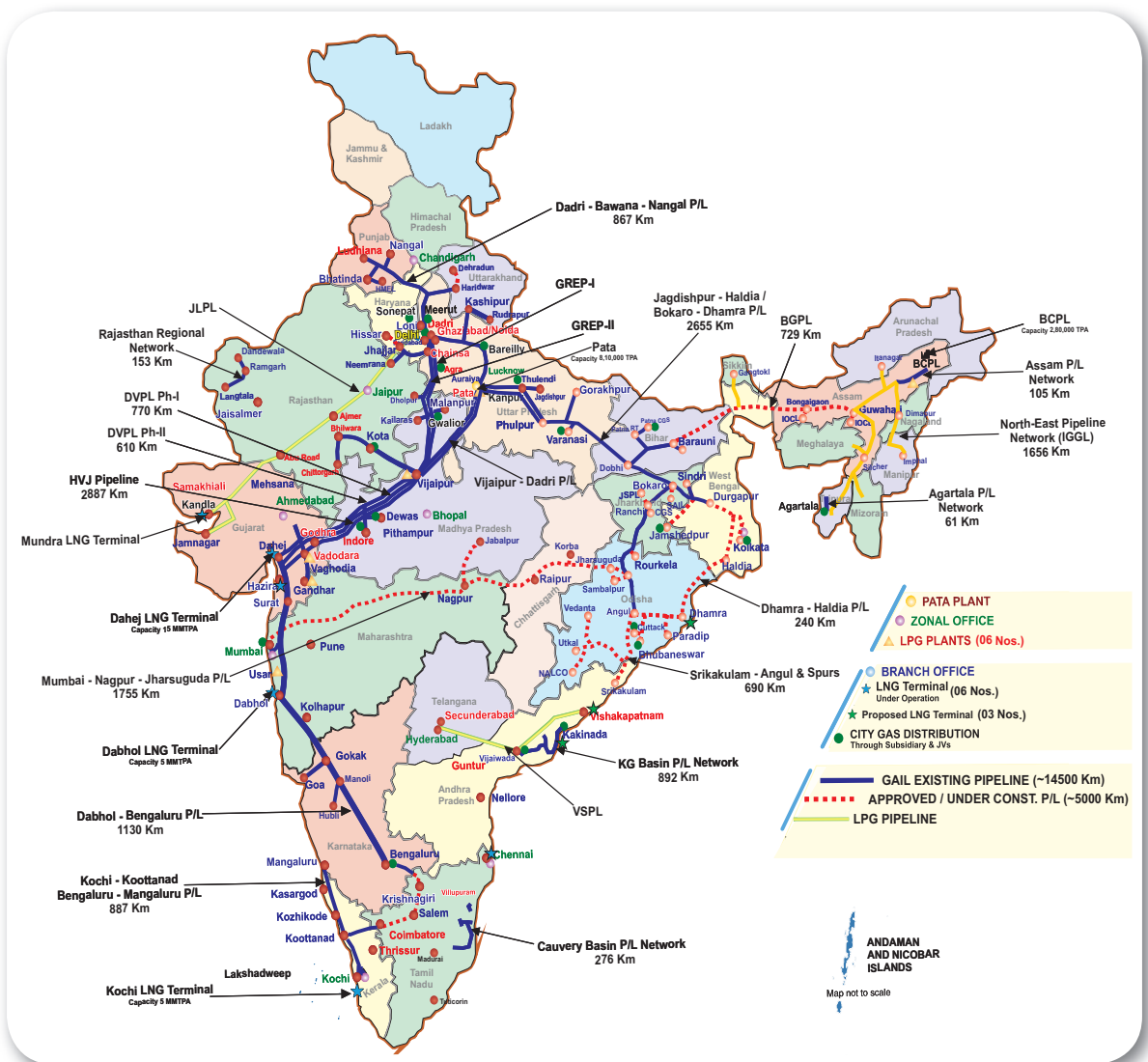
3.2 GAIL's Vision and Mission

VISION
Be the leader in the natural gas value chain and beyond, with a global presence, creating value for stakeholders with environmental responsibility.

MISSION
Enhancing quality of life through clean energy and beyond

GRI 102-16

3.3 GAIL Network



Indian economy is on healthy growth path. The expanding economy along with growing population is going to increase the consumption of primary energy resources such as Coal, Crude Oil, Natural Gas and Renewable Energy in the country.

Among the available energy sources, Natural Gas being an environment friendly clean fuel has a potential to play a significant role in providing solutions to the environmental challenges as well as ever growing energy needs in a sustainable manner. Accordingly, Government of India has focused to promote the usage of natural gas as a fuel/feedstock across the country to increase the share of natural gas in primary energy mix from current level of 6.7% to 15%.

Gas Pipeline infrastructure is an economical and safe mode of transporting the natural gas by connecting gas sources to gas consuming markets. Gas pipeline practically determines the structure of the gas market and its development. Therefore, an interconnected National Gas Grid is envisaged to ensure the adequate availability and equitable distribution of natural gas in all parts of the country.

For India, a gas-based economy is critical and progress is being made towards the goal of “One Nation, One Gas Grid.” One Nation, One Gas Grid refers to the integration of several regional networks, resulting in the creation of a National Grid for supplying natural gas-generated energy to various stakeholders such as the central government, state governments, the public and commercial sectors.

GRI 102-4, GRI 102-6, GRI 103-2, GRI 103-3

3.3.1 National Gas Grid

GAIL is working to establish a gas-based economy by expanding the natural gas system, in line with the Government of India’s objective. GAIL is improving our country’s gas infrastructure, connecting gas supplies to major demand centres and reducing regional imbalances in natural gas availability. Operating Approx. 14,500 km of Natural gas pipeline network across the length and breadth of country with diversified interest across gas value chain.

Our Major Gas Pipelines (under construction):

Sr. No.	Pipeline Project	Under Execution	State through which it passes
1.	Jagdishpur-Haldia-Bokaro Dhamra Pipeline	1013	Jharkhand (88 Km), West Bengal (433 Km) and Odisha (492 Km)
2.	Mumbai - Nagpur -Jharsuguda Pipeline	1755	Maharashtra (963 Km), Madhya Pradesh (255 Km), Chhattisgarh (448 Km) & Odisha (89 Km)
3.	Kochi-Koottanad Bengaluru Mangaluru Pipeline	312	Tamil Nadu (312 Km)
4.	Angul-Srikakulam Pipeline	744	Andhra Pradesh (125 Km) and Odisha (619 Km)
5.	Barauni – Guwahati Pipeline	729	Bihar (278 Km), West Bengal (189 Km) and Assam (262 Km)
6.	Dharma-Haldia Pipeline	253	Odisha (154 Km) and West Bengal (99 Km)
7.	Sultanpur-Jhajjar-Hissar section of CJHPL	135	Haryana (135 Km)
8.	Haridwar – Rishikesh -Dehradun section of DBPNL	50	Uttrakhand (50 Km)

3.4 Our Social Outreach

During this reporting year, GAIL has taken up several projects to fulfil its commitment towards society. In FY 2021-22, total more than 25 lakhs people get benefited through CSR projects – GAIL AROGYA, GAIL KAUSHAL, GAIL UJJWAL, GAIL SAKSHAM, GAIL SASHAKT, GAIL HARIT, GAIL UNNATI, Others (Covid Relief and disaster management).

GAIL is always committed to development of our society, in FY 2021-22 GAIL has spent INR 204.97 crores in our various social projects, which is equivalent to 3% of PAT against mandated contribution of 2%.

Out of the overall spent, around INR 65 crores has been contributed towards alleviation of COVID-19 pandemic through various initiatives (PM CARES fund, PSA Plants, Oxygen Concentrators, Regulators, PPE kits/masks/sanitizer).



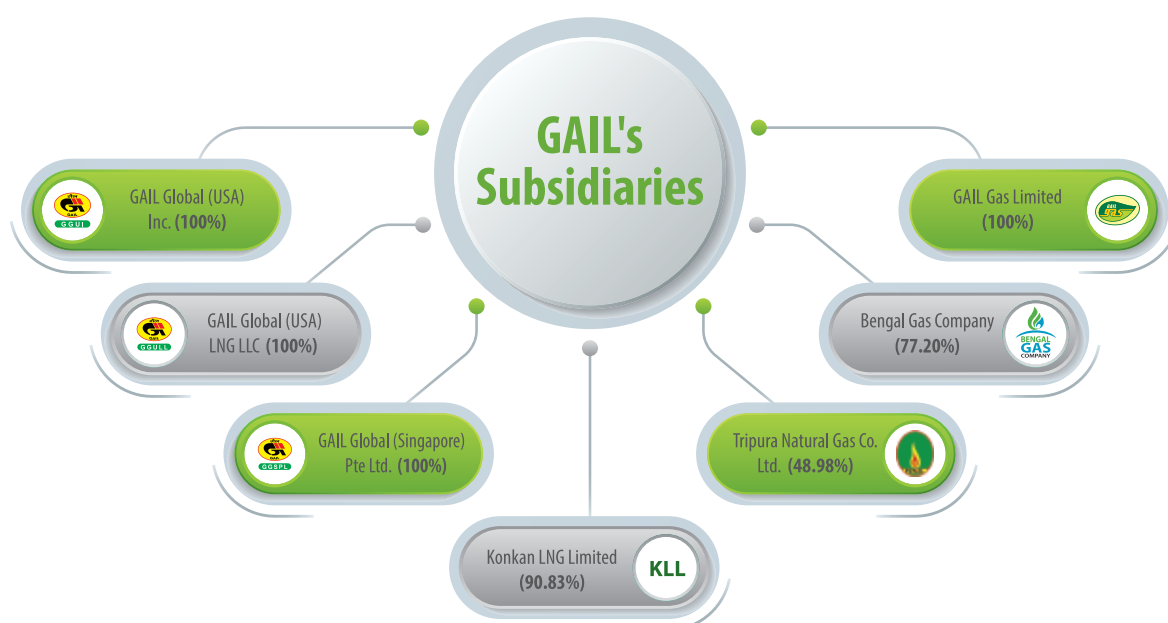
3.5 Our Subsidiaries and Joint Ventures

GAIL has formed Subsidiaries and Joint Venture companies for City Gas Distribution and Petrochemicals. GAIL is one of the pioneers to introduce City Gas Projects in India for gas supplies to households, commercial users and for the transport sector by forming Subsidiaries/ Joint Venture Companies.

GRI 102-2, GRI 102-6, GRI 102-7, GRI 102-10

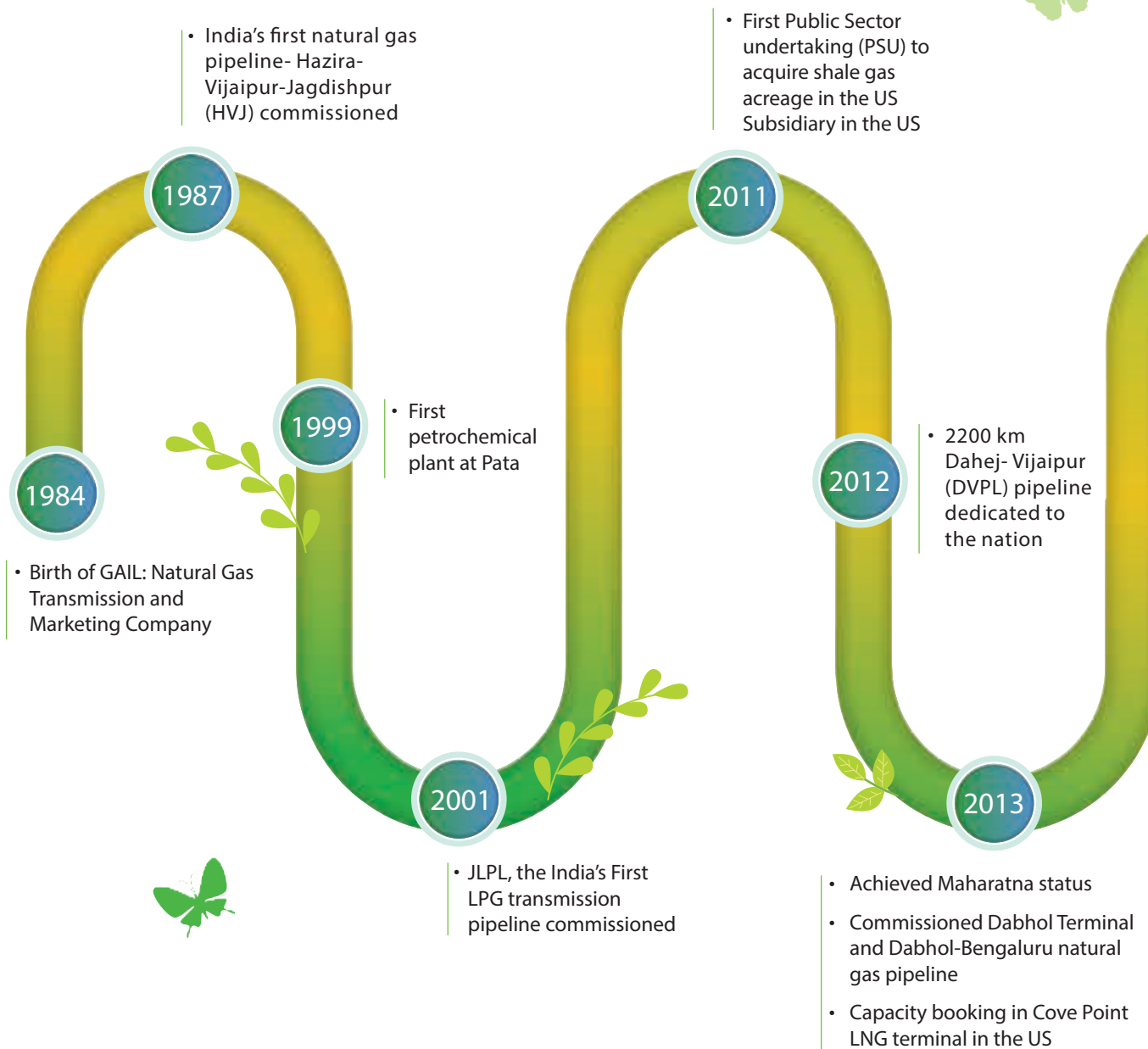
GAIL's Associate/Joint Ventures

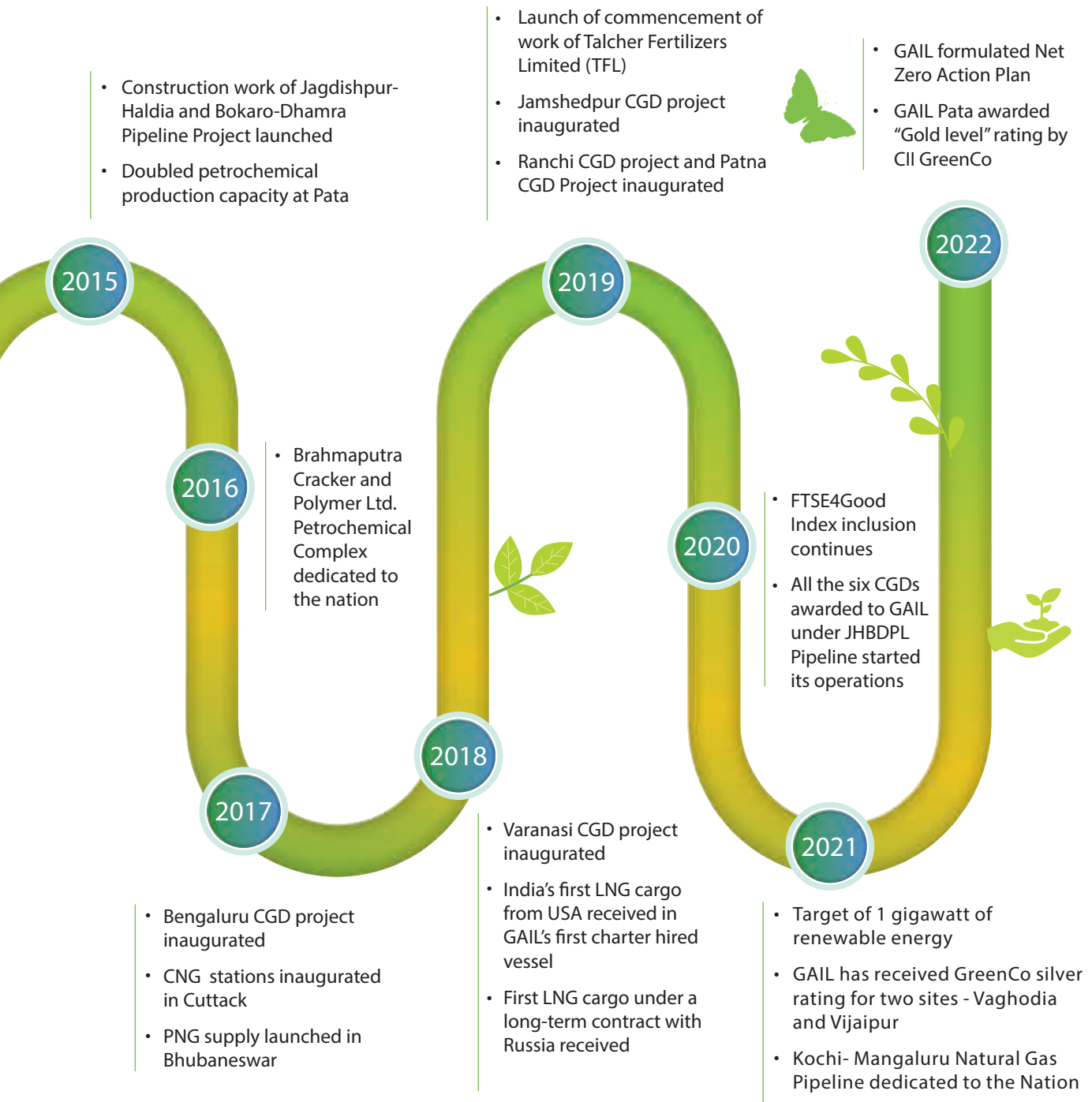
Aavantika Gas Limited (AGL) 49.99%	Indraprastha Gas Limited (IGL) 22.5%
Bengal Gas Company Limited 77.20%	Maharashtra Natural Gas Limited (MNGL) 22.5%
Bhagyanagar Gas Limited (BGL) 48.73%	ONGC Petro-Additions Limited (OPaL) 49.21%
Brahmaputra Cracker and Polymer Limited 70%	ONGC Tripura Power Company (OTPC) 26%
Central U.P. Gas Limited (CUGL) 25%	Petronet LNG Limited (PLL) 12.5%
China Gas Holdings Limited (China Gas) 2.71%	Ramagundam Fertilizer and Chemical Limited 14.72%
Fayum Gas Company (Fayum Gas) 19%	LLC Bharat Energy Office 20%
Green Gas Limited (GGL) 49.97%	TAPI Pipeline Company Limited (TPCL) 5.0%
Indradhanush Gas Grid Limited 20%	Talcher Fertilizers Limited 33.33%
Mahanagar Gas Limited (MGL) 32.5%	Vadodara Gas Limited (VGL) 50%

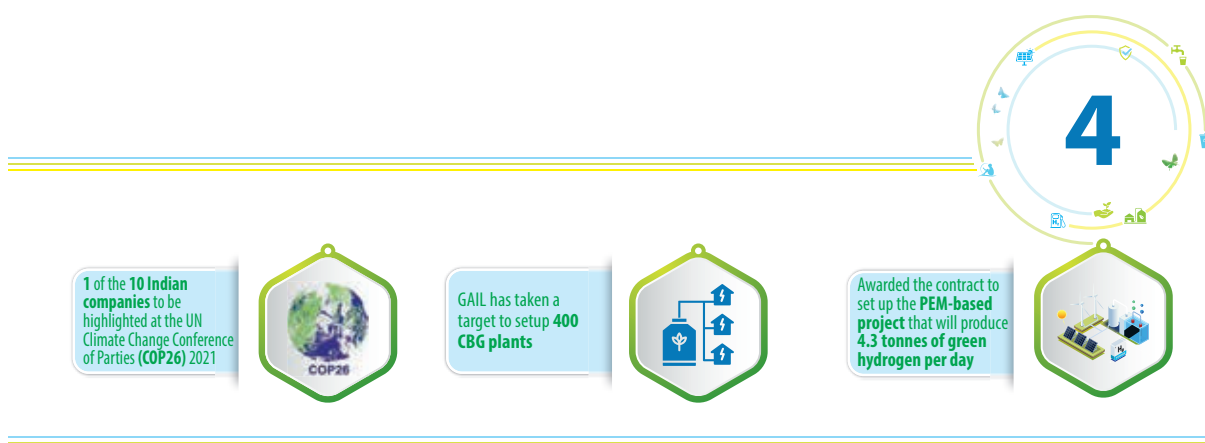


3.6 Our Timeline

38 Years of Energizing Possibilities







Sustainability at GAIL

4.1 GAIL's Approach to Sustainability

GAIL, being India's top gas distributor, is dedicated towards advancing the country's energy sector in a sustainable way, by incorporating sustainability in its operations and decision making. For us, sustainability, is a method of creating long-term value by examining our company's operations in terms of the environment's ecological, economic and social elements.

To ensure the company's long-term viability and to help us maintain our overall leadership position, we have developed a sustainability roadmap that will assist us in ensuring that our impact on the environment and society is either neutral or positive. Our sustainability roadmap has been carefully crafted based on our stakeholder requirements, nation's strategy for clean and accessible energy and the rising demand for natural gas in our country. It is our endeavour to develop proactive and transparent sustainability strategies through identification of new opportunities arising out of the nation's decarbonization ambitions.

4.1.1 Sustainability Policy

GAIL's Sustainability Policy guides us in our pursuit of sustainable business excellence while assisting us in staying on track with our sustainability obligations while also defining short- and long-term goals and targets for enhancing our triple

bottom line performance. Being cognizant of our role as a responsible corporate citizen, we have institutionalized sustainability into our business practices through development and implementation of various programs and initiatives.

Our sustainability policy can be accessed from the Sustainability section on GAIL's website <https://www.gailonline.com/SBPolicy.html>.

4.1.2 Sustainability Governance

At GAIL, we believe that strong governance structure, formed on the pillars of integrity, ethics, respect, safety, innovation and stakeholder's welfare enables us to grow in a sustainable manner and fulfil our mission of "enhancing quality of life through green energy and beyond." Our strong governance structure along with our sustainability policy enable us integrating environmental and social accountability into the core of our growth strategy.

GAIL has a three-member Sustainable Development Committee (SDC) on its Board of Directors. As of 31st March 2022, the committee, is chaired by the GAIL's Chairman and Managing Director (CMD) and comprises of Director (Projects), Director (Business Development), as members. The role of committee includes deliberation on the organization's sustainability agenda as well as examines the company's

GRI 102-20, GRI 102-29, GRI 102-18, GRI 102-30, GRI 102-31, GRI 102-32, GRI 103-2, GRI 103-3

climate change strategy, emergency response on strategy and HSE performance. The SDC also guide us on how to implement sustainability strategy across the business, manage goal setting, reporting processes, strengthen relations with external stakeholders and ensure the overall accountability across the organization. Our sustainability governance aims to ensure group's commitments to different stakeholder groups, including customers, consumers, employees, shareholders, suppliers, decision-makers and representatives of the community. The SDC met four times in FY 2021-22. The SDC is informed by the Sustainable Development Steering Committee (SDSC), which backs up the Sustainability Policy directives and is responsible for carrying out the company's sustainability goals as well as risk and performance management.

4.1.3 Sustainable Development Steering Committee

At GAIL, the Sustainable Development Steering Committee (SDSC), is a multidisciplinary committee comprises of the departmental heads (HoDs) of multiple departments including HoDs of C&P, HR, SD, F&A, Risk, CSR, CC, CST, Mktg-PC, Mktg-Gas and HSE. The SDSC is tasked with assisting the Sustainable Development Committee (SDC) in fulfilling its responsibilities, which include forming the strategy, operational model and reporting frameworks concerning sustainability and climate change.

The committee also ensures compliance with the policy through direct supervision of all sustainability initiatives and responsible for executing the company's sustainability goals as well as risk and performance management. We are extremely concerned about the environmental impact of our operations and managing the same take precedence. Efforts are constantly made to reduce or neutralize the impact of greenhouse gases and to achieve zero waste disposal.

Various units at the organization are actively assessing the risk posed by climate change. We have separate groups that coordinate risk management throughout the firm. While

HSE is coordinating for all risks pertaining to environmental and safety issues, the CSR group is coordinating for all risks pertaining to social impact related issues. These groups ensure that all existing and anticipated environmental, economic and social risks are addressed. The risks are recognized, evaluated qualitatively and quantitatively, analysed and effectively managed by implementing mitigation plans.

4.1.4 Sustainability Activities

At GAIL, we recognize our role in establishing India's energy security in line with nation's decarbonization strategies and our commitment towards meeting India's ever growing clean energy demand. To achieve this, we are in process diversifying our supply chain as well as building a portfolio of clean energy sources. As a testament of our sustainability efforts, we were amongst the 10 Indian companies to be highlighted at the United Nations Climate Change Conference of Parties (COP26) 2021, as a part of UN Global Compact – Accenture CEO Study on Sustainability.

During FY 2021-22, we initiated and executed several projects and programmes across multiple sites as part of our Annual Sustainability Workplan in order to realize our sustainable growth vision:

- We have set a target to achieve Net-Zero (scope 1 and scope 2) status by 2040, while reducing our scope 3 emission by 35% (from baseline year of 2020-2021) by 2040.
- GAIL has awarded the contract to set up the 10 MW, Green Hydrogen project based on PEM technology that will produce 4.3 tonnes of green hydrogen per day of 99.99% purity, which will be mixed in natural gas for supply to industries.
- In the field of CBG, GAIL has signed investment agreements with 04 numbers of start-ups working in the area of Compressed Bio-Gas (CBG) sector for a financial commitment of INR 7 crore. Furthermore, we are also in process of constructing our first CBG facility with a 5 TPD capacity, in collaboration with Ranchi Municipal Corporation and has entered into a 22-year concession deal for the supply of municipal solid waste (MSW) and related infrastructure for the construction of the plant.

- GAIL has implemented a pilot project for fixing CO₂ (1TPD) using microalgae in an open raceway ponds at Pata petrochemical complex in association with Central Institute of Mining and Fuel Research (CIMFER), Dhanbad.

4.1.5 Monitoring of Sustainability Projects

4.1.5.1 Dashboards

Understanding the importance of real-time monitoring for efficient management of resources, we have developed number of dashboards using our in-house capabilities. These dashboards enable us to conduct real-time monitoring of various significant energy users (SEUs), such as Gas Turbines, Heavy Duty Steam Turbines, Centrifugal Compressors, Gas Cracking Furnaces, Boilers, Heat Recovery Steam Generators (HRSGs), other process heaters, Extruder units.

4.1.5.2 Global Reporting Initiative (GRI) Community Member

Being a founding member of GRI South Asia Consortium since 2013, GAIL has been engaging

with the GRI in various aspects to make its sustainability reporting practices more relevant and transparent.

4.1.5.3 GreenCo Assessment of the sites

As part of our efforts to reduce our energy consumption, we are constantly implementing various energy efficiency initiatives across our sites. To further streamline these efforts, GAIL has commenced the process of implementing the GreenCo Rating across its several sites.

GreenCo Rating implementation gives firms with leadership and direction on how to make their products, services and processes more environmentally friendly by evaluating the enterprises on the environmental friendliness of their activities using a life cycle approach. During FY 2021-22, GAIL's Pata plant achieved the distinction of becoming the first GAIL unit to be awarded the "GreenCo Gold" rating by CII Sohrabji Green Business Centre. Further, GAIL Gandhar unit and Vizag-Secunderabad LPG Pipeline (VSPL) received the "GreenCo Silver" rating.



Glimpses of "Training program on GreenCo Rating and Net Zero Approach" for GAIL India Limited held on 16 & 17 June 2022 at CII Godrej GBC, Hyderabad

GAIL Pata has been awarded Gold rating by GreenCo

During FY 2021-22, GAIL Pata plant achieved the distinction of becoming the first GAIL unit to be awarded the “GreenCo Gold” rating by CII Sohrabji Green Business Centre.





Our Stakeholder Inclusion and Materiality

At GAIL, we acknowledge our responsibility to identify and meet stakeholder expectations to create long-term value for all stakeholders. We engage with our stakeholders and understand their concerns and interests through the materiality assessment process. Materiality assessment is crucial to determine the key topics that could have a significant impact on our stakeholders as well as on our business. The new BRSR requirement now also includes reporting on the significant material issues identified and the rationale for identifying them.

During FY 2021-22, we undertook the 'Towards Sustainable and Net Zero GAIL Survey 2021-22' as a key step to gather the perspectives and feedback from our stakeholders. The survey recorded participation from around 252 employees. The outcome of such feedback and materiality assessment was utilized in defining the Company's key ESG priorities and develop action plan to address the same.

5.1 Our Stakeholders

Stakeholder engagement is a multi-stage process of identifying and prioritizing stakeholders, identifying the means and modes of the engagement and managing the stakeholder

expectations periodically. We have identified and prioritized our internal and external stakeholders based on their relative importance to our business and their impact on our business and vice versa. A full list of individuals and groups whose interests are affected or could be affected by our activities was created and classified into internal and external stakeholder groups. The internal stakeholders comprise all the employees whereas the key external stakeholders comprise the remaining 12 stakeholder groups.

1. Government & Other Regulators
2. Investors
3. Employees
4. Suppliers
5. Customers
6. Joint Ventures and Subsidiaries
7. Industry Associations
8. Community
9. Contractors/Implementing Agencies
10. Academic and Research Institutions
11. NGOs /Civil Society Organizations
12. The public at large
13. Media

GRI 102-20, GRI 102-40, GRI 102-42

5.1.1 Our Stakeholder Engagement Framework

Our sustainability initiative brings together stakeholders from across our value chain to identify and address the industry’s most critical environmental challenges. Systematic channels of interaction with our stakeholders are embedded within our business processes, which include one-on-one meetings, annual general meetings, training, group discussions, surveys, supplier and customer meetings and grievance redressal methods.

Stakeholder concerns are assessed and taken into account at a strategic level. It is our constant endeavour to strengthen our stakeholder engagement mechanism and expand stakeholder participation continuously. Meeting our stakeholders’ expectations is incredibly valuable and our stakeholder engagement framework represents how we connect with them and address their concerns.

GAIL at Bengal Global Trade Expo, as part of BGBS2022, a business summit taking place at Kolkata.



Shri M V Iyer, Director (BD), GAIL inaugurated the GAIL stall at the Bengal Global Trade Expo in Kolkata on Day 1.

Speaking at the Global Business Summit - 2022, Shri M V Iyer, Director (BD), GAIL, said “Through the execution of JHBDPL project termed as Pradhan Mantri Urja Ganga project, GAIL will connect East and Northeast India to the National Gas Grid under ‘One Nation, One Gas Grid’”

GAIL is executing an 846 km pipeline in 15 districts in WB at an investment of around ₹ 4,000 crore. After completion of Dobhi to Durgapur & commencement of gas supply to M/s Matix Fertilizers, Durgaour in August 2021, now 315 km long Durgapur to Haldia pipeline including spurline to Kolkata is being constructed with target completion by Sept 2023 in phases.”

Stakeholder group	Goals of engagement	Frequency of engagement	Mode of engagement
Government and other regulators - External stakeholder	<ul style="list-style-type: none"> » Support government missions to promote sustainable development goals » Support government in transitioning to a clean gas-based economy » Relationship building » Performance appraisal through MoUs » Submission of progress reports » Discussions on major investment plans 	Annual, Monthly and Need-based	<ul style="list-style-type: none"> » MoUs » Quarterly Progress Report » Annual Report

GRI 102-9, GRI 102-21, GRI 102-29, GRI 102-43, GRI 102-44

Stakeholder group	Goals of engagement	Frequency of engagement	Mode of engagement
Financial Institutions - Internal and External stakeholder	<ul style="list-style-type: none"> » Financial performance » Share broad future strategies » Get feedback and address concerns » Seek approval from shareholders on major decisions 	Annual, Quarterly	<ul style="list-style-type: none"> » One on One Meetings with Investors » Attending IR Conferences/ roadshows » Conducting site visits for investment Community » Arranging Conference Calls for Investment Community » Conducting Analyst Meets » Publishing Public disclosures and quarterly results » Conducting Press conferences » Communication with Shareholders and ADR holder
Employees - Internal stakeholder	<ul style="list-style-type: none"> » Communication on GAIL's business goals, values and principles » Action planning on major projects » Implementation of best practices » Facilitating learning and developing » Track key performance indicators and action plans » Understand and address concerns » Idea generation, sharing and learning 	Annual, Quarterly, Monthly, Daily	<ul style="list-style-type: none"> » Satisfaction surveys » Social Media » Grievance Redressal » Suggestion schemes » CMD open house » Various committees » GAIL Day celebration » Emails, Journals, » Meetings with employee associations and unions
Suppliers - External stakeholder	<ul style="list-style-type: none"> » Communicate operational decisions » Seek their performance data/ information » Understand and address their concerns » Dispute resolution » Review of Contracts 	Annual, Quarterly, Monthly, Daily	<ul style="list-style-type: none"> » Supplier Meets » Industry Conclave » Access to empowered C&P committee » Vendor development program/ Vendor coaching programs » Hand-holding programs for SC/ ST-owned MSEs » Pre-tender or pre-bid meeting for all tenders » Meets with micro and small enterprises
Customers- External stakeholder	<ul style="list-style-type: none"> » To understand their satisfaction levels » To address operational concerns » To get feedback on new product development 	Annual, Quarterly	<ul style="list-style-type: none"> » Annual Customer Meet » Zonal Customer Meet » Customer Interactive Meet » Customer Satisfaction Survey
Joint Ventures and Subsidiaries of GAIL (India) Limited - External stakeholder	<ul style="list-style-type: none"> » Discussions on major investment plans' » Sharing of performance data » Facilitate decision-making on major topics 	Need based	<ul style="list-style-type: none"> » Need-based meetings » Reports and Newsletters

GRI 102-44

Stakeholder group	Goals of engagement	Frequency of engagement	Mode of engagement
Industry Associations - External stakeholder	<ul style="list-style-type: none"> » Share performance data Inform on keys decisions and projects » Participate in conferences and seminars » Engage in public policy advocacy 	Need-based	<ul style="list-style-type: none"> » Seminars » Conferences » Industry Expo » Interviews » Reports and Newsletters
Communities - External stakeholder	<ul style="list-style-type: none"> » Engaging with communities for conducting need assessment and executing community development projects » Understanding and addressing their concerns on critical incidents » Community Grievances Redressal 	Need-based	<ul style="list-style-type: none"> » Meetings and direct interaction » Community events » Needs analysis and Impact Assessments » CSR initiatives » Corporate communications Materials
Contractors/ Implementing Agencies - External stakeholder	<ul style="list-style-type: none"> » Communicate operational decisions » To align their work with company policies and mandates (Compliance) » Seek their performance data/ information » Understand and address their concerns » Communicate company obligations such as contract renewal, payments etc. » Dispute resolution » Review of Contracts 	Annual, Quarterly, Monthly, Daily	<ul style="list-style-type: none"> » Need-based meetings » Meets » Website
Academic and Research Institutions - External stakeholder	<ul style="list-style-type: none"> » Partner and participate in GAIL research and development activities 	Need based	<ul style="list-style-type: none"> » Project meetings » Periodic reviews » Website » Social media » Press
NGOs / Civil Society Organizations - External stakeholder	<ul style="list-style-type: none"> » Executing community development projects » Understanding and addressing their concerns on critical incidents 	Need-based	<ul style="list-style-type: none"> » Project meetings » Annual reviews
Public at large - External stakeholder	<ul style="list-style-type: none"> » Participate and support GAIL initiatives for public » Converting passive citizens to an active consumer » Brand awareness and improved brand recall » Understanding and addressing their concerns on critical incidents 	Annual, Quarterly, Monthly, Daily	<ul style="list-style-type: none"> » Social media campaigns/posts etc. » Community events » CSR initiatives » Corporate communications Materials such as website etc. » Press

5.2 Finding Focus Areas: Materiality Assessment

We believe that it is important to identify how our operations are impacting our stakeholders and how stakeholders expectations impact our business to ensure sustainable business growth and value creation for all stakeholders. Creating value for all stakeholders in our value chain and beyond has always been critical to our vision. Hence, determination (materiality assessment) of key material topics that impact our operation, as well as our stakeholders, remains an important exercise. This enables us to align our sustainability and business objectives with societal needs and expectations, thereby ensuring long-term sustainability and enhancement of stakeholder value.

Rather than adopting a one size fits all approach, we have referred to standards specific to the oil and gas sector such as International Petroleum Industry Environmental Conservation Association (IPIECA) and International Finance Corporation (IFC) standards for offshore exploration and SASB industry-specific standards for materiality assessment. This ensures that the disclosures are material, comparable and will provide a decisive way forward for investors.

The comprehensive and strategic materiality assessment framework has enabled us to identify, review, analyse the potential Environmental, Social and Governance (ESG) issues that could impact our operations and stakeholders. We have recalibrated our materiality considering contemporary relevance. Identification and prioritization of material topics are the most critical steps towards understanding a company's sustainability approach and performance. This enables us to understand how the resources are allocated and utilized.

The materiality assessment consists of five phases: understanding the context, identifying actual and potential impacts, assessing the significance of impacts, prioritizing the impacts and review by the senior leadership. The following sections

describe the five steps to determine material topics in more detail.

5.2.1 Phase I: Understanding the context

This step includes creating an initial overview of the activities and business relationships. It includes considering business activities, business relationships, stakeholders and sustainability context of all the entities GAIL controls or has an interest in (e.g., subsidiaries, joint ventures, affiliates), including minority interests.

5.2.2 Phase II: Identify actual and potential impacts

This step includes identifying actual and potential impacts of the topics on the economy, environment and people, including impacts on their human rights, across our activities and business relationships. Actual impacts are those that have already occurred and potential impacts are those that could occur but have not yet occurred. These impacts include negative and positive impacts, short-term and long-term impacts, intended and unintended impacts and reversible and irreversible impacts.

Diverse sources such as oil and gas sector-specific standards, legal reviews, anti-corruption compliance management systems, financial audits, occupational health and safety inspections and shareholder filings help in identifying such impacts.

5.2.3 Phase III: Assess the significance of the impacts

Relevant stakeholders are consulted to assess the significance of its impacts through relevant engagement mechanisms. The responses of relevant stakeholders are analysed to determine the significance of the impact of probable material issues. The severity of an actual or potential negative impact is determined by the following characteristics:

- **Scale:** how grave the impact is.
- **Scope:** how widespread the impact is, for example, the number of individuals affected or the extent of environmental damage.

- **Irremediable character:** how hard it is to counteract or make good the resulting harm.

5.2.4 Phase IV: Prioritize the most significant impacts for reporting

The material topics are prioritized based on their significance as per stakeholder consultation and are ranked into high, medium and low. Prioritization helps us in focusing on highly material topics first and then directing our efforts towards other material topics.

5.2.5 Phase V: Review

Once the topics are prioritized, our senior executives

or group of senior executives in the organization review the topics. The senior leadership reviews the process and results of the assessment and provide their inputs. The involvement of senior leadership in materiality assessment is the testament to the fact that materiality assessment and stakeholder consultation is given utmost priority. The following table highlights the key material issues for GAIL under the Economic & Governance, Environmental and Social dimensions. The issues are further ranked in three categories – High, medium and low based on their importance to GAIL and their important to our stakeholders.

Sr. No.	Topic	Why is it important	E&G/E/S	Rank
1.	Resource Optimization (waste, water, energy management)	Resource Optimization becomes extremely important to GAIL as GAIL is moving towards Net Zero	Environment	
2.	Access and Affordable Clean energy for all	For a distribution company, access and affordability of clean energy is a major agenda	Environment	
3.	Product and Service Quality	Ensuring product and service quality over and beyond compliance is an important factor to achieve consumer and business growth.	Economic & Governance	
4.	Risk and Crisis Management (Closure and Rehabilitation, Asset integrity)	The impending risk of supply demand that has been fuelled by Covid, wars and market transition needs to be ascertained for a proper business plan	Economic & Governance	
5.	Community Development (rights of indigenous people, land and resource rights)	Continuous community engagement is necessary for any company to ensure license to operate	Social	
6.	Customer Relationships, Experience and Satisfaction	For any business to thrive, maintaining proper customer relationship and enhancing customer experience is a top priority	Economic & Governance	
7.	Towards Decarbonization & Net Zero	In the current scenario, where decarbonization is need of the hour to mitigate the effect of climate change, GAIL is taking proactive measure to become GAIL Net Zero	Environment	
8.	Human Capital Management (Well-being, engagement, diversity and inclusion)	Workforce is a pillar for any business, hence developing capable workforce is something that should be at the core of business strategy	Social	
9.	Health and Safety (customers, employees and suppliers)	Being in a business which deals with pipelines and gas supply, ensuring proper health and safety along the value chain becomes a matter of extreme importance	Social	
10.	Business Growth and Profitability (business model resilience, market presence)	For any business to survive a proper business model that focuses on resilience, continuity and proper supply and demand is quintessential	Economic & Governance	

Sr. No.	Topic	Why is it important	E&G/E/S	Rank
11.	Business Ethics, Integrity and Compliance (bribery and anti-corruption, anti-competitive behaviour, fraud, tax transparency and strategy)	Business ethics, anti-corruption, anti-bribery, tax transparency, anti-competitive behaviour becomes a critical issue to achieve continued business growth without compromising on ethics.	Economic & Governance	
12.	Sustainable Sourcing (human rights, wages, work conditions, child/ forced labour)	Sustainable sourcing that ensures both environment friendly and socially responsible sourcing needs to be imbibed in the business strategy to ensure sustainable and robust value chain.	Economic & Governance	
13.	Innovation, Patents and Technology Transfer	Nature based technology, building research capabilities that ensures proper support to business and associated activities is a priority	Economic & Governance	
14.	Marketing and Labelling Practices	Owing to the nature of our industry and products, marketing and labelling for safe handling is of prime importance.	Economic & Governance	
15.	Climate change adaptation and mitigation	Climate Change is no longer a peripheral concern but has taken a centre stage. GAIL being one of the leading sustainability champions, it is extremely important that we have proper climate mitigation plans.	Environment	
16.	Economic Performance	For any business to thrive, economic performance is a must	Economic & Governance	
17.	Data Privacy (employee, supplier, customer, sensitive data) and Cyber Security	With the volatility of data, ensuring proper measures of privacy is quintessential	Economic & Governance	
18.	Protection of human rights	Human rights along the value chain is as important as maintaining human rights within business premises to ensure responsible business	Social	
19.	Protection of biodiversity and ecology	Causing no or minimal harm while developing and operating is a prime focus for GAIL which conducts its business in the utmost responsible way	Environment	
20.	Supply Chain Management (Supplier engagement and capacity building)	To ensure sustainability is incorporated throughout the value chain, it is very important for GAIL to enhance the capacity of its complex supplier network	Economic & Governance	
21.	ESG in governance and transparency in reporting (Board oversight, management role, leadership & policy advocacy)	The governance underpinning the efforts done in social and environmental form is needed to ensure proper execution and oversight	Economic & Governance	
22.	Digital Transformation	For any business to grow, there should be adequate focus in developing digital perspectives	Economic & Governance	

Legend: HIGH MEDIUM LOW

Boundary and KPI's with Respect to Material Topic

Material Topic	Sub Material Topic	GRI Topic	Boundary	KPI
Business Growth and Profitability (business model resilience, market presence), Economic Performance	Economic Performance of GAIL, Business Outlook, Industry Event and Engagement, Market presence	201-Economic performance, 202- Market presence	Within GAIL	Total revenue from Operations, Economic Value Generated and Distributed, Economic Value Distributed, Gas transmission in MMSCMD
Product Service and Quality	Customer satisfaction		Within & Beyond GAIL	Customer Satisfaction Index
ESG in governance and transparency in reporting (Board oversight, management role, leadership & policy advocacy)	Governance and Risk Management, Governance Structure, Sustainable Development Committee, Governance Mechanism		Within & Beyond GAIL	Board structure (number of committees, number of members), ESG specific trainings hours of directors
Access and Affordable Clean energy for all	Gas-based economy, investments across the product value chain, policy reforms, clean energy market, SPAs and purchase contracts		Within GAIL	Kilometers of gas pipeline networks, percentage of CNG operated by GAIL, Percentage supply of natural gas to different sectors
Digital Transformation	E tendering E payment		Within & Beyond GAIL	Percentage of procurement through GeM portal
Innovation, Patents and Technology Transfer	Research and development,		Within GAIL	Expenditure for Research and Development
Supply Chain Management (Supplier engagement and capacity building), Sustainable Sourcing (human rights, wages, work conditions, child/ forced labour)	Sustainable Procurement, Digital Transformation in supply chain, Supplier Environmental Assessment, Supplier Human Rights Assessment,	204 Procurement Practices, 308 Supplier Environment Assessment, 414- Supplier Social Assessment,	Within & Beyond GAIL	Percentage procurement from MSEs, Oder value through GeM portal, Number of new supplier assessed
Climate Change adaptation and mitigation, Towards Decarbonization & Net-zero	Climate Change and Sustainable Development, Adaptation, GAIL Envisioned Net-Zero Action Plan	302 Energy, 305- Emissions	Within & Beyond GAIL	Operational decarbonization, Energy transition, Carbon Capture Utilization & Storage, Offsetting
Resource Optimization (waste, water, energy management)	Material Consumption, Energy consumption and reduction, renewable energy consumption, Water consumption, Waste Management	301-Materials, 302- Energy, 303- Water and Effluents, 306- Waste	Within & Beyond GAIL	Energy consumption, Energy savings, Energy sold, Renewable energy generated, water recycling, Implementation of GreenCo rating for resource optimization at major factories, Capacity utilization percentage, financial saving through QC projects, Environmental Expenditure
Protection of biodiversity and ecology	Biodiversity Management	304- Biodiversity	Within & Beyond GAIL	Biodiversity Initiative at various sites, Green Belt area, Number of trees planted
Health and Safety (customers, employees and suppliers)	HSE Management System, Occupation Health and Safety, Customer Health and Safety, Asset Integrity Management System	403-Occupational health and safety, 403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships, 416- Customer health and safety	Within & Beyond GAIL	HSE score, Number of minor incidents, Number of safety observation reported Near miss, LTIFR, Severity Rate, Fatality Rate, Safety Audits
Risk and Crisis Management (Closure and Rehabilitation, Asset integrity)	Governance and Risk Management Asset Integrity Management System	102-15 Key impacts, risks and opportunities, 102-29 Identifying and managing economic, environmental and social impacts, 102-30 Effectiveness of risk management process, 102-31 Review of economic, environmental and social topics	Within & Beyond GAIL	Key Risks and Mitigation measures
Data Privacy (employee, supplier, customer and sensitive data) and Cyber Security	Information system and Digitalization, Data Privacy, Cyber security	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	Within & Beyond GAIL	Number of data breaches incidents
Business Ethics, Integrity and Compliance (bribery and anti-corruption, anticompetitive behaviour, fraud, tax transparency and strategy)	Ethics and Integrity, Anti-competitive behaviour, Anti-corruption, Business ethics, Transparency in business, Tax strategy	102-16 Values, principles, standards, and norms of behavior, 102-17 Mechanisms for advice and concerns about ethics, 205 Anti-Corruption, 206 Anti-competitive Behaviour	Within & Beyond GAIL	Percentage of employees receiving training on anti-corruption policies and other organizational procedures, Number of bribery and corruption cases
Human Capital Management (Employee wellbeing, employee engagement, diversity, and inclusion)	Talent Acquisition and Development, Diverse and Inclusive workforce, Employee engagement, Leadership and Succession planning, Labour practices and Human rights, Employee wellbeing, Grievance Mechanism Security Practices	401- Employment, 402-Labour Management, 404- Training and education, 407- Freedom of Collective Bargaining, 408-Child Labour, 409- Forced Labour, 410-Security Practices, 412-Human Rights Assessment, 405- Diversity and Equal Opportunity	Within GAIL	Average Training hours, Attrition rate, Number of employees, Training on Human Rights, training efficacy score, Training expenditure
Protection of Human rights, Community Development (rights of indigenous people, land and resource rights), Customer Relationship, Experience and Satisfaction, Marketing and Labelling Practices	Procurement Practices, Indigenous Rights, Local community, Community Engagement, Customer relationship management, Product Labelling, Customer Satisfaction	411- Rights of Indigenous People, 413- Local Communities, 417- Marketing and Labelling, 418-Customer Privacy,	Within & Beyond GAIL	Total number of operations with local community engagement, Total number of operations with significant actual and potential negative impacts on local communities, Number of complaints through grievances and redressal mechanism, Total CSR expenditure in aspirational districts, Customer Satisfaction Index

Natural or Man-made Calamity Risk - Various risks are associated with gas transportation and distribution like blowout of pipelines, earthquake, tsunami, terrorist activities, etc. These risks are being mitigated right from the designing stage of these projects. However, such natural or manmade risks are emergent events and cannot be totally eliminated. If such an event occurs, it will incur significant liabilities for the Company.

GRI 102-47, GRI 103-1, GRI 103-2, GRI 103-3



Strong Governance and Business Resilience

6.1 Governance and Board Oversight at GAIL

6.1.1 Governance and Risk Management

GAIL, as a responsible Public Sector Undertaking, sets the standard for ethical business conduct by prioritizing the development and implementation of a solid corporate governance structure. GAIL's corporate governance framework is intended to detect, analyse and handle the risks, as well as provide constructive feedback, to align management's responsibilities with the Board's oversight of the company. We examine and update our policies and processes on a regular basis to manage risk exposures, which are critical to our company's smooth functioning.

6.1.2 Governance Structure

The Board of Directors and various Board committees, remains at the top of the governance system. GAIL has a unified Board structure that is controlled by a formal Board Charter that outlines the Board's composition, responsibilities and member selection procedure.

As of 31st March 2022, the Board consists of 12 members, including 05 functional directors (including the Chairman and Managing Director) and 07 non-executive directors (comprising 01 Government Nominee Directors and 06 Independent Directors). Our Board also includes

01 woman Director. The typical tenure of a Board member is three to four years. Our Board of Director's diversity policy mentions that the Board should include an optimal mix of executive and non-executive directors, with at least one woman Independent Director on the Board. The Government of India nominates and appoints the directors.

Our executives have extensive experience in the fields of marketing, project, operators, finance and governance and they place a high emphasis on sustainability and ESG. We additionally hold frequent capacity-building sessions on the changing ESG landscape including climate change, which are detailed in the subsequent chapters of this report. Additional information about the Board's composition and member profiles can be found on our website. <https://www.gailonline.com/ABLeadership.html>

The Board of Directors oversee the organizational management and ensure that all the stakeholder needs are met promptly. The Board of Directors and senior management team endeavour to recognize the long-term interests of multiple parties by responsibly resolving the concerns of stakeholders in our value chain. The deliberately designed induction and orientation workshops

GRI 102-9, GRI 102-18, GRI 102-19, GRI 102-20, GRI 102-21, GRI 102-22, GRI 102-23, GRI 102-24, GRI 102-27, GRI 102-29, GRI 103-2, GRI 103-3, GRI 202-2 GRI 405-1

help newly appointed Directors grasp the organizational structure and contribute to the overall growth of the firm. During the induction period, they are given a welcome kit that detail their tasks and responsibilities, as well as any legal or regulatory policies they are required to follow. We provide adequate training to the Board members to enhance and upgrade their skill and expertise, as per our training policy. As part of this policy, Board members, including the Directors, are frequently nominated to speak at industry conferences hosted by organizations like the Department of Public Enterprise (DPE), the Standing Conference of Public Enterprises (SCOPE) and other global organizations such as the World Economic Forum (WEF), the International Energy Agency (IEA), the International Gas Union (IGU) and Bloomberg.

Trainings for Board of Directors in FY 2021-22

Sr. No.	Training Theme	Number of Directors attended
1.	Orientation on the 1 st Board Meeting	06
2.	One-day orientation programme for capacity building of newly appointed Non-Official Directors of CPSE's	05
3.	Nomination from GAIL for participation in – "Role of Chairman and Independent Directors of the Board"	01
4.	One-day orientation programme for Independent Directors of CPSEs through online mode in collaboration with Institute of Company Secretaries of India (ICSI) and Institute of Chartered Accountants of India (ICAI)	03
5.	Awareness Program Conducted on City Gas Distribution and Compressed Natural Gas	01

6.1.3 Committees of the Board

As on 31st March 2022, GAIL's governance structure consists of 13 committees of the Board of Directors including five statutory committees mainly, Audit Committee, Corporate

Social Responsibility Committee, Nomination and Remuneration Committee, Stakeholders Relationship Committee and Risk Management Committee. The well-defined Terms-of-Reference enable each committee to work efficiently, including the prompt resolution of concerns, since each committee performs specialized responsibilities. The following table enumerates the various committees at the Board level:

Sr. No.	Committees of the board	Number of meetings held in FY 2021-22
1.	Audit Committee	11
2.	Business Development and Marketing Committee	10
3.	Corporate Social Responsibility Committee	04
4.	Empowered Contracts & Procurement Committee - ECPC	15
5.	Empowered Committee (Natural Gas, LNG & Polymer)	Nil
6.	Finance Committee	04
7.	HR Committee	02
8.	Nomination and Remuneration Committee	01
9.	Project Appraisal Committee	02
10.	Stakeholders Relationship Committee	01
11.	Sustainable Development Committee	04
12.	Stakeholders Grievance Redressal Committee	02
13.	Risk Management Committee	02

The inclusion of both independent and non-independent directors in each committee not only offers diversity to the Board, but also allows it to be fair and just in its proceedings. While the Board works on its pre-determined strategic focus areas, it is devoted to setting performance targets that includes ESG specific and climate change related goals for the entire year. The Board of Directors evaluates and monitors the committees' performance, as well as the company's targets and goals on a regular basis.

Our Annual Report for FY 2021-22 contains detailed information on composition of our statutory Board committees and GAIL's corporate

governance policies. The same can be accessed on our website too <https://www.gailonline.com/pdf/CSR/CGRAsOn31032022.pdf>.

Committed towards a low emission future!



GAIL has been conferred with the Economic Times Energy Transition Award 2022 under Non-Renewables Category. Shri Deepak Gupta, Director (Projects) received the award on the behalf of entire GAIL team.

6.1.4 Performance Evaluation, Remuneration and Incentives

We are a Public Sector Enterprise and our Directors are appointed/nominated by the Government of India, which also carries out the performance evaluation as an appointing authority. The role of Nomination and Remuneration Committee is as per SEBI (LODR) Regulations, 2015, the Companies Act, 2013 and Department of Public Enterprises (DPE) guidelines on Corporate Governance for Central Public Sector Enterprises, 2010 as amended from time to time. As on 31st March 2022, the Nomination and Remuneration Committee of the company comprised of Dr. Nandhagopal Narayanasamy as the Chairperson, Dr. Navneet Mohan Kothari and Shri Sher Singh as the member(s). Prior to consideration by the Board, the Nomination and Remuneration Committee is responsible for reviewing issues relating to compensation and incentives other than Performance Related Payment (PRP). Performance of the company and board members are evaluated on both financial and non-financial criteria, as specified in the MoU between GAIL and the Ministry of Petroleum and Natural Gas (MoPNG). The MoU

provides the vision, weightage and targets which are related to economic parameters like revenue, Market Cap, Capex, EBITA etc as well as expenditure on R&D/innovation initiatives, procurement from MSMEs (marginalised groups and women), compliance with Company's Act etc. The senior management performance evaluation, which includes the CMD, Directors, EDs and GMs, is based on the individual's parametric scoring based on the GAIL's business, financial, CSR, human resource and R&D performance during the reporting period. This comprises both financial and non-financial goals aimed at improving the company's overall ESG performance. The Annual Report and the MOU signed with the government contain more information on the performance target and its equivalent compensation. The performance-related remuneration is calculated using the performance evaluation score and the composite score. Despite the continuing adverse effects of the COVID-19 pandemic in the current reporting year, GAIL has made sincere attempts to fulfil its MoU responsibilities. Self-evaluation of the MoU for FY 2021-22 will be completed and submitted to the Department of Public Enterprises (DPE) on time.

GRI 102-35, GRI 102-26, GRI 102-28, GRI 102-36, GRI 102-37

During FY 2021-22, our female employees in the management and non-management positions received an average monthly remuneration of INR 1,31,652 and INR 62,168 respectively, while their male counterparts in executive and management positions earned INR 1,49,724 and INR 67,540, respectively. The management and non-management levels have ratios of 0.87 and 0.92 (average female salary to average male salary). During the reporting year, GAIL did not encounter any delays in paying its employees' compensation. Payments are executed according to the pay cycle that has been established.

The annual total remuneration for the highest-paid individual decreased by 35.44% from FY 2020-21 to FY 2021-22. The annual total compensation for all employees (excluding the highest-paid individual) increased by 6.23% on average from FY 2020-21 to FY 2021-22. The ratio of the organization's highest-paid individual's annual total compensation to the median annual total compensation for all employees (excluding the highest-paid individual) is 2.58.

6.1.5 Highlights of Remuneration and Incentives at GAIL

1. In FY 2021-22, the total compensation of the CEO/CMD was INR 97,10,831.
2. In FY 2021-22, the median compensation of all employees (except CEO/CMD) was INR 14,06,628.
3. In FY 2021-22, the mean compensation of all employees (except CEO/CMD) was INR 15,65,645.
4. The ratio between the CEO/CMD annual compensation and the median of all employees' compensation is 2.58.
5. The ratio between the CEO/CMD annual compensation and the mean of all employees' compensation is 6.2.

Avoidance of Conflict of Interest

By establishing the right leadership, we aim to foster a culture of ethics and trust. To ensure that there are no conflicts of interest in workforce operations, we promote transparency and

responsibility among all our stakeholders. Furthermore, we are fostering a trustworthy workplace in which employees are not hesitant to raise and expose potential conflicts of interest. A Board-level deliberation is also conducted to adequately manage such difficulties and concerns. In this sense, GAIL's conflict of interest policies are as follows:

- Whenever any director has a direct or indirect stake in an agenda/matter, they would refrain from participating in the discussion. Each director gives the disclosure of his interest in any company or body's corporate firm, or other association of individuals by giving a notice in writing; and the same is put up to the Board.
- GAIL's Related Party Transaction Policy enables us to address any related party transaction-related challenges and concerns. The SEBI (Listing Obligations and Disclosure Requirements) (Fourth Amendment) Regulations, 2019 (Amended from time to time) and the Companies Act, 2013, govern the parameters for this policy. It also includes materiality policies and recommendations for handling transactions involving related parties. Our Annual Report is the vehicle through which we disclose our concerns with conflicts of interest.

Our Annual Report contains further information on each Director's attendance, number of additional Directorships, Chairmanship/ Membership of Committees and stock ownership.

6.1.6 Internal Control System and their Adequacy



To increase operational and financial integrity, we have established promising principles, frameworks and policies as part of our internal

control system. Improved financial reporting process contribute to the development of more accurate and dependable financial statements as well as more comprehensive audits. GAIL's Internal Financial Control System (IFC) helps the organization generate updated formal, centralized and controlled internal financial control documentation. Following the IFC compliance study, a Risk Control Matrix (RCM) was created in consultation with external consultants.

GAIL has received NIL comments from Comptroller and Auditor General (CAG) for 13th year in a row in FY 2021-22.

Audit Committees play a critical role in overseeing internal control. Our internal audit team provides guidance and recommendations on potential gaps and risks, as well as potential efficiencies and process improvements. Members of the audit team have academic and professional backgrounds in accounting, information technology and engineering. This group evaluates the risk management system and informs the audit committee. The Board's audit committee is responsible for authorising the annual audit and reviewing findings of the audit team as well as the CAG audit. The internal audit team also audits subsidiaries, joint ventures and E&P blocks for the promoters.

6.1.7 Ethics and Integrity

GAIL's Code of Conduct is intended to support our commitment to conducting business with the highest ethical standards possible. Our corporate processes and practices are geared toward achieving excellence while addressing issues such as the environment, health and safety and human rights, among others.

Our beliefs, principles and standards are outlined in GAIL's Code of Conduct and accompanying circulars, which serve as the foundation for our operations. We cultivate and enable long-term growth, as well as trustworthy connections with our clients, staff and business partners. This Code of Conduct is required to be followed by all

employees, including senior management and Board members, contractors and all corporate representatives. As a responsible company, we follow anti-corruption, anti-boycott, export control and trade sanctions legislation across all our locations. In FY 2021-22, 215 employees (4.52% of total employees) underwent training on anti-corruption and other organizational practices. Our strong policy frameworks allow us to build our business in a sustainable way while also protecting us from corruption and other unethical conduct.

The policies that govern ethics and integrity in our organization are listed below.

- Code of Conduct, Discipline and Appeal (CDA) Rules/Standing Orders
- Fraud Prevention Policy
- Whistle Blower Policy
- Code of Fair Disclosure and Conduct
- Practices and Procedures for disclosure of unpublished price sensitive information.
- Code of Conduct to Regulate, Monitor and Report Trading by Insiders
- Code of Conduct for Board Members and Senior Management Personnel

We have also included a policy for determining materiality disclosure to ensure that our material concerns are communicated to our stakeholders on time. This policy follows Regulation 30 of SEBI LODR, 2015.

We undertake awareness workshops on a regular basis to ensure that our staff and suppliers are committed to fighting corruption and ensuring that we are entirely independent of it. In addition, we conduct periodic risk assessments to identify potential corruption issues in our operational units. During FY 2021-22, we had one corruption-related instance and no other major risk of corruption was discovered and reported.

Employees are encouraged to report any suspicious, unlawful, unethical, or improper acts in the business under the Right to Information, Whistle Blower Policy, Fraud Prevention Policy

GRI 102-16, GRI 103-2, GRI 103-3, GRI 205-2, GRI 205-1, GRI 205-3

and Integrity Pact. It aids in the organization's anti-corruption efforts and strengthens the vigilance system.

GAIL Core Values:

Integrity and Ethics: We are transparent, fair and consistent in dealing with all people. We insist on honesty, integrity and trustworthiness in all our activities and seek to exhibit highest levels of personal and institutional integrity.

Respect: We believe in people. We recognize our responsibility towards the employees and respect their unique contribution, teamwork, dignity, rights and privacy.

Customer: We strive relentlessly to exceed the

expectations of our customers and to be their first preference by delivering superior products and services and creating sustainable value.

Safety: We aim to provide a safe workplace for our workforce and the communities around us, respecting the environment.

Excellence: We seek to achieve the pinnacles of excellence in all the business verticals where we have significant presence with continuous improvement and learning.

Technology & Innovation: We acknowledge entrepreneurial spirit and constantly support development of newer technologies, introduction of new ideas/products, improved processes, improved services and management practices.

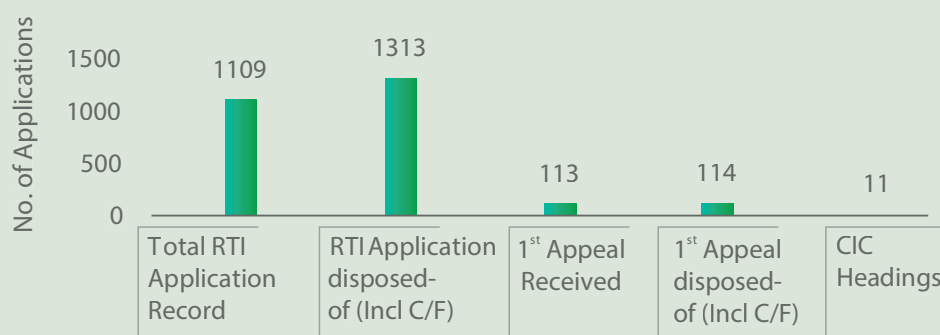
Governance Mechanism



An adequate structure has been placed across the organization to enhance transparency and accountability, in accordance with the principles of the Right to Information Act, 2005. We have designated CPIOs/ACPIOs/ Appellate Authorities in each of our units / offices to offer information to citizens under the RTI Act's requirements. RTI Guidelines and other related information are available on GAIL's website at <http://www.GAILonline.com/final site/RTI.html>. In addition, the same link hosts the MIS Report on RTI Applications, the Record Retention Schedule and the most recent RTI Audit Report.

For FY 2021-22, GAIL's Corporate RTI Cell has 100% disposal in respect of RTI applications and first stage RTI Appeals received and disposed of. Total 1,109 no. of applications received and disposed 1,313 in FY 2021-22. (including applications of FY 2020-21). Further, GAIL has received 'NIL' penalty/adverse remark from the Central Information Commission for the year 2021-2022 regarding the second appeals filed by appellants.

RTI Application Status 2021-2022



GRI 103-2, GRI 103-3



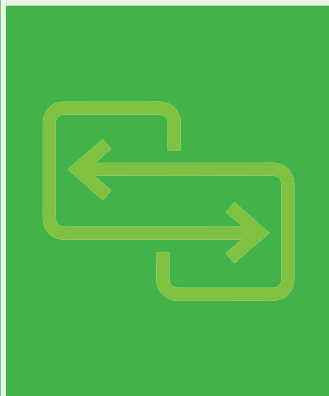
Whistle Blower Policy:

We encourage our workers who have concerns about suspected misbehaviour to speak up without fear of retaliation. This policy strives to offer a secure environment for employees to express their concerns without fear of being harassed or mistreated in any way.



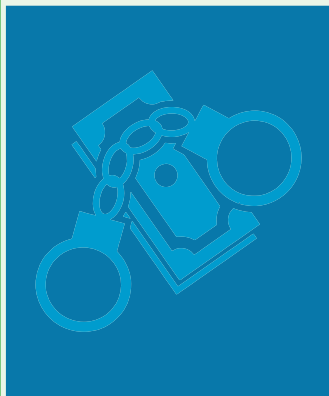
Fraud Prevention Policy:

GAIL has implemented this policy to detect, prevent and report frauds or suspected frauds/fraudulent actions. It covers frauds or suspected frauds committed by GAIL employee(s), employee(s) working as an advisor(s), ad-hoc/temporary/contract person(s), vendor(s), supplier(s), contractor(s), customer(s), lender(s), consultant(s), service provider(s), any outside agency(ies) or their representative(s), employees of such agencies and/or any other parties in connection with business transaction(s) with GAIL.



Related Party Transaction:

In line with the requirement of Regulation 23 of SEBI LODR, 2015 and The Companies Act, 2013, the audit committee of GAIL quarterly reviews the details of related party transactions. Approval of the audit committee/or Board/or shareholders, as required, is taken for the related party transactions. Initiatives such as e-tendering, e-payments, bill watch system, etc. have been put in place to improve transparency in the system.



Anti-corruption:

GAIL strongly upholds the guidelines and circulars of the Central Vigilance Commission (CVC) for dealing with issues related to ethics, bribery and corruption at the organization level. The policy applies to GAIL and its subsidiaries as well as in Joint Ventures having jurisdiction of GAIL Vigilance Department. To sensitize stakeholders of GAIL against corruption, an annual vigilance awareness week is also organized.



GRI 102-17, GRI 102-16, GRI 103-2, GRI 103-3, GRI 205-1, GRI 205-2, GRI 205-3, GRI 206-1

Transparency in Business

We hold regular meetings and communicate with our stakeholders, shareholders, policymakers and peer companies to take the steps necessary to improve our advocacy approach. This aids us in enhancing and strengthening our anti-corruption practices, as well as other parts of our sustainability projects. The Board of Directors examine internal policies pertaining to training, implementation and monitoring actions on a regular basis. We publicly state clear positions, voice our concerns and keep ourselves up to date on industry best practices to adapt and enhance our projects through dialogues and forums.

Tax Strategy

GAIL is a public sector undertaking. The Government of India (GoI) holds 51.45% of the paid-up equity share capital. Policy related to tax strategies are governed by the GoI. We follow statutory requirements including provident fund, employees' state insurance, income-tax, sales-tax, service tax, duty of customs, duty of excise, value added tax, cess, Goods and Service Tax and any other statutory dues with the appropriate authorities. We strictly adhere to amendments to tax policies notified by the GoI.

Settlement of Direct Tax Cases – GAIL has applied for settlement of direct tax dispute of FY 2020-21, under the 'Vivad se Vishwas' scheme which was accepted by the Income Tax Department. This will result in the settlement of 44 direct tax cases.

Anti-competitive Behaviour

All our stakeholders' actions combine to help us encourage and maintain clarity in our business operations. We ensure that anticompetitive behaviour is discouraged to strengthen our business. At all levels of our organization, we do this by aligning our systems and procedures with the national and international norms. In the last five years, we have paid no fine or settlements for such wrongdoings.

Cases that were brought to the notice of the dispute resolution processes are still pending.

In addition, status updates on anticompetitive activity, antitrust violations, monopoly legislation and unfair trade practices, in which we have been identified as a participant, were also filed. The status of causes related to anti-competitive behaviour, irresponsible advertising, unfair trade practices and violations of anti-trust and monopoly legislation; in which we have been identified as a participant, is submitted.

We have submitted the status of the following cases up to FY 2021-22, which were settled/pending regarding unfair trade practices, anti-competitive behaviours, monopolization as identified against GAIL:

- i) GSPCL filed a case against GAIL before PNGRB claiming Restrictive Trade Practice (RTP) for not allowing to change connectivity from GAIL-PLL to GSPL-PLL connectivity. PNGRB made rulings against GAIL. GAIL challenged the same before APTEL which decided in favor of GAIL. GSPCL appealed against that order before Supreme Court which is pending.
- ii) GSPC Gas filed a case against GAIL claiming RTP before PNGRB but the same was held in favor of GAIL. GSPC Gas has filed appeal against the said order before APTEL and the order of PNGRB has been reversed. Now GAIL has pressed appeal before Supreme Court, which is pending.
- iii) GSPCL filed a complaint against GAIL before PNGRB alleging restrictive practice while booking of pipeline capacity on Renewable Energy Basis. PNGRB while disposing of the complaint filed by GSPCL for booking of capacity on RE Basis held that practice adopted by GAIL while booking common carrier capacity is discriminatory and amounts to restrictive trade practice in as much as it offers bundled services to its customers without requiring them to execute standard GTA on Ship or Pay basis and puts such restriction on other gas suppliers. PNGRB directed GAIL to cease RTP and has also imposed civil penalty of INR 1 lakh on GAIL. GAIL challenged the said order before

APTEL. APTEL vide order dated 28th November 2014 dismissed the appeal of GAIL. GAIL then preferred an appeal before Supreme Court. Supreme Court vide order dated 31st January 2016 set aside the order of PNGRB and remanded back to PNGRB for fresh determination considering the affiliate code of conduct. However, the PNGRB once again held RTP against GAIL. GAIL challenged the said order before APTEL wherein vide order dated 28th February 2019, matter referred back to PNGRB for redetermination as per PNGRB Act. However, GSPCL filed appeal in Supreme Court against APTEL order wherein notice has been issued and Status quo to be maintained. Matter is pending.

- iv) M/s. Pioneer Gas Power Ltd has filed a complaint alleging RTP against GAIL for charging Ship or Pay charges under the GTA. The said complaint is pending before PNGRB.
- v) GIPCL- GIPCL had filed complaint against GAIL before CCI alleging abuse of dominant position in the market. However, CCI declined the complaint. But GIPCL appealed against that order before COMPAT which directed investigation by DGI against GAIL for such abuse. GAIL has filed appeal against the said order before Supreme Court wherein the direction for investigation has been stayed and is pending before Supreme Court.
- vi) Appeal No 131, 132, & 133 of 2016, Sravanthi Energy Pvt. Ltd, Beta Infratech Pvt. Ltd, Gamma Infraprop Pvt. Ltd., had filed complaint before PNGRB alleging RTP against GAIL which was decided against GAIL by PNGRB vide order dated 11th April 2016. GAIL challenged the order of PNGRB before APTEL. APTEL vide its judgement dated 27th October 2021, reversed the finding of PNGRB and dismissed the appeal. SLP has been filed against the APTEL Judgment in Hon'ble Supreme Court of India by Sravanthi Energy Pvt. Ltd, & Gamma Infraprop Pvt. Ltd. which is pending.

Disposal during FY 2021-22:

- i) Rathi Special Steel, Rathi Bars and Rathi Dakshin Steel and Ors. had filed complaints before CCI alleging anti trade practices under Competition Act. However, same was rejected vide order dated 08.11.2018. Aggrieved by CCI judgment, Rathi Special Steel, Rathi Bars and Rathi Dakshin Steel and Ors. appealed before NCLAT. Vide order dated 24.06.2021, NCLAT dismissed, all three appeals, as withdrawn since parties entered into an out of court settlement.
- ii) Appeal No 131, 132, & 133 of 2016, Sravanthi Energy Pvt. Ltd, Beta Infratech Pvt. Ltd, Gamma Infraprop Pvt Ltd., had filed complaint before PNGRB alleging RTP against GAIL which was decided against GAIL by PNGRB vide order dated 11.04.2016. GAIL challenged the order of PNGRB before APTEL. APTEL vide its judgement dated 27.10.2021, reversed the finding of PNGRB and dismissed the appeal. SLP has been filed against the APTEL Judgment in Hon'ble Supreme Court of India by Sravanthi Energy Pvt. Ltd, & Gamma Infraprop Pvt Ltd. which is pending.

Dispute Resolution Mechanism:-

- i. Cases brought about through Conciliation during FY 2021-2022 :-
 - a. Gold Plus Glass Industries Vs. GAIL – Conciliation failed since proposal for settlement not approved by Settlement Grievance Redressal Committee (SGRC) of GAIL.
- ii. Present status of cases brought through Conciliation in FY 2019-2020 is as under:
 - a. Newton Engineering Vs. GAIL, Proposal for settlement is pending before SGRC
 - b. GAIL Vs. Bhilosa, Proposal for settlement recommended by SGRC. Approval of Board of Directors (BoD) being obtained.

6.1.8 Stakeholder Grievance Redressal⁴⁵

We have multiple mechanism (Grievances Redressal Forum, Customer Relations Management (CRM), Vigilance Complaints, Vendor Grievance) to receive and resolve grievances of community, stakeholders, large public etc. Our grievances systems also ensure transparency, expectations of the community. GAIL has established a dedicated grievance cell in each of its offices and all complaints are received in a single system and each grievance is investigated separately and thoroughly with equal importance. GAIL has an Online Complaint System which has been introduced as a part of the 360° evaluation of receiving and redressing grievances of the community. Additionally, we also redress and resolve the complaints received on CPGRAMS.

6.1.9 Grievance Redressal Mechanism

At GAIL, two of our top priorities are stakeholder responses and concerns. The grievance redressal mechanism allows our stakeholders to submit complaints or grievances, which allows us to respond quickly to any issue raised by them, allowing us to provide better services. We have created an online grievance redress platform called 'Samadhan' that all our stakeholders can use to voice their complaints. Violations

of systems and corruption, forgery, cheating, misappropriation, favours, deliberate ignorance, reckless decision-making, procedures and irregularities in the exercise of delegated power can all be reported and handled using our online portal: [http:// GAILonline.com/onlineComplaints.html](http://GAILonline.com/onlineComplaints.html). There is also an option to lodge complaints or problems directly with the factory head at every location of our operation through the OIC Sampark email.

To provide citizens and the public at large with a grievance redressal mechanism, all the written complaints received from all the workplaces and centres are uploaded to the Centralized Public Grievance Redressal and Monitoring System (CPGRAMS), which is accessible to all the citizens, who have lodged this complaint. CPGRAMS is a Government of India Portal, aimed at providing the citizens with a platform for redress of their grievances, where complaints are directly received by the MoPNG.

During FY 2021-22, a total of 347 public grievances through centralized public grievance redress and monitoring system (CPGRAMS) were received during the reporting period. All those received complaints on CPGRAM portal are resolved under the grievance redressal system.

Grievances/complaints received through CPGRAMS - FY 2021-22

Environment		Labour practice		Human rights		Society		
Source of grievances/complaints								
Internal Stakeholder	External Stakeholder	Internal Stakeholder	External Stakeholder	Internal Stakeholder	External Stakeholder	Internal Stakeholder	External Stakeholder	Total
00	00	05	28	52	19	14	229	347

6.1.10 Vigilance at GAIL

GAIL follows the guidelines and circulars of the Central Vigilance Commission for dealing with issues related to bribery or corruption in GAIL, its Subsidiaries as well as to the Joint Ventures (JVs), having jurisdiction of GAIL Vigilance Department.

As per the guidelines of Central Vigilance Commission, GAIL has adopted provision of Integrity Pact in procurement in its tenders

of value more than one crores for works, procurement of goods and services. Integrity Pact provides independent platform for monitoring compliance to established' procedures, policies and guidelines of the CVC in tendering and resolution of complaints, if any. Presently, GAIL has a panel of three Independent External Monitors (IEMs), to monitor the implementation of IP in all tenders.

GAIL Vigilance reviews the internal processes, carries out regular surprise checks, periodic inspections, detailed intensive inspections and examination of CAG / Internal Audit paras for detection of Vigilance angles, if any. The lapses observed are analysed and systemic improvements are suggested to ensure avoidance of re-occurrence of lapses. Efforts are made to bring in continuous system improvement to ensure greater transparency, automation of processes for reducing manual intervention. To sensitize the stakeholders- employees, customers, contractors, vendors, various awareness workshops are held at various GAIL locations. During the FY-2021-22, 38 surprise/ periodic inspections of various Contracts/ process/ files pertaining to various GAIL locations were carried out. In addition to this, 10 intensive inspection of contracts/ projects have been carried out by Vigilance Department.

We also celebrate Vigilance Awareness Week (VAW) every year under the guidance of Central Vigilance Commission (CVC), wherein all senior leadership and other employees actively participate in programmes and awareness sessions. In FY 2021-22, the Vigilance Awareness Week (VAW) was observed at our Corporate Office and at various site offices from 26th October to 01st November 2021 and the theme for this year was "Independent India @ 75: Self Reliance with Integrity; स्वतंत्र भारत @ 75: सत्यनिष्ठा से आत्मनिर्भरता". On the occasion of VAW, Central Vigilance Commissioner, Sh. Suresh N. Patel addressed all GAIL employees from GAIL Corporate Offices. All major 40 GAIL locations were connected through video conferencing. GAIL was complemented for leveraging technology and robust systems and GAIL's leadership was also lauded for its vision and digitalization of various business processes like Centralization of payments & taxes and Robotic Process Automation (RPA). On the occasion, CVC has also launched 'Jagrook', a special publication of GAIL Vigilance Department.

Highlights of VAW FY 2021-22 are:

- During VAW 2021, GM (Vigilance), Noida was felicitated by CVC for his contribution in preventive vigilance.
- GAIL CVO attended the Run-up programme for Vigilance Awareness Week-2021 organized during joint conference of CVC and CBI at Kevadia, Gujarat
- Business Partner Interactive Meet (Vendor Meet) in New Delhi and Customer Meet for Gas, Petrochemical and LHC customers of NCR, Jaipur and Lucknow zones were organized.
- To sensitize the stakeholders- employees, customers, contractors, vendors, various awareness workshops are held at various GAIL locations. This year, GAIL supported the special drive of CVC to create awareness about Public Interest Disclosure and Protection of Informers (PIDPI) complaints and sensitized public on various provisions under PIDPI complaint mechanism by showcasing a short video film.

During the period, based on the investigations/ surprise check into the cases, following systemic improvements were suggested:

- i. Suggestions to streamline payment/wages of contract manpower- such as inclusion of various provisions in Model Special Conditions of Contract- penalty provision for delay in payment, evidence against payment of wages, KYC of contract employees etc.
- ii. Provided assistance and necessary support to CVC for designing, publishing and printing of Vigeye Vani Newsletter of CVC.
- iii. Suggestions for enabling checks and balances for amount of applicable CPBG and validity of CPBG in SAP system. Additionally, suggestions given for implementation of auto-calculation of CPBG amount and generation of auto e-mail alerts to concerned Engineer In charge/ Finance/ Contract official.
- iv. To avoid unauthorized loading of excess quantity of Polymer products in the trucks, it was suggested to install CCTV in each loading bay, reconciliation of material etc.

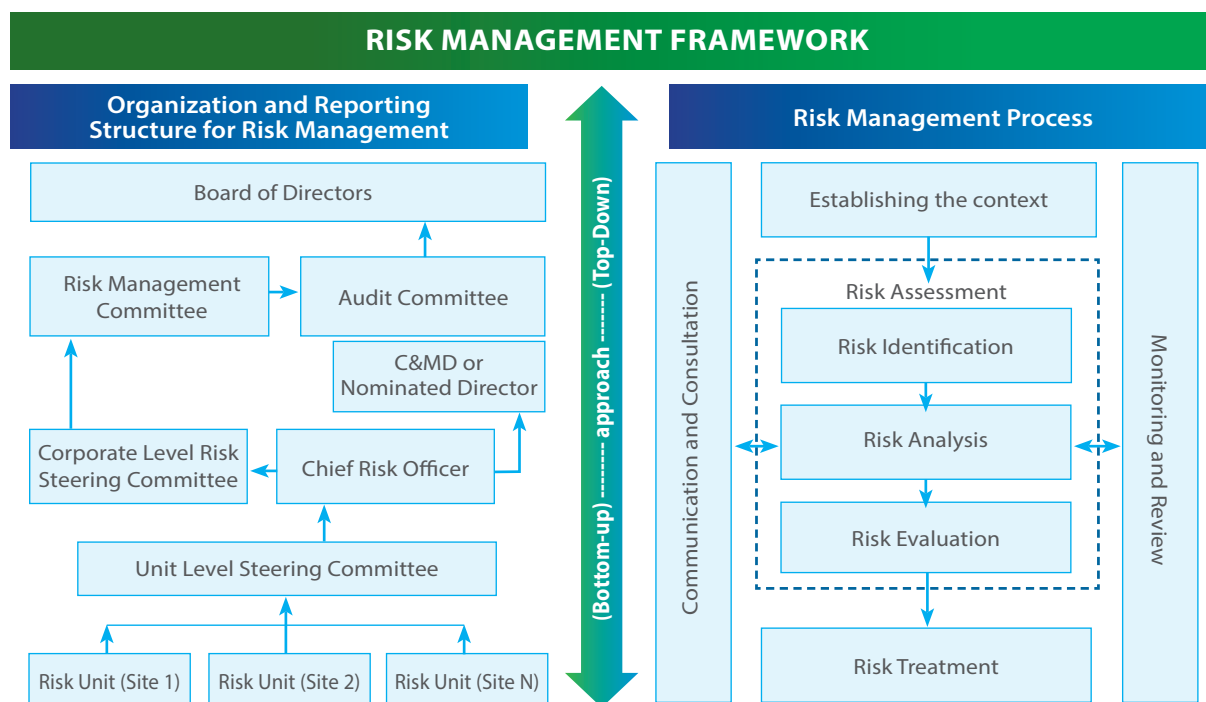
To sensitize the public at large, Gram Sabhas in 4 villages of Bangalore and Ranchi were organized. A review of policies and processes has also been conducted, with the goal of reducing corruption and ensuring overall good governance. Vendor meetings, customer interactive meetings, vigilance awareness workshops/sensitization programmes and engineer-in-charge coaching are held on a regular basis for all stakeholders to spread awareness on vigilance and handle issues effectively.

Vigilance department examines the complaints received from various sources. Based on the examination and investigation of complaints/ case, appropriate action against the concerned officials/ vendor/ supplier etc. is recommended to the Disciplinary Authority. Apart from this, regular surprise checks/ inspections are conducted to detect any system gaps/ lapses/ irregularities or any incidence of corruption.

FY 2021-22, we received 128 complaints under vigilance, 125 complaints (including previous year complaints) were successfully resolved.

6.2 Risk Management

- Risk Management is an ongoing process of identifying, analysing and managing risks within all the operational units of GAIL. While we adhere to all the standards and keep pace with our industry peers, we map and manage both financial and non-financial risks through Enterprise Risk Management (ERM).
- Risk assessment of several factors (climate change, fuel prices, energy supply security, etc.) that could potentially influence our business growth is studied and analysed through Enterprise Risk Management. As a part of the process, the risk management plan includes business continuity planning, risk communication and resource allocation, amongst others.
- Following framework describes risk management structure and risk management process at GAIL:



GRI 201-2, GRI 102-15, GRI 102-30, GRI 103-2, GRI 103-3, GRI 403-2

6.2.1 Overarching Management Approach

Our committed and independent Risk Management department implements the comprehensive risk management policy framework, on both the corporate and business levels to improve our approach to risk management to meet the demands of an evolving business environment. The risk management policy allows us to be proactive in reviewing, reporting and mitigating risks at our company while also contributing to long-term business growth.

The ERM provides an integrated framework for Board to examine organisational risks on a regular basis by offering an objective picture of the overall control system that leads to GAIL and its subsidiaries' overall risk management. Furthermore, it provides a better grasp of the opportunities for improving company processes related to operations.



The ERM has been implemented in all facilities, including zonal marketing offices, across the company. The Board of Directors are the highest governing authority in charge of assessing the efficiency of GAIL's risk management practices. The Board, through the Audit Committee, Risk Management Committee, Corporate Level Risk Steering Committee oversees the establishment and implementation of an adequate system of risk management across the organization. The Chief Risk Officer (CRO), unit level risk steering

committee chairman and Corporate Level Risk Steering Committee review various types of risks whether existing and or anticipated in the short, medium and long-term in future. The Risk Management Department apprises the Corporate Level Risk Steering Committee (CLRSC) of executive directors chaired by the Director (BD) quarterly, Board level committee of RMC chaired by independent director biannually and Audit Committee and the Board annually.

Unit level risks including social and environmental risks are mapped and are being monitored quarterly through the unit level Risk Steering Committee headed by unit OICs/ Functional Heads. Mitigation measures are also devised and monitored by respective units. GAIL has identified top corporate key risks which includes market, logistic, strategic, JV subsidiary and financial risks.

Risk Management and Strategic Initiatives

GAIL's comprehensive risk management initiatives enable us to meet our goals and protect our operations while adhering to legal, regulatory and societal expectations. We improve our ability to respond and adapt to the changing environment by mitigating risks.

Our risk management entails a three-step examination that includes identifying, analysing and evaluating potential threats to corporate operations. This procedure aids in the strategic direction and management of our company's operations, as well as the proper risk management. A risk register review report is submitted by the unit risk owners quarterly by the 10th day, following the quarter-end and a risk database review report is submitted annually by 15th June, following the financial year-end through online Risk Management System (RMS).

The Company evaluates various types of risks, including commercial and financial risks as well as non-financial risks such as climate change, fuel pricing and energy supply security, all of which could have an impact on the Company in the future. The "Risk Rating" is assigned to the identified risks based on their impact on the

GRI 102-11, GRI 102-15, GRI 102-30, GRI 201-2, GRI 103-2, GRI 103-3

organisation and the chance of occurrence. The duration between the occurrence of an incident and its impact on GAIL is considered while calculating "Risk Velocity."

The corporate level risk steering committee (CLRSC) is expected to examine the status of all Corporate Level Residual Key Risks, including economic, environmental and social risks, on a quarterly basis, as per the authorised Risk Management policy. Prior to placing before Audit Committee, the status is deliberated in the Risk Management Committee (RMC). The status is put up to the Board annually for approval. We are very sensitive to the environmental impact of our operations. Efforts are always in place to minimize / neutralize the impact of greenhouse gases and zero waste disposal. Various units are working to identify the threat posed by climate change. Within GAIL HSE, there are groups that coordinate all risks related to environmental and safety issues. The CSR group oversees coordinating all risks associated with social and CSR issues. These

groups ensure that all present and future environmental, economic and social risks are identified, qualitatively and quantitatively assessed, analysed and correctly managed through the implementation of effective mitigation plans. Our Management is updated on a regular basis by both groups.



The detailed risk can be referred from Management, Discussion and Analysis section of GAIL Annual Report FY 2021-22 through our official website.

6.2.2 Key Risks and Mitigation Measures

Some risks are simpler to control, while others necessitate a significant amount of time. As a result, tying risks to the financial year is challenging. To improve operational performance, the GAIL Corporate Level Risk Steering Committee has identified risks and mitigation strategies. We are taking the necessary steps to resolve/deliberate the risks that have been identified. Stakeholders should consult the Management Discussion and Analysis (MD&A) section of the Annual Report for more information on specific risks.

SI No	Risk Description	Mitigation Plan
1.	Impact on GAIL Operations & Business due to pandemic/ epidemic/ disaster situation.	<ul style="list-style-type: none"> Vaccination of employees covered ~ 99% Covid appropriate behaviour and Government guidelines/SOP compliance developed Avoid non-essential travel Tracking of probable infections and monitoring at GAIL's establishments Timely Health System support to control infection at early stage / medical needs of internal stakeholders Testing Camps / Testing Drives Covid Care Centers at various installations.
2.	Risk of delay in Project Execution due to delay in obtaining Right of use (RoU)/Land	<ul style="list-style-type: none"> Close and persuasive liasioning with State/ District/Revenue department for resolving the issues/expectations of farmers/ landowners Awareness campaign to the local population. Acquisition of permanent land through Govt. procedure and negotiation with farmers/landowners being done.

GRI 201-2, GRI 102-15

SI No	Risk Description	Mitigation Plan
3.	Risk of Underutilization of pipelines due to sluggish growth in gas energy consumption	<ul style="list-style-type: none"> • More customer friendly flexible GTA/GSA for small customers • Developed framework agreement for deferred delivery services on gas transportation. • Approved guidelines on "Amicable settlement of Disputes with Consumers/ Shippers under Gas Transportation Agreement" applicable for small Consumers/ shippers. • Online NG capacity booking pursued with PNGRB/ MoPNG for prioritization of CGD bidding • Increasing new Major customers & LMCs
4.	Inadequate controls to protect the systems against malicious attacks may result in loss of data and disruption of operations.	<ul style="list-style-type: none"> • GAIL's Cyber Insurance proposal is in progress. • Developing Zero Trust Framework: The assessment is completed and recommendations under review for implementation. • Network Operation & Control Centre (NOCC) system is protected through anti-virus (having features of anti-spam, anti-malware, etc.) installed on all Network Management System (NMS) machines. The system is not interfaced with IT network and isolated from Internet. • Anti-virus definitions are updated regularly. Software patches received from OEM are applied on NOCC machines manually. • Vulnerability assessment of SCADA system is carried out annually by external agencies. • The IT systems operate on latest version of software. Software patches and threat definitions are being updated regularly to keep the systems less prone to cyber-attack. Further, several layers of cyber security systems are in place and continuously being monitored through Security Operations Centre (SOC) to protect the systems and data from external / internal threats. • Regular audit and implementation of the recommendations pertaining to systems used in operations / plants.
5.	Risk of reduction in margin of Petrochemical due to lower industry demand, lower price & high input cost.	<ul style="list-style-type: none"> • Due to increase in demand coupled with sharp increase in the Polymer prices, the risk has reduced. • Coordination with Production Plant for production of marketable grades. • Coordination with Zonal Offices/CS to ensure enhanced polymer sale and margins. • Optimization of feed stock and Conversion Cost (C2/C3 & Polymer)
6.	Market Risk of LNG, linked with HH, in case of adverse movement of crude oil price, continuously suppressed spot LNG prices and expected increase in domestic gas volumes	Risk largely mitigated through mitigation plans like Destination Swap of LNG volumes, Sale in International Markets, Time Swaps etc. and domestic demand.
7.	Risk of Major Leakage- (a) LPG P/L & their RT / SV Stations (b) NG Pipelines & their RT/SV Stations (c) Petrochemical & GPU/C2-C3 Plants	<ul style="list-style-type: none"> • Regular Monitoring of health & Integrity of pipelines (NG & LPG) and process plants as per laid down integrity management system. • Monitoring of pipeline/ Process system leakage through leak detection system. • Implementation of Pipeline Leak and Intrusion Detection System (PLIDS) implementation as per O&M Policy and Guidelines. • ERDM and Evacuation SOP is in place. • Hot/mobile flare system.

SI No	Risk Description	Mitigation Plan
7.		<ul style="list-style-type: none"> Real time monitoring through advanced CCTV system and deployment of QRT Fire mitigation equipment, emergency shutdown valve, safety audits, training, use of PPEs and compliances to SOPs, PSV calibration, checking of PSVs passing regularly. Implementation and monitoring of M.B Lal Committee recommendations. Mock drills to check preparedness. There are well-documented emergency handling and shutdown Handling plans in the systems manual and there is a copy of the same in the control room. Best Fire-fighting systems
8.	Risk of Third-Party Damage and Encroachment	<ul style="list-style-type: none"> Increased ROU Surveillance by Helicopter Foot Patrolling- Urban Area/Town (Daily), Very high population density or vulnerable locations (Twice a day) Close co-ordination with Municipal/Urban Development Authorities Display of Warning /Safety boards at vulnerable locations. Efforts are being taken by respective sites for removal of the encroachments. Pipeline Leak and Intrusion Detection System (PLIDS) implementation as per O&M Policy and Guidelines.
9.	Risk of unfavourable Regulatory changes	<ul style="list-style-type: none"> Regular participation in public consultation exercises conducted by the Regulator helps GAIL to anticipate and respond to any impending regulatory change. Making submissions in writing to the Regulator in respect of draft regulations helps in presenting GAIL's point of view to the Regulator and thereby minimize risks associated with any abrupt or unforeseen changes in regulations. Taking up with MoP&NG wherever suitable Govt. intervention is necessary.
10.	Effect on GAIL business on account of shutdown of ONGC facilities and reduction in allocation of APM/ non-APM Gas for GAIL's internal consumption.	<ul style="list-style-type: none"> ONGC provides timely information in case of planned shutdown. The APM/Non-APM gas allocation to CGD entities and other sectors are done as per extant MoP&NG guidelines and in case of ONGC shutdown/supply disruptions/sales disruptions, the gas allocation is modified accordingly. In case of unplanned/emergency shutdown GAIL O&M takes all preventive action to handle the fluctuation in safe way and GAIL Marketing team allocates additional RLNG to bridge the gap of ONGC gas shortfall for minimum impact on total throughput.
11.	GAIL's Restructuring Risk. [Challenges due to Monetization of GAIL's Pipeline Assets and Creation of Transport System Operator (TSO)]	GAIL is considering testing the Market through suitable Assets Monetization mode. The proceeds from the transaction are to be used by GAIL, entirely for fresh investment in its upcoming infrastructure projects.
12.	Risk of statutory/regulatory non-compliance	As per statutory requirement, PESO approvals are taken for Pipelines which is dynamic in nature. Continuous applications are submitted for renewals/ fresh approvals are done regularly.

6.2.3 Advocacy through Coalitions and Associations

Through trade and industry organisations, we are always involved in public policy debates and legislative developments. GAIL was a part of 19 national and international institutions in FY 2021-22, which are listed below:

- International Group of Liquefied Natural Gas Importers (GIIGNL)
- Federation of Indian Petroleum Industry (FIPI)
- Standing Conference of Public Enterprises (SCOPE)
- Federation of Indian Chambers of Commerce & Industry (FICCI)
- Global Reporting Initiative (GRI)
- Chemicals & Petrochemicals Manufacturers' Association (CPMA)
- TERI- Business Council for Sustainable Development (TERIBCSD)
- Indian Wind Power Association (IWPA)
- Natural Gas Society (NGS)
- Biogas Indiantech Association
- International Swaps and Derivatives Association (ISDA)
- British Safety Council
- National Fire Protection Association (NFPA)
- Transparency International India (TII)
- Delhi Productivity Council (DPC)
- US India Strategic Partnership Forum
- India Myanmar Chamber of Commerce (IMCC)
- International Market Assessment CFO Forum
- Institute of Directors (IOD)

We are a member of several respected industry organisations and associations, which provide a forum for discussing industry issues and bringing industry voices to the attention of the government to develop more inclusive policies and reforms.

This provides a solid foundation for the growth of the public good. We made a member fee of INR 1.4 crore to various trade associations and think tank groups during this reporting year to build a positive and nurturing environment for businesses and stakeholders. We also communicate with PNGRB, the regulatory agency, on a regular basis to keep them up to date on current events and industry perspectives.

We are one of India's three members of the International Group of Liquefied Natural Gas Importers (GIIGNL). GIIGNL provides GAIL with a venue for industry counterparts to share information and expertise to improve the safety, reliability and efficiency of LNG imports and LNG import terminal operations.

We are a member of the Governing Council of the Federation of Indian Petroleum Industries (FIPI). FIPI has several executive committees dedicated to GAIL's interests, all of which have GAIL member representation. FIPI serves as the oil industry's interface with the Indian government, regulatory agencies, the public at large and trade associations to work on topics such as resource optimization, safety, tariffs, investments, a healthy environment and energy conservation, among other issues.

We are an active member of Standing Conference of Public Enterprises (SCOPE), which is the apex body, representing the entire spectrum of public sector enterprises (PSEs) in India. SCOPE has representations in various high-level Committees/Boards and helps its member PSUs to reach their voice to various platforms.

We are the member of Federation of Indian Chambers of Commerce & Industry (FICCI) Executive Committee and Co-Chair of FICCI Hydrocarbon Committee. The Hydrocarbon Committee aims to deliberate on matters linked to the country's energy security and, via its intellectual input, augment the Government of India's and other bodies' work in this field. GAIL's Chief Executive Officer is also a member of the Oil Industry Development Board (OIDB).

The Global Reporting Initiative (GRI) is an independent, multinational organisation that assists companies and other organisations in taking responsibility for their impacts by establishing a global standard language through which they may communicate such impacts. Since 2013, we have been a founding member of the GRI South Asia Consortium. We have made a significant contribution to GRI's purpose and the continued development of the GRI Standards as a member. GRI consolidate best practice into the global common language for sustainability reporting, enabling companies, investors, policy makers and other stakeholders to manage and evaluate corporate activities in support of sustainable development.

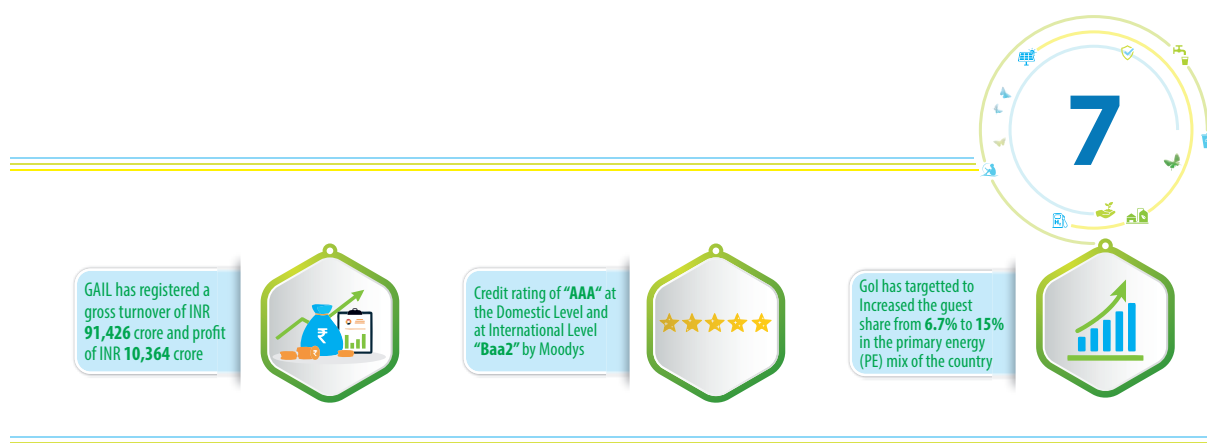
We are a member of the Chemicals & Petrochemicals Manufacturers' Association (CPMA), which is the industry's apex forum. The Association, which was founded in 1993, provides a forum for members to share their thoughts, express their concerns and make recommendations on pertinent subjects. It serves as a link between the private sector, the government and society. To promote and sustain harmonious and conducive business environment, it works with policymakers and industry associations.

We are a member of the TERI-Council for Business Sustainability (TERI-CBS), an industry-led consortium of sustainability experts. GAIL and TERI have collaborated on a document that explains the Indian corporate vision on many areas of addressing climate change, as well as aligning the vision with government initiatives in this area.

We have undertaken various studies on areas of gas advocacy such as unbundling in the natural gas sector in India and its impact, the study of gas markets hubs and strategic imperatives for GAIL. Additionally, study on opportunity mapping for GAIL in the battery value chain, demand assessment in the refinery sector, steel sector, potential of natural gas as a replacement for solid and liquid polluting fuels consumption in industries under any CGD gas and price-sensitive demand assessment, enabling factors for natural gas in steel sector have been done to under and assess the dynamic natural gas markets of the country. Further, analysis on competitiveness of natural gas with a view of GST inclusion for industries. We have assisted in the development of the oil and gas sector and the formulation of policy for the development of the CGD sector in India.



GAIL (India) Limited and Pipeline Infrastructure Ltd (PIL) signed an MoU towards development and strengthening of the hydrogen-based ecosystem in India in presence of Ms. Aayushi Agarwal, Assistant Vice President - Strategic Planning & New Initiatives (PIL), Shri Akhil Mehrotra - MD & CEO (PIL) and Shri M.V. Iyer - Director (Business Development) (GAIL), Shri Ashu Singhal - Executive Director - (CSPA, RM, TQM & SD) (GAIL)



Business Growth

7.1 Business Growth

FY 2021-22 is important in context of the global energy and oil markets because the year marks a recovery from the COVID-19 pandemic, which caused a significant drop in energy production and consumption.

Recently, the ongoing geopolitical crisis has also had an impact on the global energy sector, emphasising the importance of diversifying energy supplies for countries all over the world to achieve energy security.

Further, due to increased emphasis on climate change post COP-26 (Conference of the Parties), governments around the world are working towards transitioning to low-carbon energy systems such as renewable, electric vehicles, blue and green hydrogen projects, Carbon Capture Utilization & Storage (CCUS) and more. According to the BP World Energy Outlook 2022, the share of renewable energy in the global primary energy mix is expected to rise. However, it also emphasizes that fossil fuels will continue to remain prominent in the overall primary energy mix and will be responsible for social and economic development around the world in the coming decades.

As per BP Statistics review, natural gas consumption for the last 5 years given below indicates that the global demand for gas has recovered rapidly post the pandemic:

Year	2017	2018	2019	2020	2021
Consumption (in bcm)	3,654	3,837	3,903	3,822	4,038

The global gas demand is expected to peak in 2035, after which situations are anticipated to alter due to growing decarbonization pressures reflected in national priorities across the world.

LNG is also going to play a key role in the next few years as natural gas is going to get a bigger share in the world's energy basket. A combination of strong demand, stiff Asian competition for LNG imports (particularly from China due to the coal crisis), the current geopolitical situation and relatively low inventories at the start of the winter heating season resulted in a short-term natural gas supply crunch, across much of the world.

LNG import figures tabulated below

Year	2017	2018	2019	2020	2021
LNG import (in bcm)	393	431	484	487	516
% Growth	-	9.67	12.3	0.62	5.95

GRI 102-7, GRI 103-2, GRI 103-3

India Energy Sector

India is at an inflection point with respect to energy consumption. Because of rising incomes and living standards, India is now the world's third-largest energy consumer. Since 2000, energy consumption has more than doubled, with coal, oil and solid biomass still meeting 80% of demand. Despite the rapid growth in absolute energy consumption, measured on a per capita basis, India's energy consumption is still less than half of the global average (Source-IEA). As India recovers from a Covid-induced slump in 2020, it will re-enter a highly dynamic phase in its energy development journey.

An expanding economy, rapid urbanization and a growing population are the fundamental drivers of India's energy demand, setting India on track to becoming one of the most significant energy markets by 2040. The nation's per capita energy consumption is expected to surge further by three to four times over the long term and hence ensuring energy security for the country is of utmost importance.

According to the 2021-22 Economic Survey, fossil fuel-based energy will continue to outmatch the year-on-year growth of any other source of energy in the country. Thermal energy accounts for the largest share of total installed capacity in utilities (61.42%), followed by renewable energy (24.7%) and hydro (12.09%). Coal is India's most important and abundant fossil fuel, accounting for 55% of the country's energy needs.

Natural gas currently makes up roughly 6.7% of India's primary energy mix and is targeted to reach 15% by 2030. Because of rising infrastructure and supportive environmental policies, India's medium-term outlook for natural gas consumption remains optimistic. Residential, transportation and energy are also expected to drive demand.

On the regulatory front, the government, Ministry of Petroleum and Natural Gas (MoP&NG) and Petroleum and Natural Gas Regulatory Board (PNGRB) have taken several actions to promote gas use in India and create a strong gas-based economy.

5-Year Data Depicting Consumption of Natural Gas Across Various Sectors in India (% wise)

Sector	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
Fertilizer	27.70	27.83	28.52	31.70	30.37
City Gas Distribution	16.24	17.09	19.26	16.40	20.37
Power	22.76	22.29	19.61	19.30	15.00
Refinery	12.36	13.08	13.78	14.10	8.92
Petrochemicals	7.61	6.28	6.31	5.50	4.63
Others	13.33	13.43	12.52	13	20.71

(Source-PPAC)

The GoI has an energy strategy for the country with the goal of increasing the availability of affordable and clean energy for all citizens. At the COP26 summit in Glasgow, in November 2021, Prime Minister Narendra Modi pledged to cut India's total projected carbon emissions by 1 billion tonnes by 2030, reduce the carbon intensity of the nation's economy by less than 45% by the end of the decade and reach net-zero carbon emissions by 2070. This has led to the emergence of an alternate energy market, with

a mission to transition to a low carbon economy. In this endeavour, gas is expected to play a significant role as a transition fuel.

GAIL is pushing its targets and strategies towards achieving the goal of energy security for the nation while also considering key sustainability issues such as carbon emissions and climate change. We currently operate a pipeline network of 14,500 km and market two-thirds of the total amount of natural gas sold in the country. Additionally, we will add another 5,000 km of pipeline length in the

GRI 103-2, GRI 103-3

next five years. The GoI has planned investments worth multi-billion USD towards establishing 'One Nation One Gas Grid', indicating their commitment to building a gas-based economy. This nation-wide momentum has provided GAIL with the space for expansion. GAIL has been focused on expansion and ensured that we are on track towards meeting the ambitious targets that were set on the Urja Ganga project, to bring clean energy to eastern India. Additionally, we are expanding our presence in the north eastern region of the country through our synergistic acquisition of ONGC Tripura Power Company (OTPC).

Several strategic initiatives were identified across various business verticals, primarily focusing on core areas like Gas Sourcing and Marketing, Expansion of National Gas Grid (NGG), Petrochemicals including PDHPP and CGDs, amongst others. Apart from these, new potential growth drivers such as creating a sizable renewable energy portfolio, entering specialty chemicals, investing in new technologies and clean energy have also been analysed.

As part of short-term strategic objectives, we are continuing to serve the country's natural gas demand while building gas pipeline infrastructure across the nation. With a vision of enabling India towards gas-based economy, we are implementing CGD projects and market development to supply natural gas to domestic, industrial and commercial customers. In terms of petrochemicals, we foresee the organization as becoming the foremost domestic petrochemical player both through expansions at the existing plant at Pata and setting up of a new unit at Usar, while also exploring a new greenfield ethane cracker project. We take pride in being among the top ten global LNG players and we strive to become a global energy portfolio player in the field of LNG by leveraging our diverse portfolio and pursuing business interests in 4-5 international markets.

Regulatory, market and price risks are interrelated to the strategic initiatives of the dynamic oil

and gas industry both nationally and globally. Geopolitical changes leading to disruptions in supply chains and volatile commodity prices have also highlighted the need for us to remain agile during this time. This year, we have remained profitable through proactive measures such as using US cargos for arbitrage and forward time swap of cargoes in quarter 2 and quarter 3. We conduct regular strategy revisit exercises to ensure risk mitigation.

We have also been proactive about managing our capital structure and making the necessary changes to enable us to thrive within the varied economic conditions. We adjust dividend payments to shareholders, return capital to shares, share buybacks and the issue of new shares as required. We are consistently providing steady long-term returns on the investments of our shareholders. This year marked the highest ever dividend payment by GAIL in terms of the total dividend amount.

7.2 Economic Performance of GAIL

During FY 2021-22, we have registered a gross turnover of INR 91,426 crore as against INR 56,529 in FY 2020-21. PBT has increased by 113% from INR 6,386 crore (FY 2020-21) to INR 13,590 crore (FY 2021-22) mainly because of higher Gas marketing spread. PAT has shown an increase of 112% from INR 4,890 crore (FY 2020-21) to INR 10,364 crore (FY 2021-22). As on 31st March 2022, the market capitalization of the company is INR 69,137 crore reflecting strong investor confidence in the company. Neither was any political contribution made by GAIL nor any financial assistance received from the Government in FY 2021-22 except capital grant received of INR 589.55 crore for JHBDPL Project during the year.

GAIL declared an interim dividend of INR 4 per share to its shareholders in the month of December 2021 and INR 5 per share in March 2022. Further, GAIL Board recommended final Dividend of INR 1 per share subject to approval of shareholders in Annual General Meeting, taking the total of 1st, 2nd interim & Final dividend (if approved), to INR 10 per equity share.

GRI 102-9, GRI 102-10, GRI 103-2, GRI 103-3, GRI 201-4, GRI 415-1

GAIL's Board of Directors, on 31st March 2022, approved the buyback of ~5.70 crore shares at INR 190 per share, aggregating to about INR 1,083 crore (excluding taxes). The buyback price of equity shares is at a 24% premium on the previous day closing price at the NSE.

Major segments of GAIL's business (accounting for above 90% of the turnover) and their respective percentage contribution to total turnover are as follows:

S.No.	Product/Service	NIC Code	% of total turnover contributed
1	Solid, liquid and gaseous fuels and related products- Crude petroleum and natural gas (NG Trading)	99611912	77
2	Plastics in Primary form (Petchem)	99611715	9
3	Transport via pipeline of Natural Gas (NG Transmission)	99651312	7
4	Solid, liquid and gaseous fuels and related products n.e.c – Liquid Hydrocarbons (LHC)	99611919	5
5	Electricity (Wind and Solar Power)	99611970	*

*The Power service and other products/services contribute 2% of the total turnover

Table 1: Physical Performance

S.No.	Particulars (Unit)	FY 2020-21 vs. FY 2021-22		
		FY 2020-21	FY 2021-22	Growth %
TRANSMISSION/SALES				
1	Natural gas transmission (MMSCMD)	104.2	110.98	7
2	LPG transmission (TMT)	4,163	4199	1
3	Natural gas sales (MMSCMD)	89.2	96.24	(8)
4	Petrochemicals (TMT)	871	790	(9)
5	LHC (TMT)	1,138	1,004	(12)
PRODUCTION (TMT)				
1	Petrochemicals	813	777	(4)
2	LHC	1,137	1,001	(12)

Table 2: Economic Value Generated * (INR crore)

S.No.	Economic Value Generated	FY 2019-20	FY 2020-21	FY 2021-22
1.	Total revenue (net of ED)	73,327.30	58,752.10	93,727.80

*Economic value generated and distributed calculation methodology is different from other reported data

Table 3: Economic Value Distributed* (INR crore)

S.No.	Economic Value Distributed	FY 2019-20	FY 2020-21	FY 2021-22
1.	Employee wages and benefits	1,740.40	1,744.20	1951.2
2.	Operating Cost	64,313.50	49,996.60	78347.8
3.	Payments to providers of capital	3,422.20	2,569.20	4344.7
4.	Payment to government	1,979.60	1,723.10	3226.3

*Employee wages and benefits incl. t/f to CWIP+ contribution to PF & Other fund (Prior Period) & Welfare+ Other income from deputation

7.3 Key Business Initiatives

During the reporting year, we have taken key initiatives with respect to new avenues for expansion and growth. Additionally, we are proud to continue to be a preferred supplier for end users and have a substantial volume of renewal contracts and new contracts with our priority customers. Some of our business initiatives this year include:

- In January 2022, GAIL has acquired an equity stake of 26% in ONGC Tripura Power Company (OTPC), from IL&FS Group companies in an open bidding process. ONGC Tripura Power Company owns and operates a 726.6 MW gas-based combined cycle power plant in Palatana, Tripura. OTPC is the biggest gas-based power plant in the North Eastern region with long-term supply from ONGC. Being an integrated energy company, the acquisition of this sustainable business would be synergistic and would enable GAIL to stronghold its presence in North Eastern Region of the country
- GAIL is the first pipeline company in the country to initiate an online pipeline open-access portal for easier and transparent booking of Common Carrier Capacity in its natural gas pipeline. In FY 2021-22, around 5,000 Capacity Tranche (CT) requests have been processed through the portal. The total CT requisitions received till 31st March, 2022, since the launch of the online portal in 2018, is over 11,000
- Government of India (GoI) has resolved to supply Ethanol Blended Petrol with the objective of reducing oil import and has fixed a target of 10% blending by 2022 and 20% by 2025. In addition to contributing towards forex saving, ethanol blended petrol results in lesser emissions. In line with GoI vision, GAIL is exploring to set up Ethanol Plants through Joint Venture. In this regard, GAIL had signed a Memorandum of Understanding (MoU) with M/s Gujarat Alkalies and Chemicals Limited (GACL) for development of 500 KLD 1G grain based Ethanol plant in Gujarat.

Further, GAIL is exploring equity participation in 1G ethanol projects through EOI route.

The following initiatives have been taken by GAIL for promoting gas markets in new cities and creating new market opportunities:

- GAIL is on track for meeting the ambitious targets that were set on the Urja Ganga project, to bring clean energy to eastern India
- During the FY 2021-22, ~1,000 km of gas pipeline is operationally ready. Further, around 5,400 km of pipeline as a part of National Gas Grid & other small connectivities is under different stages of project execution. GAIL has also achieved 1,139 km of pipeline lowering in FY 2021-22.
- Under the Pradhan Mantri Urja Ganga Pipeline Project, also known as Jagdishpur Haldia and Bokaro Dhamra pipeline (JHBDPL), a total of 1,521 km out of 2,655 km pipeline length has been commissioned while achieving natural gas supply to all 4 major anchor Fertilizers plants, namely M/s Matix Fertilizers, Durgapur and 03 units of M/s Hindustan Urvarak & Rasayan Limited (HURL) at Gorakhpur, Sindri & Barauni.
- GAIL is expanding the liquefied natural gas (LNG) import capacity. Besides owning a part of Petronet LNG Ltd, India's biggest liquid gas importer, we also own and operate an LNG import facility at Dabhol in Maharashtra. Construction of a breakwater at Dabhol, which should be completed in the next year, should enable the terminal to operate at its full capacity of 50,00,000 tonnes per annum
- GAIL is also planning to expand the Pata petrochemical plant in Uttar Pradesh and convert the LPG unit in Usar, Maharashtra to a 5,00,000 tonnes Polypropylene plant by 2024-25

- GAIL has also signed an MoU with the Industrial Promotion & Investment Corporation of Odisha Limited (IPICOL) for green ammonia plants
- GAIL along with its JVs have provided domestic PNG connections to around 11.5 lakh customers and ~ 415 CNG Stations were set up during FY 2021-22
- GAIL is looking for opportunities to supply gas in new segments like LNG trucking i.e., LNG for long haul transportation and use of natural gas in trigeneration system. In FY 2021-22, LNG station at Mandideep was commissioned and other stations at Nasik, Ajmer, Mumbai, Vadodara and Kanpur are in advanced stages of completion
- In the Union Budget for FY 2021-22, the Gol announced a “Hydrogen Mission” to draw a road map for using Hydrogen as an energy source. The overarching objective of the Mission is to make India a Global Hub for Green Hydrogen production, usage and export. It is being envisaged to be fuel of the future. In line with the Gol vision, GAIL is setting up of a 10MW Green Hydrogen plant in its Gas Processing Plant at Vijapur, Guna District, Madhya Pradesh
- In line with the National Hydrogen Mission, GAIL has also commenced a first of its kind pilot in India to mix hydrogen into natural gas. This blend will be supplied to Avantika Gas Limited, one of GAIL’s Joint Venture (JV) companies with HPCL, operating in Indore. The goal is to establish the techno-commercial feasibility of blending hydrogen in the City Gas Distribution (CGD) network to work towards a hydrogen-based and carbon-neutral future. It is expected that this pilot project will help create a robust standard and regulatory framework to cover the aspects of injecting hydrogen into natural gas and pave the path for carrying out multiple similar projects across India
- R&D initiatives on development of low carbon technology is the need of hour for meeting the sustainable business goals. In line with this, GAIL is investing in emerging technologies, for the direct or indirect conversion of CO₂ to valuable chemicals and energy products that have high potential market and promising benefits
- Our total expenditure on R&D and Innovation initiatives in the reporting year was INR 243.70 crore. This included INR 11.73 crore majorly spent on pursuing collaborative R&D works with various Research Institutes and INR 231.97 crore expended on carrying out innovation /developmental initiatives at various GAIL’s facilities
- Collaborative R&D works are carried out in association with various academic Institutes, Centre of Excellences (CoE) and CSIR Laboratories. These collaborative efforts are mainly focused on emerging technologies such as green hydrogen; battery technology; CO₂ utilization and waste valorisations; process optimization; pipeline integrity management and development of catalysts.

Currently, our collaborative research works portfolio comprises of 22 projects falling under various thrust areas as indicated below:

S. No.	Thrust Areas	Nos. of Projects
1	NG/process P/L protection /monitoring	4
2	Development of NG Storage, Methane to Olefins, Bio-CNG, NG Utilization / Storage	3
3	CO ₂ Utilization	3
4	Development of value-added petrochemicals /Polymers / catalysts	3
5	Waste valorizations/Others	5
6	Hydrogen/Fuel Cell/ Battery	4
	Total	22

Key Digital Management Initiatives at GAIL

- Bill Watch System for tracking Suppliers and Contractors bills and ensuring timely payment
- E- bidding for LNG Cargo
- ANJANI E-measurement & E-billing Portal
- CBG Portal
- E-investment of GAIL (India) Ltd Employees Provident Fund Trust
- Bank Communication Management Module
- Medical Reimbursement App
- Reimbursement under LTC Lieu Portal
- Permission for WFH during quarantine module HRD
- Bharat Bill Pay System (BBPS) implemented in CGD business to enable customers for smooth payment of PNG bill through mobile payment apps
- Digitalization of Travel Bill claim reimbursement through Mobile application & PRMS claim through Golden retirement portal
- Centralised invoicing of NG trading and transmission implemented

7.4 Financial Management Improvement Initiatives in FY 2021-22

GAIL has focused on several new Financial Management initiatives in FY 2021-22 as outlined below:

- GAIL invests surplus funds in temporary short-term deposits with approved banks from time to time. Such deposits are done as per DPE guidelines, in banks approved by the GAIL Board
- The Company has managed its liquidity requirement through a prudent mix of borrowings and internal accruals
- Fresh borrowing at very competitive and

refinancing of old loans at much lower rate leading in bringing down the overall cost of funds.

7.5 Business Outlook

Over the last few years, we have grown steadily across business segments. Our growth has been recognized by various agencies and regulatory bodies over the course of the financial year. The stable outlook and potential business growth of GAIL during the reporting period resulted in a credit rating of 'AAA' with stable outlook at the domestic level and at an international level, 'Baa3' with a Stable Outlook by Moody's and 'BBB-' with stable outlook by Fitch.

7.5.1 Opportunities for GAIL

- India has one of the highest energy consumption growth rates, from all major economies in the world, with a 4.6% year-on-year growth in March 2022
- The Government of India aims to increase the gas share in the Primary Energy (PE) mix from 6.7% to 15% by 2030
- The global trend is towards a lower carbon fuel mix, higher carbon prices and the policy and investor environment towards natural gas is supportive
- The role of natural gas will be crucial as a source of (near) zero-carbon energy with the possibility to produce blue and green hydrogen
- Additionally, the government has been making significant investments across the natural gas value chain:
 - **Gas pipelines:** INR 60,000 crore to INR 70,000 crore
 - **LNG terminals:** INR 25,000 crore
 - **Gas-based fertilizer sector:** INR 30,000 crore
 - **CGDs:** INR 70,000 crore to INR 80,000 crore

- India's per capita consumption of plastics is expected to rise over the next few years. This trend will enable growth opportunities for our petrochemical segment.

Further details of each business segment of GAIL are outlined below.

7.5.2 Natural Gas Marketing

Gas transmission and gas marketing are the key drivers of GAIL's business and it transmitted around 110.98 MMSCMD. GAIL's Natural Gas sales for FY 2021-22 was 96.24 MMSCMD. Of this, 86.55 MMSCMD was domestic sales and 9.69 MMSCMD was international sales. This is a growth of 7.89% from the sale of 89.20 MMSCMD recorded during FY 2020-21. GAIL's Gross revenue from Natural Gas Marketing also grew from INR 43,846 crore in FY 2020-21 to INR 77,326 crore in FY 2021-22.

GAIL marketed around 41.86 MMSCMD of domestic gas in FY 2021-22 against 42.62 MMSCMD in the FY 2020-21. This domestic natural gas was 48% of the total natural gas marketed by GAIL in India.

Fertilizer sector

GAIL purchased a 14.72 % equity stake in Ramagundam Fertilizers and Chemicals Limited (RFCL), a joint venture formed by NFL, EIL and FCIL to produce 2,200 MTPD Ammonia and 3,850 MTPD Urea. RFCL plant operations were significantly improved during FY 2021-22 and major chronic issues were resolved and RFCL achieved a major milestone of achieving 100% plant load of Ammonia and Urea on 26th April, 2022. This achievement is a significant step toward Atma Nirbhar Bharat. Throughout the year, 389 MT of urea and 256 MT of ammonia were produced.

Power sector: GAIL has consistently focused on growing our presence in gas-based power, across the country. We currently supply around 60% of the country's gas consumed by gas-power plants. One avenue for growth, over the last few years, has been partnering with power producers to operationalize their stranded units. Additionally,

we have been exploring opportunities to ensure the supply of natural gas to gas-based power generation units at affordable prices. This year, GAIL supplied approximately 4.17 MMSCMD of RLNG to power plants, in addition to allocated domestic gas.

Developing the country's natural gas pipeline infrastructure by laying new natural gas pipelines and expanding the current pipelines operated by GAIL is a focus area for us. For the upcoming new sources, GAIL is also providing tie-in connections with natural gas pipelines to enable new gas injections into pipelines. Additionally, GAIL provides Interconnections (ICs) with the natural gas pipelines of other pipeline entities across India.

Furthermore, GAIL focuses on enabling Last Mile Connectivity (LMC) to multiple industrial consumers, giving access to natural gas and aiding a shift from other alternate fuels. Another solution GAIL provides is Hooking-up connectivity from the trunk natural gas pipeline to the CGD networks which has been done for more than 100 CGD networks across India. 8 new Last Mile Connectivity and 29 Hook-ups were completed to supply and transport gas during the reporting.

GAIL is the only gas pipeline company in India, successfully operating an online pipeline open-access portal. The portal allows for easier and transparent booking of Common Carrier Capacity in our natural gas pipeline. During FY 2021-22, over 5,000 Capacity Tranche (CT) requests were processed through the portal and over 11,000 CT requisitions have been processed since the launch of the portal in 2018. Finally, to facilitate smooth transportation of gas traded in the newly established Gas Exchange, GAIL has firmed up a modality with the Gas Exchange.

7.5.3 LPG Transmission

GAIL is India's first entity to own and operate pipelines for LPG transmission. The current network stands at 2,023 km. of the pipeline connects the western and northern parts of India

(Jamnagar-Loni) and of the pipeline is in the southern part of the country and connects it to the Eastern Coast (Vizag-Secunderabad). Both pipeline networks achieved a throughput of 4.199 MMTPA during FY 2021-22 compared with 4.163 MMTPA in the FY 2020-21. Turnover from LPG transportation in FY 2021-22 was INR 669 crore.

7.5.4 Petrochemicals

GAIL's total marketing portfolio capacity of Petrochemicals is 1,090 Kilo Tons per annum (KTA). At the Pata complex, our polymer production capacity is 810 KTA. Additionally, GAIL has 70% equity share in Brahmaputra Cracker & Polymer Limited (BCPL) and marketing rights of the plant, which has a capacity of 280 KTA.

In the petrochemicals segment, GAIL has been exploring opportunities to expand its polymer offerings through wide range of products and PE, PP polymer grades. GAIL is setting up 500 KTA Polypropylene plant, a first of its kind project in India which would be using Propane Dehydrogenation technology for production of Propylene integrated with the downstream Polypropylene unit. After completion of licensor selection for the PDH & PP units, the process of obtaining requisite approvals along with procurement activities are under full swing. In addition, GAIL is also setting up a 60 KTA PP plant at its Pata Petrochemical complex to diversify PP offering.

By utilising 96% capacity of the Pata Plant and BCPL's in FY 2021-22, GAIL produced 777 KTA from the Pata Petrochemicals Complex and 274 KTA from BCPL. During the FY 2021-22, GAIL marketed over 1,064 KTA of petrochemicals. The country's High Density and Liner Low Density Polyethylene (HDPE & LLDPE) market is dominated by GAIL and BCPL, with a combined production share of 18.5%. We have kept our position as the second-largest participant in the Indian petrochemical sector and maintained our market share in the local polyethylene market by keeping a portfolio of more than 1,000 KTA. In addition, GAIL exported polymers worth 11 KTA to several Asian markets.

7.5.5 LPG and other Liquid Hydrocarbon Production

GAIL currently operates 5 Gas Processing Units (GPUs) at Vijaipur (2 Units), Pata, Gandhar & Vaghodia. Our total LHC production capacity is 1.4 Million MT. During the reporting period (FY 2021-22) the total liquid hydrocarbon production was around 1 Million MT compared to 1.14 Million MT in FY 2020-21. 91% of this volume consists of LPG and Propane.

7.5.6 Exploration and Production

GAIL currently has 13 E&P blocks: 10 in India, 2 in Myanmar and 1 Shale Gas JV in Eagle Ford basin, Texas, USA (through wholly-owned subsidiary - GGUI). The domestic E&P blocks are in Basins such as Assam-Arakan (2), Cambay (5), Cauvery (1), Rajasthan (1), Gujarat Kutch (1). The 2 overseas blocks are in Myanmar (A-1 and A-3 blocks). GAIL partners with operators for many of these blocks and is the operator on 3 (2 in the Cambay basin and 1 in Rajasthan basin). The acreage of the 12 blocks is 2,656 km² as per Participation Interest in various consortiums (excluding Shale Gas JV-USA).

Five producing blocks are heading to Hydrocarbon sale revenue: A-1 and A-3 in Myanmar and CB-ONN-2000/1 and CB-ONN-2003/2 (2 of the Cambay onshore blocks) in India and one (1) shale gas JV acreage in Eagle Ford basin, Texas, USA. E&P activities have generated a total revenue of INR 833 crore in FY 2021-22 as against INR 838 crore in FY 2020-21.

Development activities are in progress in two blocks: Tripura on land Block (AA-ONN-2002/1), where JOGPL is the Operator and Cambay on land Block (CB-ONN-2010/11), where GAIL is the Operator. Exploration activities are also in progress in two blocks: Cambay Oland Block (CB-ONHP-2017/12), where GAIL is the Operator and Assam on land Block (AA-ONN-2010/2), where OIL is the Operator.

7.5.7 City Gas Distribution

GAIL is authorized to operate in 67 Geographical Areas (GAs) across India and covers most of the

major metro cities including Delhi, Mumbai, Hyderabad, Bengaluru and Kolkata. In terms of city gas distribution, we cover 67% of the total 93.02 lakh domestic PNG connections in the country. With respect to CNG, GAIL has a 46% share and as a group we operate 2030 CNG stations. In FY 2021-22, GAIL added 11.50 lakh household PNG connections and 415 CNG stations.

GAIL is currently operating City Gas Distribution (CGD) projects in 16 Networks, including Bengaluru. Additionally, through our 6 JVCs, GAIL is also implementing projects in 9 more GAs. In total, including networks with JVCs, we are providing DPNG to 7.79 Lakh households and catering to clean fuel requirements for vehicles through our 345 CNG stations spread across the GAs.

7.5.8 Coal Gasification

In a JV with Rashtriya Chemicals & Fertilizers (31.85% stake), Coal India Limited (31.85% stake) and Fertilizers Corporation of India (FCIL) (4.45% equity), GAIL is in the process of setting up a the Talcher Fertilizers Limited (TFL) plant. The coal gasification-based Urea plant shall reduce dependence on imported natural gas to produce urea, leading to a reduction in the LNG import bill. Further, the gasification process is expected to emit negligible SO_x, NO_x and free particulate as compared to directly coal-fired processes thereby supporting commitments made by India under Paris Agreement, 2016.

The project, sourced from a captive mine of North Arkhupal in Talcher region, is estimated to cost INR 13,277 crore and is envisaged to produce 2,200 MTPD Ammonia and 3,850 MTPD Urea. The overall project progress achieved till March 2022 is 23%. The Cabinet Committee on Economic Affairs (CCEA) has approved the exclusive subsidy policy for the urea to be produced by TFL on 20th April 2021. The financial closure of the project has been successfully concluded in June 2021 with debt tie up of INR 9,560 crore (approx.). Contract of approx. value of INR 11,000 crore has already been awarded.

GRI 103-2, GRI 103-3

7.5.9 Renewable Energy

GAIL is with India in its commitment to reducing carbon emissions and implementing renewable projects. We have a total installed capacity of 131.75 MW of alternative energy; out of which 117.95 MW are wind energy projects and 13.8 MW are solar energy projects. We have installed India's 2nd largest solar rooftop of ~ 6 MW, grid-connected and captive solar power plant at our Pata Petrochemical complex. In addition, GAIL is also implementing solar energy projects of 2.6 MW at Pata in Uttar Pradesh, 10 MW at Vijaipur in Madhya Pradesh and 3.2 MW of solar roof top projects at various other O&M Sites. At Vijaipur, existing solar capacity is 55 KW and 2 plants of 1.8 MW and 1.6 MW are under commissioning which makes total on-site solar installed capacity to be 3.562 MW. Further, roof-top and ground-mounted solar units are also being installed at various offices and work centres for captive use. The target is for 1 GW to be renewable generated in the next three to four years.

In accordance with our strategic focus on low carbon transition, we are looking into several paths for expanding its renewable energy portfolio through both organic and inorganic approaches.

When it comes to the production and marketing of compressed biogas (CBG) made from organic waste, GAIL is looking into a number of commercial options. GAIL has requested Expressions of Interest (EOI) from various CBG Producers for offering a Marketing Tie-Up of CBG at the Retail Outlets of your Company and its JVs as part of the MoP&NG's project, SATAT (Sustainable Alternative towards Affordable Transportation). By the end of FY22, total 253 "Letters of Intent (LoI)" had been issued to potential CBG producers.

GAIL has also made the decision to enter the CBG market by establishing CBG production facilities. At Ranchi, we are constructing our CBG facility with a 5 Tons Per Day (TPD) capability. With Ranchi Municipal Corporation, we have entered

into a 22-year concession deal for the supply of municipal solid waste (MSW) and related infrastructure for the construction of the plant.

7.6 Industry Events and Engagements

Azadi Ka Mahotsav, 1st October 2021

GAIL organized an awareness program under the Ministry of Petroleum and Natural Gas to spread awareness about information around City Gas Distribution and Compressed Natural Gas. GAIL training institute conducted a hybrid training (both physical and webcasted online) for GAIL employees, senior ministry officials, employees of Oil & Gas PSU employees and students at various universities.

Two awareness sessions were conducted: on 'CGD - Creating demand for India's Energy Sector,' by Shri M V Ravi Someswarudu, Executive Director, (Operations & Maintenance), GAIL and 'CNG - Common myths and reality' by Shri Anupam Mukhopadhyay, Chief General Manager (CGD - Marketing), GAIL.

Azadi ka Amrit Mahotsav, 27th May 2022

GAIL organised its 11th awareness program on City Gas Distribution (CGD) in which more than 130 participants were present and this program was organised at Indian Institute of Technology, Jammu. Students of IIT, Jammu and IIM, Jammu were invited to the program. Awareness session was delivered on 'CNG-Common myths and reality' and safety on usage of Natural Gas was also covered by Shri Anupam Mukhopadhyay, Executive Director (CGD-Marketing), GAIL.

7.6.1 Initiatives taken for Engaging with Investors in FY 2021-22

Investor relationship management is a key area of focus for GAIL. We aim to reach a maximum number of investors every year, from both domestic and global markets to ensure both financial and non-financial information is communicated in a timely fashion and investor concerns can be addressed. Managing Investor Relations (IR) is becoming increasingly important in today's volatile world to enable companies

to meet investors' expectations. Investors are now looking beyond financial performance into the Environment, Social and Governance (ESG) performance of companies as well. It is therefore important to communicate additional themes relating to initiatives taken in Corporate Social Responsibility, Sustainability and Health Safety Environment (HSE), etc.

In the spirit of interacting with investors on a regular basis, For FY 2021-22, GAIL organized an Investor & Analyst Meet on 10th June 2021 through WebEx. Our senior management and executives also participated in 9 investor relations (IR) events organized by top brokerage houses of the country such as B&K, Emkay Global, ICICI Securities, MOSL, JP Morgan etc. to cover as many investors as possible. Conference calls for Q1 FY 2021-22, Q2 FY2021-22 and Q3 FY2021-22 were organized immediately after the quarterly financial results were announced. In addition to the meets and conferences, we also arranged one to one virtual meetings based on investors requirements. Analysts Presentations and their transcripts are provided in the following link of our website- <https://gailonline.com/IZ-GeneralInformation.html>. GAIL attended more than 15 office meetings with Analyst & Investors during FY 2021-22 in physical and Virtual Mode.

All such information dissemination initiatives by GAIL have been recognized and appreciated by the Investor and Analyst Community. Additionally, GAIL has taken an active role to sensitize our employees on how to handle Unpublished Price Sensitive Information (UPSI).

GAIL also won the Investor Relation Award under the category of ESG disclosures in 2021.

Initiatives for Advocacy of Natural Gas

GAIL had undertaken a number of studies on the areas of gas advocacy, few of which are as follows:

- Gas needs to be looked upon as the second pillar of decarbonization. Natural gas will be instrumental as a transition fuel in dealing with the intermittency of the renewable energy

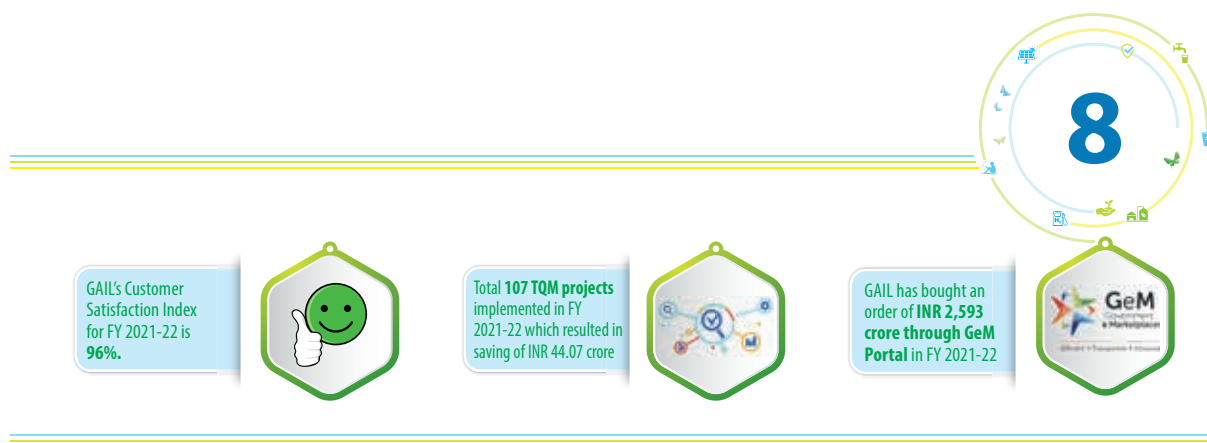


GAIL investor & analyst meet at Singapore in June 2022 in presence of Director Finance Shri Rakesh Kumar Jain

- GAIL has conducted a study to explore establishment of EV charging infrastructure at a CGD GA
- Gol is planning for a long; term investment of over INR 4 Lakh crore to be deployed across various sub sectors of natural gas value chain
- GAIL is actively working towards diversifying the business portfolio to include renewable and alternative energy and newer mobility solutions
- Use of natural gas in power sector through FIPI
- Potential of natural gas as replacement for solid and liquid polluting fuels consumption in industries
- Assessment of gas demand in Refinery Sector and Steel Sector
- Opportunity Mapping for GAIL in Battery Value Chain
- Potential of natural gas as replacement for solid and liquid polluting fuels consumption in industries under any CGD Gas and price sensitive demand assessment.



Shri Manoj Jain, Chairman & Managing Director and Shri R.K. Jain, Director (Finance) visited on 19th April 2022 for tree plantation at SV station, GAIL, Kochi



Operational Excellence

Our industry is defined by several major forces, the most significant of these are the volatility of the oil markets, increased competition and climate change. These changes imply that achieving operational excellence is core to the day-to-day operations of the company. We always intend to maximize our operational performance through best available technologies thereby creating value to all our stakeholders. At GAIL, we believe that this approach of continuous improvement in systems, processes and operations drives our sustainability agenda which is at the very heart of our business. Our continuous endeavour towards operational improvements drives resource and energy efficiency in the business, leading to higher sustainability.

8.1 Our Approach

At GAIL, we create value in a responsible manner, supported by our sustainability strategy. We aim to increase the scale, efficiency and profitability of our operations, by identifying and aspiring for innovation and best available opportunities. Our relentless efforts in reducing operations costs enable us to profitable and sustainable long-term business in rapidly changing environment. We constantly nurture our corporate strategies to create and sustain competitive advantage for our business.

As a leading Natural Gas Company of India, GAIL is aware of its responsibilities to deliver the essential and sustainable energy supplies the India needs. In continuing our win over this challenge, GAIL has developed a strategic approach to pursue efficiency, resilience and growth while integrating sustainability consideration into its operational footprint. We also endeavour to follow our journey of Net Zero and embracing high standards of governance and integrity in all our production and transmission activities. As the concept of "Sustainability" offers perspective on the relationship between GAIL and its stakeholders, we are integrating sustainability into our operation by optimizing operational efficiency, using resources responsibly and encouraging cultural changes among our people.

Our operation and maintenance are regularized and updated with national and international level standards and guidelines. At GAIL, our O&M philosophy is standardised and reviewed through a comprehensive internal consultation of experts and due diligence process. We have certified Subject Matter Experts (SMEs) of international repute on our panel and we regularly take their guidance for developing and reviewing the above philosophy. In addition, to ensure implementation of best precautionary measures

GRI 103-2

and zero tolerance to breaches in safety, we have established 3-level investigation mechanism for carrying out Root Cause Analysis (RCA) of any incidents.

8.2 GAIL's Leadership Responsibility

Our leadership dedication and commitment are key drivers of achieving our operational goals. At GAIL, sustainability strategies and plans are driven by our Top Management which is in consultation with our valuable stakeholders (internal and external) and expert agencies. The primary responsibility for ensuring the proper implementation of all plans rests with the department heads at all GAIL sites that are overseen by the corporate office.

8.3 Integrated Management system (IMS)

At GAIL, we proactively focus and achieve operational excellence. To strengthen our operations, we have adopted an integrated approach for the management of our plant & pipeline operations, equipment/assets integrity management and HSE performance. The IMS framework plays a guiding role in making our business sustainable and helps in achieving operational goals with quality and efficiency. This integrated approach incorporates the following:

- Asset Integrity Management System
- Quality Management System
- Environment Management System
- Energy Management System

8.3.1 Asset Integrity Management System

Our assets are important pillars of our business. To strengthen and to optimize asset integrity, GAIL has invested in establishing Asset Integrity Management System Plan. We undertake regular tracking and updating of records of assets for better utilization, reducing risk, ensuring efficient operations, allowing implementation of a risk plan, managing inventory and enhancing safety. We also take various initiatives and programs for our asset management. Key highlights of such programs are:

1. GAIL believes in doing the best, so we ensure that all national and international standards (PESO, API, NFPA, PNGRB, ASME) are followed during design, construction, engineering, commissioning and operation and maintenance
2. Occupational Safety and health of employees is our prime focus while working in the plant/site. Our investment in developing new assets is always assessed through process for identification of hazard associated and risk analysis. At GAIL, our all projects approved for implementation start only after the positive HAZOP study and Risk analysis. It not only reduces the risk associated but also enables us to take preventive measures at regular intervals
3. Since gas supply is our primary business, it is critical to eliminate any kind of leakage or intrusion in the gas pipeline. A Centralized Application Software (APPS) system with Leak detection system has been implemented for trunk gas pipeline networks. For further precaution Optical Fibre Cable (OFC) based Pipeline Leak & Intrusion Detection (PLIDS) are also being deployed at vulnerable locations for real time monitoring of detection in pipeline Right of User (ROU)
4. Integrity Management System is in place and followed for entire network of Cross Country Pipelines in accordance with PNGRB (Integrity Management System for Natural Gas Pipelines) Regulations 2012
5. Empanelment of Subject matter Experts for expert services with regard to Pipelines Corrosion, Cathodic Protection (CP), in line Inspection (ILI), Coating, metallurgy and welding
6. A structured set of information of all our equipment are mapped in SAP for monitoring the conditions of all equipment with regard to repair and maintenance

7. To eliminate any risk or leakage incident, an aerial patrolling is also being carried out. Any abnormality encountered during supervision is promptly reported and rectified.

8.3.2 Responsible Pipeline Integrity Management System

The integrity of pipeline begins with the design and construction stage. Our gas pipeline networks comprise predominantly of carbon steel pipelines of sizes ranging from 4" to 48" diameter and steel grades up to API 5LX 80. These pipelines are constructed to stringent quality specifications in accordance with different codes and standards such as PNGRB – Technical Standards & Specifications including Safety Specifications for Natural Gas Pipelines – 2009 and ASME B 31.8 Gas Transmission and Distribution Piping Systems. The pipelines are coated with Three Layer Polyethylene (TLPE) on the external surface supported by Impressed Current Cathodic Protection (ICCP) system to protect them from external corrosion and are buried.

For uninterrupted and continuous operation, the pipelines are operated and maintained to the best of industry standards. Round the clock monitoring is done through state-of-art communications and telemetry systems from regional control rooms at the headquarter of each network and from a central control room at Noida called National Gas Management Centre (NGMC). All GAIL pipelines are having Pipeline Integrity Management Program as per PNGRB Regulations and ASME B31.8S / API 1160. Integrity Management system comprises of 3-tier Governance mechanism with Central Integrity Management Group (CIMG) at Corporate O&M, Regional Integrity Management Groups (RIMG) at all Pipeline headquarters backed with Maintenance bases. The implementation of Operation & Maintenance Policy and Guidelines for Pipelines is strictly monitored and reviewed regularly. Various Pipeline Integrity web applications and databases have been developed for analysis and managing the huge data related to pipelines. Integrity assessment through the tools such as In-line Inspection (ILI), Direct Assessment

(DA) and Hydrotest is carried out as per defined frequencies or at more intervals as required and timely mitigation actions are taken accordingly. External Corrosion management by Cathodic protection system monitoring and maintenance, Internal Corrosion management by cleaning and pigging. Quality monitoring of gas source is done along with coupons and probe monitoring.

Initiatives of Pipeline Integrity Management System:

- GAIL has also initiated a concept of virtual pipelines in CGD which was approved by MoPNG to allocate domestic gas to geographical areas (GAs). This mode enables the transportation of CNG and PNG to CGD entities through cascades in a compressed form, or through LNG tankers in a liquid form
- GAIL O&M and HSE Executives participated in various Sub-Committee meetings of PNGRB Regulations on Emergency Response and Disaster Management Plan, Retail Outlet Dispensing, Integrity Management System for Natural Gas Pipelines & City Gas Distribution Networks, Gas Processing Plants and Refineries etc. as part of development/ amendment of Technical Codes & Standards
- Our Vizag-Secunderabad LPG Pipeline (VSPL) has been awarded CII - GreenCo Rating Silver Rating as an acknowledgment of our effort towards promoting sustainable industrial growth
- We are developing gas infrastructure by connecting (Jammu & Kashmir to Kanyakumari and Kutch to Kohima) gas sources to all corners of our nation
- Under the green belt initiatives of Environment Management Plan, GAIL is successfully sustaining, Green cover in the pipeline areas for 25-30 years
- We are operating around 14,500 km of natural gas pipelines and in process of extending another 5000 km of natural gas pipeline

- GAIL is making cooking fuel available in country with its 2,023 km long LPG pipeline network.

Public Awareness Program on Pipeline Safety

GAIL conducted public awareness programmes on pipeline safety under the corporate guidelines at various sites of GAIL. Below mentioned programmes were conducted during FY 2021-22:

1. We organized a virtual awareness program on City Gas Distribution and Compressed Natural Gas on 21st January 2022. This event was attended by over 250 GAIL employees, representatives from Ministry of Petroleum and Natural Gas, Government of India, Oil & Gas PSUs. Showcasing GAIL's endeavours to adopt innovative solutions, the session on "IT OT driven solutions to strengthen the CGD", highlighted how technology adoption has made our business smarter, efficient, effective and resilient.
2. A training program on 'Projects and Operation Perspectives of City Gas Distribution (CGD)' under Indian Technical and Economic Cooperation - ITEC was conducted by GAIL institute between 25-27th March 2022.

8.3.3 Total Quality Management

At GAIL, we are committed to improve our performance in customer satisfaction, sustaining business process through implementation of Quality Management System. GAIL has a dedicated corporate TQM department for all TQM implementation and employee awareness. Our best practices, innovative solutions, technologies and standardization support our TQM journey towards continuous and sustainable growth. We have also implemented Quality Management System and Energy Management System along with various pipelines and process units at corporate and marketing offices. We encourage our employees to take TQM projects or our operational projects to find innovative and sustainable solution through TQM methodology,

it improves our knowledge as well as the overall operational efficiency.

We capture voice of our customers through Customer Value Management and Customer Satisfaction Index surveys. GAIL is proud to share that Customer Satisfaction Index for FY 2021-22 is 96%.

The basic aim of TQM department is to inculcate the quality culture mindset in the employees. A definite set of tools are being implemented across GAIL and controlled centrally from Corporate TQM department.

Multiple tools such as Customer Satisfaction Index, Quality Circles Projects and ISO 9001 are being implemented across all our work centers.

There are two types of surveys conducted in GAIL to capture the feedback from customers on product quality and services offered by GAIL. The Customer Satisfaction Index (CSI) is an in-house attempt by GAIL to collect the feedback from customers. A link is provided to all active customers of GAIL through their registered email id. Customer are giving feedback on some predefined parameters on quality and services. Their feedback is collected through SAP and analyzed. In FY 2021-22, total 69 customer concerns were received and all have been resolved. The receiving and responding to the consumer complaints and their observation are mitigated appropriately by GAIL and after mitigation of the observations, customers are being informed to complete the loop.

One of the prime tools to inculcate Quality in the mind of the employees of GAIL is the Quality Circle (QC). It is a cultural and process change attempt in the Company. Employees are encouraged to form small groups including 3-4 persons to undertake the improvement/modification project within their work area pertaining to process, service, procedure and work system.

In FY 2021-22, total 139 QC projects were registered and 107 projects were successfully implemented, all these projects resulted in financial savings of INR 44.07 crore, gas savings of

7.9 MMSCM and energy savings of 5,02,690 KWH. Two QC projects, Spartan from GAIL Vijaipur has resulted in tangible benefits of INR 10 crore per annum and Varun –II from GAIL Vaghodia has resulted in tangible benefits of INR 30 crore / annum.

Additionally, there are motivational schemes associated with QC projects in GAIL. The in-house scheme is CMD Trophy award for best QC projects. Besides, Quality Circle Forum of India (QCFI) also propagates the quality concept in India - it encourages industries to participate in various competitions at (i) Regional Level, (ii) National Level, (iii) International Level.

GAIL QC teams participate in Regional Level Chapter convention held at around 32 Regional Centres of QCFI. Teams scoring higher at regional level qualify for National Chapter. This event is held once in a year in India where all the teams from private and public industries compete with each other.

Related details to be added - National Chapter qualify for International Competition held every year in affiliated countries.

TQM department is also undertaking the job of implementation of ISO 9001 (QMS) across Zonal offices and department at Corporate Office.

In addition to above, GAIL has also conducted two day program "Next Generation Leadership to second in command" for 150 executives through Gail Training Institute (GTI). GAIL also undertakes the activities towards observation of Oil and Gas conservation. It is a one-month activity mandated by PCRA /MoPNG under Saksham program. Various activities like conducting Cyclothon, Walkathon and Talk Show etc. are being arranged and monitored by GAIL. In FY 2021-22, Cyclothon – 'Green Ride' has successfully covered 1,000 km distance from Mumbai to Delhi.

8.3.4 Environment Management System (EMS)

A healthy and resilient planet is critical to the natural resources we rely on to build our

products and enhance our business activities. At GAIL, we have robust environmental policy that guides our sustainability strategy and ensure active monitoring to continuously improve our operational excellence and adhere to governmental regulations. GAIL's environmental commitments are underpinned by an environment management system, aligned to ISO 14001:2015 standards, to manage compliance, reducing environmental footprint and costs related to our operations, ensure active environment monitoring and drive environmental performance through continual improvement. Our approach of 'Plan-Do-Check-Act' ensures zero non-compliance and also enhancing our operational activities. Additionally, our various initiatives such as biodiversity protection, water, waste, energy management etc. are discussed in detail in the section on 'Energy and Environment'.

We have various measures which are undertaken and executed before initiation of any project:

- Environment Impact Assessment (EIA),
- Social Impact Assessment (SIA),
- Rapid Risk Assessment (RRA)
- Chief Controller of Explosives (CCOE clearance),
- Hazard & Operability Study (HAZOP),
- Market Study
- Coastal regulatory zone clearance,
- Construction Management Plan (CMP),
- Adopting the state-of-the-art technology for construction projects requiring minimal resources and minimizing wastages.

All our EIA/EMP reports for proposed expansion projects are available on <http://environmentclearance.nic.in>.

GAIL has 'NIL' issue relating to penalty/ action taken by regulatory authorities on safety of products / services (HSE Regulatory Bodies like Director of Factories, PESO, PNGRB, Central and State Pollution Control Board, Indian Boiler Inspectors, Central Electricity Authority etc. have

notified various regulations on their subject areas), based on monthly exception report received from sites for FY 2021-22.

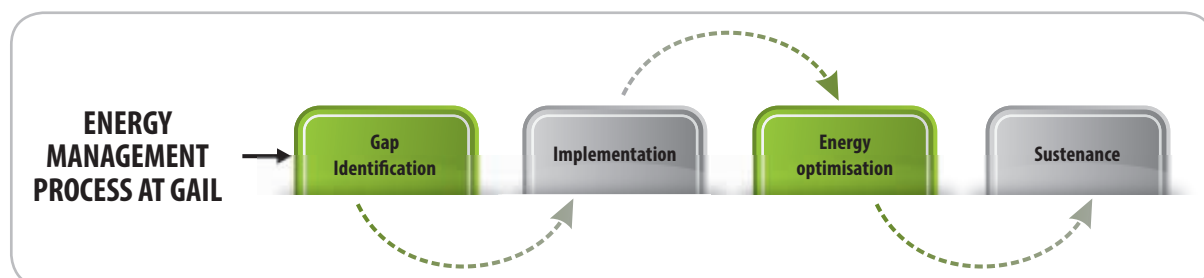
GAIL did not undertake EIA in the current financial year, as it was not mandated by the law for natural gas pipelines.

8.3.5 Energy Management System (EnMS)

We continue to progress in our business to supply sustainable energy to our customers. Our major objective behind Energy Management System's (EnMS) is to reduce the overall energy consumption by investing and developing innovative solutions that drive sustainable impact across our value chain that minimize environment impacts and directly reducing our company's carbon footprint. In this regard, we also maintain our commitment to recognize the energy efficiency across our operations. We consistently monitor our performance with systems installed every location to capture our consumption. It enables in forecasting energy consumption, opportunities for energy conservation, improving efficiency, recommending cost efficient and

environmentally sustainable alternatives. All our sites have implemented ISO 50001 Energy Management System (EnMS). Furthermore, details about our EnMS are discussed in our "Energy and Environment" section of this report.

At GAIL, energy efficiency is a key component in our strategy to increase the sustainability and long-term cost saving in our operations. Promoting and practicing energy efficiency helps us in heading towards our net-zero journey, improve the operational performance of our plants and facilities and promote environmentally responsible communities. Practicing energy efficiency by adopting best engineering practices, carrying out periodic servicing and maintenance of all operational systems are as per OEM recommendations. During FY 2021-22, we have taken various initiatives to improve our energy efficiency through our effective implementation of new technologies, training/workshops involving energy efficiency, energy management and 'climate change adaptation and mitigation' measures.



To ensure highest level of energy conservation and efficiency, all our major installations are ISO 50001 certified for Energy Management System. As a responsible organization, we are committed to Nationally Determined Contribution (NDC), set by the Government of India to address climate change and taking possible measures to reduce its environmental footprint.

Following are key energy saving initiatives that have been implemented at our plants in FY 2021-22:

- Flare Gas Recovery Unit (FGRU) of C2-C3 was installed at GAIL Vijaipur by utilising it to connect with LPG flare header. This would save approximately 0.2 MMSCM flare gas per

month. Recovered fuel gas will use as fuel gas in Utility boiler and HRSGs

- Installation of 2 Nos of HRSG (Heat Recovery Steam Generator) for DVPL (Dahej Vijajipur Pipeline) Compressors. The capacity of HRSG unit is 17.5 TPH HP steam which will approximately save 12 MMSCM fuel gas annually as per estimation
- Rich-Lean Gas Corridor Project for integrated HVJ pipeline network with a project cost of INR 60 crores was commissioned in July 2021. This has enabled GAIL to efficiently utilise the installed compressor in the HVJ pipeline network and is estimated to save approximately 0.22 MMSCMD natural gas as a fuel gas

GRI 103-2, GRI 103-3, GRI 302-4

Installation of modern and new energy efficient equipments

At GAIL sites, there is a continuous drive to replace old and lesser energy efficient equipments with modern design and energy efficient equipments. Some major initiatives taken in this direction are mentioned below:

- Replacement of old motors at GAIL Gandhar with new energy efficient IE3 -Premium efficiency category motors in continuous running services like FGC Air Cooler, RGC Air cooler, LPG Column Air cooler motors. Significant Electrical Energy Consumption saving is anticipated on account of the same.
- Retrofitting/ replacements of conventional HPMV/HPSV lamps & other lighting systems with energy efficient LED fittings & lighting systems like High mast, Main gate, watch towers, etc. at plant areas & township carried out at different GAIL Installations
- Replacement of old and energy inefficient AC systems with energy efficient star rated AC systems.

Hazira plant

- Energy Savings project was taken up. All the old HPSV/HPMV lights were replaced with LEDs at High mast, Main gate, watch towers, etc. The project cost was about INR 13.12 lakhs. The projected annual savings is supposed to be worth INR 12.59 lakhs
- Reduction in Power consumption after installation of new Battery Chargers: The project was commissioned in May 2021, the aim was to discard the old batteries and install more energy efficient batteries. In compressor suction line at Hazira Compressor station, an installation of isolation valve to facilitate RLNG Intake from HLPL Hazira into HVJ compressors discharge has resulted in in fuel gas saving on account of no additional compression required for RLNG for mixing in HVJ pipeline network.



Glimpses of GAIL and its partners meet

8.4 Responsible Compliance Management

At GAIL, we aspire to always work for beyond compliance and our Internal Legal Compliance Systems (LCMs) ensures best compliances and effective implementation of national and international regulations and policy frameworks. A periodic auditing is performed for respective sites or locations to verify the implementation along with rules and regulations. Our internal audit teams or HSE teams conduct audit for verification and identifying any scope of improvement from the lens of compliance, while auditing or inspecting the facility – employee interview, reviews, knowledge sharing and status updates of regulatory framework are being done for effective involvement of employee and building a 'Beyond Compliance culture'. HSE compliances are priority in GAIL's Board room before initiation of any project, so an assessment is done by Board-level audit committees and all departmental heads are informed about their responsibility. Our robust compliances practices lead to none of our products or services was banned across any market/geography. Also, no monetary or non monetary sanctions related to non-compliance were incurred by GAIL during FY 2021-22.

8.5 Information System and Digitalization

At GAIL, we consistently strive to protect confidential and personal information. Information security/cyber security are material

component of our overall risk management framework. We value the importance of data integrity, security and privacy and have established various systems and measures to ensure we remain responsible while collecting, storing, using, sharing, transferring and disposing of any personal or confidential information.

GAIL as a responsible company, despite the pandemic GAIL has continued its operations across all the locations and conducted virtual teams meeting and video conferencing. In FY 2021-22, we have conducted online meetings for 2,37,567 hours and video conferencing for 2,957 virtual room.

GAIL always strives to adopt best available digital technology to improve transparency and trust of its stakeholders. GAIL has **“Digital Strategy”** to leverage advance digital technologies and advance analytics for effective decision making and to improve business performance and competitive advantage. Our Digital Strategy will play key role for us to focus on future needs, operations, business planning, sustainability performance and overall vision of the Company.

Digital Vision of GAIL addresses the needs and aspirations of all key stakeholders including employees, suppliers, customers and society. It also focuses on other important topics such as brand strength, Health Safety and Environment, Customer Satisfaction, Sustainable Procurement, Stakeholder Inclusiveness. A well-structured roadmap is being developed to bridge the gap between current practices and future expectations of digital world.

GAIL’s adoption of cutting-edge digital technologies is expected to promote sustainability through improved monitoring and data collection significantly. A broad multi-stakeholder alliance and platforms for sharing digital solutions and services are required to achieve the Sustainable Development Goals. New digital methods enable timely and precise monitoring of data relevant to promoting sustainability in your organisation and assisting in the proper execution of operations. Platform collaboration assists in creating a database that

could use for big data analytics-based solutions to support better planning and optimization.

Our commitment is valued by the implementation of information security management system (ISO: 27001: 2013) on our systems. To eliminate any cyber threat and building robust IT system, we have dedicated Security Operations Centre (SOC) with an advanced persistent threat-mitigation system. Furthermore, we have taken various initiatives and projects to enhance network connectivity and information security e.g., private cloud infrastructure. At GAIL, we have Crisis management Plan for countering Cyber Attacks and Cyber Terrorism, for effective controlling. We have Incident handling team and it consists of: Crisis Management Cell (CMC) and Level-II Incident Resolution Team.

We have well established mechanism to review and update information security/cybersecurity strategy on monthly basis in Apex cybersecurity meeting. The Board of directors are engaged in the review of information security/cybersecurity strategy.

All the threats or phishing activities are protected by our IT system, our policies regularize the information security/cyber security for the employees with an access to critical information through interlock system at various level or to limit the access to unhealthy sites. To work in emergency situations and to prevent any such incident, we have specific cyber-threat intelligence team.

No information security breaches, or other cyber security incidents or IT incidents occurred at GAIL in FY 2021-22.

New Initiatives and Activities taken for responsible information system and digitalization:

1. GAIL has taken new initiative of Government e-Marketplace with vision of Aatma Nirbhar Bharat, which has improved digitalization in procurement of goods & services. It also guarantees better transparency & efficiency. GAIL has brought an order value of

GRI 102-9, GRI 103-2, GRI 103-3

INR 2,593 crores in FY 2021-22 through the GeM (Government e-Marketplace). GeM has enhanced participation, reduced the lead time of tender, SOP throughout country and ease of processing.

2. GAIL is utilizing digitalization through web-based applications for monitoring of
 - Key risk and their mitigation,
 - Online documents verification of candidates,
 - Jahajrani web app for tracking various post-award activities of contract etc.
3. In the CGD segment, GAIL has implemented CGD DPR Mobile App for monitoring penetration of PNG and CNG facilities by its JVs/ subsidiaries. App based CGD Meter Reading functionality as well as BBPS based payment system has provided lot of convenience to the CGD customers.
4. Adoption of user friendly NIC e-tender portal (GepNIC) for GAIL tenders.
5. Auto generated e-mail alerts for intimation of latest price information to all the customers of controlled products on real time (Pentane, MFO and Slop Oil).
6. Online Customer portal for putting nominations (willingness to take certain quantity of Natural Gas in a particular day) for Gas Transmission Agreement (GTA) contracts & imported Gas Sales Agreement (GSA) contracts has been created & made live.
7. Implementation of provisions of E-invoicing through ASP /GSP integration with GST portal and TCS/ TDS from Customer/Vendor for all business segments of GAIL.
8. **Crossing Permission Portal:** An integrated web portal has been developed for submission of request by any third party for crossing GAIL's pipelines / OFC, processing of applications. The application has in-built workflow for mapping the requests to respective sites for processing the application. All the necessary documents are uploaded by the party in the system and based on the

same, joint visit scheduling is done and joint visit report is generated from the system.

9. **Online sales Portal for Polymer:** Customer can place order by logging into website.

Other Initiatives:

1. Automation of Discount/Price related communication: Web application to send Discount and Price related communications to Consignment Stockists of GAIL along with all the necessary attachments.
2. QR Code Scanning App: A mobile app which automatically captures the invoice details like IRN no, Invoice No, Invoice Amount, GSTIN No. etc. after scanning the QR code available in the invoice.
3. Mass meter reading App for CGD PNG customers: This app enables meter read upload simplified for DMA for DPNG customers
4. Auto Alerts to CS and customers on generation of credit notes: Ready flow of information to stake holders.
5. Auto alerts to Polymer Customers and Consignment stockist: Auto alerts generated for polymer customers and consignment stockiest in case of price change
6. Implementation of Business process for purchase and sale of hydrogen functionality in SAP
7. Implementation of Compressed Bio Gas/ Bio Gas scheme for sale to CGD entities under SATAT scheme in SAP
8. With the help of our social media, we effectively communicate interact and share knowledge with our stakeholders. GAIL Facebook family has grown to 6 million members.
9. We highly promote digitalization for resolving all grievances and support to our customers through, toll free number, mails, etc.
10. All our major formal communication, record keeping and documents in operation are digitalized which reduces our paper consumption.

World's First Floating CNG Station In Varanasi

In a far-reaching move to make the holy river Ganga pollution free, Hon'ble Prime Minister Shri Narendra Modi today dedicated to the Nation 500 boats converted to run on environment-friendly Compressed Natural Gas (CNG) from petrol and diesel.

These boats are being supplied CNG from India's first floating CNG station built by GAIL (India) Limited at Namu Ghat here.



The conversion of the boats running on petrol/diesel to run on CNG also was carried out under GAIL's Corporate Social Responsibility initiative in association with Varanasi Nagar Nigam (VNN). VNN appointed Varanasi Smart City as coordinator of the project while Mecon Limited is providing engineering and consultancy services for conversion of the boats to run on CNG.

Many of the boats present across the various ghats of river Ganga are used by tourists when they visit the holy city Varanasi. However, leakage and exhaust from conventional fuels is a major concern which affects the water quality and marine life of the river Ganga.

Conversion to CNG will not only reduce pollution but the resultant savings on fuel will lead to better economic condition of boatmen.

While 500 boats have been converted to CNG so far, work is going on at a fast pace to convert the other boats to the clean fuel too.





India's first-of-its-kind project of **mixing hydrogen** into the Natural Gas system in Indore, Madhya Pradesh



Planting **1,50,000** saplings through Miyawaki technique at GAIL Pata Plant



In FY 2021-22 GAIL's total expenditure under R&D/Innovation initiatives is **INR 243.70 crore**



Energy and Environment

Protection of environment is a major concern for GAIL. By analysing our operations and current controls, we identify opportunities to enhance and implement to improve our strategy. We assess our impact across the value chain and set high standards for ourselves. On a regular basis

we analyse and identify areas for Improvement.

We believe in taking deliberate actions to reduce our environmental impact while also achieving operational excellence. Implementing initiatives and mitigation plans that will have a positive impact on the environment.

GAIL supports launch of book –“**Pollution Solutions: For a Cleaner, Greener Earth**” on 29th March, 2022

GAIL as a responsible company always aim to contribute towards pollution prevention and making our plant greener and cleaner. GAIL has supported The Energy and Resources Institute (TERI) in children’s book launch - “Pollution Solutions: For a Cleaner, Greener Earth”, the book is dedicated to children with hope of making them aware of the detrimental effects of environmental pollution as also the importance of curbing pollution for a cleaner and sustainable environment. A panel discussion on ‘A Way to Cleaner and Greener Earth’ was conducted to discuss the relevance of curtailing pollution and climate change through perspectives from industry, academia and policy makers for qualitative improvement in school education.



We have spent INR 9,56,484 in training, seminars and workshops FY 2021-22 in employee development activities and environmental awareness programs.

and GAIL Gaon for employees, families, students and other stakeholders.

At GAIL, we celebrate various Awareness Programs like World Environment Day, Van Mahotsav, World Water Day, Earth Day, Birthday, Tree Plantation, etc. are organized at GAIL-Pata

9.1 Governance and Policy in Energy and Environment

Our operations have an integrated approach to energy Our Sustainability Steering Committee supports the Sustainable Development Policy

GRI 103-2

directives and is responsible for carrying out the company's sustainability ambitions as well as risk and performance management. Our Sustainability Policy <https://gailonline.com/pdf/Sustainability/Sustainability%20Policy10-02-2020.pdf> is an overarching document that signifies our initiatives towards economic, social and environment aspects co-creating harmony between development and ecosystem. Site-specific SOPs and other operational memos ensured that all of our work is aligned in such a way that our processes have the least impact on the environment.

9.2 Biodiversity Management

GAIL is committed to maintaining, enhancing and conserving biodiversity/ecosystems for its own operational activities and supply chain in accordance with regulatory standards. GAIL recognises the significance of biodiversity management in maintaining the area's ecological balance. GAIL is dedicated to abstaining from operational activities near IUCN Category I-IV protected areas and World Heritage sites as well as following the mitigation hierarchy (avoid, minimise, restore and offset).

GAIL takes proactive measures to protect local biodiversity and ensure that its operations have no negative impact on the local environment in the areas where it operates. GAIL conducts environmental impact evaluations prior to the construction of new plants. We have a well-defined Environment Management Plan (EMP) that lays out the principles and processes for implementing various green-belt and biodiversity management programmes at GAIL locations. The development of green-belt areas exemplifies GAIL's efforts to preserve biodiversity and maintain ecological balance in the regions in which it operates. A diverse range of native plants and fauna can be found in these greenbelt areas. There are also large water reservoirs within these green-belt zones, which are home to a variety of aquatic animals. A scientific approach to the care and preservation of these green-belt regions is used in collaboration with local administration. We conduct regular surveys and studies on the environment and ecology of the area in and around GAIL units to

ensure problem prevention and timely resolution. This system has made a significant contribution to SDG 14 and 15 and has a positive impact on the life of living creatures under water and on land. It also aids in the identification of necessary mitigation and preventive measures. As a part of our efforts to safeguarding biodiversity, we have ensured that there are no protected habitats within 10 km of any operating site of GAIL. The pipelines that are laid in the green cover areas have a lifespan of 25-30 years. A bare minimum area is used for this purpose. Once the pipeline is laid, necessary actions are taken to restore/reclaim the forest area and it is generally untouched until the requirement of maintenance arises. To limit the negative impact of the pipelines on the environment, we utilize less than one-third of the RoU for the pipelines passing through the forest area.

GAIL does not have any offices around ecologically sensitive areas (such as national parks, wildlife sanctuaries, biosphere reserves, wetlands, biodiversity hotspots, forests, coastal regulation zones etc.)

Our largest plant, Pata is focused on creating, maintaining and ensuring a safe and clean environment. GAIL's Pata plant is a major contributor to Sustainable Development and various Green Initiatives and the company strives to be seen as an environmentally responsible business entity. The documentary 'SANJEEVANI - A Sustainable Journey' discusses the sustainability initiatives and benchmarks attained. This documentary is designed by in house team which was released on 1st January 2022. It reflects the dedication and contribution of GAIL's Pata employees and their families. GAIL has also contributed to emission reduction through COMPA (Compensatory Afforestation), which is done during laying of pipelines through Forest land.

9.2.1 Biodiversity Initiatives at Various Sites

Pata

Roadmap for development of Eco Park for Conservation of Biodiversity at GAIL Gaon (Pond Area in Phase-3) has been approved by the competent authority and an area of ~17Ha

GRI 102-12, GRI 103-2, GRI 103-3, GRI 304-1, GRI 304-2, GRI 304-3, GRI 304-4

has been demarcated as Biologically Conserved Zone. Some of the activities identified under the roadmap for development of Eco Park have been completed under phase-I. Birdhouse cum feeder at Pata Enhancement of Biodiversity and Habitat Development in and around Ecological Pond. GAIL Pata has nearly 500-acre land (around 33% of total area) that accounts for Green belt size. A total of ~75,821 number of trees were planted at the operational site and in the residential area in FY 2021-22.

Vijaipur

GAIL Vijaipur has a total of 321-acre land (> 30% of total area) that accounts for Green belt size.

A total of ~1,557 trees were planted at the operational site and in the residential area in FY 2021-22.

Dibiyapur

GAIL Dibiyapur has nearly 28-acre land (around 45.52% of total area) that accounts for Green belt size. A total of ~572 number of trees were planted at the operational site and in the residential area in FY 2021-22.

Other Site wise initiative

- A Butterfly garden has been developed for Biodiversity Enhancement in GAIL Gaon Township. Plantation of Suitable species of Nectar Plants, Larval Host Plants and also Alkaloid producing plants has been carried out.

9.2.2 World Environment Day Celebration

GAIL (India) Limited participated in several events on World Environment Day to raise awareness about the need of living with environment, in support of the United Nations Environmental Programme theme of 'Only One Earth.'

Online and offline events were planned at the GAIL corporate office in New Delhi and other locations. Plants were distributed to all GAIL employees across the country. Employees signed a pledge to show their support for a greener future. GAIL has played an important role in 'Energizing Possibilities' for a cleaner environment and a more sustainable life, with one of the most important aspects being 'Environmental Responsibility.' GAIL also supports its 'Hawa Badlo' project, which raises awareness regarding problems caused due to air pollution and solutions to ensure a greener and cleaner tomorrow.

GAIL (India) Limited, Pata has undertaken a green initiative to plant 1,50,000 saplings on the occasion of Van Mahotsav 2022. For successful execution of this large-scale plantation activity, GAIL (India) Limited, Pata has signed an Agreement with Uttar Pradesh State Forest Department (UPSFD) on 06.06.2022. The plantation shall be carried out by the Divisional Forest Office, Auraiya of Uttar Pradesh State Forest Department over an area of ~ 4.3 Hectares on Miyawaki Methodology.



GRI 304-1, GRI 304-2, GRI 304-3

Miyawaki based afforestation

Pata ushered in a massive plantation drive in celebration of the Van Mahotsav and Swachhta Pakhwada festivities by planting 1,50,000 saplings. GAIL Pata has signed an agreement with the Uttar Pradesh State Forest Department (UPSFD) for the successful execution of this large-scale plantation activity over an area of 4.3 Hectares. The plantation drive was led by Shri Ajay Tripathi, Executive Director (PC-O&M) & OIC Pata along with Chief General Managers of GAIL Pata and representatives of the UP State Forest Department.



GRI 304-1, GRI 304-2, GRI 304-3, GRI 102-12

9.3 Energy Management

GAIL is constantly looking for ways to improve energy efficiency in its operations through the implementation of best engineering practices and the regular repair and maintenance of all operational systems in accordance with OEM recommendations. GAIL has undertaken a number of initiatives to improve energy efficiency through effective management processes in FY 2021-22, including the adoption (replacement and retrofitting) of efficient technologies, best practices, energy efficiency training/workshops and 'climate change adaptation and mitigation' measures. Monitoring energy consumption, conducting energy audits and implementing energy efficiency measures are all made easier by our highly efficient Integrated Energy Management System.

All of our major installations are ISO 50001 Energy Management System certified. GAIL is dedicated to the NDCs (Nationally Determined Contributions) set by the United Nations.

9.3.1 Central Approved Energy Saving Initiatives

GAIL (India) Limited is a Government Company under the administrative control of the Ministry of Petroleum & Natural Gas (MoP&NG). GAIL's Pata plant is a designated Consumer under Bureau of Energy Efficiency (BEE) Performance, Achieve and Trade (PAT) Cycle IV. We have achieved the target of PAT scheme reduction of 6.17% from the base line year of 2016-17.

9.3.2 Site Wise Energy Saving Initiative

GAIL has completed its project in Bihar and West Bengal which will strengthen the gas based infrastructure processes of these two state. The total cost of this project is estimated to be around INR 2,433-crore. This pipeline will bring to the state cooking fuel which is cheaper than LPG and CNG which costs lesser than petrol and diesel.

The 348-kilometer pipeline from Dobhi in Bihar to Durgapur in West Bengal is part of the

Pradhan Mantri Urja Ganga project. The idea was take environment-friendly natural gas to India's eastern parts which is yet to reap the benefits of gas-based economy. In the next 3 years, plans of providing nearly 3-4 lakh natural gas pipelines connections to household kitchens are in place. Plans of installing nearly 200 CNG stations are also taken into consideration.

Other major initiatives

GreenCo- GreenCo Rating is the "first of its kind in the world" holistic framework that evaluates companies on the environmental friendliness of their activities using the life cycle approach. GAIL has embarked on the journey of adoption of GreenCo Rating in FY 2019-20. In 2020, Vaghodia became the first GAIL location to get Silver rating by CII GreenCo, followed by Vijaipur which also received a silver rating by CII GreenCo. In FY 2021-22 GAIL Pata was the first GAIL site to win Gold Rating by CII GreenCo.

Renewable Energy at GAIL sites

GAIL has ventured into renewable energy space and already has the installed capacity of 13.8 MWp solar power and 117.95 MWp wind energy through its mega projects. In addition to these mega projects, GAIL has installed smaller capacity solar power plants at its pipeline installations Plants and Townships to reduce the requirement of Grid Power. During the year also, GAIL has taken the following steps for utilization of solar energy further.

At GAIL Pata, an additional roof top solar PV plant of 2.64 MWp is installed with project cost of INR 13.28 crore which resulted in emission reduction.

Installation and commissioning of Solar Power Plants

- **JLPL Network:** Grid-connected Solar Roof Top power generation Capacity – 270 kWp (Abu Road – 200 kW, Nasirabad – 50 kWp, Mansarampura – 20 kW). At GAIL Jamnagar, the total solar installed capacity is 203 kWp which is divided into RIL DT admin building (80.4 kWp), RIL DT Control room (58.3 kWp)

and NEL DT Control room (64.6 kWp). In addition to this, proposal for six solar power at SV station is under tendering stage with 7.2 kWp per SV station making total of 43.2 kWp.

- **KG Basin:** Grid-connected Solar Roof Top power generation capacity - 128 kW
- **Mumbai Region:** Grid-connected Solar Roof Top power generation capacity - 28 kW

GAIL has also undertaken to implement roof top solar power plants at various installations across the country with a combined capacity potential of around 3.2 MW.

GAIL is a leading natural gas company of India, we are working to strengthen the infrastructure of delivering natural gas, 1159 Km of pipeline section commissioned during FY 2021-22. At our SV/IP stations of pipelines solar power is being used as backup power or energy source for daily operations.

9.3.3 Capital investment on energy conservation equipment

The capital investment on energy conservation equipment by the company during the year on the completed projects is approx. INR 33 crore here are the details:

Table 1: Cost of Project taken in FY 2021-22

Project	Expenditure (INR crore)
Commissioning of Second HRSGs for DVPL Compressors	29.00
Recovery of Flare Gas from LPG Units by interconnection with FGRU	0.25
Roof Top Solar Power Systems at various GAIL installations	2.04
Replacement of old & obsolete equipments with energy efficient equipments	1.50

9.3.4 Other Projects and Achievements

- **Technology Absorption:**
 - Upgradation of obsolete Fire & Gas detection system of Lean gas compressor-2, LEF-1&2, PRU-1&2 machine in LPG plant, Vijaipur.

- Installation of SIL2 certified Guided wave radar Level transmitter in LPG spheres B & D during statutory inspection of spheres at Vijaipur.
- Installation and commissioning of 5 USM's metering system in VKPL-II line, new 24" HP return line & 24" RLNG line from HVJ to GPU, Vijaipur
- Upgradation of Electrical control panels of Firewater pumps A, B and C from relay panel to PLC system at Gandhar.

9.4 Emission Management

We understand our role in achieving a low-carbon economy by controlling emissions arising from our operations as a responsible corporate striving to augment the Government of India's capacity to meet their commitments in the Nationally Determined Contributions (NDCs) and commitments to the Paris Accords. Air emissions and greenhouse gas emissions are the most significant emission sources in the gas transmission, liquid hydrocarbon, Natural Gas processing and polymer manufacture industries.

We monitor and regulate emissions in accordance with the World Business Council for Sustainable Development (WBCSD) Greenhouse Gas Reporting Standards, ISO 14064-2006 and the American Petroleum Institute (API), a compendium of GHG emissions methodology for the oil and natural gas industry –2009⁸. To further strengthen emission control, we undertake various initiatives to reduce and monitor GHG Emissions. Our emission management initiatives are categorized into core areas.

9.4.1 Reducing Methane Emissions

Methane, one of the primary constituents of natural gas, has a higher global warming potential and a lower emission rate during combustion. Some gas escapes into the atmosphere during natural gas transmission, particularly between pumping and storage operations and between the storage station and the end-user, reducing

GRI 302-1, GRI 302-2, GRI 302-4, GRI 302-5

the amount sold to the market by operators. It is prudent for a Natural Gas marketing and distribution company like GAIL to manage emission rates due to the environmental and economic impact. We are constantly working to reduce leakage during transmission with the help of our industry peers to develop effective strategies for detecting and reducing potential leaks. Reducing production related GHG Emissions.

Combustion of Natural Gas, diesel and LPG constitutes the primary source of emission. Natural Gas and LPG are also vent out in miniscule quantities in some processes causing methane emissions. Electricity purchased for operational purposes including manufacturing and transmission contributes to indirect emissions. Initiative of reduction of GHG emission.

Our initiative of GHG reduction has reduced Reduction of 156 Kg of GHG emission by replacing 52 nos. of HT SF6 circuit breakers with vacuum circuit breakers.

We follow certain practices to reduce the production related GHG emissions such as:

- Monitoring and tracking our energy consumption
- Setting internal targets to reduce the consumption
- Energy generation through renewable sources i.e., Solar, wind etc.

9.4.2 Reducing Other Air Emissions

At GAIL, we manage emissions using a cloud-based monitoring system that is linked to our emission analysers. The Central Pollution Control Board (CPCB) and State Pollution Control Board (SPCB) websites are then linked for proper monitoring. Several initiatives for emission management have been taken across all our locations throughout the year to reduce the air emissions.

Ozone depleting substances (ODS), which are banned by our internal policies, are a prevalent component in household electronics like refrigerators and air conditioners. They are

Paper Presentation Seminar on “Best Practices Adopted in LPG Transmission through Cross Country pipeline

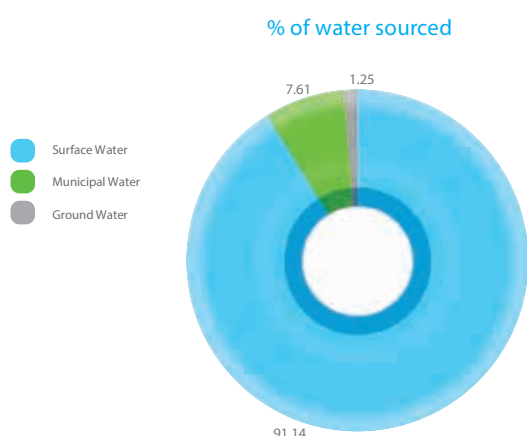
GTI-Jaipur organized a one day Paper Presentation Seminar on “Best Practices Adopted in LPG Transmission through Cross Country pipeline” on 28th March, 2022 at IPS Mansarampura for E4 and below level (including Non- executives) employees posted across JLPL & VSPL Work Centres. The program was inaugurated with the lighting of lamp by Sh. G. R. Chouhan, Chief General Manager (O&M – JLPL) & OIC Jaipur in presence of Sh. L S Rao, GM (O&M-LPG P/L), Vizag, Sh. Avijit Majumdar, GM (O&M-LPG-P/L), M`khadar, Sh. P. K. Dey, GM (Training) as Session chair. Sh. Deepak Gupta, Director (Projects) and Sh. M V Ravi Someswarudu, Executive Director (O&M- CO), joined the inaugural session through Video conferencing as Key -Note Speakers.



distinguished by their lengthy atmospheric lives, during which they operate as precursors to the ozone depletion layer in the stratosphere. Furthermore, ODS are potent greenhouse gases.

9.5 Responsible Water Management

Being one of the most precious resources on the earth, we at GAIL believe that it is our responsibility and duty to save water and to bring awareness among our people for effective utilisation of water. According to the current trend of industrialisation and the expansion of manufacturing facilities, it is clear that future water demand will be increasing and future water availability will be critical. Water scarcity is a pressing issue for the world's rapid growth. GAIL believes that 'water is the lifeblood of our society.' As a result, in order to preserve water and maximise consumption, we are constantly researching and developing the best available technologies and systems that have a quantifiable impact on water conservation through innovation. At GAIL, we have conducted assessment of water-stress sites to evaluate the risk and opportunity of our operations. Our assessment also helps in visualisation of future demand. There were no negative impacts found on water bodies.



Our water trends in FY 2021-22, we withdraw 22.19 million m³ of water out of which, 91.14 % of water is sourced from surface water (having TDS < 1000 mg/l), 7.61 % from municipal and only 1.3 % of water from ground water. Water consumption at water stress area is around 6 % of total water consumption.

GRI 103-2, GRI 103-3, GRI 303-1, GRI 303-2, GRI 303-3,

As a responsible company, we make every effort to ensure that our operations have no negative impact on the supply or quality of water resources across our sites. As a result, we have taken proactive steps to identify, evaluate and mitigate any future water-related risks, thereby increasing the resiliency of our operational activities. As part of our proactive approach, we conduct periodic internal/external audits to determine the root cause of excessive water demand. We always encourage and support innovative and smart approaches to water conservation at our sites through various water management initiatives such as reduced freshwater consumption, rainwater harvesting/ collection system, monitoring and management of waste-water discharge, wastewater treatment and recycling based on our Environmental Policy, national, local and regional guidelines.

GAIL sincerely follows and complies with all applicable environmental rules and regulations, which improves our operational capabilities and demonstrates our commitment to environmental conservation. Furthermore, the discharge of water at manufacturing sites is monitored continuously on real time basis through Online Continuous Emission Monitoring System (OCEMS) and also all the details of effluent discharged with respective parameters are being recorded in the server of OCEMS to validate compliance with Central Pollution Control Board (CPCB)/ State Pollution Control Board (SPCB) effluent limit. Wastewater generated from processes is treated, through Effluent Treatment Plants (ETP). The treatment system comprises of pH stabilization, removing suspended solids and reducing Biological Oxygen Demand (BOD), such that no water bodies were affected by the discharge. The majority of GAIL's operations and maintenance facilities are zero liquid discharge. The discharge of water at manufacturing sites is monitored to ensure compliance with the Central Pollution Control Board (CPCB)/State Pollution Control Board (SPCB) effluent limit. Effluent treatment plants

(ETP) treat wastewater from processes, which includes adjusting pH, removing suspended solids and reducing Biological Oxygen Demand (BOD), if any. The discharge of treated wastewater had no effect on any water bodies. GAIL Mumbai is a zero discharge building utilizing 2000 Lit/day of treated water for HVAC and horticulture use. In FY 2021-22, total wastewater discharge was 1.64 million m³. GAIL Vijaipur has ZLD facility where all the wastewater is used in horticulture. In FY 2021-22, 5,51,353 m³ of waste water after getting treated through effluent treatment plant was used for horticulture purpose.

As GAIL Pata being our largest manufacturing facility alone contributes over 95% in total water discharge, the water is treated (having TDS <1000 mg/l) with high Performance Effluent Treatment plant and is discharged into Sengar river with compliance to all discharge permissible limit and permissions. Before discharging wastewater outside our premises, we conduct a detailed analysis of key parameters and respective regulatory agencies (SPCB/CPCB) monitor treated wastewater quality at the plant outlet and in the final water body.

9.5.1 GAIL's approach to reduce water footprint / Water Management Initiatives at GAIL sites

Initiatives in GAIL Pata

- **Recovery of CBD/IBD water of UB I & UB II in Power Plant-II:** An in-house modification was performed to connect the individual boiler blow down (CBD & IBD) to the cooling water return header, along with an NRV & an I/V for diverting the blowdown to CT. The modification implemented is beneficial in terms of resource conservation and optimization because good quality water will be reused as cooling water. This project aims to conserve natural resources while reducing the effluent load on waste-water treatment plants and saved consumption of 300 m³/day of fresh water.

- **Recovery of steam condensate from flaker unit through condensate header:** Currently, the steam condensate from the melter drum and the low polymer transfer pump's jacketed suction/discharge lines has been completely drained, resulting in a total loss of steam condensate. The goal of this QC project is to recover steam condensate from the flaker unit by transferring condensate via the condensate header to the steam condensate drum. The connection to the condensate header was completed in 2021, resulting in a condensate savings of 617 tons/month.

9.6 Responsible Waste Management

At GAIL, we aspire to implement the concept of circular economy by enabling access to innovative resource efficient technology. With enhanced focus towards reduction in waste generation from our facilities and exploring ways to recycle/reuse to the extent possible in our operations. Given the nature of our business, the waste generated from our operation can be both hazardous and non-hazardous.

In our waste management process, we aim to minimize both hazardous and non-hazardous waste. Additionally, we follow 3-R strategy of Reducing, Reusing, Recycling at GAIL sites, accelerating progress towards our waste reduction goal. We conduct waste audits through internal and external agencies to explore more ideas for waste reduction at the source or through small changes in operation. This also aids in mapping our waste management compliances as per regulations. We are pleased to report that no waste-related impact on business operations or products was discovered during waste audits.

As an active participant in preserving pollution and creating positive image in society and bring awareness among our workforce and our other value chain partners GAIL is supporting the initiatives on Plastic Waste Management through ICPE where the policy makers, bureaucrats, representatives from Industry, NGO etc. address

the plastics waste management issues. GAIL team participated in conference/seminars which provided a platform to create awareness amongst shareholders on positive aspect of plastics and plastic waste management. GAIL team is actively associated with various associations like CPMA, ICPE, PlastIndia foundation, AIPMA, AIFTMA, GSPMA, SPMA, etc. for spreading campaign for "Say Yes to Plastics".

As per the "Gazette Notification dated 16th February, 2022 from Ministry of Environment, Forest and Climate change, Govt. of India" wherein the plastic waste Management (Amendment) rules'2022 were amended to incorporate Guidelines on Extended Producer Responsibility for Plastic Packaging. As GAIL's utilize around 4000 MT PP Woven Sacks for packaging of petrochemical products and thus it requires clarification whether GAIL as Brand owner of G-Lex & G-Lene will be having obligation under EPR as per notification with regards to PP Woven Sacks under Plastic packaging.

9.6.1 GAIL's approach of Waste Management/ GAIL's initiatives towards circular economy/ Waste Management Initiatives at GAIL sites

Recovery of Slop Oil at GAIL Pata

GAIL Pata has implemented process that results in waste reduction & recycling of valuable resources. It has resulted in minimization of risk of in fire hazard and the fugitive emission is also reduced. This initiative have also resulted in reduction in smell/odour in the surrounding areas. Through this mechanism in FY 2021-22, 2776.82 MT slop oil recovered.

9.6.2 Hazardous Waste Management

We take our commitment to hazardous waste management very seriously and we have a zero tolerance policy for non-compliance with hazardous waste management. As a hazardous waste with toxic, flammable, corrosive and other properties, it has a high potential to harm human health and the environment. The generation of hazardous waste varies depending on our operational activities and location. For example,

Hawa Badlo Warrior Contest Winner Ceremony

Hawa Badlo thanks each and every participant for their overwhelming response for the School Warrior 2.0 contest. An award ceremony was organized, followed by a panel discussion with Santanu Roy, ED (Business Development, Sustainable development and corporate affairs), GAIL (India) Limited Dr. Sumit Sharma, Programme Officer, UN Environment Programme, Professor Dinesh Kumar, Department of Education Science & Mathematics, National Council of Educational Research and Training - NCERT, Smt. Anuradha Joshi, Principal, Sardar Patel Vidyalaya and Parthana Borah, Former India Director, Clean Air Asia & Director India, Carbon Disclosure, to discuss the cause, impact and solutions for air pollution.



GRI 103-2, GRI 103-3, GRI 306-1, GRI 306-2, GRI 306-4

at the GAIL Pata site, hazardous waste includes tar, oily WWTP sludge, slop oil, molecular sieves, used oil, waste mineral oil, spent carbon, ashes and so on, whereas at the Vijaipur site, hazardous waste includes asbestos, glass wool, ceramic, empty barrels/containers/liners contaminated with hazardous chemicals/waste, used or spent oil, waste or residues containing oil and so on. The majority of the sites produce waste oil. We ensure best compliance and safety during transportation of hazardous waste, which is a very critical and sensitive process. All of our hazardous waste is sent to authorised State Pollution Control Board (SPCB)/Central Pollution Control Board (CPCB) Treatment Storage and Disposal Facilities (TSDFs) or recyclers. We also follow the guidelines of the Manifest (Form-10) and Transport Emergency Card (TERM) while transporting hazardous waste and there was no significant spill in the reporting year 2021-22.

Other initiatives of waste management

- Development of waste storage shed for segregated storage of various hazardous and non-hazardous wastes is operational for sustainable management of wastes at the premises.
- Developed SOP for transfer of waste to the storage shed has been circulated to concerned departments.
- Conducting knowledge sharing session on Waste Management has also been imparted to employees.
- Converting by-product LP-wax to flakes in a flaker unit and producing a sellable product of high quality. Extruder Machine waste (poly lumps), Plant sweep and ground sweep, Polymer powder/ fines generated are also sold off to customers. And it reduces landfill waste generation.

9.7 Research and Development Initiatives

Good growth momentum coupled with rapid urbanisation and growing population drives India's energy demand. Consequently, the demand for oil and gas is expected to increase

manifold. In this aspect, Natural gas as a fuel source is much "greener" than alternative fossil fuels and as a transition fuel can address climate change through decarbonisation without compromising economic growth. The share of Natural gas in energy basket is consistently increasing and is widely used as fuel and feedstock for power, fertilizer and petrochemical industries. GAIL, as a pioneer of the Natural Gas economy in India, emphasis on sustainable development and promote investments in research and development (R&D) activities in natural gas and allied sector.

Our collaborative R&D works are carried out in association with various academic Institutes, Center of Excellences (CoE) and CSIR Laboratories. Through these collaborations our major focus is on emerging technologies such as green hydrogen, battery technology, CO₂ utilization and Waste Valorizations, pipeline integrity management and development of new catalysts etc.

Further to complement our collaborative research efforts, new innovation and development projects are implemented at various GAIL sites which lead to improvements in process/efficiency/safety and / or cost reductions, system optimization etc. of existing processes and systems through technology renewal and modernization works.

We always aspire to deliver best of our capabilities and support India in building Aatma-Nirbhar-Bharat. In 2021-22, our focused R&D initiatives continued emphasis on the identified above major thrust areas.

In this direction under the Green Hydrogen initiative, we are developing a low-cost electro catalysts and self-supported electrode for large scale electrochemical hydrogen in association with Indian Institute of Science Education and Research (IISER), Kolkata. Furthermore, we are also conducting a research project for efficient production of hydrogen through biomass gasification is pursued with Indian Institute of Technology – Madras.

GRI 103-2, GRI 103-3, GRI 306-1, GRI 306-2

With evolving demand of e-automotive across the globe, continuous improvements in battery technology is essential to tap the opportunity. In the Battery Technology area, GAIL has taken an initiative for development of environment friendly, cost-effective, safe and high-performance Na-ion (Sodium-ion) battery in association with Indian Institute of Technology - Bombay.

In our Waste Valorization initiative, GAIL is pursuing a research project on recovering value added chemicals and fuels from petrochemical oily sludge using bubbling fluidized bed pyrolysis process. This project is being carried out in association with Indian Institute of Technology – Kanpur. Further, a research project to treat waste water using hydrate process is pursued with Indian Institute of Technology-Madras. The development of optimized hydrate-based processes is expected to be as energy efficient as compared to RO based wastewater purification process.

In addition, a research project on development of auto-change detection system for gas pipeline RoU surveillance using satellite images is being started with Indian Institute of Technology – Roorkee. GAIL is also developing novel thermal barrier coating and filler materials with CSIR-CECRI for the firebox of gas cracking furnaces to increase the life span of box furnace and reduce the thermal losses.

Further, GAIL is also involved in intense research works for chemically valorizing CO₂ to fuels and chemicals for the development of more circular and climate neutral economy. In this aspect we are focusing on development of advance stable catalysts for direct hydrogenation of CO₂ to Methanol and for production of CO₂ based polycarbonate polymers. Similarly, GAIL is also using Microalgae for CO₂ Bio-Mitigation on trial basis.

9.7.1 Expenditure for Research and Development activities

At GAIL, we always encourage and support in innovation and doing things in a smarter way. We have dedicated budget to support our

innovation, technology development at various GAIL sites and to pursue various collaborative research initiatives with reputed research and academic institutes.

GAIL earmarks sufficient budget under R&D/ Innovation initiatives to carry out collaborative research works and various innovation activities in the areas of our business operations. In FY 2021-22 GAIL's total expenditure under R&D/ Innovation initiatives is INR 243.70 crore and it includes INR 11.73 crore majorly spent on pursuing collaborative R&D works with various Research Institutes and INR 231.97 crore expended on carrying out innovation /developmental initiatives at various GAIL's facilities.

Our collaborative research efforts are mainly focused on emerging technologies such as green hydrogen; battery technology; CO₂ utilization and Waste Valorisations; process optimization; pipeline integrity management and development of catalysts etc. whilst our innovation efforts are focused on performance and efficiency improvement of existing processes and systems through technology renewal and modernization works.

9.7.2 Initiatives to promote low carbon technology including CO₂ utilization, clean energy etc.

The carbon emission reduction is one of the prime objective of world community and key point of discussion of every boardroom. At GAIL, we aspire to be Net Zero by 2040 and being responsible citizen, we are committed to support in India's carbon neutral and net zero journey. To achieve our sustainable business goals, we are advancing our operations with new technology and taking new R&D initiatives on development of low carbon technology. Under this initiative GAIL is mainly betting on emerging technologies, for the direct or indirect conversion of CO₂ to valuable chemicals and energy products that have high potential market and promising benefits.

GAIL in association with Indian Institute of Technology (IIT)-Delhi is developing novel

catalysts for direct hydrogenation of carbon dioxide to methanol and further its single pot conversion into DME.

GAIL in association with Indian Institutes of Science Education and Research (IISER), Tirupati is developing novel and cost-effective catalyst for production of carbon dioxide-based poly carbonate diol polymers which is expected to fix ~ 45 - 47% CO₂ by incorporating the same in the poly carbonate polymeric product.

We are also implementing a pilot project for fixing CO₂ (1TPD) using Microalgae in an Open Raceway Ponds at our Pata petrochemical complex in association with Central Institute of Mining and Fuel Research (CIMFER), Dhanbad. Trial runs has been initiated with suitable microalgae strains in the open ponds and currently its growth level is being monitored.

In addition, under our clean energy initiative, GAIL is pursuing green hydrogen projects involving development of novel electrocatalysts for large scale electrochemical hydrogen production in association with Indian Institute of Science Education and Research (IISER), Kolkata and production of hydrogen through biomass

gasification with IIT-Madras. In collaboration with the Indian Institute of Technology-BHU Varanasi, GAIL also conducts research into the production of ultra-pure hydrogen using an integrated membrane reformer.

9.7.3 Start-up Initiatives taken by GAIL

Our start-up initiative 'Pankh' has continued successfully to build a strong ecosystem for nurturing innovation and Start-Ups in the country. Through our initiative of 'Pankh' we are building and encouraging the spirit of entrepreneurship. Under this initiative a corpus of INR 100 Cr. has been earmarked for promoting new & promising Start-ups working in the areas such as AI, Logistics, Electric Mobility, Nutrition, Rural Development, Health, Pipeline Inspection/ O&M, Renewable Energy, Environment, Bio Products, IOT, Health etc. This year, GAIL has signed investment agreements with four start-ups working in the area of Compressed Bio-Gas (CBG) sector for a financial commitment of INR 7.0 crore. So far we have supported 31 numbers of start-ups with a total investment commitment of INR 68.20 crore. The valuations of some of these start-up have appreciated many fold.



Glimpses of Awareness Session on use of Plastic Waste

Inauguration of Anandanagar to Maharjganj via Dukli SV cum Tap-Off Station under Tripura P/L Region

GAIL (India) Limited Agartala Unit is operating and maintaining a pipeline network of nearly 65 Kms. GAIL receives Natural Gas from two different gas sources of ONGCL viz a viz Konaban Gas Collecting Station and ADB Dome Gas Collecting Stations. GAIL in turns supply the gas to AGTPP NEEPCO R C Nagar and Gas Thermal Power Plant of TSECL at Rokhia for generation of Power by power plants. Also supply gas to M/s TNGCL for their consumers mainly CNG for auto sectors, PNG for domestic uses and other small-scale industries through underground Pipeline Network.



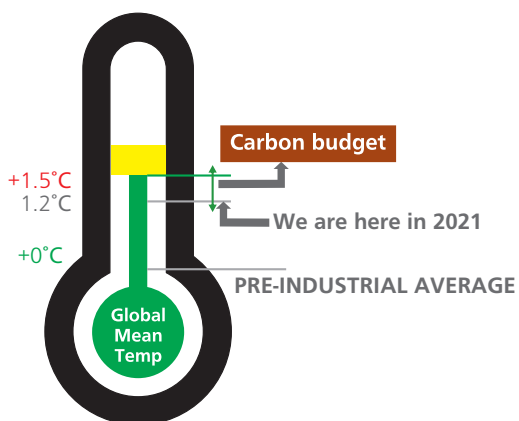
Currently total nos of domestic PNG connection extended by TNGCL in and around Agartala City. Common public benefitted by PNG is nearly 54724 nos, Commercial Consumers 499 in Nos, Industrial Consumers 42 in Nos and CNG stations 28 Nos. So the gas supply demand for TNGCL has substantially increased in comparison to earlier days. Hence the laying of 8"X9.47 KMs Pipeline connecting with our Anand Nagar to Maharajganj Terminal via Dukli SV cum Tap Off Station has become necessary and vital. This Pipeline has been successfully laid on 30th March, 2022. The PESO permission for Pipeline commissioning has been received from PESO Nagpur on 18.05.2022 vide order No. A/M/HQ/TR/PL/1 (P461277) and accordingly, ADMPL Pipeline has been inaugurated by Sh Goutam Prasad, Executive Director (O&M) –Norther Region GAIL in presence of Sh Tinku Roy, Chairman TNGCL & TIDC, Sh Tarun Malik, Executive Director/ Asset Manager ONGCL, Sh A Anbaesan, MD TNGCL, Sh Indraneel Sen, CGM(Oil & Gas) PMC MECON & Sh. Biswajit Debbarma, General Manager (O&M)/Officers In Charge GAIL Agartala Unit on 25.05.2022 at 12:00 hours.





Climate Change

As per Climate Action Tracker, the global mean temperature has already risen by 1.2°C and if we don't take strong measures today, we are looking at 2.4°C rise in global temperature as compared to pre-industrialization period.



Countries around the world are already feeling the brunt of accelerated climate change in the form of increasingly frequent and severe flash floods, drought, heatwaves, wildfires, precipitation and tropical cyclones.

Climate change, pollution and the depletion of natural resources are a threat to our society. The rise in global temperatures in future can have a dire impact on business ecosystem as well. Therefore, as business continues to grow it becomes more important than ever for businesses to have a proper climate change strategy/ action plan to thrive.

GRI 103-2, GRI 103-3, GRI 103-2

10.1 Climate Change and Sustainable Development

The overall global strategy for climate change mitigation and reducing global GHG emissions are centred around an energy transition towards cleaner energy sources like renewables, while phasing out fossil fuels.

Furthermore, during the COP 26, Prime Minister Narendra Modi has announced India's target of becoming 'Net-Zero' emissions by 2070. As a part of his address, he also put forth the "Panchamrita" (a five-fold strategy) to deal with the challenge of climate change which included the following targets for India:

- I. Enhance non-fossil energy capacity to 500 GW by 2030.
- II. Meet 50% of its energy requirements till 2030 with renewable energy.
- III. Reduce its projected carbon emission by one billion tonnes by 2030.
- IV. Reduce the carbon intensity of its economy by 45% by 2030.
- V. Achieve Net-Zero by 2070.

Being a premier gas distributor agency of India, GAIL recognized the pivotal role it will play in realizing Government of India's Net-Zero ambitions. At present India's energy mix

is dominated by carbon intensive fossil fuels i.e., coal/oil with a combined contribution of almost 80%. To reduce this dependence on fossil fuels, Natural Gas, being a cleaner and feasible alternative, will play an important role in India's decarbonization strategy, which is evident by the fact that Government of India's strategy 2030, that envisages the increase in share of natural gas from 6.7% to 15% in India's energy mix.

GAIL is further committed and has already embarked on its Net-Zero journey through science based ambition and action plan with Government of India's vision and has set a target to achieve Net-Zero (Scope 1 and Scope 2) status by 2040, while reducing our Scope 3 emission by 35% (from baseline year of 2020-2021) by 2040. We have already started developing our Net Zero roadmap to achieve our decarbonization targets in line with the 1.5-degree celsius scenario of IEA.

Our Net-Zero strategy is based on 4 strategic pillars including Operational Decarbonization, Energy transition, Carbon Capture and Utilisation (CCUS) and Offsetting backed by a robust Governance structure.

GAIL's decarbonization initiatives will also help in contributing towards the India's commitments for UN Sustainable Development Goals (SDGs).

SDG's comprises of a set of targets building a framework for leading development for the period till 2030. By endorsing the universal 2030 Agenda for Sustainable Development, including its 17 SDGs and 169 Targets, the global community reaffirmed its commitment to sustained and inclusive economic growth, social inclusion, environmental protection and fostering peaceful, just, and inclusive societies through a new global partnership.

GAIL's climate change actions are directly or indirectly contributing towards the following SDGs:

SDG 12: Responsible Consumption and Production: The production of goods and services today not only depletes natural resources and causes environmental degradation including

soil, water and air pollution but also generates huge amounts of GHGs, therefore contributing to climate change throughout their life cycle.

SDG 7: Affordable and Clean Energy: An immediate increase in renewable energy technologies and increased energy efficiency is an essential part of reaching Paris goals stated under the NDC of India. Cleaner fuels than the conventional high carbon emitting ones will serve as a transition platform to reach complete Net-Zero.

Climate action on energy efficiency can increase energy access and reduce energy expenditure (SDGs 1, 7), can improve health (SDG 3), can reduce water pollution (SDGs 11, 14) and increase economic productivity (SDGs 8, 9).

Reduction in burning dirty fossil fuels like oil and coal means cleaner air in our cities and homes (SDGs 11, 12). This will lead to less people suffering and dying from respiratory diseases, especially children and elderly and will enhance everyone's well-being and quality of life (SDG 3).

Protecting our forests, peat lands and oceans means we and future generations will be able to enjoy nature and their ecosystem services, like a healthy life under water and livelihoods for millions of people, cities and villages that are protected from storm surges or sandstorms (SDGs 14, 15).

10.2 Vision and Action pertaining to climate strategy

Our management is already working to achieve our Net-Zero ambition. GAIL has set a significant goal to install 1 GW of renewable energy capacity in the coming years, in order to contribute considerably to India's NDC and to enable GAIL become Net-Zero, along with further extensive benchmarking projects and initiatives. GAIL employees from all divisions share the following vision for combating climate change, which aids us in working together and strategically to achieve sustainability and Net-Zero:

- To ensure that the public has more access to affordable, reliable and contemporary

energy services with a low carbon footprint by accelerating the cost-effective provision of clean energy, renewable energy and a Net-Zero business plan. Exploring potential of decentralized renewable energy incorporation, alternative fuels such as Compressed-Biogas and innovative technology to reduce emission by applying scientific rationale and testing.

- Enable and promote cooperation and partnership towards the implementation of Goal 7 by transitioning to Net-Zero CO₂ emissions by mid-century so as to meet the goals of the Paris Agreement including by introducing carbon pricing.
- Increase awareness, capacity and knowledge sharing, while also strengthening the ability of the supply chain of the company to take stronger action against climate change.

Adaptation and mitigation are two strategies for combating climate change. Adaptation will boost resilience to current or predicted climate changes and mitigation will reduce greenhouse gas emissions, effectively addressing the source of rising world average temperatures. GAIL is committed to addressing climate change adaptation and mitigation through a variety of projects and actions. We have recognised the need to set a target for achieving GAIL Net-Zero, which will contribute to India's NDCs, create a benchmark for fossil fuel firms and offer up different options for the Company to become resilient for tomorrow.

10.2.1 Adaptation

Climate change has a clear impact on the availability of critical natural resources like water. That is why, at GAIL, we have implemented water conservation and management systems across the Board, ensuring that water is used wisely and in a circular manner whenever possible. Plantations and the extension of green belt over numerous GAIL sites are intended to help replenish ground water levels while also functioning as a carbon sink.

GRI 201-2

Every day, the field of transition in technology, management and finance instruments for climate change adaptation evolves. At GAIL, a dedicated R&D team is motivated to conduct research in order to bring out best practices that will contribute to sustainability and climate change action.

The transition to cleaner sources of energy requires the proper capacity in terms of financial tools along with accountability being taken for the activities which contribute to emission. The strategy to deal with both these requirements has been believed to be achieved by carbon pricing. GAIL is positive to bring internal carbon pricing within its business activities to uncover new areas of climate adaptation and mitigation. GAIL has already started a study to find its internal price of carbon and the result of the project is envisioned to be published by 2023.

GAIL has analysed the vulnerability of several places to storm surges, cyclones, heavy rains and flooding and has recommended crucial steps for each department and individual before, during and after such disasters. Mitigation measures are also taken into account during the design stage before construction. Currently, flood prevention measures are being implemented at all sites along India's coast. Our Emergency Response and Disaster Management Plan (ERDMP), PNGRB, Incident reporting System (IRS) and Evacuation Standard Operating Procedure ensure effective management of any disaster.

Onsite and offsite mock drill is conducted to bring awareness and preparing for what actions to be taken during any accident. At GAIL, a dedicated disaster handling team which consist of incident handling team and managing any disaster affecting the Data Centre at Sector-1, Noida. Our multiple systems and mechanism ensure business continuity like our digital initiatives, risk management plan, uninterrupted supply of goods and services related to both our core and non-core operations from our suppliers.

Our climate related detailed disclosures can be found in CDP report.

10.2.2 Mitigation

GAIL stands at a crucial juncture being a natural gas company. Natural gas being the cleaner fossil fuel, (releases 50% less CO₂ than that of coal and 20-30% less than oil) will prove to be instrumental in transitioning towards zero-carbon energy systems.

GAIL has been consistently working on accelerating and optimizing the effective and economic use of natural gas and its fractions for the benefit of the national economy. The Indian government is committed to moving toward a gas-based economy by raising the share of natural gas in India's energy basket from the current 6.7% to 15% by 2030 to support the transition to a low-emission future.

10.3 GAIL's Envisioned Net-Zero Action Plan



GAIL is committed towards developing decarbonization capabilities in line with Government of India's vision. To achieve the above targets, GAIL has already embarked on its Net-Zero journey through science based ambition and action plan with the aim of achieving "100% reduction in Scope 1 and Scope 2 emissions and a 35% reduction in Scope 3 emissions by 2040". Our Net-Zero Action plan is being based on the four pillars namely:

1. Operational Decarbonization,
2. Energy transition
3. Carbon Capture Utilization and Storage- (CCUS)
4. Offsetting

GRI 103-2, GRI 103-3

10.3.1 Operational Decarbonization

Decarbonization includes the technology and initiatives taken or being planned by GAIL to reduce its direct inhouse GHG emissions by improving the efficiency of its operations. The various initiatives planned/undertaken are:

- **Reducing Methane Emission**

Methane is one of the potent GHG gas. Methane leakage, methane venting and routine methane flaring are usual activity in a gas industry and contributes significantly to their GHG emissions. To reduce GAIL's methane emissions, we have taken various initiatives at our sites like installing, Flare Gas Recovery units (FGRU), increasing natural gas flaring rather than direct venting where possible.

We are always working to reduce leakage during transmission with the help of our industry colleagues to develop effective leak detection and reduction solutions. And have installed Lower Exclusive Limit (LEL) Gas detectors at various locations under Agra region so as to check any gas leakage at the stations. Moreover, 20 hand-held LEL meters were procured for the line patrollers so as to check any gas leakage in the pipeline section. These detectors will help mitigate direct release of gas, hence mitigating emission. Leak Detection System (LDS) has also been implemented for Kailaras-Malanpur Pipeline.

- **Increasing Energy efficiency**

GAIL has a dedicated Energy Management system, with the focus of reducing our energy intensity. To reduce our energy demand, we have undertaken various projects to increase our energy efficiency.

We have taken following key energy saving initiatives:

- Rich-Lean Gas Corridor Project for integrated HVJ pipeline network with a project cost of INR 60 crores commissioned in July 2021 which has enabled GAIL to efficiently utilise the installed compressor in the HVJ pipeline network and estimated to save approximately 0.22 MMSCMD natural gas as a fuel gas.

- GAIL NCRO&M has installed and commissioned 10" PCV at Dadri for pressure and flow control in DBNPL which has enabled GAIL to maintain optimum inventory/line pack in this pipeline while ensuring adequate supply pressure in 24" Dadri-Babrala HVJ pipeline to meet the customer requirement. This modification has been beneficial for efficient pipeline operations and better pipeline hydraulics management.
- Commissioning of grid power supply at Khera Compressor station with effect on 14th March 2022 from GEG power to grid power which received from 33 KV/6.6KV power source.

We have also undertaken various plant specific initiatives such as:

Vijaipur Plant

- Flare Gas Recovery Unit (FGRU) of C2 C3 was installed at GAIL Vijaipur by utilising it to connect with LPG flare header. This would save approximately 0.2 MMSCM flare gas per month. Recovered gas will use as fuel gas in utility boiler and HRSGs.
- Installation of 2 Nos of HRSG (Heat Recovery Steam Generation) for DVPL (Dahej Vijaipur Pipeline) compressors. The capacity of HRSG unit is 17.5 TPH HP steam which will approximately save 12 MMSCM fuel gas annually as per estimation.

Initiatives taken in GAIL Maharashtra: Using less energy to perform same task

- Replacement of conventional lighting with LED for all SV/IP/Customer terminals of Maharashtra region
- Total outdoor lights (HPMV and HPSV) replaced at 75 stations
- Total 550 numbers of lights replaced with high efficiency low wattage consumption and better illumination LED lights
- Estimated Annual saving is expected to be around INR 40 Lakh per annum

Hazira Plant

- Energy Savings project was taken up. All the old HPSV/HPMV lights were replaced with

LEDs at high mast, main gate, watch towers, etc. The project cost was about INR 13.12 lakh. The projected annual savings is supposed to be worth INR 12.59 lakhs.

- Reduction in Power consumption after installation of new battery chargers: The project was commissioned in May 2021, the aim was to discard the old batteries and install more energy efficient batteries.
- In compressor suction line at Hazira Compressor station, a installation of isolation valve to facilitate RLNG Intake from HLPL Hazira into HVJ compressors discharge has resulted in fuel gas saving on account of no additional compression required for RLNG for mixing in HVJ pipeline network.

Renewable Energy

GAIL intends to set up solar PV projects in order to reduce carbon footprints and contribute to clean energy mechanism at National level. In line with above, GAIL is exploring various opportunities in solar with an objective to have a sizeable solar portfolio. For organic growth in solar sector, GAIL is participating through bidding in the forthcoming solar tenders floated by various government agencies like SECI, NTPC, etc. for developing green field projects, mainly solar projects as Independent Power Producer (IPP). GAIL shall participate in solar tenders with the minimum capacity of 100 MW and continue to participate till the cumulative awarded capacity reaches 500 MW.

GAIL is committed to reduce its carbon footprint through implementation of renewable projects and it has a total installed capacity of 131.75 MW of alternative energy. We have also set a target to add 1 gigawatt of renewable energy through solar and wind both together and any other renewable* by 2025. Towards that, we are doing both inorganic and organic efforts to achieve the same. We have chalked out INR 6000 crores to achieve our target of 1 GW of renewable energy.

(* Includes all clean energy projects like solar, wind, CBG, green hydrogen etc)

10.3.2 Energy Transition

Energy transition includes the technology switch and initiatives taken to replace the existing source of energy. While at present gas is considered as a cleaner transition fuel, however, in the context of Net Zero, GAIL believes that it is important that alternate green fuel sources are also explored.

- **Compressed Biogas (CBG):**

GAIL and its CGD JVs, as well as GAIL Gas Limited and its JVs, have invited expressions of interest and issued letters of intent for the GoI's Sustainable Alternative Towards Affordable Transportation (SATAT) Initiative to provide a sustainable alternative to affordable transportation as a developmental effort that would benefit everyone. GAIL is a partner in the Ministry of Petroleum and Natural Gas' SATAT (Sustainable Alternative Towards Affordable Transportation) initiative, which promotes compressed biogas (CBG) as an alternative, green transportation fuel. Agriculture residue, bovine manure, sugarcane press mud, municipal solid waste, sewage treatment plant waste and other waste/biomass sources produce biogas spontaneously through anaerobic decomposition. It is compressed after purification and labelled CBG, which contains over 95% pure methane.

In terms of composition and energy potential, compressed biogas is identical to commercially available natural gas. Compressed Biogas, which has qualities similar to CNG, can be utilised as an alternative, renewable automotive fuel. Compressed Biogas has the potential to replace CNG in automotive, industrial and commercial applications in the coming years, thanks to the abundance of biomass in the country. India's potential for producing compressed biogas from diverse sources is estimated to be around 62 million tonnes per year.

Understanding the advantages of CBG, the Government of India announced the

Sustainable Alternatives to Affordable Transportation (SATAT) scheme, an initiative aimed at establishing compressed bio-gas production plants and making it available in the market for use in automobile fuels by inviting Expressions of Interest. Under this scheme, GAIL is also in process of setting up 400 CBG plants by 2025, out of which 237 LOIs for production of compressed biogas have been issued, with a capacity of 1184 TPD.

GAIL has taken also the decision of venturing into CBG business by setting up CBG production plants. GAIL is setting up its first CBG plant of 5 TPD CBG production capacity in Ranchi and has signed concession agreement for 22 years with Ranchi Municipal Corporation for supply of Municipal Solid Waste (MSW) and associated infrastructure for setting up CBG plant at Ranchi. This will enable provision and supply of Compressed Biogas (CBG) from the plants processing biomass/waste to various Retail Outlets of CGD companies across India.

Potential positive benefits of CBG

- Stubble/Agro-residues can be utilized for CBG which can reduce stubble burning hence air pollution
- Additional revenue source for farmers
- Boost to entrepreneurship, rural economy and employment
- Responsible waste management, reducing waste related emissions
- Replacing fossil fuel in vehicles, reducing direct GHG emissions
- Reduction in import of natural gas and crude oil
- Support to national commitments in achieving climate change goals

- **Ethanol Blended Petrol**

The Government of India (GoI) has committed to supply Ethanol Blended Petrol (EBP) in order to reduce oil imports, with a goal of 10% blending by 2022 and 20% by 2025.

In keeping with the Government of India's goal, GAIL is exploring the possibility of establishing a 500 KLPD 1G (first generation) grain-based ethanol plant for the Ethanol Blended Petrol (EBP) programme. Carbon monoxide emissions are projected to be reduced by 30-50 percent when this E20 (Ethanol 20%, Petrol 80%) fuel is used.

- **Green Hydrogen**

In India, usage of Hydrogen as an alternative fuel is a relatively new area for which companies from various domains are evaluating the business potential. GAIL is also exploring the possibilities to blending green Hydrogen with natural gas in pipelines at pilot scale, which is a path breaking step in CGD sector. In future, Hydrogen can provide a supplementary role to fossils, renewables and batteries, in a transition towards Net-Zero economy.

In line with the National Hydrogen Mission, as a pilot project, GAIL has started green hydrogen blending in City Gas Distribution (CGD) network of Avantika Gas limited, Indore after due approval from PESO to blend up to 2% Hydrogen in Natural Gas. The green hydrogen blending has operated successfully without any observation with 2% blending at present. Further, permission has been applied by GAIL from PESO for 5% Hydrogen blending. Impact Study on CGD /NG pipeline network due to various levels of Hydrogen blending in NG is also being carried out through consultant. GAIL is also in process of setting up 10 MW green hydrogen plant (largest in India) in Guna, Madhya Pradesh.

10.3.3 Carbon Capture Utilization & Storage (CCUS)

Carbon Capture Utilisation and Storage (CCUS) technology encompasses methods and technologies to remove CO₂ from reaching the atmosphere. The CO₂ is captured from significant emission sources and either storing it permanently or utilizing it.

GAIL is currently undertaking various initiatives while exploring possibilities of investing heavily into the projects for utilizing and storing carbon. At present GAIL has undertaken 4 major R&D/pilot projects in collaboration with reputed institutes for developing feasible CCUS technology. These projects include

- CO₂ to Methanol & DME (Dimethyl ether)- in collaboration with IIT-Delhi
- CO₂ to Polycarbonate Diol- in collaboration with IISER- Tirupati
- CO₂ to Syngas- in collaboration with IIP Dehradun

In addition to above technologies, GAIL has also implemented a pilot project for fixing CO₂ (1TPD) using microalgae in an Open Raceway Ponds at Pata petrochemical complex in association with Central Institute of Mining and Fuel Research (CIMFER), Dhanbad. Trial runs for which have been initiated with suitable microalgae strains in the open ponds and currently its growth level is being monitored.

10.3.4 Offsetting

Offsetting includes the technology and initiatives that are designed to reduce/remove the carbon emitted from the air to compensate for the emissions. While GAIL is prioritizing achieving decarbonization targets as much as possible by following the mitigation hierarchy through reducing its emissions, we understand that it is not possible to achieve Net-Zero based on just avoidance and reduction of GHG emissions.

GAIL is looking to invest/implement various Nature Based Solution for offsetting its emission as the last resort to achieve its Net-Zero targets.

Nature Based Offsetting: GAIL has planted total 85,542 plants in FY 2021-22 out of which 75,800 trees were planted at their PATA plant. GAIL is in process of further augmenting this number, with the target of planting 1,50,000 more trees using "Miyawaki Forestry" technique in FY 2022-23.

10.3.5 Summary of GAIL's Decarbonization Initiatives

Type of Initiatives/ technology	Initiatives/projects taken by GAIL
Methane emission reduction	<ul style="list-style-type: none"> Flare Gas Recovery units (FGRU) Reducing transmission leakage by setting up leakage detection systems
Energy Efficiency	<ul style="list-style-type: none"> Converting all buildings into green buildings as per CII- GreenCo rating Installing Heat Recovery Steam Generation units (HRSG) Installing LED lights and replacing various old components with energy efficient counterparts Replacing Diesel Generators with Gas based Generators
Renewable energy	Current installed capacity of Renewable energy: 131 MW <ul style="list-style-type: none"> Target of 1 GW renewable energy by 2025 Target of 3 GW renewable energy by 2030 2.4 MWp Solar rooftop at Pata Plant 1.8 MWp Solar ground mounted at Vijapur Plant
Energy Transition	Biofuels: <ol style="list-style-type: none"> Compressed Biogas (CBG): <ul style="list-style-type: none"> In process of setting up 400 CBG plants under SATAT Scheme Blending CBG with NG in distribution pipeline Conversion of Diesel Boat into CBG Boat Ethanol Blending Green Hydrogen: <ul style="list-style-type: none"> Setting up India's largest (10MW) green hydrogen plant in Guna, Madhya Pradesh Pilot study for H-CNG (Hydrogen blended CNG) Forming JVs for Electrolyser manufacturing
Carbon Capture Utilization and Storage (CCUS)	GAIL has undertaken pilot projects with premier institutes for following technologies <ul style="list-style-type: none"> CO₂ to Methanol & DME (Dimethyl ether)- in collaboration with IIT-Delhi CO₂ to Polycarbonate Diol- in collaboration with IISER- Tirupati CO₂ to Syngas- in collaboration with IIP Dehradun CO₂ fixation using Microalgae
Nature Based Solution	<ul style="list-style-type: none"> GAIL is looking to plant more trees, with the target of planning 1,50,000 trees under "Miyawaki Forestry". GAIL has also planted 75,000 trees at their PATA plant
Supporting Green innovation	GAIL has also setup an INR 100 crore corpus fund under its "Pankh" initiative to invest into the green Start-ups and built a strong eco-system for green technologies

Energy Conclave 2022

GAIL participated in the Indian Chamber of Commerce's "Energy Conclave 2022" on energy transformation at Kolkata.

GAIL presented the most recent advances in the Eastern India gas industry and promoted the country's shift towards a Natural Gas based economy. The audience praised GAIL's 'Hawa Badlo' initiative's video film against air pollution.





Our Employees

'Engaged and Empowered Workforce'

"GAIL is focussed to create an enabling work environment equipped with proper infrastructure and technology that caters to both personal and professional development and growth of an employee. As a distinguished employer in the sector, it is dedicated to wellbeing of its employees by adopting fair and non-discriminatory practices. GAIL identifies its skilled and competent workforce as cornerstone of its growth and success."

Our employees are the foundation of our sustainable and inclusive business philosophy. They are integral to several advancements we make every year. They play a critical role in enhancing our competitive advantage and assist us in building a robust and diverse company. Therefore, we firmly believe that employees are at the core of the long term value GAIL wants to create.

Our endeavour is to ensure that the work culture at GAIL is fair and appreciative without any discrimination. We strive to attract and retain the best individuals by providing extensive training and development opportunities as well as long-term career chances. Through our forward-looking personnel policies, we aim to drive the long-term growth of our company alongside professional development of high potential and managerial professionals.

Our Employee Value Proposition (EVP) is targeted towards both internal and external

candidates which creates easy recall value for our prospective employees. Internally, we make sure that placements are done in alignment with the interests and capabilities of the persons and they receive training to improve their abilities as needed.

GAIL's Human Resources is focused on enabling our employees to reach their full potential while also contributing to the company's value creation. Our employee centricity revolves around ensuring individual's physical and mental wellbeing, imparting knowledge and work specific skill development and improving relationship-building capacity. It encompasses the factors required for individuals to engage in productive work, resulting in a higher quality of life in an organisational environment. We are committed to create an environment that focuses on creating organizational citizenship through focus on below areas:

GRI 102-44, GRI 103-2

- **Development:** Provide a conducive environment for learning, creativity and information exchange which complements training and life-long learning opportunities.
- **Succession:** Retain, develop and nurture people and plan for succession in key positions.
- **Diversity and Inclusion:** Maintain diversity, access a diverse pool of human potential and eliminate prejudice in all operations.
- **Trust and Well-Being:** Adopt fair labour standards, including the avoidance of forced or child labour and provide fair remuneration for employees and business partners.

11.1 Initiatives for Employee Well-being

GAIL is in a constant journey to better itself as an employer. Our endeavour is to create a positive, nurturing and learning environment. The implementation of several progressive HR initiatives is reflection of how employee well-being is prioritized. There is a constant evaluation of HR policies to align the Corporate HR Strategy with the Organizational Strategy to meet changing business requirements and preserve a competitive advantage. GAIL's policy covers Human Resource Acquisition (General Terms and Conditions of Service, Recruitment Policy and Procedure and so on), Employee Compensation (Pay Scales, DA, Transfer Benefits and so on), Employee Benefits (Leave Rules, Medical Attendance, House Building Advance Rules and so on), Motivation and Development (Performance Management System, Incentive for obtaining Higher Education and so on), General (Grievance Redressal Procedure, CDA Rules) and Others.

From GAIL's viewpoint and assessing the present offerings, we can undoubtedly lay claim to the fact that financial health of the employees has been our priority and well taken care of through a well-structured compensation. GAIL's

approach to employee's financial health has been holistic with helping employees save for retirement, providing 100% medical cover to self and dependants, providing medical assistance to retired employees. Similarly, community/social health has been ingrained as a value in the company which started off with a small number of employees and grew together into 4700+ GAIL family today. Our townships, cultural and festive celebrations with employees and their families celebrating each other's achievements are all symbols of tightly knitted communities that exist in GAIL.

Such social bonds create a strong sense of employee citizenship. Aside from that, employees come together to participate in competitions during vigilance awareness week, Hindi fortnight celebration, World Environment Day celebration, Fire Week etc..

In light of the current pandemic, we recognised 575 Covid fighters across GAIL and honoured them with an appreciation certificate from the CMD/Functional Directors for their dedication.

The SPARSH initiative

During the peak of the second wave of Covid-19 pandemic, a one-of-a-kind project called SPARSH was designed with the aim of delivering a healing touch to COVID affected personnel and their families. The SPARSH team provided daily assistance and worked with the Covid task force to supply medical supplies such as medicine, beds, oxygen concentrators etc. to employees as quickly as possible.

11.2 Talent Acquisition and Development

A talented, motivated and innovative workforce is what GAIL aspires for in its journey to make the nation future ready for all its energy needs. As it diversifies into clean and green energy portfolio, the responsibility is immense. Our recruitment strategy is continuously aligned to the business requirement and focuses on recruiting people who will be in the alignment with our overall values and vision.

As a part of HR recruitment strategy, we use a structured and objective assessment approach to find the best available talent. On a regular basis, as part of our manpower planning, we analyse and determine the need for fresh entrants and their changing skill sets requirement to align with the requirements of different locations and functions.

Through our training interventions, we emphasize heavily on creating an atmosphere that allows our employees to reach their full potential and advance in their careers. GAIL's recruiting team plays a key strategic role in creating a future ready workforce which will act as a key differentiator for GAIL in the face of growing competition and uncertainty.

We want to create a group of employees who are development-oriented, productive and enthusiastic to grow with us.

11.3 Diverse and Inclusive Workforce

Diversity and Inclusion (D&I) has been on GAIL's priority for the past few years. The implementation of D&I initiatives across locations have gained momentum across all of its sites last year. A diverse workforce is critical to achieving greater results. We strive for diversity through recruiting people from various backgrounds, genders and communities. Our transparent and sound recruitment processes enable us to hire people from a variety of backgrounds, ensuring that everyone, regardless of gender, caste, or physical ability, has equal possibilities. During our recruitment process, we adhere to the principles of diversity and inclusion and all candidates are objectively evaluated. We spend time and effort scouting talent from local areas in order to create a more multi-cultural and inclusive staff. Candidates from diverse Indian states are given equal consideration.

GAIL Board's approved recruitment policy is modified on a regular basis to keep it updated in terms of diversity and inclusion.

A total of 12,694 male and 380 female contractual workers work across various operational sites as part of our staff. Across our units, our total permanent workforce comprises of 3,621 male and 272 female management employees and 824 male and 36 female non-management employees. There are 3,676 male and 9 female security personnel. This year, GAIL employed 325 apprentices, (275 male and 50 female). The non-core tasks of the organisation, such as housekeeping, pantry, horticulture and security, employ a large number of temporary workers⁵⁴.

11.3.1 Employee Benefits

Performance and applicable laws or policies govern the benefits we give to our employees

- All GAIL permanent employees are entitled to Provident Fund coverage and contract labour coverage under the Employees State Insurance Scheme, Workmen's Compensation Act and other statutory benefits / payments.
- PF, gratuity, pension and Post PRMS - According to DPE guidelines, O.M. No. W-02/0028/2017- DPE (WC)-GL-XIII/17, a ceiling of 30% of the basic and DA has been set for contributions to these superannuation benefits.
- The majority of our policies and efforts are targeted at creating a productive environment for our employees. Female employees can also take a two-year compensated child care leave. We also reward our personnel for achieving better qualifications, which improves their competence and efficiency.
- We have implemented IT systems for workforce management strategies. All workforce-related information is monitored and captured using the SAP ERP system and it is systematically analysed to improve our workforce strategies.
- We have implemented many programmes providing monetary incentives that were

GRI 103-2, GRI 103-3, GRI 102-35, GRI 102-7, GRI 102-8, GRI 401-2

examined and amended during the reporting year, such as the revised policy published in respect of the Furnishing Hire/Purchase Scheme and PC/Peripheral Scheme, Employee Travel Entitlement and so on. Realizing the constant work demands cause mental and physical tiredness. Hence, the personnel who executed continuous on-site responsibilities during lockdown were granted compensatory offs. Employees who were on sanctioned leave prior to the lockdown proclaimed by many states/jurisdictions who were unable to report to their work-centre after their leave term expired were granted 'Work from Home' permission.

- Salaries, wages, Contributory Provident Fund, gratuity, leave encashment towards un-availed leave, compensated absences, post-retirement medical benefits and other terminal benefits are examples of employee benefits. All of these advantages are provided to our valued workers.
- All our permanent employees are covered under health insurance. GAIL offers a variety of employee benefits that go above and beyond the minimum legal standards, such as Children Higher Education Advance Scheme, GAIL Medical Attendance Rules and Relief Measures for dependent family members of deceased employees.

11.4 Employee Engagement

In last couple of years, organizations have put a strong focus on employee engagement and their experience within the workforce. Increase in anxiety, stress levels and higher cases of burnout impact focus and engagement of employees. Employee engagement post-pandemic will be more people-centric, focusing on their individual needs rather than the companies.

Employee engagement might be expressed as what inspires an employee to put effort into their job. An engaged employee focuses on learning

and knowledge, thinks of team performance, has an emotional connect with the work and is triggered by internal factors. GAIL recognizes that an engaged workforce is key to achieve long-term objectives of industry leadership and profitable sustainable growth. Finding ways to get all employees, from top executives to assembly line workers, intimately involved in day-to-day corporate sustainability activities is critical to building a dynamic and sustainable organization.

Person engagement at GAIL begins with the recruitment process and continues through onboarding, learning, career planning and progression until the employee leaves the company. To ensure that employees and their families do not miss out on key recreational or fitness related facilities while they are at sites, GAIL facilities are equipped with sports, gyms and other recreational amenities to enhance the employee experience. Further through implementation of Sports Promotion Policy, we encourage people to live a more active lifestyle.

GAIL act as a family unit and hosts various celebrations at its plant/offices to create a feeling of camaraderie and oneness.

During the reporting, period 10 complaints were received from employees and 100% of them were addressed. No employee engagement survey was conducted in the reporting year.

As a tribute to GAIL Leadership, we released an in-house e book named **"GAIL in SNAPSHOTS,"** along with self-clicked picture entries of GAIL plants, sites, awe-inspiring landscapes and joyful social events.

'JAGROOK'- A GAIL Publication

The GAIL Vigilance department released the book on Vigilance Awareness Week celebration. The book talks on eradicating corruption and ensuring purity, trust and transparency in functioning of systems.

Initiative under Azadi ka Amrit Mahotsav of GOI

GAIL (India) Limited organised an awareness programme to spread information about City Gas Distribution and Compressed Natural Gas as part of the 'Azadi ka Amrit Mahotsav' celebrations. The event was organised by the Ministry of Petroleum and Natural Gas.

It was webcast among GAIL employees, senior Ministry officials, employees of Oil & Gas PSUs and students from various universities by GAIL Training Institute in a hybrid mode (both physical and online).

'CGD - Creating demand for India's Energy Sector,' and 'CNG - Common myths and reality' were the two sessions of the program.

11.5 Capacity Building

GAIL's investment in capacity building aims to enhance competencies of its talent through learning process. We think that developing personnel skill and competency is critical to the successful implementation of GAIL's strategic initiatives. We have built mechanisms at GAIL for successful capacity building and subsequent expansion of the existing resource base.

Executive recruitment is primarily done at the entry-level, i.e., at the level of Executive Trainee and Sr. Officer/Sr. Engineer, because we believe in providing our employees with significant career advancement prospects. At the entry-level, both a campus selection procedure and an open recruitment exercise are used to hire executives. For executives and non-executives, the recruiting process is done through various modes such as open recruitment, GATE and campus placements.

At GAIL, overall employee development is one of our primary focus areas. We encourage our employees to develop their leadership qualities and technical abilities. This is made possible by offering a diverse choice of engaging multiple training programmes, skill development programmes, performance appraisals and feedback sessions to our employees in order to help them advance their careers.

GRI 103-2, GRI 103-3, GRI 404-2

11.5.1 Training and Development

GAIL provides personal and professional development opportunities for its employees through a variety of training programmes held on a regular basis. The goal of these trainings is to help our employees learn need based new skills and become updated about recent advancements in the oil and gas business.

This continuing and continuous process, which includes learning and development for both personnel and professional, will help to improve their performance and skills while keeping them above with current industry circumstances. To provide continued support to increase the employability of retired employees, GAIL has conducted 178 skills management and lifelong learning programs.

GAIL Training Institute

GAIL Training Institute (GTI) has long served as a platform for training our precious human resources by imparting vital knowledge and experience in a variety of sectors. It also provides financial support for employees to attend training programmes, conferences and seminars on current topics in India and abroad, giving them the opportunity to learn from and engage with experts in many technical and management sectors. The policy development for selection of personnel is also under consideration.

Some Initiatives were taken by GAIL to focus on continued learning which includes –

- **Orientation Programs**– Newly joined Executive Trainees were asked to directly join their allotted workplace with a 3 week Orientation program to be completed through a virtual mode which covered important topics pertaining to GAIL's business and overview of organisational background. Lateral entrants were also provided with mentoring process for 6 months.

- **Leadership Development-** To evaluate the potential of its middle to senior level executives (Chief Manager/Dy. General Manager), GAIL is conducting the Senior Management Development Centre (SMDC) exercise as part of the Leadership Development Program. This activity is an essential component of GAIL's pipeline for developing leaders. The purpose of this exercise is to determine the senior executives' development needs and to create development programmes to fill in the gaps using the seven identified competencies.
- **Managing the Pandemic-** Pandemic as we know was a very challenging time for all but GTI was quick enough to respond by swiftly shifting to the virtual mode of training as only very few programs were conducted in physical mode prevailing the covid conditions. At GAIL, we consistently enhance the knowledge and encourage our workforce through our well-structured training programmes. In FY 2021-22, we have conducted 27 training programmes with our 495 Executives and 64 Non-Executives to improve their understanding about the reporting of BRSR, its principles and how it benefits GAIL in Ease of Doing Business
- **ASME Accreditation of the Institute-** GTI is an Authorized Training Provider (ATP) for training programs such as ASME B31.8 and 31.8S which are accredited by American Society of Mechanical Engineers (ASME). For training on ASME B31.8 standard, GTI has a pool of 19 certified trainers for participants within and beyond GAIL.
- **Knowledge Management-** In Dec 2021, 14th Knowledge and Experience sharing seminar was conducted which over 100 papers received in 5 different categories and short-listing was done for each category and winners were awarded with overall best paper award. A panel discussion on the theme "Hydrogen - Potential Fuel of the Future" was also conducted, with speakers from industry and academia invited to share their perspectives. Professors from IIT Bombay and ICT Mumbai, as well as industry experts from Thyssenkrupp and top GAIL executives, were on the panel.
- **Industry- Academia collaboration-** GTI is going beyond training employees and stakeholder to provide support to various academic institutions and providing internship opportunities to the students. Collaborating with under graduation engineering colleges to conduct subject matter experts/guest sessions in Natural Gas Engineering. Further, GTI has also submitted a proposal to All India Council for Technical Education (AICTE) to introduce a course as an elective on Natural Gas Engineering and Economics at an advance stage of implementation.
- **Developing GTI as a Centre of Excellence-** GTI has a faculty base which are having expertise in the topics related core area of business and has a long experience. In addition, to the core expertise GTI has developed an in-house experts on focused programs. Training programs are designed and developed in a way to create exceptional learning experience for external participants from diversified faculties and help GTI create revenue and built brands image as a Centre of Excellence.

Focus area of training programs can be broadly classified into three categories given below:-

- (a) Strategy, Leadership & Business Knowledge Programs** - Some of the important training programs covered under this category are: (i) Hedging & Risk Management; (ii) Domestic & International Business & Economic Scenario; (iii) Business Planning & Growth Strategies; (iv) Strategic Thinking & Execution and so on.
- (b) Management, Functional & Process Development Programs** - Some of the important training programs covered

under this category are (i) LNG Industry Development in international scenario including shipping; (ii) Dynamics of Polymer Business in Global Context; (iii) City Gas, CNG; Commercial & Operational Perspective; (iv) Emerging Technologies in renewable energy and alternate fuels; (v) Contractual Disputes and Arbitration; (vi) Project Management.

(c) Operational, Technical, IT & Safety Programs

- Some of the important training programs covered under this category are: (i) Advance Process Control System; (ii) Flow Metering.

Some of KPIs to track the success of Training and development initiatives are listed below:

- Training Efficacy Score (%)
- % Actualization of annual training plan
- Number of sessions delivered as internal faculty
- No. of programs delivered to external organizations
- Percentage coverage of Executives due for SMDC exercise
- Timely conduction of activities like orientation program, knowledge sharing seminar etc.

Training details of reporting period are as follows:

- GAIL trained 4.52% percent of its staff,

including top management, on anti-corruption policies and procedures.

- 178 (equivalent to 46,419 man hours) of skill management and lifetime learning sessions were conducted for better transition of retiring employees and employability
- 8.81% of employees were sensitized on the subject of Human rights through trainings.
- 4.12% of employees attended the trainings on Sustainability.
- Several in-house sustainability training sessions were held. The total expenditure on Environment-related training and education was INR 9.56 lakhs during the year.
- Average 25.8 hours per Full-Time Employees (FTE) of training and development were given and average INR 10,039 spent per FTE on training and development.
- Total expenditure on training – INR 4.7 crore

Training hours

Average manhours of training per year per employee	FY 2021-22
Management- Male	27.91
Management - Female	28.25
Non-Management - Male	17.22
Non-Management - Female	12.33
Permanent Employees Total	25.8



A Snapshot of industrial visit by TERI School of Advanced Studies college students organised by GAIL Chhainsa Compressor Station

GRI 103-2, GRI 103-3, GRI 404-1, GRI 404-2, GRI 412-2

11.5.2 Leveraging Technology

The e-learning Management System (LMS) at GAIL helps employees to be updated with latest advancements in the oil and gas sector. The LMS was implemented with the goal of expanding the reach and flexibility of learning at GAIL. It also serves as the management tool for trainings and skill development programs and implementation. The principles of non-discrimination are followed in the whole process.

Learning materials are offered in the form of presentations, animations, audio-visuals and other interactive eLearning experiences. The LMS is equipped with a large library of e-learning materials for topics and matters critical to GAIL's businesses and includes ASME/API standards, OSID standards, PNGRB rules, SOPs amongst many others.

11.5.3 Training Strategy

6 Programs were conducted in FY 2021-22 related to capacity building aligned with strategy 2030 of GAIL, which covered 156 participants.

"Saarthi", a flagship program was introduced in 2011 with an idea of training newly joined Executive trainees. Programs related to skill management and lifelong learning are conducted in batches for Executive Trainees and 178 programs were conducted in FY 2021-22.

11.6 Performance Management

The performance management procedures have been implemented by GAIL to not only serve as a means of feedbacks and appraisals but with a positive outlook on how this would finally guide employees with opportunities to improve their performance, be recognised for their efforts and be rewarded for their achievements. This leads to a positive culture of conversations between managers and the teams. GAIL has standard systems in place to evaluate employees' performance. We provide our employees with a well-designed and performance-linked

PMS framework that is aligned with business objectives and provides clear goal setting and goal monitoring. A lot of emphasis is given to an individual's career growth. A motivational and encouraging environment is maintained on regular basis through a 360-degree feedback activity. Employees can receive feedback and comments from their co-workers, bosses and subordinates to perform and grow. All GAIL employees are receiving performance feedback and appraisal every year.

11.7 Leadership and Succession Planning

At GAIL, Leadership development has always been viewed as critical and one of the cornerstones in keeping employees engaged, motivated and prepared to take on more responsibilities in the future. Leadership development is a key HR concern and challenge. As GAIL grows and expand, developing leaders who can deliver the business growth has been the top priority for the organization. The employees also want more active leadership roles within their departments and jobs to feel ownership and engagement and it is in the interest of organisation as with it, comes accountability for the jobs.

With the changing business landscape, Company's strategic direction needs to be proactively supported by way of organization structure and right manpower placement decision. Here it is pertinent that diligent and systematic process like PMS framework, DPC, etc were put in place for identifying the right talent to be deployed for key assignments at domestic and foreign locations.

11.7.1 Succession Planning at GAIL

GAIL Succession Planning Framework is primarily an Executive Development oriented initiative. It is aimed to put in place a structured framework to ensure adequacy of talent pool/skill set availability, both in terms of quantity and quality of potential successors, in line with Company's business plan. Ready availability of sufficient

talent pool will help the Company to take prompt decisions in cases of unanticipated vacancies and/or business requirements. GAIL Succession Planning Framework is applicable on positions upto 3 levels below the Board level in Senior Management Executive Levels. These positions are Executive Director (E-9 Grade), Chief General Manager (E-8 Grade) and General Manager (E-7 Grade). As a part of our preparedness for coming challenges, GAIL has put in place Integrated Leadership Development Framework for facilitating leadership development and career planning.

The development framework includes a variety of talent development interventions, such as:

- **360 Degree Feedback Exercise:** 360 Degree Feedback aims to deliver appropriate feedback to concerned executives through peers, subordinates and superiors.
- **Senior Management Development Centre (SMDC) Exercise:** SMDC is a tool for ensuring that the organisation has better and more inspiring leadership. For senior executives in the E-5 grade and above, a Senior Management Development Centre (SMDC) exercise is conducted. Following the SMDC, executives are given books, e-learning modules and competency-specific training at top B-schools. Women executives in positions E-5 and above have also participated in customised management development programmes on leadership. Additionally, all newly promoted E7 and E8 executives are given a structured Management Development Program.

GAIL prioritises the development of its leadership capabilities. We continue to conduct SMDC exercises as part of the Leadership Development Program, with a focus on the developmental aspects of individual executives. Almost all senior executives in E-5 grade and above have been covered by the programme to date.

- **Focused development programs:** GAIL is preparing senior executives at the Executive

Director and Chief General Manager levels for Board positions through competence building programmes such as Master Class for Directors and Board Room Effectiveness, in which GAIL Board Directors have participated. Capability building programmes on emerging areas such as Renewable and Alternate Energy (Solar and Wind Energy), Water Value Chain, Specialty Chemicals Segment and other upcoming areas such as Mobility Future, Industry 4.0 and Automation are being conducted on a regular basis to meet the objectives of GAIL's Strategy-2030 in line with the global business environment and India's future growth trajectory.

11.8 Labour Practices and Human Rights

GAIL prioritizes aspects related to working conditions, quality of life at work and health and safety. We are committed to strengthening fundamental human rights and ethical labour standards throughout our operations as part of our mission to become a real socially responsible corporation. The Labour policy and practices are aligned to international frameworks (including ILO convention) for human rights and labour practices related matters. To address the issues and impacts related to Human rights, an Officer-In-charge is appointed for each unit/office/installation.

GAIL has framed a draft Equal Opportunity Policy as required under Section 21 of RPwD Act, 2016, which has already been forwarded to the Ministry of Social Justice and Empowerment for registration.

GAIL strictly prohibits Child labour in any form. There is Zero Tolerance policy for acts culminating to violation of human rights. To ensure the same employees and all security personnel are sensitized on subject matters amounting to human right violation. The same applies even to our contractors. There is strict adherence to this and security personnel are trained to not

allow any underage worker. The only exceptions to the 18-year-old age limit are individuals who are enrolled in government-approved apprenticeship programmes or internships. There were no incidents of child labour, forced labour, or compelled labour throughout the reporting year that has been recorded.

For reservation, relaxations, concessions and other benefits for Scheduled Castes (SCs), Scheduled Tribes (STs), Other Backward Classes (OBCs) and Persons with Disabilities (PWDs) in Direct Recruitment, we follow the Presidential Directives and other instructions and guidelines issued by the Government of India.

GAIL ensures freedom of speech across the organisation. Several labour union/ worker associations are recognised by GAIL, as long as they abide by the law and GAIL's code of conduct. GAIL recognises and supports Workers' Unions, Officers' Associations, Women's Forums, SC/ST Employees Associations and others that promote freedom of association and collective bargaining. GAIL Employees Association (GEA), a representative body of non-executives posted at various field offices/plants/installations across India except the corporate office and GAIL Karamchari Sangh (GKS), which represents non-executives posted at the corporate office, have both been recognised by management. The Industrial Relations Team is responsible for handling labour related disputes. IN FY 2021-22, there were no loss of man-days due to industrial dispute or disturbance.

We recognise collective bargaining at our organisation. 18.13% of our employees (Non-Management) are under Collective Bargaining Agreement. Aligned with organisation's value, we follow a principle of remuneration equity and non-discrimination and it is purely based on performance and competence. Statutory Social Security benefits are in accordance with the applicable statutes. Apart from the above, there are several non-statutory social security benefits.

The organization's pension benefits are available to all GAIL workers and meet all legal standards. GAIL ensures that all of its facilities, which are spread across India, meet the minimum wage regulations set forth in The Minimum Wages Act, 1948. Actual pay is significantly higher than the minimum wage requirement and it varies by state. Regular interaction with employee collectives, coordination with labour authorities, settlement of industrial disputes, recording and analysis of work centre level issues and long-term settlement with Unions are all examples of GAIL's commitments to human rights and labour practices, including the provision of the minimum wage.

Grievance Redressal System

There is an online system for attending to grievances of employees. The portal uses a three-tiered structure to ensure that grievances are resolved quickly and that the system is monitored often. The concerned HR In charge is accountable to register the complaint and resolve it within a time period of 10 days of complaint registration. Under instances of unsatisfactory redressal, the system allows escalation of the matter to corporate HR department who shall thence resolve the same within a period of 15 days. In case matter still remains unresolved, an appeal can be filed to Director (HR) whose decision shall be binding and final. The Director HR must also attend to the appeal and resolve it within 15 days.

No unfair labour practices

Unfair practices are discouraged and strictly prohibited by means of set policies and regulations. Employees have to abide by the following:

- Code of Conduct
- CDA Rules
- Standing Orders
- Fraud Prevention Policy
- Whistle Blower Policy
- POSH Policy

This year 10 employee grievance cases were registered and all are resolved successfully.

Apart from the Policies and code of conduct, it is expected that employees observe an abide by instructions or directions that may be circulated from time to time.

GAIL Training Institute conducts several training programs for all employees including executive, non-executive as well as contractual. These serve the means to educate, aware and sensitize them on labour laws and human rights. The human rights policies sensitize new joiner on GAIL's commitment and processes in place. Furthermore, all security staff have received training on specific human rights procedures connected to security services.

We take the appropriate actions to ensure that our employees are not subjected to any sort of harassment as part of our commitment to providing a safe workplace for all employees and to assure the same we have a clear policy in place to avoid sexual harassment in the workplace.

There is an Internal POSH Committee responsible for preparing annual report that is submitted to the Company Secretary in accordance with the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013. It covers all aspects in accordance with GAIL's policy for the prevention, prohibition and redressal of sexual harassment of women at work. There were no complaints of sexual harassment in FY 2021-22.

Periodic meetings with both employee unions and management are held at the unit and corporate levels to address actual employee complaints. In terms of notification of change, we follow Section 9A of the Industrial Dispute Act 1947. Contractors must also give all applicable statutorily mandated social security benefits, including a provident fund, to contract workers they hire.

The contract workers are covered and benefitted under Employees' Compensation Act, 1923 or the Employees' State Insurance Act (ESI), 1948 and the Contractor also obtains an Insurance Policy on

GRI 103-2, GRI 103-3, GRI 406-1, GRI 407-1, GRI 402-1 GRI 403-8

a regular basis for the grant of Death/Disability benefits; Furthermore, contract workers are covered by Occupational Safety and Health Administration (OSHA).

We support the fact that decent employment is a societal right. We have put in our best efforts to provide appropriate working conditions for all of our employees, including adequate housing. Human rights reviews and impact assessments are conducted on a regular basis for all GAIL operations. During this fiscal year, no employees were laid off and no discriminatory employment complaints were filed.

11.9 Employee Well-Being

Physical and mental health goes hand in hand and at GAIL we take care of wellness of our employees. There is no compromise when it comes to health of our workforce and community. Employees' physical and mental well-being is non-negotiable at GAIL. The long-term success of our company can be backed strongly by healthy individuals.

There is a provision for full health screening programme for both permanent and contract staff apart from annual occupational health check-up. At our official joint management health and safety committees, our entire workforce is represented. This committee is critical in conducting awareness sessions on health and safety concerns. It includes sessions such as fitness, yoga, stress management, lifestyle management and nutrition sessions. A healthy lifestyle is also promoted through conduction of sport events like cycling, badminton and others. To ensure workplace safety and efficiency, we give our employees 15 days' notice before making any operational changes.

Our Corporate Medical Cell (CMC) performs regular health screenings for our employees and keeps track of individual employee health. A doctor is always available to any GAIL employee, both at the corporate headquarters and at operational sites.

For our employees, we hold health awareness programmes such as exercise, yoga, stress management, lifestyle management and nutrition sessions, as well as host various events such as slow cycling, badminton and rangoli tournaments. For the prevention and spread of COVID-19, specific precautions and special awareness lectures were planned at both the plant and the colonies.

'CARE FOR ALL'- With pandemic crisis, social cohesion weakening becomes a risk, GAIL came ahead with a video release to celebrate 'International

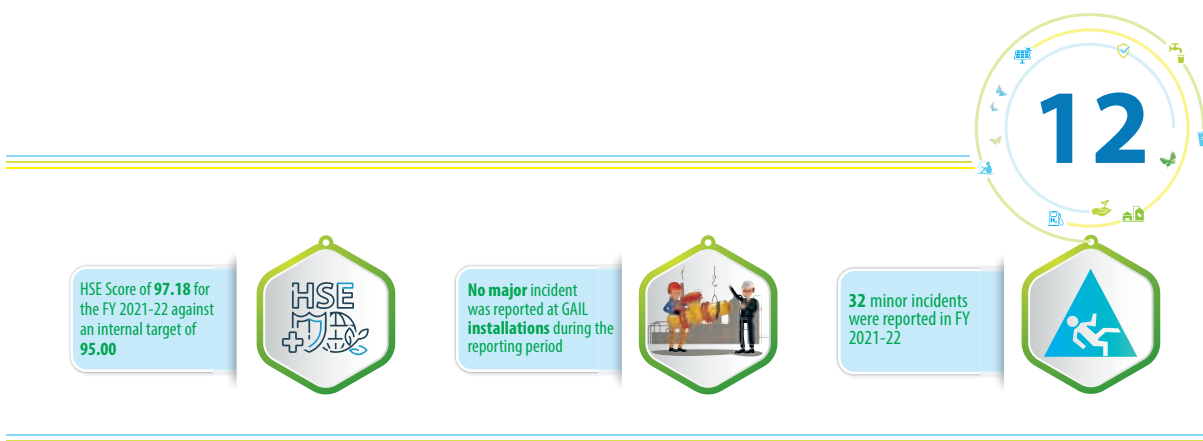
Day of Families'. This video focuses on how people can come together as families to help the elderly in their daily lives by doing things like bringing groceries for them, ensuring the well-being and mental health of children and encouraging front-line workers and service providers to get vaccinated. This video also encourages netizens to continue practising NewNormal habits such as sanitization, wearing a mask and maintaining social distance in public. COVID-19 can be defeated with the proper precautions.

Swachhta Pakhwada

Shri Manoj Jain, CMD, GAIL, along with other officials raised awareness about 'No to single-use plastic' as part of the Swachhta Pakhwada, during Prabhat Pheri at the Asian Games Village Complex.

Promoting clean and healthy living, GAILians, along with their family members, also distributed the Swachhta kit, comprising eco-friendly bags and masks.





Ensuring Health and Safety for All

At GAIL, the health and safety of our workforce, stakeholders, neighbouring communities and the public at large is one of our priorities. Maintaining health and safety practices beyond compliance ensures operation excellence; thus, we always strive to improve our safety performance. The Chairman and Managing Director of GAIL upholds the Health, Safety and Environment Policy with a commitment to deliver and promote the health and safety agenda, to minimise the risks and looking for ways to improve health and safety in operations.

We conduct many initiatives to promote health and safety in the organisation. Safety Day is observed on 10th of every month at each O&M site of GAIL. On this day, the Officer in-Charge of all installations (OICs) reviews all the safety related aspects of installations under their jurisdiction and takes necessary improvement actions, if needed. Exception Report on Monthly Safety Day is reviewed at concerned Regional Executive Directors level prior to putting up to Director(s) periodically. These reviews act as inputs for further strategic planning and decisions. Further, we comply with all applicable legal and safety standards.

12.1 Corporate HSE Policy

GAIL strives for long term value creation without compromising on occupational Health, Safety and Environment of its plants, pipelines including CGDs and personnel. This belief is embedded within our core organizational values.

GAIL is committed to:

- Emerge as a leader in Safety, Occupational Health and Environment Protection by adopting the latest technology
- Design, construct, operate and maintain its facilities as per national/ international standards to ensure adequate safety of all Stakeholders, Plants, Pipelines, Projects and related surroundings
- Comply with applicable statutory rules and regulations of the country where we operate.
- Optimize the HSE resources and provide structured trainings on HSE Management System including Behaviour Based Safety (BBS) and ensure effective emergency preparedness at all installations
- Implement occupational hygiene measures and regular medical surveillance and risk-

GRI 103-2, GRI 103-3, GRI 102-44, GRI 103-2, GRI 403-2, GRI 403-3, 403-7, GRI 416-1, GRI 416-2

based monitoring to ensure good health and well-being of GAIL's employees

- Make use of effective Waste Management System including e-waste and bio-medical waste as applicable for a clean and green environment
- Share HSE Policy and HSE performance with all interested Stakeholders.

Some of significant Policy Level Initiatives taken in FY 2021-22 are as follows:

- Revision of HSE Score System to capture the key performance areas of Safety in Operation and Maintenance considering latest/amended PNGRB/OISD Regulations/Standards
- Uniform Internal Training Modules on Operational and Safety aspects have been duly approved by ED (O&M-CO) and circulated to O&M sites for implementation
- Uniform Procedure for Organizing Emergency Preparedness Exercise/Mock Drill has been formulated and circulated to all the sites
- Revision of Fire & Safety Policy by multi-disciplinary team
- Implementation of HSE Score for GAIL's City Gas Distribution Networks and Retail Outlets of CNG/LCNG.

We encourage all employees including contract workmen to adopt safe working habits and behaviour to create a positive HSE culture within the organization. They are provided with the authority to report any unsafe act, if deemed fit.

The details of our HSE Policy can be found at <https://www.gailonline.com/pdf/others/CorporateHSEPolicy.pdf>

12.2 HSE Management System

Health, Safety and Environmental Management System (HSEMS) is an integral part of our HSE Philosophy. HSE Management System was formulated in-line with Oil Industry Safety Directorate Standard on "Safety Management

System in Petroleum Industry". It is an integrated approach aimed at managing workplace safety covering all aspects of plant and facilities to mitigate any losses with respect to personnel, equipment, material and environment. Accordingly, the HSE Management System of GAIL has incorporated 18 elements, which are applicable to all activities of GAIL. The HSE document provides a set of requirements and guidelines against each element for implementation across the GAIL installations.

Leadership and Commitment, Operational and Maintenance Procedures, Work Permit Systems, Third Party Services, Training, Incident Reporting, Investigation and Analysis, Occupational Health and Environmental Management are few of the topics covered by our HSEMS. We are constantly working towards improving the effectiveness of our HSE Management System. Our management is committed to provide enough resources and deploying skilled staff to comply with our HSE Policy and HSEMS regulations.

Safety Committee (s) have been constituted comprising members from management and non-management staff including trade unions to meet the statutory requirement of the Factories Act 1948, prescribed under section 41 (G) as well as to improve the safety standard in day to day working activities in plant/facility. Site-level Safety Committees have responsibilities to oversee the overall safety at our operational sites. Safety Committees meet at least once in three months to assess matters related to health and safety performance and make decisions on remedial and preventive actions. GAIL has continually excelled in health and safety performance as a result of its robust HSE framework.

12.2.1 HSE Score Implementation in GAIL

For constant monitoring and ensuring implementation of HSE Management System, it is necessary that the performance of sites with respect to implementation of HSE management system and safety compliances is measured

periodically. Towards this end, we have a “HSE Score” system to measure HSE performances of O&M sites. This system helps in effectively monitoring the implementation of elements like Leadership and Commitment, Employees Participations, Work Permit System, Risk Analysis, Maintenance and Inspection of Critical Safety Appliances/Equipment, Occupational Health, Emergency Preparedness, Compliance Audit etc. The advantage of HSE score system gets reflected in the form of increased productivity and morale of all those associated with the business activities. These benefits reflect a reduction in workplace accidents, injuries and illness.

All applicable GAIL sites submit their annual HSE plan and annual training calendar duly approved by site OIC/ WIC. Based on the annual plan, fire and safety in-charge and O&M in-charges of respective sites carry out programs. Some of the common practice includes:

- Entry of site wise HSE performance by designated executive preferably HOD (Fire and Safety) in GAIL intranet HSE Score Entry System: entries are further approved by Respective OIC/WIC
- Compilation and computation of HSE score by Corporate HSE Department is being done on monthly basis. HSE Scores are a part of Monthly Safety Day discussion at every site and necessary actions are taken for improvement

- The functional director periodically reviews the exception report on Monthly Safety Day Observations and HSE Performance
- Sites with high safety scores undergo physical verification for their HSE Performances by Corporate HSE official at sites.

Revision of HSE Score System was done in 2021-22 to capture the key performance areas of Safety in Operation and Maintenance considering latest/ amended PNGRB/OISD Regulations/Standards.

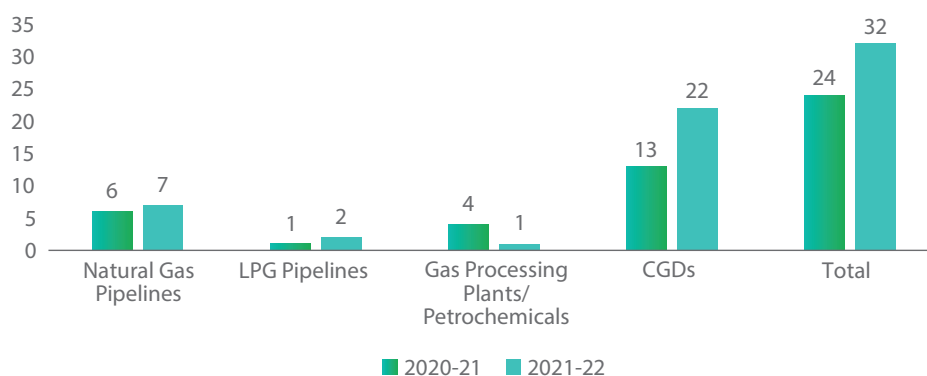
12.2.2 Health, Safety and Environment Performance

The Health, Safety and Environmental management performance of GAIL’s operation and maintenance installations is measured through mechanism of HSE Score System which encompasses leading and lagging indicators.

- GAIL achieved an average “HSE Score” of 97.18 for the FY 2021-22 against an internal target of 95.00
- No major incident was reported at GAIL installations during the reporting period, in accordance with incident categorization of PNGRB, OISD and MOPNG
- 32 minor incidents were reported during the year. Investigation of all incidents are conducted by a multi-disciplinary committee to find out the root causes and mitigation actions, to prevent reoccurrence of any such incident.



Minor Incidents (in Numbers)



GRI 103-2, GRI 103-3, GRI 403-1, GRI 403-2, GRI 403-3, GRI 403-4

12.3 Transport Safety

We are in the business of transporting natural gas and liquefied petroleum gas (LPG) through our cross-country pipeline system, which is one of the safest modes of transportation. In addition, oil marketing companies such as IOCL, BPCL, HPCL and GAIL carry hydrocarbons such as LPG, Propane, Pentane and Propylene mainly via road transport. With severity categorization, transportation safety evaluation allows us to identify potential hazards, risks, injury, or harm that may occur during the transportation and distribution of gas. Standard operating procedures and processes are followed to minimize/reduce the risk as low as reasonably practicable.

Additionally, we also provide support/assistance required for attending emergencies as well as recovery of inflammable liquid hydrocarbon products due to in-transit accidents in the vicinity of GAIL's supply plant(s) which is always rendered by GAIL's fire and safety department.

Transportation Safety for Cross Country Pipelines

- Risk assessment of cross-country pipelines are being carried out to determine the Individual Risk Per Annum (IRPA) and mitigation measures are taken to minimize risk.
- GAIL spreads awareness amongst the community on safety of pipelines through FM Radio jingles. Safety awareness campaigns are organized for nearby inhabitants along the pipelines on a regular basis for propagating information regarding pipeline location, informing them about Do's & Don'ts in the ROU area, potential consequences of damage, company contact information for reporting leakage and informing before carrying out any excavation etc.
- Nukkad Natak on pipeline safety is being organized at villages situated in close vicinity of cross country pipelines.

- In order to have faster communication during any emergency, all India toll-free short key no.15101 has been started apart from existing 1800118430.
- National Gas Management System at Noida is our nodal centre for emergency management.
- Daily foot patrolling in populated/ urban centers and monthly foot patrolling of Lines at other locations is conducted to identify encroachments / suspicious activities, if any.
- Implemented GPS based online tracking system for foot patrolling across the organization.
- Integrity Management System is followed for entire Cross Country Pipelines in accordance with PNGRB (Integrity Management System for Natural Gas Pipelines) Regulations 2012.

12.3.1 Road Transport Safety

Trucks are permitted inside the plant for loading only after validation of proper documentation as per RTO & PESO requirements and visual inspection. The trucks are inspected by CISF before entering the plants. Some of the major road transportation safety measures are mentioned below:

- Online SAP based 'Dangerous Goods Authorization' to ensure healthiness of hydrocarbon tankers by reviewing the safety aspects, prior to loading
- Physical checking of hydrocarbon tankers by regular employees
- Periodic capacity building sessions for the workers involved in loading of hydrocarbon product to make them aware about the hazards associated with operation and its mitigation measures
- Checking for proper flow when the truck reports at the bay
- Ensuring that there are no jutting objects in the trucks which would damage the bags

- Road Safety/Personal Hygiene trainings to LHC tanker and truck driver on a regular interval
- Provided Transport Emergency Card (TREM) to all hydrocarbon drivers to provide them information of emergency management and communication
- Drivers are personally instructed to maintain safety standards inside and outside the plant premises.

12.4 SAP-based Environment, Health and Safety Management (EHSM)

SAP-based Environment, Health and Safety Management (EHSM) have been implemented which has multiple functionalities such as incident management system (safety observation, recording never miss and incident/accident), risk assessment and job safety analysis, management of change and safety audit/activity monitoring.

Impacts and benefits of the EHSM SAP include the following:

- Establishment of uniform procedures across GAIL for incident management, job safety

analysis, risk assessment and management of change

- Introduction of workflow for improving clarity and accountability to transform compliance approach
- Generation of incident reports for institutions/statutory bodies like PNGRB, OISD, PESO, Factory Directorate and GAIL specific through a single portal
- Strengthening the Work Permit System at GAIL by linking job safety analysis
- Increasing the efficiency of monitoring and analytical reporting by introducing a user-friendly dashboard to OICs / WICs / coordinators

We have an Online System accessible to all employees including contractual workers for reporting safety observation (Unsafe Act/Condition) and near miss in the portal using a developed interactive form instead of offline complaints. Contract workers can report such events through their GAIL supervisor for corrective actions.

FY	No of Safety Observation Reported	Nos. Closed	Nos. In-Progress
2021-22	4182	3723	459
2020-21	5460	5026	434

12.5 Safety Audits

Safety audits are undertaken on a regular basis to ensure that the HSE Management System Guidelines and Emergency Preparedness plan are followed and the system is performing well.

Design, Construction, Operation and Maintenance of GAIL installations are carried out in accordance with national and international codes including standards like ASME, API, OISD, PNGRB, PESO, NFPA etc. Safety audits of facilities are also carried out simultaneously conforming to central and state regulations to ensure compliances of various HSE aspects.

Internal audit (Proactive Audit and Internal Audit-CO) is conducted at least once in a year by in-house team to identify the areas of improvement with respect to PNGRB and other regulations, OISD Standards, Management Governance etc. Also, internal audit on Occupational Health and Environment Management are being conducted periodically on sample basis to ensure the compliances of GAIL's occupational health guidelines and environment management.

In addition to internal audits, external safety audits of GAIL's installations are carried out by third party inspection agencies in accordance with the applicable national codes and standards. External safety audit of major installations is

GRI 103-2, GRI 103-3, GRI 403-1, GRI 403-2, GRI 403-3

carried out once in a year in alignment with Manufacturer, Storage & Import of Hazardous Chemical Rules 1989. Technical and safety audits of GAIL LPG storages and handling facilities, NG/LPG Pipelines and CGD Networks are carried out by a third party inspection agency to ensure compliance with applicable regulations. OISD, a technical wing of MOPNG, Government of India also conducts safety audits of Gas Processing Plants, Petrochemicals and NG/LPG Pipelines once in 3 to 4 years to check the conformity with various OISD Standards and Guidelines.

All the recommendations received during various audits are recorded in Online Audit Monitoring System to ensure time bound compliances.

12.6 Employee Safety: Occupational Health, Training and Emergency Preparedness

GAIL has implemented Health and Safety Practices for employees including contract workers that are primarily driven by Health, Safety and Environment Management System.

Occupational Health: The Corporate Occupational Health Committee meets quarterly to monitor the occupational health programme and its efficacy is assessed using the results of an Occupational Health Audit conducted by in-house multi-disciplinary teams. The Occupational Health Guidelines cover a wide range of topics, including site-specific occupational health infrastructure, occupational health committees, medical surveillance programmes, health data documentation and analysis and bio-medical waste management, among others. Medical surveillance is performed regularly on employees to assess their health while occupational health check-ups are conducted on permanent employees once a year to measure their well-being.

We also conduct periodic awareness workshops on health. Employee health scores are calculated and recorded based on predetermined parameters, which are communicated with employees. We also communicate ways to improve health score

to all employees. Every site develops a cumulative health index based on individual employee health scores for the purpose of analysing and improving employee well-being.

Medical facilities, vaccination facilities and services were made available at GAIL locations in the event of a pandemic.

The COVID 19 pandemic, also known as the Coronavirus Pandemic is a global concern which triggered several social and economic disruption across the world since 2019. Key Initiatives taken by GAIL during Covid-19 pandemic:

- High Level committee was constituted to coordinate and monitor in the view of Covid-19
- Advisory issued to all GAIL employees with guidelines on wearing masks, maintaining social distancing and frequently washing hands etc.
- Actions on reducing the physical meetings and shifting to video conferencing-based mode
- Awareness and trainings were provided on Covid-19
- Quarantine facility at GAIL Training Institute Hostel at Noida.

12.7 Occupational Health and Safety at GAIL

Installations i.e., Petrochemicals, Gas Processing Plants, Natural Gas Compressor Stations and associated pipelines, LPG Pumping Station and associated pipelines and CGDs are primarily driven through occupier and factory management. Site specific HSE Policy is in place in accordance with Corporate HSE Policy.

Some of key Occupational and Health safety practices undertaken for permanent employees are as follows:

- Quarterly safety committee meetings which are chaired by Occupier/Factory Manager to discuss Occupational Health and Safety issues of employees including contract workers.

- The Corporate Occupational Health Committee meet on quarterly basis to monitor the occupational health programs in GAIL. Accordingly, the effectiveness of Occupational Health System/Facilities have been evaluated through the sample Occupational Health Audit undertaken by in-house multi-disciplinary teams at Khera and Jhabua Compressor Station in FY 2021-22.
- Safety Committee Meetings comprising members from Management and Non-Management have been organized at GAIL's O&M sites to discuss various safety and occupational health aspects.
- Medical Service Department has conducted Occupational Health check-up of GAIL employees in FY 2021- 22 at GAIL installations falling under the purview of Factories Act 1948, through pathological tests by following Covid-19 protocols.
- Task based risk assessment has been carried out through Job Safety Analysis to identify the hazards & risks associated with the job and their mitigations.
- Mandatory Personal Protective Equipment (Cotton Uniform, Safety Shoes and Helmet) kit was issued to all employees. Personal Protective Equipment Matrix has been displayed at workplace. Sufficient number of identified Personal Protective Equipment is made available and its usage is being ensured. Equipment is being issued to all employees.
- 'Advance Behaviour Based Safety' has been implemented to reinforce positive behaviour of employees including contract workers.
- Online Reporting System for Safety Observation has been established to provide platform for employees to report Unsafe Act/ Condition for necessary and time bound action.
- Medical Surveillance is carried out to assess the health of employees every year.

12.7.1 Contractor Safety

Contractors are bound with the health and safety policies of GAIL. Every contractor needs to follow health and safety practices, rules and guidelines provided by GAIL. All contractors are required to submit a health check-up certificate of a new employee at the time of joining work. Occupational health check-up of contract employees, including canteen workers, is carried out periodically. First aid centers provide facilities and Outpatient department (OPD) treatment to contract employees. Sensitization on health aspects in daily life activities is executed for contract employees by conducting lectures on important health topics.

The structured HSE training matrix includes GAIL employees as well as contract workers. The internal safety training system is in place at O&M installations, where training chapters, including behaviour-based safety, etc. are imparted to employees and contract workers to upgrade their skills, knowledge and competence to develop their HSE functions and an influential safety culture effectively.

- Safety Trainings/Awareness Programs before deployment at the job.
- Work Permit System is followed and Safety or tool box talks are being provided to all workers before commencement of works.
- Use of Personal Protective Equipment (Cotton Cloths, Safety Shoes and Helmet) is mandatory at site.
- Personal Protective Equipment (PPE) Matrix is placed to guide the use of appropriate PPEs for the particular job.
- Job-specific Personal Protective Equipment (PPE) is made available to all and its use is strictly ensured.
- Health Assessment of workers for critical jobs like working at height and vessel entry are being ensured before deployment.

- Training imparted to contract employees on various safety aspects including First Aid Fire Fighting, Use of PPE, Workplace Hazards etc.
- Behaviour Based Safety (BBS) has been implemented at all GAIL installations to develop safe work culture, empowering and enabling all the employees, including contract workers, to report any unsafe condition/unsafe act to enhance workplace safety.
- Standard Operating Procedures are in place. Necessary Safety Information, data sheets, SOPs etc. are displayed prominently.
- Non-sparking tools are used during maintenance activity inside plant premises.
- Workers are also encouraged to participate through various modes like Safety Suggestions, Observance of Safety Week and Environment Day etc. to have a platform to put forth their suggestions and feedback for continual improvement in HSE Management System.
- Periodical monitoring of workplace to assess the concentration of hydrocarbon and gases, illumination, noise, environmental quality etc. and advice recommendations to bring the level down if found exceeding.
- Uniform Procedure for Organizing Emergency Preparedness Exercise/Mock Drill was formulated and circulated to all the sites.
- Revision of Fire & Safety Policy
- Implemented HSE score for GAIL's city gas distribution networks and retail outlets of CNG/LCNG.
- Organised 8 HSE review meetings, chaired by functional Director(s) to review the HSE aspects.
- Senior level committee headed by Executive Director (O&M) visited GPU Vijaipur, Gandhar & Vaghodia and Petrochemical Complex, Pata to check compliance of MB Lal Committee Recommendations.
- Carried out safety awareness survey of GAIL Vijaipur (GAIL Employees, Contract workers, CISF and Contract security) by external agency M/s Bureau Veritas.
- A total of four corporate occupational health committee meetings were organized to discuss/review the effectiveness of Occupational Health Guidelines implementation.
- Corporate HSE Officials at O&M sites physically carried out nine audit compliance checks to verify compliance with audit recommendations. Central region meet was also conducted on 29th March 2022 at Ujjain.
- Following Security year planner, GAIL conducted and carried out 50 cross-unit virtual audits / Security Audits and Inspections during year 2021-22 to ensure safety.
- Successfully organised and conducted 20th Security Awareness Week Various competitions were held for Employees, their family members and contract workers across 42 locations of GAIL.
- Carried out two electrical safety audits to ensure safety compliances with Electrical Rules and Regulations.

12.7.2 Health and Safety Initiatives in FY 2021-22

We observed 51st National Safety Week from 4th-10th March 2022. Honourable Chairman and Managing Director administered safety oath to employees and addressed the OICs on National Safety Day 2022. CMD, Director (BD) & Director (Projects) also conveyed their opinion about importance of safety to all employees. The major highlights of FY 2021-22 include:

- Uniform internal training modules on operational and safety aspects were duly approved by ED (O&M-CO) and circulated to O&M sites for implementation.

- Sensitized 1089 Employees, 301 family members and 2512 contract labours across GAIL sites through Security sensitization initiative

12.7.3 HSE Trainings and initiatives FY 2021-22

- Carried out 24 behaviour based safety and COVID-19 workshops in association with GAIL training institute. The training session received great response from employees.
- Conducted EHSM SAP familiarization programs on Incident Management System, Management of Change, Risk Assessment and Safety Audit
- GAIL's O&M and HSE executives participated in various sub committee meetings of PNGRB Regulations on Emergency Response and Disaster Management Plan, Retail Outlet Dispensing, Integrity Management System for Natural Gas Pipelines and City Gas Distribution Networks, Gas Processing Plants and Refineries etc. as part of development/ amendment of Technical Codes and Standards.
- Conducted three electrical safety webinars for employees

- Organised five knowledge sharing sessions to nurture the Young Fire & Safety Executives in which 29 Young Fire & Safety Executives presented their technical papers on various fire safety aspects.

12.8 Awards and Appreciations

GAIL has won following safety awards in FY 2021-22 for excellence in occupational safety and health (OSH) performance and for its commitment to reduce hazards, workplace incidents and injuries, by implementing best OSH practices:

- GPU, Vaghodia won International Safety Award from British Safety Council
- GPU, Vaghodia received Grow Care Safety Award 2021 and secured Platinum Status
- GPU, Vaghodia received Platinum Safety Award 2021 from Apex India Foundation New Delhi
- GAIL Vijaipur and Kailaras received Platinum Safety Award from National Safety Council, UP Chapter
- National Safety Council Award 2021 'Surakshaa Puruskar' received by GPU Vijaipur
- National Safety Council Award 2021 'Prashnsa Patra' received by Gandhar & Vaghodia.

Report on Central Region HSE Meet

HSE Meet of central region was organized under the guidance of ED(O&M-CR) on 29.03.2022. Sh. S.S Agrawal, ED(O&M-CR) inaugurated this 5th HSE meet of central region and the inaugural function was graced by Dr. M.I.Z Ansari, Joint CCE (PESO), Sh. Arvind Sharma, Deputy Director DISH along with other GAIL officials.



19th Annual HSE Workshop & CMD Trophy Awards Ceremony

Shri Manoj Jain, CMD along with Shri Deepak Gupta Dir (Proj) inaugurated the 19th Annual HSE Workshop at GAIL Training Institute, Noida.

In his inaugural address, CMD emphasized to improve the existing level of safety to integrate cutting-edge technologies like hydrogen blending, transmission & handling in the organization and novel safety initiatives for upcoming projects. He also advised that advanced simulation based technology in HSE to be leveraged to ensure the integrity of the aging assets.

Shri Deepak Gupta, Dir (Proj) stressed on the importance of strengthening GAIL's brand image in terms of health, safety, & environment and identifying the gaps & eliminate them in a time bound manner.





Our Suppliers

At GAIL, suppliers are one of our key stakeholders. They play a pivotal role in ensuring business continuity by supplying essential materials, goods and services to both our core and non-core operations. Therefore, our suppliers are a key pillar in our business operations and a major contributor to our continuous success.

We take conscious efforts to engage and interact with our suppliers and to build long-term partnerships with them. This entails clear dialogue and transparency of operations across our value chain. Our motivation to engage with our suppliers is to create a mutually beneficial long-term relationship. We aim to understand their concerns, build their capacity as needed and align them with our sustainability vision.

13.1 Procurement Practices

At GAIL, ethical procurement is one of our guiding principles, which leads to both tangible and intangible gains for the company. Our sourcing practices ensure better transparency, opportunities to connect with suppliers, enhanced brand image, elimination of uncertainties and hence aim to secure our prospects. To incorporate and promote sustainable development, we ensure all our sourcing practices are conducted in a responsible manner with an emphasis on environmental and societal benefits. Our processes

followed regarding standards of sourcing, selection and maintaining compliance ensure that our key suppliers are risk-free. We ensure that all our suppliers adhere to the applicable regulations and standards set by GAIL. This in turn enables the uninterrupted operation of our facilities. Additional information about our procurement practices is described in the sections below.

GAIL is making best efforts to enhance the procurement from Medium and Small Enterprises (MSEs) owned by SC/ST entrepreneurs as follows:

- GAIL has adopted a special tie-breaker methodology in tenders for services/works. In case of tie at the lowest bid (L-1) position between 02 or more start-up/non-start up bidders, following sequence of preference shall be adopted while placement of LOA/order:
 - In case one of the bidders is MSE owned by SC/ST Entrepreneur, then order shall be placed on such bidder.
 - In case one of the bidders is MSE owned by Women Entrepreneur, then order shall be placed on such bidder.
 - In case one of the bidders is MSE, then order shall be placed on such bidder. Otherwise, order shall be placed on bidder having higher turnover in previous financial year.

GRI 103-2, GRI 103-3, GRI 308-1, GRI 408-1

- GAIL is regularly conducting Special Vendor Development Programs for MSEs owned by SC/ST entrepreneurs. During programs, participants are briefed about the procurement policies in GAIL and special initiatives taken to promote procurement from MSEs owned by SC/ST entrepreneurs
- One Entrepreneurship Development Project (EDP) for developing SC/ST was organized at Vizag in association with M/s HPCL for developing SC/ST entrepreneurs
- To enhance and promote participation of MSEs owned by SC/ST entrepreneurs in our tenders and reach out to more such businesses, advertisements in newspapers were published across the nation in Hindi, English and other regional languages like Bengali, Telugu, Tamil etc
- One Entrepreneurship Development Project (EDP) for developing SC/ST youth is being organised at Jaipur from 18th to 31st July 2022 for developing SC/ST entrepreneurs.

13.2 General Conditions of Contract and Shaping of Contracts

We select our suppliers and vendors through our tender and bidding process. This includes identifying and eliminating any conflicts of interest, other violations against our procurement policies and ensuring alignment with ethical and legal standards. Furthermore, the General Conditions of Contract (GCC) forms an integral part of our tender documents. Once awarded with a contract, all vendors and suppliers are mandated to comply with the conditions of the GCC.

To strengthen our sustainability focussed assessment, our suppliers follow GCC guidelines and the same needs to be confirmed by the bidders in their bids. This includes a Human Rights clause which is also a part of all the investment agreements and contracts with suppliers. Moreover, we follow a comprehensive and periodic screening process for our critical suppliers to monitor the implementation of all regulatory requirements. Based on the

assessments, we encourage suppliers to adopt sustainable practices in their operations. We are proud to share that for the reporting period, there were no negative social or environmental impacts created by our suppliers.

Qualifying process for Suppliers and Vendors at GAIL:

The suppliers are expected to adhere to the Supplier Code of Conduct and compliance based on environmental and social criteria. Adherence to both is also monitored by GAIL. As and when required, we also conduct capacity building initiatives for our suppliers.

13.3 Zero Tolerance to Child labour

As a responsible organisation, we have a zero-tolerance policy towards child labour. We strictly adhere to this and do not endorse or promote child labour within our premises and across our supply chain. All security personnel have been trained to ensure that no underage workers enter the plant/office premises and our contractors are not allowed to hire underage workers. The contract documents include an appropriate clause to that effect. Additionally, prior to starting any work, contractors are required to obtain labour permission from the GAIL authority to ensure that there is no child labour within their operations. Our labour practices across all units also comply with the government's rule of a minimum age of 18 years for employment. The only exceptions to the 18-year-old age limit for any operation are those who are enrolled in government-approved apprenticeship programmes and internships.

GAIL upholds a zero-tolerance policy towards any act that leads to the violation of human rights. We also have ratified a zero-tolerance policy for the prevention of child and forced labour and ensure that no such employment occurs at any of our operation. During this reporting year, no incident of engagement of child or forced or compulsory labour has been recorded. We have developed and implemented stringent guidelines in ensuring our suppliers are also upholding zero tolerance to child labour.

GRI 103-2, GRI 103-3, GRI 308-1, GRI 408-1, GRI 409-1, GRI 414-2, GRI 412-3

13.4 Vendor Grievances Portal

At GAIL, we have well developed mechanism for addressing the grievances of the stakeholders through “Vendor Grievance Portal”. Vendor can log a grievance related to their contracts. The link of the portal is available on our Corporate Website Vendor Grievance (gail.co.in)

Further, vendors can also raise their grievances to Independent External Monitors who have been appointed to oversee the implementation of Integrity Pact Program in GAIL. The Integrity Pact is being included in all tenders above INR 1 crore.

We have also launched Vendor Feedback portal to effectively capture the feedback of suppliers and contractors.

Report on Visit of Shri Rameswar Teli, Hon’ble Minister of State for Petroleum & Natural Gas and Labor Empowerment, Govt. of India on 31.05.2022

Shri Rameswar Teli, Hon’ble Minister of State for Petroleum & Natural Gas and Labor Employment, Govt. of India visited Agartala for visit to various Oil & Gas installation i.e. ONGC , GAIL etc. . During the meeting, Hon’ble MoS (PNG & Labor) has been apprised regarding GAIL’s Natural gas pipeline installations and O&M activities in Tripura along with the ongoing upgradation Project by GAIL. Hon’ble Minister advised GAIL, ONGCL, IOCL & TNGCL representatives to participate in his meeting with Hon’ble Chief Minister, Govt of Tripura on the same day for briefing about activities by Oil & gas PSUs in the state of Tripura.



In the meeting, Dr. Manik Lal Saha, Hon’ble Chief Minister, Govt of Tripura has been briefed about GAIL’s O&M and CSR activities. GAIL has also updated about the ADMPL Pipeline which was commissioned on 25.05.2022 and the quality of supplied gas pressure in the City have improved from 2-4 Kg/Sq CM to 6-24 Kg/Sq CM just because of new pipeline addition. So, Hon’ble CM have appreciated GAIL’s effort for commissioning of this pipeline before Election schedule on 28.06.2022 in Tripura and the long pending low pressure gas issue have also been resolved forever in and around Agartala City.

During the meeting, Hon’ble MoS MoP&NG advised to apprise C&MD his visit for expediting the IGGL Pipeline connecting Imphal through Zeribam and further advised TNGCL for speedy connection of PNG in Gomati District at the earliest for the benefits of common Peoples of Tripura.

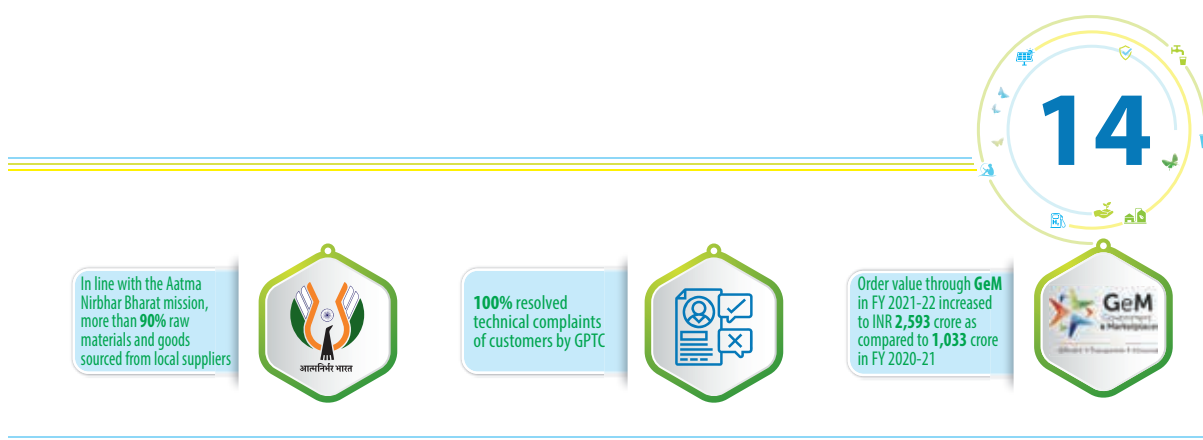


The meeting ended with vote of thanks to chair by Dr. P K Goyal, IAS, Principal Secretary Industries Govt of Tripura.

Signing of LNG supply term sheet with Coal India Limited

GAIL, Kolkata Zonal Office has signed a LNG Supply Term Sheet with Coal India Limited on 27th April 2022 for supply of LNG for Dual Fuel Conversion Pilot Project of 02 nos. 100MT Mining Dumper Trucks at MCL, Lakhanpur. The term sheet is signed by Sh. Asim Prasad (ZCGM & ZOIC) on behalf of GAIL and Sh. B.V.J.M Rao (GM, EED) on behalf of Coal India Limited.





Responsible Supply Chain Management

14.1 Sustainable Procurement

Our suppliers play a crucial role in our ability to deliver high-quality products and services. To improve our sustainability performance and to maintain high quality of our products, we frequently engage with our suppliers and support them to the best of their ability. We encourage our suppliers to live up to strict requirements, preferably having certifications and management systems in place on their quality, environmental impacts and health and safety.

All bidders are required to confirm acceptance of our General Conditions of Contracts. This includes confirmation that they abide to all its provisions relating to impacts on society, environment, labour practices and human rights aspects. To procure more energy efficient and sustainable products, GAIL has introduced the following provisions:

- Loading criteria in tenders for procurement of compressors, turbines, or generators etc. for fuel consumption
- Inclusion of green packaging in tenders
- Star rating of electrical equipment
- Introducing green building concepts in all new building projects

- Mandatory buy back of old PCs, laptops, cartridges etc. by suppliers supplying new items
- Procurement of only LEDs for new lighting and lighting fixtures
- Automatic switching off lighting in utility areas to avoid extra consumption of power
- Buy back of batteries by approved suppliers only
- All new electrical items procured should have a minimum 3-star rating in the specifications
- Promoting local procurement and encouraging local sourcing, thus reducing our dependency on imports.

In line with our commitment towards the vision of Aatma Nirbhar Bharat (Self Reliant India), most of our requirements are met locally. Approximately more than 95% of raw materials and goods have been sourced from local suppliers during this financial year. The definition of local supplier here, means suppliers from India (equal preference is given to all the states). In our journey towards an Atma-Nirbhar Bharat GAIL has adopted various measures to encourage maximum participation of local domestic bidders. Some of these measures are highlighted below:

GRI 103-2, GRI 103-3, GRI 204-1, GRI 308-1, GRI 308-2

No ICB Tenders below INR 200 crore

Tenders on International Competitive Bidding (ICB) basis are not invited for tenders below INR 200 crore (except in OEM/Proprietary/Emergency cases). In exceptional cases where there are special reasons for inviting ICB for a tender up to INR 200 crore, prior approval from the competent authority is obtained along with a detailed justification for resorting to the ICB Tender. The Secretary (Coordination) and the Cabinet Secretariat are the competent authority to approve the processing of tenders on an ICB basis up to INR 200 crore, in the exceptional cases mentioned above.

Implementation of a Purchase Preference policy

To ensure best sustainability practices are followed in our supply chain, various purchase preference policies have been implemented at GAIL, which also promotes local vendors:

- a) Public Procurement Policy 2021 for Micro and Small Enterprises (MSEs)
- b) Policy to provide Purchase Preference to Make in India (PPP- MII)
- c) Policy to provide Purchase Preference to Domestically Manufactured Electronic Products in Furtherance to Public Procurement Policy (Preference to Make in India), Order 2017
- d) Policy to Provide Purchase Preference to Domestically Manufactured Products of Petroleum and Natural Gas Sector in Furtherance to Public Procurement Policy (Preference to Make in India), Order 2017
- e) Policy for Preference to Domestically Manufactured Products, Services or works Relating to Telecom in Furtherance to Public Procurement Policy (Preference to Make in India), Order 2017
- f) Policy for Providing Preference to Domestically Manufactured Iron & Steel Products
- g) Restriction on Procurement from a Bidder which shares a land border with India.

GRI 102-9, GRI 103-2, GRI 103-3, GRI 204-1, GRI 308-1, GRI 308-2

GAIL has implemented Public Procurement Policy for Micro and Small Enterprises (MSEs). The policy targets 25% of procurement from MSEs with sub targets for marginalized communities of 4% from MSEs owned by Scheduled Castes or the Scheduled Tribes and 3% owned by Women entrepreneurs for the Goods and Services procured. In terms of the said policy, during the FY 2021-22, your Company made total procurement from MSEs of INR 1,478 crore which is approx. 40.06% of the total eligible value of annual procurement of approx. INR 3,689 crore of goods produced and services rendered by MSEs (including MSEs owned by SC/ST & Women Entrepreneurs). Furthermore, the procurement from MSEs owned by SC/ST entrepreneurs were 1.9% and accounted for about 3.01% of the total eligible value of annual procurement during FY 2021-22. Additionally, GAIL implements all government policies which contribute towards our sustainable sourcing, such as those on domestically manufactured iron and steel products, policy for preference to domestically manufactured products, services or works relating to Telecom, domestically manufactured electronic products (DMEP)-preferential market access policy, etc. GAIL has also introduced a start-up policy wherein registered start-ups are exempted from the mandatory requirement of meeting the technical BEC.

All the bidders are required to confirm acceptance to our General Conditions of Contracts wherein they confirm abiding to all provisions relating to impact on (a) society (b) environment (c) labor practice (d) human rights aspects. Further, most of the requirement is met locally & approx. 95% goods are sourced locally.

Uploading of Annual Procurement Plan and future Procurement Plan

GAIL regularly uploads the Annual Procurement Plan for MSEs on the GAIL tender website. All details of procurement from MSEs in the last three years are available on GAILs website. Furthermore, the Future Procurement plan for the next five years has been uploaded on the GAIL website and the link has been shared with all domestic vendors to help them set up production.

Qualification of Indian Bidder Based on Experience of Foreign Supporting Company

To boost GoI initiative of Make in India and Atmanirbhar Bharat and enhance the participation by Indian bidders, a policy has been introduced at GAIL to give preference to Indian bidders based on the qualifications of foreign supporting bidders.

INDEG Group constituted for development of Import substitution

INDEG Groups at the Apex level and at Site levels have been constituted at GAIL and meetings of the committees are held regularly. The objective of the INDEG Groups is to take initiative to develop indigenous sources of materials and services, import substitutions and reserve materials and services to be supplied by domestic vendors only. Ministry of Petroleum and Natural Gas (MoPNG) has constituted a technical group consisting of representatives of EIL, ONGC, IOCL, GAIL, BPCL, HPCL and OIL for the development of a Make in India-Exhaustive portal. GAIL has been actively participating in the development of the Make in India - Exhaustive portal covering the opportunities in the Oil & Gas sector for Indian and foreign manufacturers interested in setting up a manufacturing base in India.

Initiatives taken for Engaging with Suppliers

To ease and facilitate business with our vendors and suppliers, GAIL has taken the following extraordinary initiatives:

- Payment of labour charges to contractors during the lockdown period
- Faster payment to contractors to provide them with liquidity
- Consideration of COVID-19 as Force Majeure and extension of contract periods by 3 to 6 months
- Reduction of CPBG to 3% from the previous 10% in ongoing and new contracts
- Relaxation of timelines for the submission of CPBG.

We endeavour to procure materials and services by following transparent procedures, guidelines and policies set forth internally and by the Government of India. In all cases, tender, pre-tender, or pre-bid meetings are conducted to ensure vendor participation and to educate vendors on the tendering process. In addition to the above, vendor meets, MSEs meets and representation in Industry Conclaves are a few other initiatives taken by GAIL to effectively engage with suppliers.

GAIL has also conducted various meets with MSEs including those run by SC or ST entrepreneurs across India. In this financial year, GAIL has conducted 35 Vendor Development Programs in FY 2021-22 across our various work centres.

At GAIL, we regularly conduct Interactive Meets & Development Programs for all Vendors/Suppliers/Contractors across all its work centres. During our interactions multiple case studies and presentations on various initiatives, policies of GAIL is being highlighted especially those in the line of ease of doing business. Further to strengthen our relation and ensuring development of suppliers, we have Vendor Coaching program being held with aim to eliminate the gaps in understanding of tender process and contract execution.

To seek advice and express concerns, an email helpdesk called EDC&P Cell has been set up where officials may send their questions and issues raised throughout the tendering and contracting process. The questions are appropriately addressed and then incorporated into the form of a FAQ. During the reporting year, around 45 queries were addressed by ED-C&P Cell.

Other Sustainable sourcing initiatives:

- To reduce the volume of a tender document and usage of paper, a standard document GCC is already available on GAIL's tender website, as a part of our Digital initiative and ease of doing business. GCC is no longer being made part of tender documents

- Incorporated the provision of Green Packaging in tenders of GAIL.

14.2 Digital Transformation

As a growing organisation, under the digital India campaign, GAIL aspires to digitalize most of our services. Digitalization increases the level of transparency and trust among our stakeholders. We have integrated digital technology into all areas of our business over the past few years, fundamentally changing how we operate and deliver value to our stakeholders. By putting new systems and processes in place, we are contributing to the development of a new digital economy. As a part of this continuous transformation, we have incorporated online management tools like the bill watch system, cashless transactions, a file movement system, paperless transactions, etc.

Through collaborative efforts of GAIL's IT team with other departments, we have been able to provide prompt solutions to both external and internal stakeholders. To ensure transparent, fair, competitive and cost-effective practices in our procurement, GAIL has introduced e-tendering. This initiative also contributes towards reduction in paper consumption and is a green initiative taken by the organization. Further, in order to ease the process of submission of CPBG, GAIL has introduced the option of submitting the same through online banking.

To conclude the maximum number of tenders through e-tendering, the threshold value has been reduced to INR 2 lakh from the previous INR 7 lakh. To streamline the process of submission of EMD, we have initiated the option of submitting the same through online banking. We always believe in giving equal opportunity to all and aim for a fair and transparent process. As we host our tender process on our website, anyone who is interested can participate in the bidding process without visiting the tender issuing site. For better reach we also publish the same requirement in newspapers. We are proud to share that our order value through Government e-Marketplace

(GeM) in FY 2021-22 is INR 2,593 crore compared to INR 1,033 crore in FY 2020-21.

As a part of our ease of doing business, Digital India initiative, reducing the paper consumption and eliminating record keeping in large volumes, we have a standard document GCC which is available on GAIL's tender website. GAIL has introduced the Document Transmittal System for signing and countersigning of bulky contract documents in Projects. All bulky documents are signed by the relevant GAIL official via a digital signature to reduce paper consumption. This digitally signed contract document is sent online to the contractor, who countersigns it and returns it to us.

Further, the following initiatives have been taken towards the Ease of Doing business at different stages of a project:

A. Pre –Award Stage

Pre-Tender Meeting: The aim is to improve comprehension of technical and financial qualification criteria, requirements and the tender's scope of work. This eliminates any complexity during the evaluation stage. Details of the pre-tender meeting are posted on GAIL's website for wider circulation.

Uploading of Tenders on GAIL's and Govt. Website: All tenders are uploaded on GAIL's tender website, relevant Government website and Government e-Marketplace (GeM) for wider circulation. Any bidder who meets the Bid Evaluation Criteria (BEC) can download and participate. This ensures transparency and equal opportunity to all the eligible bidders.

Uploading of General Conditions of Contract on Website of GAIL and Non-Inclusion in Tender Documents: To minimize the consumption of paper in terms of the size, volume of tenders and bids, the GCC are available on GAIL's tender website.

E-Tendering: This is a secure platform for sending and receiving tenders by electronic means. The threshold value of E-Tendering has been lowered to INR 2 Lakh.

Implementation of SAP: SAP allows all transactions and review of various business activities to be done on one platform.

Model Instructions to Bidders (ITB) for all Tenders: The goal is to ensure uniformity in tendering across all work centers of GAIL and support bidders in submitting their bid.

Document Transmittal System: This is for signing and countersigning of bulky contract documents in projects. Additionally, submission of Security Deposit, Contract Performance Security and EMD are done through Online Bank transactions to ease the process for bidders.

Meeting with OEMs for Standardization of Terms & Conditions with OEMs: To bring uniformity in terms and condition with OEM across GAIL, it also reduces lead time in processing OEM cases. 25 OEMs have signed agreements with us so far.

Document Transmittal System: This is for signing and countersigning of the bulky contract documents in projects.

Submission of Security Deposit/Contract Performance Security & EMD through Online Bank transaction to facilitate bidders.

Qualification of Indian Bidder based on Experience of Foreign Supporting Company: To boost Make in India and enhance participation of Indian bidders, there is a policy to prefer and qualify the Indian bidder based on experience of the foreign supporting company.

Verification and Certification of Documents regarding Bid Evaluation Criteria: Provision of authentication of BEC documents by an empanelled third-party agency has been introduced.

Relaxation Norms for Start-ups: Prior turnover and experience criteria relaxed for all start-ups in the procurement of goods, works and services.

Implementation of Govt. Policy Initiatives: GAIL is implementing the Government policies precisely as intended. Some of these policies are related to public procurement policy for MSEs, purchase preference (linked with local content),

domestically manufactured iron & steel products, domestically manufactured electronic products, domestically manufactured products, services or works relating to telecom, domestically manufactured products of petroleum and natural gas sector and registration of bidders from country sharing land border with India, amongst others.

Procurement through Government e-Marketplace (GeM): All the items and services available on GeM are procured through GeM. Additionally, efforts are being made to bring all GAIL's items and services onto GeM which promotes transparency and efficiency. The GeM has transformed the procurement of goods & services of GAIL has brought an order value of 2,593 crores in FY 2021- 22 through the Government e Marketplace (GeM).

B. Post –Award Stage

Kick Off Meeting: After the award of a contract, the EIC organises a kick-off meeting with the contractor. Aspects covered during the kick-off meeting include signing of the agreement, submission of CPS, schedule for submissions, approval of drawings and documents, work schedule and sub-milestones.

Bill Watch System: The system helps in tracking vendor bills and ensuring timely payment to them. Vendors can also keep track of their bill and check the status.

Review of CPBG in Work Contracts & Time Period for Submission of CPBG: CPBG in work contracts was modified as 5% initially and a deduction of the remaining 5% from running bills was done. The time frame of the submission of CPBG has been rationalized.

Measures taken in Pipeline Laying Contracts: A mobilization advance in two instalments of 5% each has been instituted. The rate of interest has been reduced to MCLR for one year and charged by SBI plus 2.0% p.a. on a reducing balance basis. The release of 70% of the running bill payment is done within a period of 7 days. Extended stay compensations are given to contractors.

Methodology for Transaction on Trade Receivable Discounting System (TReDS):

TReDS addresses the challenges faced by MSMEs to maintain their working capital due to delayed payments from buyers. TReDS is an online electronic institutional mechanism for financing of trade receivables of MSMEs. GAIL is already registered on all the three TReDS platforms.

Vendor Feedback Portal: For any organization to grow, feedback from stakeholders is important. To capture the feedback of suppliers and contractors in an effective way, a Vendor Feedback portal has been launched.

Vendor Grievance Portal: To capture the grievances of suppliers and contractors we have developed and deployed a portal known as 'Samadhan'.

Health Monitoring of Contracts: Monthly health monitoring of contracts has been implemented to ensure that contracts are managed and executed to the satisfaction of stakeholders. This includes various contract management aspects including claims, deviations, amendments, issues, disputes etc. Reports in the prescribed format are submitted monthly to management.

Quarterly Closure of Contracts: GAIL implemented the quarterly closing of contracts to ensure that contracts are managed and executed to the satisfaction of all stakeholders and there is an ease in contract closure.

Pre-Dispute Resolution (Samadhan) Mechanism:

During the execution of contracts, any disputes arising with Contractors due to lack of clarity in contracts, different interpretations etc. are resolved via the Samadhan Mechanism. This minimizes the number of disputes turning into arbitrations or legal disputes.

Settlement Advisory Committee (SAC): Issues and disputes are mutually resolved within a

reasonable time, through SAC. SAC consist of Conciliators who are persons of unquestionable integrity and good public standing. The Settlement Advisory Committee facilitates voluntary resolution of the dispute and communicates the view of each party to the other.

Revised Dispute Resolution Mechanism Clause:

GAIL has simplified the Dispute Resolution Mechanism provisions. The party invoking the arbitration has the option to either opt for Ad-hoc Arbitration or Institutionalized Arbitration. Procedures for vendor performance evaluation for suppliers were reviewed and the concept of issuance of yellow card (watchlist) has been introduced instead of the previous Red Card (Holiday) provision.

Contract Management Document (COMAND):

For better contract management, COMAND was launched for EICs containing the various aspects and procedures to enable a better contract execution.

14.3 Awards and Appreciation

GAIL was awarded the title "Valuable Partner in Sustainability" by Tata Steel Limited – Global Wires India at their Annual Vendor Meet 2022.





Our Customers

At GAIL, our mission is to add convenience and comfort to the lives of people across the nation by connecting various households, industries and the transport sector with eco-friendly fuel. Creating a positive customer experience and driving value through quality, innovation and responsiveness, is a strategic pillar in our business growth. Our customer centric approach involves initiatives such as online registration, payment, smart meters to automatically record the consumption of natural gas as well as mobile applications for user convenience. To address grievances, we have a Customer Relationship Management (CRM) system, after sales services as well as a 24x7 toll free customer care centre for resolving queries. We strive to improve customer experience and constantly monitor it through our customer feedback survey, customer engagement initiatives and market research. This understanding enables GAIL to improve products, services and its approach, thereby ensuring customer satisfaction and long-term relationships that serve as the foundation of its business growth.

15.1 GAIL's Customers

Our customers are as follows:

- **Natural Gas:** The most prominent customers of GAIL in this segment are:

- **Fertilizer Sector:** The prime consumer of natural gas is the fertilizer sector, which accounts for 40% of our total gas distribution
- **Power Sector:** GAIL supplies more than 60% of the total gas supplied to gas based power plants
- **Others:** These include steel, refineries, sponge iron, petrochemical and GAIL's internal consumption, which is 21% of our gas distribution.
- **Natural Gas Transportation:** Natural gas pipeline infrastructure connects various gas sources to different gas markets to meet the existing/ future natural gas demand of various power, fertilizer, CGD and other industries in the country.
- **LLDPE and HDPE:** GAIL provides LLDPE and HDPE to more than 1,650 customers dispersed all across the nation.
- **Liquid Hydrocarbon:** Various industries such as, domestic, commercial and auto segments are some of our prominent customers in the liquid hydrocarbon market.

Currently, GAIL has 405 domestic gas customers and 309 RLNG customers. A sector-wise breakup is provided:

GRI 103-2, GRI 103-3, GRI 102-44, GRI 103-2

Sectors	Domestic FY 2021-22	Domestic FY 2020-21	RLNG FY 2021-22	RLNG FY 2020-21
Fertilizer	16	15	20	20
Power	38	34	13	10
CGD	214	172	46	38
Others	137	133	230	230
Total	405	354	309	298

15.2 Customer Privacy

As people spend more time online, customer privacy is becoming more vital than ever. Customer privacy includes issues such as data protection, using information/data for the intended purpose, preserving confidentiality and avoiding information theft or abuse.

We understand our duty to uphold the integrity and accuracy of our stored documents, records and information. All the information created, captured and stored are in compliance with our Document Preservation Policy. Furthermore, customer privacy is an essential component of GAIL's agreements. These include using information or data for its original intended purpose, maintaining confidentiality and protecting information and data from misuse or theft. During the reporting year, no cases of customer privacy breach were recorded. GAIL takes additional efforts to protect customer privacy (end consumers and business to business customers) depending on the industry in which the customer operates:

- **RLNG:** The Gas Supply Agreements and Gas Supply Purchase Agreements contain a confidentiality clause. Accordingly, both the buyer and the seller are obligated to keep information regarding the transactions and business confidential except for its usages towards purposes allowed by law.
- **Domestic Gas:** GAIL supplies natural gas to a wide range of businesses across the natural gas value chain and therefore has a broad customer base. Each customer type has a unique selling proposition- contractual provisions and financial agreements. Clauses

with customers, regardless of whether they are end consumers or business-to-business customers, are kept confidential. Domain experts have been consulted to put in place measures around the protection of data and prevention of its misuse and theft.

15.3 Product labelling

Through our product labelling, we strive to enable our customers to make informed decisions about the social, economic and environmental impact of the products they are purchasing. GAIL has taken measures to ensure that the information provided is adequate and accurate. There were no incidences reported of non-compliance with regulations or voluntary codes concerning the health and safety impacts of products and services within the reporting period.

Our approach towards providing product specific information is outlined below:

- **Polymers:** the following product information is displayed on 25 kg strong bags made of woven fabric:
 - Grade Name
 - Batch Number
 - Manufacturer details
 - Made in India
 - Symbols for storage instructions
 - Recycling information
 - Instructions on handling of bags
 - Net Weight
 - BIS Logo for Manufacturing
 - Contact e-mail for customer support

In accordance with the current Plastic Waste Management (Amendment) Rules, 2022, product labels convey a message to all the petrochemical customers to refrain from using GAIL's products in the manufacture of banned single-use plastic items. In terms of polymer product quality, the GAIL Polymer Technology Centre (GPTC) issues quality certificates on need basis

As a responsible company, GAIL is seeking undertaking from its customers to not use GAIL's polymer products in manufacturing banned SUP items. GAIL provides Technical Data Sheets (TDS) as well as Material Safety Data Sheet (MSDS) with guidelines for safe use of its petrochemical products. Technical assistance is also offered to customers by GAIL's technical service representatives at Zonal Offices as well as by GPTC team for safe use of GAIL's petrochemical products.

- Liquid Hydrocarbon (LHC) products are marketed and sold in bulk on an ex-works basis by loading in road tankers and/or railway wagons deployed by customers. Technical and safety-related information on the product being carried is displayed on the truck tanker or rail wagon itself as per local laws and is ensured by the customer or transporter concerned. As LHCs are carried in bulk, separate labels are not provided. The tankers are clearly labelled 'flammable products' when they are transported via roads as a safety requirement. Additionally, the product name, safety signage, hazardous chemicals signage, emergency contact, transporter's name and contact are also displayed on the tankers.

15.4 Customer Satisfaction

Our core values are founded on our constant pursuit of exceeding our customers' expectations and being their first preferred partner by offering superior products. Thus we ensure customer satisfaction and strive to create a loyal customer base for long-term business growth.

Understanding customer satisfaction levels and feedback allows us to review and redefine our strategies and eventually provide better services and offerings through our business initiatives. We capture the voice of our customers through our customer value management and Customer Satisfaction Index surveys. The Customer Satisfaction Survey is an in-house, half yearly, online (through SAP) survey, carried out for

obtaining customer complaints and feedback. Customer feedback is taken in the form of scores on various parameters such as Quality, Delivery, Technical support etc. The customer inputs are then translated in the form of an index called as the Customer Satisfaction Index (CSI). To improve business services, the surveys are shared with the marketing department who work to expedite solutions and drive customer loyalty.

Customer Satisfaction Index (CSI) online survey 2021-22

Customer Satisfaction Index (CSI) is an in-house attempt to collect the feedback from customers. A link is provided to all active customers to their registered email-id. Customers share their feedback on various parameters on quality and services. Their feedback is collected through SAP and analyzed. The observation is mitigated promptly and appropriately and there after customers are informed to complete the loop.

We have received a total of 16 of customer suggestions/observations of NG and RLNG segment through online CSI-Survey in FY 2021-22, out of which the major ones are:

- **Product Quality:** Variation in Calorific Value, Liquid Condensate and Impurities-Dust / Water in APM Natural Gas Supply
- **Delivery of Products:** Availability of desired quantity, pressure fluctuation in APM & RLNG gas supply
- **Technical support:** GAIL representative visits need to increase. Technical Support Marketing and Corporate O&M departments have provided mitigations against these observations / feedbacks of CSI-Survey.

Due to ongoing pandemic, we emphasize strongly on virtual meetings. We have held virtual meetings with major and new customers for technical support, product feedback and new product development.

Our consistent efforts towards achieving customer satisfaction have helped us in

achieving the overall, Customer Satisfaction Index of 96 for the FY 2021-22:

- Effective management and retainment of customers through increased customer loyalty
- Improving GAIL's brand value and customer preference
- Tapping into previously untapped markets
- Expanding our customer base
- Recognizing critical customer concerns
- Timely resolution of customer Identifying areas of customer dissatisfaction and their timely mitigations

GAIL is proud to share that its Customer Satisfaction Index for FY 2021-22 is 96.

15.5 Customer Grievance Redressal

An accessible, efficient and effective customer grievance redressal process is a key element in ensuring high customer satisfaction at GAIL. As part of our commitment to excellent customer service, we communicate with the appropriate business units and develop an action plan to address the issue and resolve grievances of our customers as quickly as possible. All customer complaints are acknowledged once received. When an issue is resolved, the customer is notified through an email or letter.

Customers can log their complaints online, through letters, emails or in person through Physical Customer Complaint Registers available at various Zonal Offices. Once any customer complaint is received, based on nature of the complaint, the redressal mechanism may vary:

- Commercial complaints are addressed at Zonal level.
- Policy related matters are referred to the Corporate Office.
- Technical complaints are referred to the concerned department.
- In the case of our Polymer business segment, we have the Customer Complaint Handling

Policy in place to address all technical complaints received from customers.

Additionally, through GAIL's Customer Relationship Management (CRM) system, existing customers of natural gas, petrochemical, liquid hydrocarbon, gas trading and transmission business segments can log their complaints, grievances and suggestions online at any hour through GAIL's webpage. Customers can raise a service request, register a complaint, or report an incident across the range of technical issues, product quality and/or commercial matters. Complaints raised through the CRM module are forwarded to the relevant zonal offices who duly address these complaints with support from our technical, finance and marketing teams to resolve the issue at the earliest. Additionally, our e-services module provides the following facilities to our customers:

- Using their SAP customer code as their User ID
- Raising service requests and registering complaints
- Enables attaching reports, text and photos with the complaint
- Online status monitoring of the service request or complaints
- Viewing of online reports attached to the service request

The GPTC addresses concerns regarding polymer product quality and provides technical assistance to resolve product-related concerns of consumers on polymer grades. Some of the complaints received at GPTC, in FY 2021-22 include:

- 36 technical complaints and 16 physical complaints for PATA polymer products.
- 8 technical complaints and 2 physical customer complaints for BCPL polymer products.

The technical customer complaints were attended to the satisfaction of the customer by GPTC team/Zonal TS. All the technical complaints

received at GPTC were satisfactorily resolved Pata/BCPL team and Zonal PC Mktg. executives have taken necessary actions to resolve physical complaints.

Specific customer complaints and their statuses with respect to (a) Liquid Hydrocarbon (LHC)(b) Petrochemical (PC) (c) Gas Marketing received by specific zonal offices in the FY 2021-22 are mentioned below:

- **Hyderabad Zonal:** No complaints were received
- **Mumbai Zonal:** No complaints were received
- **Jaipur Zonal:** No complaints were received
- **Chandigarh Zonal:** One customer complaint was received in the PC segment, which was successfully resolved with cooperation of MSG Pata. No complaint was pending at end of FY 2021-22.
- **Marketing Retail:** One complaint was received which was sent to the plant and resolved satisfactorily

During this reporting year, 62 complaints were received at various zonal offices, of which 100% were resolved satisfactorily. Further, 100% of the technical complaints received at GPTC were resolved to customer satisfaction. We have also taken necessary actions to resolve physical complaints. A total of 1,981 customer complaints were received in the City Gas Distribution (CGD) segment, of which 85% were resolved satisfactorily by management.

CVM offline survey FY 2021-22

Customer Value Management (CVM) refers to the feedback from Customers that are collected by a third-party evaluating agency. Customers are requested to respond to a set of questions and their feedback is recorded. This feedback is further analyzed by the agency and presented GAIL's Management. Customer concerns are discussed and deliberated and corrective action plan is shared by the marketing department. Accordingly, the steps taken have been shared with customers.

Customer Value Management (CVM) Survey - The feedback from customers on product quality and services, are captured through a structured questionnaire through offline mode. During the reporting year, there were about 150 CVM visits conducted to capture customer voices.

The observations from the CVM survey are addressed by the team and corrective actions are taken. Once the appropriate measures are taken, the customers are being informed to complete the loop.

15.6 Customer Engagement

Our focus is to deliver the best end-to-end customer experience. Engagement with customers through various touch points throughout the year enables us to establish a level of trust within them. In addition to customer satisfaction surveys and customer grievance mechanisms, our team engages through multiple platforms and focused initiatives under our customer engagement programs. Customer engagement initiatives are focused on solving customer queries about products and our portfolio and creating awareness about our services. The long-term goal is also to enhance brand credibility and build our reach with potential customers.

To build an understanding of customer needs, we use technology and customer intelligence. Market intelligence regarding prevailing RLNG prices, Polymer grade specific discount and LHC product prices is obtained and communicated to our corporate office for necessary action. Steps are accordingly taken to tie up GAIL volume with customers and refine our product price and offerings to make us more competitive. Customers are offered a mix of the portfolio available with GAIL. Marketing Retail has also developed an application to inform customers about price updates directly from the system.

GAIL has also put mechanisms in place to inform consumers of government updates and any risk of disruption or discontinuation of essential services. Any anticipated disruptions in gas

supplies and transmission are informed to the customers at the earliest through e-mails and phone calls. For gas marketing, regional control rooms are in touch with customers round the clock to inform them about any potential delays or disruptions. With regards to our petrochemical lines, plant shutdown activities, availability of grades and changes in government regulations are communicated promptly through e-mails and over the phone.

To inform and educate consumers about safe and responsible usage of products and services, their contracts, MoUs and our Sales Policy has specific information on the usage of products. With regards to natural gas, LHC and polymer segments, MSDS is also provided to customers. Customers are also required to maintain statutory licences needed to handle the products sold. Customer interactions, whether visits or meetings, are also a key channel for communicating information around the safe and responsible usage of products. Additionally, GAIL's Fire & Safety department organizes demonstrations to educate customers about safe and responsible use of natural gas. Moreover, our CGD company also conducts safety training of downstream customers to educate them on safe use of natural gas. Periodic mock drills are also done to educate customers and the public about actions needed to be taken in case of any hazardous situations.

Furthermore, consumer awareness activities are conducted through industry associations like TAAPMA and their publications, in which GAIL actively participates. Our Awareness campaigns like SAKSHAM are adding more value to our efforts.

Initiatives taken during the reporting year for engaging with customers:

- Due to the pandemic, most customer interactions were performed digitally, with only a few physical meetings taking place. The purpose of these meetings was to address customer concerns, maintain frequent relationships and explore new business

opportunities. Meetings with customers, for example, to discuss the use of natural gas in unexplored areas such as blast furnaces, calciners, power plant boilers and so on. This helped in identifying potential areas of natural gas usage, as well as customers inputs on potential difficulties and what can be done to eliminate them

- Visit to LCNG plants with potential customers to show the storage facilities of natural gas in the form of LNG and how it can be filled in vehicles easily to use as replacement of diesel to demonstrate the use and wide scope of LNG in automotive
- CGD companies are also ensuring safety training to downstream customers to educate them on safe use of natural gas. Periodic mock drills are carried out to educate customers and public about actions to be taken in case of any safety hazard
- In case any existing contracts/GSA are expiring, the Zonal offices reach out to customers for contract renewal and based on customers' then prevailing requirement, enter into new contract after internal deliberation with GAIL Corporate Marketing
- GAIL is the only gas company to provide online open access to the shippers (gas suppliers/ marketers/gas producers) for booking of common carrier capacity on its various NG pipelines through "Open Access Portal" on GAIL's website
- PNGRB has granted authorizations for development of City Gas Distribution (CGD) networks in about 201 Geographical Areas (GA) in the 9th, 10th and 11th bidding rounds and out of these, almost three-fourth of GAs would be served through GAIL's pipelines. Accordingly, for development of expeditious hooking-up connectivity between GAIL's pipelines and the CGD networks, GAIL has been proactively procuring long-lead items such as metering skids and taking steps for faster development of CGD connectivity

- GAIL has provided tie-in connectivity / interconnections to various pipeline entities/ LNG & FSRU Terminals and Natural Gas Producers for evacuation of gas from their isolated, CBM and DSF fields through GAIL's trunk natural gas pipelines for onward supply to natural gas customers
- **Addition of new sources of gas into the existing pipelines:** Recently, there have been more discoveries of domestic gas in KG Basin, Rajasthan, Cauvery Basin and Coal Bed Methane (CBM). Gas import terminals are also emerging both in the west and east coasts of the country. Thus, GAIL has taken steps to provide connectivity to the upcoming new gas sources so that the availability of gas from these new discoveries could be accessed by the customers falling along GAIL's pipelines. GAIL's recent/upcoming tie-in connectivity with new sources include:
 - a) **ONGC's Madanam:** Memathur, Cauvery Basin Pipeline Network
 - b) **ONGC's Bantumilli:** Ulumpuru, KG Basin Pipeline Network
 - c) **ONGC's Odalarevu:** Bodaskurru, KG Basin Pipeline Network
 - d) **ONGC's Suvali :** Kawas, Integrated HVJ Pipeline System
 - e) **Vedanta's Jaya field Jambusar:** South Gujarat Pipeline Network
 - f) **Jaigarh LNG terminal:** Dabhol, DUPL-DPPL Pipeline
 - g) **CBM Bokaro and Jharia:** JHBDPL Natural Gas Pipeline
 - h) **CBM gas at Shadol:** Phulpur, Integrated HVJ Pipeline System
- **Inter-connection with pipelines of other operators:** GAIL has provided interconnection to various other pipeline operators like M/s PIL's EWPL (at Oduru /Mhaskal/ Ankot) with its KG Basin NG pipeline network, DUPL pipeline and HVJ pipelines respectively. M/s IOCL's Dadri Panipat NGPL (at Dadri) with its HVJ pipeline, M/s GSPL's HP Gujarat Gas Grid (Dahej) with its HVJ pipeline, GIGL's Bhatinda-JammuSrinagar NGPL (at Jalandhar) with its DBNPL, RGPL (at Phulpur) with its integrated HVJ/ JHBDPL, thus providing access to almost all the other operators to its pipelines
- **Inter-connection with upcoming pipelines:** GAIL will also be providing interconnection of its JHBDPL pipeline with the upcoming Indradhanush Gas Grid of M/s IGGL to connect the entire North-East region with the main grid. In the southern region, GAIL will be inter-connecting its KG Basin Network with M/s APGDC's upcoming Kakinada-Srikakulam Pipeline. Furthermore, GAIL will also be providing interconnection of its Dabhol-Bengaluru pipeline and its upcoming KKMBPL at Bengaluru with the upcoming Ennore-Thiruvallur-Bengaluru-Puducherry-Nagapatinam-MaduraiTuticorin pipeline of M/s IOCL, thus connecting the entire southern region with the main grid
- To allocate domestic gas to Geographical Areas (GAs), GAIL has initiated a concept of virtual pipelines in CGD, approved by MoPNG. This mode enables the transportation of CNG and PNG to CGD entities through cascades in a compressed form, or through LNG tankers in a liquid form. As a result, this will not only assist in ensuring domestic gas supply to geographical locations that are not connected to any natural gas pipeline network but also increase the customer base
- In order to resolve potential contractual issues with shippers, Dispute Resolution Mechanism is defined in the Gas Transmission Agreement (GTA) to resolve issues through amicable settlement/ conciliation / arbitration
- For capacity booking, the Open Access Portal now includes digital signature feature
- In FY 2021-22, our team visited major customers in India covering sectors like Injection Moulding, Film Sector, Blow moulding, Raffia,

Pipe Sector etc. to enhance market share and product promotion. Due to the pandemic when visits were not possible, we emphasized strongly on virtual meetings with major and new customers for technical support, product feedback and new product development. Over the last few years, as a value-added service, the GPTC team visits the premises of our leading polymer customers. This deepens our insight into our customers business requirements, technical issues they face relating to polymer processing and moulding as well as any specific concerns they have. These efforts towards understanding the ever-evolving needs of our customers have not only helped in adapting to their requirements and building a positive relationship with them, but also in promoting specific grades of products. Additionally, many processing trials were conducted with customers for trouble shooting, assessment of quality improvement in improved batches and new product development

- Additionally, GAIL's zonal offices are constantly in touch with the customers of their respective regions to gather information related to their natural gas requirements, issues pertaining to supply, Gas Supply Agreement (GSA), etc. Zonal offices also monitor statuses of contracts and agreements and proactively reach out to customers for contract renewal and to understand prevailing requirements. Zonal offices also deliberate internally with GAIL corporate marketing before entering new contracts. GAIL provides contractual flexibility in order to adapt to changing customer needs and secure customer retention.

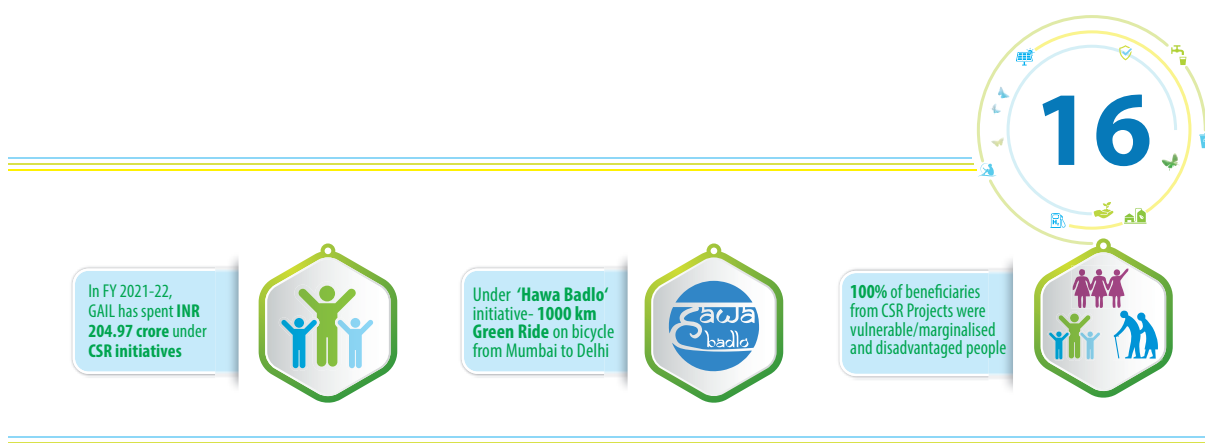
GAIL Polymer Technology Centre (GPTC) in Noida (Delhi NCR) provides customer satisfaction services, technical assistance and resolution of product-related concerns on polymer grades for our petrochemical business segment. Their customer service and feedback interface carry out the below-mentioned activities:

- Customer complaint redressal
- Assistance on the proper selection of GAIL grades

- Entrepreneurial guidance
- Development and modification of GAIL petrochemical grades to meet market needs
- Application development and promotion for customer benefits
- Participating and representing GAIL in technical forums and business association for awareness and policy advocacy purposes

Additional initiatives on customer engagement by zonal offices have been outlined below:

- **Hyderabad Zonal:** For the PC & LHC segments, rigorous digital customer interactions were undertaken. This served as a mechanism to ensure customer connect in the pandemic period when physical visit to customer premises were not possible. In the NG segment, the team has been constantly in touch with all customers through e-mails and telephone calls, for contract management and addressing their issues or concerns. Timely meet-ups with existing customers were held to discuss the extension of gas supply and transmissions contracts
- **Mumbai Zonal:** The team undertook frequent customer interactions, visits, meetings through physical and virtual modes and product development trials for polymer grades which led to a deep understanding of the customers exact requirement and therefore high retention of customers
- **Jaipur Zonal:** Physical customer visits were done as far as possible. Wherever these were restricted, phone, WhatsApp and video call were used. Jaipur Zonal Office visited many major customers and organised interactive meets. They also engage with prospective customers in various industrial clusters across the state to educate them about the safety and usage of natural gas
- **Chandigarh Zonal:** Physical customer visits were done wherever possible. Additionally, online and telephonic interactions with customers were undertaken.



Our Community

16.1 Our Community

The foundation of any responsible business is built on the relationship that it shares with the community. Creating shared value underpins all the actions we take at GAIL.

In our philosophy, inclusive development has never been an afterthought, but rather an essential aspect of our business strategy. Our vision and strategic objective is to be a leader in natural gas sector while transforming lives. Our direct interactions with local communities have given us the ability to identify the most pressing needs, understand the lives of the less privileged and provide appropriate strategic solutions. We've initiated several CSR programmes to strengthen less privileged and marginalised segments, while also acknowledging the uniqueness of each community's philosophy, expectations and worries.

Engaging with local communities on a regular basis through various channels allow us to stay informed about the intervention's progress and gain feedback from them. The community's active participation is crucial in the development and implementation of our various CSR projects, as it helps build trust and lays the groundwork for positive socioeconomic outcomes for us and for the communities.

16.2 Social Commitments

GAIL understands the favourable and adverse impact of its business operations on local communities and strives to minimize them. There were no substantial negative repercussions of our operations on local communities recorded throughout the reporting period.

Part of our objective is to build mutual trust and respect for the indigenous and marginalized communities in the places where we operate. In project planning, design, execution and operational planning, we value stakeholder perspectives. We examine the concerns and issues of local communities before initiating any project, which is one of our top priorities. During the reporting year, no significant disagreements with local communities or violations of indigenous people's rights were documented.

16.3 CSR Policy

Through our services, conduct and activities, we aspire to enhance value creation in the communities in which we serve. The GAIL CSR Policy & Operating Guidelines to CSR Policy enable us to carry out CSR initiatives that are aimed at target groups identified, such as Below Poverty Line (BPL), Scheduled Caste (SCs), Scheduled Tribe

GRI 103-2, GRI 103-3, GRI 102-44, GRI 103-2, ²GRI 413-1, GRI 413-2 GRI 411-1,

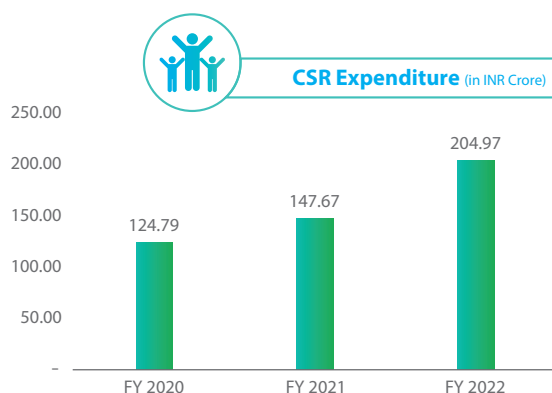
(STs), Other Backward Class (OBCs), Persons with Disability (PwDs) and communities surrounding GAIL's work centres, among others.

CSR at GAIL effectively works on the identification, design and implementation of CSR activities in accordance with Section 135(1) of the Companies Act of 2013. The CSR projects at GAIL are monitored and overseen by the Board on the recommendation of CSR Committee as per the Companies Act 2013, CSR Rules 2014 and their subsequent amendments, as notified by the Ministry of Corporate Affairs from time to time.

GAIL is committed to raise the social and economic conditions of the Aspirational districts by implementing strategic CSR projects and has incurred expenditure of INR 15.62 crores in 16 aspirational districts in FY 2021-22.

As on 31st March 2022, the CSR Committee comprises of the following members:

- » Mr. Manoj Jain, Chairman of the Committee – C&MD
- » Mr. MV Iyer - Director (Business Development), Member
- » Mr. Akhilesh Jain – Independent Director, Member
- » Mr. Sanjay Kashyap - Independent Director, Member



The Corporate Social Responsibility department has taken multiple initiatives in the fiscal year 2021-22. GAIL has spent INR 204.97 crore which is nearly 3% of the average net profit of the preceding three years. Additionally, GAIL has spent INR 8.26 crore on internal administrative

GRI 411-1, GRI 413-2

activities such as capacity building activities for the employees.

16.4 GAIL Hriday

The "Hriday" initiative is our umbrella programme, under which we engage with the communities. Our team strives to socio-economically empower people from all walks of life and make a positive influence in society. All the initiatives undertaken by GAIL Hriday adhere to the activities outlined in Schedule VII of the Companies Act, 2013 and its revisions.

As part of "Hriday", we aim to improve the lives of thousands of underprivileged people by building social capital throughout our seven CSR priority areas, which are determined by evaluating the needs and requirements of the local communities. These activities are carried out through collaborations with communities and non-governmental organisations (NGOs), staff volunteerism and direct corporate donations. These focused, value-driven developmental CSR projects are driven by passion and powered by dedication of our committed team, which help us reach out and impact many lives.

All the beneficiaries from our CSR projects belong to the vulnerable/marginalised and disadvantaged segments. These beneficiaries reside within 100 kms of GAIL's installations/pipelines and offices. Majority of these include socially and economically disadvantaged groups such as SCs, STs, OBCs, women, PwDs etc. No concerns were received from the beneficiaries during the year. We are proud of our efforts in elevating 'Swachhtha Action Plan', a mission of Government of India, in FY 2021-22. GAIL has spent INR 28.39 crore under the 'Swachhtha Action Plan' and contributed to improving the hygiene conditions and bringing awareness among the communities.

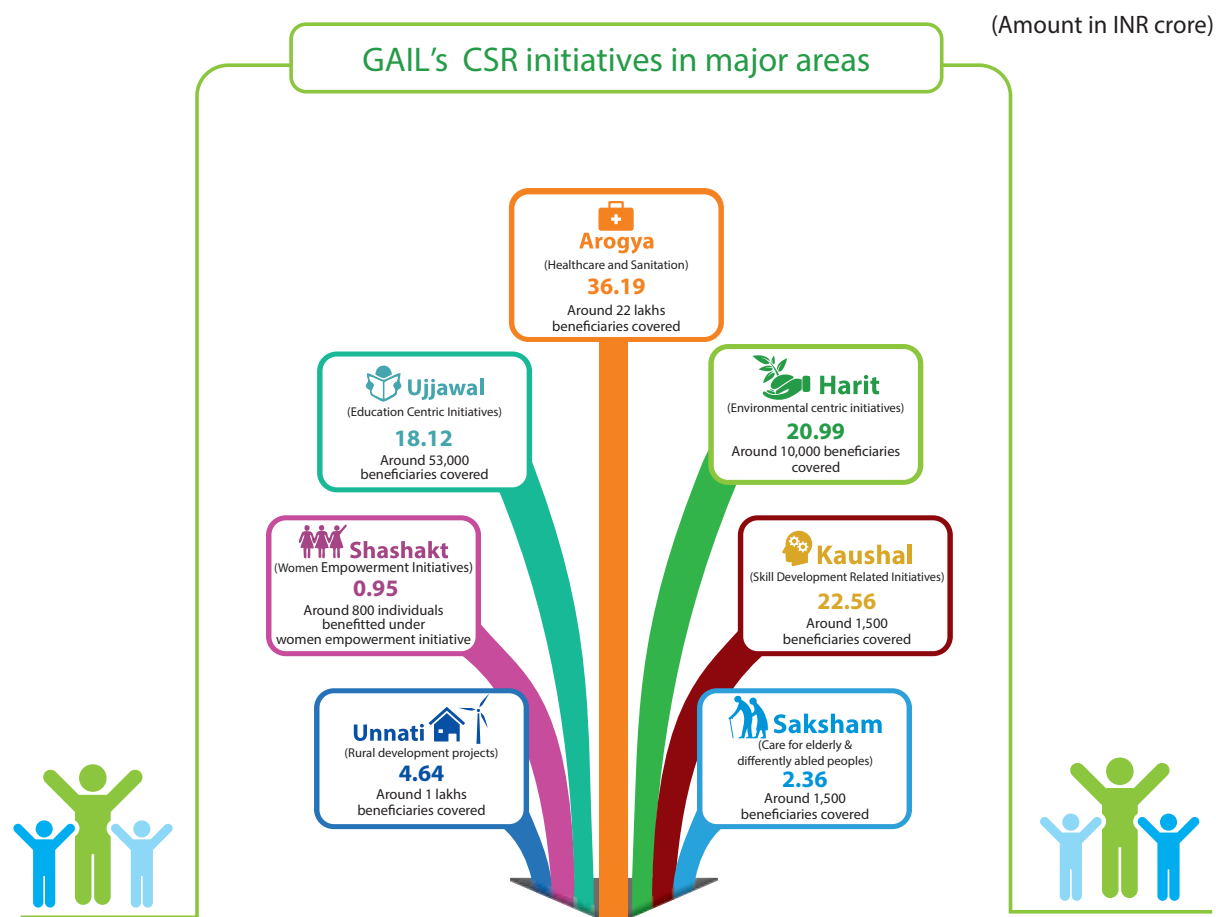
GAIL has also incurred expenditure of INR 143.63 crores on the health and nutrition based initiatives, thereby bridging gaps in access to healthcare and nutrition and contributing to building a healthier society

Synergy for Green Energy

During this reporting year, GAIL has spent INR 69.19 crores on developing/ supporting infrastructure for communities and public goods, thereby aiding in the nations development.

The designated implementing agencies execute our CSR initiatives. The implementing agencies of GAIL's CSR programmes maintain a continual

line of communication with the identified beneficiaries. Our nodal officers interact with beneficiaries/communities on a regular basis through site visits. These conversations are intended to improve community participation by understanding genuine needs and resolving last-mile delivery gaps.



Sr. No.	Hriday Focus Area	Total Investments (In INR crore)	Positive Impacts
1	GAIL Arogya (Healthcare and Sanitation)	36.19	Around 22 lakhs beneficiaries covered
2	GAIL Ujjwal (Education Centric Initiatives)	18.12	Around 53,000 beneficiaries covered
3	GAIL Kaushal (Skill Development Related Initiatives)	22.56	Around 1,500 beneficiaries covered
4	GAIL Shashakt (Women Empowerment Initiatives)	0.95	Around 800 individuals benefitted under women empowerment initiative
5	GAIL Harit (Environmental centric initiatives)	20.99	Around 10,000 beneficiaries covered
6	GAIL Unnati (Rural development projects)	4.64	Around 1 lakhs beneficiaries covered
7	GAIL Saksham (Care for elderly & differently abled peoples)	2.36	Around 1,500 beneficiaries covered
8	Other - PM CARES, Promotion of nationally recognized Sports, Disaster Management, etc. Fund)	90.65	Around 1.25 lakhs people covered

16.4.1 GAIL Arogya

GAIL is taking proactive steps to address health and sanitation issues by implementing initiatives that make primary health care facilities accessible and affordable to rural and vulnerable areas. These efforts are being undertaken through GAIL's flagship project, Arogya.

Objectives of GAIL Arogya:

- Improve the local communities' health and sanitation facilities and increase their awareness on various health diseases
- Support low-income residents and increasing their accessibility of healthcare services through various healthcare initiatives
- Facilitate water conservation and community nutrition activities
- Support and advocate for the government's initiatives to enhance health and sanitation infrastructures
- Boost the accessibility and availability of potable water in the targeted areas.

Events under GAIL Arogya initiative in FY 2021-22

Initiatives to fight COVID-19

1. GAIL has extended support by supply, installation, testing and commissioning of 12 Pressure Swing Absorption (PSA) medical oxygen generation plants in multiples states.
2. A total 25,000 oxygen cylinders and regulators have been procured by GAIL on behalf of Oil & Gas public sector company under the guidance of MoPNG.
3. Operation of 60 Mobile Medical Units, STI clinics, COVID response initiatives, health camps
4. GAIL contributed towards procurement of 1000 Oxygen concentrators in another collaborative effort with Oil and Gas CPSEs.
5. Clean drinking water and sanitation facilities
6. Medical healthcare facilities extended to

more than 22 lakh underprivileged people in remote areas of 43 districts across India through various health centric initiatives under GAIL Arogya with contribution of approx. INR 36.19 crores

7. Contribution to Prime Minister's Citizen Assistance and Relief in Emergency Situations for fight against Covid-19, GAIL and its employees contributed INR 65 crores
8. Vaccination Camps were installed for employees and their families across all GAIL facilities and also conducted for age group of 15-19 years.

Support for Mobile Medical Units (MMUs)

The objective of this project is to provide free primary healthcare services to vulnerable people in rural regions by ensuring affordability, accessibility, awareness and availability through Mobile Medical Units (MMUs). The project covers Mobile Medical Units (MMUs) in Madhya Pradesh, Uttar Pradesh, Gujarat, Haryana, Uttarakhand andhra Pradesh and Punjab, among other states. Around 22 lakh beneficiaries were covered under our multiple initiatives of health care in rural areas of 43 districts across India. Through this project, about 56 Mobile Medical Units (MMUs) are in operation in multiple states with Wockhardt Foundation as the implementing agency. During the reporting year, about INR 21.22 crore has been spent on this project.

Support towards STI & HIV Prevention, testing and treatment for truckers

The project's purpose is to provide high-quality healthcare services to GAIL's facilities' truck drivers and cleaners, with a focus on preventing sexually transmitted illnesses including HIV. The goal was achieved through awareness activities/sessions, interpersonal dialogues with beneficiaries, street plays, mobile exhibitions, counselling services and food donations at various facilities of GAIL such as Auraiya in Uttar Pradesh and Guna in Madhya Pradesh. An awareness session was also carried out in Vijaipur in Guna, Madhya Pradesh in collaboration with Sankalp Samajsevi Sanstha.

Support for Distribution of Aids & Assistive Devices to Divyangjans



Under this flagship project of GAIL CSR, the implementing agency Artificial Limbs Manufacturing Corporation of India (ALIMCO), supplied prosthetic limbs, wheelchairs, tricycles, hearing aids and other products to identified and qualified recipients. The procedure involves a district-wide assessment camp to establish the number of beneficiaries and the assistive aids required. Following the assessment camp, the aids are provided to the designated beneficiaries in a distribution camp. In FY 2021-22, GAIL distributed assistive aids and devices to about 543 Divyangjans through camps of Auraiya in Uttar Pradesh, Kota and Bundi in Rajasthan). GAIL also distributed motorized tricycles to Divyangjan in the districts of Kota and Bundi, Rajasthan, in the presence of Shri Om Birla, Honorable Speaker of Lok Sabha.

Support towards health check – up camps, cataract operations and medical equipment

Under this initiative GAIL provided health care support by setting Health Check – Up Camps in Rajasthan. In addition, GAIL extended its support for providing cataract operations for the underprivileged people and medical equipment in Delhi. About INR 40 lakh was spent on this initiative in collaboration with Mahavir International, Delhi.

Support for installation of handpumps

Sanitation and safe drinking water are essential for the realization of basic human rights. GAIL has supported the installation of handpumps in rural regions of Auriya, Uttar Pradesh, thereby enabling easy access to drinking water and improved

health of the rural and marginalised communities. In partnership with Uttar Pradesh Small Industries Corporation Limited, GAIL has funded around INR 1 crore on this initiative (UPSICL)

16.4.2 GAIL Ujjwal

Ujjwal is an education centric project of GAIL. The aim of this project is to boost the outreach of education to the lesser privileged.

Objectives of GAIL Ujjwal:

- To aid in the development of infrastructure for the education of children from disadvantaged and marginalised communities.
- To aid in the renovation of various government school facilities, including IT facilities, science labs and the procurement of equipment and stationeries.

GAIL supported the initiative of smart teaching class in government schools of Dharwad district, Karnataka and schools in Assam. The initiative enhances students to undertake self-learning methods and improved teachers' effectiveness and productivity in class. Around 53,000 students were benefited through this program under GAIL Ujjwal initiative in 2021-22.

Events under GAIL Ujjwal initiative in FY 2021-22

Utkarsh Initiative

This project focusses on encouraging and facilitating the education of 260 meritorious students from marginalized sections of society through scholarships, specialized residential coaching and mentoring for competitive examinations such as IIT JEE, etc.

In FY 2021-22, the results of 2020-21 batch were announced and out of the total 180 enrolled students under this project, 167 students qualified JEE MAINS which account for 93% of the total batch and 94 students qualified JEE Advance, constituting of about 52% of the total batch.

Improving basic conditions of schools

The development of a child is greatly influenced by basic school amenities such as drinking water,

toilets and hygiene. GAIL is helping in improving basic conditions in schools in Andhra Pradesh by installing RO plants with the support of Sai Educational & Healthcare Trust. About INR 1.18 crore have been spent on this initiative during the reporting year.

Support in setting up advance science laboratories

GAIL has supported in setting up advance science lab including computers at Munderi GHS school at Kannur in Kerala. GAIL has spent about INR 50 lakh in collaboration with District Panchayat Kannur on this initiative.

Establishment of 10 Atal Tinkering Labs in Government schools under Atal Innovation Mission of Government of India in Assam & Madhya Pradesh.

16.4.3 GAIL Kaushal

Kaushal is a flagship project of GAIL CSR aimed at skill development and livelihood enhancement. Its mission is to enable and empower the underprivileged through different skill development initiatives, making them employable and improving their quality of life.

Objectives of GAIL Kaushal:

- To provide skill development training to the poor and marginalized communities of the society
- To set up Skill Development Institutes (SDIs) for providing training to the beneficiaries
- To empower the women and the youth to improve their livelihood by providing them skill development training in various fields such as CAD, web design, domestic BPV/BPO, welding, industrial electrician, CNC operator, instrument technician, retail associate and masonry.

Around 1,500 individuals were benefitted in training related to hydrocarbon sector, plastic product manufacturing, computer operation, data entry operator, cutting tailoring, beauty culture, vocational training to visually impaired etc. More than 1,200 of the trained individuals have been

successfully employed in various sectors and adding valuable financial contribution in their household earning in the year 2021-22.

Events under GAIL Kaushal initiative in FY 2021-22

Support towards skill development trainings

GAIL is supporting in conducting Skill Development Training programmes for the underprivileged and unemployed youth in the states of Assam, Uttar Pradesh, Maharashtra, Tripura and Tamil Nadu in collaboration with Central Institute of Petrochemicals Engineering and Technology (CIPET). The duration of this project is of two years and GAIL has invested about INR 1.5 crore for this project.

GAIL has six Skill Development Institutes (SDIs) (SDI- Raebareli, Bhubaneswar, Kochi, Vishakhapatnam, Ahmedabad and Guwahati). These SDIs are collaborative efforts of Oil PSE under the guidance of MoPNG and in line with 'Skill India Mission' of Government of India.

Support towards empowering women

GAIL is supporting for empowering adolescent girls and women through employability and education in Pant Nagar in South Delhi. This project is of two years and in collaboration with Asheray Welfare & Charitable Society with a budget allocated of about INR 10 lakh.

Support for job linked skill training at GAIL Skill Schools

GAIL has extended job linked skill training at GAIL Skill Schools at Guna in Madhya Pradesh in collaboration with National Skill Development Corporation and has spent around INR 1.14 crore during the reporting year for this purpose.

16.4.4. GAIL Unnati

GAIL recognises that a society's economic competitiveness is inextricably linked to its social, economic and environmental well-being. GAIL Unnati has thus been conceptually designed to accomplish all three of these objectives. Through various initiatives, this project strives to promote rural livelihood.

During this reporting year, GAIL has spent INR 4.64 crores on developing and supporting infrastructure for communities under the Unnati Initiative. Around 1,00,000 individuals have been benefitted as a part of this project with major focus on women empowerment through creation of Self Help Groups.

The Hazira plant in FY 2021-22 took the CSR initiative of supporting Installation of roof top based grid connected photovoltaic (PV) solar powered plant at Suvali Community Centre, Suvali Gram Panchayat. The purpose was to support to Suvali Gram Panchayat in improving the usage of sustainable & renewable source of energy i.e. solar energy.

16.4.5 GAIL Sashakt

The objective of GAIL Sashakt initiative is to empower women from economically weak and marginalized sections. All interventions undertaken are in alignment with the guidelines of the Department of Public Enterprise (DPE) and the rules of the Companies Act, 2013.

In FY 2021-22, about 800 women were empowered through our various women empowerment programs.

16.4.6 GAIL Saksham

The initiatives under GAIL Saksham recognize and address the need for attention and care for differently abled persons and elderly. This includes providing hearing aids and other assistive aids for people with special needs. It also supports in empowering the persons with disabilities (PwDs) in gaining self-confidence, sense of dignity and reduces dependency on others as well as more access to livelihood opportunities.

In FY 2021-22, about 1500 people were benefitted under our GAIL Saksham initiative. Furthermore, 1000 PwDs were provided with aids and assistance devices.

16.4.7 GAIL Harit

GAIL's Vision statement has an implicit commitment to the environment. As part of its overall sustainability strategy, GAIL stays

conscious of natural habitat and ecosystem sensitivity. Thus, under the Harit project, GAIL focusses on restoring the planet by protecting the environment and mitigating the negative impact of its operations.

During the year 2021-22, approximately 10,000 people were benefitted under this initiative.

Events under GAIL Harit in 2021-22

Support towards setting-up CNG crematoriums

GAIL has extended its support in setting up CNG crematoriums in Cuttack and Bhubaneswar towards environmental sustainability. The project duration is of 3 years and the amount allocated for this project is about INR 16.37 crores.

Support towards improving air and water pollution levels

GAIL has taken initiative of conversion of diesel boat to CNG in Varanasi, Uttar Pradesh which will significantly improve the air and water pollution levels in Varanasi. About INR 29.74 crore has been allocated for this project. The duration of this project is 3 years and is in collaboration with the Municipal Corporation of Varanasi.

Support towards reducing usage of Single Use Plastics (SUPs)

GAIL is supporting augmentation of coir-root training unit in collaboration with the Parambikulam Tiger Conservation Foundation in Palakkad district of Kerala which will replace polybags used in plant sapling with biodegradable coirs, thereby reducing pollution caused by single-use plastic. About INR 25 lakh has been spent on this project in the reporting year.

Support towards promoting renewable energy sources

GAIL has provided solar home lights to marginalised families in rural areas of Auraiya district, Uttar Pradesh, promoting the use of renewable energy source. During the reporting year, INR 19 lakh was spent on this initiative.

Green Ride – “Ek Pahal Swachh Hawa Ki Ore’

Powered by GAIL under “Hawa Badlo” Initiative, a Green Ride on bicycle was organised from Mumbai to Delhi to raise awareness on ill effects of air pollution and benefits of healthy lifestyle. Fitness icon Shri Milind Soman reached Delhi where he culminated the ‘Green Ride. The Green Ride entourage started on December 3, 2021 from Mumbai and passed through Maharashtra, Gujarat, Rajasthan and Haryana before arriving at New Delhi. Shri Milind Soman interacted with media at various points, met environmentalists, rural students and planted saplings on his route to spread awareness on the issue of clean air. He also interacted with GAIL employees at various places and discussed issues of health, fitness and environment with them.



16.5 Need Analysis and Impact Assessment

We are making deliberate efforts to support community development by providing a variety of opportunities through targeted and proactive projects. These projects are implemented based on in-depth assessments with an aim to create a valuable impact to the society.

To determine the impact of our projects, we conduct surveys and collect feedback and thus measure the social impact of our efforts based on the feedback we get. We also perform third-party assessments of our important initiatives to ensure their long-term viability.

Our CSR initiatives are in line with our knowledge and skills. As a result, we have made some remarkable impacts on the beneficiaries' life. We understand that no amount of secondary data on a community can fully validate the community's requirements. A mandatory preliminary baseline survey/need assessment study is usually conducted as a pre-requisite for starting any CSR project. We design our CSR programmes in line with our CSR policy: GAIL – Hriday Corporate with a heart https://gailonline.com/pdf/CSR/final_policy2010.pdf

Need Analysis:

The GAIL CSR Committee evaluates and approves CSR initiatives depending on the needs and demands of local communities. The following are the steps involved in doing a need analysis:

- Field assessment by the local CSR team to identify the need
- Requests from communities, local authorities and the district administration
- Needs assessments by third parties
- International organisations and ministries issue reports, publications and surveys
- Requests received from people representatives for their respective constituencies

Impact Assessment:

Funds are made available to undertake impact assessments to achieve maximum impact in a sustainable and participatory manner. GAIL's CSR section and site coordinators conduct the impact assessments in collaboration with various agencies and academic institutes.

The impact assessment also includes a SWOT (Strengths, Weaknesses, Opportunities for Improvement/ Augmentation/ Modification and Threats) analysis, which allows the CSR team to determine the projects' viability, sustainability and areas for improvement. An external agency is also involved in conducting the impact assessments. Case studies, success stories and inputs from interested parties are also collected as part of the impact assessment process.

Stakeholder perspectives are important to us in project planning, design, execution and operational planning. While beginning any project, we consider addressing the concerns and issues of the local communities to be one of our top priorities.

During the financial year 2021-22, GAIL has conducted third party impact assessment study of multiple eligible CSR projects with support of Deloitte, KPMG and Institute of Public Enterprises (IPE). Our impact assessment study measures the stakeholder participation and ensure that maximum community people get benefitted through our CSR projects. Following are details of projects which are covered under impact assessment study:

- GAIL Arogya – Provision of free basic healthcare and primary care services of 56 MMUs, which covers 43 districts across India
- GAIL Utkarsh – Provision of specialized residential coaching for engineering entrance exam for 200 students across Uttarakhand and Uttar Pradesh centres
- Skill development training programmes in plastic product manufacturing for

GRI 103-2, GRI 103-3, GRI 413-1, GRI 412-1

underprivileged/unemployed youths in seven states – Assam, Gujarat, Himachal Pradesh, Rajasthan, Telangana, Tripura and Uttar Pradesh through Central Institute of Petrochemicals Engineering and Technology (CIPET)

- Supporting in facilitating facilities of drinking water and toilets, smart classes in government schools
- Providing skill development training programs in hydrocarbon and other allied industries through six SDIs under Hydrocarbon Sector Skill Council (HSSC), Ministry of Petroleum & Natural Gas and Government of India.

16.6 Community Grievance Redressal⁵

We believe that developing social bonds helps us

to be more transparent and accountable to each other. We make it a point to engage with our communities on a regular basis to understand their discomfort and provide them with a method to voice their concerns, address complaints and find solutions to the problems they are facing.

For this reason, we have established a grievance cell in each of our offices. All complaints are collected and stored in a single system and each grievance is investigated separately and thoroughly with equal importance. Further, necessary actions are taken in this regard.

During the reporting year, GAIL received 243 complaints from internal and external stakeholders and 100% of them being promptly resolved.



Enhancing Youth Skills for the Future

GAIL (India) Limited has been working towards equipping the youth with skills in 'Plastic Product Manufacturing' through the Central Institute of Petrochemicals Engineering & Technology (CIPET).



1300 beneficiaries have been trained



The placement rate is more than 90%

GRI 103-2, GRI 103-3, GRI 413-1



Performance & Standards

Performance Snapshots

Material Consumption	Unit	2019-20	2020-21	2021-22
NG Processed	MMSCM	19,648	17,499	30,502
NG Used for Making Product (LHC Shrinkage)	MMSCM	1,856	1,807	1,704
NG SENT BACK TO PIPELINE	MMSCM	16,577	14,533	13,945

Material Consumption	Unit	2019-20	2020-21	2021-22
Alum	MT	418	498	562
Chlorine	MT	2	3	2
LUBE OIL & GREASE	MT	207	176	207
Mercaptan	MT	18	21	18
Methanol	MT	171	309	218
OTHER CHEMICALS AND CATALYST	MT	7,457	7,930	6,549
Sulphuric Acid	MT	365	250	227
Water treatment chemicals	MT	9,553	10,993	13,475
PACKAGING BAG	MT	4,100	4,231	3,832
Total Associated Material	MT	18,191	20,179	21,257
MATERIAL RECYCLED/REUSED	MT	17	12	15

Energy Consumption * (GJ)	2019-20	2020-21	2021-22
Direct Energy	5,31,72,066	4,86,52,359	5,50,14,953
Indirect Energy	17,00,595	19,29,828	19,83,078
Renewable Energy	95,903	81,049	1,13,711

GRI 301-1, GRI 301-2, GRI 302-1, GRI 302-2

Energy Consumption * (GJ)	2019-20	2020-21	2021-22
Energy from NG Flaring	8,83,787	9,24,846	9,31,853
Energy from LPG Flaring	16,064	18,201	3,707
Energy from NG Venting	18,57,622	4,22,113	4,78,334
Energy from LPG Venting	2,430	659	734
Total Energy Consumption	5,77,28,467	5,20,29,055	5,85,26,370

* Energy calculation as per fuel quantity reported from various sites . Indirect energy is from grid electricity only. No other form of energy is purchased.

** The energy considered NG and LPG venting as energy consumption for accounting of emissions

Energy Savings (GJ)	2019-20	2020-21	2021-22
Diesel Saved	330	281	760
Electricity Saved (GJ)	21,139	8,149	50,891
NG Saved (GJ)	2,15,184	3,81,738	6,57,361
Total Energy Saving	2,36,653	3,90,168	7,09,012

Electricity Sold * (GJ)	2019-20	2020-21	2021-22
Electricity Sold	29,848	18,776	5,537

* No other form of energy is sold.

Direct Energy Consumption Sources (GJ)	2019-20	2020-21	2021-22
Diesel	17,042	13,368	15,890
Natural Gas	3,86,17,623	3,37,87,609	4,10,41,469
Residual Fuel	1,45,37,400	1,48,51,382	1,39,57,595
Total Direct Energy	5,31,72,065	4,86,52,359	5,50,14,953
Total Energy Intensity (Energy consumption/ total annual turnover)	805	920	640

Renewable Energy generated (GJ)	2019-20	2020-21	2021-22
Wind	5,98,938	5,13,559	5,49,347
Solar	30,348	31,318	31,836
Total Renewable Energy	6,29,286	5,44,877	5,81,183

Air Emissions*	Unit	2019-20	2020-21	2021-22
SPM	Tons/annum	314	291	290
NOx	Tons/annum	1,350	1,367	1,142

GRI 302-1, GRI 302-2, GRI 302-3, GRI 302-4, GRI 302-5, GRI 305-7

Air Emissions*	Unit	2019-20	2020-21	2021-22
CO	Tons/annum	1,639	241	949
SOx	Tons/annum	294	201	474
VOC	Tons/annum	72	70	53
R-134 a	Kg/annum	451	507	713

*Data Source: Exhaust Monitoring Report, Environment test report monthly data, SPCB reports. All the relevant air emissions are disclosed per process emissions and SPCB/CPCB regulatory requirements.

ODS Gas Consumption	Unit	2019-20	2020-21	2021-22
R-22 (ODS)	Kg/annum	2,727	2,846	3,524

GHG Emission*(tCO ₂ e)	2019-20	2020-21	2021-22
Scope-1 Emissions	39,56,930	32,81,058	41,33,249
Scope-2 Emissions	3,87,358	4,19,125	4,34,135
Scope-3 Emissions**	1,070	2,38,70,881	2,40,06,532
Total GHG Emissions	43,45,358	2,75,71,064	2,85,73,915
GHG Intensity (GHG Emission (Scope-1 & Scope-2) in tCO ₂ e/turnover in INR crore	61	65.5	50.0

*We have used the Emission Factors of Central Electricity Authority (CEA), India and IPCC Guidelines for National Greenhouse Gas Inventories, 2006 Greenhouse Gas Inventories for the estimation of direct and indirect emissions from scope 1 and scope 2. Methane emissions are included in Scope-1 emissions.

**Scope 3 emission includes CO₂ emission related to business travels. Scope 3 emissions are reported by following sites: Manasrampura, Vijaipur, Vizag, Pata, Jamnagar, Bengaluru, Khera, Cherallapally and also include Scope 3 emissions for category (used of sold product).

GHG savings (tCO ₂ Equivalent)	2019-20	2020-21	2021-22
Diesel	24	21	56
Electricity	4,862	1,788	11,593
NG savings	12,072	21,415	36,878
Total GHG savings	16,958	23,224	48,527

Water Performance (million m ³)	2019-20	2020-21	2021-22
Total water consumption	26.20	23.10	22.19
Total waste water generated	2.34	2.20	2.31
Total waste water discharged	1.60	1.50	1.64
Water recycled/reused	0.80	0.88	0.72

GRI 303-3, GRI 303-4, GRI 303-5, GRI 305-1, GRI 305-2, GRI 305-3, GRI 305-4, GRI 305-5, GRI 305-6, GRI 305-7

Water Withdrawal by Sources (Parameter) (million m ³)	2019-20	2020-21	2021-22
Municipal water supplies (or from other water utilities)	0.47	1.50	1.69
Fresh surface water (lake, rivers, etc.)	25.40	21.30	20.22
Fresh groundwater	0.34	0.30	0.28

Total water withdrawal from all areas with water stress (Gandhar, Jamnagar, Jhabua) (million m ³)*	2019-20	2020-21	2021-22
Groundwater	0.03	0.02	0.03
Municipal water supply	-	1.06	1.24
Surface water (river, sea, lake stream)	1.33	-	-
Total water consumption	1.36	1.08	1.26

*At these sites all the waste water generated is recycled. No waste water is discharged outside plant boundary.

Waste Generation	2019-20	2020-21	2021-22
Hazardous			
Basket filter waste (MT)	214.70	2.57	800.54
Bio-medical waste (MT)	0.57	0.25	3.59
Empty drums (MT)	68.55	75.57	48.72
ETP Sludge (MT)	-	-	-
E-waste (MT)	94.48	13.44	6.83
Oily sludge (MT)	1,906.00	3,670.00	430.00
Slop Oil (Ltr)	5,90,170.40	25,26,144.00	32,25,306.50
Tar (MT)	12.20	14.80	17.40
Used batteries (Nos.)	1,853.00	1,585.00	239.00
Used lube oil (Ltr)	90,776.50	78,148.00	88,413.68
Used oil (Ltr)	86,643.00	95,340.00	45,592.38
Non Hazardous			
Cables (MT)	46.47	21.64	18.25
Canteen waste (MT)	532.61	16.06	16.30
Ceramic Material (MT)	6.21	-	7.72
Metal scrap (MT)	1,248.87	667.18	1,677.12
Misc Waste (MT)	55.81	193.40	25.27
Molecular Seive (MT)	189.70	115.91	63.97
Paper Consumption (MT)	23.09	19.83	12.72
Plastic scrap (MT)	40.20	134.73	249.68
Silica Gel (MT)	75.50	51.27	57.27
Spent Alumina (MT)	1,135.00	1,237.30	1,158.30
Tyre (Nos)	-	466.00	517.00
Used bag filters (Nos)	3,349.00	4,087.00	4,307.00

GRI 303-3, GRI 303-5, GRI 303-1, 306-3, 306-4, 306-5

Waste Generation	2019-20	2020-21	2021-22
Used consumables (MT)	1.14	0.39	2.76
Wooden scrap (MT)	568.55	263.88	151.83

Type of Waste Disposal	2019-20		2020-21		2021-22	
	Liquid (Litres)	Solid (MT)	Liquid (Litres)	Solid (MT)	Liquid (Litres)	Solid (MT)
Incineration	0	2,157.00	0	4,003.28	0	713.24
Landfill	0	127.10	0	216.05	1.50	21.00
Onsite Storage	7,860.00	22.60	2,360.00	105.67	4,110.20	2.03
Recycling	7,59,689.40	3,169.81	26,97,272.00	6,191.89	23,26,082.00	2,594.00

Disposal (FY 2021-22)	Hazardous	Non-Hazardous
Incineration (MT)	450.90	262.34
Landfill (MT)	0.19	20.81
Onsite		
Liquid (Litres)	4,110.20	NA
Solid (MT)	0.03	3.68
Recycling		
Liquid (Litres)	23,26,082	NA
Solid (MT)	40.61	2,553.39

Applicable State/Central regulations are followed for onsite storage and disposal of waste. Some of the wastes (battery, tyres etc) are monitored in numbers at site/offices and converted in MT by average weight of the material.

Environment Expenditure (INR Million)	2019-20	2020-21	2021-22
Treatment and disposal of waste	21.54	69.79	78.37
Depreciation & Maintenance Cost Of Equipments Used In Pollution Control	31.7	37.68	32.65
External services for environmental management	18.57	7.33	8.43
External certification of management systems	3.07	1.05	3.54
Cost of personnel for general environmental management activities	72.6	71.94	85.52
Expenditure for installing cleaner technologies	14.85	101.72	16.29
Insurance for environmental liability	53.55	41.93	35.77
Other environmental cost	32.5	33.64	40.79
Total Environment Expenditure	248.38	365.08	301.37
Environmental fines	0	0	0

306-3, 306-4, 306-5

Cost of Total Energy (Particulars) INR (crore)	2019-20	2020-21	2021-22
Power Charges	367.92	412.49	385.79
Gas used as Fuel	2,107.63	1,280.84	1,762.44
Water Charges	19.68	17.69	20.66
Total Cost	2,495.23	1,711.02	2,168.89

Health & Safety of Permanent Employees	Unit	2019-20	2020-21	2021-22
Management representatives in safety committees	Numbers	293	264	247
Non-Management representatives in safety committees	Numbers	215	190	183
Near miss cases – Male	Numbers	1,399	1,050	1,036
Near miss cases – Female	Numbers	16	3	99
Minor injuries – Male	Numbers	0	0	0
Minor injuries – Female	Numbers	0	0	0
Reportable injuries – Male	Numbers	0	0	0
Reportable injuries – Female	Numbers	0	0	0
Lost days due to reportable injuries – Male	Numbers	0	0	0
Lost days due to reportable injuries – Female	Numbers	0	0	0
Fatalities – Male	Numbers	0	0	0
Fatalities – Female	Numbers	0	0	0
First aid cases – Male	Numbers	42	17	5
First aid cases – Female	Numbers	0	0	0
Man-Hours worked – Male	Million-man- hours	6.09	5.7	4.2
Man-Hours worked – Female	Million-man- hours	0.28	0.3	0.16
Occupational diseases – employee – Male	Numbers	0	0	0
Occupational diseases – employee – Female	Numbers	0	0	0

Health & Safety of Permanent Employees	Unit	2019-20	2020-21	2021-22
LTIFR – Male	Reportable injuries per million-manhours worked	0	0	0
LTIFR – Female	Reportable injuries per million-manhours worked	0	0	0
Severity Rate – Total	Lost Days per million- man- worked	0	0	0
Fatality Rate – Male	Fatalities per million- manhours worked	0	0	0
Fatality Rate – Female	Fatalities per million- manhours worked	0	0	0

GRI 403-9, 403-10

Health & Safety of Contract Employees	Unit	2019-20	2020-21	2021-22
Near miss cases – Male	Numbers	312	215	177
Near miss cases – Female	Numbers	4	4	0
Minor injuries – Male	Numbers	0	0	0
Minor injuries – Female	Numbers	0	0	0
Reportable injuries – Male	Numbers	1	1	0
Reportable injuries – Female	Numbers	0	0	0
Lost days due to reportable injuries – Male	Numbers	11	16	28
Lost days due to reportable injuries – Female	Numbers	0	0	0
Fatalities – Male	Numbers	0	0	0
Fatalities – Female	Numbers	0	0	0
First aid cases – Male	Numbers	212	187	104
First aid cases – Female	Numbers	0	11	1

Health & Safety of Contract Employees	Unit	2019-20	2020-21	2021-22
Man-hours worked – Male	Million-man-hours	24.2	24.3	21.7
Man-hours worked – Female	Million-man-hours	0.41	0.35	0.33
Occupational Diseases – contract employees – Male	Numbers	0	0	0
Occupational Diseases – contract employees – Female	Numbers	0	0	0
LTIFR – Male	Reportable injuries per million- man-hours worked	0.04	0.04	0.046
LTIFR – Female	Reportable injuries per million- man-hours worked	0	0	0
Severity Rate – Total	Lost days per million man-hours worked	0.45	0.7	1.27
Fatality Rate – Male	Fatalities per million man-hours worked	0	0	0
Fatality Rate – Female	Fatalities per million man-hours worked	0	0	0
First aid cases – Female	Numbers	0	11	1

Permanent Employee Distribution (Numbers)	2019-20	2020-21	2021-22
Senior Management (E7-E9) – Male	303	322	348
Senior Management (E7-E9) – Female	7	8	8

GRI 102-8, GRI 403-9, 403-10, GRI 405-1

Permanent Employee Distribution (Numbers)	2019-20	2020-21	2021-22
Middle Management (E4-E6) – Male	1680	1707	1684
Middle Management (E4-E6) – Female	85	85	108
Junior Management (E0-E3) – Male	1485	1511	1583
Junior Management (E0-E3) – Female	171	163	156
Non-Management (S0-S7) – Male	905	856	825
Non-Management (S0-S7) – Female	40	38	36
Senior Management (E7-E9) : <30 years Age	0	0	0
Senior Management (E7-E9) : 30 to 50 years Age	56	66	62
Senior Management (E7-E9) : >50 years Age	254	264	294
Middle Management (E4-E6) : <30 years Age	0	1	0
Middle Management (E4-E6) : 30 to 50 years Age	1199	1193	1201
Middle Management (E4-E6) : >50 years Age	566	607	591
Junior Management (E0-E3) : <30 years Age	444	496	703
Junior Management (E0-E3) : 30 to 50 years Age	781	713	577
Junior Management (E0-E3) : >50 years Age	431	465	459
Non Management (S0-S7) : <30 years Age	239	186	185
Non Management (S0-S7) : 30 to 50 years Age	580	587	550
Non Management (S0-S7) : >50 years Age	126	121	126
New Employee hired during FY: Male	242	146	231
New Employee hired during FY: Female	33	10	18

Particulars	Total	Male		Female	
		No.	%	No.	%
Differently Abled					
Permanent Employee	62	56	90	6	10
Permanent Workers	34	29	85	5	15
Other than Permanent	7	7	100	0	0
Total differently abled employees	96	85	89	11	11

Contract Employee Distribution (Numbers)	2019-20	2020-21	2021-22
Security staff male	1,872	1,878	3,676
Security staff female	4	4	9
Regular Contract Worker – Male	11,842	12,997	12,694
Regular Contract Worker – Female	382	382	380

GRI 102-8, GRI 401-1, GRI 405-1

Contract Employee Distribution (Numbers)	2019-20	2020-21	2021-22
Total number of Apprentice – Male	912	444	275
Total number of Apprentice – Female	161	101	50

Particulars	FY 2021-22 (Turnover rate in current FY)			FY 2020-21 (Turnover rate in previous FY)			FY 2019-20 (Turnover rate in the year prior to the previous FY)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Permanent Employees	4.82%	3.73%	4.75%	2.84%	3.77%	2.91%	2.91%	5.09%	3.06%
Permanent Workers	2.16%	2.74%	2.19%	2.43%	2.63%	2.44%	1.24%	0.00%	1.22%

Training (Man Hours)	2019-20	2020-21	2021-22
Management Employee (Direct) – Male	1,38,976.00	72,297.00	98,979.50
Management Employee (Direct) – Female	11,600.00	7,180.00	7,457.50
Non Management Employee (Direct) – Male	33,280.00	13,055.00	14,881.00
Non Management Employee (Direct) – Female	1,752.00	609.00	481.00
Contractor Worker (Operations) – Male	69,031.00	57,360.30	1,57,106.00
Contract Worker (Operations) – Female	1,534.00	1,270.25	817.00
Permanent Employee – Physically Disabled	3,296.00	1,581.00	2,411.50
Total training Manhours (Permanent and Contractual employee)	2,59,469.00	1,53,352.55	2,82,133.50

Employees Returned Work After Parental Leave	Gender	2019-20	2020-21	2021-22
Number of employees entitle to parental leave	Male	4,710	4,401	4,446
	Female	307	304	308
Number of employees that took parental leave	Male	136	153	155
	Female	10	15	15
Number of employees who returned to work after parental leave ended	Male	133	149	152
	Female	15	9	10
Employee returned to work after parental leave ended who were still employed 12 months after their return	Male	136	132	152
	Female	14	9	8
Retention rates of employees who returned to work after parental leave	Male	98.50%	99.24%	99.35%
	Female	70%	60%	100%

Procurement Highlights	2019-20	2020-21	2021-22
Total Procurement of Goods & Supplies in INR crore	5,097.00	7,201.60	8,961.00
Total Procurement of Goods & Supplies from Local Suppliers in INR crore	4,788.20	6,769.20	8,169.00
% of new suppliers that has been screened through Environmental Criteria	100.00	100.00	100.00
% of new suppliers that has been screened through Labour Practice Criteria	100.00	100.00	100.00
% of new suppliers that has been screened through Human Rights Criteria	100.00	100.00	100.00
% of new suppliers that has been screened through Criteria for impacts on Society	100.00	100.00	100.00
% of suppliers identified having significant actual & potential negative impacts on society	0	0	0
% of suppliers identified having significant actual & potential negative impacts on society with which relationship has been terminated	0	0	0



Independent Assurance Statement

Introduction

GAIL (India) Limited (hereinafter abbreviated as “GAIL”) has engaged “Bureau Veritas” for carrying out an independent assurance of their Sustainability Report (“Report”) for the reporting period from 1 April 2021 to 31 March 2022. The assurance has been conducted in accordance with the requirements of Assurance Standard AA1000AS-v3 and GRI Standards.

The facilities covered for this assurance are GAIL’s Gas Processing units at five locations (Pata, Vijaipur, Vaghodia, Gandhar), one Petrochemical Plant at Pata, eight Natural Gas Compressor stations (Hazira, Vaghodia, Jhabua, Khera, Vijaipur, Dibiyapur, Kailaras & Chhainsa), ten LPG pumping / receiving stations (Loni, Mansarampura, Nasirabad, Abu Road, Samakhiali, Jamnagar, Kandla, Vizag, G Konduru and Cherlapalli), eight Regional pipeline offices (NCR, Baroda, Mumbai, Puducherry, Rajahmundry, Agartala and DBPL), office buildings at Corporate office New Delhi, two GAIL Training Institute (GTI) (Noida & Jaipur) and Offices at Jubilee Tower, Info-Hub at Noida and Zonal Marketing offices.

Limitations

The assurance is subject to limitations of disclosures other than those mentioned under the scope, data and information outside the defined reporting boundary, data related to Company’s financial performance and strategy and other related linkages expressed in the Report. The scope of assurance does not cover the statements in the Report that describe company’s approach, strategy, aim, expectation, aspiration or beliefs or intentions, competitive claims in the report (“first in India”, “first time in India”, “first of its kind”, etc) if any.

Assurance does not extend to the activities and operations of “GAIL” outside of the scope and geographical boundaries mentioned in this report as well as the operations undertaken by any other entity that may be associated with or have a business relationship with “GAIL”.

Independence

No member of the assurance team has a business relationship with “GAIL”, its Directors, Managers or officials beyond that required of this assignment. We have conducted this verification independently and there has been no conflict of interest. The assurance team has extensive experience in conducting assurance over environmental, social, ethical and health & safety information, systems and processes an excellent understanding of Bureau Veritas standard methodology for the Assurance of Sustainability Reporting.

GAIL’s responsibility

GAIL is responsible for preparing the Report in accordance with GRI Standards and for maintaining effective internal controls over the data and information disclosed.

Verifier’s responsibility

The assurance statement is made solely for “GAIL” as per the governing contractual terms and conditions of the assurance engagement contract between “GAIL” and Bureau Veritas. To the extent that the law permits, we owe no responsibility and do not accept any liability to any other party other than “GAIL” for the work we have performed for this assurance report or for our conclusions stated in the paragraph below.



Scope and level of assurance

BUREAU VERITAS has been engaged to provide Moderate Level Type 2 Assurance for the following:

- Adherence to the principles of inclusivity, materiality and responsiveness laid out in AA1000AS v3
- Adherence to the principles of accuracy, balance, clarity, comparability, reliability and timelines laid out in the “In Accordance- Comprehensive” reporting requirements of GRI standards.
- Adherence to General disclosures and Topic specific disclosures for “In Accordance- Comprehensive” reporting requirements of GRI standards as follows:

General Disclosures and Management approach (GRI 102, GRI 103)

The reported information on General Disclosure along with Management approach as per disclosure requirements for ‘In Accordance’ – Comprehensive option of reporting.

- Disclosures 102-1 to 102-13 (Organizational profile)
- Disclosures 102-14 and 102-15 (Strategy)
- Disclosures 102-16 and 102-17 (Ethics and integrity)
- Disclosures 102-18 to 102-39 (Governance)
- Disclosures 102-40 to 102-44 (Stakeholder engagement)
- Disclosures 102-45 to 102-56 (Reporting Process)
- Disclosures 103-1 to 103-3 (Management Approach)

Topic Specific Disclosures

Performance Indicators for identified material topics as below:

Economic:

- Disclosures 201-1 to 201-4 (Economic performance)
- Disclosures 202-1 and 202-2 (Market Presence)
- Disclosures 203-1 and 203-2 (Indirect economic impacts)
- Disclosures 204-1 (Procurement practices)
- Disclosures 205-1 to 205-3 (Anti- corruption)
- Disclosures 206-1 (Anti-competitive behavior)

Environmental:

- Disclosures 301-1 to 301-3 (Materials)
- Disclosures 302-1 to 302-5 (Energy)
- Disclosures 303-1 to 303-5 (Water and Effluents)
- Disclosures 304-1 to 304-4 (Biodiversity)
- Disclosures 305-1 to 305-7 (Emissions)
- Disclosures 306-1 to 306-5 (Waste)
- Disclosures 307-1 (Compliance)
- Disclosures 308-1 and 308-2 (Supplier environmental assessment)

Social:

- Disclosures 401-1 to 401-3 (Employment)
- Disclosures 402-1 (Labour/management relations)
- Disclosures 403-1 to 403-10 (Occupational health and safety)
- Disclosures 404-1 to 404- 3 (Training and education)
- Disclosures 405-1 and 405-2 (Diversity and equal opportunity)



- Disclosures 406-1 (Non-discrimination)
- Disclosures 407-1 (Freedom of association and collective bargaining)
- Disclosures 408-1 (Child labor)
- Disclosures 409-1 (Forced or compulsory labor)
- Disclosures 410-1 (Security practices)
- Disclosures 411-1 (Rights of Indigenous peoples)
- Disclosures 412-1 to 412-3 (Human right assessment)
- Disclosures 413-1 and 413-2 (Local communities)
- Disclosures 414-1 and 414-2 (Supplier social assessment)
- Disclosures 415-1 (Public policy)
- Disclosures 416-1 to 416-3 (Customer Health and Safety)
- Disclosures 417-1 to 417-3 (Marketing and labeling)
- Disclosures 418-1 (Customer Privacy)
- Disclosures 419-1 (Socioeconomic compliance)

Activities undertaken

Bureau Veritas undertook the following activities for this assurance:

- I. Interviews with relevant environment & sustainability team of GAIL
- II. Site visits conducted at following locations – GAIL’s Corporate Office at New Delhi, Jubilee Tower at Noida, GAIL Training Institute (GTI) at Noida, GAIL Training Institute (GTI) at Jaipur, five operational sites located in India i.e. Gas Processing unit and Petrochemical Plant at Pata (UP), Gas Processing Unit and Compressor Stations at Vijaipur (MP) and Vaghodia (Gujarat) and Mansarampura (Rajasthan). and virtual audit conducted at Mumbai and Compressor Station at Hazira (Gujarat).
- III. Review of documentary evidence produced by GAIL.
- IV. Review of performance data provided in the Report and related worksheets on a sampling basis and data trail to its source
- V. Review of GAIL’s data and information systems for collection, aggregation, analysis of data.
- VI. Review of stakeholder engagement activities by a review of the records maintained in respect of the stakeholder engagement workshop facilitated by GAIL.
- VII. Review of the Report to check alignment of reported data under respective economic, environment & social topics mentioned in GRI Standards.

Conclusion

Based on the Moderate Level Type 2 Assurance procedures conducted and evidence obtained, nothing has come to our attention that causes us to believe that, in all material respects the Report is not in conformance with the reporting requirements of GRI Standards and AA1000AS v3. The report meets the requirement of reporting as specified by GRI Standards “In Accordance Comprehensive” Option.

Observations and Recommendations

- **Principle of Inclusivity:** GAIL has applied the principle of inclusivity in engaging with its stakeholders. Different departments engage regularly with their relevant stakeholders through multiple engagement channels.



- **Principle of Materiality:** GAIL has followed a structured process of materiality determination to report key material issues.
- **Principle of Responsiveness:** GAIL has applied the principle of responsiveness with respect to its stakeholders. Company has well defined system for responding to any concern raised by key stakeholders.
- **Principle of Impact:** GAIL has identified, measured and disclosed the impact related with some of the key environmental, social and governance topics.

Without affecting the overall conclusions on the Report, the following recommendations are made:

- GAIL may consider developing SOPs for regular monitoring of fugitive methane emissions at all sites/ pipeline
- GAIL may look to reduce its direct NG venting
- GAIL may consider updating its SOP for GHG emissions calculation to incorporate latest emission factors
- GAIL may consider updating its data collection software, including template for scope 3 data collection
- GAIL may consider undertaking climate change analysis (scenario analysis) and risk assessment for all its sites in line with TCFD
- GAIL may consider conducting independent research on biodiversity and other related topics present in its operational boundaries, including an examination of the species that are on the IUCN List and national conservation lists
- GAIL may consider conducting life cycle assessment (LCA) of all its products to identify environmental impact and risks associated with its products
- GAIL may consider developing a framework for conducting routine and systematic environmental and social impact assessments at both the corporate and site levels
- GAIL may consider developing a standardized manual, for calculations and assumptions regarding water balance calculations. In addition, SOPs for monitoring of quality and quantity of recycled water can also be developed for all sites

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Lead Assurer

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Technical Reviewer

Date: 16/08/2022

Place: Mumbai, India



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GRI Content Index



For the GRI Content Index Service, GRI Services reviewed that the GRI content index is presented and the references for all disclosures included align with the appropriate sections in the body of the report.

GRI Standard	Disclosure	Text of Disclosure	Page No	Omission	
				Reason	Explanation
GRI 101: Foundation 2016					
(GRI 101 does not include any disclosure)					
GRI 102: General Disclosure 2016	102-1	Name of the organization	2, 26, 71		
	102-2	Activities, brands, products and services	26, 30		
	102-3	Location of headquarters	27		
	102-4	Location of operations	26		
	102-5	Ownership and legal form	26, 27		
	102-6	Markets served	26		
	102-7	Scale of the organization	26, 30, 32, 64, 110		
	102-8	Information on employees and other workers	2, 110, 164, 165, 166		
	102-9	Supply chain	10, 66, 83, 84, 135, 167		
	102-10	Significant changes to the organization and its supply chain	10, 30, 66		
	102-11	Precautionary Principle or approach	58		
	102-12	External Initiatives	12, 36, 68, 69, 74, 87, 89, 90		
	102-13	Membership of associations	62		
	102-14	Statement from senior decision-maker	4		
	102-15	Key impacts, risks and opportunities	57-59		
	102-16	Values, principles, standards and norms of behaviour	28, 50, 52		

GRI 102-55

GRI Standard	Disclosure	Text of Disclosure	Page No	Omission	
				Reason	Explanation
GRI 102: General Disclosure 2016	102-17	Mechanisms for advice and concerns about ethics	52		
	102-18	Governance structure	34, 46, 47		
	102-19	Delegating authority	46		
	102-20	Executive-level responsibility for economic, environmental and social topics	34, 38, 46		
	102-21	Consulting stakeholders on economic, environmental and social topics	39, 46		
	102-22	Composition of the highest governance body and its committees	46, 47		
	102-23	Chair of the highest governance body	46		
	102-24	Nominating and selecting the highest governance body	46		
	102-25	Conflicts of interest	49		
	102-26	Role of highest governance body in setting purpose, values and strategy	48		
	102-27	Collective knowledge of highest governance body	46		
	102-28	Evaluating the highest governance body's performance	48		
	102-29	Identifying and managing economic, environmental and social impacts	34, 39, 46		
	102-30	Effectiveness of risk management processes	3, 34, 57, 58		
	102-31	Review of economic, environmental and social topics	3, 34		
	102-32	Highest governance body's role in sustainability reporting	3, 34		
	102-33	Communicating critical concerns	54		
	102-34	Nature and total number of critical concerns	54		
	102-35	Remuneration policies	48, 110		
	102-36	Process for determining remuneration	48		
102-37	Stakeholders Involvement in remuneration	48			
102-38	Annual total compensation ratio	49			

GRI Standard	Disclosure	Text of Disclosure	Page No	Omission	
				Reason	Explanation
GRI 102: General Disclosure 2016	102-39	Percentage increase in annual total compensation ratio	49		
	102-40	List of stakeholder groups	38		
	102-41	Collective bargaining agreements	117		
	102-42	Identifying and selecting stakeholders	38		
	102-43	Approach to stakeholder engagement	39, 54		
	102-44	Key topics and concerns raised	39-42, 108, 140, 148		
	102-45	Entities included in the consolidated financial statements	3		
	102-46	Defining report content and topic boundaries	3		
	102-47	List of material topics	43, 44, 45		
	102-48	Restatements of information	3		
	102-49	Changes in reporting	2, 3		
	102-50	Reporting period	2		
	102-51	Date of most recent report	2		
	102-52	Reporting cycle	2		
	102-53	Contact point for questions regarding the report	3		
	102-54	Claims of reporting in accordance with the GRI Standards	3		
	102-55	GRI content index	172		
102-56	External assurance	3, 168			
MATERIAL TOPICS					
Economic Performance					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	44, 45		
	103-2	The management approach and its components	66, 67		
	103-3	Evaluation of the Management Approach	66, 67		
GRI 201: Economic Performance 2016	201-1	Direct economic value generated and distributed	3, 17, 67		
	201-2	Financial implications and other risks and opportunities due to climate change	57, 58, 59, 102		

GRI Standard	Disclosure	Text of Disclosure	Page No	Omission	
				Reason	Explanation
GRI 201: Economic Performance 2016	201-3	Defined benefit plan obligations and other retirement plans	117		
	201-4	Financial assistance received from government	27, 66, 68, 69, 70		
Market Presence					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	43, 45		
	103-2	The management approach and its components	10, 11, 29, 46		
	103-3	Evaluation of the Management Approach	10, 11, 29, 46		
GRI 202: Market Presence 2016	202-1	Ratios of standard entry-level wage by gender compared to local minimum wage	49, 117		
	202-2	Proportion of senior management hired from the local community	46		
Procurement Practices					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	44, 45		
	103-2	The management approach and its components	130, 131		
	103-3	Evaluation of the Management Approach	130, 131		
GRI 204: Procurement Practices 2016	204-1	Proportion of spending on local suppliers	17, 134, 135		
Anti-Corruption					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	44, 45		
	103-2	The management approach and its components	50-53		
	103-3	Evaluation of the Management Approach	50-53		
GRI 205: Anti-corruption 2016	205-1	Operations assessed for risks related to corruption	50, 52		
	205-2	Communication and training about anti-corruption policies and procedures	50, 52, 54		
	205-3	Confirmed incidents of corruption and actions taken	50, 52		

GRI Standard	Disclosure	Text of Disclosure	Page No	Omission	
				Reason	Explanation
Anti-Competitive Behaviour					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	44, 45		
	103-2	The management approach and its components	50-53		
	103-3	Evaluation of the Management Approach	50-53		
GRI 206: Anti-competitive Behavior 2016	206-1	Legal actions for anti-competitive behaviour, anti-trust and monopoly practices	52-54		
Materials					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	43, 45		
	103-2	The management approach and its components	130, 136		
	103-3	Evaluation of the Management Approach	130, 136		
GRI 301: Materials	301-1	Materials used by weight or volume	158		
	301-2	Recycled input materials used	158		
	301-3	Reclaimed products and their packaging materials		Not Applicable	There is no scope of reclaiming product packaging in case of natural gas transmission and marketing. GAIL's polymer packing is being recycled through the secondary and tertiary market
Energy					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	43, 45		
	103-2	The management approach and its components	80, 90		
	103-3	Evaluation of the management approach	80, 90		
GRI 302: Energy 2016	302-1	Energy consumption within the organization	20, 90-91, 158, 159		
	302-2	Energy consumption outside of the organization	20, 90, 91, 158, 159		
	302-3	Energy intensity	20, 159		

GRI Standard	Disclosure	Text of Disclosure	Page No	Omission	
				Reason	Explanation
	302-4	Reduction of energy consumption	20, 81, 90-92, 105, 159		
	302-5	Reductions in energy requirements of products and services	90-92, 105, 159		
Water and Effluents					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	43, 45		
	103-2	The management approach and its components	93		
	103-3	Evaluation of the management approach	93		
GRI 303: Water and Effluents 2018	303-1	Interactions with water as a shared resource	93, 94		
	303-2	Management of water discharge -related impacts	93, 94,		
	303-3	Water withdrawal	93,160, 161		
	303-4	Water discharge	160		
	303-5	Water consumption	21, 94, 160, 161		
Biodiversity					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	44, 45		
	103-2	The management approach and its components	87		
	103-3	Evaluation of the management approach	87		
GRI 304: Biodiversity 2016	304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	87-89		
	304-2	Significant impacts of activities, products, and services on biodiversity	87-89		
	304-3	Habitats protected or restored	87-89	Not Applicable	Not within 10km of GAIL site
	304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	87	Not Applicable	Not within 10km of GAIL site

GRI Standard	Disclosure	Text of Disclosure	Page No	Omission	
				Reason	Explanation
Emissions					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	43, 45		
	103-2	The management approach and its components	91		
	103-3	Evaluation of the management approach	91		
GRI 305: Emissions 2016	305-1	Direct (Scope 1) GHG emissions	20, 160		
	305-2	Energy indirect (Scope 2) GHG emissions	20, 160		
	305-3	Other indirect (Scope 3) GHG emissions	20, 160		
	305-4	GHG emissions intensity	20, 160		
	305-5	Reduction of GHG emissions	20, 160		
	305-6	Emissions of ozone- depleting substances (ODS)	160		
	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	159,160		
Waste					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	43, 45		
	103-2	The management approach and its components	94- 96		
	103-3	Evaluation of the management approach	94-96		
GRI 306: Waste 2020	306-1	Waste generation and significant waste-related impacts	94-96		
	306-2	Management of significant waste-related impacts	94-96		
	306-3	Waste generated	161,162		
	306-4	Waste diverted from disposal	95,161,162		
	306-5	Waste directed to disposal	161,162		
Environmental Compliance					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	44, 45		
	103-2	The management approach and its components	80		
	103-3	Evaluation of the management approach	80		
GRI 307: Environmental Compliance 2016	307-1	Non-compliance with environmental laws and regulations	80		

GRI Standard	Disclosure	Text of Disclosure	Page No	Omission	
				Reason	Explanation
Supplier Environmental Assessment					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	44, 45		
	103-2	The management approach and its components	134 – 136		
GRI 103: Management Approach 2016	103-3	Evaluation of the management approach	134 -136		
GRI 308: Supplier Environmental Assessment 2016	308-1	New suppliers that were screened using environmental criteria	130, 131, 134-136		
	308-2	Negative environmental impacts in the supply chain and actions taken	134-136		
Employment					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	43, 45		
	103-2	The management approach and its components	109, 110		
	103-3	Evaluation of the management approach	109, 110		
GRI 401: Employment 2016	401-1	New employee hires and employee turnover	19, 165, 166		
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	110-111, 117		
	401-3	Parental leave	166		
Labour /Management Relations					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	43,45		
	103-2	The management approach and its components	118		
	103-3	Evaluation of the management approach	118		
GRI 402: Labor/ Management Relations 2016	402-1	Minimum notice periods regarding operational changes	117, 118		
Occupational Health and Safety					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	43, 45		
	103-2	The management approach and its components	120, 121		
	103-3	Evaluation of the management approach	120, 121		

GRI Standard	Disclosure	Text of Disclosure	Page No	Omission	
				Reason	Explanation
GRI 403: Occupational Health and Safety 2018	403-1	Occupational health and safety management system	121-126		
	403-2	Hazard identification, risk assessment and incident investigation	77, 57,120-127		
	403-3	Occupational health services	120 - 127		
	403-4	Worker participation, consultation and communication on occupational health and safety	121-122		
	403-5	Worker training on occupational health and safety	128		
	403-6	Promotion of worker health	125-127		
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	120-121		
	403-8	Workers covered by an occupational health and safety management system	118, 121, 125-127		
	403-9	Work-related injuries	163-164		
	403-10	Work-related ill health	163-164		
Training and Education					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	43, 45		
	103-2	The management approach and its components	112		
	103-3	Evaluation of the management approach	112		
GRI 404: Training and Education 2016	404-1	Average hours of training per year per employee	114		
	404-2	Programs for upgrading employee skills and transition assistance programs	112-115		
	404-3	Percentage of employees receiving regular performance and career development reviews	115-116		
Diversity and Equal Opportunity					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	43, 45, 46		
	103-2	The management approach and its components	46, 110		
	103-3	Evaluation of the management approach	46, 110		

GRI Standard	Disclosure	Text of Disclosure	Page No	Omission	
				Reason	Explanation
GRI 405: Diversity and Equal Opportunity 2016	405-1	Diversity of governance bodies and employees	19, 46-47, 164, 165		
	405-2	Ratio of basic salary and remuneration of women to men	49		
Non - Discrimination					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	43, 45		
	103-2	The management approach and its components	118		
	103-3	Evaluation of the management approach	118		
GRI 406: Non-Discrimination 2016	406-1	Incidents of discrimination and corrective actions taken	111, 118		
Freedom of Association and Collective Bargaining					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	43, 44, 45		
	103-2	The management approach and its components	116, 117		
	103-3	Evaluation of the management approach	116, 117		
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	116-118		
Child Labour					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	44, 45		
	103-2	The management approach and its components	116, 117, 131		
	103-3	Evaluation of the management approach	116, 117, 131		
GRI 408: Child Labor 2016	408-1	Operations and suppliers at significant risk for incidents of child labour	116, 117, 130-132		
Forced or Compulsory Labour					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	44, 45		

GRI Standard	Disclosure	Text of Disclosure	Page No	Omission	
				Reason	Explanation
GRI 103: Management Approach 2016	103-2	The management approach and its components	116		
	103-3	Evaluation of the management approach	116		
GRI 409: Forced or Compulsory Labor 2016	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labour	116, 117, 131		
Security Practices					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	43, 45		
	103-2	The management approach and its components	110		
	103-3	Evaluation of the management approach	110		
GRI 410: Security Practices 2016	410-1	Security personnel trained in human rights policies or procedures	116		
Rights of Indigenous Peoples					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	43, 45		
	103-2	The management approach and its components	148		
	103-3	Evaluation of the management approach	148		
GRI 411: Rights of Indigenous Peoples 2016	411-1	Incidents of violations involving rights of indigenous peoples	148-149		
Human Rights Assessment					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	44, 45		
	103-2	The management approach and its components	116		
	103-3	Evaluation of the management approach	116		
GRI 412: Human Rights Assessment 2016	412-1	Operations that have been subject to human rights reviews or impact assessments	156		
	412-2	Employee training on human rights policies or procedures	114, 116, 117		
	412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	131		

GRI Standard	Disclosure	Text of Disclosure	Page No	Omission	
				Reason	Explanation
Local Communities					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	43, 45		
	103-2	The management approach and its components	148		
	103-3	Evaluation of the management approach	148		
GRI 413: Local Communities 2016	413-1	Operations with local community engagement, impact assessments and development programs	80, 148, 156, 157		
	413-2	Operations with significant actual and potential negative impacts on local communities	148, 149		
Supplier Social Assessment					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	44, 45		
	103-2	The management approach and its components	134-136		
	103-3	Evaluation of the management approach	134-136		
GRI 414: Supplier Social Assessment 2016	414-1	New suppliers that were screened using social criteria	167		
	414-2	Negative social impacts in the supply chain and actions taken	131		
Public Policy					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	44, 45		
	103-2	The management approach and its components	64		
	103-3	Evaluation of the management approach	64		
GRI 415: Public Policy 2016	415-1	Political contributions	66		
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GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	43, 45		
	103-2	The management approach and its components	140, 142, 145		
	103-3	Evaluation of the management approach	140, 142, 145		

GRI Standard	Disclosure	Text of Disclosure	Page No	Omission	
				Reason	Explanation
GRI 416: Customer Health and Safety 2016	416-1	Assessment of the health and safety impacts of product and service categories	77, 78, 79, 120		
	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	120, 141		
Marketing and Labelling					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	44, 45		
	103-2	The management approach and its components	141		
	103-3	Evaluation of the management approach	141		
GRI 417: Marketing and Labelling 2016	417-1	Requirements for product and service information and labelling	141		
	417-2	Incidents of non-compliance concerning product and service information and labelling	141		
	417-3	Incidents of non-compliance concerning marketing communications	141		
Customer Privacy					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	44, 45		
	103-2	The management approach and its components	141		
	103-3	Evaluation of the management approach	141		
GRI 418: Customer Privacy 2016	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	141		
Socio-economic compliance					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	44, 45		
	103-2	The management approach and its components	35, 80		
	103-3	Evaluation of the management approach	35, 80		
GRI 419: Socioeconomic Compliance 2016	419-1	Non-compliance with laws and regulations in the social and economic area	53, 80, 82, 141		

Linkages to Sustainability Accounting Standard Board (2018)

Topic	Code	Accounting Metric	Report Section/ Chapters	Page
Greenhouse Gas Emissions	EM-MD-110a.1	Gross global Scope 1 emissions, percentage methane, percentage covered under emissions-limiting regulations	Performance and Standards	158
	EM-MD-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets and an analysis of performance against those targets	Climate Change – Vision and action pertaining to climate strategy	102-104, 107, 160
Air Quality	EM-MD-120a.1	Air emissions of the following pollutants: (1) NO _x (excluding N ₂ O), (2) SO _x , (3) volatile organic compounds (VOCs) and (4) particulate matter (PM ₁₀)	Performance and Standards	159-160
Ecological Impacts	EM-MD-160a.1	Description of environmental management policies and practices for active operations	Energy and Environment – Biodiversity Management	80, 88
	EM-MD-160a.2	Percentage of land owned, leased and/or operated within areas of protected conservation status or endangered species habitat	Energy and Environment – Biodiversity Management	87
	EM-MD-160a.3	Terrestrial acreage disturbed; percentage of impacted area restored	Energy and Environment – Biodiversity Management	87
	EM-MD-160a.4	Number and aggregate volume of hydrocarbon spills, volume in Arctic, volume impacting shorelines with ESI rankings 8-10 and volume recovered	Energy and Environment	NA
Competitive Behaviour	EM-MD-520a.1	Total amount of monetary losses as a result of legal proceedings associated with federal pipeline and storage regulations	Operational Excellence – Responsible Pipeline Integrity Management System	78
Operational Safety, Emergency Preparedness & Response	EM-MD-540a.1	Number of reportable pipeline incidents, percentage significant	Operational Excellence	78-80
	EM-MD-540a.2	Percentage of (1) natural gas and (2) hazardous liquid pipelines inspected	Operational Excellence	78
	EM-MD-540a.3	Number of (1) accident releases and (2) non-accident releases (NARs) from rail transportation	Operational Excellence	78

Topic	Code	Accounting Metric	Report Section/ Chapters	Page
Operational Safety, Emergency Preparedness & Response	EM-MD-540a.4.	Discussion of management systems used to integrate a culture of safety and emergency preparedness throughout the value chain and throughout project lifecycles	Operational Excellence	78
Water Management	EM-MD-140a.1	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Performance and Standards	161
	EM-MD-140a.3	Number of incidents of non-compliance associated with water quality permits, standards and regulations	Operational Excellence	80
Hazardous materials management	EM-RM-150a.1	Amount of hazardous waste generated; percentage recycled	Performance and Standards	161
	EM-RM-150a.2	(1) Number of underground storage tanks (USTs), (2) number of UST releases requiring cleanup and (3) percentage in states with UST financial assurance funds	Operational Excellence	80
Workforce Health & Safety	EM-RM-320a.1	(1) Total recordable incident rate (TRIR), (2) fatality rate and (3) near miss frequency rate (NMFR) for (a) full-time employees and (b) contract employees	Ensuring Health and Safety for all – Employee safety, Occupational Health and Safety at GAIL	163, 164, 165, 166
	EM-RM-320a.2	Discussion of management systems used to integrate a culture of safety	Ensuring Health and Safety for All	120, 121, 122
Product specifications & Clean fuel blends	EM-RM-410a.1.	Percentage of Renewable Volume Obligation (RVO) met through: (1) production of renewable fuels, (2) purchase of “separated” renewable identification numbers (RIN)	Business Growth - Renewable energy	73-74, 90, 159
	EM-RM-410a.2.	Total addressable market and share of market for advanced biofuels and associated infrastructure	Business Growth - Renewable energy	73-74
Pricing Integrity & Transparency	EM-RM-520a.1.	Total amount of monetary losses as a result of legal proceedings associated with price fixing or price manipulation	Operational Excellence	82
Management of the Legal & Regulatory Environment	EM-RM-530a.1.	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	Strong Governance and Business Resilience - Governance and Risk Management	59

Topic	Code	Accounting Metric	Report Section/ Chapters	Page
Critical Incident Risk Management	EM-RM-540a.1.	Process Safety Event (PSE) rates for Loss of Primary Containment (LOPC) of greater consequence (Tier 1) and lesser consequence (Tier 2)	Operational Excellence	78
	EM-RM-540a.2.	Challenges to Safety Systems indicator rate	Operational Excellence	77
	EM-RM-540a.3.	Discussion of measurement of Operating Discipline and Management System Performance through Tier 4 Indicators	Operational Excellence	76, 77

Linkages to IPIECA

IPIECA Indicators	Report Section/ Chapters	Page No.
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Linkages to UNGC and ISO 26000:2010 clause

Section	UNGC Principles	ISO 26000:2010 Clause
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Linkage to UNSDGs

Sustainable Development Goals	(SDGs) Description	GAIL Initiatives	SR Coverage (Chapters)
SDG 01. No poverty	End poverty in all its forms, everywhere	» GAIL Kaushal, Unnati and Sashakt initiatives under GAIL CSR Initiative	Our Community
SDG 02. Zero hunger	End hunger, achieve food security and improved nutrition and promote sustainable agriculture	» GAIL Kaushal, Unnati and Sashakt initiatives under GAIL CSR Initiative	Our Community
SDG 03. Good health and well-being	Ensure healthy lives and promote wellbeing for all at all ages	<ul style="list-style-type: none"> » Employee engagement activities » Behaviour-based safety » HSE Management System » COVID-19 Precautionary measures » GAIL Arogya initiative under Hridaya Program » Corporate medical Cell for Regular health check-ups 	Operational Excellence, Health and Safety, Our Community, Our people, Our Efforts to tackle COVID-19
SDG 04. Quality education	Ensure inclusive and equitable quality education and Promote lifelong learning opportunities for all	GAIL Ujjawal, Kaushal and Sashakt initiatives under GAIL CSR Initiative	Our Community
SDG 05. Gender equality	Achieve gender equality and empower all women and girls	<ul style="list-style-type: none"> » Diversity inclusion for the hiring process » GAIL Shashakt initiative under CSR Initiative 	Our Community, Our People
SDG 06. Clean water and sanitation	Ensure available and sustainable management of water and sanitation for all	<ul style="list-style-type: none"> » Water Management » Waste Management » GAIL Arogya initiative under CSR Initiative 	Energy and Environment, Our Community
SDG 07. Affordable and clean Energy	_ Ensure access to affordable, reliable, sustainable and modern energy for all	<ul style="list-style-type: none"> » Partnership with BHEL for Solar based power project » Energy Management System » Solar Power System commissioned at » Mumbai Pipeline Network » Development of National Gas Grid » Compressed biogas 	Energy and Environment, Climate Change

Sustainable Development Goals	(SDGs) Description	GAIL Initiatives	SR Coverage (Chapters)
SDG 08. Decent work and economic growth	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	<ul style="list-style-type: none"> » GAIL's contribution to Start-Up India » Transparency in Doing Business » Grievance Redressal Mechanism » Workforce Management » GAIL Kaushal » Management Development Program » Learning Management System 	Energy and Environment, Our People, Our Customers, Our Suppliers, Business Growth
SDG 09. Industry, innovation and infrastructure	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	<ul style="list-style-type: none"> » GAIL's contribution to Start-Up India » Digital Transformation » Marketplace (GeM) and Trade » Receivable Discounting System (TReDS) for Procurement » Workforce Management » GAIL Ujjwal initiative under CSR Initiative » GreenCo Assessment of the sites » Construction Management Plan (CMP) 	GAIL Highlights, Energy and Environment, Our people,
SDG 10. Reduced inequalities	Reduce inequality within and among countries	<ul style="list-style-type: none"> » GAIL Shashakt initiative under CSR Initiative » GAIL Saksham initiative under CSR Initiative » General Conditions of Contract » Public Procurement Policy at GAIL » GAIL Indigenization (INDEG) Group Meets » Local procurement 	Our Community, Our people, Our Suppliers, Governance and Risk management
SDG 11. Sustainable cities and communities	Make cities and human settlements inclusive, safe, resilient and sustainable	<ul style="list-style-type: none"> » SIA (Social Impact Assessment) » GAIL CSR Initiatives to tackle COVID-19 impacts » GAIL's contribution to Start-Up India » GAIL Arogya » GAIL Unnati » Hawa Badlo Campaign 	Operational Excellence

Sustainable Development Goals	(SDGs) Description	GAIL Initiatives	SR Coverage (Chapters)
SDG 12. Responsible consumption and production	Ensure sustainable consumption and production patterns	<ul style="list-style-type: none"> » Implementation of the rich lean corridor » Energy Management System » Energy-saving initiatives at GAIL Sites and townships » Water Management » Waste Management » Contribution to Start-Up India » Total Quality Management (TQM) » Integrated Management System (IMS) 	Operational Excellence, Energy and Environment, Climate Change
SDG 13. Climate action	Take urgent action to combat climate change and its impacts	<ul style="list-style-type: none"> » Sustainability Policy » Implementation of the rich lean corridor » Environment Management System » Energy Management System » Biodiversity Management » Emission Management » GAIL's contribution to Start-Up India » Combating Climate Change Risk » Green Procurement » Local Procurement » State-of-art Digital Technology to measure the Carbon footprint » CNG Mobile Refuelling » Afforestation projects following the Miyawaki technique » State-of-art Digital Technology to measure the Carbon footprint » Target of 1 gigawatt of renewable energy » Coastal regulatory zone clearance 	Operational Excellence, Energy and Environment, Climate Change
SDG 14. Life below water	Conserve and sustainably use the oceans, seas and marine resources for sustainable development	<ul style="list-style-type: none"> » Functional excellence Framework » Biodiversity Management » Water Management » GAIL Harit initiative under Hriday Program » EIA (Environment Impact Assessment) 	Operational Excellence, Energy and Environment, Climate Change, Our community

Sustainable Development Goals	(SDGs) Description	GAIL Initiatives	SR Coverage (Chapters)
SDG 15. Life on land	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt biodiversity loss	<ul style="list-style-type: none"> » Environment Management System » Biodiversity Management » Waste Management » GAIL Harit initiative under Hridaya Program » Green Procurement » Local Procurement » Hawa Badlo Campaign 	Operational Excellence, Energy and Environment, Climate Change, Our Community, Our suppliers
SDG 16. Peace, justice and strong institutions	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	<ul style="list-style-type: none"> » Ethics and Integrity » Transparency in Doing Business » Labour Practices » General Conditions of Contract » Stakeholder engagement » Customer satisfaction survey 	Operational Excellence, Our community, Our people, Our suppliers, Governance and Risk management
SDG 17. Partnerships for the goals	Strengthen the means of implementation and revitalize the global partnership for sustainable development	<ul style="list-style-type: none"> » GAIL's contribution to Start-Up India » Partnership with TERI » GAIL's support to Sustainable Alternative Towards Affordable Transportation (SATAT) initiative of Govt » GAIL's Start-Up Initiative 'Pankh' » Founding member of the Global Reporting Initiative (GRI) Focal Point » India's Sustainability & Transparency Consortium 	Stakeholder Engagement and Materiality, Climate, Governance and Risk management

Linkage to TCFD Recommendations

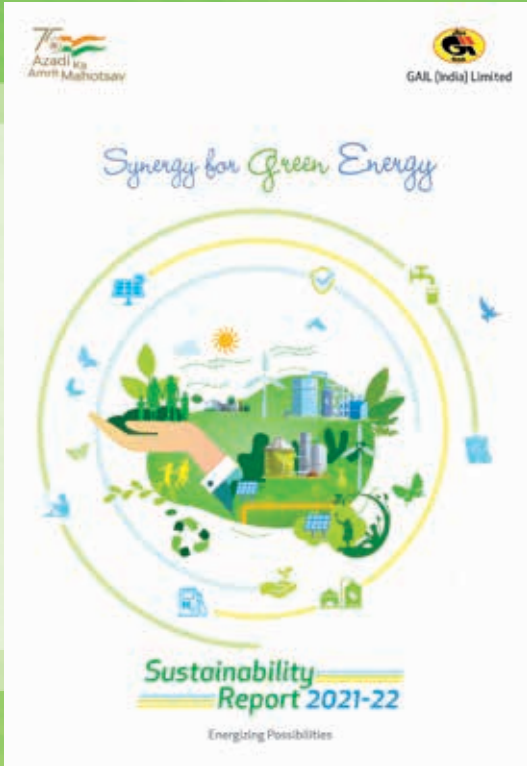
TCFD	Sections/ Chapter	Page No.
Governance		
a) Describe the Board's oversight of climate-related risks and opportunities.	Sustainability at GAIL: Sustainable Development Steering Committee	34-36
b) Describe management's role in assessing and managing climate-related risks and opportunities.	Sustainability at GAIL: Sustainable Development Steering Committee	34-36
Strategy		
a) Describe the climate-related risks and opportunities the organization has identified over the short, medium and long term.	Climate Change: Vision and Action pertaining to climate strategy	101
b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy and financial planning.	Climate Change: Vision and Action pertaining to climate strategy	101
c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	Climate Change: Climate change and Sustainable Development	103-107
Risk Management		
a) Describe the organization's processes for identifying and assessing climate-related risks	Strong Governance and Business Resilience: Risk Management	100-107
b) Describe the organization's processes for managing climate-related risks.	Climate Change: Vision and Action pertaining to climate strategy	100-107
c) Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organization's overall risk management	Strong Governance and Business Resilience: Risk Management	100-107
Metrics and Targets		
a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	Performance and Standards	100-107, 160
b) Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks	Performance and Standards	160
c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	Climate Change: Vision and Action pertaining to climate strategy	100-107

Business Responsibility and Sustainability Report

GAIL (India) Limited is a Government Company under the administrative control of the Ministry of Petroleum & Natural Gas (MoP&NG). As a responsible company, we always aspire to comply with all the applicable rules and regulations of GoI. Towards this end, GAIL has adopted Business Responsibility & Sustainability Report (BRSR) as per the SEBI circular (SEBI/HO/CFD/CMD-2/P/CIR/2021/562 dated 10th May 2021) describing the initiatives taken by the Company from an Environmental, Social and Governance perspective and the same forms part of the Annual Report of FY 2021-22. Further, Sustainability Report FY 2021-22 also covers BRSR disclosures requirements.

The BRSR report covers all General Disclosures, Management and Process Disclosures, and Principle Wise Performance Disclosure. Following table maps BRSR requirements with appropriate Sustainability Report sections. The detailed Business Responsibility and Sustainability Report is disclosed in our Annual Report FY 2021-22 (<https://www.gailonline.com/pdf/InvestorsZone/AnnualReports/GAILAnnualReport202122Final.pdf>).

Sections and Principles of BRSR	Sections of Sustainability Report
Section A: General Disclosures	About the Report, Message from CMD and Directors, GAIL Highlights, GAIL at a Glance, Strong Governance and Business Resilience, Business Growth, Our Employees, Our Customers, Performance and Standards
Section B: Management and Process Disclosures	About the Report, Message from CMD and Directors, Strong Governance and Business Resilience, Operational Excellence, Energy and Environment, Our Employees, Responsible Supply Chain Management, Our Community
Section C: Principle Wise Performance Disclosure	
Principle 1	Business Resilience, Operational Excellence, Our Employees, Our Community, Performance and Standards
Principle 2	Energy and Environment, Responsible Supply Chain Management
Principle 3	Our Employees, Ensuring Health and Safety for All, Performance and Standards
Principle 4	Our Stakeholder Inclusion and Materiality
Principle 5	Our Employees, Our Suppliers
Principle 6	Operational Excellence, Energy and Environment, Climate Change, Performance and Standards
Principle 7	Strong Governance and Business Resilience
Principle 8	GAIL Highlights, Strong Governance and Business Resilience, Our Employees, Our Suppliers, Responsible Supply Chain Management, Our Customers, Our Community
Principle 9	Business Growth, Our Customers, Our Community



Synergy for Green Energy

At GAIL, we have been channelizing our resources and focusing our energies on paving way for a greener future. GAIL started this movement with leadership presence in Natural Gas. GAIL has been constantly expanding its operations and reaching towns and cities of India with City Gas Distribution and energizing lives with cleaner fuels - CNG and PNG. We have also been instrumental in shaping the National Grid in the nation. Going steps further GAIL has also expanded its energy basket with forays into Wind, Solar, CBG and Hydrogen Energy to provide greener fuels to accelerate sustainable growth of India. Our endless endeavours towards a sustainable futures are what Synergy for Green Energy is all about.



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