



GAIL (India) Limited
India's Youngest Maharatna

Nurturing Resilient Ecosystem



Content

About the Report



4

Sustainability Strategy



21

Performance Snapshot



99

- 4 → About the Report
- 6 → CMD Message
- 9 → About GAIL
- 13 → Corporate Governance & Risk Management
- 21 → Sustainability Strategy
- 25 → Stakeholder Engagement & Materiality
- 31 → Ensuring Robust Systems and Processes through Operational Excellence
- 43 → Human Capital: Nurturing Capacities for Growth
- 51 → Ensuring Safety of Our People and Environment
- 61 → Adapting to New Ecosystem : Innovating for Profitability
- 73 → Creating Resilient Infrastructure in the Supply Chain
- 83 → Communicating for Effective Synergies and Partnerships
- 95 → Unlocking Opportunities in the Regulatory Landscape
- 99 → Performance Snapshot
- 105 → Independent Assurance Statement
- 108 → GRI Content Index
- 116 → Linkages with NGV SEE Principles
- 117 → Linkages to API/PIECA, UNGC, ISO 26000 Principles
- 122 → Way Forward

About the Report

'Nurturing Resilient Ecosystem', has been the mantra behind GAIL's robust response to the volatility in oil and gas sector. Our Sustainability Report (SR) for FY 2015-2016 focuses on how GAIL has analysed its challenges and financial stresses and remained agile in responding to these. Our sixth edition of the SR FY 2015-2016^{G4-28} notes the integration of innovation and flexibility in implementing operational excellence, cost savings and renegotiations in the market place and fostering responsible growth through the organization. Through our robust response to the dual challenges of maintaining financial sustainability while developing excellence in social and environmental trajectories we demonstrate our leadership as a resilient organization.

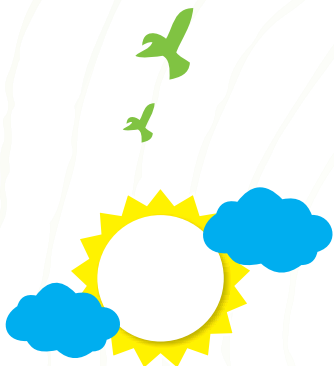
As a responsible corporate citizen, we remain deeply committed to providing natural gas to ensure energy security of the Nation. Natural Gas is a cleaner alternative to traditional fossil fuels such as coal and oil. It plays an integral part in fuelling India's development and ensuring the success of its growth story. These values are reflected in our mission to accelerate and optimize the effective and economic use of Natural Gas and its fractions for the benefit of the economy.

- ➔ Oil and Gas industry guidance on voluntary sustainability reporting (2010) developed by IPIECA, the global oil and gas industry association for environmental and social issues and the American Petroleum Institute (API).
- ➔ Principles and disclosure requirements under United Nations Global Compact (UNGC).
- ➔ ISO 26000:2010 guidance on organizational social responsibility.

This year's SR **'Nurturing Resilient Ecosystem'** is our second GRI G4 report in line with the 'in-accordance' option core^{G4-32}. The GRI content index on pages 108-115 gives a detailed reference to the GRI performance indicators and standard disclosures. Along with GRI G4 it also adheres to the following reporting formats:

- ➔ Nine principles of National Voluntary Guidelines (NVG) on Social, Environmental and Economic responsibilities of business, published by the Ministry of Corporate Affairs, Government of India.

Material issues were identified through a materiality assessment and stakeholder engagement exercise that was undertaken at 10 GAIL locations (including project sites and offices) in consultation with different stakeholders and are referred in the relevant sections of this report. Each material aspect is mapped against the GRI G4 guidelines. In order to highlight the specific challenges faced by GAIL and our initiatives towards addressing these we have further examined in the chapter on 'Business Growth and Profitability'.



Data Management Approach

Each section of the report elaborates our performance through systems, processes and infrastructure in reference to the various stakeholders and material aspects relevant to the chapter. In addition, we also reported on initiatives undertaken during the reporting year. Information has also been presented on new projects, intentions and future plans. As these activities are under development and dependent on fluctuating market conditions, changes in regulatory decisions and geopolitical situation there is a degree of uncertainty as to their completion. The data presented in this report has been calculated through the use of assumptions, standard guidelines and methodologies. Disclosures on these have been made wherever used. Data is further verified by the concerned department heads.

Report Scope and Boundary ^{G4-18}

The report includes the following operations:

- ➔ Gas Processing Units (GPUs) at Gandhar, Pata, Usar, Vaghodia and Vijapur;
- ➔ Petrochemical unit at Pata;
- ➔ Newly built PC II plants at Pata and Vijapur were also added this year;
- ➔ Natural Gas compressor stations at Dibiyapur, Hazira, Jhabua, Khera, Vaghodia and Vijapur;
- ➔ LPG pumping / receiving stations at Abu Road, Cherlappali, G Konduru, Jamnagar, Kandla, Loni, Mansarampura, Nasirabad, Samakhiali and Vizag;

- ➔ Regional pipeline offices at Agartala, Baroda, Mumbai, Puducherry and Rajahmundry;
- ➔ GAIL Training Institute (GTI) at Jaipur and Noida;
- ➔ Corporate Office at New Delhi and Info Hub at Noida;
- ➔ Zonal Marketing Offices at Delhi, Kolkata, Chennai, Bengaluru, Bhopal, Chandigarh, Jaipur, Hyderabad, Lucknow, Mumbai, Ahmedabad.

There have been no significant changes from the previous reporting periods in terms of scope and boundary other than the inclusion of newly built plants at Pata and Vijapur. ^{G4-23, G4-13} The E&P operations, joint ventures, subsidiaries, leased facilities, outsourced operations, and other entities are out of the scope and boundary of this report. As per this reporting boundary, all aspects are reported for India region (unless otherwise mentioned). The principles of stakeholder inclusiveness, materiality, sustainability context and completeness have been consistently followed to define the report content.

Assurance ^{G4-33}

All sustainability reports of GAIL have been assured by external third party. Continuing the practice, this year's Sustainability Report has been assured by DNVGL. This is a Type 2 Moderate level assured report based

on AA1000AS (2008) standard. The assurance process includes data verification at different sites of GAIL that will continue to help GAIL improve its processes and data management mechanisms.

An abridged and online version of this report will be made available at http://www.gailonline.com/final_site/Sustainability.html

There is a dedicated website for GAIL Sustainability Report

www.gailsustainabilityreport.com



CMD Message^{G4-1, G4-2} -->

Dear Stakeholder,

I am happy to present the sixth edition of GAIL's Sustainability Report for FY 2015-16, titled '**Nurturing Resilient Ecosystem**'. Sustainability, lies at the heart of GAIL's ethos which is reflected through our vision and mission statements. This report is our second GRI G4 report that highlights our endeavors in the realms of economic, social and environmental aspects while addressing the challenges faced by the organization in this era of changing market dynamics. We believe that even in testing times, GAIL being the part of the ecosystem will continue to emerge as a persistent and resilient organization while being responsible towards its stakeholders.

This year, energy markets faced transitioning demand and abundant supply, accompanied with decline in prices. The world is witnessing a gradual deceleration in energy consumption with continuing

weakness in the global economy and Chinese industrialization slowly subsiding. As a result, global primary energy consumption increased by just 1.0% in 2015. Natural gas prices declined across the world. The Henry Hub fell by 40% relative to its 2014 average. In addition to these factors, shifting consumer patterns in this era of low oil prices, new greener technologies at competitive rates and growing public awareness of harmful emissions will continue to force traditional fuel based companies to examine their future strategies.

The energy sector acts as the engine of economic growth of the country. With India's emergence as one of the fastest growing major economies, its energy needs are bound to increase. As per BP Statistics 2016, India became the third-largest energy consumer in the world. GAIL is taking a proactive approach towards the Government of India's efforts in charting an integrated energy security policy with focus up to 2047 and has recommended a

targeted share of natural gas in the energy mix. We must follow the steps of advanced economies in reducing our reliance on coal and shifting towards renewable technologies integrated with natural gas for providing base load and peak power ramp-up. Further, GAIL continues to explore opportunities in aligning with National priorities to augment renewable energy capacities, catering to energy needs of smarter cities among other areas.

In the wake of growing concerns on greater climate action, the Paris Agreement at COP 21 highlights the global political intention to shift to a low carbon future sending a clear and unequivocal signal to the corporate sector. GAIL, being in the business of Natural gas- a cleaner fossil fuel, has a crucial role to play as a voice for Natural gas advocacy in achieving India's Intended National Determined Contributions (INDCs) objectives and making this transition a reality while protecting the sustainability of our ecosystems. We have also proactively taken voluntary targets through our Sustainability Aspirations 2020 in the area of GHG emissions, energy, water consumption and recycling and building sustainability awareness. Our performance on these aspects has been disclosed in the Sustainability Strategy section of the report.

In our efforts to build a resilient organization, GAIL, in 2015, continued to meet the challenges of the drop in global crude oil prices. We renegotiated contracts with Qatar-based RasGas to match the slump in global gas rates to cater to the needs of our customers. Further, we set out to focus on the challenge of increasing the utilization rate of our pipeline assets and stabilizing production at new facilities. With over 11,000 km pipeline network, GAIL with its upcoming projects aims to complete the national gas grid to spread our presence across the country and reach our customers. We are also investing in enhancing our retail and trading abilities in order to provide better

GAIL is taking a proactive approach towards the Government of India's efforts in charting an integrated energy security policy with focus up to 2047 and has recommended a targeted share of natural gas in the energy mix.





Vision

Be the leading company in Natural Gas and Beyond, with Global Focus, Committed to Customer Care, Value Creation for all Stakeholders and Environmental Responsibility.



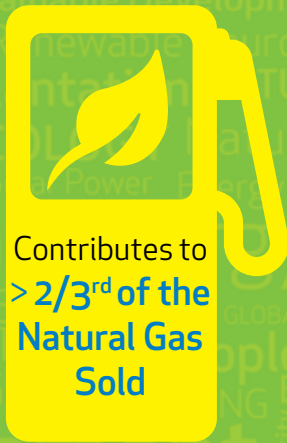
Mission

To accelerate and optimize the effective and economic use of Natural Gas and its fractions for the benefit of the national economy.

About GAIL



Operating more than
2/3rd CNG Stations
through alliances



About GAIL →



Exploration and Production (E&P)

- A part of vertical integration
- Participation in 13 blocks (operator-2 blocks)
- Presence in Myanmar & USA

Natural Gas

- Over 11,000 Km of network
- Sophisticated Gas Management System
- Participation in RGPPL (5 MMTPA LNG Regasification Facility)
- Long-term Import Portfolio: 24 MMTPA



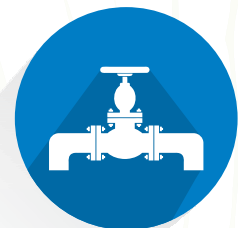
Liquid Hydrocarbons

- 6 Gas Processing Plants producing LPG, Propane, Pentane, Naptha, etc.
- LPG Transport Capacity 3.8 MMTPA (2038 Km)



City Gas Distribution

- Serving over 10 lakh vehicles & 10 lakh households through Subsidiary & Joint Ventures
- GAIL Gas Limited, 100% subsidiary, has set-up CGD Network in Dewas, Sonapat, Kota, Meerut & Taj Trapezium zone



Petrochemicals

- Domestic market share ~15%
- Petrochemical Plant in Pata (UP) with capacity of 0.81 MMTPA
- Participation in BCPL & OPAL



Power and Renewables

- 118 MW Wind Power Plant and 5 MW Solar Power Plant
- Participation in RGPPL (Capacity 1967 MW)



Our Presence, Subsidiaries and JVs

Domestic Subsidiaries

- ➔ GAIL Gas Ltd. – GAIL’s wholly owned subsidiary (100%),
- ➔ Brahmaputra Crackers & Polymers Ltd. (BCPL) (70%)

City Gas Distribution (CGD) JVs

- ➔ Mahanagar Gas Limited - MGL (32.5%, post MGL IPO)
- ➔ Indraprastha Gas Limited - IGL (22.50%)
- ➔ Bhagyanagar Gas Limited - BGL (22.50%)
- ➔ Green Gas Limited - GGL (22.50%)
- ➔ Central U.P. Gas Limited - CUGL (25%)
- ➔ Maharashtra Natural Gas Limited – MNGL (22.50%),
- ➔ Aavantika Gas Limited - AGL (22.50%)
- ➔ Tripura Natural Gas Company Limited - TNGL (29%)
- ➔ Vadodara Gas Limited - VGL (50% Incl Stake of GAIL Gas Ltd.)

Overseas Subsidiaries

- ➔ GAIL (Global) Singapore Pte. Ltd. (wholly owned subsidiary)
- ➔ GAIL (Global) USA Inc. (wholly owned subsidiary)
- ➔ GAIL Global (USA) LNG, LLC (100% subsidiary of GAIL (Global) USA Inc.)

Joint Ventures

- ➔ Petronet LNG Ltd. - PLL (12.5%)
- ➔ ONGC Petro additions Limited- OPaL (15.5%)
- ➔ Ratnagiri Gas and Power Private Limited- RGPPL (25.5%)
- ➔ GAIL China Gas Global Energy Holding (50%)
- ➔ TAPI Pipeline Company Limited (5%)
- ➔ Talcher Fertilizers Limited (29.67%)

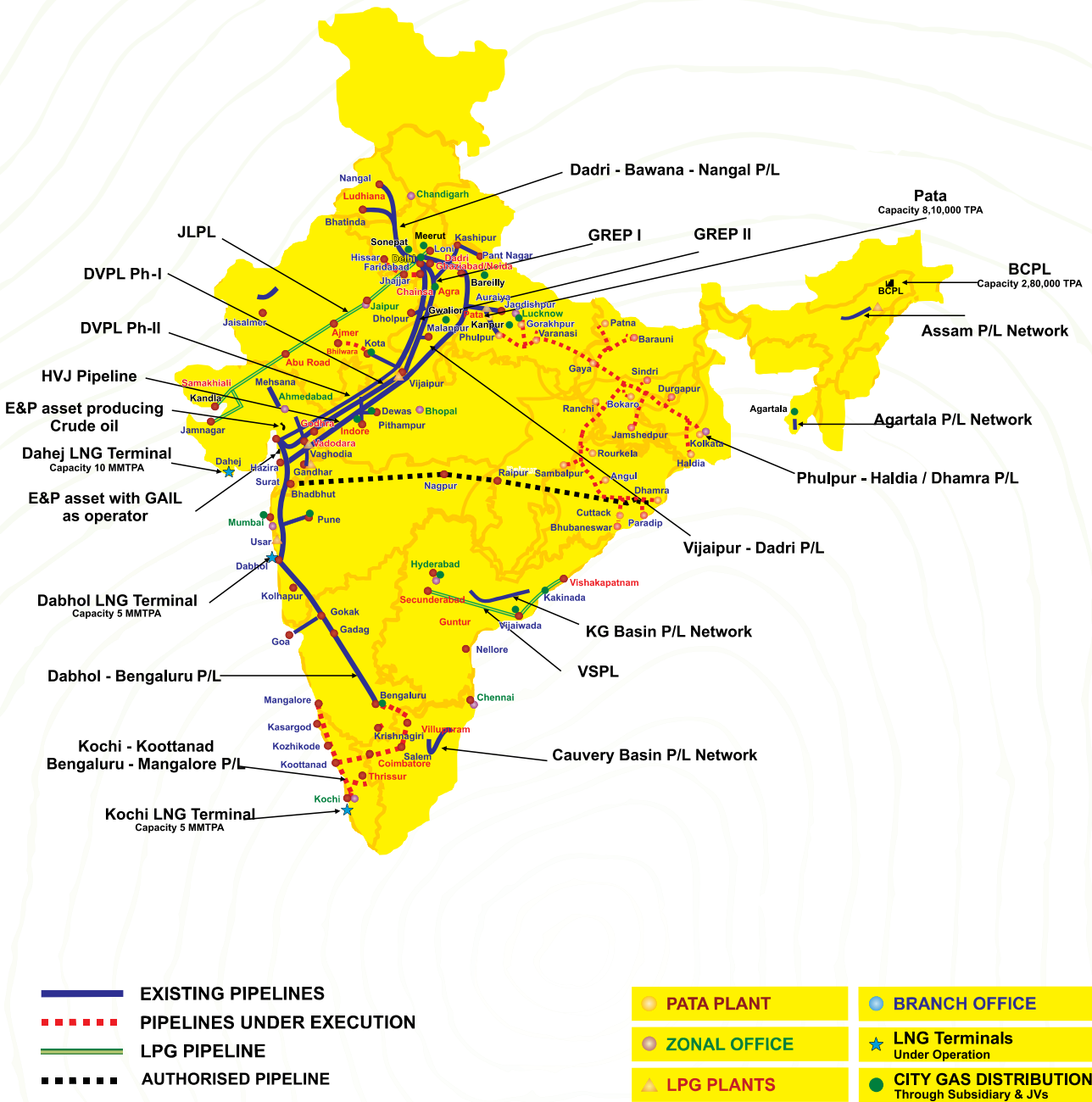
Associates

- ➔ Gujarat State Energy Generation Ltd. (5.96%),
- ➔ Fayum Gas (19%),
- ➔ China Gas Holdings Ltd. (3%),
- ➔ Natural Gas Company “NATGAS” (15%)
- ➔ South East Asia Gas Pipeline (SEAGP) (4.17%)



About GAIL →

GAIL's Pan-India Presence



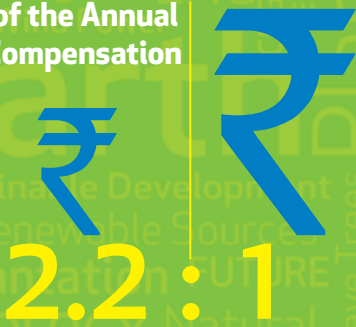
12

Map not to scale

Overseas Presence in US, Singapore, Myanmar & China

Corporate Governance & Risk Management

Ratio of the Annual
Total Compensation



GAIL Customer Service
24 x 7
online
through
GAIL's
webpage



Corporate Governance & Risk Management -->

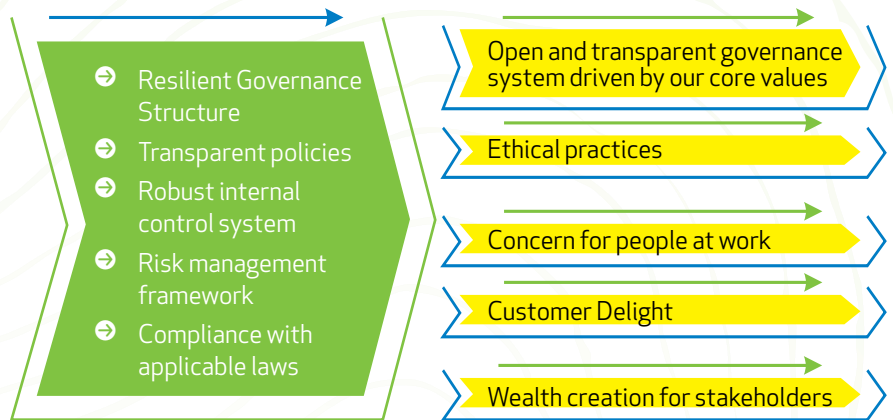
Corporate governance is a cardinal component of the way we work at GAIL. It forms the credo for the Company's culture and practices. GAIL's Governance structure is a reflection of its commitment to good governance principles such as accountability, transparency, honesty and integrity in our operations. A vigorous governance structure builds a company's resilience to unilateral decisions that may cause setbacks affecting the Company's reputation and integrity. Such risks can be curtailed by an effective and transparent Corporate Governance mechanism that creates value for the organization and its stakeholders.

To maintain good governance practices at GAIL, we use best in-class technology, providing emphasis to all aspects in our Natural Gas value chain such as operational safety, employee health, desirable returns to shareholders, and a healthy environment. ^{G4-DMA}

Good governance at GAIL is ensured through deployment of strategy and oversight by the Board of Directors. GAIL has a robust governance structure that lays and implements transparent policies, establishes systems and processes for internal control and strengthens risk management framework thereby ensuring compliance with all applicable laws, rules and regulations. ^{G4-42, G4-43}

Our Governance structure ^{G4-34, G4-35, G4-36, G4-39, G4-40, G4-44}

GAIL, being a Central Public Sector Enterprise (CPSE), appointment/nomination of all the Directors is done by the President of India, through the Ministry of Petroleum & Natural Gas (MoPNG). The Executive and Non-Executive directors guide GAIL's strategic approach. Various sub-Committees of the Board have been constituted by the Board as required under statutory regulations and guidelines and also to facilitate the smooth and efficient flow of decision making process.



The Sustainable Development Committee (SDC) of the Board oversees the sustainable development agenda and performance. The SDC also reviews the emergency response plan and the HSE performance. The Board of Directors has approved the Delegation of Powers to CMD and Functional Directors. CMD has been empowered by the Articles of Association to delegate to executives below Board level. A Code of Conduct for Board Members and Senior Management Personnel has been formulated to ensure ethical business conduct. Further, we have also developed and implemented systems and processes for proper operation of internal controls for the organization. GAIL complies with SEBI (Listing Obligations & Disclosure

Requirements) Regulations 2015 and the DPE guidelines on corporate governance that are applicable except relating to composition of Board of Directors as to the requirement of independent Directors and consequential impact on composition of Audit Committee and Nomination & Remuneration Committee. The Company is continuously pursuing with the Government of India for the appointment of requisite number of Independent Directors, including appointment of woman Director as per Companies Act, 2013. The Government of India is in process of selecting requisite number of Independent Directors. More details about the composition of the Board and its committees is available in the Annual Report for FY 2015-16.

Remuneration & Incentives^{G4-51, G4-52, G4-53, G4-54, G4-55}

The targets for physical, financial, non-financial parameters are prescribed in GAIL's MoU with the MoPNG. The Company's performance is evaluated against these targets and hence a composite score of individual parameters are defined. The composite score is one of the key variables in deciding the MoU rating which determines the quantum of variable pay for the year in the form of Performance Related Pay.

The remuneration of Directors is determined by the MoPNG.

The Ratio of the annual total compensation for the organization's highest-paid individual to the median annual total compensation for all employees (excluding the highest paid individual) is 2.2:1. The Median percentage increase (from FY 14-15 to FY 15-16) in annual total compensation for all employees (excluding the highest-paid individual) is 7.83%. The total annual compensation from FY 14-15 to FY 15-16 for the organization's highest-paid individual decreased by 20.25%

Conflict of Interest^{G4-41}

Identification, resolution and striving for avoidance of any situations giving rise to conflict of interest is crucial to good governance and maintaining trust in public institutions. At GAIL, conflicts of interest at Board level are avoided and managed as described in the infographic given below.

Further, a policy has been formulated for dealing with Related Party Transactions as mandated under SEBI (LODR) Regulations, 2015 and is also hosted on the website of the Company (http://www.gailonline.com/final_site/policy-1.html).

- ➔ Each Director gives the disclosure of his interest in any company(ies) or bodies corporate firms, or other association of individuals by giving a notice in writing and the same is put up to the Board.
- ➔ In case a Director is directly or indirectly interested in a particular agenda / matter, he abstains himself from participation in discussion of such agenda item.
- ➔ Related party disclosure(s) is made as per applicable Accounting Standards and the Companies Act, 2013. As per this Act and clause 49 of the Listing Agreement approval of the Audit Committee and /or Board and/or Shareholders as required is taken for Related Party Transactions.

Sustainability Governance^{G4-42, G4-43, G4-48}

GAIL's top-down Sustainability Governance is spread across various critical functions. The Sustainable Development committee is chaired by an Independent Director with all functional directors as members to the committee. This committee has been active in promoting the sustainability program in GAIL which includes implementing and monitoring sustainability parameters spanning across operations.



Launch of GAIL's Sustainability Report FY 2014-15 by GAIL Board

Corporate Governance & Risk Management -->

Sustainable Development Committee (SDC)

During the reporting year, the Committee met three times and took some key decisions. The SDC formally reviews and approves the organization's sustainability report.^{G4-48}

Apart from the Board level committee, GAIL also has a Sustainable Development Steering Committee, which is chaired by the Director (HR) and includes all aspect owners at HoD level. Apart from the HoDs, a multi-

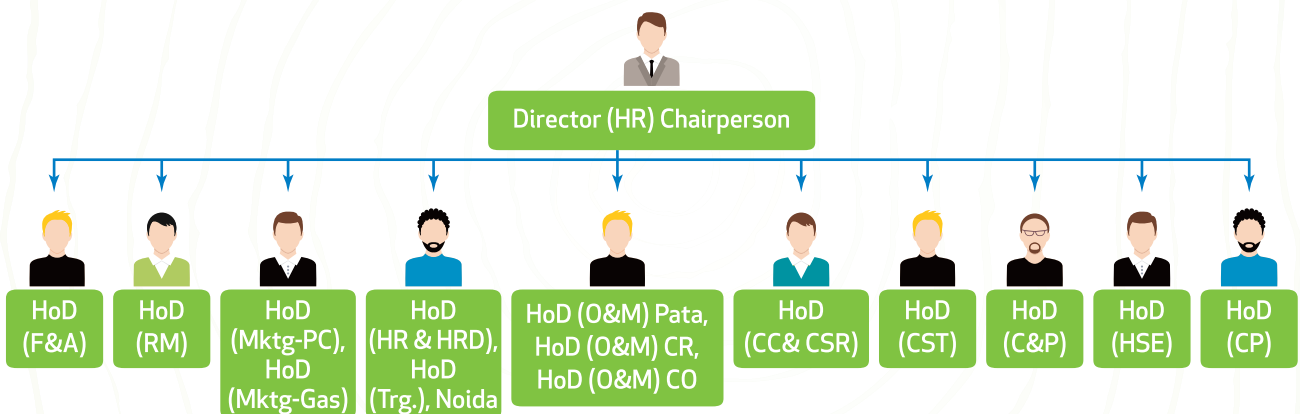


disciplinary committee is present at various sites, which comprises of senior executives including site coordinators and aspect owners that verify sustainability data to improve reliability and authenticity.

The various Committee Members receive trainings in their respective functions and it is ensured that they are regularly apprised of various developments in the field of sustainability. The Corporate Sustainability Team is also a part of the Corporate Planning Department so that sustainability can be integrated in Corporate Strategy.



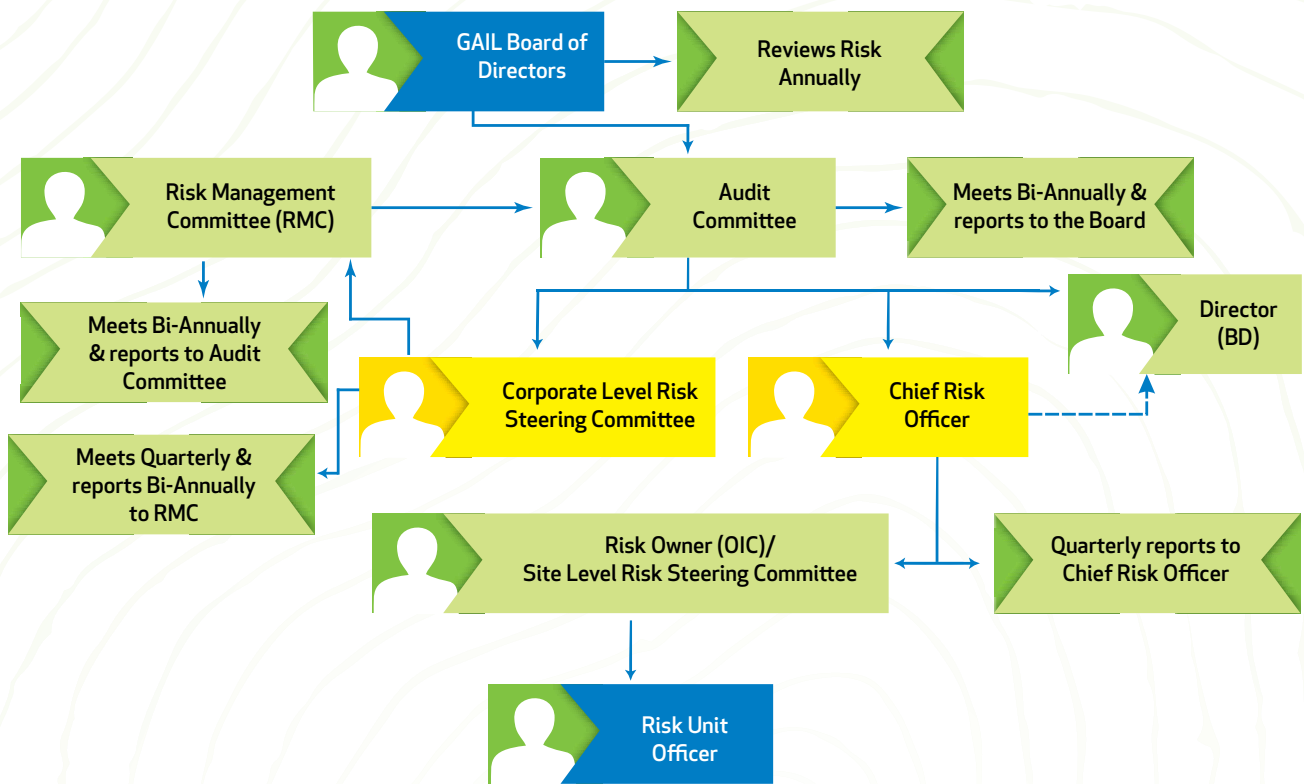
Sustainable Development Steering Committee



Risk management G4-DMA, G4-2, G4-14, G4-45, G4-46, G4-47

Risk management is one of the key aspects of corporate governance. Most prominent of these being Organisation of Economic Co-operation & Development (OECD) principles of corporate governance and SEBI LODR Regulations, 2015 which integrates risk management to corporate governance. The Companies Act, 2013 requires its Board of Directors to develop and implement a risk management policy and identify risks which may threaten the existence of the Company. Every year, GAIL's risk management framework is persistently updated for new and emerging risks coming from expansion of operations and interests.

Reviews Risk Annually



Risk Management Framework	
Scope	All assets, plants and offices
Management responsibility	<ul style="list-style-type: none"> ➔ Short-medium term risk review by <i>Chief Risk Officer & Risk Management Committee (RMC)</i> ➔ <i>Risk Management (RM) Dept.</i> appries corporate level <i>Committee of Executive Directors, RMC of functional Directors, Audit Committee & Board of Directors</i> who also review the policy and procedures periodically. ➔ The implementation of RM policy and procedures is overseen by <i>Corporate Level Risk Steering Committee</i> and reviewed quarterly for sites and units. It is further reviewed bi-annually by the <i>RMC</i> and annually by the <i>Audit Committee</i>. ➔ The unit level steering committee maps, monitors and formulates mitigation measures on a quarterly basis including social and environmental risks. ➔ Risks associated with specific groups are managed by respective dept. & management is updated on the same.

Corporate Governance & Risk Management -->

Objectives of Risk Management Policy and Procedure	<ul style="list-style-type: none"> ➔ Establish risk intelligence framework, ownership and embed risk management in the business. ➔ Aid decision makers to take account of uncertainty and find solutions. ➔ Qualitatively and quantitatively analyse, evaluate and manage current and expected risk exposure. ➔ Compliance with relevant legal and regulatory requirements and international norms ➔ Demonstrate achievement of objectives and improvement of financial stability
Top Corporate Business Risks	<ul style="list-style-type: none"> ➔ Top business risks identified are sharing of under-recoveries, regulatory compliance and reporting, natural gas pricing, price variations in polymer, LPG and other LHCs, fluctuations in foreign exchange and natural or man-made calamity risk.
Risks identified and deliberated in the Corporate Level Risk Steering Committee	<ul style="list-style-type: none"> ➔ Risk associated with non-development of critical infrastructure to support supply chain management of long term business decision of importing LNG. ➔ Risk associated with ageing and exposure of Pipeline. ➔ Operational risks emanating out of post petrochemical expansion. ➔ Risk associated with non-sync of HR with the upcoming GAIL's Business portfolios. ➔ Risk emanating from Third Party Damage in Pipeline.
Measures taken to mitigate exposure to risk	<ul style="list-style-type: none"> ➔ Specialized Corporate Level Risk Steering Committee to deal with risks ➔ Risk management policy ➔ Risk Officers at units institutionalize risk management professionals throughout GAIL at all levels



Many social, environmental and economic risks have a long gestation period and it is difficult to bind them in terms of financial years. GAIL realizes the environmental impact of our operations and consistent efforts are made to minimize or neutralize the impact. We take all possible precautionary steps to ensure that our operations perform within permitted limits minimizing the effect on community and society. ^{G4-EC2}

Internal Control Systems and their Adequacy

GAIL has a well-established and efficient internal control system and

procedures. We have defined the organisational structure, manuals and operating procedures for business units and service entities to ensure orderly and efficient conduct of our business. GAIL's Internal Control System (including Internal Financial Controls with reference to Financial Statements) ensures efficiency, reliability, completeness of accounting records and timely preparation of financial and management information. In addition, it also ensures compliances of all applicable laws and regulations, optimum utilisation and protection of the Company's assets.

GAIL has an in-house Internal Audit department, consisting of professionally qualified persons from accounting, engineering and

IT domains. The Internal Audit department functionally reports to the Audit Committee and administratively reports to CMD. This reporting is considered a global best practice. Internal Audit function reviews the business processes and controls through risk focused audits. Audit committee of the Board regularly reviews significant findings of the Internal audit department.

Internal Financial Control is an ongoing process to identify, assess effectiveness and monitor performance for continuous improvement. Our Company has developed Internal Financial Control System in its various business processes/segments, commensurate with the size and nature of business for

Corporate Governance & Risk Management -->

Vigilance Awareness Week is observed every year at the Corporate Office and at all the work centers. In order to spread awareness among GAIL employees and related work force, various competitions involving essay writing, slogan writing, poster paintings, online quiz and debates are held during the week. Other events including banners/posters/painting displays, marches and rallies with NGOs are also organized at various work centers as per guidelines received from the CVC. A magazine titled 'JAGROOK' containing CVC circulars, articles and case studies related to vigilance is also published and hosted on GAIL Intranet.

Various other initiatives have been taken in this connection to make the vigilance system and procedures robust including Whistle Blower Policy, Fraud Prevention Policy and Integrity Pact maintained earlier along with Online Complaint Monitoring System which has been developed to upload any corruption related issue for all business areas. During the reporting year, total 147 number of CTE type inspections of various works were also carried out to assess business units for corruption related vulnerability.

During the period under review, 104 complaints were received, out of which 79 (i.e. 75.96%) have been resolved.

G4-S05

Grievance Redressal^{G4-} DMA, G4-37, G4-49, G4-50

GAIL is committed to provide services to its stakeholders to their satisfaction in a transparent manner by upholding the highest values of corporate governance and ethics. However, if stakeholders find unprecedented areas of concern; they are encouraged to report the same. Further, the option to lodge complaints is available on our website (http://www.gailonline.com/final_site/online_complaints.html). Vigilance complaints regarding vigilance and corruption, forgery, cheating, misappropriation, favours, willful negligence, reckless decision making, blatant violation of systems and procedures, irregularities and exercise of delegated powers can also lodge.

The Online Grievance Redressal System for employees is monitored by Corporate HR. The grievances registered by employees should be redressed by the HR in-charge within a stipulated time frame, failing which the matter is auto escalated to General Manager (GM) HR at Corporate Office and finally to Director (HR). In case of dissatisfaction with the response, the employee can appeal to the next level. Technical or commercial complaints regarding product quality can be lodged by Customers. GAIL

Customers can register Service Request / Complaint / Indents 24 x 7 online through GAIL's webpage. GAIL also follows a system of uploading all the written complaints received at various work centres for centralized monitoring and redressal.

The Centralized Public Grievance Redress and Monitoring System (CPGRAMS) portal operated by GAIL is a Government of India Portal (Department of Administrative Reforms and Public Grievances). The CPGRAMS portal is available to citizens for lodging their grievances and complaints online which are received by the MoPNG. Grievances received, redressed and responded through this portal during the year 2015-16 are classified below^{G4-EN34, G4-LA16, G4-HR12, G4-S011}

	Environment	Labour Practices	Human Rights	Society	Total
Complaints received	3	2	35	189	229
Complaints resolved	3	2	34	184	223
Complaints under review	0	0	1	5	6
Cumulative complaints pending	0	0	1	5	6

Besides this, GAIL also has a Complaint Handling System whereby written complaints received at various work centers are uploaded in the system, for redressal and centralized monitoring.



Sustainability Strategy G4-DMA, G4-EN5, G4-EN18

Sustainability Aspirations 2020

GHG Emissions



Energy Consumption



Water Consumption



Awareness on Sustainability



Sustainability Strategy G4-DMA, G4-EN5, G4-EN18 -->

Energy is considered a catalyst for economic growth. With a growing economy and a population of 1.26 billion aspiring for a better quality of life, increase in India's energy demand is inevitable. Thus GAIL's strategy for the period of 2011-2020 has been formulated to provide direction, build resilience and guide the Company's growth. The top management plays a crucial role in achieving strategic objectives to make the organization an integrated hydrocarbon major with significant upstream, midstream and downstream interests. Further details of our strategic investments are available in the section on Adapting to new eco-system : Innovating for profitability.

Our Strategy

GAIL, as India's youngest Maharatna public enterprise is committed to creating a better tomorrow that extends beyond our cleaner energy business. We have been rigorously working to reduce the impact of our operations on the environment and society. This involves taking strategic initiatives and making investments in clean energy such as wind and solar.



↑ Signing of MoU between GAIL and Bloom Energy for Natural Gas based Fuel Cell in India

By integrating our commitment towards the economic, environmental and social concerns into the core of our business, GAIL strives to ensure a sustainable growth trajectory for itself. GAIL continues to work towards achieving voluntary targets as set under the Sustainability Aspirations 2020. Over a short span of our sustainability journey we have been able to make our mark at the national and international stage. We acknowledge the recognition we received for our initiatives and plan to continue to work hard towards actualizing our sustainability aspirations.

- Director (HR)*
* for BD related activities

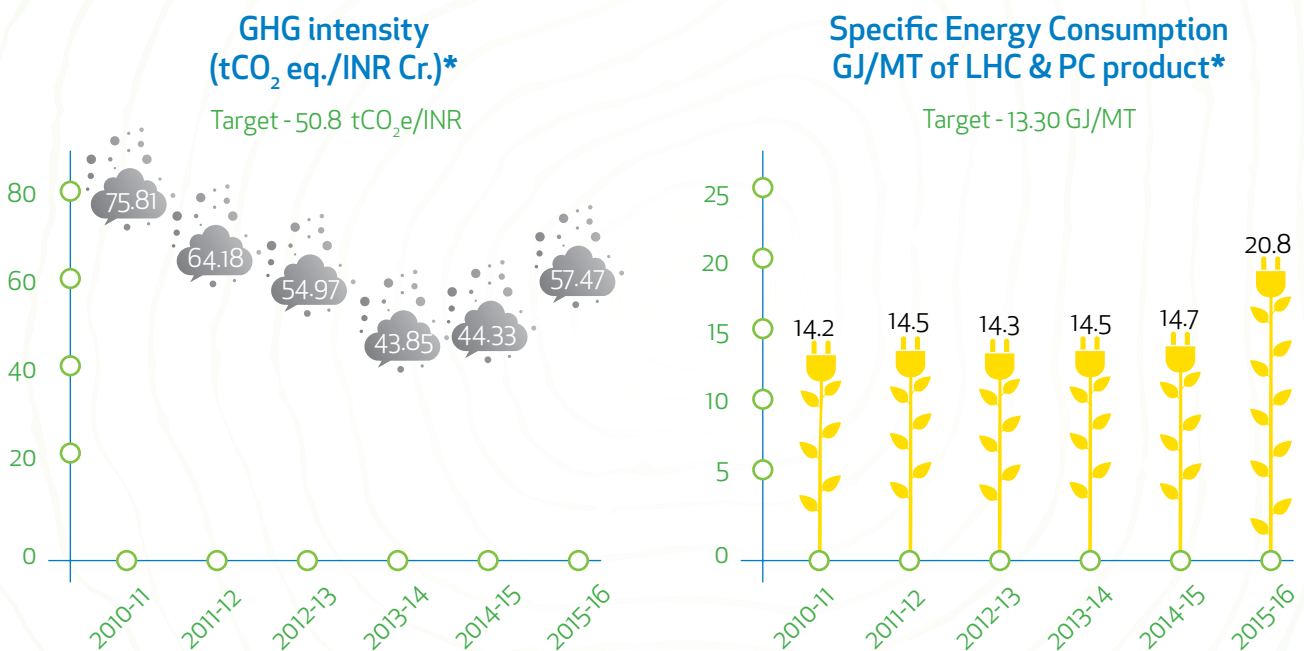
GAIL is among the first Oil & Gas Companies in India to take voluntary targets to improve its sustainability performance in the form of Sustainability Aspirations 2020.

Key Focus Area	Aspirations 2020 (Base Year 2010-11)
GHG Emissions (Scope I and II)	<ul style="list-style-type: none"> → 33 % reduction of GHG emission intensity. → 5% reduction of Specific GHG emission. (Additional Corporate Level Target).
Specific Energy Consumption	<ul style="list-style-type: none"> → 5% reduction of specific energy in LHC & PC products → 5% reduction of Specific Energy Consumption. (Additional Corporate Level Target)
Water Consumption	<ul style="list-style-type: none"> → 45% reduction water consumption intensity. → 15% reduction of specific fresh water consumption. (Additional Corporate Level Target)
Waste Water Recycling	<ul style="list-style-type: none"> → 5% increase in waste water recycling → Zero Discharge at Pata and Vijapur (Additional Corporate Level Target)
Training/Awareness on Sustainability	<ul style="list-style-type: none"> → 100 % of our employees and all new joinees to be made aware within one year of their joining



Our progress on sustainability aspirations

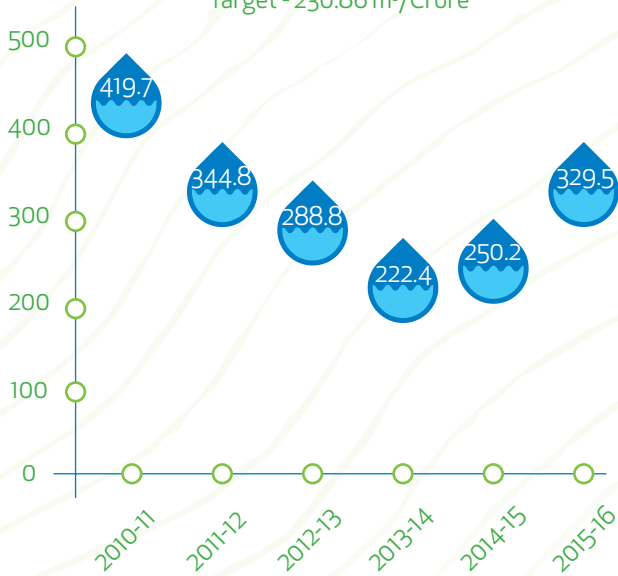
Till FY 15-16, 2612 (61%) number of employees of GAIL have been trained on Sustainable Development



Sustainability Strategy G4-DMA, G4-EN5, G4-EN18 -->

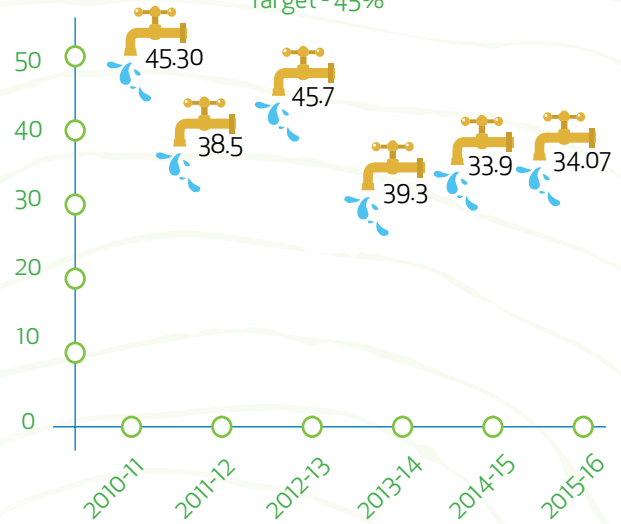
Water consumption intensity (cu.m/INR Cr)*

Target - 230.86 m³/Crore



Waste Water (WW) Recycled (% of Waste Water generated)

Target - 45%



*During the reporting year there has been an increase in GHG intensity, Water Consumption intensity, Specific energy Consumption and water consumption, in comparison to the last FY. The major reasons are as follows-

- ➔ Mega expansion of our two largest plants i.e. Pata Petrochemical Plant (capacity doubled after expansion) and Vijaipur Gas Processing Unit. The commissioning and stabilisation of

new plants at Pata and Vijaipur led to additional flaring and venting. Further, the natural gas vented had high percentage of methane.

- ➔ Decrease in Revenues by over 8% from 2015 to 2016, led to distortion in turnover related ratios.
- ➔ Change of Global Warming Potential of methane from existing 21 to 25 as per IPCC guidelines.

- ➔ Due to the statutory requirement, inspection of LPG storage horticane spheres at GAIL Gandhar was carried out. Even after optimizing recovery through vapour recovery compressors, the remaining bottom LPG had to be flared. This led to additional increase of GHG emissions.

Stakeholder Engagement & Materiality



Stakeholder Engagement & Materiality -->

Stakeholders are individuals, groups of individuals or organizations who either affect or are affected by our operations. Regularly engaging with our stakeholders is imperative for attaining a holistic perspective of areas of concern, and identifying opportunities for improving our business processes and performance. Stakeholder engagement enables development of a trust-based and transparent relationship with our stakeholders. Through this process, GAIL informs and educates its stakeholders to promote inclusive decision making and actions that, in turn, will have positive impact on the ecosystem.

Our Approach ^{G4-DMA, G4-24, G4-25, G4-26, G4-27}

Through consultation, GAIL aims to identify key issues / aspects that are relevant to its stakeholders so as to complement the materiality process. The management has proactively worked towards integrating stakeholder engagement into our governance, organizational and management strategy. A structured and phased approach is taken by the management for stakeholder engagement and materiality, which is summarized as follows:



World Energy Day Celebrations

Identifying key issues

Identifying Key Issues	<ul style="list-style-type: none"> ➔ Identification of an exhaustive list of issues that may be relevant to GAIL and its stakeholders ➔ Interaction with stakeholders (such as Head of Departments) to shortlist key issues relevant to GAIL and its stakeholders
Stakeholder Mapping	<ul style="list-style-type: none"> ➔ Mapping key issues across stakeholders and prioritizing them. ➔ Selecting key stakeholders with whom to interact.
Stakeholder Response	<ul style="list-style-type: none"> ➔ Formulating stakeholder-wise questionnaires, deploying them through relevant departments and facilitating stakeholder engagement at various sites ➔ Understanding Stakeholder perception of the company's sustainability and their key concerns
Collating & Analyzing Response	<ul style="list-style-type: none"> ➔ Summarizing responses from stakeholder interviews or surveys and recording them in pre-designed format ➔ Analysis of emerging patterns with respect to stakeholder groups and development of materiality matrix with respect to the results obtained from the stakeholder analysis.



Stakeholder Engagement & Materiality -->

Collating & Analysing Responses

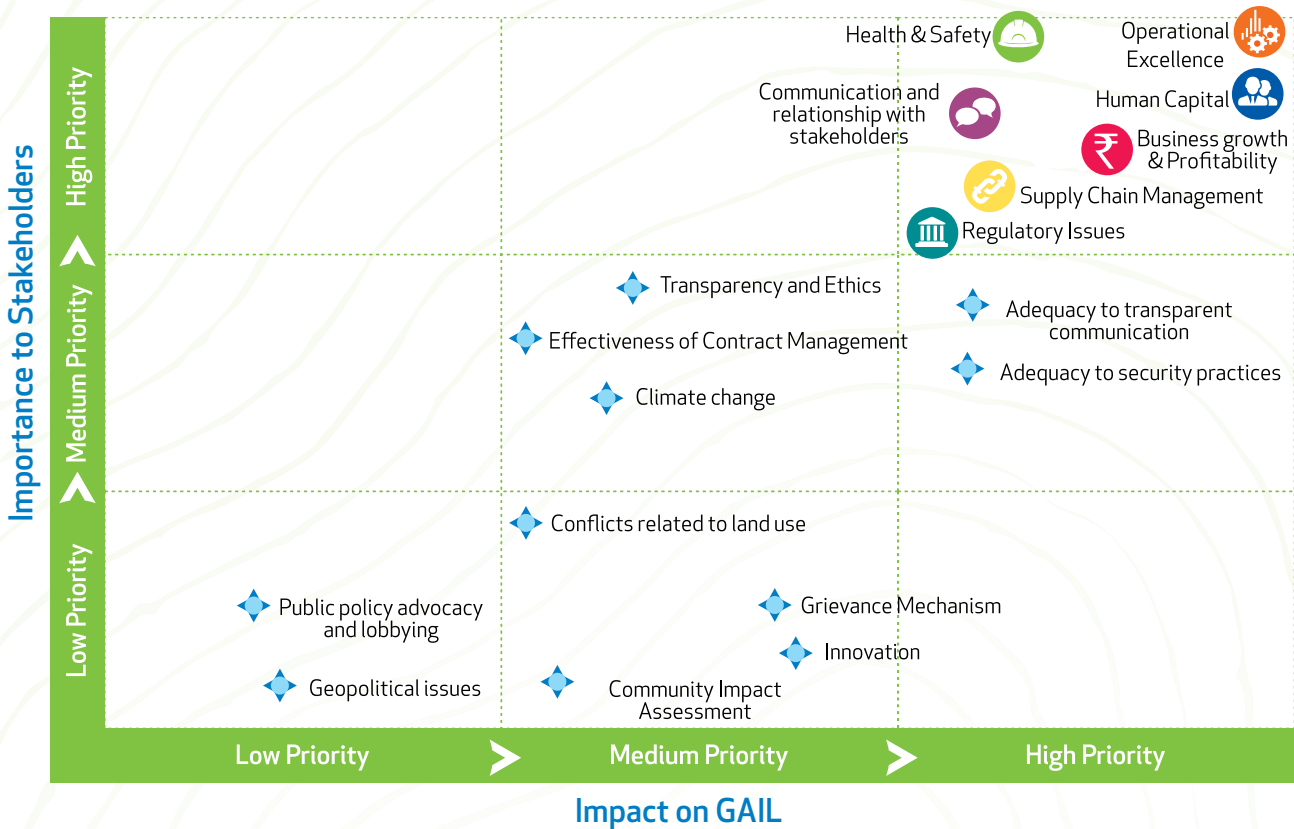
The inputs received from various stakeholders both online and offline were collated and analysed. The top material issues that emerged from interaction with the prioritized stakeholders are depicted below:



We engage with our stakeholders to share values and co-create growth with them. Further, their concerns were identified through various channels and engagement mechanisms which have been provided in detail in the section *Communicating for effective synergies and partnerships* of this report.

Materiality Matrix

The results of the stakeholder engagement process were discussed with the senior management of GAIL whose response was also taken into account for developing the final materiality matrix. The material issues identified through this exercise are i) **Operational Excellence** ii) **Human Capital** iii) **Health and Safety** iv) **Business Growth and Profitability** v) **Supply Chain Management** vi) **Communication and relationship with stakeholders** and vii) **Regulatory Issues**. The materiality matrix determined is presented below:



In this report, we have highlighted our approach towards the identified issues and company specific aspects in detail. Further, the related GRI aspects have been mapped with the identified material issues and their performance has been reported in the subsequent sections of the report. The mapping of the final high materiality issues with stakeholders is given in the table below^{G4-19, G4-20, G4-21}

Material aspects	Sub aspects considered by management and stakeholders	Boundary	Major Stakeholders
Operational Excellence	Environmental Investments	Within GAIL	➔ Shareholders and Investors
	Material		➔ Employees
	Energy		➔ Communities
	Water		
	Emissions		
	Emissions management		
	Effluent & Waste		
	Overall		
	Environmental Grievance Mechanism		
	Grievance Mechanism for impacts on society		
	Asset Productivity*		
	Transport		

Stakeholder Engagement & Materiality -->

Material aspects	Sub aspects considered by management and stakeholders	Boundary	Major Stakeholders
Human Capital	Employment	Within GAIL	→ Employees
	Labour/Management Relations		→ Contract Workers
	Training & Education		
	Diversity		
	Employment and labour practices		
	Human Rights Investment		
	Non-discrimination		
	Freedom of Association and Collective Bargaining		
	Forced or compulsory labour		
	Child Labour		
	Equal Pay for men & women		
	Labour Practices Grievance Mechanism		
	Security Practices		
Health and Safety	Occupational Health and Safety	Within GAIL	→ Employees
	Customer Health and Safety		→ Communities
	Asset integrity and process safety*		
Business Growth and Profitability	Economic Performance	Within GAIL	→ Shareholders and Investors
	Market Presence		→ Customers
	Indirect Economic impacts		
	New diversification and seeking new opportunities*		
Supply Chain Management	Procurement Practices	Within & Beyond GAIL	→ Suppliers
	Supplier Environmental Assessment		→ Customers
	Supplier Assessment for Impacts on Society		
	Supplier Human Rights Assessment		
	Supplier Assessment for Labour Practices		
	Indigenous Rights		
Communication and Relationship with Stakeholders	Marketing & Communication	Within & Beyond GAIL	→ Government & Regulators
	Product & Service Labeling		→ Customers
	Human Rights Grievance Mechanism		→ Employees
	Local Community		→ Suppliers
	Adequacy of transparent communication across GAIL*		→ Communities
Regulatory Issues	Anti-competitive behavior	Within & Beyond GAIL	→ Regulators
	Anti-corruption		
	Public Policy		
	Compliance		

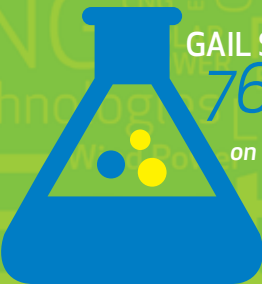
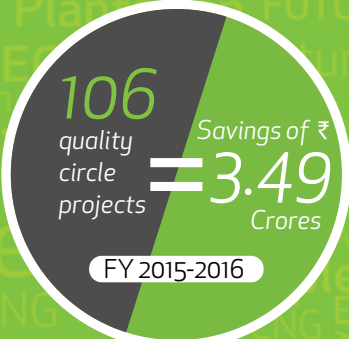
* These aspects are not included under the GRI G4 aspects but have been included in the report to provide completeness to the material issues identified.



Ensuring Robust Systems and Processes through Operational Excellence



APPS Software
Monitoring Natural Gas & LPG pipelines in phased manner



GAIL Spent INR **76.5 Crores** on **R&D >1%** of PAT FY 2015-16



Ensuring Robust Systems and Processes through Operational Excellence -->

GAIL places great value on the health and safety of our workforce, protection of our assets, value to stakeholders and the environment. Through our robust management systems, GAIL is able to translate these values into systems and processes that drive performance excellence and deliver results. The implementations of management systems and processes that incorporate standards, procedures and change management have been proved to deliver a culture of excellence at every level. At GAIL these systems help in identifying new areas of improvement, implementation of new projects and policies, continual improvement and management of risk.

In the prevailing economic conditions, and growing global political concerns over climate change and the SDG 2030, it is increasingly imperative for GAIL to focus on delivering operational excellence, reducing waste and energy consumption and increasing efficiencies across all business segments. As a provider of cleaner forms of energy, GAIL will continue to endeavor to meet the nation's demand.

Our Approach ^{G4-DMA}

Our approach towards achieving excellence in all aspects of our business and operations is guided by our Vision to "be the leading company in natural gas and beyond with global focus, committed to customer care, value creation for all stakeholders and environment responsibility". In order to proliferate this throughout the organization GAIL leverages best in class practices, highest standards of quality, safety and integrity, high efficiency, adoption of latest technology, imparts best in class training and development of employees in all operational assets to constantly create value for all stakeholders.



3rd All India Global Methane Initiative Oil & Gas Sector Meet

We believe in raising the bars for ourselves, every day. The philosophy of kaizen, to follow a long-term approach to systematically improve efficiency and quality, is embedded in the way we operate. Operational Excellence at GAIL rests on the trinity of People, Performance and Process. By focusing on continuous improvement of processes and increased efficiency across project sites, GAIL has focused on overcoming the challenges posed by both the regulatory and economic environment. The global fall in crude oil prices has impacted GAIL's profitability and at this juncture the organization looks towards improvements in energy management, energy efficiencies, and cost savings. Further, with greater thrust on global climate change negotiation with COP 21, SDGs, GAIL must now rise to the challenges of providing energy security and cleaner alternatives to India's burgeoning population while also acting on opportunities to control emissions, improve efficiencies and protect the sustainability of our operations.

Consistent improvement helps in better capacity and asset utilization, reliability and forecasting without compromising on safety. We believe our endeavors will be the enablers for bringing a change and we strive to build excellence in our systems, procedure, practices, policies and strategies.

- Director (Projects)

Asset Productivity^{G4-DMA}

GAIL's Operations and Maintenance (O&M) policy outlines the company's philosophy and determines its objectives, targets and activities for maintenance, replacement of assets and their review. It further delineates monitoring, controlling, reporting and audit system as well as roles and responsibilities towards the same.

O&M Objectives:

GAIL's approach for achieving our vision for world-class performance are outlined in O&M objectives which focus in the following areas:

<p>Top-quartile Performance</p> <ul style="list-style-type: none"> → Delivery of uninterrupted, reliable and best quality products and services to customers. 	<p>Safety of People and Assets</p> <ul style="list-style-type: none"> → Safety of public, employees and properties, assets belonging to the organization. 	<p>Best-in-class Standards and Systems across the Value Chain</p> <ul style="list-style-type: none"> → Leverage technology and address technological obsolescence to promote efficient and environment friendly O&M activities. → Keep "Safety Management", "Quality Management" and "Integrity Management" of all assets, in entire value chain of O&M. 	<p>Talent Management</p> <ul style="list-style-type: none"> → Develop employees' competency, skills and enhance employee motivation.
<p>Culture of Excellence and Customer Delight</p> <ul style="list-style-type: none"> → Have efficient stakeholders' management at all levels and deliver reliable, quality products and services to the delight of the customer. 	<p>Sustainable Business Operations and Compliance</p> <ul style="list-style-type: none"> → Operate our business in a manner that is sustainable in the long term, serving the best interests of GAIL and its stakeholders. → Comply with all requirements of statutory, legal and regulatory and Govt. guidelines and go beyond in setting internal targets. 	<p>Responsibility and Accountability</p> <ul style="list-style-type: none"> → Deploy best practices having defined roles, responsibilities and accountability at all levels with proactive and value based approach. 	

Leadership Responsibility

Leadership is one of the defining factors in the successful implementation of operational excellence. At GAIL we believe in leading from the front and empowering our employees to inculcate and implement our philosophy of excellence throughout the organization. Thus, Department Heads lead the systems and processes, set priorities, develop performance measures and monitor achievements

against these. Our culture encourages employees to take responsibility to ensure that systems and procedures are fully and effectively complied with.

Integrated Management Systems

At GAIL the implementation of management systems for operational excellence is driven by our aim to integrate best in class technologies, optimize processes, conserve resources, reduce waste while increasing efficiencies to maximize asset performance and increase return

on investment. These systems ensure product quality and smooth operation of over 11,070 km of pipeline and 206 MMSCMD of capacity and 6 gas processing plants in our network. The functions of the management systems are integrated and these are reviewed and analysed for gaps in performance and evaluations of threats and risks. Some key management systems in GAIL are the Integrated Management System; Pipeline Integrity Management Systems; Energy Management Systems and Waste Management System and Emission Management Systems.



Ensuring Robust Systems and Processes through Operational Excellence -->

In terms of management infrastructure, GAIL has a National Gas Management Centre which manages GAIL's trading, transportation and LPG transmission business throughout India. Further, all our major project sites are compliant with ISO 9001, ISO 14001 and OHSAS 18001 certifications and these are reviewed through timely internal audits, surveillance audits, certifications and also their recertification through external Certification Body.

in the continuous and sustainable improvement of products, processes and services. This commitment delivers improved productivity, enhanced quality, increased customer satisfaction, reduced costs and increased competitive advantage. To enhance its implementation GAIL has adopted the TQM approach of data based decision making, through the use of statistical tools, integrated management systems and their review.

mitigate this risk GAIL has developed the National Gas Management Centre (NGMC) and Pipeline Integrity Management System (PIMS). In addition to these GAIL has developed centres of technical excellence across its value chain through the Network Management Centre (NMC), GAIL Polymer Technology Centre (GPTC) and GIGALINK (IT & ERP Data Centre).

Compliance Management

GAIL complies with all relevant legislation, laws, standards, codes and internal policies by raising awareness of its compliance obligations through education, training and legal advice. It also ensures compliance with legal and regulatory obligations including internal and external audits. Internal audits review sample transactions to ensure compliance with policies and procedures of the organisation. In the case of special projects, the Audit Committee reviews and assesses compliance with established standards of business ethics and procedures for reporting violations of Company policies. The responsibility of creating systems and processes to ensure compliance lies with Department Heads at the level of Executive Director.



↑ Award ceremony of Best Quality Circle Projects

Total Quality Management (TQM)

TQM is an integrative management philosophy aimed at continuously improving the quality of products and processes to achieve customer satisfaction. Commitment from Top Management drives this ethos through all levels and functions throughout the organization. At GAIL the adoption of TQM integrates customer focus, leadership commitment, continual improvement, employee empowerment and supplier support

To encourage innovative solutions in TQM, GAIL employees are encouraged to devise and implement quality circle projects that result in financial savings, quality improvements, customer satisfaction etc. In FY 2015-2016, 106 quality circle projects were taken up with savings of INR 3.49 Crores made. This is further promoted through an award scheme delivered by the CMD.

Infrastructure, systems and processes for excellence

The Gas Management System: The transmission and supply of natural gas involves high risk activities and to

The National Gas Management Centre manages GAIL's trading, transportation and LPG transmission business throughout India. It provides live data pertaining to pipeline installations, coordination of gas transmission and delivery conditions of all major customer terminals; information on LPG transportation and Liquid Hydrocarbon production; gas reconciliation and accounting for gas vertical. It also provides data for continuous monitoring and control of gas transmission and supply, quality of gas and pipeline integrity and safety. The RGMCs provide access to consumer terminals and also have the ability to control and monitor flow rate and gas quantities for local customers. To provide back up support to the NGMC a similar centre is being



planned in Jaipur as a failsafe that would maintain the integrity of supply chain and pipeline. In addition to coordinating operational maintenance and safety data, the NGMC also provides real time data of GAILs LPG transmission pipelines which allows for better coordination with oil marketing companies regarding LPG take off rates.

The NGMC is further integrated with a Gas Management System which is a web enabled platform that provides integrated real time data regarding gas nominations, delivery and reconciliation for shippers, suppliers, customers and transporters of gas to increase transparency and improve coordination of gas supply.

Asset integrity and service reliability G4-DMA

GAIL ensures the safety of its pipelines from initiation by undertaking design in accordance to national and international standards such as the ASME, OISD and PNGRB. It also observes guidelines used by the API, BS, Canadian Standards, DIN, NACE and NFPA.

GAIL maintains the integrity of its vast network of gas pipelines through the Central Pipeline Integrity Management System (CPIMS). The CPIMS shows the status of pipeline integrity by noting threats, risks, probability of failure and compliance to statutory regulations through a combination of GIS and temporal data. Pipeline design and standardized integrity assessment processes are also stored on the system and made available to relevant users across operations. Through the CPIMS, GAIL is able to reduce the risk of failure of the pipeline, insurance costs and downtime. Additionally, it is expected to increase the lifeline of the pipeline through data led maintenance.

GAIL has evolved a Pipeline Integrity



Operations Management through sophisticated state-of-the-art facility

Management System that ensures efficient asset performance through data gathering and review, risk assessment and prioritization of identified risks. Data emanating from the system is examined to determine the course of action whether diagnosis of threats, FFP assessment and corrosion growth. Measures to rectify these through preventative measures, enhancement of repair schedule or inspections are put in place through the Integrity Management Plan. The pipeline is thus rehabilitated and continual data gathering and review ensures its maintenance and increased lifeline.

GAIL has started implementing Application Software (APPS) for monitoring NG & LPG pipelines in a phased manner. APPS provide operation and planning tools for safe, reliable, optimum and economic operation of pipeline networks. The system offers various functionalities and modules, such as Real Time Modelling, Leak Detection System, Inventory Analysis / Line pack Calculations, Predictive Modelling for all pipelines in a common database.

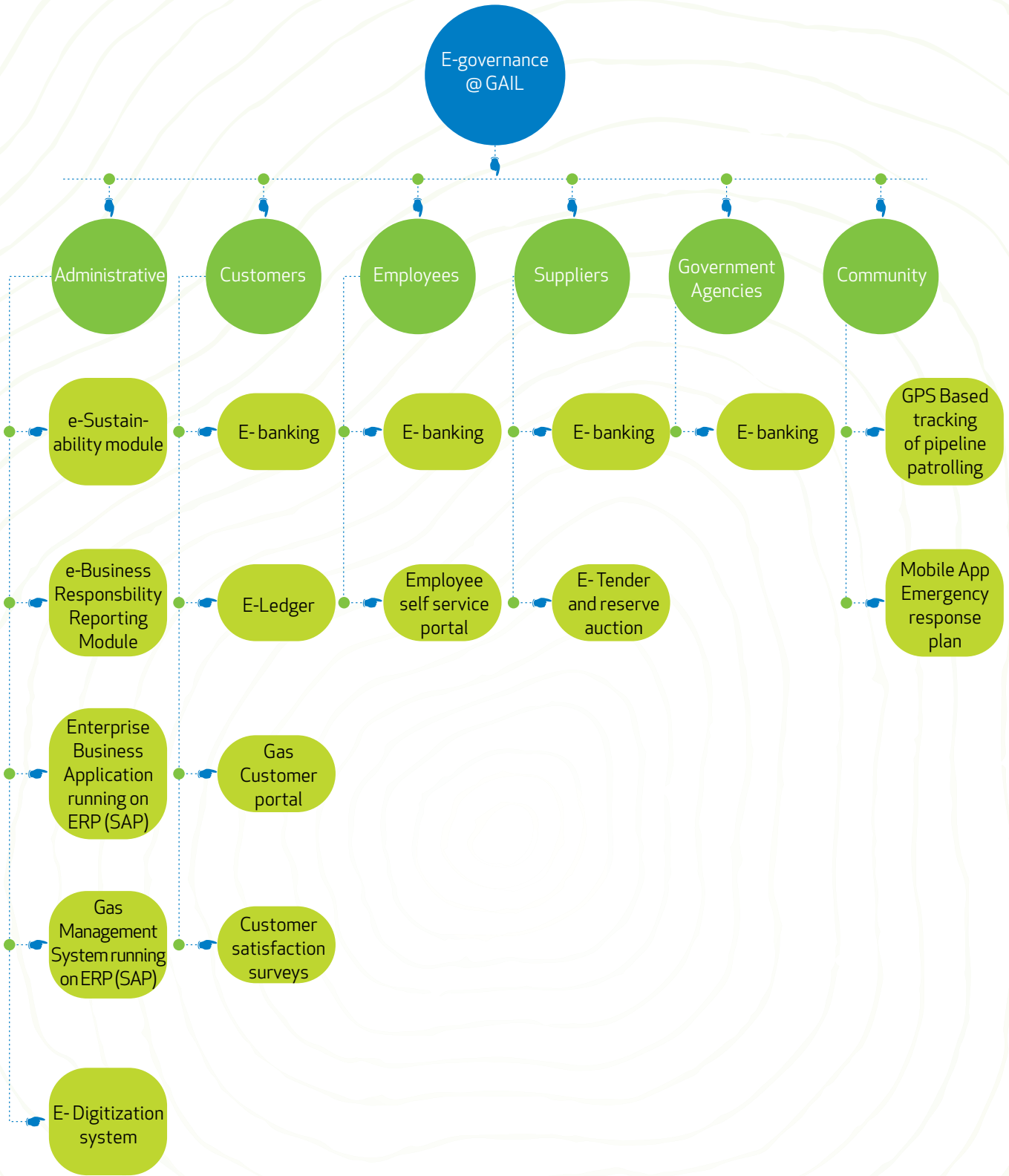
Further, GAIL has constituted a Central Integrity Management Group within the Corporate O&M Department at Noida to create

systems and processes for managing the integrity of all the pipelines owned and operated by GAIL. Regional Integrity Management Groups (RIMG) have also been formulated for the integrity management at regional level. The core function of the group is the identification and effective management of all the threats that have the potential to impact pipeline integrity and to strategize identify, monitor, control, audit and demonstrate improvement on each hazard. Internationally reputed and certified Subject Matter Experts (SMEs) have also been empanelled by GAIL for expert opinion on critical issues and root cause analysis with respect to health and integrity management of pipelines. A system has been developed for carrying out root cause analysis of incidents through three tier investigation mechanism i.e. internal committee at first level, External Technical Consultant such as Engineers India Limited (EIL) at second level and through an internationally reputed independent agency at third level. The recommendations of all these committees will be integrated, comprehensive corrective measures will be identified and implemented to prevent recurrence of similar incidents.

Ensuring Robust Systems and Processes through Operational Excellence -->

Business Information systems

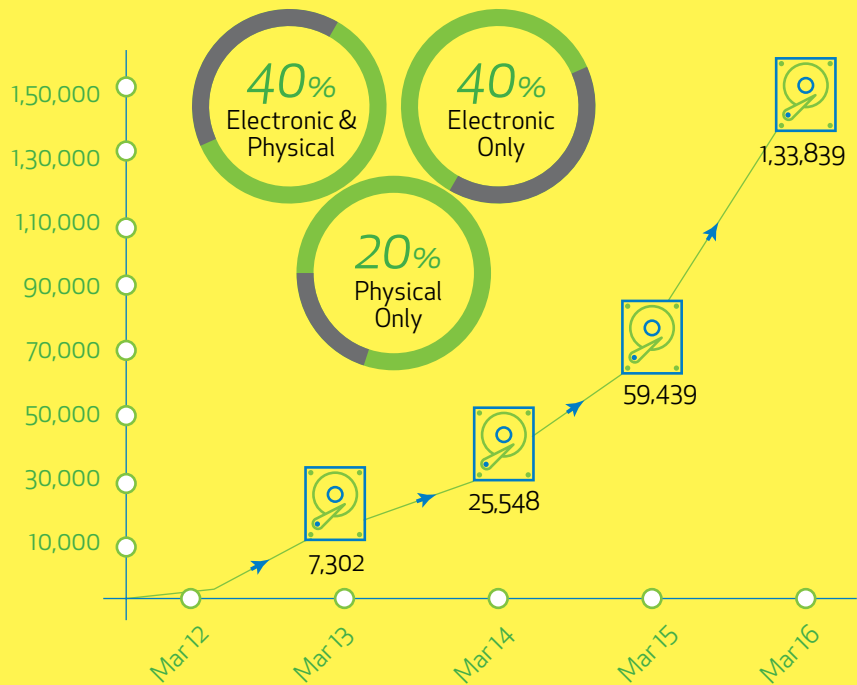
GAIL's technology vision is to acknowledge technology as the key to the future success of the organization and advocate best in class technologies. Under this initiative several IT systems have been developed and implemented for relevant stakeholders in the organization, some of which are captured below:



36

Electronic Data Management System

GAIL implemented an enterprise wide Electronic Document Management System (EDMS) in 2012 to move towards a “paper-light” office, providing an opportunity to reduce use of paper which not only cuts down cost & time, but also reduces distribution / handling efforts and increases business productivity. Dedicated teams have been deployed across various locations of GAIL to support the users at the grass-root level. Trainings are being imparted in batches at GAIL Training Institute, Noida; individually on need basis and through remote desktops as assistance. As on 31st March 2016 we have over 1.3 Lakh records in the EDMS, of which 40% are Electronic Only Records; 40% have been digitised and balance 20% have been stored as Physical Only. The decision of digitisation is taken based on the sensitivity of the record, how often it is referred and how widely it is referred.



Sustainability in our Operations

At GAIL excellence in operations includes the implementation of sustainable practices and environmentally friendly operations. Our Sustainable Development policy focuses on improvements in energy efficiency, water conservation, biodiversity and waste management and aims to achieve these through optimisation of natural resources, material substitution, recycling and reuse and the adoption of eco-friendly and cleaner technologies. The policy further encourages GAIL to actively engage in the mitigation of GHG emissions and instil a preference for eco-friendly products and services.

Through our Sustainability Aspirations 2020 we have set voluntary targets towards GHG emissions, specific energy, water consumption, waste water recycling, and sustainability awareness to improve waste management and the environmental

sustainability of our operations. This is driven and monitored by the GAIL Sustainable Development Committee.

Waste Management^{G4-DMA}

As part of our sustainable business practices, waste management has emerged as a critical issue posing long term impacts on the environment. While GAIL is not involved in any activities related to transporting, importing, exporting or treatment of waste deemed hazardous under Basel Convention^{G4-EN25}, the company's petrochemical unit generates tar, wastewater treatment plant (WWTP) sludge, molecular sieves, tar ash and slope oil as hazardous solid waste which is devoid of heavy metals content.

E-waste Management

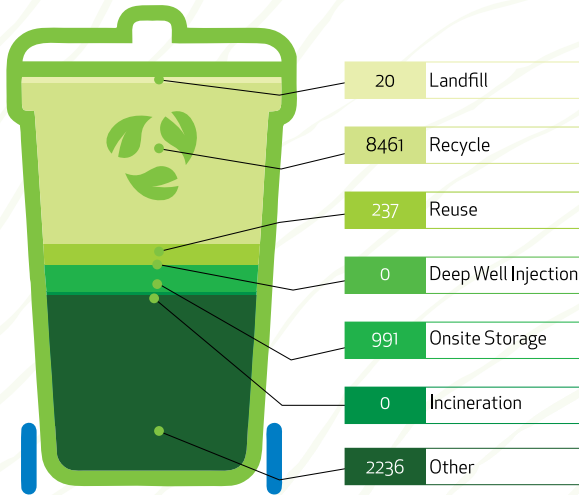
In 2016 the MoEFCC updated the E-Waste Management Rules, 2016 in supersession of the e-waste

(Management & Handling) Rules, 2011. The rules regarding handling of E-waste have become more stringent and encompass a greater level of equipment such as Compact Fluorescent Lamps (CFL) and other mercury containing lamps. The rules also put the onus of collection and exchange of e-waste on the producers and specify these under Extended Producer Responsibility (EPR) with targets. As a bulk consumer of E-waste GAIL is committed to collecting and handing items over to authorized recyclers.

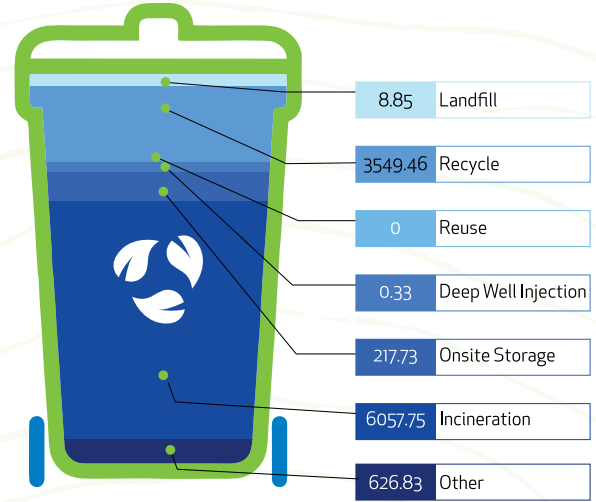
To encourage awareness regarding the new rules an E-waste a training programme was also undertaken through the Centre of Science and Environment for GAIL officials in February 2016. The programme imparted training on e-waste and its management, disposal techniques and collection mechanisms. GAIL has already implemented systems and processes to manage e-waste and integrated these with safety/ environmental audits.

Ensuring Robust Systems and Processes through Operational Excellence -->

Solid Waste Disposed by Disposal Method (MT)



Liquid waste disposed by disposal method (Litres)

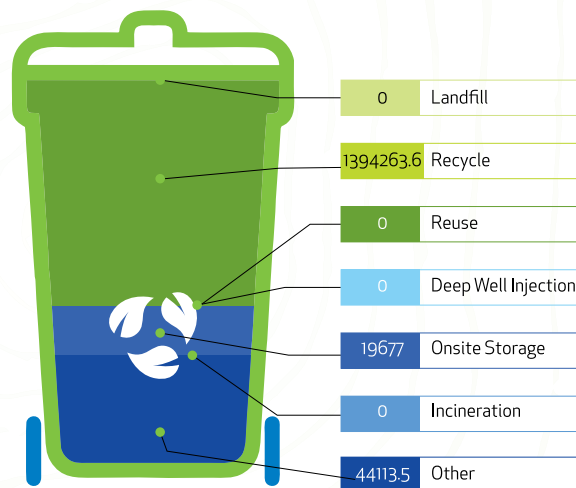


As per Schedule-I of The Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, oily sludge emulsion and slop oil which are being generated from Petrochemical operations have been identified as hazardous waste. Those wastes are being generated during the manufacturing of Petrochemicals and are being separated in a dedicated Waste Water Treatment Plant of GAIL Pata. The oily sludge is regularly being disposed of through UP Pollution Control Board approved Treatment Storage & Disposal Facility (TSDF). The other organic sludge from WWTP is taken for land filling and green belt development purposes. Molecular sieves and tar ash is landfilled in a secured landfill and slop oil is sold to statutory approved parties for its effective recycle and reuse. GAIL Petrochemical Plant also has a dedicated incinerator facility for incineration of Tar being generated in the manufacturing process. Presently incinerator shifting job from existing location to new location is being done due to expansion of Petrochemical

plant which is at advance stage. Meanwhile accumulated Tar is being disposed off through approved TSDF facility. Other waste materials such as used batteries are returned to the respective vendors at the time of supply of new batteries for recycling

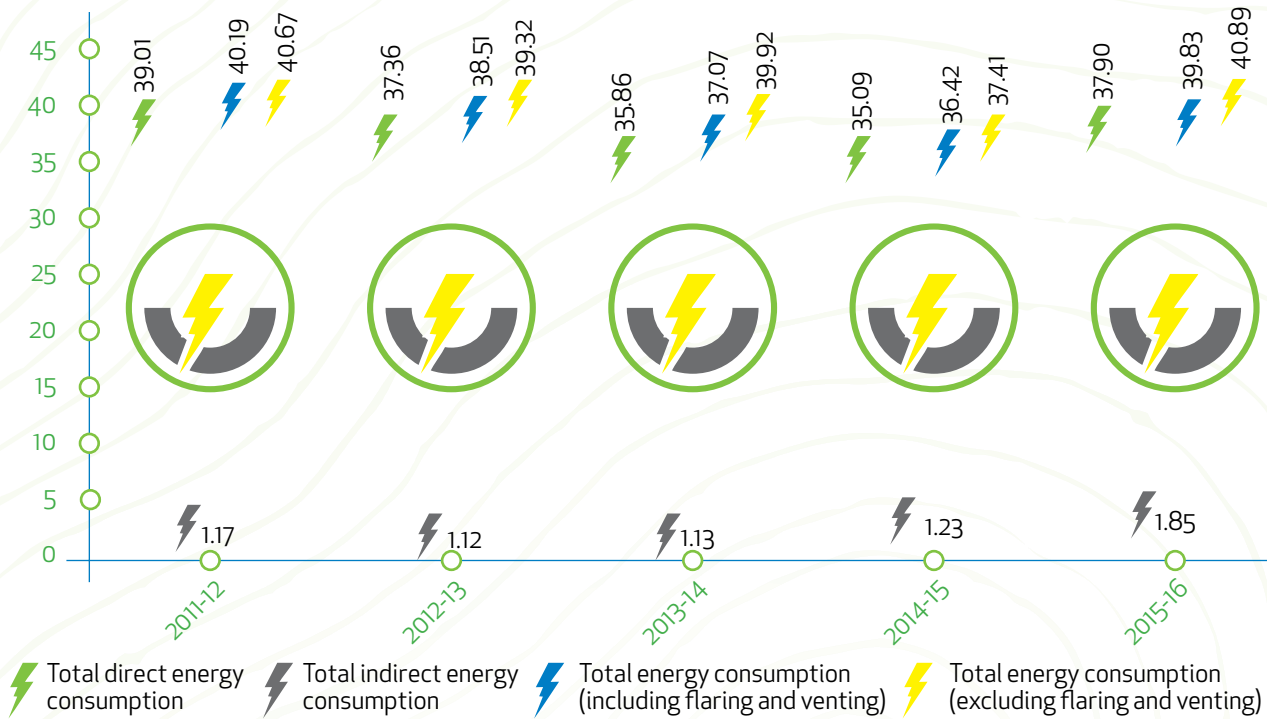
purpose at all installations. Used oil, spent oil & waste oil are being collected in drums which are kept at demarcated location in yard area and the same is being disposed through CPCB/MOEF/SPCB authorized re-processors as per guidelines.

Miscellaneous Waste disposed by disposal method (Numbers)



Energy Management ^{G4-DMA}

Our Energy Consumption (Million GJ)



In order to decrease the energy intensity of our operations GAIL also focusses on reductions in energy use and increases in energy efficiency. We aim to reduce specific energy consumption in LHC & PC production by 5%. Further reductions are targeted through an organization wide plan for integrated energy management systems, monitoring of energy consumption, undertaking of

energy audits and implementation of corrective actions and energy saving measures. GAIL advocates the use of advanced technologies and utilisation of renewable energy resources as energy saving measures.

Thus, GAIL has undertaken the steady implementation of energy management systems (ISO 50001:2011) at our project sites. Under this initiative GAIL Gandhar received

ISO 50001:2011 certification in 2013-2014 and GAIL Vaghodia unit was recommended for second stage certification audit in 2014-2015.

Increases in energy efficiency and reductions in consumption have a direct impact on cost saving. Thus GAIL has undertaken a number of energy saving initiatives in the following areas:

Area	Initiative
Procurement	➔ Replacement with the latest energy efficient lighting systems.
	➔ Procurement of energy efficient and sustainable products in tenders
	➔ Procurement specification of electrical equipment to require minimum 3 Star rating of product.
	➔ ACs more than 10 years old to be replaced after doing a cost benefit analysis
	➔ Implementation of LED based lighting systems.
	➔ BEE Star rating air conditioners & Installation of solar lights at GAIL sites.

Ensuring Robust Systems and Processes through Operational Excellence -->

Area	Initiative
Equipment and process	<ul style="list-style-type: none"> ➔ Installation of Variable Frequency Drive (VFD) for Raw Water Pumps at GAIL Gandhar. ➔ Recovery of waste heat from exhaust of Gas Turbine Compressor (GTC) at GAIL Vaghodia has been carried out by setting up of Waste Heat Recovery Steam Generation system (WHRSG) thereby reducing thermal pollution as well as saving energy required for steam generation. ➔ Online Efficiency monitoring of Gas Turbine Compressors (GTCs) at Vaghodia has resulted in fuel saving to the tune of Rs. 1.17 Crores during FY 2015-16 ➔ Incorporation of temperature control logic in lube oil cooling system of GTCs at Vaghodia resulting in energy savings through optimal operation of cooling fans.
Facilities	<ul style="list-style-type: none"> ➔ The replacement of Conventional Lighting systems with more efficient T5/LED lighting systems. ➔ Switching over from TEG power to Grid power at SV Stations of VSPL ➔ Introduction of Green building concept in all new building projects. ➔ LEED Platinum certification for GAIL Jubilee Tower by IGBC. ➔ 4 Star GRIHA rating for green building at Chhainsa Unit.
Renewable Energy ^{OG3}	<ul style="list-style-type: none"> ➔ Online solar panel of 5kW installed at IPS Mansarampura of JLPL which is generating approx. 20 kWh daily. Similarly, 1kW solar system has been installed at SV-46 of JLPL which has increased power reliability at Remote SV Station. ➔ Solar system with Battery backup has been installed at 34 SV/IP stations all along DBPL Network generating approx. 14.8 Lakhs units of electricity to meet 84% energy requirement of the total network. ➔ 3 Solar Power Plants under NCR region and 4 solar plants of capacity 7.5 KWp, 15 KWp and 2X7.5 KWp under Jamnagar Loni P/L region have been installed. ➔ Solar based street lights installed at all SVs & IPS under Nasirabad Region of JLPL. Similarly, solar power for lighting purpose of building and yard lighting of process area at Dispatch terminal, Ramnadi in Cauvery Basin under implementation.



Climate Change and Emission Management^{G4-DMA, G4-EN7, G4-EN15, G4-EN16, G4-EN17, G4-EN19, G4-EC2}

As part of our sustainability policy and aspirations GAIL has also made a commitment to reduce GHG emission intensity by 33% and specific GHG emission by 5% through improvements in our processes as stated in our O&M philosophy. The company intently monitors climate change risks and opportunities and undertakes a number of research and development projects as well as mitigation initiatives to manage these:

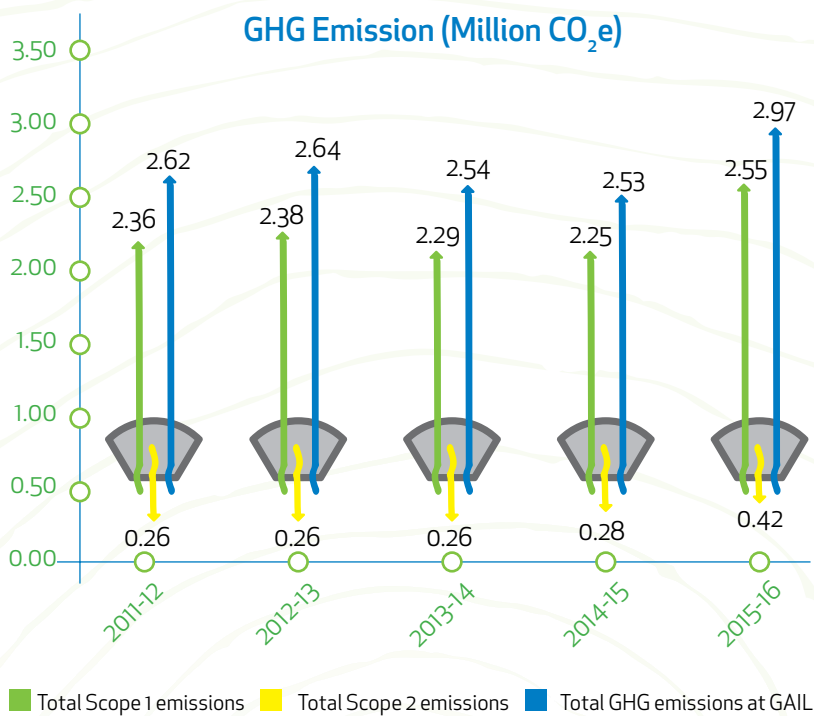
- ➔ GAIL signed an MoU with the United States Environment Protection Agency (US EPA)

making it a partner in the Natural Gas STAR Program to carry out studies regarding fugitive and vented methane emissions. The study has been taken up for Vijaipur, Hazira & Jhabua facilities by US EPA and as a result GAIL Vijaipur has been able to reduce 2.89 MMSCM (million m³)/ year methane emission over its baseline of 2010-11 which is equivalent to reducing 41,225 tonnes of CO₂e. The recurring fugitive emissions due to compressor wet seal degassing vents are being addressed by a

Seal Gas Recovery Project that will recover the fugitive gas emission and cycle it back to the suction of the compressor thereby eliminating its discharge into atmosphere.

- ➔ At GAIL Vijaipur, the company has Piped Natural Gas (PNG) supply from Recovered Flare/Waste Gas for GAIL Township. This has resulted in significant reduction of GHG emissions as well as energy savings. Further, the initiative also saves LPG which can be made available to rural areas.

- ➔ GAIL had taken up a Pilot Project that is registered with the UNFCCC for availing carbon credits, to capture Landfill Gas (LFG) from Ghazipur landfill. 20 LFG wells were constructed for the collection and extraction of LFG. At present, part of the recovered LFG is being safely destroyed in an enclosed flare system and part of it is also being used to generate electricity through a Micro-Turbine. In FY 2015-16, over 3000 MT CO₂ equivalent fugitive Methane emissions have been destroyed in the Pilot plant.
- ➔ Conversion of CO₂ into value added chemicals is an option for mitigation of GHG. Since CO₂ is a very stable chemical, our efforts in this area are focused towards the development of various types of catalysts for its conversion to Syn gas through bi/tri and dry reforming. GAIL is also carrying out a R&D project for fixing of CO₂ using microbial algae for production of Bio-fuels.
- ➔ All safety valves, pressure controlled valves etc. discharging hazardous substances are connected to a highly reliable flare system where the relieved gases and liquids are burnt at controlled



safe points to avoid direct venting of unburnt gases

- ➔ At GAIL Gandhar 30 MT per bullet LPG vapour were recovered during the SMPV statutory inspection of LPG Bullets.
- ➔ A 5 MW Solar Power Plant Project was installed by GAIL at Jaisalmer and this has achieved 8.59 Million Units Net Export to the grid. This project was registered by UNFCCC

as CDM project.

For FY 2015-16, our Scope I CO₂ emissions is 2.55 MT CO₂ and our Scope II CO₂ emission is 0.42 MT CO₂. We have estimated our Scope 3 CO₂ emissions for business travel which came out to highly insignificant as compared to Scope 1 & 2 CO₂ emissions. To further reduce our Scope 3 emissions, a total of 437 hours of video conferencing was conducted in FY 2015-16. G4-DMA, G4-EN4, G4-EN30

Water Management

G4-DMA

GAIL's sustainability aspirations 2020 target a 45% reduction in water consumption intensity compared to the baseline of 2010-2011. Thus water consumption is closely monitored, controlled and managed at GAIL. GAIL's operations do not generate difficult to treat wastewater and most water effluent is generated by floor wash, cooling water blow down and sewage water. Technologies have been adopted to reduce wastewater generation and Effluent Treatment Plants have been put in place to treat whatever is generated.

The water withdrawal by source is depicted through infographic on the next page G4-EN8

No water sources have been significantly affected by water withdrawal for GAIL locations. G4-EN9

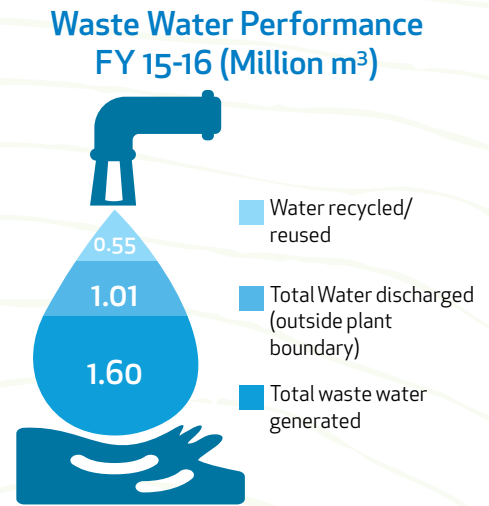
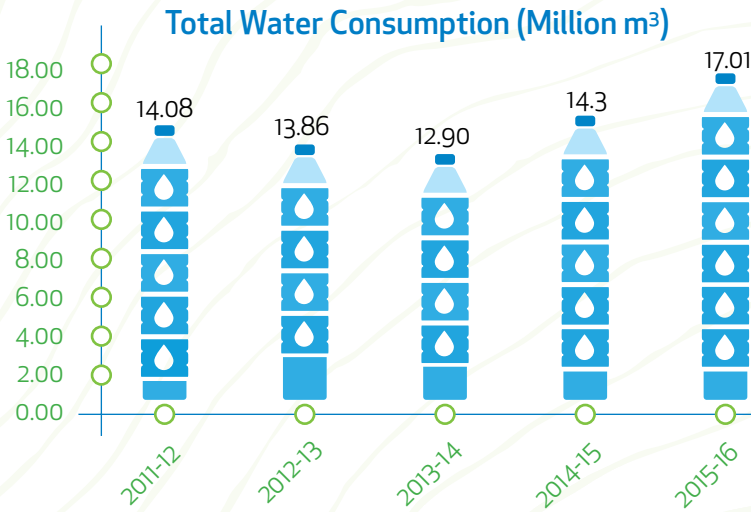
No effluent water is discharged outside the plant premises (conforming to zero discharge at our units in Vijapur, Gandhar, NG compressor stations and LPG pumping stations) and all discharge is compliant to respective state pollution control boards. There is no significant impact of our wastewater discharges and run-offs to water bodies located in the vicinity of our operations. GAIL's Pata plant has

a WWTP that treats industrial waste water produced from all the units and maintains specifications prescribed by the pollution control board in order to allow discharge of effluent into the Sengar river. Treated effluent water is recycled and used for horticulture. This enables saving of fresh water that would otherwise have been consumed by green belts developed in and around GAIL sites.

Availability of water is often challenging at GAIL project sites and thus ground water recharge through the introduction of rainwater harvesting facility has been undertaken in Vijapur (two projects)



Ensuring Robust Systems and Processes through Operational Excellence -->



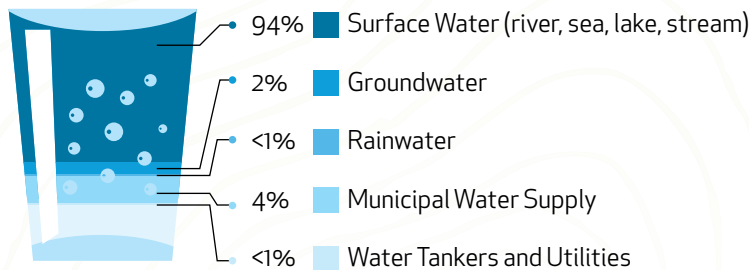
and GAIL Jhabua (projects location in Kasarbadi, Mohankot, Dudhmal and Devgarhbaria). GAIL Vijapur has also introduced rooftop rainwater harvesting for two substations.

GAIL Jhabua also continues to optimise water preservation through project 'Jal Sanchya' by using portable sprinklers

and trigger type water spray systems in horticulture. 10,000 litres of water per day that was previously drained from the RO plant has now been made available for this through the construction of an above ground tank with a 25,000 litre capacity. By revamping the scrap yard bore-

well GAIL has been able to make an additional make 400 Kl / month of water available. We have also reduced water wastage by attending to water leakages from taps and joints and through close monitoring and repairing of faulty sensors that resulted in an overflow of water storage areas.

Water Consumption by source



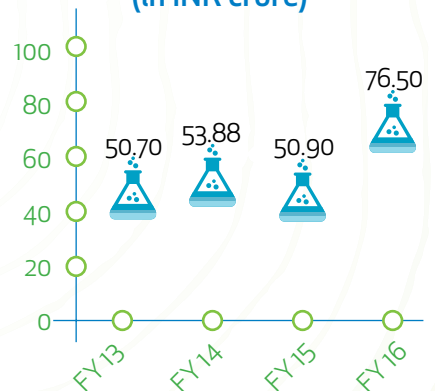
Research & Development

GAIL is pursuing various R&D Projects in its identified Thrust Areas in its Business Areas. In this regard, GAIL is actively pursuing collaborative research works with various Engineering Institutes and CSIR labs. The current research portfolio comprises of Basic, Application and Pilot scale R&D projects. Some of the Major R&D initiatives taken in FY 2015-16 include scale-up study of dry and tri reforming of Methane, development of Covalent Organic Framework (COF) materials for

storing of natural gas at low pressure, Development of materials for low cost sensors for Methane detection, Pilot testing of Wireless Sensor Network (WSN) for Pipeline Data transfer, Satellite monitoring of Pipeline ROU, Robot based smart sensor embedded rotating probes for Pipeline Health monitoring, Micro-turbine based power plant at Ghazipur landfill site to utilize the low quality LFG.

The DPE has mandated PSUs to spend over 1% of previous year's Profit after Tax (PAT) on R&D activities. In FY-2015-16 GAIL has spent an all-time high of Rs. 76.5 crores on R&D which is more than the mandated 1% of PAT.

Our total spending on R&D (in INR crore)



Human Capital: Nurturing Capacities for Growth



for Child & Forced Labour



Human Capital: Nurturing Capacities for Growth -->

GAIL's success mantra relies heavily on building a strong company culture, led by a high quality workforce that leads, collaborates and innovates. From a broader perspective, considering the importance of Oil & Gas (O&G) sector to India's economic development, an energetic and motivated O&G workforce is crucial in the context of India's growth story. In this scenario, attracting and retaining a competent workforce across all of GAIL's activities becomes imperative.

The local O&G sector faces multiple challenges in this regard, some of which are in line with the global trends. An ageing workforce is expected to lead to a high number of retirements, especially in the upstream sector over the next few years. Our business expansion and diversification plans, especially in the downstream petrochemicals sector would further generate a strong requirement of capable professionals. Further, the focus on expanding our gas transmission through the National Gas Grid and impetus on CGDs will generate additional manpower requirements. Developing a robust pipeline for talent attraction, retention, development and motivation assumes critical proportions and necessitates careful planning and execution.

Our approach ^{G4-DMA}

GAIL has continued to exercise both its recruitment options i.e. to hire and train fresh graduates and to hire experienced people with required skill sets for instant capability utilization. With the boom of unconventional methods in exploration and production especially in our overseas businesses, requirement of fresh and unconventional competencies has arisen. In lieu of its increased focus on diversification, GAIL has continued to regularly assess its manpower requirements across various functions requiring specialised skill-sets including Sourcing, Trading, Power, Shipping, M&As etc., while taking further actions to strengthen existing capabilities in Contract, Project, Regulatory and Risk Management etc. Cross-functional teams have been developed to tackle areas which require multiple competencies, and the necessary recruitments are being carried out in non-core areas such as finance, international law, tax management etc. owing to greater diversification and international expansion. To ensure capacity building and facilitate high performance, focused training programs are planned for concerned teams, and advance training programs are organized for a select group of senior executives in strategic business areas.



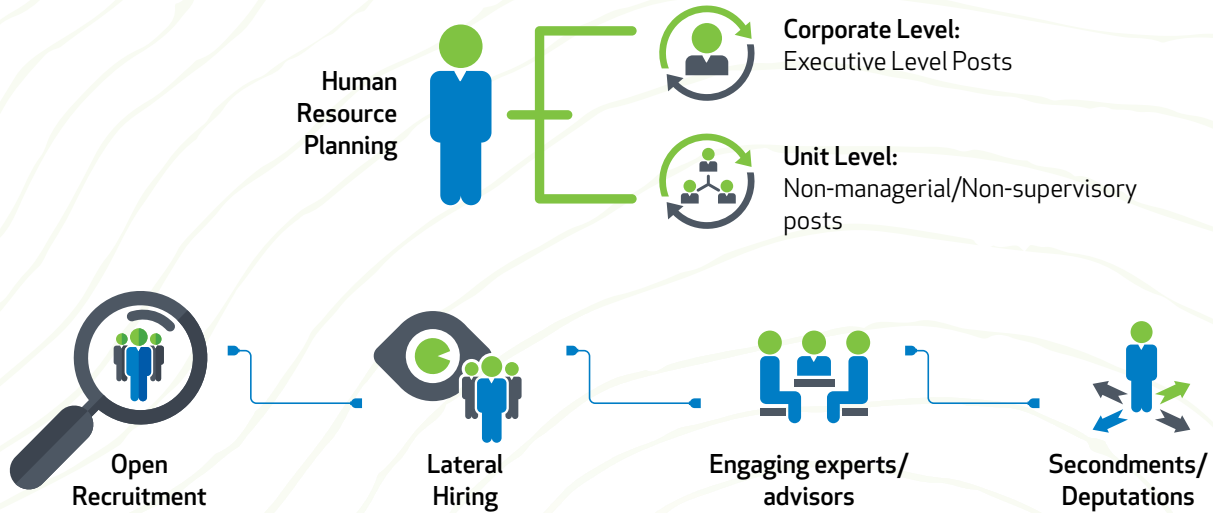
↑ Participation of GAIL Employees during Oil & Gas Conservation Fortnight - 2016

Our aim is to achieve harmonious synergy amongst our internal capabilities considering the market dynamics of the sector in the present scenario. With an objective to surge towards our identified business goals and objectives, we at GAIL, believe in continuously improving ourselves both, individually and organizationally, to adapt to the transformation in the industry, be it in terms of the emerging regulatory environment or new demands of the business segments. Thus, GAIL lays a lot of importance on human capital training and development with the objective to address both, challenges of the present day as well as the future.

- Director (HR)

Human Capital: Nurturing capacities for growth -->

Our Human Resources Planning (HRP) is carried out at the corporate as well as the unit level. The below infographic shows the positions which are recruited at both levels and the methods followed for recruitment.



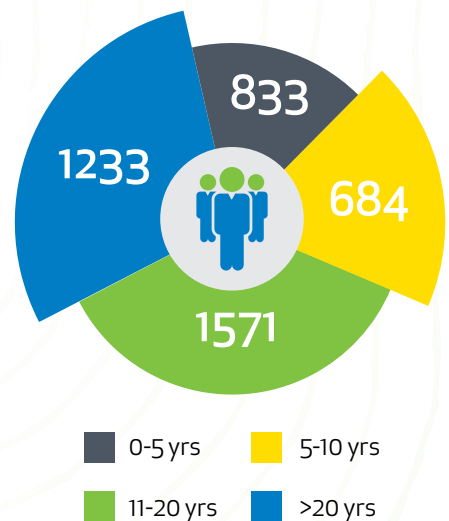
The following table provides information on our new hires for 2015-16 ^{G4-LA1}

	Male	Female	Total
New hires in 2015-16	134	2	136
New hires in 2014-15	300	14	314
New hires in 2013-14	121	11	132

Retaining and motivating talent ^{G4-10}

Multiple studies have shown a direct correlation between employee motivation and business profits. Motivation plays a fundamental role in enhancing the employee productivity and performance, thus eventually leading to greater overall business performance. At GAIL, we strongly believe in investing in our culture and employees to keep them motivated. The HR Department takes several initiatives to engage with the employees through various formal and informal mediums to boost employee morale and improve employee retention. Employees are

encouraged to voice their opinions through open communication channels such as CMD Open house, Online Grievance Redressal Mechanism and Suggestion Schemes. Due recognitions are given for long service and a healthy work life balance is encouraged. We actively promote diversity and inclusivity throughout the workforce, as evidenced from recently established Women Employee Awards. We provide competitive compensation and benefits, which have been further enunciated in the chapter on Stakeholders. The overall success of our HR policies is evidenced from the high percentage of current employees who have had a long tenure has been depicted in through the pie-chart.




As part of our employee retention strategy, we have taken up the following initiatives:




Attractive Compensation and Benefit Package:

- House building and conveyance advance
- Two year paid child care leave for female employees
- Other benefits include Gratuity, Post-Retirement Medical Benefits, Earned Leave Benefits, Terminal Benefits, Half Pay Leave and recognitions to Long Service



Superannuation Benefits:

- Provision for 30% of Basic pay and Dearness allowance as Superannuation benefits which includes Contributory Provident Fund (CPF), Gratuity, Pension and Post Superannuation medical benefits.



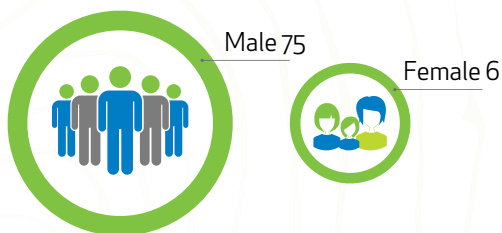
Rewards and Recognition:

- Suggestion scheme that encourages our employees to be creative and innovate in economy, efficiency and effectiveness. The best suggestion is awarded the CMD Trophy.



In addition to formal and structured training, we offer on the job training to our workforce that motivates them to perform better and in turn contribute to their success and our growth. This is a major factor in retaining our talented professionals for a long duration.

Employee's turnover in FY 2015-16



Total 81 Employees separated

Employees returned to work after parental leave (FY 2015-16) ^{G4-LA3}

	Gender	Nos.
Number of employees entitled to parental leave	Male	4070
	Female	251
Number of employees that took parental leave	Male	125
	Female	19
Number of employees who returned to work after parental leave ended	Male	125
	Female	19
Employees returned to work after parental leave ended who were still employed 12 months after their return	Male	117
	Female	14
Retention rates of employees who returned to work after parental leave ended	Male	100
	Female	100

Human Capital: Nurturing capacities for growth -->

Employee Training^{G4-} DMA, G4-LA9, G4-LA10

Training and development forms a core area of Corporate Governance and is crucial for employee capacity building. The company invests considerable time and resources for effective training programs. At GAIL, the training modules are designed to strengthen the skill sets of employees in existing and new business functions such as E&P activities, Hedging, Shipping among other areas. Employees are provided with the opportunity to learn basics of other functional areas in the cross-functional training programs. The company has a structured process for training and development for the employees to ensure a workforce that is suitably equipped with knowledge, skills, attitude and practical exposure to highly specialized jobs.

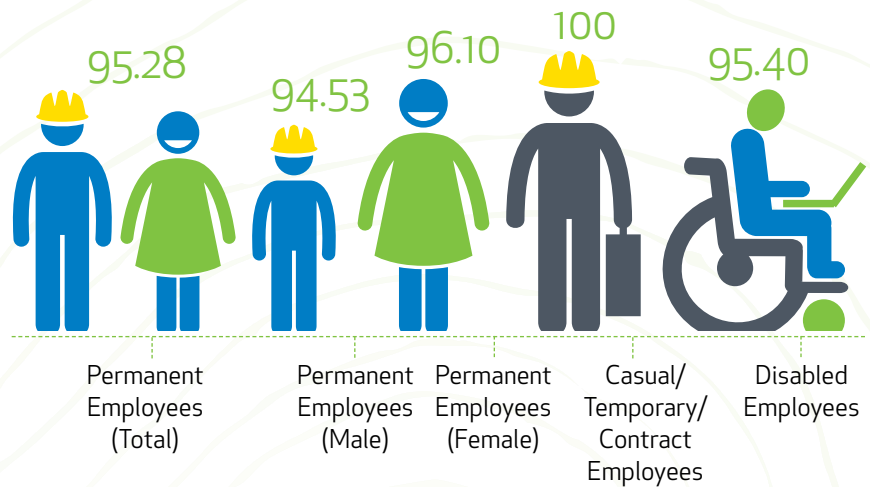
Our GAIL Training Institute (GTI) set up in the year 1997 at Noida is an ISO 9001 certified facility that provides resources and facilities for all kinds of training to our employees. Another GTI was set-up in Jaipur in 2005 to cater to more employees. The total training man-hours imparted to male employees was 162550 and female employees was 41480 in FY 2015-16.

Employees are also regularly given inputs on Safety & Skill upgradation in functional and behavioural aspects through e-knowledge sharing programs, online Quizzes and Competitive events organized on various occasions. One of GAIL's most innovative training programs is e-Gyan Prawah, an e-learning platform developed in association with Harvard Business Publishing with a customization of Harvard Manage Mentor, which is based on key areas of developments identified during Senior Management Development Centre exercise. Employees are encouraged to utilize the e-learning module on CNG Business Overview to understand the bigger picture. The module is of 1-hour duration and uses interactive

platforms and animations to keep the module interesting. At the end of the module an assessment exercise is presented to the participant.

Employees. Accordingly, 4.69 man days per employee (average) was achieved. Training Expenditure for the FY 2015-16 was Rs.10.25 Cr.

% of Employees who received safety and skill up-gradation training in FY 2015-16



It is ensured that fresh recruits, who are accorded the status of Executive Trainees, are undergone a rigorous Induction cum Orientation Training Programme. Further, an Online Monitoring & Assessment System is used to monitor the progress of Executive Trainees. Other trainings carried out at GAIL include trainings on soft skills, motivation, functional aspects, health, safety, environment, human rights, etc. Training on health and safety policies and procedures of the organization has been one of the parameters of Internal MoU of GTI and 580 man-days were devoted for imparting training on Health, Safety & Environment related Training Programs organized at GTI and external training programs within India. 2612 (61%) employees of GAIL have been trained in Sustainable Development. An expenditure of approximately Rs. 1.08 lakh was incurred for trainings with respect to environmental education.

GAIL conducted total 278 Training Programs in the areas of Technical, Behavioral, Business Strategy, Safety & Environment, etc. for its Full Time

Various programmes are organized for the superannuating employees with an aim to prepare the employees for their life ahead. These programs focus on ways to cope with old age challenges and to manage their time in a fruitful pursuit. The programs provide awareness with respect to several financial investment schemes and other legal obligations such as writing of will. GAIL also has a special portal for superannuated employees, participants are informed about important activities and facilities that are being provided by the company.

Employment and Labour Practices^{G4-LA13,} G4-DMA

As mentioned elaborately in the chapter on health & safety, we at GAIL lay great emphasis on the health and safety of our employees. Their safety and security is of utmost importance to us. We have taken preventive and protective measures to ensure safety of our employees

and other stakeholders. GAIL has 100% representation of its workforce in formal joint management worker health and safety committees that help monitor and advise on occupational health and safety programs.

GAIL is an equal opportunity employer and does not discriminate on the basis of gender, caste, religion etc. and strongly believes in and implements equal pay for equal work. As mentioned earlier, we have a completely merit based approach towards recruiting our employees. GAIL complies with Equal Remuneration Act, 1976 and there is no discrimination in wages based on gender. The Company also ensures that no discrimination is practiced during the recruitment / career development/ appraisal process processes and for compensation in any work centre. No incident of discrimination was reported during FY 15-16, however, one case of sexual harassment was reported. To actively promote diversity, GAIL Management has instituted three awards for GAIL women employees for their commendable services and contribution to the overall growth of the organization. The awards aim at recognizing and encouraging the outstanding women employees of GAIL for their services in the fields of Functional Management, Corporate Social Initiatives and Corporate Cultural Initiatives.

Freedom of Association & Collective Bargaining^{G4-DMA, G4-HR4}

GAIL recognizes the unions representing the interests of their respective workmen / staff. GAIL Employees Association (GEA) is a representative body of non-executives posted at various Field Offices / Plants/ Installations across the Country except Corporate Office. Non-executives posted at Corporate Office are represented by GAIL Karamchari Sangh (GKS).

A Committee consisting of senior level executives nominated from various groups, functions and work centres looks after various ongoing issues with Association at the corporate level while at the Work Centre level, the Committee consists of an Officer In-charge, Heads of HR and other Departments. 100 % of permanent Non- Executives are members of the GAIL Employees Association (GEA) and GAIL Karamchari Sangh (GKS) which are covered under the collective bargaining agreements. In all, there are 21.6 % of total employees who are members of these recognized unions^{G4-11}.

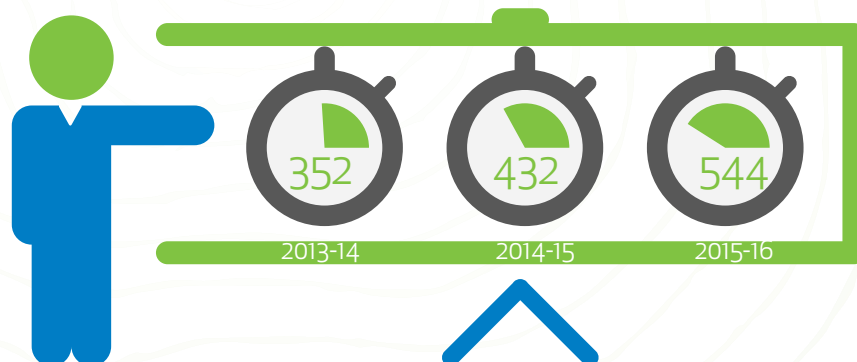
Discussions with employee collectives are held through Monthly / Bi-Monthly/ Quarterly Meetings, both at Work Centre and Corporate levels. The record notes of discussions held at various Work Centres are collated at the Corporate Office on a monthly basis for effective monitoring by the Director (HR). We adhere to Section 9A of Industrial Dispute Act 1947 & Schedule 4 for providing notice period regarding significant operational changes^{G4-LA4}. There is no operation which ran with risk related to violation of right to exercise freedom of association and collective bargaining during FY 15-16. The formal agreements with trade unions cover all the health and safety topics relevant to contract employees^{G4-LA8}.

Human Rights^{G4-DMA, G4-HR1, G4-HR2, G4-HR3, G4-HR5, G4-HR6, G4-HR7, G4-HR9}

GAIL adheres strictly the laws of the land (such as laws relating to labour practices, child labour, forced labour, working conditions etc.). We extend our commitment to other voluntary agreements under International bills and treaties as well. We are a signatory to the United Nations Global Compact (UNGC) which has specific focus towards human rights. We are also committed to UN Guiding Principles on Business and Human Rights http://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf Our commitment towards Human Rights can be gauged from the fact that we are one of the few Indian players in the energy sector to have implemented SA8000, an internationally recognized auditable social certification standards for decent workplaces. SA8000 was implemented at GAIL Hazira, and is based on the UN Declaration of Human Rights (UNHR), conventions of the ILO, UN and national law. These policies and voluntary commitments of GAIL towards human rights are upheld and implemented with the right intentions. We believe that the issue of human rights is central to good corporate citizenship leading upto a healthy



Total hours of employee training on human rights (in Man-hours)



Human Capital: Nurturing Capacities for Growth -->

bottom line. All employees during induction are trained on GAIL's CDA rules to develop their understanding on these aspects. Training Programs on labour laws and outsourcing conducted by GAIL Training Institute cover almost majority of aspects of Human Rights. Such programs are conducted as a part of annual training plan and In-Charges of outsourcing contracts are imparted training on the subject aspect every year. This year, a 2-day training program was conducted and 34 (544 man-hours) executives were imparted training on Labour Laws and Outsourcing with elements of Human Rights. We support Guiding Principles for Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework.

GAIL has created a Women Cell which is responsible for reviewing the planned schemes and other programmes centred on Women development. GAIL Women Cell also liaises with National Commission for Women; SCOPE and Women in Public Sector (WIPS) forums for the cause of Women's development. Further, GAIL has a well-defined policy for prevention of sexual harassment at the work place.

GAIL follows a zero-tolerance policy for Child & forced labour and ensures that no such employment occurs at any of our operations. In order to guarantee this, every new recruit is required to submit a proof of age. Further, the Company is committed to work

in a pro-active manner to eradicate child labour by actively contributing to the improvement of children's social situation. To promote this, we encourage our suppliers also to work towards a no child-labour policy.

Though there has not been a formal/ specific initiative to identify operations which face the threat of child labour or forced and compulsory labour, no incident of engagement of child or forced or compulsory labour has been reported in FY 2015-16. The concerned executive at every location ensures relevant statutes are complied with. 100% of our security personnel have been trained on specific procedures on human rights applicable to security services.



Ensuring Safety of Our People and Environment



HSE score for GAIL

93.35

FY 2015-16



Transport Emergency cards
provide Safety Training to Drivers
for transportation of hydrocarbons



Ensuring Safety of Our people and Environment -->

The operational conditions of the oil and gas industry call for robust health and safety management systems. Many industry surveys report the risk of health and safety hazards as one of the top most risk for the oil and gas industry. Considering the large scale projects, we undertake across the nation, there are inherent hazards associated with our business operations. Hence, observing all safety guidelines and regulations is of prime importance to us. We realize that even the most minor negligence in our social and environmental activities, especially those related to health and safety of employees, contractors, suppliers, customers and local communities, could lead to irreparable damage to our reputation.

Our approach ^{G4-DMA}

At GAIL, we are driven by the motto of 'Safety First'. Directed by our Corporate HSE Policy, our aim focuses on achieving an organizational culture of superior Health, Safety & Environment (HSE) systems. The implementation of the policy is regularly monitored and audited to ensure that health and safety of workers is properly taken care of. As a responsible entity, GAIL's management places a huge amount of thrust on continuously improving management systems and in taking the necessary protective and preventive measures to reduce incidences of injury and sickness at workplace. GAIL's aspiration for 'Zero reportable accidents' every year is reinforced by the Board's commitment towards occupational health, safety & environment aspects. The SDC of Board reviews HSE performance of GAIL. The Committee is chaired by the Independent Director and consists of all functional Directors as members. A Monthly Safety Review is conducted by Director (HR) & Director (Projects).

The safety policies and measures are implemented at all GAIL locations throughout the country through a



Participation of GAIL's O&M Locations through Video Conference during HSE Workshop

comprehensive and elaborate health, safety and environment management system (HSEMS), which is based on Oil Industry Safety Directorate's (OISD) Guidelines on Safety Management System in Petroleum Industry. GAIL also follows the directives of the Petroleum and Natural Gas Regulatory Board (PNGRB). GAIL's corporate HSE Policy is the cornerstone of HSEMS and is signed by our Chairman & Managing Director. Apart from monitoring performance, emergency

preparedness is also reviewed by the Sub-Committee of Board. Our HSEM system comprises of following 18 elements encompassing entire business operations and risk profiles.

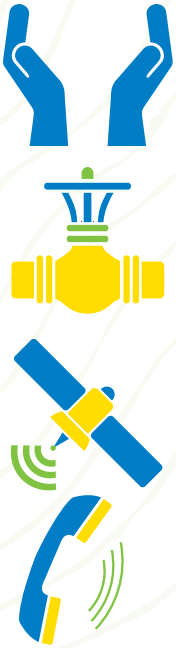
The performance of the system is regularly reviewed and audited by accredited national and international agencies, and the gaps identified are reviewed, prioritized and appropriate corrective actions are taken within the stipulated timeframes to eliminate these gaps.



Safety Leadership

GAIL has been a frontrunner in adopting latest technological developments enabling a continuous improvement in its HSE systems and processes. Several systemic and procedural initiatives have been taken up to maintain and add to the robust Health & Safety initiatives across operations on a pan-India basis, thus ensuring we preserve our position as a safety leader in Oil & Gas sector. Some of the initiatives are mentioned on next page:

Ensuring safety of our people and environment -->



Disaster and crisis management

- ➔ Review of existing Disaster Management System, & Emergency Response and Disaster management Plan (ERDMP)
- ➔ Review and periodic revamping of crisis management systems to ensure faster and precise communication to all concerned groups during emergency.

Centralized Pipeline Integrity Management System (CIMG)

- ➔ Centralized monitoring of integrity of pan-India pipelines by CIMG
- ➔ Development of Centralized Pipeline Integrity Management System (CPIMS) - an enterprise wide IT enabled, risk-based analytic software application has been rolled out for 9100 Km pipeline

Satellite pipeline surveillance

- ➔ 'Bhuvan-GAIL'-surveillance geo-portal launched for remote monitoring of pipeline RoU

Toll-free number

- ➔ Provision of a 5-digit toll free number (15101) for incident reporting



↑ Participation of GAIL's O&M Locations through VC during HSE Workshop

Apart from these initiatives, we have also simplified the process of safety performance monitoring through HSE score. All the sites send monthly reports which are analysed by Corporate HSE Department and HSE score is given out of 100. The average HSE score for GAIL in FY 2015-16 was 93.35, which is well above the MoU target of 90. We have also declared

the 10th of each month as Safety Day to be observed by all site OICs at their respective installation. All safety related issues are comprehensively reviewed on these days, which includes pending audit points such as those of OISD, PNGRB T4S, and others and initiation of suitable action to ensure the gaps are expedited in a time-bound manner. Further, we are implementing

a revised incident reporting system where various communications of the ministry have been incorporated. Apart from implementing an incident/accident log in our SAP system, we regularly conduct events throughout the year to sensitize employees specifically posted at NGMC / RGMCS on incident reporting. The flow for the incident reporting system is illustrated on next page:

Incidents occurred during the year

The number of incidents occurred during each of the last five years is given in the table below:

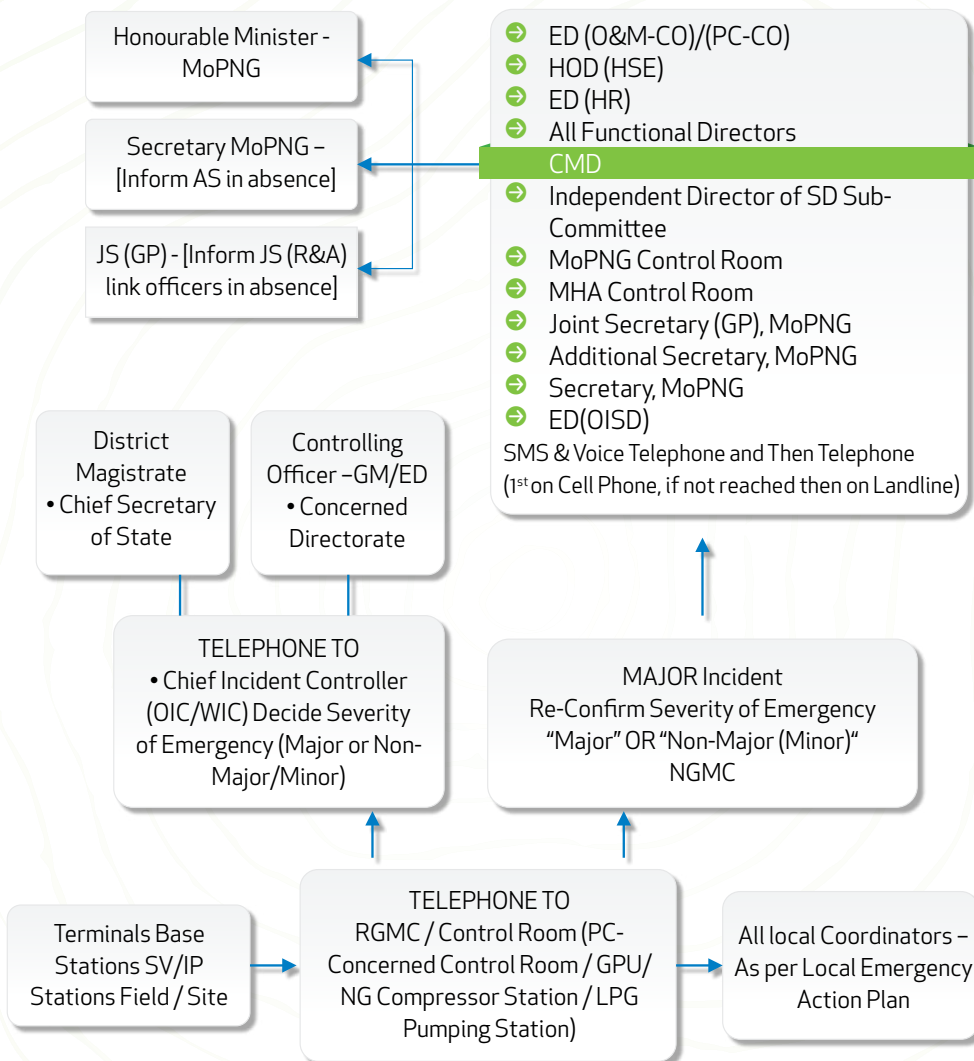
Operations and Maintenance

Description of incident	2011-12	2012-13	2013-14	2014-15	2015-16
Accidents (other than fire/leakage)	0	0	0	0	1
Fire /Leakage	0	0	3	2	1
No. of fatal incidents (not covered above)	0	0	0	1	0
No. of fatalities	0	0	0	22	3
Injured (all above incidents)	0	0	8	18	4

Incidents Reported as per PNGRB: 0613

Total Nos. of Level 1 Incident	09
Total Nos. of Level 2 Incident	02
Total Nos. of Level 3 Incident	Nil.

Emergency Planning



Ensuring safety of our people and environment -->

As a responsible corporate, and considering the high safety risks associated with the oil and gas sector, we consider it imperative to have the necessary procedures in place to ensure it is prepared for any emergency that may arise out of its facilities across India. The Sustainable Development Committee of the Board is responsible for the review and proper execution of the Emergency Response & Disaster Management Plan (ERDMP), which adheres strictly to Petroleum & Natural Gas Regulatory Board's (PNGRB) protocols. Quarterly Mock Drills are conducted to ensure preparedness and availability of resources in all emergency situations. A set of guidelines have been prepared and shared with our workers so that they are alert and well-equipped to handle emergency situations. As mentioned earlier in the chapter, we have improved our crisis management system for faster communication to the top management in case of emergency through the implementation of group SMS and Voice Message Services.

We have put in necessary systems and procedures at various points in our operations to ensure preparedness for relevant emergency situations. Automated fire protection system like gas suppression system for control rooms, water spray system for pumps & piping area etc. are provided for immediate dousing of fire at its incipient stage. Visitors are provided safety induction training on nature of hazards with instructions to be followed in case of any emergency situation. During LPG transportation, all tankers are loaded only after ensuring that they are carrying the LPG emergency response kits. All the drivers of tankers are also provided with Transport Emergency (TREM) card having details of actions to be taken in case of any emergency.

Employee Safety G4-DMA

At GAIL, safety for permanent and contractual employees is driven by the same philosophy. All employees are encouraged to follow protocols and be mindful of safety practices for the effective implementation of all our safety efforts. Any conduct of employees of workman category within the premises that will endanger the life or safety of the person is treated as a misconduct. The company has issued standing orders with such provisions. The company shall arrange for the treatment and compensation wherever the workman is entitled for treatment and benefits under the Employees States Insurance Act, 1948 or the Workman's Compensation Act, 1923.

Training forms an integral part of our health and safety management system and safety training is included in the internal MoU with GAIL Training Institute (GTI). 580 man-days of training were imparted on health, safety and environment related programs. For contract workers, tool box training comprising of an induction training and a monthly refresher fire safety & hazards awareness training is provided by GAIL executives prior to first entry and commencement of the job. Additionally, they are made aware of the Safety training calendar schedule and regular safety awareness programs are conducted accordingly by the management for contract employees.

Prior to deploying workers on job, a medical check-up is carried out in accordance with the Factory Act. It is ensured that all workers are provided with safety kits and liveries. A Work Permit System is followed, as per which all jobs are carried out as per OISD-105 and are supervised by GAIL employee to ensure the safe execution of job. A culture of discipline

is inculcated and reinforced through regular thrust on following of Standard Operating Procedures (SOPs). SOPs have been made available to concerned area operators for better safety during execution of jobs. Task briefings about the job are carried out by the Engineer-In-charge before assigning the maintenance jobs. Material Safety Data Sheet (MSDS) boards are displayed near by the processing/handling/storage area as well as at strategic locations in local language. Do's, Don'ts & safety instructions have been displayed in process, storage and chemical handling areas. To ensure all safety procedures are followed, the HSE Department conducts safety audits periodically. Plant safety committee consists of representative from contract employee to discuss the safety and health related issue with top management on quarterly basis

Controlling workers' risk exposure in Health & Safety aspects is GAIL's HSE mission. In this regard all units are encouraged to strengthen HSE management systems by continuously taking preventive and protective measures to ensure the safety of employees and contractors. Some of the initiatives taken for ensuring employee health are mentioned below:

Initiatives as Preventive Measures at GAIL

As a part of our efforts in providing a healthy environment for our employees we have taken the following measures:

- ➔ Sensitization of employees: Health awareness is given to employees through lectures, posters and emails in various offices and work centres of GAIL.
- ➔ Health camps: For the prevention and early diagnosis of diseases. Health camps are organised for all employees and contract workers.

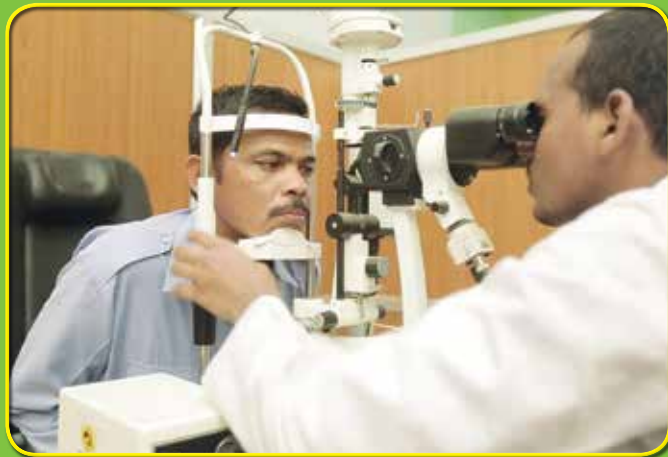


- **Counselling sessions:** These sessions are conducted for employees with high risk. This includes - monthly check-ups in medical OPD once a month for monitoring of weight / BMI, blood pressure, Blood Sugar and counselling for life style modification.
- **Healthy snacks:** We provide healthy snacks at our office and plant canteens.
- **Health training:** We organise several health training programmes for our employees such as yoga sessions, ergonomic training etc.

Medical Infrastructure at GAIL

We have ensured presence of suitable medical infrastructure at all our important operational locations for timely expediting of medical issues for employees and contract workers. At Pata, we have the Dhanwantri hospital, a dispensary and a first-aid centre with doctors and paramedical staff. At Vijaipur, we have the GAIL Hospital with 15 beds, 3 regular doctors and paramedical staff. At other locations, we have first-aid centres with a doctor and 4 nursing staff at each centre. At the corporate office, we have the corporate medical Centre with a doctor and a paramedical staff.

Employee Health Check-up at GAIL



At GAIL, health check-up is conducted for every employee at three levels:

- Pre-employment health check-up before joining
- Occupational health check-up on an annual basis
- Executive health check-up once in two years for everyone who is above 35 years of age

These health-checkup practice helps us in the early detection of cases and employee health issues. In the past, we have identified new cases of high blood pressure, diabetes mellitus, breast cancer, stomach cancer, prostate cancer, and adenocarcinoma of gall bladder in employees and their families.

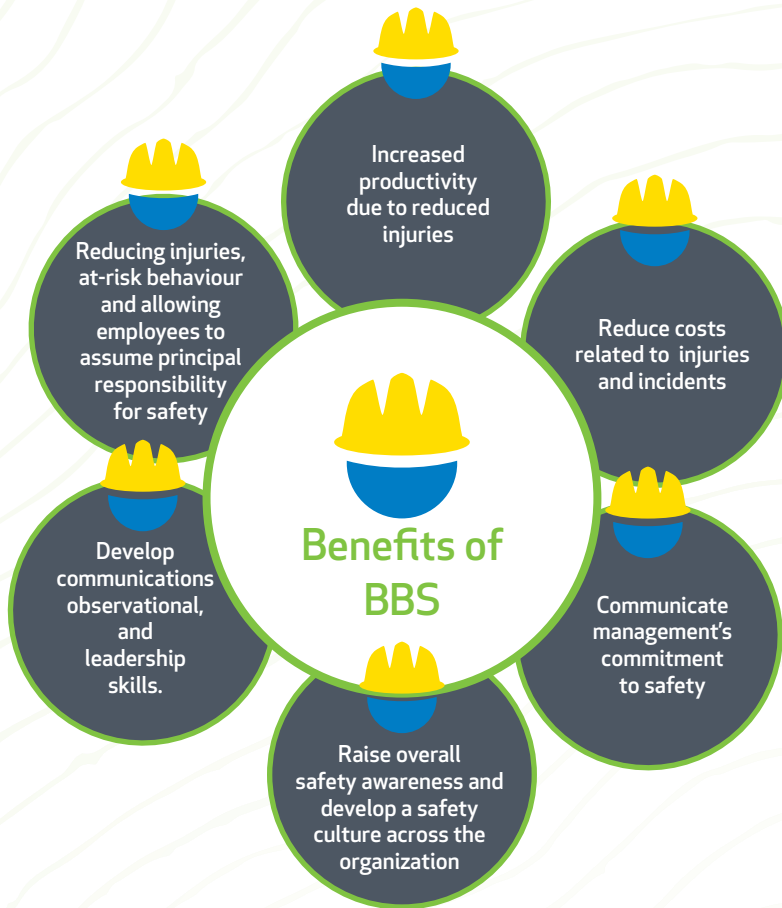
Behaviour Based Safety (BBS)

At GAIL, we believe behaviour management of employees is key to drive and enhance our health and safety practices. BBS creates a safety partnership between the top management and employees that continually focuses the employees' attentions on theirs and others daily safety behaviour. We realize that merely having the best policies, systems, processes and procedures are not enough, inculcating and imbibing them in our daily lives is imperative in driving towards a 'zero incidence' environment. Embedding a strong BBS culture across all stages of the project including planning, designing, construction, commissioning, operations and maintenance shall enable us to improve the efficiency of all the existing health and safety processes.

With this in mind, the management conceived the BBS program in 2013. A Steering Committee and task force were developed at corporate level to oversee the BBS implementation. To implement BBS at plant levels, site steering & functional committees were set-up. Lead trainers were instated in each of the sites to enable employees get trained on the methods and nuances of BBS. After a few pilot programmes, the initiative was rolled out across all the GAIL facilities in March 2015. We observed a multitude of benefits of BBS in these past 3 years which are illustrated on next page:



Ensuring Safety of Our People and Environment -->



Pipeline Safety

Safe transportation of Natural Gas and LPG is the prime objective for GAIL. The Centralized Pipeline Integrity Management System (CPIMS) has been rolled out for 9100 km pipelines to facilitate integrated and detailed health status and analysis of the pipelines. The CPIMS comprises various modules which include Data Base Module, Threat & Risk Assessment Module, Corrosion Analyst, Cathodic Protection Analyst, Geospatial Analyst, Pressure Testing Module, Task Manager, Reporting Module, and Management Dashboard. The CPIMS has an internationally accepted data base system i.e. Pipeline Open Database (PODS) for management of all pipeline related data.

In the aftermath of the Suryapet, Telangana incident, several measures were taken to improve on pipeline safety. Apart from intelligent pigging, we decided to install advanced Tunable Laser diode based On-Line Analyzers at all places where flow of gas is more than 1 MMSCMD in case of Dry Gas and more than 0.2 MMSCMD in case of wet gas. 14 H₂S Analysers have been installed/ commissioned at different gas source points. For other source points, fortnightly analysis is being carried out through Portable Analyzers and the presence of moisture / corrosive components beyond acceptable limits is being taken up continuously with suppliers for corrective measures.

Magnetic Tomography Method (MTM) & Contactless Magnetometric Diagnostic Method (CMDM) have been tried for the first time in India for assessing the integrity of the non-Piggable Pipelines. These technologies help in locating defects in metal & weld joints, assess the state of corrosion & monitor the development of corrosion.

To incentivize our plants to effectively integrate BBS in their daily functioning, we have instituted suitable awards which are handed out during the annual HSE workshop.

Supply Chain Safety

We realise that incorporating health and safety within our operations alone is insufficient to immunize us for safety related hazards. Building resilience across the supply chain in this regard is as important. We incorporate stringent HSE requirements in all our tender documents for procuring of goods and services. All the necessary procedures pertaining to Safety Permits, Work Permits and Visitor Entry Systems are strictly adhered to for all activities undertaken by suppliers and customers inside plant premises. Safety briefing

is given to all suppliers & customers visiting the plant.

We design our plant and pipeline infrastructure as per the best Indian and International Standards. The process plants and cross country pipelines are designed as per the best Indian & International Standards. HAZOP study and Risk Analysis is carried out during design stage to identify hazard risk mitigation. Further HAZOP study and Risk Analysis is also carried out at regular intervals and suitable risk mitigation measures are taken. Permit to Work system is followed in all our installations to ensure safety during maintenance works. Precise emergency planning is done for all our infrastructure as per the information presented in the section on Emergency Planning.

Further, encroachment over pipeline areas has been a constant issue GAIL has been dealing with. Apart from implementing several measures to survey the pipeline areas, GAIL has rolled out a Public Awareness Policy for defining key safety messages. GAIL engages frequently with the local villagers^{G4-SO2}. Regular awareness programmes are carried out in the surrounding villages along the pipeline route about the importance of pipeline integrity. Printed leaflets in the local language on safety Do's and Don'ts are distributed to the villagers through the local public bodies. Nukkad Nataks (stage performances) in the regional language are frequently conducted to make people aware about the meaning of these Do's & Don'ts. Additionally, villagers are hired to report on pipeline safety and any unauthorized work with RoU so as to ensure that the local population also feels included in pipeline safety. As a motivating factor, the local villagers are also suitably awarded on GAIL Day function for their alertness and reporting of any abnormality/ pipeline exposure. For action taken on removal of encroachments in RoU, monthly follow-ups are held with the district authorities. GAIL Sahyogi scheme for engagement of public living around the pipeline ROU protection and emergency reporting is under implementation on trial basis. For the effective monitoring of RoU in the harsh locations, Remote Methane Leak Detectors are being

used. The instrument helps to quickly and efficiently detect leaks up to one hundred feet away allowing remote detection of hard-to-reach areas and difficult terrains.

Transportation Safety^{G4-DMA}

Besides pipeline safety measures as enunciated in the earlier section, GAIL also focuses on safety of road transportation. We dedicatedly follow a checklist of activities for safety check of tankers and wagons before loading of hydrocarbons. Along with Transport Emergency (TREM) cards which detail out an emergency action plan, the drivers and their assistants are also provided safety training including the do's and don'ts during transportation of hydrocarbons.

GAIL also transports products such as LPG, Propane, Pentane, and Naphtha via road. Checking of these road tankers is carried out as per the guidelines of Central Motor Vehicle Rules (CMVR) 1989, and Static and Mobile Pressure Vessels rules by GAIL's designated Fire & Safety employee. After physical checking of the road tankers, data on tanker safety checking is saved in the SAP system. For product filling, well established loading automation / control system and Terminal Automation System (TAS) are made available for safe operations & relevant SOPs are followed for safe loading activities. Foot patrolling of

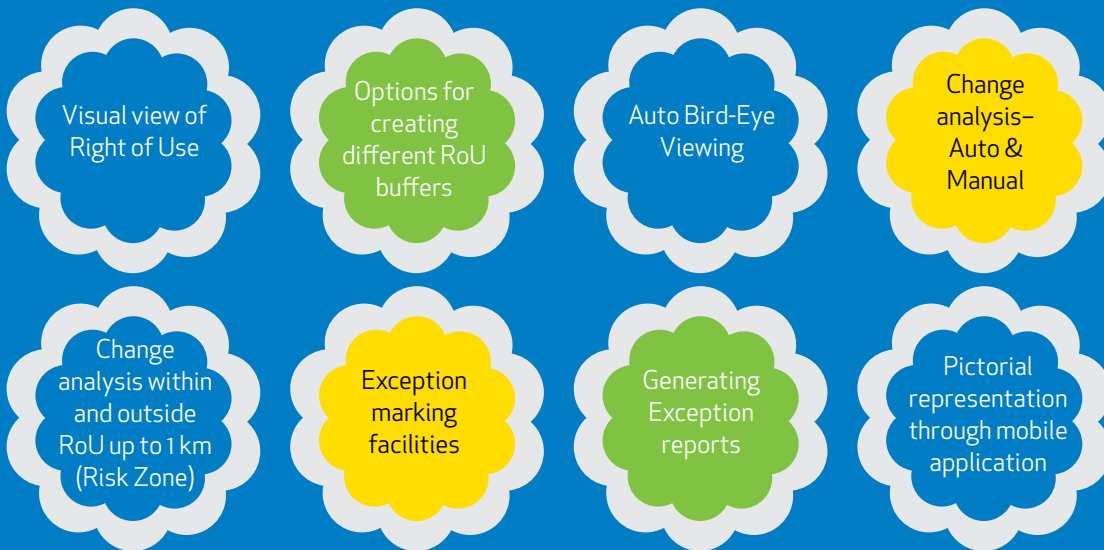
the pipeline is carried out at regular intervals to safeguard pipeline integrity. All tankers are loaded only after ensuring that they are carrying the LPG emergency response kits.

Transportation of Natural Gas to process plants at Gandhar, Vaghodia & Vijaipur, where it is used as a raw material, is done through underground gas pipelines. These pipelines are operated & maintained by a separate O&M team. Cathodic Protection Monitoring (which helps in reducing corrosion of the pipelines) and intelligent pigging is done as per standard frequency to maintain integrity of pipeline. Close Interval Potential Logging (CIPL) / Direct Current Voltage Gradient (DCVG) surveys are regularly carried out to ascertain the integrity of external coating of the Pipeline. Similar to other pipelines, patrolling is done to monitor any exposure/third party activity near pipeline.

Ensuring Safety of Our People and Environment -->

Bhuvan-GAIL portal

GAIL gets Right of Usage (RoU) for laying of its underground Pipelines. This RoU needs to be monitored regularly to safeguard it from any encroachment to ensure the safety of the Pipeline. Presently GAIL has been carrying out Arial surveillance by helicopter on a monthly basis and also carrying out foot patrolling on an annual basis. With increasing length of Pipelines, it was desired to provide a more robust method of Pipeline RoU monitoring. An R&D Pilot Project was initiated with National Remote Sensing Centre (NRSC) Hyderabad to utilize Satellite imagery for the purpose of RoU monitoring. This involved mapping of GIS coordinates and development of a change detection software. The Pilot Project is being carried out over 610 Km of Dahej-Vijaipur Pipeline. A "Bhuvan-GAIL" portal (Bhuvan means "Earth" in Sanskrit) was launched in October 2015 for carrying out the RoU Surveillance. Some important features of the portal are illustrated below :

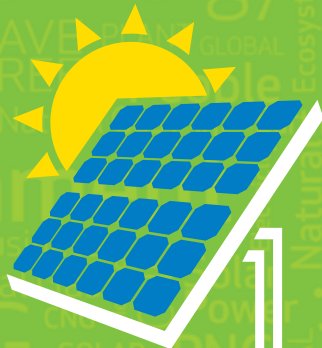
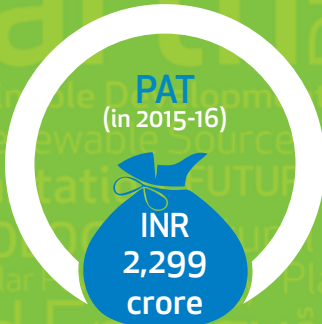
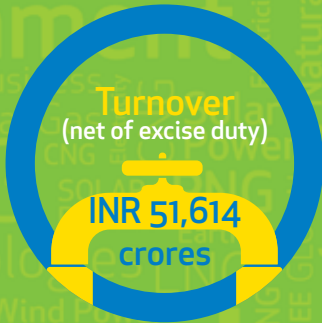


The success of this Pilot Project shall pave the way for extending the Technology for the entire Pipeline network. Other uses of this Technology viz. Project progress monitoring, land survey etc. are also being explored.



Launch of Bhuvan-GAIL Portal - R&D Project on Satellite monitoring of Pipeline RoU

Adapting to New Ecosystem: Innovating for Profitability

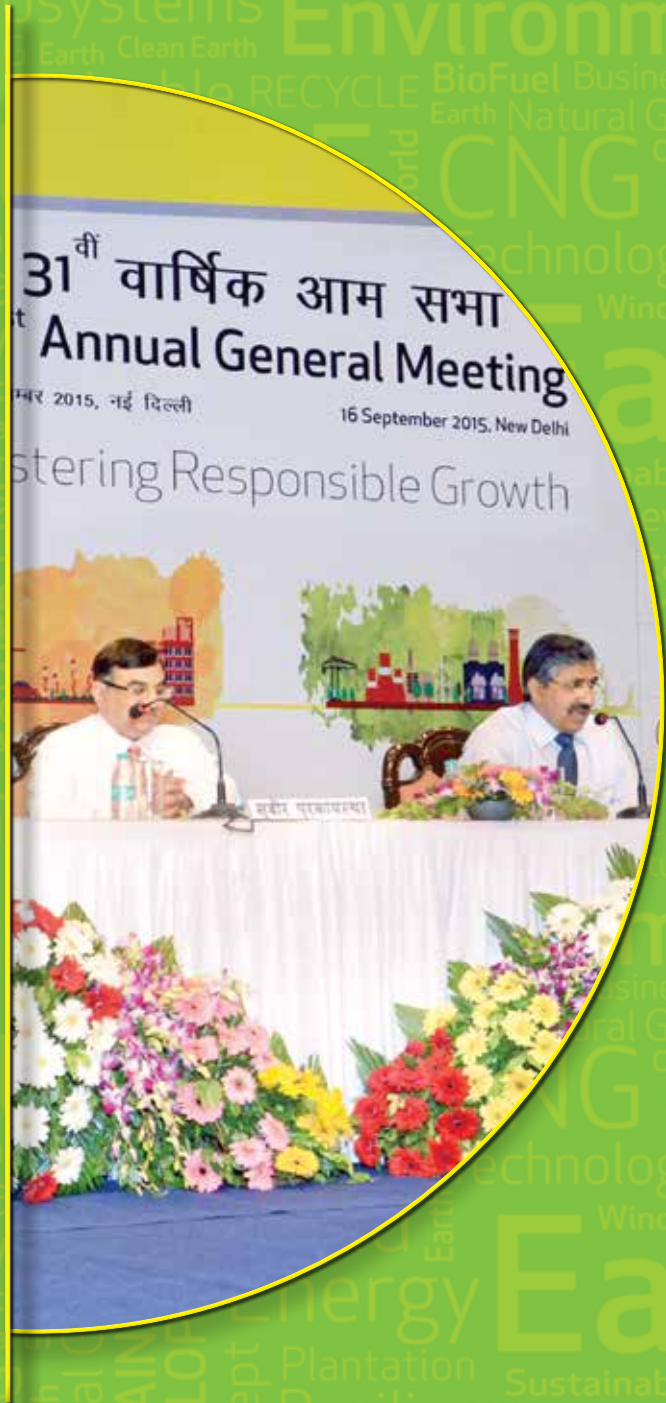


GAIL is planning to set up
14.42 MW & 5 MW

grid connected
Solar PV captive
power plant



GAIL imported **55** spot/mid-term
LNG Cargoes



Adapting to New Ecosystem: Innovating for Profitability -->

G4-DMA India earned the coveted distinction of becoming the world's fastest growing economy in the FY 2015-16. India's economic growth has followed a positive trend, despite the overall gloomy outlook, primarily on the strength of domestic consumption. Through economic reforms, India's growth momentum is expected to continue and higher growth targets can be targeted in the coming years. In the present scenario of import dependency, growing population and expanding economy, the country continues to face energy security challenges. India's energy consumption growth is the fastest in the world and it remains import dependent. It is here that natural gas can assume a vital role in shaping the country's future energy landscape as a cleaner alternative to fossil fuels and during the transition to renewable energy. Currently, the per-capita natural gas consumption of India is amongst the lowest in the world. Additionally, a substantial percentage of the Indian population, particularly in the more remote areas is still unable to access affordable and clean energy. Thus by leveraging Natural Gas, India could optimize its primary energy mix for long-term sustainability as well as reducing greenhouse gas emissions. It is expected that by 2035, the demand for natural gas will expand by 155% followed by coal (121%) and oil (118%).

GAIL's Economic Performance^{G4-9}

GAIL is a premier flagship integrated Energy Company of India. With over 11,000 Kms of Natural gas network, GAIL powers sectors including Power, Fertilizer, Steel, Refinery and even Household consumers. Apart from natural gas transmission, distribution and processing, the Company has diversified business interests in Petrochemicals, LPG transmission, City gas distribution and Exploration and Production activities.

The year 2015 saw the global Oil and Gas industry re-orient itself in many ways in the backdrop of declining crude oil prices. Slow paced global GDP growth along with tepid consumer demand put pressure on the existing assets and projects. In India, new developments in the personal transportation segment as well as the growing public outcry for control of Green House Gas emission have been influencing a change in the consumption pattern. The challenges of maintaining profitability in these prevailing circumstances is also driving GAIL towards re-orientation of its own business strategies.



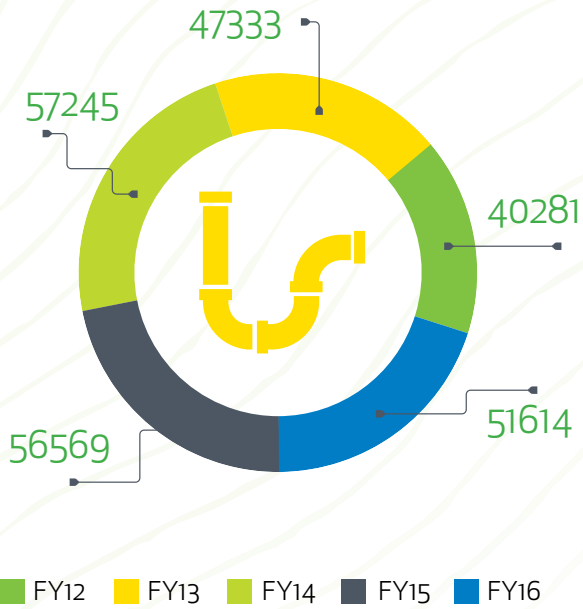
↑ Investors' and Analysts' Meet - 2016

In financial year 2015-16, GAIL (India) Limited registered a turnover (net of excise duty) of INR 51,614 crore against INR 56,569 crore in the previous fiscal. The Gross Margin during 2015-16 stood at INR 5,126 crore as against INR 5,620 crore last year. The Profit Before Tax during the year was INR 3,173 crore as

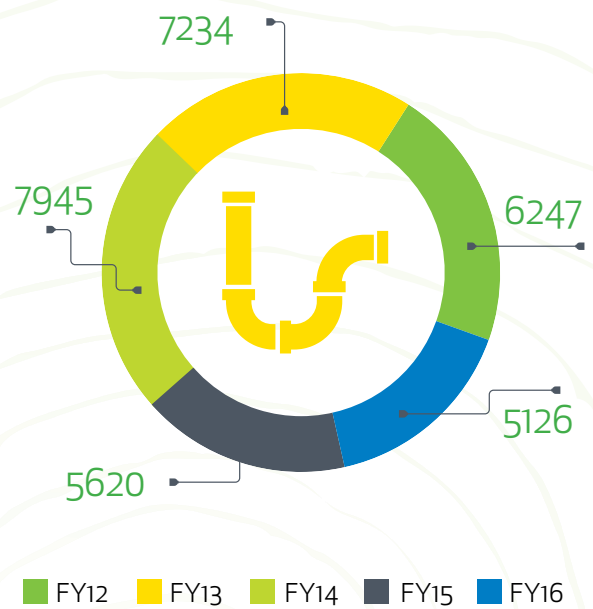
against INR 4,284 crore in the previous year. The Profit After Tax in 2015-16 was INR 2,299 crore as against INR 3,039 crore in the previous year. The final dividend for FY 2015-16 was INR 5.5 per share (subject to approval of Final Dividend by shareholders in AGM in Sept' 16).

Financial Performance^{G4-9}

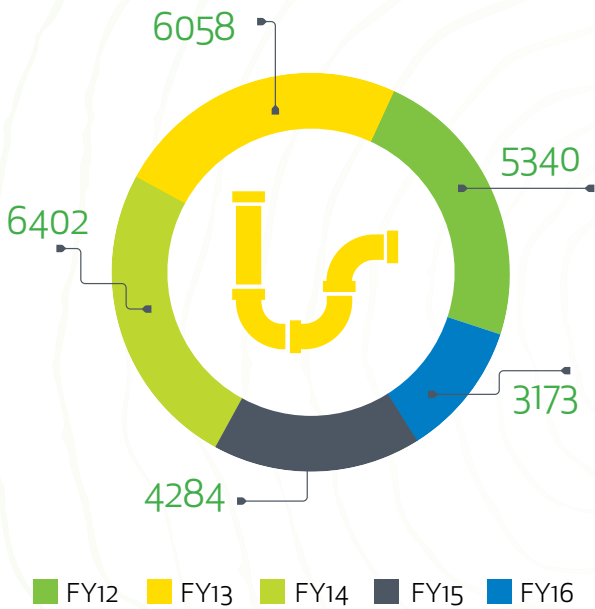
Sales (net of ED, in INR Cr.)



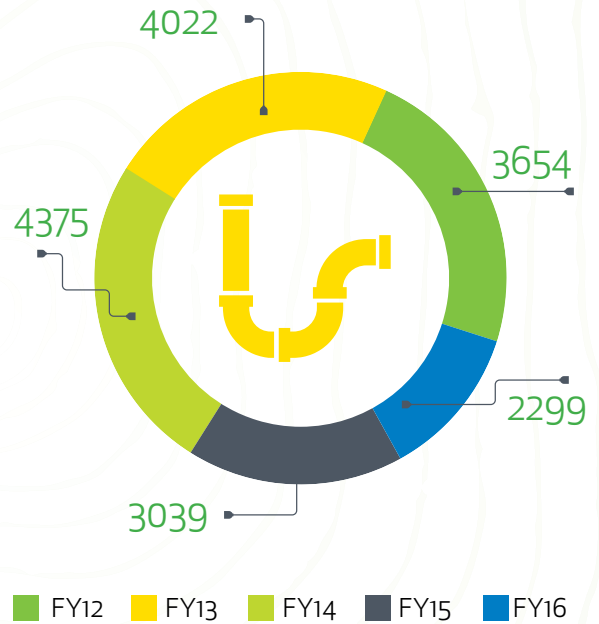
Gross Margin (PBDIT, in INR Cr.)



PBT (in INR Cr.)



PAT (in INR Cr.)



Adapting to New Ecosystem: Innovating for Profitability -->

Economic Value Generated^{G4-EC1}

Parameter (INR Crores)	FY12	FY13	FY14	FY15	FY16
Revenues	4,11,745	4,83,572	5,88,153	5,78,555	5,29,258

Economic Value Distributed

Parameter (INR Crores)	FY12	FY13	FY14	FY15	FY16
Operating Cost	3,54,441	4,10,649	5,17,214	5,18,284	4,74,894
Employee wages and benefits	7,208	10,674	9,082	10,608	10,240
Payments to providers of capital	14,352	17,240	20,368	14,983	13,800
Payment to Government	18,652	22,386	22,513	13,988	10,159

No financial assistance received from Government of India in FY 15-16. GAIL did not make any financial or in-kind contribution to political parties, politicians or related institutions. ^{G4-EC4, G4-S06}

"The changes in external Oil and Gas market dynamics, both globally and domestically, have resulted in significant profitability challenges for GAIL. Lower price realization of Petrochemicals and Liquid Hydrocarbons, higher interest and depreciation cost due to capitalization of major assets, underutilization and downward trend of pipeline tariff has stressed the profitability in FY 16. Progressive policies and reformative actions by the Government of India during the year as well as GAIL's pro-active initiatives implemented under project Sanchay towards improving profitability across all business segments helped in mitigating the impact to a large extent."

- Director (Finance)

Our MoU

Being a Central Public Sector Enterprise, GAIL signed an External Memorandum of Understanding (MoU) document with the government. The MoU specifies the objectives of the agreement and obligations of both parties. It has mutually agreed targets on both financial (50%) and nonfinancial parameters (50%). Some of the Sustainability related parameters of the MoU in FY 2015-16 are shown as under:

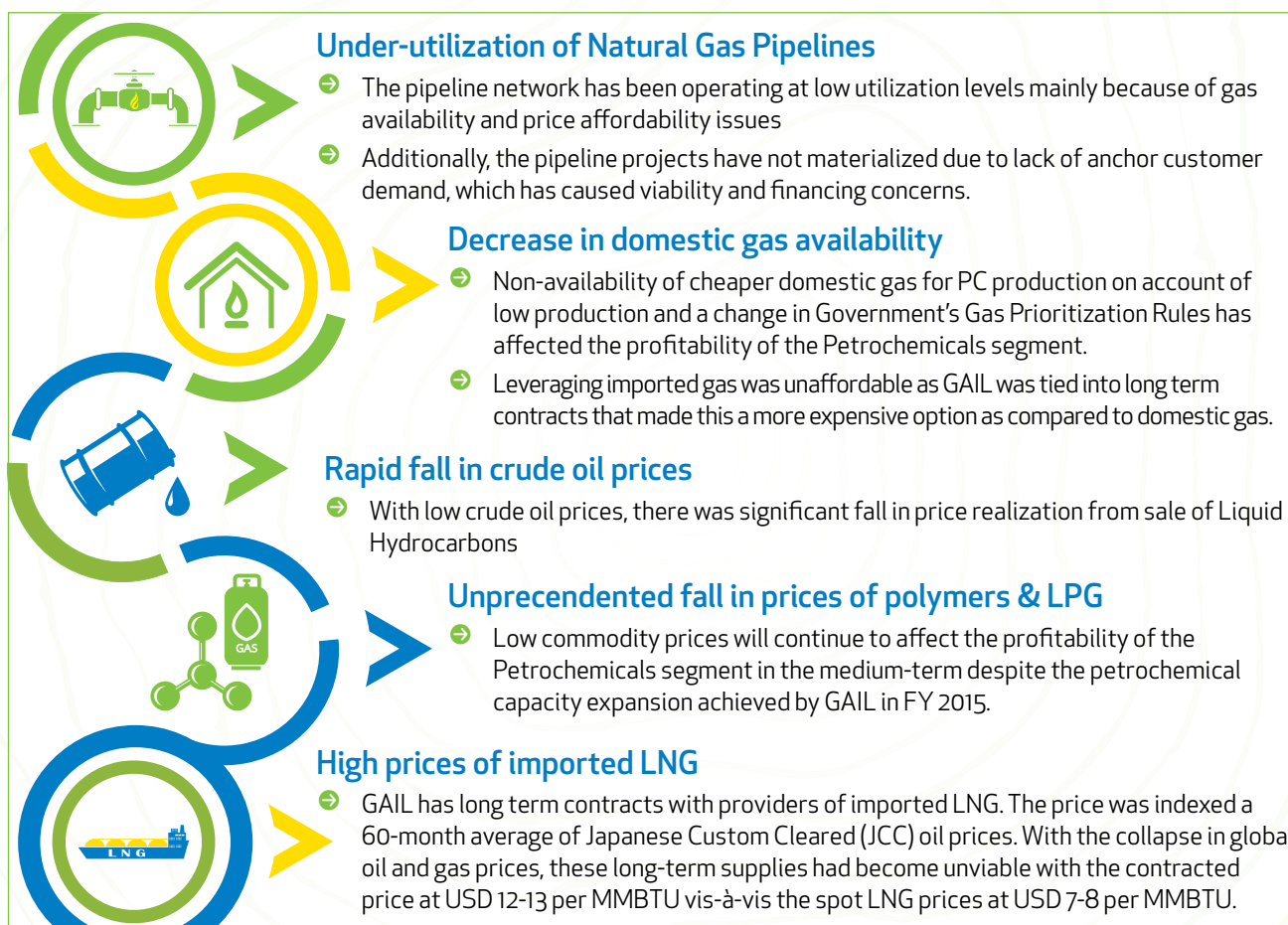
Few Sustainability related parameters in MoU 2015-16 Performance Targets

Criteria	Unit	Excellent Target	Achievement
PAT per employee	INR Lakhs	63.28	53.21
Gas Marketing	MMSCMD	76	73.67
Gas Transmission	MMSCMD	97	92.09
LHC Production	TMT	1251	1089
Polymer Production	TMT	580	344
Production from Cambay Onland Blocks	Barrels	120000	145813
Development of improved conversion efficiency of Hydrogen utilization in Proton Exchange Membrane Fuel Cell coupled solid-state hydrogen storage device	Milestones	Six milestones	Six milestones
Power generation from Low Quality Land Fill Gas (LFG) using Micro-turbine	Milestones	Nine milestones	Nine milestones



Criteria	Unit	Excellent Target	Achievement
Execution of consumer connectivities under Last Mile Connectivity in various trunk pipelines in FY 2015-16	Kms	130	120.47
Overall physical progress for Revamping of KG Basin Phase-I Pipeline Project (24" x 94 kms)	Percentage	>=90%	90.7
Uninterrupted availability of HVJ/DVPL Natural Gas Pipeline System	Hrs	8784	8784
Uninterrupted availability of non-HVJ Natural Gas Pipeline System	Hrs	8784	8784
Uninterrupted availability of Jamnagar-Loni LPG Pipeline System	Hrs	8696	8784
Uninterrupted availability of Vizag-Secunderabad LPG Pipeline System	Hrs	8696	8784
Initiatives towards HSE system improvement	No. of initiatives	Five	Five

Over the last few years GAIL has invested heavily in creation of gas infrastructure and expansion of polymer capabilities. Although GAIL's investment plans were ambitious, less availability of indigenous gas than envisaged during investment decisions, difficulty in tying up of domestic customers for LNG due its comparatively high prices and RoU related problems have resulted in GAIL moving towards a conservative approach in its capital expenditure plans from the financial year 2015-16. There is growing consensus to shift focus towards consolidation of the businesses and increase capacity utilization of its gas infrastructure, with specific emphasis being placed on last mile connectivity and unlocking demand across new segments. Major reasons for reduction in profitability are illustrated below :



Adapting to new eco-system: Innovating for profitability -->

Natural Gas & LPG Transmission

Lower re-negotiated LNG price in the long-term LNG contract with Qatar’s RasGas Co. Ltd. and the government’s policy for power and fertilizer pooling sector has supported growth in gas transmission volume. In 2015-16, gas transmission volume achieved was 92 MMSCMD. In addition, increase in number of LNG cargoes at Dahej and Dabhol has also contributed to an increase in gas transmission volumes for the company.

GAIL is the pioneer of LPG Transmission business in India. GAIL owns and operates exclusive LPG Pipeline network spanning 2038 Kms. to transport LPG for third-party usage. Out of this, 1415 km of the network transports LPG from western to northern parts of India (Jamnagar – Loni Pipeline) and the balance 623 kms of the network transports LPG in the country’s southern part (Vizag – Secunderabad Pipeline). The LPG transmission system has a capacity to transport up to 3.8 MMTPA of LPG. In 2015-16, the LPG transmission throughput achieved was about 2.82 Million MT.

Natural Gas & Petrochemicals Marketing

GAIL has a vast pipeline network of over 11,000 kms and a lion’s share in the Natural Gas Marketing sector in the country. In 2015, the Gas marketing segment marketed 74 MMSCMD by volume and registered an increase of INR 782 Crore in profitability. On account of gas pooling alone, GAIL marketed 5.87 MMSCMD in the financial year 2015-16. In the Petrochemicals segment, due to lower production the sales volume showed a decline of 24%. On the other hand, GAIL made significant strides in 2015 with respect to increasing its Petrochemical production capacity by setting up new plants.

LPG & Other LHCs

Declining crude oil prices posed a significant threat to GAIL’s profitability in this segment. In view of lower under-recovery on Petroleum products, GAIL did not have to bear any subsidy for FY15-16. In other LHCs segment, decrease in average LHC price impacted the LHC business substantially. The LHC sales volume declined by 15% which led to an overall impact of INR 900 Crore in the turnover.

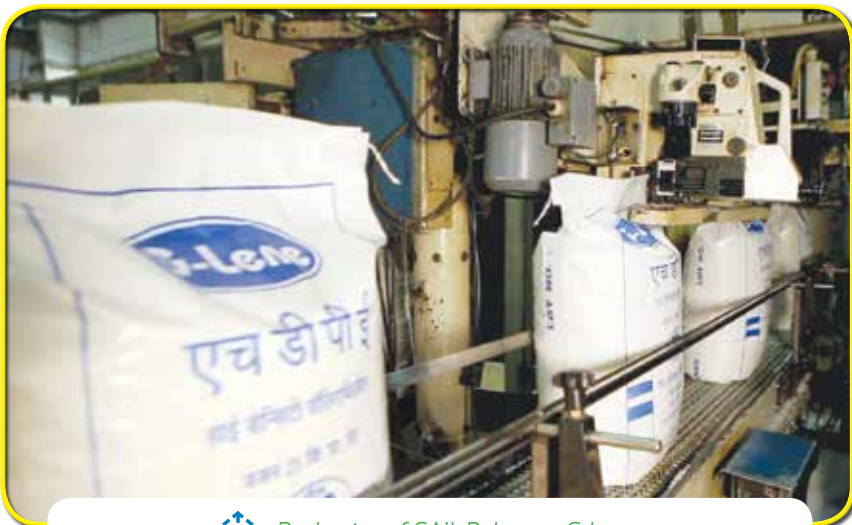
Renewables^{OG2}

Since 2010, GAIL is progressively creating a portfolio of renewable businesses (solar, wind, etc.). Currently GAIL has a renewable portfolio of 118 MW wind and 5 MW solar with total gross block of INR 823 crore as on 31.03.2016. GAIL is planning to set up 14.42 MW & 5 MW grid connected Solar PV Captive Power Plants at Pata, Uttar Pradesh and Vijapur, Madhya Pradesh. Power, that will be generated through the proposed project, will help to offset the captive consumption.

GAIL also forayed into the business of trading Renewable Energy Certificates (RECs) for Tamil Nadu based Wind Energy Generation projects where we successfully sold 52512 number of RECs in FY 15-16 with net revenue generation of INR 7.87 Cr. Further, 5910 number of non-solar certificates worth INR 88 Lakh have been self-retained and the rest have been utilised to purchase renewable power obligations for 4 of its locations.

GAIL’s Response

As a response to the prevailing market scenario and in an effort to stem the decline in profits, GAIL has undertaken a number of initiatives for product and process efficiencies and cost saving. In addition to this, GAIL has also undertaken initiatives to renegotiate imported RLNG contracts in light of the drop in gas prices and increasing the gas transmission network (while forgoing some profitability) through gas pooling. The following sections describe these initiatives in detail:



↑ Packaging of GAIL Polymer - G-Lene

Project Sanchay

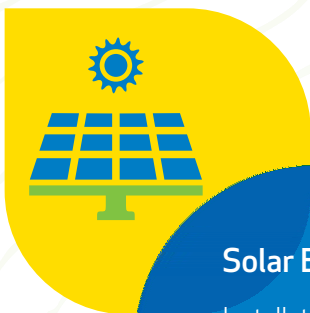
In an effort to stem the decline in profits, GAIL has introduced 'Project Sanchay' to instill cost optimization and profit maximization throughout the organization. The recommendations received from this exercise are being converted into tangible financial benefits in plant and pipeline operations through activities such as, improving efficiency of cooling towers to increase ethylene throughput; switching to energy efficient compressors to reduce operating costs and addressing low

time on tools and aligning contract manpower to demand to reduce maintenance speed. A Single Point of Accountability has been nominated to drive the implementation of each initiative and these are reviewed with the CMD and all Directors, Taskforce and GAIL 'Sanchay' team. A Task Force comprising of Executive Directors and General Managers was formed to monitor and execute the project. Further, a Steering Committee comprising of Director (Projects) and Director (Finance) was constituted to supervise the project. Project 'Sanchay' was rolled out on Company wide basis

across all the business segments of GAIL by CMD on 25th Feb 2015. Twenty initiatives were put forth to the Task Force, out of which 11 were agreed upon Task Force and were implemented under Project 'Sanchay' and 6 no. of hypothesis from the remaining 9 are being implemented internally by GAIL. Further, new hypothesis are under development/consideration.

Some of the initiatives which are being developed for implementation in Projects department under Sanchay are mentioned below :

Few of the Prominent Initiatives taken under SANCHAY



Solar Energy

Installation of a solar farm in Pata and Vijaipur with a solar developer may reduce energy costs. The same is proposed to be developed through Energy Service Company (ESCO).



Waste Heat Recovery (HRSG) at Hazira

Power generation by converting turbines into closed cycle and selling the power to nearby customers through ESCO model. Capex involved will also be invested by ESCO.



Waste Heat Recovery (HRSG) at Vijaipur

Installation of HRSG for Steam generation to reduce energy cost for C2-C3 plant. Proposal has been further forwarded to EIL for detailed feasibility study.

Rich Gas Bypass

Bypassing rich gas at Vaghodia may increase C2-C3 production at Vijaipur. Further, the possibility of running LPG Vaghodia plant with RLNG as feed stock is also being evaluated.



Electricity Generation

Installing gas expanders on spur lines to generate electricity through ESCO model may increase margin. Potential of electricity generation identified at NTPC, Dadri and further analysis is in progress considering temperature drop due to gas expansion.

In addition to above, other areas such as procurement effectiveness, inventory management, etc., are also being explored.

Adapting to New Ecosystem: Innovating for Profitability -->

Gas Pooling for Power Sector

Non-availability of domestic gas and low price affordability of imported gas led to gas-based power plants remaining unutilized over the past couple of years. With a view to revive the stranded gas based power plants, an innovative gas pooling policy was announced by the Government of India, to make R-LNG based power generation commercially viable for stranded gas based power stations. To improve this situation, for the first time in India, large scale gas pooling was introduced where GAIL is acting as a pool operator to manage procurement and supply of R-LNG to stranded gas based power plants in India.

It is through the process of reverse e-bidding process, that assistance is provided to gas-based power plants. The mechanism led to concession made collectively by all stakeholders, including the Central and State Governments, importers and transporters. The policy helped GAIL's business as GAIL reported an increase in Gas Transmission Income by INR 124 Crore on account of power pooling, at the end of the financial year.

Through Power pooling, GAIL also came forward to revive the 1967 MW Dabhol power plant, owned by Ratnagiri Gas and Power Private Limited (RGPPL), which had been non-functional for over two years on account of shortage of domestic gas. The plant again started its operations in the FY 2015-16 and is currently producing 290 MW power which is being sold to Indian Railways.

Gas Pooling for Fertilizer Sector

The Government of India approved a major policy intervention, to supply gas at uniform delivered price to all fertilizer plants on the gas grid for production of urea through a pooling mechanism. It has led to increase in production of urea by about 20 lakh tonnes in FY 15-16 vis-a-vis FY 14-15. The increase in urea manufacturing capacity will also contribute to the Make in India initiative. This reform measure will help in revival of the Gorakhpur, Barauni and Sindri urea plants. These three urea plants will serve as the anchor load customers for Jagdishpur-Haldia Pipeline. As a result, work on this pipeline which was approved in 2007 is expected to start in this financial year.



Urja Ganga

Shri Dharmendra Pradhan, Hon'ble Union Minister of State (Independent Charge) for Petroleum and Natural Gas inaugurated the project office of Jagdishpur-Haldia Pipeline in Patna



Jagdishpur-Haldia Pipeline has been heralded onto the national agenda as part of Government of India's vision of doubling the Natural Gas Pipeline network to over 30,000 km in next 5 years. Aply termed, "Urja Ganga" for Eastern India, this pipeline paves way for maiden entry of natural gas supplies into Bihar, Jharkhand and West Bengal. Jagdishpur – Haldia natural gas pipeline also known as the "Energy Highway" ("Urja Ganga") of Eastern India is set to play an important role in fulfilling the Hon'ble Prime Minister's commitment towards overall development of the Eastern region and meeting its energy requirements. While supplying gas to anchor load customers like Gorakhpur & Barauni Fertilizer Plants and Barauni Refinery, the first phase of the Pipeline will also cater to domestic needs through CGD development in cities like Varanasi and Patna when the authorizations for the same are accorded by Petroleum & Natural Gas Regulatory Board (PNGRB)

Natural Gas Marketing

Gas sourcing & supply

GAIL is pursuing business opportunities all across the globe with a twin aim of securing energy security related needs of the country along with mitigation of the risks and capitalization of profitable opportunities as associated with the uncertainties of the international market.

GAIL's upstream portfolio includes 15 E&P blocks in India (2 operating blocks) and 2 overseas producing blocks. GAIL started drilling the first Exploratory Well as Operator in its NELP-IX Block in Cambay Basin, Anand District, Gujarat, earlier this year. GAIL (India) Limited is the lead operator of the block with 25 per cent participating interest in it. Other partners in this block are Bharat Petro Resources Limited, Engineers India Limited, Monnet Ispat Energy Ltd. and Bharat Forge Infrastructure Limited. Drilling has also been initiated in 3 other NELP-IX Blocks.

GAIL also has significant overseas presence including offices in USA and Singapore. GAIL was the first Indian PSU to acquire working interest in shale assets in Texas from Carrizo Oil & Gas Inc. GAIL has signed a 20 year Sales and Purchase Agreement with Sabine Pass Liquefaction LLC, a unit of Cheniere Energy Partners, USA for supply of 3.5 million tonnes per year of LNG. GAIL also signed a Terminal Service agreement for 2.3 million tonnes per year of LNG liquefaction capacity with Dominion Cove Point LNG LP, USA. The Dominion Cove Point terminal is currently under construction and the expected date for commencement of supplies is January 2018. In order to tie up gas for liquefaction at the terminal, the company got into an agreement in November '14 with WGL Midstream Inc (WGLM). WGLM is a part of a group having a rich history in natural gas supply business in the

R-LNG Regasification terminals & Shipping



Globalization has meant that the Indian landscape is continuously being altered by the global energy supply dynamics. The collapse in global crude oil prices impacted the natural gas markets across the globe and India was no exception. In some markets, gas prices are contractually tied to oil prices and since India relies substantially on its imports to satisfy its domestic demand, there were other related consequences too faced by India.

Petronet LNG had been importing 7.5 MMTPA LNG on a long-term basis from Qatar, out of which 60% off-take was GAIL's responsibility. The price was indexed to oil, linked to the 60-month average of Japanese Custom Cleared (JCC) oil prices. With the collapse in global oil and gas prices, these long-term supplies had become unviable with the contracted price at USD 12-13 per MMBTU vis-à-vis the spot LNG prices at USD 7-8 per MMBTU. RLNG customers signalled distress leading to timely intervention by the highest decision makers with the support of governments in working out newer pricing formula under long-term LNG contract with the global major-Rasgas. According to the new renegotiated contract, Petronet LNG will now import 8.5 MMTPA of LNG from Qatar with price linked to the 3-month average of Brent crude oil prices. With the renewed contract terms, GAIL has been able to import gas at half the price at \$ 7-8 MMBTU, as compared to \$ 13 per MMBTU since the 1st of January, 2016.

mid-Atlantic region. Some of the open exposures identified with the Dominion Cove Project are - use of gas surplus, North America's price index, Henry Hub for LNG pricing and the associated increased shipping costs of LNG produced. At present, GAIL is actively exploring options to market the LNG obtained under this Agreement globally. GAIL Global Singapore, has been tasked with LNG trading in the international markets. TAPI (Turkmenistan-Afghanistan-Pakistan-India) pipeline will bring 38 MMSCMD of natural gas from Turkmenistan to India via 1814 Km TAPI pipeline, once it is commissioned. The Shareholder Agreement (SHA) and Investor Agreement (IA) of TAPI was

signed in the last FY 2015-16, GAIL secured 5% equity in the project. At present, pre-project feasibility studies are being carried out. The security related aspect of this pipeline is particularly highlighted because of the glaring security and geopolitical risks confronting the host countries through which the pipeline passes.

With 11,000 Kms of natural gas pipeline network, GAIL essentially forms the backbone of natural gas transmission in India. The pipeline infrastructure has increased by about 5000 km during the last seven fiscal years. Going ahead, the company is committed to expand its current network to 15,000 km within 5 years.

Adapting to New Ecosystem: Innovating for Profitability -->

Given the enormous size of the country's population and geographical extent, the existing gas pipeline infrastructure of the country is still found lacking. The gas pipeline infrastructure of the country is still under-developed, inequitable and is operating at low utilization levels. The infrastructure so far has been dominant in the Northern and Western parts of the country whereas the Eastern part of the country has very low pipeline density. In view of these pressing concerns, the government came forward with a string of favorable policy-based interventions over the

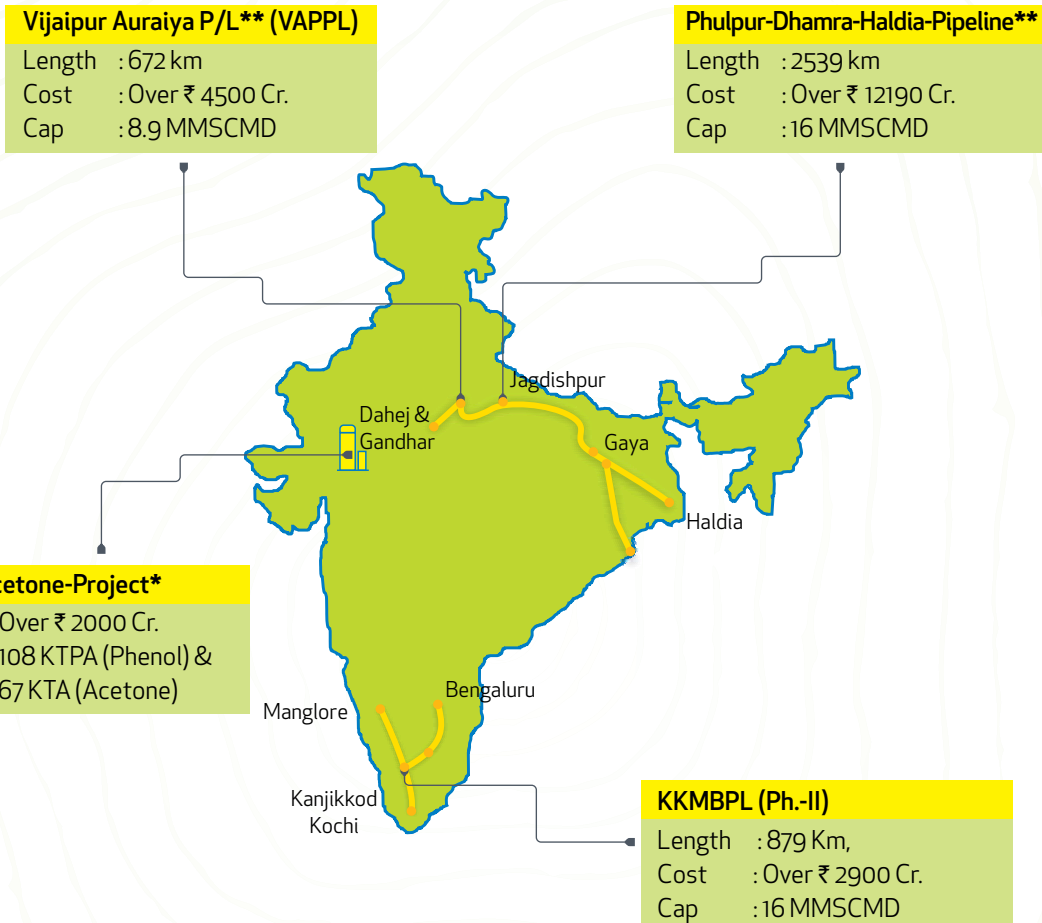
last few years such as the Viability Gap Funding (VGF) scheme for the gas pipeline projects, "Energy Highway" of Eastern India, Gas Pooling Scheme for the Power & Fertilizer sectors, etc.

GAIL is a pioneer in City Gas Distribution business in India with 8 JVs, notably IGL Delhi and MGL Mumbai and a subsidiary GAIL Gas Ltd. During 2015-16, GAIL successfully completed expansion of CGD network in Bangalore city. GAIL Gas has commissioned the steel networks in the geographical area (GA) of Sonapat, Dewas, Kota, Meerut, Taj Trapezium

Zone and Bengaluru. For reaching more charge areas for domestic connections, the steel grid network and MDPE pipeline network have been extended to 388.93 kms and 806.41 kms respectively in 2015-16 in the cities of Sonapat, Meerut, Dewas, Kota, Taj Trapezium Zone and Bengaluru.

In another positive development, a consortium of GAIL Gas and BCPL got authorization for CGD in Haridwar and North Goa. The growing CGD network has the potential to act as one of the positive triggers for the company.

Major Projects (On-going & Upcoming)



*Map Not to Scale
 *Phenol-Acetone-Project
 **To be commissioned in synchronization with anchor load customers



Adapting to New Ecosystem: Innovating for Profitability -->

LNG Shipping

GAIL planned to hire/own long-term charter ships for which the due procedure was initiated. However, the LNG shipping plans of GAIL were delayed because of difficulty in manufacturing companies being able to comply with the Make in India Project directives. Presently, GAIL is exploring options of short-term and spot hiring of ships.

Petrochemicals Marketing

The per capita plastic consumption of India is 11 kgs compared to 38 kgs in China. This, coupled with the nature of the growing economy and a population count of more than a billion, it is estimated that the growth in polymer demand is going to be 8-9% per annum, which is a huge

upside for GAIL's business. With an aim to be amongst the major players in Petrochemical industry, GAIL has commissioned massive production capacity and wide product portfolio through various endeavors.

The unprecedented fall in commodity prices coupled with the changes in the policy regime, adversely affected the profitability of the Petrochemicals segment to a great extent. However, on a positive note, the previous year saw GAIL make significant strides in Petrochemicals capacity expansion. GAIL has doubled its Petrochemicals capacity and now by focusing on strengthening our marketing network, we expect to make the most out of this milestone achievement.

- Director (Finance)*
* for marketing related activities



The capacity of Pata Petrochemical Plant has been doubled to 810 KTA. Further, Brahmaputra Cracker and Polymer Ltd. (BCPL), a JV between GAIL, Numaligarh Refinery Limited (NRL), Oil India Limited (OIL) and Government of Assam, has set up a plant in Lepetkata, Assam which will produce a 220 KTA PE as well as 60 KTA of PP. The main challenge being foreseen for the Assam Plant is product marketing and sales in the North-East region. GAIL also has equity in OPaL's greenfield petrochemical project at Dahej to produce 1060 KTA of HDPE & LLDPE and 340 KTA of PP. Costs in the petrochemical business also rose due to on-going Plant stabilization process for the new Petrochemical plants. The expansion in capacity is however, expected to yield favourable outcomes for this segment in the medium to long-term perspective.

Other challenges being faced by GAIL's Petrochemicals segment include high feedstock prices, unprecedented fall in commodity prices, change in government's domestic gas allocation policy, lower richness of gas obtained, ban on plastic-use in states, etc.

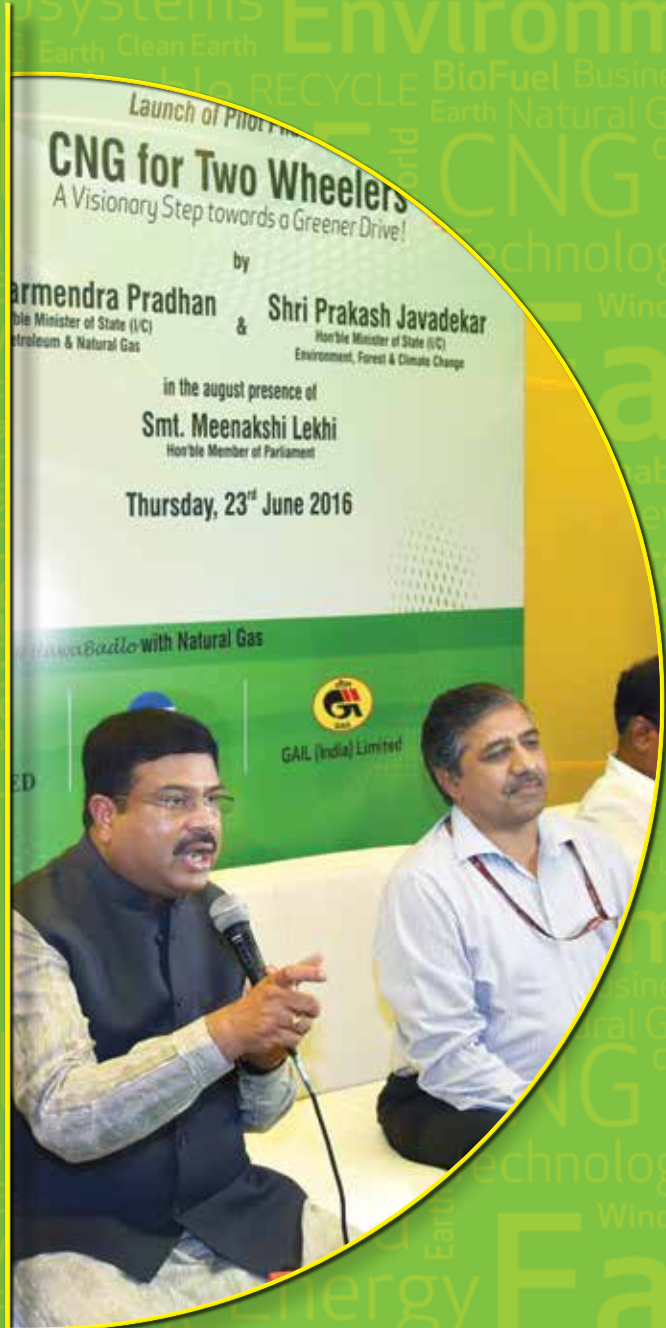
Cheap spot LNG imports were secured by GAIL to bring down the input costs at its Petrochemical Plants, in the backdrop of low crude oil prices.

GAIL's marketing approach in the Petrochemicals segment is focused on channeling new partners for expanding its marketing network and making GAIL's marketing approach more customer-centric. GAIL's marketing network consists of Petrochemical Marketing Group (PMG) - Noida, Marketing Services Group (MSG), Pata, 11 Zonal offices, GAIL Polymer Technology Centre (GPTC) - Noida, SAP Centre, Noida and strategically located network of 38 consignment stockists (CS). GAIL is planning to implement suitable measures to empower the Zonal offices for immediate

response in line with becoming more customer-centric in its approach. GAIL also plans to increase the strength of its consignment stockists & establish feeder warehouses in the major consumption centers to strengthen distribution network. Augmentation of manpower including technical expertise, etc. for export is also undertaken. Further, GAIL is also analysing product and logistics optimization for existing capacities.

GAIL is committed towards producing a quality product by creating, maintaining and ensuring a safe and clean environment. GAIL's polymer products are environment friendly and fully recyclable. GAIL provides a wide choice of grades with consistent and reliable quality to its customers. Its manufacturing processes and quality systems ensure that the products conform to the technical specifications, backed by high quality services to provide complete solution to the customers.

Creating Resilient Infrastructure in the Supply Chain



Creating Resilient Infrastructure in the Supply Chain -->

Our Supply Chain ^{G4-DMA, G4-12}

GAIL was incorporated with the objective of creating natural gas infrastructure and ensuring energy security of the country. GAIL is India's largest natural gas company and is amongst the top gas utility companies in Asia. Our supply chain activities range from aspects of the natural gas value chain including exploration and production, processing, transmission, distribution and marketing and related services. GAIL has dedicated business segment of production and marketing of Petrochemicals like HDPE and LLDPE. We have extended our presence in LNG re-gasification, City Gas Distribution and E&P through equity and joint venture participations. Of late we have also diversified into solar and wind power regeneration. GAIL's Supply Chain is of critical importance to its business because of depleting domestic gas fields and high import dependency of our most crucial raw material i.e., Natural Gas.

GAIL's business incorporates both local and global suppliers that are integral to our operations and the delivery of best in class products and services. GAIL maintains a close relationship with suppliers in an effort to ensure availability of raw materials, increase efficiency, reduce risk, maintain the safety of our operations and nurture resilience throughout the value chain. This relationship is maintained by an open communication channel where engagement is undertaken through a variety of modes and learnings are shared by both parties for improvements in services to customers. This assists in our ability to improve the quality, planning and timeliness of projects.

Natural Gas Sourcing & Marketing

Major sources for domestic gas include ONGC Administered Pricing Mechanism (APM) & Non-APM, PMT at APM & Production Sharing Contract prices, Ravva and Ravva Satellite, etc. GAIL has also taken a series of measures for securing long term gas availability for the country. GAIL imports gas which primarily consists of Long-term RLNG, Mid-term RLNG and Spot. We have signed long term LNG supply contracts for 3.5 MMTPA with Sabine Pass Liquefaction LLC, USA, 2.3 MMTPA with Dominion Cove Point LNG, USA and for 2.5 MMTPA from Gazprom Shtokman LNG project, the supplies from which are expected to commence from 2018-2020. In view of changing market conditions and sudden fall of oil prices, we have successfully re-negotiated prices for RasGas supply contract. GAIL has also signed 25 Master Sales Purchase Agreements with all reputed LNG suppliers including BG, Shell, Total, etc. under which we have been importing spot LNG cargoes from time to time. GAIL has also signed short term, mid-term and long term contracts for LNG with suppliers like Marubeni, GDF Suez and Gas Natural Fenosa (GNF) and the same is being marketed to downstream consumers.



GAIL's Polymer

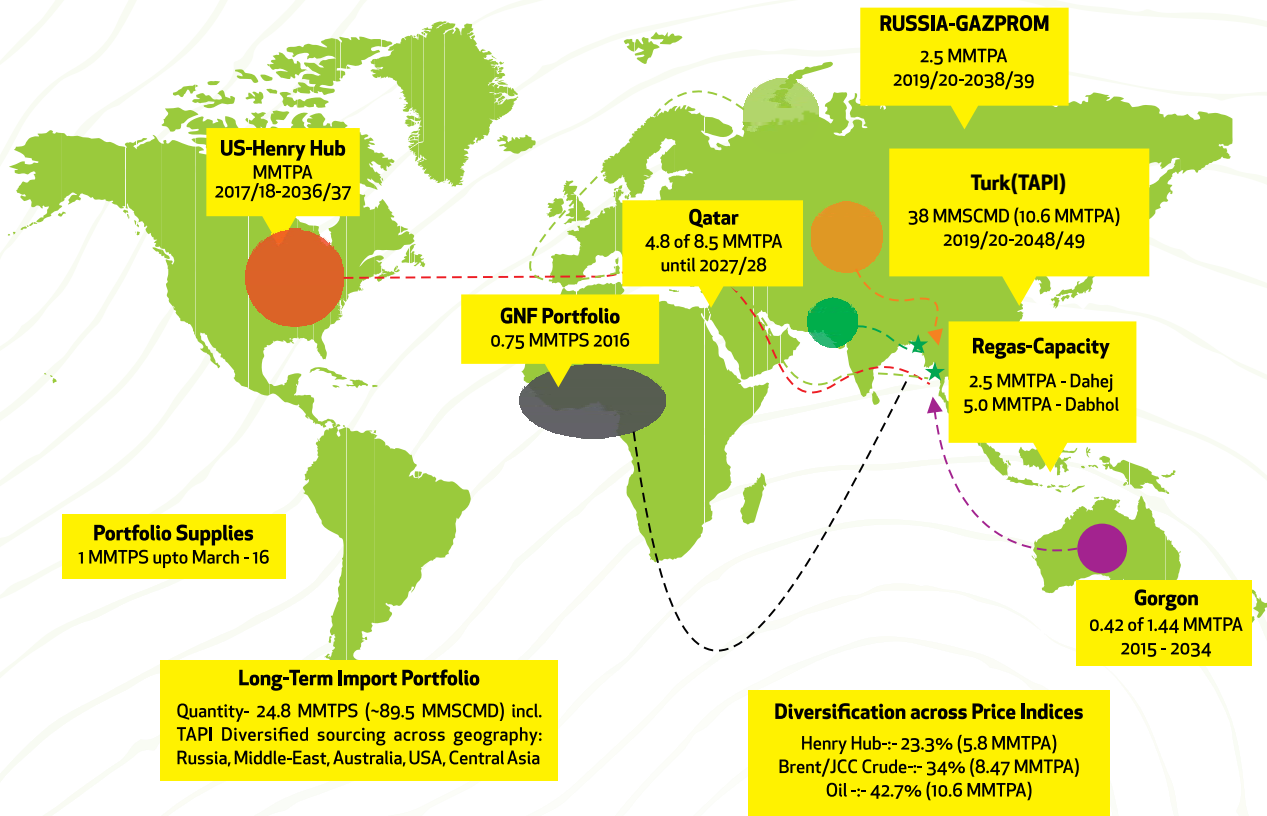
Petrochemicals and LHCs Supply Chain

The Petrochemicals and LHCs business is a core focus area of GAIL. GAIL has set up a state of the art Gas Cracker based polymer plant at Pata in Uttar Pradesh which produces polymers under the brand names – G-Lex and G-Lene. Other major GAIL Petrochemical plants include Vijaipur Plant, M.P. and Brahmaputra Cracker and Polymer Limited (BCPL). GAIL

also recently acquired equity stake in OPaL, Dahej, Gujarat. Within less than two decades of operating in the petrochemical sector, GAIL has established itself as a significant market player.

As part of value added services to our leading customers, GAIL conducts Productivity Enhancement Programs at customer premises. In this program, GAIL showcases its present and upcoming polymers' grades/ technology and also provides

GAIL : DIVERSIFIED GAS SOURCING



information to customers on various technical issues related to processing and mould design. This program helps GAIL in building a positive rapport with the customers and also helped the company in promoting Pata-II and BCPL grades with them. In the FY 2015-16 our productivity enhancement programs covered major sectors like blow moulding, injection moulding, monofilament, raffia and pipe sector.

Additionally, the Indian petrochemical industry is facing a tremendous shortage of skilled manpower in plastic processing. In order to bridge this gap and develop a robust supply of skilled manpower, GAIL has collaborated with CIPET centres across India. In FY 2015-16, skill development programs on "Plastic Product Manufacturing" were conducted at 5 CIPET Centres namely Ahmedabad, Bhubaneswar, Guwahati, Hyderabad and Lucknow. The program provided skill based training to 240 youths from underprivileged

sections of the society. With respect to Petrochemicals marketing, GAIL operates in line with the sales policy which forms the bedrock for transacting business. It's CS & customers were the dominant theme while reviewing the sales policy. In FY 15-16, sales policy revision was undertaken at the beginning of the year with the objective of simplification & use of digital resources (i.e. online databases). Further, a sales policy for CS was released for the first time. Further, activities such as CS Appointment Policy, CS Appraisal Policy, Star Customer Policy and Changes in the CS Agreement were also initiated.

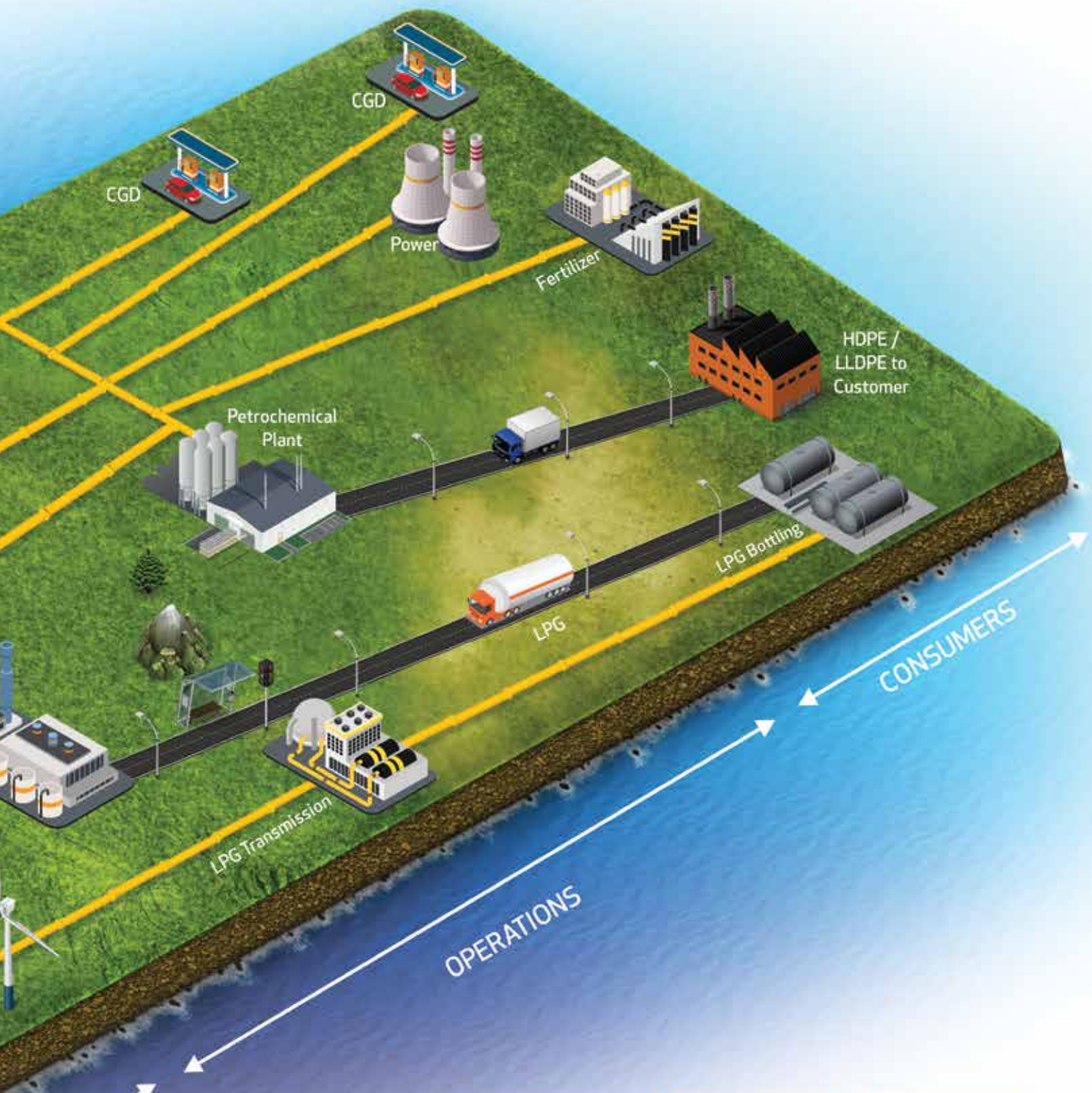
GAIL is committed towards producing a quality product while creating, maintaining and ensuring a clean and safe environment. GAIL provides a wide choice of grades with consistent and reliable quality which are environment-friendly and fully recyclable.

In the Liquid Hydrocarbons segment, GAIL obtains and markets a variety of products from its GPUs namely LPG, Propane, Pentane, Naphtha and by-products of polymer plant namely MFO, Propylene and Hydrogenated C4 mix. GAIL is also marketing the LHC products available from BCPL and the expansion at Pata. Out of these, LPG is sold exclusively to PSU Oil Marketing Companies and others are sold directly to customers in Retail segment.

GAIL continues to play an important role as an LHC products supplier. In order to operate in a fair and transparent manner we have developed an 'LHC Products Pricing Policy' to formalize the pricing procedures for LHC products and improve the governance of pricing mechanisms at GAIL.

GAIL's Supply Chain





Over **11000 KM**
Natural Gas Pipelines

2038 KM
LPG Pipelines

24 MMTPA
Natural Gas Pipelines

1700 KTA
Petrochemical
Production Capacity: 810 KTA
Pata + BCPL + OPAL

1.3 MMTPA LPG/
LHC capacity
Total of 6 Plants

Creating Resilient Infrastructure in the Supply Chain ↓

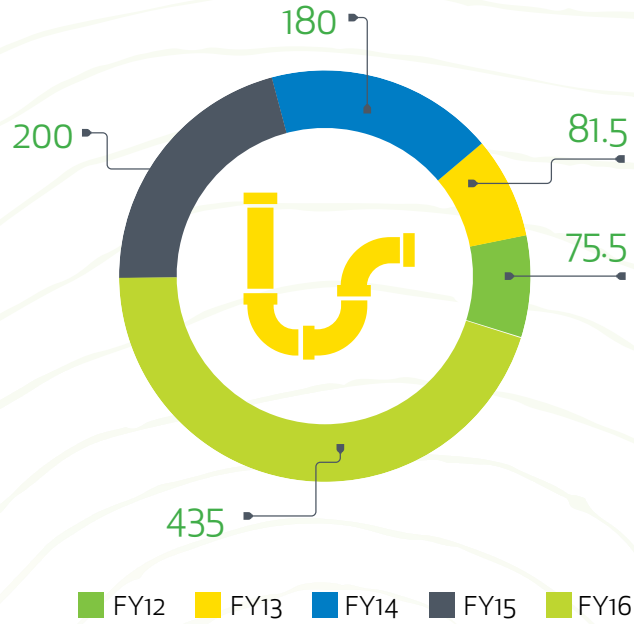
Relationship with Suppliers ^{G4-DMA}

GAIL endeavors to work with contractors and suppliers who contribute to sustainable development and are economically, environmentally and socially responsible. GAIL has implemented SAP, SRM and MRP which are resourceful packages and provide complete solution of the supply chain. GAIL has also developed an online customer suggestion system for its customers to provide feedback on the products and services provided by GAIL. We continue to strengthen relationships with contractors and suppliers who are committed to these principles through frequent engagement and supplier development programmes. The company aims to source more products and services from local suppliers through the implementation of the Public Procurement Policy for Micro, Small and Medium Enterprises (MSMEs) which offers benefits such as waiver from tendering fee and EMD. As a result of this policy, GAIL sources 20% of its supplies from MSMEs and 4% from MSMEs owned

by scheduled caste or scheduled tribe entrepreneurs. GAIL also encourages local production by providing preference to Domestically Manufactured Electronic Products (DMEP). We ensure fairness in the

tender process by hosting tenders on our website, allowing anyone to participate in the tendering process without discriminating on basis of caste, gender, religion or region.

Expenditure on Procurement from MSEs



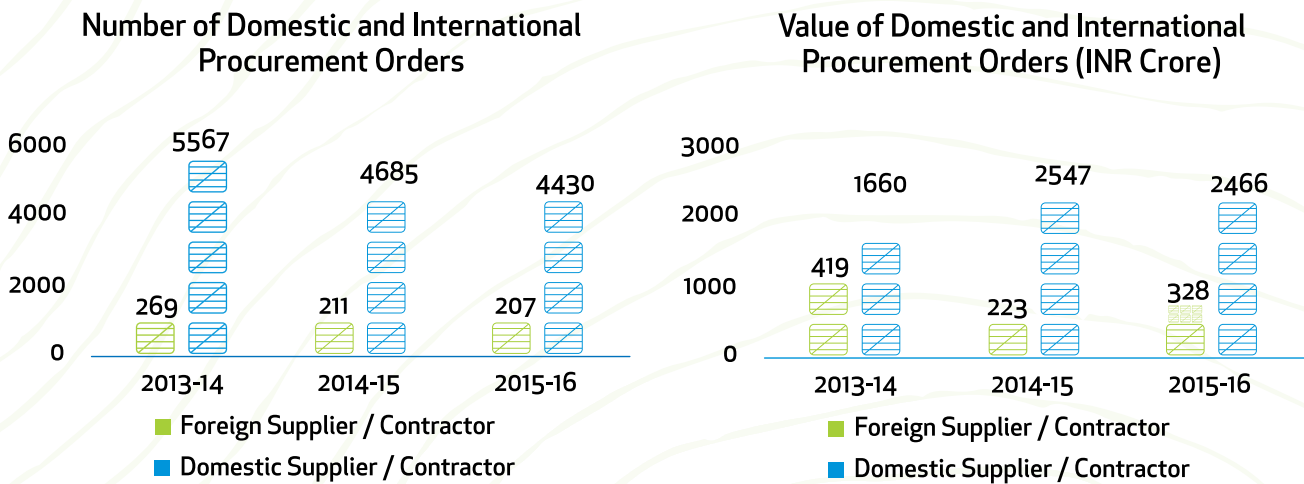
Procurement from MSEs (in INR Crore)

Break up of total value of procurement with respect to type of suppliers. (e.g. Purchase of Goods, Services, Manpower etc.) for FY 2015-16 is given below:

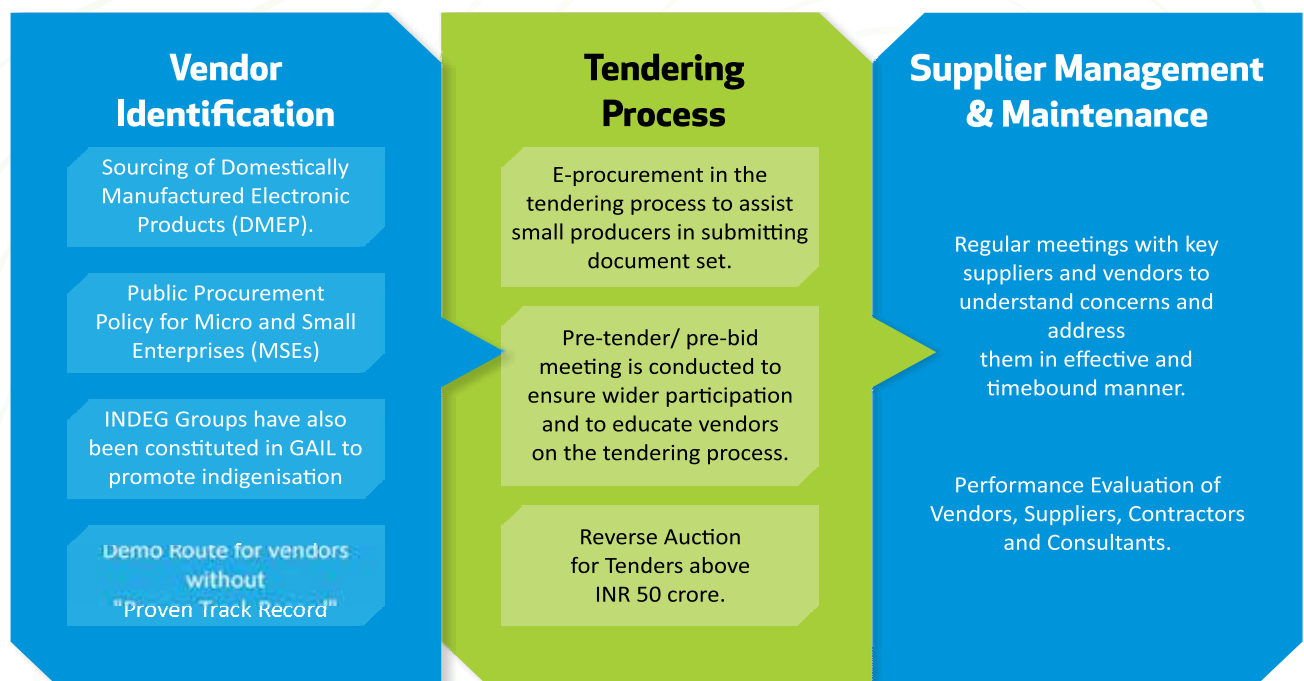
S.No.	Description	No. of Orders	Value of Orders (in INR crores)
1	Services	1901	1875.26
2	Purchase of Goods*	2706	865.35

*This does not include value of procurement of natural gas.

Total number of orders for domestic and international procurement of goods and supplies during FY 2015-16:



Activities in the supply chain



Supplier Screening^{G4-} DMA, G4-LA15, G4-HR1, G4-HR9, G4-HR11, G4-SO10

GAIL's sourcing of external services and contracts determines our procurement across a range of products and services including, upstream, mid-stream and downstream sectors of our business.

As a responsible business leader it is imperative for us to ensure that our philosophy is inculcated across suppliers in the value chain. To ensure this, GAIL has developed the General Conditions of Contract (GCC) which acts as a standard and transparent prequalification that ensures our suppliers confirm compliance to legal requirements relating to impacts on the environment, labour, human rights and society. The GCC have

been integrated into contracts with all suppliers to ensure their validity across the supply chain. Vendors must also confirm that they perform their services in full accordance with applicable government statutory policies which denote aspects such as the provision of separate toilets, washing places for men and women, compulsory canteen facilities and medical services for all employees.

Creating Resilient Infrastructure in the Supply Chain -->

GAIL is a staunch advocate of human rights and no grievances related to human rights were noted in the reporting period. Further, the organization does not allow child labour and prescribes a minimum age limit of 18 years for employment and contract labour. As per the GCC our vendors must confirm that they do not undertake child labour. In order to protect our suppliers all our contracts include a 'Health, Safety & Environment Policy' approved by GAIL.

Supplier Impact Assessment

GAIL's contracts include a procedure for evaluation of vendors/suppliers/contractors and consultants. The objective of this evaluation is to monitor the performance of suppliers, ensure quality and timely completion of works and services. In addition, evaluation of performance gives GAIL an opportunity to recognize, and develop reliable vendors

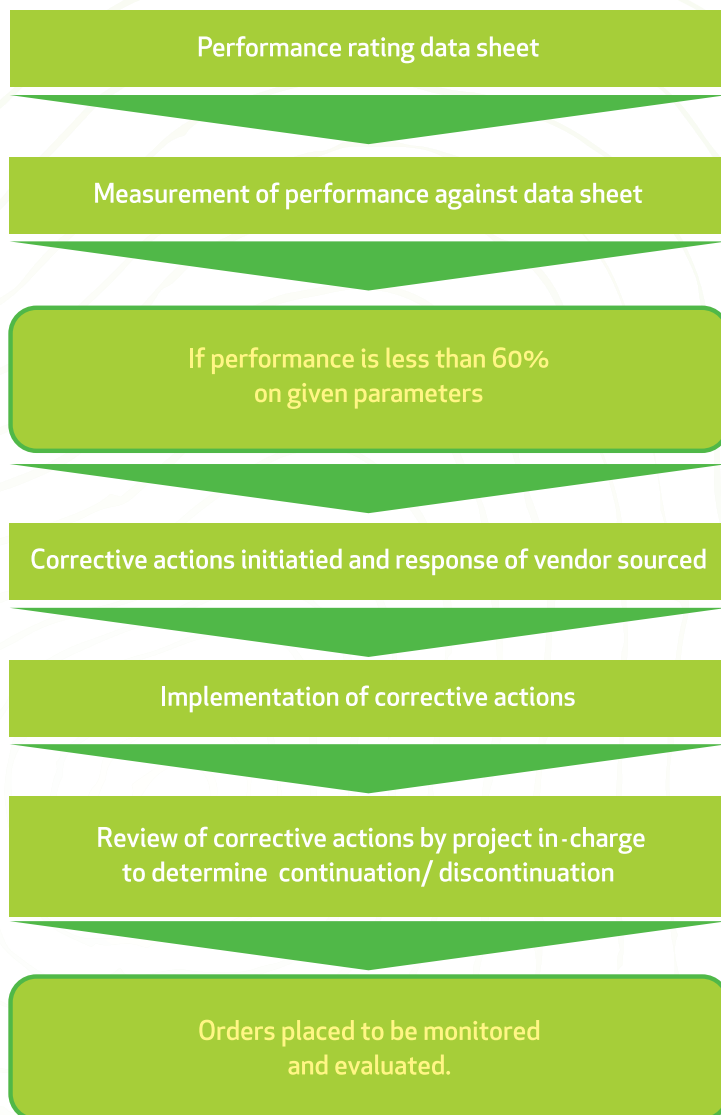
who consistently meet or exceed expectations and requirements. The brief overview of the process for supplier evaluation is described by the below graphic. However, variations between projects, operations and maintenance and consultancy tenders exist and these are detailed in tender documents. Further, the tender documents also state the action to be initiated based on performance rating for operations and maintenance projects.

Supply Chain Practices

In order to ensure transparency in the handling of activities and complaints in the tendering process GAIL has signed an MoU with Transparency International. As part of this MoU an Integrity Pact has been incorporated in tenders with value above INR 1 crore and made available online. During the last financial year three complaints were received under the Integrity Pact and were resolved satisfactorily.

In an effort to prevent fraudulent activities from impacting the company's supply chain GAIL has integrated a procedure for corrupt/fraudulent/collusive/coercive practices in its tender documents. In addition to this, we also have a Fraud Prevention Policy that all bidders must accept and certify adherence to. Bidders must not indulge in fraudulent activities, allow GAIL staff to engage in these and must immediately apprise GAIL of the suspected fraud.

As part of our efforts to deliver value to our stakeholders GAIL introduced the Reverse Auction tool which allows online negotiation amongst short listed bidders for projects above INR 50 Crore. The system allows short-listed bidders to know their price Vis-a-Vis other suppliers and offers them the opportunity to reduce the same.





↑ Training Program for Consignment Stockists

Vendor Development

In addition to our sourcing 20% of our supplies from MSMEs, GAIL supports smaller vendors through the introduction of e-procurement to reduce paper work and to speed up the tendering process. In addition to this, a pre-tender meeting is conducted with vendors to ensure wider participation and to educate vendors on the tendering process. GAIL also interacts with the small and local vendors at vendors' meets, MSME meetings and industry conclaves to share our requirements and to encourage them to bid for these.

In order to increase resilience of the supply chain and reduce the Company's reliance on imports, GAIL has constituted Indigenization Development Groups that promote the indigenization of products. As a result of this, indigenous sources

have been developed in GAIL as substitutes for various chemicals. In addition, indigenized options have been developed for the "Meter Prover Facility" at Hazira (Gujarat) for proving meters of GAIL and other Pipeline companies in India. In order to assist in the development of indigenous sources, suppliers without a "Proven Track Record" (a necessary qualification of making bids) are able to undertake the "demo route" to demonstrate the quality of their products. Through the implementation of this, domestic bidders for line pipe manufacturing have increased from zero in 1985 to 19 in 2016. As a result, in the last six years GAIL has placed INR 3010 Crore of line pipe orders (equivalent to 93% of total orders) on domestic suppliers.

GAIL strives towards continuous improvements in systems, processes and operations. In order to achieve

these, similar strategies for improvement must be passed along the value chain to our vendors and suppliers. Thus, GAIL improves the capacities of our vendors through Vendor Development Programmes where detailed discussions regarding a wide range of issues, methodologies and procedures pertaining to the awarding and execution of contracts are undertaken. During the reporting period, Vendor Development Programs for MSMEs have been conducted at GAIL Pata, Vijapur, Jaipur, Corporate Office, Mumbai, Jhabua, Rajahmundry and Vadodara.

Green Procurement^{G4-EN33}

As part of our efforts to increase energy efficiency and sustainability of operations, GAIL has introduced a number of initiatives to integrate

Creating Resilient Infrastructure in the Supply Chain -->

green procurement within the business. These include the insertion of loading criteria with specified time periods in tenders for procurement of more energy efficient compressors, turbines and generators. As decided by the Sustainable Development Steering Committee, the specifications for procurement of electrical equipment will necessitate a minimum 3-star

rating to ensure efficiency of products purchased. Further, cost benefit analysis of existing Air Conditioners which are more than 10 years old is being undertaken to determine replacement with greener versions.

In addition to the procurement of greener products, GAIL has also focused on the introduction of Green

building concepts in all new buildings. This entails the reorientation of procurement and contracts in line with specific green standards, sustainable practices and solutions to reduce environmental impact. As a result of this initiative, GAIL Jubilee Tower has been awarded a LEED Platinum rating by the Indian Green Building Council.

Total Procurement of Goods & Supplies (INR) ^{G4-EC9}	2794 Crore
Total Procurement of Goods & Supplies From Local Suppliers (INR)	2466 Crore
% of new suppliers that have been screened through Environmental Criteria	100
% of new suppliers that have been screened through Labour Practice Criteria ^{G4-LA14}	100
% of new suppliers that have been screened through Human Rights Criteria ^{G4-HR10}	100
% of new suppliers that have been screened through Criteria for impacts on Society ^{G4-S09}	100
% of suppliers identified having significant actual & potential negative impacts on society.	0
% of suppliers identified having significant actual & potential negative impacts on society with which relationship has been terminated	0



Glimpses of Vendor Meet for MSEs - 2016



Communicating for Effective Synergies and Partnerships

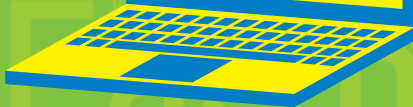
100% RESOLVED

Complaints from
shareholders/investors
through statutory bodies



SWACHH VIDYALAYA
3614 Toilets Built

24x7 Online
Service Request/
Complaint/
Incident Reporting



Communicating for Effective Synergies and Partnerships -->

In the fast-changing environment of the Oil and Gas sector GAIL is taking proactive measures to communicate effectively with its stakeholders and maintain optimal visibility as well as brand recall in the mind-space of investors and the public base at large. One of our key focus areas is to have effective and focused communication of GAIL's initiatives and achievements to stakeholders in order to create a shared common vision. Further, with the advent of new technologies and increasing momentum of renewable energy, positioning Natural Gas as a bridge fuel is becoming more critical. This requires the importance of nurturing a long term relationship with all stakeholders and society at large.

Our Approach^{G4-DMA}

For GAIL, the communication approach is to build relations with desired stakeholders and ensure that these are managed properly. Communication in all its forms is a key contributor towards the success of a company, thus it has been accorded due focus in GAIL. We, at GAIL, regularly engage with our stakeholders to strengthen our relationship with them as well as to create a positive environment and a market for Natural Gas business. Elements of our Vision statement focus on providing value to stakeholders, building a positive

relationship and ensuring trust in order to maintain our leadership position.

GAIL publishes a number of reports, brochures, booklets, presentations such as Annual Report, Sustainability Report, Corporate Brochure, Annual Planner, Investor Presentations, Safety Calendars and Posters in local language etc. These publications highlight various business areas of the company and its operations and maintenance activities. GAIL actively promotes the use of official language i.e., Hindi. The latest news about the company is updated on the GAIL Intranet, Corporate Website for

internal and external stakeholders. GAIL also engages its stakeholders through a dedicated blog GAILVoice.com and maintains a social media presence on Twitter, Facebook and LinkedIn. Details of our stakeholder engagement mechanisms is covered in the Stakeholder Engagement and Materiality chapter.

GAIL undertakes a number of mediums of engagement with stakeholders including focused group discussions, questionnaire surveys, and face to face interactions. We engage with our stakeholders to identify material aspects, key risks and opportunities.



GAIL conferred with 'Company of the Year' PetroFed Award in the category of Environment Sustainability

Stakeholder	Importance of the Stakeholder Group	Engagement Teams	Frequency of Engagement	Mode of Engagement	Key initiatives taken to address concerns, perceptions, advice & suggestions ^{G4-27}
Employees	Our employees as our greatest asset and engage with them on a continuous basis.	Human Resource Department, Human Resource – Employee Relations & Policy, Corporate Operations & Maintenance, Health Safety & Environment Department, Corporate Sustainability Team.	Annual, Quarterly, Monthly, Daily.	Satisfaction surveys, Grievance Redressal, Suggestion Schemes, CMD Open House, Sustainability Survey, Various committees, Emails, Journals, Meetings with employee associations and unions; Various Events including GAIL Day celebration, Sports Meet, Health Campaigns, etc.	<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 development → Track key performance indicators and action plans → Understand and address concerns → Idea generation, sharing and learning
Suppliers	GAIL's primary business is of gas transmission which makes it very important for the Company to engage with the suppliers on a continual basis. Transparent relationship with suppliers helps the Company to reduce risks and discover new opportunities. Also, this helps us to improve our supply chain and planning.	Contracts & Procurement Department, Projects Department	Annual, Quarterly, Monthly, Daily.	Supplier Meet, Emails, Meetings.	<ul style="list-style-type: none"> → Integrity Pact Mechanism → Pre-tender & Pre-Bid Meeting → Conciliation through Settlement Advisory Committee → Reverse Auction → Bill Watch System → File Movement System → e-Tendering



Communicating for Effective Synergies and Partnerships -->

Stakeholder	Importance of the Stakeholder Group	Engagement Teams	Frequency of Engagement	Mode of Engagement	Key initiatives taken to address concerns, perceptions, advice & suggestions ^{G4-27}
Customers	Customers are an important ally in our endeavour towards excellence. We continuously work with them to improve product and service quality.	Marketing Department, Total Quality Management Department	Annual, Quarterly.	Customer Interactive Meets, Customer feedback	<ul style="list-style-type: none"> → Customer Suggestion Box: To understand customer requirements, address operational concerns & to get feedback on new product development → Customer Satisfaction Index: To understand their satisfaction levels → Customer Ledger: For transparent transactions
Communities	Local communities provide us the social license to operate, and hence are central to our growth. We have also developed a CSR policy for effective development of the community.	Corporate Social Responsibility Department.	Annual, Quarterly, Monthly, Daily, Need-based.	Community Meetings, Project Meetings, Annual Review.	<ul style="list-style-type: none"> → Executing Social Responsibility initiatives / projects. → Understanding and addressing their concerns.
Government & Regulators	Government and other regulatory bodies play a very important role in influencing how businesses operate throughout the world. This is in form of taxes, regulatory and other policies, creating a level playing field for businesses, providing access to capital and other related functions. GAIL regards compliance to all laws and regulations as a high priority.	Regulatory Affairs Department, Law Department, Corporate Planning Department, Liaison & Parliamentary Affairs Department, Company Secretariat.	Annual, Quarterly	MoUs, QPR, Open-House Sessions, Hearings and other Meetings, Written Views/ Comments to PNGRB on various regulatory matters, as required by PNGRB.	<ul style="list-style-type: none"> → Relationship building → Performance appraisal through MoUs → Submission of progress reports → Discussions on major investment plans

Stakeholder	Importance of the Stakeholder Group	Engagement Teams	Frequency of Engagement	Mode of Engagement	Key initiatives taken to address concerns, perceptions, advice & suggestions ^{G4-27}
NGOs	GAIL interacts with the local communities and also interfaces through NGOs. Hence, NGOs are critical in forging strong relationships with communities in GAIL's operational areas	Corporate Social Responsibility Department.	Annual, Quarterly, Monthly, Daily, Need-based.	Community Meetings, Project Meetings, Annual Reviews.	<ul style="list-style-type: none"> → Executing Social Responsibility initiatives / projects.
Contract Employees	Our contractors are as important to us as our regular employees, and at GAIL we ensure that their voice is heard. We comply with all the laws of the land applicable to contract employees in terms of wages, working conditions, health & safety, etc.	Human Resource Department, Corporate Operations & Maintenance, Health Safety & Environment Department, Corporate Sustainability Team.	Annual, Quarterly, Monthly, Daily, Need-based.	Plant-level committees, Meetings with employee associations and unions; Various Events including GAIL Day celebration, Sports Meet, Health Campaigns, etc.	<ul style="list-style-type: none"> → Proper training and communication on health & safety issues → Facilitating on the job trainings → Community engagement programmes
Media	Media essentially plays the role of an opinion-maker in the society, it helps in communicating with other stakeholders through various channels.	Corporate Communication Department	Need-based	Press Conferences, Formal and informal media interactions, Exclusive interviews with print, Wire and Electronic media, Press Releases, Sponsorships of events, Participation in industry exhibitions, etc.	<ul style="list-style-type: none"> → Relationship building → Appraising on performance highlights and lowlights → Point-of-view on major sectoral developments



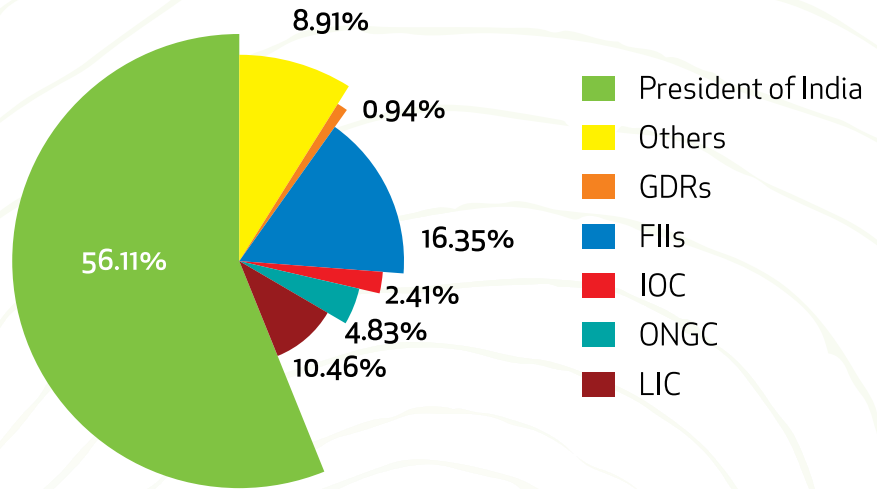
Communicating for Effective Synergies and Partnerships -->

The stakeholders and mediums of interaction with each are described below:

Government and Regulatory Agencies

Government of India is the key stakeholder for GAIL holding over 56% share. As a strategy of risk management and mitigation, GAIL engages extensively with Government and regulatory agencies. GAIL also holds discussions with the MoPNG and other regulatory authorities at regular intervals over topics crucial to GAIL such as financial performance, gas allocation and utilization, gas pricing, gas pooling and swapping mechanism, energy security, project planning, vigilance issues, safety and security, expansion and diversification plans so as to safeguard its interests and future growth. GAIL maintains close coordination with MoPNG in connection with Parliamentary questions, Parliamentary references and Parliamentary Committee meetings. GAIL also maintains close coordination with officials of Lok Sabha Secretariat / Rajya Sabha Secretariat in connection with various communications and meetings of Parliamentary Committees. As can be seen in the following infographic, the President of India is the highest shareholder in GAIL. It is important for GAIL to keep the Government and other investors up-to-date about the Company's performance and related events. Transparency and information sharing regarding our business, governance, financial and non-financial performance and prospects is maintained and regularly updated for them.

Shareholding Structure & Share



As per GAIL's ideology, fostering long-term cooperative relationships with the regulators on broader socio-political concerns, apart from individual concerns, can go a long way in bringing strategic and tactical gains to the company. In a regulatory environment based on trust between the regulator and the regulated, regulation can become a mechanism for securing industry wide cooperation on issues ranging from financial prudence to technical innovation and climate change.

Shareholders/ Investors

GAIL has also constituted a shareholders/ Investors Grievance Redressal Committee for looking into investor's grievances and matters relating to Registrar & Share Transfer Agent. During the year 2015-16, 22 complaints were received from the shareholders/investors through SEBI/ Stock Exchanges and other statutory bodies and all the 22 complaints were resolved.

GAIL's top management and Investor relation function

Informative Communication :

- News releases
- Press meetings of senior management
- Annual Report
- Website
- Analysts meet and conference
- One to one meetings
- International meetings
- Feedback mechanisms
- Investor relation

Investors

Employee Relations and Welfare ^{G4-EC3, G4-LA2}

It is important for us to keep our employees constantly motivated and provide them with an opportune working environment. We have dedicated residential and commercial areas, sports facilities, clubs, schools and medical facilities for employees in remote areas. We also organize events during festivals and special occasions for employees and their families. Innovation being a significant aspect of GAIL's culture, we continuously encourage our employees to be a part of it.

GAIL's employees can voice their concerns through the online grievance redressal system that is monitored by the Corporate HR. In the incident that the HR-in-charge does not redress the grievance within the stipulated time frame, the issue is auto-escalated to GM (HR), Corporate office and finally to the Director (HR). The aggrieved employee can also appeal to the next level if they are not satisfied by the replies/relief provided. More details on grievance addressal is given in the chapter on corporate governance.

Customers

GAIL's communication with customers takes place at various levels. These communications take place either at regular intervals or are need based through direct meetings, visits to customer premises, online suggestion box, Customer Satisfaction Index (CSI) campaigns, online customer complaint portal, stakeholder engagement process, and third party Customer Value Management (CVM) visits. These communications take place with the objective of understanding and addressing customer concerns, building our relationship with customers, technical troubleshooting and redressal of customer grievances.



Second from right Dr. Ashutosh Karnatak, Director (Projects) GAIL during National Consultation Seminar on Climate Change

Customer meets

At GAIL, we believe in close engagement with our customers and carry out multiple meetings across business segments throughout the year. During FY 2015-16, a total 115 visits were undertaken for CVM purpose in Natural Gas, Petrochemicals and LHC business segments. In this, 75 customer visits were undertaken by consultant engaged by TQM department and 40 customer visits by GAIL executives. Zonal offices of GAIL conduct regular customer meets in 3- 4 months for their respective customers. During the customer meet issues were discussed and resolved. Around 30 customer meets were conducted across India during the year.

Further, GAIL also educates its customers regarding the future scenario of gas supply and the policies of MoPNG/regulatory authorities. Further, one to one meetings with concerned customers were also held by zonal offices to resolve specific issues. Some of the key issues which were discussed include decrease in domestic gas availability, imbalance charges/overrun charges and ship or pay charges (especially for customers drawing smaller volumes), and issues pertaining to pressure, quality, etc.

For instance, a polymer customer meet was organized in Hyderabad in October 2015 for polymer customers of Andhra Pradesh and Telangana States. A turnout of over 80 customers culminated in an interactive session with GAIL, CIPET officials and students present in the conference room. Similarly, a technical cum customer meet was conducted under the Oil & Gas Conservation Fortnight (OGCF) at Bhopal in January 2016. The objective of the meet was to inform customers about the significance of using cleaner fuels efficiently and using it as against conventional fossil fuels.

Customer Satisfaction Index (CSI) ^{G4-PR5}

We value customer feedback as it helps us in the continuous improvement of our products and services. Customer satisfaction surveys are conducted on a bi-annual basis to understand the level of satisfaction our customers have on several parameters of engagement such as product quality, usability of product, technical support, delivery of material, packaging, service quality, concerns and suggestions for improvement. Customer feedback is captured through an online feedback system on half yearly basis. The overall CSI for FY 2015-16 was 90.31%, as against an excellent target of 89%. No customer complaints were received in FY 2015-16.



Communicating for Effective Synergies and Partnerships -->

Display of product information and product labeling^{G4-DMA, G4-PR3, G4-PR4}

Apart from the product information and labelling compliance with local laws, product specification is provided before commencement of supply. Also, test certificates are provided with each PC and LHC dispatch. Polymers are packaged in standardized 25 kg bags complete with product detail, company logo and weight information. All marketing communications codes and standards including ISO 9001:2008, solvent control order, PNGRB codes, applicable BIS standards, OISD guidelines, PESO standards and regulations, Weights and Measurements Code are applied across the organization. Customers can lodge complaints related to product quality, technical and commercial in nature. GAIL Customers can register Service Request / Complaint / Incidents 24 x 7 online through GAIL's webpage. There have been no incidents of non-compliance with regulations and voluntary codes concerning product and service information and labelling.

Product Stewardship^{G4-DMA, G4-PR1, G4-PR2}

At GAIL, we are also committed towards developing safe and environment friendly products. Our approach embeds a comprehensive look into the life cycle impacts of our products in terms of safety and environmental impacts and seeks technologically and commercially viable solutions to mitigate them.

While plastics have been traditionally considered as environmental pollutants, we perceive them as eco-friendly due to their high recyclability. We have partnered with Indian Centre for Plastic in the Environment (ICPE)

on educating and building awareness of consumers on the benefits of plastic products and the need to create a secure plastic waste management system and maximize recycling of plastic waste back into the system.

There have been no incidents of non-compliance with respect to regulations and voluntary codes concerning marketing communications, including advertising, promotion and sponsorship by type of outcomes. All the major installations of GAIL are accredited with OHSAS 18001 and committed towards assessment of health and safety impacts of products for improvement.

Through our Gas Management System (GMS) we are able to handle multiple sources of supply and delivery of gas in a co-mingled form and provide a seamless interface between shippers, customers, transporters and suppliers. Under the GMS, the entire order-to-cash cycle has been automated and is available on real time basis from upstream gas supply, gas transportation to billing, payment and final receipt of payments. Information is made available to customers directly through the GMS portal facility, thus empowering them to plan better and utilize the gas supply. Through SCADA seamless integration of GMS with field measurement devices is being

implemented in phases.

There has been a global movement amongst industries to slowly graduate towards products and services that minimize impacts on environment and societal resources and we have been a part of this journey. Being in the business of Natural Gas which is a cleaner alternative to other fossil fuels, we have developed adequate systems to ensure that the benefits of this essential fuel reach the society without compromising on safe use. Over the last 10 years we have established a firm footing in CGD to ensure energy access even to the marginalized section of consumers.

Partnerships for Climate Change^{G4-EC2}

Partnership with TERI for Climate Change Vision – In 2015, GAIL in partnership with The Energy and Resources Institute (TERI) had taken a lead in developing an Indian corporate vision on tackling climate change which also aligned it with Government schemes in this direction. The document titled 'Delhi to Paris: Corporate Vision on Climate Change' was launched at the India Pavilion of COP 21 held in Paris. As a responsible corporate citizen, GAIL acted as Chapter Lead for 'Improving Efficiency of Energy Use' and provided



Representation of GAIL at COP21, Paris



inputs towards preparation and participated in meetings, webinars and consultations. GAIL propagated that natural gas, an environmentally benign alternative fuel, can act as a bridge fuel for the transition to a low carbon economy.

GAIL and CDP - GAIL scored 98 and was ranked 3rd in CDP India's "Carbon Disclosure Leadership Index (CDLI)" which was released in November 2015 at the Bombay Stock Exchange (BSE). GAIL showed remarkable increase of 12 points from last year's score.

Climate Change Awareness- For tackling challenges emerging due to Climate Change and preparing GAIL to convert these into business opportunity, GAIL observed "Climate Change Awareness Week 2015" during 25th October 2015 to 1st November 2015. During this week there was an address by an eminent speaker from Climate Reality Project of India; Climate Change quiz was conducted and a dedicated intranet page was developed for all employees which contained publications and multimedia information. Site level initiatives were also taken up.

GAIL and COP21- GAIL presented its contribution to tackle climate change at COP21, Paris as part of a delegation of MoPNG. Further, GAIL's activities have been published as part of the COP21 publication of MoPNG, Government of India.

Vendors & Suppliers

Our supply chain forms a vital component of our everyday business which includes a mix of global and local suppliers. In our endeavor to provide a corruption free and ethical environment for our suppliers, we deal with their complaints in a just, fair and transparent manner. GAIL also believes in equal opportunity for suppliers and does not discriminate between them. We host our tenders on our website which is available in the public domain. More information on our relationship



↑ CDP Climate Change disclosure workshop hosted by GAIL

with suppliers has been covered in the chapter on Supply Chain Management.

We regularly conduct suppliers' meet at various locations for training purposes. The C&P meets with MSEs for vendor development to guide them on GAIL's tendering process, reducing the processing time and increasing their participation in GAIL's procurement practices. A vendor meet for MSEs was organized at the GAIL Training Institute, Noida in February 2016 to enhance compliance of MSEs to the Public Procurement Policy.

Communities^{G4-DMA, G4-EC7, G4-EC8, G4-SO1, G4-SO2}

GAIL's interaction with its surrounding communities is driven by its CSR Policy. The CSR activities are carried out through registered trusts, societies, autonomous bodies, Government departments, NGOs, and Section 8 companies.

GAIL identifies stakeholders and beneficiaries in terms of the provisions of Section 135 of the Companies Act, 2013 and CSR Rules, thereof. We reach out to a diverse group of beneficiaries including people affected by natural calamities, people with disabilities, women and children, tribal communities, affirmative action groups, disadvantaged youth, senior citizens, HIV afflicted people and victims of violence. All CSR projects at

GAIL are aimed at holistic development of disadvantaged, vulnerable and marginalized stakeholders and the sustainable development of the community at large. In line with the new policy, 75% of all our CSR initiatives will be implemented in and around the 'local areas' within 100 Km radius mostly in the remote areas. These local communities also include indigenous people located around our operations. Indigenous people are present at our Jhabua location in the state of Madhya Pradesh but no incidents of any conflict have appeared during the reporting period.^{G4-HR8}

GAIL undertakes CSR projects in areas defined in Schedule VII of the Companies Act 2013, with focused interventions in seven areas identified in the CSR policy of GAIL, which is in alignment with the Section 135 of Companies Act 2013 and CSR Rules, thereof. The total CSR Expenditure incurred in FY 15-16 was INR 160.56 Crore which is 6.98 % of PAT of INR 2299 crore. Out of INR 160.56 Crore, an expenditure of INR 118.64 Crore was incurred exclusively on CSR projects approved for FY 15-16. This is in accordance with the requirement of Section 135 of Companies Act, 2013 and CSR Rules thereof, wherein the CSR Expenditure incurred has been 2.3% (i.e., Rs.118.64 Crore) of the average of net profit before tax of preceding 3 financial years.



Communicating for Effective Synergies and Partnerships -->

Impact Assessment

G4-EC7, G4-EC8, G4-SO1

GAIL has conducted three Independent Impact Assessment Studies for its CSR Projects in the last decade from Institutes and Consultancies of repute which include Tata Institute of Social Sciences (Mumbai, Maharashtra), Soul Ace Consultants (Gurgaon, Haryana), Delhi School of Social Work and Jamia Millia Islamia (Delhi). The CSR projects are evaluated on milestones achieved by the Cross Functional CSR Committee formulated at every work centre of GAIL. At the end of the project, a report pertaining to the impact of the programme, is submitted by the implementing partner specifically highlighting the project milestones achieved and the quantitative and qualitative benefits generated.

7200 people; the major components of the project being capacity building, livelihood sustenance, infrastructure/asset creation, disaster management and mitigation. The project with various components has provided Disaster Resistant Households to 10 families who lost everything in the floods. Community Resource and Training Centres are being established in 3 blocks of District Rudraprayag. As an immediate measure, psychological counselling was also extended to bereaved individuals. Livelihood generation opportunities have been extended in the form of training in pickles/condiments making, juice making (local fruits and flowers), handicraft design etc., leading to an overall increase in per capita annual income by almost INR 9,000.

The four Skill Schools run by GAIL in collaboration with IL&FS have imparted job linked skills training in service sector trades such as retail, sales, hospitality management, basic engineering etc., to more than 3200 rural and semi urban youth. Training was given to 240 beneficiaries from

the underprivileged community in Plastic industry related skills through CIPET.

In a significant move towards fulfilling Hon'ble Prime Minister Shri Narendra Modi's commitment towards providing hygienic sanitation facilities, GAIL has constructed 3614 toilets under 'Swachh Bharat, Swachh Vidyalaya'. Further, GAIL has approved setting up of two 'waste plastic to fuel oil' plants of 10 TPD capacity each at Haridwar and Ujjain.

In order to develop talent in sports, GAIL, as part of its CSR initiatives, has launched a nation-wide programme, 'GAIL Indian Speed Star', which aims at identifying potential athletes from various corners and rural belts of the country and training the qualifying athletes to qualify and participate in National and International Athletic events. In the 1st phase, young athletes have been identified from 53 districts across 10 states of India. Finally, 9 candidates have been selected, who will be trained nationally and internationally.

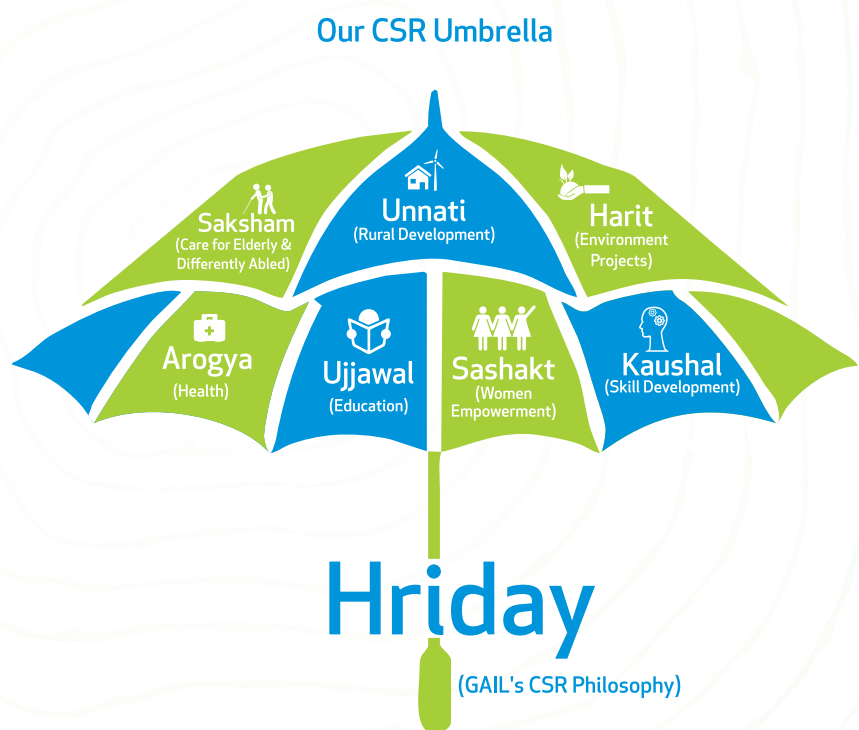


Overview of GAIL's CSR Initiatives

The GAIL Board of Directors has constituted a CSR Committee (Sub-Committee of the Board) with our CMD as Chairman of the committee, Director (HR), Joint Secretary (MoPNG), and two Independent Directors as members. Our annual report on CSR policy and programmes implemented are included in the Board of Directors' report and information on GAIL CSR committee is presented in the company's Annual Report as well as on the website. Some of the major CSR initiatives taken in FY 2015-16 are mentioned below.

Special initiatives undertaken

In the aftermath of the devastating flash floods that took place in state of Uttarakhand, Project Srijan, which means creation, was initiated in January 2014 for the rehabilitation and long term rebuilding of the community covering 10 villages in 3 blocks of district Rudraprayag benefitting over





↑ GAIL's Chairman Shri B. C. Tripathi handed over a cheque to Chief Minister of Andhra Pradesh Shri Chandra Babu Naidu for CSR activities in Andhra Pradesh.

Project Jaldhar

Project Jaldhar is a hugely successful Integrated Watershed Development and Management Programme, implemented in the tribal area of Jhabua, Madhya Pradesh. It has resulted in formation of over 50 Self Help Groups which have in turn facilitated income generation and promoted monetary saving among tribal women through the creation of 11 watershed structures and plantation of 10,000 trees/saplings with investment of INR 307.62 Lakh.

Stakeholder complaint redressal

We communicate with our stakeholders through various modes as has been detailed in the earlier sections, and also have suitable complaint receiving and redressal mechanisms in place to address them. The below table details the complaint statistics for various stakeholders in the current FY.

Stakeholders	Complaints Received	Complaints Pending	% Resolved
Shareholders/ Investors	22	0	100
Customers	48	0	100
Employees	9	0	100
Vigilance	104	79	75.96
Contractors & Suppliers (Relating to Integrity Pact)	3	0	100
Public at Large	229	06	97.4
Total	415	85	79.51%

Engagement with other stakeholders

GAIL actively engages in constructive dialogue process with several Government agencies and regulatory authorities to protect business interests and contribute in a gas based economy for the nation. GAIL engages with industry bodies and is a member of many trade and chamber/associations which allow it to highlight the concerns of the sector, thus enabling inclusive policy development. We continue to work with industry associations like FICCI, CII, International Gas Union, PetroFed, World Energy Council, TERI, on various issues in the energy sector. GAIL also initiated its association with US EPA under the Global Methane Initiative, so as to address the challenge of fugitive emission in Natural Gas transportation. Further information has been provided in the chapter on regulatory affairs. Some of the major ones are mentioned on next page.

G4-15, G4-16



Communicating for Effective Synergies and Partnerships -->



Felicitating of young talent in sports as part of GAIL's Speed Star initiative



Broad category of engagement	Trade and chamber/ associations
Sustainability	Global Reporting Initiative India Private Limited
	Global Compact Network India (UNGC's India Chapter)
	TERI - BCSD (The Energy and Resources Institute -Business Council for Sustainable Development)
	India GHG Program
	World Environment Foundation
Other business related engagement	Project Management Associates
	International Market Assessment CEO Forum
	The India CFO Forum - IMA India Private Ltd.
	Institute of Internal Auditors, USA
	Oil Industry Safety Directorate (OISD)
	Petroleum Federation of India (Petrofed)
	International Gas Union (IGU)
	National Institute of Corrosion Engineers International, USA (NACE)
	British Safety Council (BSC)
	International Group of Liquefied Natural Gas Importers (GIIGNL)
	United Nations Economic Commission for Europe (UNECE) Gas Centre
	World Energy Council India
	Chemical & Petrochemicals Manufacturer's Association (CPMA) International
	Confederation of Indian Industry (CII)
	Standing Conference of Public Enterprises (SCOPE)
Federation of Indian Chambers of Commerce and Industry (FICCI)	
PHD Chamber of Commerce & Industry	
Institute of Company Secretaries of India (ICSI)	

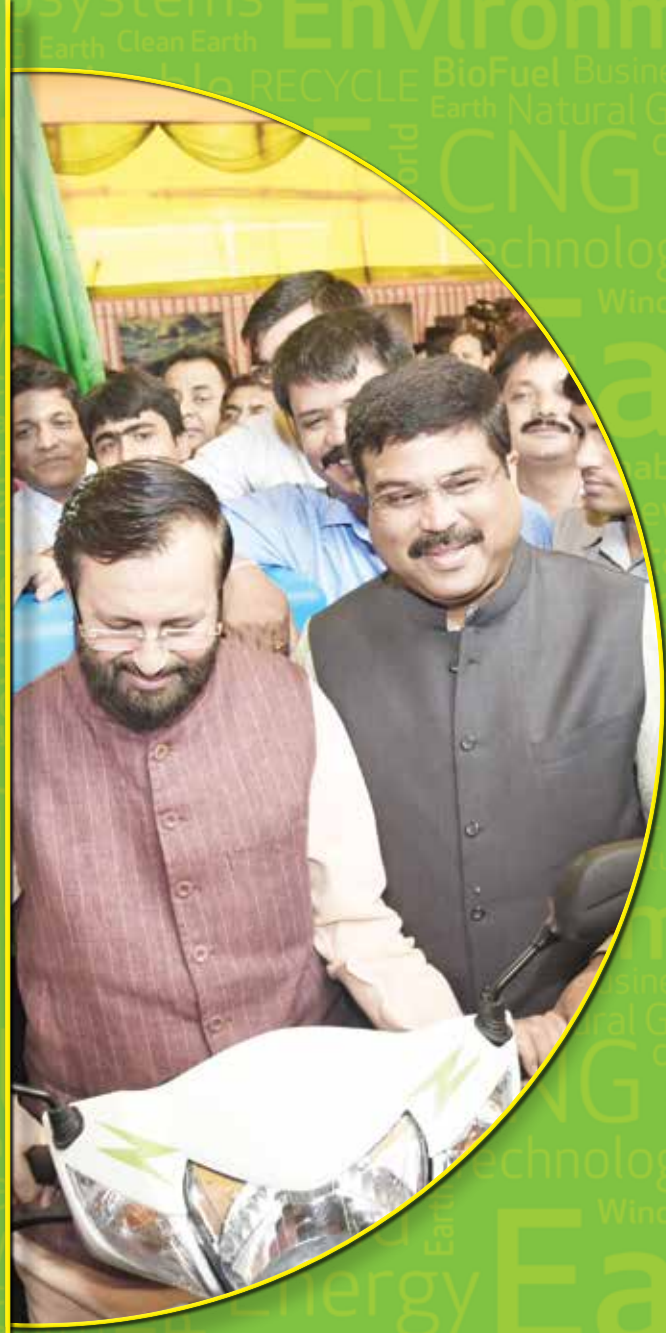
Unlocking Opportunities in the Regulatory Landscape



To ensure Compliance of all Legal provisions



with stock exchanges, SEBI in capital market for last 3 years



Unlocking Opportunities in the Regulatory Landscape -->

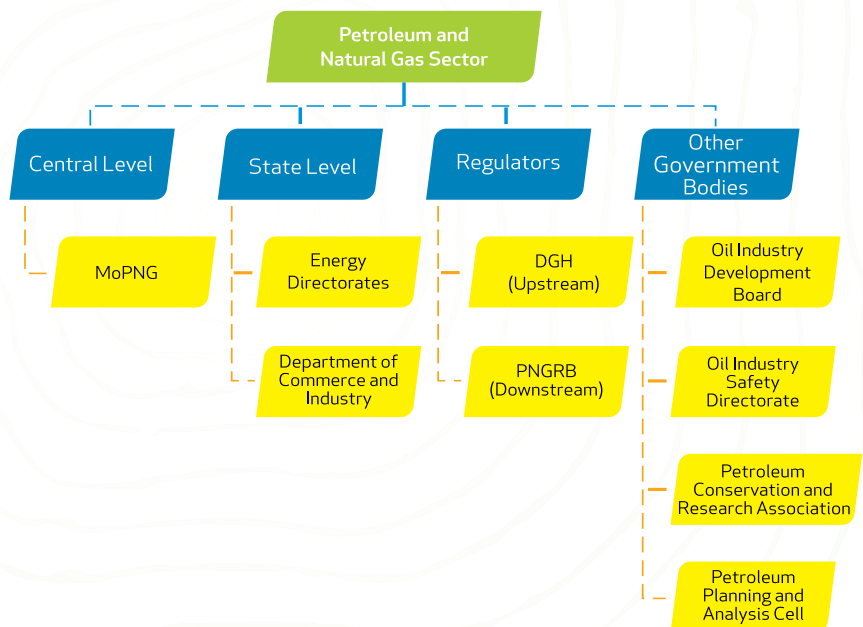
An effective, fair and enabling regulatory environment is imperative to developing a competitive and effective gas market in the country as well as attracting large investments in infrastructure development. The governance and regulatory mechanisms focus on protecting interests of all stakeholders, ensuring greater competition and creating a more efficient business environment. In the current context, pertaining to the state of the oil and gas sector, the role played by policymakers and regulatory authorities is key for continuous development of the gas sector.

Regulatory & Policy Landscape^{G4-DMA}

The oil and gas sector is highly regulated and largely state controlled in India. At present, the Government's focus on oil and gas sector regulation is on reducing the country's import dependence, incentivizing infrastructure development to increase domestic production and recalibrating product prices in line with global prices. These objectives are driven by relevant policy announcements and regulatory reforms. NITI Aayog and Ministry of Finance are responsible for developing policy guidelines for MoPNG and all other regulatory authorities. Given the backdrop of the challenging prevailing business conditions for the oil and gas sector, during the last twelve months, the Government announced multiple reforms for the oil and gas sector. Some of the major policy announcements include new formula based gas pricing, gas pooling for supplying R-LNG to power and fertilizer sectors, priority allocation for City Gas Distribution and auction of marginal oil and gas fields. These measures were announced to address key issues holding back the development of the sector, such as the low gas prices, non-affordability of gas by Power and Fertilizer sectors, slow roll out of CGD sector and subdued exploratory activities. These policy reforms helped GAIL's natural gas business gain some initial traction against the prevailing business situation at GAIL. The key regulatory authorities at each level are depicted in the following chart:



GAIL's Chairman Shri B. C. Tripathi in conversation with Hon'ble Minister Shri Prakash Javadekar



The Directorate General of Hydrocarbons (DGH) has been entrusted with the responsibility of promoting exploration and sound management of petroleum and natural gas resources as well as non-conventional hydrocarbon energy resources while balancing regard for the environment, safety, technological and economic aspects. GAIL engages with DGH for E&P activities that contribute to the nation's energy security. For E&P Blocks where GAIL is the operator, all compliances in respect of various statutory regulations related to Mines Act, Explosives Act and Rules, Environment related acts and rules, Hazardous Waste (Management, Handling & Transboundary Movement) Act and Rules and Manufacture, Storage & Import of Hazardous Chemicals Rules were complied with. GAIL fulfilled its obligations under the different Product Sharing Contracts signed by GAIL with Indian and other governments by maintaining necessary communication and coordination with DGH.

The Petroleum and Natural Gas Regulatory Board (PNGRB) has been established by the Central Government for carrying out the various provisions of the PNGRB Act, 2006. The objective of PNGRB is to regulate the refining, processing, storage, transportation, distribution, marketing and sale of petroleum, petroleum products and natural gas, excluding production of crude oil and natural gas so as to protect the interests of consumers and entities engaged in specified activities relating to petroleum, petroleum products and natural gas and to ensure uninterrupted and adequate supply of petroleum, petroleum products and natural gas in all parts of the country and to promote competitive markets and for matters connected therewith or incidental thereto.

GAIL complies with the notified PNGRB regulatory framework with respect to activities pertaining to petroleum products and natural gas. The regulations/amendments/authorizations/orders/decisions of PNGRB are appealable before PNGRB Bench/Appellate Tribunal/Courts. Some of them pertaining to GAIL are at various stages of appeal and cover areas such as pipeline authorization, common carrier, unbundling of gas transportation and gas marketing activities. Making regular written submissions to PNGRB in matters of public consultation helps GAIL to anticipate any sudden or unforeseen changes in regulation and minimize the associated risks.

For pipeline design, construction and maintenance, apart from national standards prescribed by OISD, GAIL practices international standards such as ASME, API, DIN and ISO. Prior to initiation of pipeline design, a detailed Environment Impact Assessment (EIA) is carried out by GAIL, followed by a series of approvals from the Ministry of Environment and Forests & Climate Change (MoEF & CC). The pipeline alignment is selected to optimize the length while avoiding ecologically sensitive and protected areas; geographically unstable areas; less number of obstacle crossings including national and state highways, Railways, restricted or reserve forest area and Coastal Regulation Zones (CRZ). As per PNGRB guidelines, all contractors involved in pipeline laying operations are mandated to limit activities within the approved right of way. With respect to Resettlement and Rehabilitation of affected persons due to land acquisition for pipeline laying, GAIL adheres strictly to the national law. In 2015-16, no Resettlement and Rehabilitation activities were undertaken for any of the GAIL's projects.

Right of Use (RoU) and statutory clearances are critical to ensuring stakeholder consent and minimizing associated risks in natural gas infrastructure development. Pipeline projects are delayed and at times are scrapped due to RoU and Land acquisition resistances and delay in clearances and permissions. The ambitious Kochi-Kootanad-Bengaluru-Mangalore gas pipeline project had remained stalled mid construction, for nearly three years, primarily due to land acquisition issues and opposition by Tamil Nadu farmers and the State Government. GAIL challenged the Tamil Nadu government order directing GAIL to lay its pipelines alongside the National Highways without affecting the agricultural lands of local farmers. In February 2016, the Supreme Court finally gave an order in favor of GAIL and gave the project a 'go-ahead'. The Supreme Court ruled that the RoU of land is being acquired for laying of gas pipeline, after which it will be restored to the land owners in the original condition. Farmers can continue agricultural activities after the restoration of land and only construction of permanent structure, plantation of deep rooted trees are not allowed in the acquired RoU and as such there will be no adverse effect to the interest of the farmers. In light of the same, compensation will be paid to the land owner as per Petroleum & Minerals Pipelines Act. The Hon'ble Supreme Court has ordered that the RoU compensation against land will be 10% of market value as on 1.1.2016 in addition to 30% Solatium. It also ruled that laying of cross country pipelines along the highway is not technically feasible for the reason of security maintenance of pipeline and disruption of Highways.



Unlocking Opportunities in the Regulatory Landscape -->

Being a CPSE, GAIL is directly accountable to the Government of India for its performance and fulfillment of business objectives. GAIL is committed to responsible business growth and strives to ensure compliance to all national and relevant international regulations. The regulatory compliance requirements across various segments are mapped systematically by the Legal Compliance Management System (LCMS). The LCMS helps GAIL to ensure compliance with the provisions of all applicable laws. Periodic review and audit is an integral part of online LCMS. A legal firm was engaged for third party independent audit of the compliances for the period 01.04.2015 to 30.09.2015, to verify the zero non-compliance report submitted by all GAIL sites.

GAIL's Risk Management Policy and Procedure is also used to fulfill its compliance related obligations. The risk management framework is a strategic tool that identifies potential risks to GAIL's business and in this manner, helps protect the company and all its stakeholders from any sudden or unforeseen risk. Using an online risk register, GAIL maps its legal and regulatory risks across all sites. Risks related to gas allocation policy, gas pricing policy, and regulations related to PNGRB, climate change, environment and sustainability among other pertinent issues are included in the mapping procedure.

A detailed environment management system has been developed by GAIL. We continuously endeavour to manage our emissions, effluents and waste in an eco-friendly and efficient manner. All statutory compliances with respect to preventive maintenance schedule and environmental clearances through respective Pollution Control Board are taken in due course, along with creation of separate budgets for compliances. The hazardous solid waste generated at our facilities is stored and disposed in compliance with applicable regulations.

With a strong foundation for regulatory compliance, GAIL confidently declares that there has been no instance of non-compliance with any stock exchange, SEBI on any matter relating to capital market over the last 3 years. GAIL has also developed a framework to ensure legal and regulatory compliance with respect to technical and safety standards, as well as, effectiveness of all its operations. GAIL gives very high priority to safety of its operations. Hence, GAIL also follows OISD standards, over and above the PNGRB mandate.

There have been no incidents of non-compliance with respect to regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, marketing communications, including advertising, promotion, and sponsorship. G4-S08, G4-PR7, G4-PR9

Anti-Competitive Behaviour G4-DMA, G4-S07

Being a market leader in the gas sector, GAIL's committed to ensuring ethical behaviour in its business practices. Falling under the purview of the Competition Commission of India, GAIL ensures that it is not indulging in any form of practices which can potentially restrain any competition in the market. There have been five cases filed against GAIL, before PNGRB regarding unfair trade practices, restrictive trade practices and misuse of monopoly. Out of these five cases, three were held against GAIL and two were announced in favour of GAIL. In one of the cases, the Board imposed a INR 10 lakh fine against GAIL. Three out of five matters are at present pending before the Appellate Tribunal for Electricity (APTEL) and one case is pending before the Honorable Supreme Court. During the year, PNGRB imposed a civil penalty of INR 65 Lakh in regards to the explosion at Tatipaka in 2014 and stated that transportation of wet gas was the principal reason of failure of the

pipeline. Thereafter, under the aegis of MoPNG, gas supplier ONGC and the pipeline owner/operator (GAIL) jointly agreed to adopt a Standard Operating Procedure (SOP) provided by the design, engineering consultant EIL for ensuring pipeline integrity measures. The committee constituted by PNGRB has verified and confirmed that since resumption of gas intake in the KG Basin pipeline network, the natural gas is meeting the requirements specified under regulations. Apart from cases as reported above, in FY 2015-16, no case has been reported where administrative or judicial sanctions have been levied against the organization for failure to comply with laws or regulations, including: international declarations, conventions, treaties, and national, sub-national, regional, and local regulations and cases brought against the organization through the use of international dispute mechanisms or national dispute mechanisms supervised by government authorities.

Performance Snapshot ^{G4-EN1, G4-EN2, G4-EN3, G4-EN6, G4-EN10, G4-EN20, G4-EN21, G4-EN22, G4-EN23, G4-EN29, G4-EN31, G410, OG3, OG6}

Material Consumption	Unit	2011-12	2012-13	2013-14	2014-15	2015-16
NG Processed	MMSCM	15120	14373	14529	13584	22060
NG to Product	MMSCM	1137	1080	1058	1112	966
Lean NG to P/L	MMSCM	13419	12944	13203	12044	19515
Associated Material	MT	9916	10631	10563	11350	13428
Packaging Material	MT	2249	2208	2090	2228	1693
Recycled Material	MT	0	0	0	0	0

Energy Consumption (GJ)	2011-12	2012-13	2013-14	2014-15	2015-16
Direct Energy	39012486	37359156	35859826	35088263	37900494
Indirect Energy	1166546	1118455	1126035	1233894	1847583
Renewable Energy	12156	27980	88274	95944	80943
Energy from NG Flaring	337453	367375	347921	355781	391379
Energy from LPG Flaring	4923	2472	2889	3035	5240
Energy from NG Venting	133305	444484	490193	626991	663733
Energy from LPG Venting	3739	2619	4744	5626	5468

Energy Source (GJ)	2011-12	2012-13	2013-14	2014-15	2015-16
Diesel	19666	20093	20330	18628	14467.48
Natural Gas	31033613	30056464	28988285	28163438	32165593.23
Residual Fuel	7956762	7279523	6849248	6906178	5720433.02
LPG	2444	3076	1963	18	0.47
Total Direct Energy	39012486	37359156	35859826	35088264	37900494

Energy Saving (GJ)	2011-12	2012-13	2013-14	2014-15	2015-16
Total Energy Saved	1174650	152061	55967	575362	42,987

GHG Saving (MT eCO ₂)	2011-12	2012-13	2013-14	2014-15	2015-16
Total GHG Saved	66159	8805	4225	33253	3,599

Renewable Energy Generation (GJ)	2011-12	2012-13	2013-14	2014-15	2015-16
Wind Energy	43414	545124	464398	404929	571230
Solar Energy	75	3262	34621	31553	34790
Total Renewable Energy	43489	548386	499018	436481	606020



Performance Snapshot -->

Air Emissions (Tons/Annum)	2011-12	2012-13	2013-14	2014-15	2015-16
SPM	1012	912	815	491	360
NOx	695	848	968	1482	1318
CO	0.03	0	668	607	425
SOx	193	178	304	216	133
VOC	0.01	0.02	2.25	18	12
R-134a	169	0	226	226	165

ODS Gas Consumption	Unit	2011-12	2012-13	2013-14	2014-15	2015-16
R22	Kg/Annum	2299	2778	1951	2428	3154
ODP	CFC-11	126.44	152.77	107.33	133.54	173.47

Emissions (tCO ₂ eq)	2011-12	2012-13	2013-14	2014-15	2015-16
Scope 1 Emissions	2363624	2381898	2285196	2252649	2,549,023
Scope 2 Emissions	256278	256781	258538	280981	420,835
Total GHG Emissions	2619902	2638679	2543735	2533629	2,969,858

Water (Million m ³)	2011-12	2012-13	2013-14	2014-15	2015-16
Total Water Consumption	14.1	13.9	12.9	14.3	17.01
Total Waste Water Generated	2.3	2.4	2	1.7	1.6
Total Waste Water Discharged	1.3	1.2	1.2	1.1	1.01
Water Recycled/ Reused	0.9	1.1	0.8	0.6	0.55

Type of disposal	Liquid (Litre)	Misc (Number)	Solid (MT)
Incineration	6057.75	0	0
Landfill	8.85	0	20
Onsite storage	217.73	19677	991
Deep Well injection	0.33	0	0
Recycle	3549.46	1394263.6	8461
Reuse	0	0	237
Other	626.83	44113.5	2236

Water Discharge by quality - Parameters*	pH	Oil & Grease (mg/l)	COD (mg/l)	BOD (mg/l)	TSS (mg/l)	Phenol (mg/l)	Hexavalent Chromium (mg/l)	Total Chromium (mg/l)
Standard	6.5-8.5	<=10	<=250	<=30	<=100	<=1	0.1	2
Actual Value	7.26	2	79.2	22.1	11	BDL	BDL	BDL

*This data pertains to major applicable site.



Environmental Fine	Unit	2011-12	2012-13	2013-14	2014-15	2015-16
Show Cause Notices Received	Numbers	1	0	0	0	0
Environmental Fines	INR	0	0	0	0	0

Environmental Expenditure (INR Million)	2011-12	2012-13	2013-14	2014-15	2015-16
Treatment and Disposal of Waste	7	8	4	10	5.1
Depreciation and Maintenance Cost of Equipment Used In Pollution Control	16	16	16	85	40.8
External Services for Environmental Management	4	5	5	9	10.7
External Certification of Management Systems	1	1	1	2	1.1
Personnel for General Environmental Management Activities	20	18	17	18	30.6
Extra Expenditures for Installing Cleaner Technologies	10	1	0	29	4.6
Insurance for environmental liability	0	0	0	0	52.2
Other Environmental Costs	6	5	3	7	4.9
Total Environmental Expenditures	64	54	46	160	148

Health and Safety of Permanent Employees <small>G4-LA5, G4-LA6, G4-LA7, G4-LA12</small>	Unit	2011-12	2012-13	2013-14	2014-15	2015-16
Management Representatives in Safety Committees	Numbers	245	247	290	301	300
Non-Management Representatives in Safety Committees	Numbers	172	182	189	166	196
Near Miss Cases - Male	Numbers	156	156	217	316	342
Near Miss Cases - Female	Numbers	0	1	2	2	3
Minor Injuries - Male	Numbers	0	0	0	3	2
Minor Injuries - Female	Numbers	0	0	0	0	1
Reportable Injuries - Male	Numbers	0	0	4	0	1
Reportable Injuries - Female	Numbers	0	0	0	0	0
Lost Days Due to Reportable Injuries - Male	Numbers	0	0	8	0	6002
Lost Days Due to Reportable Injuries - Female	Numbers	0	0	0	0	0
Fatalities - Male	Numbers	0	0	0	0	1
Fatalities - Female	Numbers	0	0	0	0	0
First Aid Cases - Male	Numbers	17	11	1	3	0
First Aid Cases - Female	Numbers	0	0	0	0	0
Man-hours Worked - Male	Million man-hours	6.6	5.6	7.5	6.3	6.5
Man-hours Worked - Female	Million man-hours	0	0.2	0.3	0.2	0.25
Occupational Diseases - Permanent Employees - Male	Numbers	0	0	0	0	0
Occupational Diseases - Permanent Employees - Female	Numbers	0	0	0	0	0



Performance Snapshot -->

Health and Safety of Permanent Employees <small>G4-LA5, G4-LA6, G4-LA7, G4-LA12</small>	Unit	2011-12	2012-13	2013-14	2014-15	2015-16
LTIFR - Male	Reportable Injuries per Million man-hours worked	0	0	0.54	0	0.15
LTIFR - Female	Reportable Injuries per Million man-hours worked	-	0	0	0	0
Severity Rate - Total	Lost Days per million man-hours worked	0	0	0	0	889.2
Fatality Rate - Male	Fatalities per million man-hours worked	0	0	0	0	0.15
Fatality Rate - Female	Fatalities per million man-hours worked	-	0	0	0	0

Health & Safety of Contract Employees	Unit	2011-12	2012-13	2013-14	2014-15	2015-16
Near Miss Cases - Male	Numbers	208	184	229	207	198
Near Miss Cases - Female	Numbers	0	0	0	2	0
Minor Injuries - Male	Numbers	3	3	4	9	3
Minor Injuries - Female	Numbers	0	0	0	0	0
Reportable Injuries - Male	Numbers	0	0	6	8	3
Reportable Injuries - Female	Numbers	0	0	0	0	0
Lost Days Due to Reportable Injuries - Male	Numbers	0	0	12	16	6006
Lost Days Due to Reportable Injuries - Female	Numbers	0	0	0	0	0
Fatalities - Male	Numbers	0	0	0	0	2
Fatalities - Female	Numbers	0	0	0	0	0
First Aid Cases - Male	Numbers	73	57	8	73	55
First Aid Cases - Female	Numbers	0	0	0	0	0
Man-hours Worked - Male	Million man-hours	30.7	16.7	19.7	19.8	28.3
Man-hours Worked - Female	Million man-hours	0	0.4	1	0.5	0.5
Occupational Diseases- Contract Employees-Male	Numbers	0	0	0	0	0
Occupational Diseases- Contract Employees-Female	Numbers	0	0	0	0	0
LTIFR - Male	Reportable Injuries per million man-hours worked	0	0	0.31	0.4	0.11
LTIFR - Female	Reportable Injuries per million man-hours worked	-	0	0	0	0

Health & Safety of Contract Employees	Unit	2011-12	2012-13	2013-14	2014-15	2015-16
Severity Rate - Total	Lost Days Per Million man-hours worked	0	0	9.29	2.31	208.5
Fatality Rate - Male	Fatalities Per million man-hours worked	0	0	0	0	0.07
Fatality Rate - Female	Fatalities Per million man-hours worked	-	0	0	0	0

Contract Employee Distribution (Numbers)	2015-16
Security Staff Male	2599
Security Staff Female	4
Regular Contract Worker Male	15287
Regular Contract Worker Female	362

Permanent Employee Distribution ^{G4-10}	2015-16
Senior Management (E7-E9) - Male	259
Senior Management (E7-E9) - Female	7
Middle Management (E4-E6) - Male	1416
Middle Management (E4-E6) - Female	47
Junior Management (E0-E3) - Male	1491
Junior Management (E0-E3) - Female	162
Non-Management (S0-S7) - Male	899
Non-Management (S0-S7) - Female	36
Senior Management (E7-E9): <30 Years Age	0
Senior Management (E7-E9): 30 To 50 Years Age	64
Senior Management (E7-E9): >50 Years Age	202
Middle Management (E4-E6): <30 Years Age	0
Middle Management (E4-E6): 30 To 50 Years Age	1144
Middle Management (E4-E6): >50 Years Age	319
Junior Management (E0-E3): <30 Years Age	545
Junior Management (E0-E3): 30 To 50 Years Age	823
Junior Management (E0-E3): >50 Years Age	285
Non-Management (S0-S7): <30 Years Age	121
Non-Management (S0-S7): 30 To 50 Years Age	687
Non-Management (S0-S7): >50 Years Age	119
Employee Turnover - Management	72
Employee Turnover - Non-Management	9
Employee Turnover - Age<30-Male	17



Performance Snapshot -->

Permanent Employee Distribution ^{G4-10}	2015-16
Employee Turnover - Age<30-Female	2
Employee Turnover - Age:30-50 - Male	13
Employee Turnover - Age:30-50 - Female	2
Employee Turnover - Age>50-Male	45
Employee Turnover - Age>50-Female	2
New Employees Hired During FY: Male	134
New Employees Hired During FY: Female	2
New Employees Hired Who Resigned in The Same FY: Male	0
New Employees Hired Who Resigned in The Same FY: Female	0

Training	2011-12	2012-13	2013-14	2014-15	2015-16
Management Employees (Direct) - Male	107250	129831	120497	139647	154,468.22
Management Employees (Direct) - Female	5445	7211	6856	9256	9,455.75
Workmen (Direct Employees) - Male	29071	26493	25009	26541	9,302.75
Workmen (Direct Employees) - Female	1520	1268.6	875	1191	317.25
Contractual Labour (Operations) - Male	38944	41835	53878	45767	43,265.55
Contractual Labour (Operations) - Female	0	670	983	7199	1,166.00
Permanent Employee- Physically Disabled	0	0	1007	2652	1,374.00
Contract Worker -Physically Disabled	0	0	0	4	4
Total Training for Direct Employees (Site-Based)	143286	164804	153237	176636	173668

Emission Calculation Methodology

Total Scope-1 Emissions have been calculated based on the IPCC Emission Factors and internal Process Calculations. Emissions have been identified from different sources of fuel and direct CO₂ emissions. Total Scope-2 Emissions have been calculated by weighted average grid Emission factors given by Central Electricity Authority, Government of India for Unified Grid.

The Guidelines used are GHG Protocol, ISO 14064. Direct & Indirect Energy from different fuels, renewables and electricity have been calculated by the corresponding calorific value of the fuel and theoretical thermal equivalence respectively.

NO_x, SO_x, SPM, CO, VOC have been reported by Test Report data and standard calculation formula.

Independent Assurance Statement

DNV·GL

Scope and approach

GAIL (India) Limited (GAIL or 'the Company') commissioned by **DNV GL Business Assurance India Private Limited** ("DNV GL") to undertake independent assurance of the Company's Sustainability Report 2015-16 in its printed formats (the "Report") for the Financial year ended 31st March, 2016. Our responsibility in performing this work is regarding verification of Sustainability performance disclosed in the Report and in accordance with the agreed scope of work with the management of the Company. The intended users of this assurance statement are the management of the Company. Our assurance engagement was planned and carried out during June and July, 2016.

We performed our work using DNV GL's assurance methodology VeriSustain™¹, which is based on our professional experience, international assurance best practice including International Standard on Assurance Engagements (ISAE) 3000 Revised², along with AccountAbility's AA1000 Assurance Standard 2008 ((AA1000AS (2008)) and the Global Reporting Initiative (GRI) Sustainability Reporting Guidelines Version 4 (GRI G4) including the Oil and Gas Sector Disclosures (OGSD).

We evaluated the performance data using the reliability principle together with GAIL (India) Limited data protocols for how the data are measured, recorded and reported. The performance data in our scope of work was the verification of the qualitative and quantitative information on sustainability performance disclosed in the Report covering Economic, Environmental and Social performance of the activities undertaken by the Company over the Reporting period 1st April, 2015 to 31st March, 2016 and based on the GRI G4.

We understand that the reported financial data and information are based on data from GAIL (India) Limited Annual Report and Account for year ending 31st March, 2016, which are subject to a separate independent audit process. The review of financial data taken from the Annual Report and Accounts is not within the scope of our work.

We planned and performed our work to obtain the evidence we considered necessary to provide a basis for our assurance opinion. We are providing a 'moderate level' of assurance and no external stakeholders were interviewed as part of this assurance engagement.

Responsibilities of the Management of GAIL (India) Limited and of the Assurance Providers

The Top Management team of GAIL (India) Limited have sole responsibility for the preparation of the Report and are responsible for all information provided in the Report as well as the processes for collecting, analysing and reporting the information presented in the printed Report.

In performing our assurance work, our responsibility is to the Management of GAIL (India) Limited; however our statement represents our independent opinion and is intended to inform outcome of our assurance to the stakeholders of GAIL (India) Limited.

DNV GL provides a range of other services to GAIL (India) Limited, none of which constitutes a conflict of Interest with this assurance work. This is the 3rd year that we have provided assurance of the full Report.

DNV GL's assurance engagements are based on the assumption that the data and information provided by GAIL to us as part of our review have been provided in good faith. DNV GL was not involved in the preparation of any statements or data included in the Report except for this Assurance Statement. DNV GL expressly disclaims any liability or co-responsibility for any decision a person or an entity may make based on this Assurance Statement.

Basis of our opinion

A multi-disciplinary team of sustainability and assurance specialists performed work at Corporate office and Site Levels of GAIL (India) Limited. We undertook the following activities:

- Review of the current sustainability issues that could affect GAIL and are of interest to identified stakeholders;
- Review of GAIL approach to stakeholder engagement and recent outputs although we have no direct engagement with stakeholders;
- Review of information provided to us by GAIL on its reporting and management processes relating to the Principles;
- Interviews with selected Directors, Leadership team, and Senior managers responsible for management of sustainability issues and review of selected evidence to support issues discussed. We were free to choose interviewees and interviewed those with overall responsibility for the programmes to deliver the GAIL's Sustainability Aspirations 2020 for medium and long term Vision, Mission and milestones;
- Site visits were conducted in GAIL Corporate Office at New Delhi, GAIL Training Institute (GTI) & Jubilee Tower at Noida and five operational sites located in India i.e. Petrochemical Plant at Pata (U.P.), Gas Processing Unit and Compressor Station at Vijapur (M.P.), LPG Pumping and receiving station at Loni (U.P.), Natural Gas Compressor Station at Hazira and Gas Processing Unit at Gandhar (Gujarat) to review process and systems for preparing site level sustainability data and implementation of sustainability strategy. The sites we visited were selected on the basis of their materiality to the group for environmental impacts as well as to give a geographical and divisional spread;
- Review of supporting evidence for key claims and data in the Report. Our checking processes were prioritised according to materiality and we based our prioritisation on the materiality of issues at a consolidated corporate level;
- Review of the processes for gathering and consolidating the specified performance data and, for a sample, checking the data consolidation; and
- An independent assessment of GAIL (India) Limited reporting against the Global Reporting Initiative (GRI) G4 Guidelines and the Oil and Gas Sector Disclosures (OGSD).

During the assurance process, we did not come across limitations to the scope of the agreed assurance engagement, except disclosures related to Exploration and Production (E&P) operations, Joint ventures, subsidiaries, leased facilities, outsourced operations, and other entities which are out of scope & boundary as set out in the report.

Opinion

On the basis of the work undertaken, nothing came to our attention to suggest that the Report does not properly describe, GAIL (India) Limited adherence to GRI G4 content Principles, General standard disclosure and specific standard disclosures for 'In accordance' -Core reporting as below:

- **General Standard Disclosures:** The reported information on General Standard Disclosure generally meets the disclosure requirements for 'in accordance' - Core option.
- **Specific Standard Disclosures:** The Report describes the generic Disclosures on Management Approach (DMA) and Performance Indicators for identified material Aspects as below:

Economic

- Economic Performance - G4-EC1, G4-EC2, G4-EC3 & G4-EC4;
- Indirect Economic Impacts & Community Development - G4-EC7 & G4-EC8;
- Procurement Practices - G4-EC9;

¹ The VeriSustain protocol is available on dnvgl.com.

² Assurance Engagements other than Audits or Reviews of Historical Financial Information.

Environmental

- ➔ Materials – G4-EN1 & G4-EN2;
- ➔ Energy – G4-EN3, EN5 & EN6; OG2 & OG3;
- ➔ Water – G4-EN8, EN9 & EN10;
- ➔ Emissions – G4-EN15, EN16, EN18, EN19, EN20 & EN21; OG6;
- ➔ Effluents and Waste – G4-EN22, EN23, EN24 & EN26;
- ➔ Compliance – G4-EN29;
- ➔ Overall- G4-EN31;
- ➔ Supplier Environmental Assessment – G4-EN32 & 33;
- ➔ Environmental Grievance Mechanisms – G4-EN34;

Social

Labour Practices and Decent Work

- ➔ Employment – G4-LA1, LA2 & LA 3;
- ➔ Labor and Management Relationship – G4-LA4;
- ➔ Occupational Health and Safety – G4-LA5, LA6, LA7 & LA8;
- ➔ Training and Education – G4-LA9, LA10 & LA11;
- ➔ Diversity and Equal Opportunity – G4-LA12;
- ➔ Equal Remuneration for Women and Men – G4-LA13;
- ➔ Supplier Assessment of Labour Practices – G4-LA14 & LA15;
- ➔ Labour Practices Grievance Mechanisms – G4-LA16;

Human Rights

- ➔ Investment- G4-HR1 & HR2;
- ➔ Non-discrimination – G4-HR3;
- ➔ Freedom of Association and Collective Bargaining – G4-HR4;
- ➔ Child Labor- G4-HR5;
- ➔ Forced and Compulsory Labor – G4-HR6;
- ➔ Security Practices – G4-HR7;
- ➔ Indigenous Rights- GR-HRB;
- ➔ Assessment- G4-HR9;
- ➔ Supplier Human Rights Assessment – G4-HR10 & HR11;
- ➔ Human Rights Grievance Mechanisms – G4-HR12;

Society

- ➔ Local Communities –G4-SO1 & SO2;
- ➔ Anti-corruption – G4-SO3, SO4 & SO5;
- ➔ Public Policy- G4-SO6;
- ➔ Anti-Competitive Behaviour- G4-SO7;
- ➔ Compliance – G4-SO8;
- ➔ Supplier Assessment for Impacts on Society – G4-SO9 & SO10;
- ➔ Grievance Mechanisms for Impact on Society- G4-SO11;
- ➔ Asset Integrity and Process Safety- OG13;

Product Responsibility

- ➔ Customer Health and Safety- G4-PR2;
- ➔ Product and Service Labelling – G4-PR3, PR4 & PR5;
- ➔ Marketing Communications- G4-PR6 & PR7;
- ➔ Customer Privacy – G4-PR8;
- ➔ Compliance – G4-PR9;

Observations

Without affecting our assurance opinion we also provide the following observations. We have evaluated the Report's adherence to the following principles on a scale of 'Good', 'Acceptable' and 'Needs Improvement':



**AA1000AS (2008) Principles
Inclusivity**

The participation of stakeholders in developing and achieving an accountable and strategic response to Sustainability.

The stakeholder engagement process is well established to identify sustainability challenges and concerns of diverse stakeholder groups considering the GAIL Operations businesses and the Report brings out key concerns of diverse stakeholders like Health and Safety issues, Gas and Petrochemicals Marketing, Transparency and Ethics, Waste Management and Operational Efficiency. The stakeholder concerns are well identified, documented and reported. In our opinion, the level at which the Report adheres to this principle is **'Good'**.

Materiality

The process of determining the issues that are most relevant to an organization and its stakeholders

The materiality determination process was revalidated based on inputs from key stakeholders including employees, customers, suppliers, NGOs, governments, regulatory bodies, local communities and senior management of GAIL and has not missed out key material issues from the Oil & Gas Sector. The management of GAIL (India) Limited has established internal assessment process for monitoring and management on a continual basis for their long term organisational sustainability. In our opinion, the level at which the Report adheres to this principle is **'Acceptable'**.

Responsiveness

The extent to which an organization responds to stakeholder issues.

The Report has brought out key responses to the materiality aspects in a comprehensive manner for stakeholder to make informed decisions and adequately disclosed the strategies and management approach related to identified key sustainability aspects and challenges considering the overall sustainability context of the Oil & gas sector, within the identified aspect boundary. In our opinion, the level at which the Report adheres to this principle is **'Acceptable'**.

Reliability

The accuracy and comparability of information presented in the report, as well as the quality of underlying data management systems.

The majority of data and information verified at the Corporate Office, Jubilee Tower and GTI, Noida and five operational sites were found to be accurate and nothing came to our attention to suggest that reported data have not been properly collated from information reported at operational level, nor that the assumptions used were inappropriate. Some of the data inaccuracies identified during the verification process were found to be attributable to transcription, interpretation and aggregation errors and the errors have been communicated for correction. Hence in accordance with AA1000AS (2008) requirements for a Type 2, moderate level assurance engagement, we conclude that the specified sustainability data and information presented in the Report is generally reliable. In our opinion, the level at which the Report adheres to this principle is **'Good'**.

Specific Evaluation of the information on Sustainability Performances

We consider the methodology and process for gathering information developed by the Company for its sustainability performance reporting to be appropriate and the qualitative and quantitative data include in the Report was found to be identifiable and traceable; the personnel responsible were able to demonstrate the origin and interpretation of the data and its reliability. We observed that the report presents a faithful description of the Company's sustainability activities.

Additional Parameters as per DNVGL's VeriSustain Protocol

Completeness

How much of all the information that has been identified as material to the organisation and its stakeholders is reported

The Report has fairly attempted to disclose the General and Specific Standard disclosures including the disclosure on management approach and performance indicators for identified material aspects for GRI G4 - 'In accordance' - Core option. The reporting of performance and data is comprehensive except for certain material aspects as systems to report the performance indicators are being established and set the internal time lines for disclosure. Hence in our opinion, the level at which the Report adheres to this principle is **'Acceptable'**.

Neutrality

The extent to which a report provides a balanced account of an organization's performance, delivered in a neutral tone.


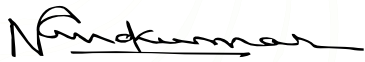
The disclosures related to sustainability issues and performances are reported in a neutral tone, in terms of content and presentation, however Report could further bring out responses related to the challenges faced during the reporting period at various geographical locations of operations in terms of disclosure of all identified material aspects, sustainability goals and targets etc. In our opinion, the level at which the Report adheres to this principle is **'Good'**.

Opportunities for Improvement

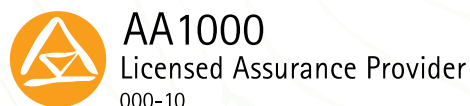
The following is an excerpt from the observations and opportunities for improvement reported to the management of the Company and are not considered for drawing our conclusions on the Report; however they are generally consistent with the management's objectives:

- ➔ Future reports may further bring out the impacts of material aspects in the value chain, Joint Ventures and Subsidiaries i.e. re-evaluate materiality in the value chain for the reporting boundary related to material, social and environmental impacts of its suppliers, products and services.
- ➔ Integrate risk management process with its business sustainability strategy through consistent tracking and reporting of key performance indicators to achieve sustainable performance across geo-locations.
- ➔ Sustainability performance may be benchmarked across geo-locations for review and monitoring based on long term Sustainability targets. GAIL (India) could also look at the peers in the industry on sustainability practices in improving the maturity of the practices and its associated business impacts.

For and on behalf of DNV GL Business Assurance India Private Limited

 Ramesh Rajamani Lead Verifier, DNV GL - Business Assurance India Private Limited	 Vadakepatth Nandkumar Assurance Reviewer, Regional Sustainability Manager - Region India & Middle East, DNV GL - Business Assurance India Private Limited
---	--

New Delhi, India, 16th July, 2016



DNV GL Business Assurance India Private Limited is part of DNV GL – Business Assurance, a global provider of certification, verification, assessment and training services, helping customers to build sustainable business performance. www.dnvgl.com



GRI Content Index



General Standard Disclosures

General Standard Disclosures	Page	External Assurance	
Section: Strategy & Analysis			
G4-1	6-CMD Message	Yes; 105- Independent Assurance Statement	
G4-2	6-CMD Message, 17-Corporate Governance and Risk Management		
Section: Organizational Profile			
G4-3	GAIL (India) Limited	Yes; 105- Independent Assurance Statement	
G4-4	9-About GAIL		
G4-5	New Delhi, India		
G4-6	9-About GAIL; 14, 55 - GAIL Annual Report FY 15-16 http://www.gailonline.com/final_site/pdf/ANNUAL_REPORT2015-16-FINAL.pdf		
G4-7	GAIL is a Central Public Sector Enterprise, listed on BSE, NSE and Global depository receipt (GDR) on London Stock Exchange		
G4-8	9-About GAIL, 18 to 19 - GAIL Annual Report FY 15 -16		
G4-9	9-About GAIL; 14, 25, 33 - GAIL Annual Report FY 15-16; http://www.gailonline.com/final_site/index.html ; 62- Adapting to new eco-system: Innovating for profitability		
G4-10	46- Human Capital: Nurturing capacities for growth; 103 to 104- Performance snapshot		
G4-11	49-Human Capital: Nurturing capacities for growth		
G4-12	9-About GAIL; 76 to 77-Creating Resilient Infrastructure in the Supply Chain		
G4-13	4-About the Report		
G4-14	17-Corporate Governance and Risk Management		
G4-15	93-Communicating for effective synergies and partnerships		
G4-16	88, 93-Communicating for effective synergies and partnerships (Government & Regulatory Agencies)		
Section: Identified Material Aspects & Boundaries			
G4-17	9-About GAIL: 154 - GAIL Annual Report FY 15-16		Yes; 105- Independent Assurance Statement
G4-18	4-About the report		
G4-19	29-Stakeholder engagement & materiality (Materiality Matrix)		
G4-20	29-Stakeholder engagement & materiality (Materiality Matrix)		
G4-21	29-Stakeholder engagement & materiality		
G4-22	4-About the report; 104-Performance snapshot		
G4-23	4 to 5-About the report		



Specific Standard Disclosures

Material Aspects	DMA and Indicators	Page	Omissions	External Assurance
Disclosure of Management Approach	G4-DMA	All chapters		
Category: Economic				
Economic Performance	G4-DMA	62-Adapting to new eco-system: Innovating for profitability		Yes; 105- Independent Assurance Statement
	G4-EC1	64-Adapting to new eco-system: Innovating for profitability		
	G4-EC2	18-Corporate Governance and Risk Management; 40-Ensuring robust systems and processes through operational excellence; 90-Communicating for effective synergies and partnerships;		
	G4-EC3	89-Communicating for effective synergies and partnerships		
	G4-EC4	64-Adapting to new eco-system: Innovating for profitability		
Indirect Economic Impacts	G4-DMA	90-Communicating for effective synergies and partnerships		
	G4-EC7	91, 92-Communicating for effective synergies and partnerships		
	G4-EC8	91, 92-Communicating for effective synergies and partnerships		
Procurement Practices	G4-DMA	78-Creating Resilient Infrastructure in the Supply Chain		
	G4-EC9	GAIL considers India as local. 78-Creating Resilient Infrastructure in the Supply Chain		
Category: Environmental				
Materials	G4-DMA	32-Ensuring robust systems and processes through operational excellence		Yes; 105- Independent Assurance Statement
	G4-EN1	99-Performance Snapshot		
	G4-EN2	99-Performance Snapshot		
Energy	G4-DMA	32-Ensuring robust systems and processes through operational excellence		
	OG2	66-Adapting to new eco-system: Innovating for profitability		
	OG3	40-Ensuring robust systems and processes through operational excellence, 99-Performance Snapshot		
	G4-EN3	99-Performance Snapshot		
	G4-EN4	41-Ensuring robust systems and processes through operational excellence		
	G4-EN5	21-Sustainability Strategy		
	OG5	Not Material		
	G4-EN6	99-Performance Snapshot		
G4-EN7	40-Ensuring robust systems and processes through operational excellence			



Material Aspects	DMA and Indicators	Page	Omissions	External Assurance
Water	G4-DMA	41-Ensuring robust systems and processes through operational excellence		Yes; 105- Independent Assurance Statement
	G4-EN8	41-Ensuring robust systems and processes through operational excellence		
	G4-EN9	41-Ensuring robust systems and processes through operational excellence		
	G4-EN10	99-Performance Snapshot		
Emissions	G4-DMA	40-Ensuring robust systems and processes through operational excellence		
	G4-EN15	40-Ensuring robust systems and processes through operational excellence		
	G4-EN16	40-Ensuring robust systems and processes through operational excellence		
	G4-EN17	40-Ensuring robust systems and processes through operational excellence		
	G4-EN18	21-Sustainability Strategy		
	G4-EN19	40-Ensuring robust systems and processes through operational excellence; 99-Performance Snapshot		
	G4-EN20	99-Performance Snapshot		
	G4-EN21	99-Performance Snapshot		
Effluents & Waste	G4-DMA	37-Ensuring robust systems and processes through operational excellence		
	G4-EN22	99-Performance Snapshot		
	G4-EN23	99-Performance Snapshot		
	OG6	99-Performance Snapshot		
	G4-EN24	No Significant spills		
	G4-EN25	37-Ensuring robust systems and processes through operational excellence		
	G4-EN26	There is no significant impact of our wastewater discharges and run-offs to water bodies located in the vicinity of our operations		
Compliance	G4-DMA	14-Corporate Governance & Risk Management; 33-Ensuring robust systems and processes through operational excellence; 97-Unlocking opportunities in the regulatory landscape		
	G4-EN29	99-Performance Snapshot		
Transport	G4-DMA	32-Ensuring robust systems and processes through operational excellence		
	G4-EN30	37-Ensuring robust systems and processes through operational excellence; Most of our product distribution is undertaken through pipelines which forms a part of scope 2 emissions.		



Material Aspects	DMA and Indicators	Page	Omissions	External Assurance
Overall	G4-DMA	40-Ensuring robust systems and processes through operational excellence		
	G4-EN31	99-Performance Snapshot		
Supplier Environmental Assessment	G4-DMA	79-Creating Resilient Infrastructure in the Supply Chain	-	Yes; 105- Independent Assurance Statement
	G4-EN32	100% of new suppliers have been screened through Environmental Criteria		
	G4-EN33	81-Creating Resilient Infrastructure in the Supply Chain		
Environmental Grievance Mechanisms	G4-DMA	20-Corporate Governance & Risk Management		
	G4-EN34	20-Corporate Governance & Risk Management		
Category: Social				
Sub-category: Labour Practices & Decent Work				
Employment	G4-DMA	44-Human Capital: Nurturing capacities for growth	-	Yes; 105- Independent Assurance Statement
	G4-LA1	46-Human Capital: Nurturing capacities for growth		
	G4-LA2	89-Communicating for effective synergies and partnerships		
	G4-LA3	47-Human Capital: Nurturing capacities for growth		
Labour/ Management Relations	G4-DMA	44-Human Capital: Nurturing capacities for growth		
	G4-LA4	49-Notice periods regarding operational changes		
Occupational Health & Safety	G4-LA5	101-Performance Snapshot		
	G4-LA6	101-Performance Snapshot		
	G4-LA7	101-Performance Snapshot		
	G4-LA8	49-Human Capital: Nurturing capacities for growth		
Training & Education	G4-DMA	48-Human Capital: Nurturing capacities for growth		
	G4-LA9	48-Human Capital: Nurturing capacities for growth		
	G4-LA10	48-Human Capital: Nurturing capacities for growth		
	G4-LA11	45-Human Capital: Nurturing capacities for growth		
Diversity and Equal Opportunity	G4-DMA	44-Human Capital: Nurturing capacities for growth		
	G4-LA12	101-Performance Snapshot		
Equal Remuneration for Women and Men	G4-DMA	44-Human Capital: Nurturing capacities for growth		
	G4-LA13	48-Human Capital: Nurturing capacities for growth		
Supplier Assessment for Labour Practices	G4-DMA	79-Creating Resilient Infrastructure in the Supply Chain		
	G4-LA14	81-Creating Resilient Infrastructure in the Supply Chain		
	G4-LA15	79-Creating Resilient Infrastructure in the Supply Chain		
Labour Practices Grievance Mechanisms	G4-DMA	20-Corporate Governance & Risk Management		
	G4-LA16	20-Corporate Governance & Risk Management		



Material Aspects	DMA and Indicators	Page	Omissions	External Assurance
Category: Social				
Sub-category: Human Rights				
Human Rights Investments	G4-DMA	49-Human Capital: Nurturing capacities for growth	-	Yes; 105- Independent Assurance Statement
	G4-HR1	49-Creating Resilient Infrastructure in the Supply Chain; 63-Creating Resilient Infrastructure in the Supply Chain		
	G4-HR2	49-Human Capital: Nurturing capacities for growth		
Non-discrimination	G4-DMA	44-Human Capital: Nurturing capacities for growth		
	G4-HR3	49-Human Capital: Nurturing capacities for growth		
Freedom of Association	G4-DMA	44-Human Capital: Nurturing capacities for growth		
	G4-HR4	44-Human Capital: Nurturing capacities for growth		
Child Labour	G4-DMA	49-Human Capital: Nurturing capacities for growth		
	G4-HR5	49-Human Capital: Nurturing capacities for growth (Human Rights)		
Forced or Compulsory Labour	G4-DMA	49-Human Capital: Nurturing capacities for growth		
	G4-HR6	49-Human Capital: Nurturing capacities for growth (Human Rights)		
Security Practices	G4-DMA	49-Human Capital: Nurturing capacities for growth		
	G4-HR7	49-Human Capital: Nurturing capacities for growth		
Indigenous Rights	G4-DMA	91-Communicating for effective synergies and partnerships		
	G4-HR8	91-Communicating for effective synergies and partnerships		
Assessment	G4-DMA	44-Human Capital: Nurturing capacities for growth		
	G4-HR9	49-Human Capital: Nurturing capacities for growth; 79-Communicating for effective synergies and partnerships		
Supplier Human Rights Assessments	G4-DMA	79-Creating Resilient Infrastructure in the Supply Chain		
	G4-HR10	81-Creating Resilient Infrastructure in the Supply Chain		
	G4-HR11	79-Creating Resilient Infrastructure in the Supply Chain		
Human Rights Grievance Mechanisms	G4-DMA	20-Corporate Governance & Risk Management		
	G4-HR12	20-Corporate Governance & Risk Management		



Material Aspects	DMA and Indicators	Page	Omissions	External Assurance
Category: Social				
Sub-category: Society				
Local Communities	G4-DMA	91-Communicating for effective synergies and partnerships		
	G4-S01	91-Communicating for effective synergies and partnerships		
	G4-S02	59-Ensuring safety of our people & environment; 91-Communicating for effective synergies and partnerships		
	OG10	We did not have any incidents of significant disputes with local communities and indigenous people		
	OG11	Nil		
Anti-corruption	G4-DMA	19-Corporate Governance & Risk Management		
	G4-S03	19-Corporate Governance & Risk Management		
	G4-S04	19-Corporate Governance & Risk Management		
	G4-S05	19-Corporate Governance & Risk Management		
Public Policy	G4-DMA	84-Unlocking opportunities in the regulatory landscape; 62-Adapting to new eco-system: Innovating for profitability		
	G4-S06	64-Adapting to new eco-system: Innovating for profitability		
Anti-competitive Behaviour	G4-DMA	98-Unlocking opportunities in the regulatory landscape		
	G4-S07	98-Unlocking opportunities in the regulatory landscape		
Compliance	G4-DMA	19-Corporate Governance & Risk Management; 32-Ensuring robust systems and processes through operational excellence; 95-Unlocking opportunities in the regulatory landscape		
	G4-S08	98-Unlocking opportunities in the regulatory landscape		
	G4-S09	79-Creating Resilient Infrastructure in the Supply Chain		
Supplier Assessment for Impacts on Society	G4-DMA	79-Creating Resilient Infrastructure in the Supply Chain		
	G4-S09	81-Creating Resilient Infrastructure in the Supply Chain		
	G4-S010	79-Creating Resilient Infrastructure in the Supply Chain		
Grievance Mechanisms for Impacts on Society	G4-DMA	20-Corporate Governance & Risk Management		
	G4-S011	20-Corporate Governance & Risk Management		
Asset Integrity And Process Safety	G4-DMA	32-Ensuring robust systems and processes through operational excellence		
	OG13	55-Ensuring safety of our people & environment		



Material Aspects	DMA and Indicators	Page	Omissions	External Assurance
Category: Social				
Sub-category: Product Responsibility				
Customer Health & Safety	G4-DMA	44-Human Capital: Nurturing capacities for growth; 90-Communicating for effective synergies and partnerships		Yes; 105- Independent Assurance Statement
	G4-PR1	90-Communicating for effective synergies and partnerships		
	G4-PR2	90-Communicating for effective synergies and partnerships		
Product & Service Labelling	G4-DMA	90-Communicating for effective synergies and partnerships		
	G4-PR3	90-Communicating for effective synergies and partnerships		
	G4-PR4	90-Communicating for effective synergies and partnerships		
	G4-PR5	90-Communicating for effective synergies and partnerships		
Marketing & Communications	G4-DMA	90-Communicating for effective synergies and partnerships		
	G4-PR6	There is no sale of banned or disputed products by the company		
	G4-PR7	98-Communication & Relationship with Customers		
Product Compliance	G4-DMA	90-Communicating for effective synergies and partnerships		
	G4-PR9	98-Communicating for effective synergies and partnerships		



Linkages with NGV SEE Principles

Principle No.	NVG-SEE	Linkage with Sustainability Report FY 15-16 Sections
1.	Businesses should conduct and govern themselves with Ethics, Transparency and Accountability	Corporate Governance and Risk Management
2.	Businesses should provide goods and services that are safe and contribute to sustainability throughout their life cycle	Sustainability Strategy & Creating Resilient Infrastructure in the Supply Chain
3.	Businesses should promote the well being of all employees	Human Capital: Nurturing capacities for growth & Communication and Relationship with Stakeholders
4.	Businesses should respect the interests of, and be responsive towards all stakeholders, especially those who are disadvantaged, vulnerable and marginalized.	Communication and Relationship with Stakeholders
5.	Businesses should respect and promote human rights	Human Capital: Nurturing capacities for growth & Communication and Relationship with Stakeholders
6.	Business should respect, protect, and make efforts to restore the environment	Ensuring robust systems and processes through operational excellence & Communication and Relationship with Stakeholders
7.	Businesses, when engaged in influencing public and regulatory policy, should do so in a responsible manner	Unlocking opportunities in the regulatory landscape
8.	Businesses should support inclusive growth and equitable development	Human Capital: Nurturing capacities for growth & Communication and Relationship with Stakeholders
9.	Businesses should engage with and provide value to their customers and consumers in a responsible manner	Business growth and profitability & Communication and Relationship with Stakeholders



Linkages to API/IPIECA, UNGC, ISO 26000 Principles

Section	API/IPIECA Guidelines	UNGC Principles	ISO 26000:2010 Clauses
Corporate Governance & Risk Management	SE11, SE12	Principle 10, Principle 7	4.4, 6.2, 6.3.6, 6.6.1-6.6.3, 6.6.6, 6.8.1-6.8.2, 7.4.3, 7.7.5
Sustainability Strategy	E1, E2, E6	Principle 7, Principle 8, Principle 9	4.7, 6.5.4-6.5.5, 7.4.2
Stakeholder Engagement & Materiality	SE1, SE16	Principle 1	4.5.5.2-5.3, 7.3.2-7.3.4
Delivering robust systems and processes through operational excellence	E1, E2, E3, E4, E6, E7, E8, E9, E10	Principle 8, Principle 9	6.5.4-6.5.5, 6.6.6
Human Capital: Nurturing capacities for growth	SE6, SE8, SE10, SE15, SE16, SE17, SE18	Principle 1, Principle 2, Principle 3, Principle 4, Principle 5, Principle 6	4.8, 6.3.1-6.3.8, 6.3.10, 6.4.1, 6.4.3-6.4.7, 6.6.6, 6.8.4-6.8.5
Ensuring safety of our people and environment	HS1, HS2, HS3, HS5	Principle 6	6.3.9, 6.5.3, 6.8
Adapting to new eco-system: Innovating for profitability	SE4, SE5, SE7, SE13	Principle 9	6.6.1-6.6.2, 6.6.4, 6.8.1-6.8.3, 6.8.7, 6.8.9
Creating Resilient Infrastructure in the Supply Chain	SE5, SE7, SE9	Principle 8, Principle 10	6.3.3-6.3.5, 6.4.3, 6.6.1-6.6.2, 6.6.6, 6.8.1-6.8.2, 6.8.7, 7.3.1
Communicating for effective synergies and partnerships	SE1, SE2, SE4, SE14, HS4, SE14, HS1, HS2	Principle 6, Principle 7, Principle 8	4.6, 6.3.4, 6.3.6-6.3.9, 6.4.4, 6.5.1-6.5.3, 6.5.5, 6.6.6, 6.6.7, 6.7.1-6.7.6, 6.7.8-6.7.9, 6.8, 6.8.1-6.8.3, 6.8.7-6.8.9, 7.5.3, 7.6.2, 7.8
Unlocking opportunities in the regulatory landscape	SE14	Principle 10	4.6, 6.6.1-6.6.2, 6.6.5, 6.6.7
Performance Snapshot	E1, E2, E3, E4, E6, E7, E8, E10, HS3	Principle 7, Principle 8, Principle 9	4.6, 6.2.3, 6.3.7, 6.3.10, 6.4.3, 6.4.6, 6.5.3-6.5.5, 6.8.8



Natural Gas-The fuel of 21st Century

The cleanest fossil fuel - a highly efficient form of energy



Overall fuel efficiency **92%**



Available, Accessible, Abundance,
Acceptable & Affordable



Emits **50%** less CO₂ than coal

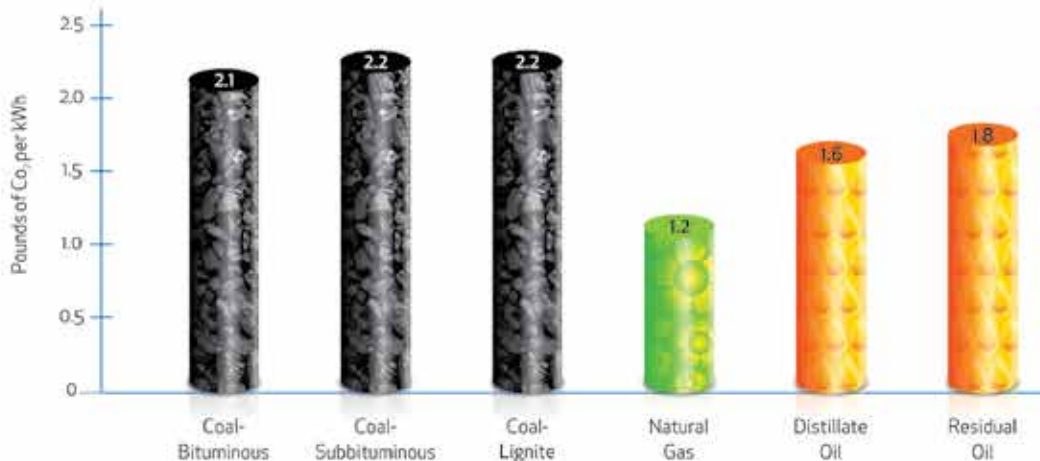


Generates **Less** (a cause of acid rain),
(produce smog) & particulate matter than
oil or coal



Safe to produce, transport, store and use

Natural gas is the Least polluting fossil fuel



- Natural gas generates lowest CO₂ among all fossil fuel for generation of per unit of electricity
- Even 1% shift from Coal-based to Gas-based generation can generate demand for additional 8.5 MMSCMD of gas in India reducing 7.5 Million tons of CO₂ every year

Natural Gas can be a sustainable alternative for India's quest for Clean Energy



“India plans to shift to a gas-based economy by boosting domestic production and buying cheap Liquefied Natural Gas (LNG) as the world's third-biggest oil importer seeks to curb its greenhouse emissions... Gradually we are shifting towards a sustainable gas economy.”

Dharmendra Pradhan
Hon'ble Minister of State (I/C) - MoPNG

Opportunities



Renewable Energy

Limitations in Renewable Energy (Reliability, Unpredictability, Inconsistency, Low PLF, Land Requirement, Capital Cost)



Low-Carbon

Demand for low-carbon suppliers is likely to increase as organizations look to reduce carbon emissions in their supply chains.



Green Climate Fund

New opportunities to build low-carbon infrastructure supported by increasing climate funding, for example the Green Climate Fund



SMART CITY
New Avenues

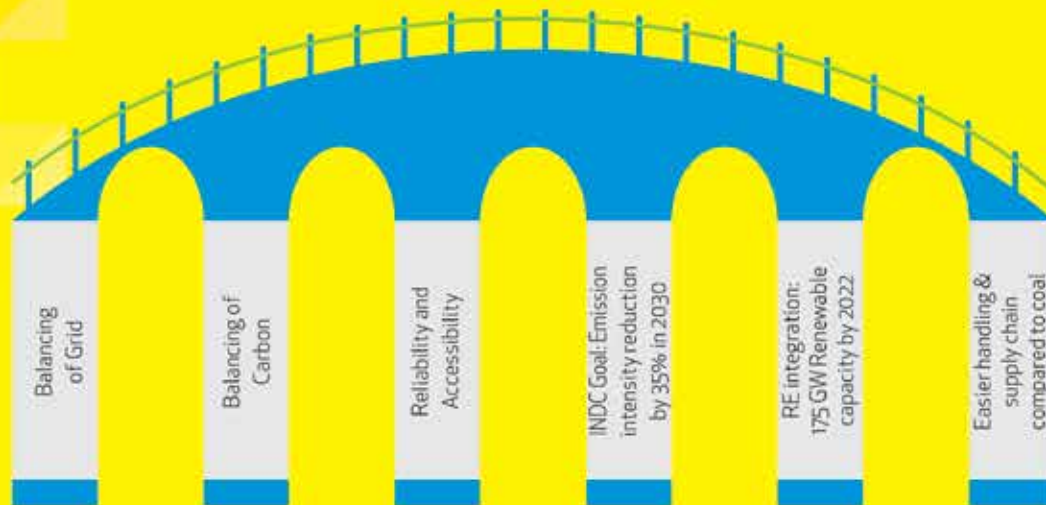
New Avenues- Smart Cities, Natural Gas fueled fuel cells, LNG for heavy vehicles, railways etc.



Gas Sector growth

Reforms such as Peaking Power Policy, Gas Purchase Obligations (GPO), LPG Free Zones, Hybrid Power etc. required to facilitate Gas Sector growth

Natural Gas Could Serve as 'Bridge' Fuel to Low-Carbon Future



Switching 1% power generation from coal-fired plants to gas-fired ones may cut global CO₂ emissions as much as increasing renewable energy capacity by 11 percent[^]

Revival of 14.3 GW stranded gas-based power in India can save INR 1 Trillion worth investment[^]

[^]ICF Study [^]Based on Moody's Credit Outlook report published in March 2015

Our Efforts towards promoting innovative use of cleaner fuel



Signing of MoU between GAIL and Bloom Energy for Natural Gas based Fuel Cell in India



Launch of 36 new CNG stations

Recent Initiatives by GAIL Hawa Badlo and #Gas4India



Gas4India is a unified cross-country, multimedia, multi-event campaign to communicate the national, social, economic and ecological benefits of using natural gas as the fuel of choice to every citizen. The campaign was launched by the Shri Dharmendra Pradhan, Hon'ble Minister of State (I/C), Petroleum & Natural Gas.

Hawa Badlo is a people's movement aimed towards creating awareness

about the killing impact of Air Pollution in India and thereby promoting sustainable methods and practices like switching to Natural Gas as a fuel for industries, transport, domestic purposes. GAIL, as an organization, has always stood for the environment. It has been derived from the mission statement itself. Now that the air pollution is acting as the major burning point of the environment, it is

important that GAIL stands strong for the cause and create a meaningful difference. As a young progressive brand, GAIL stands to deliver a better tomorrow for all its stakeholders where progress and environment can go hand-in-hand. And HawaBadlo Campaign is the natural extension of the same belief. We have touched more than 6.8 million people digitally through the said campaign.



Way Forward

We began our sustainability journey in 2011 and since then it has been our constant endeavour to incorporate the essence of sustainability across the organization. We understand that in order to create a legacy of consistent high performance, our sustainability efforts must align with the needs of all our stakeholders while excelling on financial, environmental, social and regulatory parameters. In order to achieve this, we will continue to innovate on our use of technology, systems, policies and procedures, so as to maximise our output and profitability.

This is GAIL's 2nd sustainability report based on GRI G4 guidelines. In a short span of time, GAIL has made notable progress on the sustainability front. In addition to complying to the mandatory regulatory reporting requirements, GAIL accounts for its performance with respect to several other voluntary initiatives such as the revised Sustainability Aspirations 2020 of GAIL, UNGC Principles and ISO 26000 guidelines.

Sustainability reporting has helped us in monitoring our company's performance and moving beyond the mandatory requirements to integrate sustainability within the organization in letter and spirit. Taking a step forward, GAIL's sustainability initiatives in the future will examine the impacts of our operations in bio-diversity. The continued integration of technology for improvements in areas such as water consumption and health and safety through satellite based pipeline management systems will ensure the company will be a leader at the forefront of sustainability issues. We are also in process to revise our Sustainability Aspirations 2020. Further, to have a defined roadmap, we are also drafting Sustainability Charter for GAIL to take forward the Sustainability agenda at GAIL in a holistic manner.

In addition, the company will continue to diligently monitor the implications of changing global oil prices and make necessary renegotiations in order to provide value for its customers. GAIL will continue to focus on growth which is sustainable for the economy, stakeholders, community and the environment. We are aware that sustainable growth is inextricably linked to our ecosystem. Thus, we are dedicated to creating long-term value for our investors and benefits for the communities in which we operate. GAIL seeks belief and support of all its stakeholders in order to achieve tangible progress on the front of sustainable success.

We look forward to your constructive inputs towards this report.

Your queries can be directed to:

Mr. Narendra Kumar
Executive Director (Corporate Planning & Corporate Affairs)
nkumar@gail.co.in

Mr. Santanu Roy
General Manager (Corporate Planning)
sroy@gail.co.in

Our Participations



We are a registered (Organizational Stakeholder) Global Reporting Initiative (GRI) GOLD Community Member and support the mission of the GRI to develop globally accepted sustainability reporting guidelines through a global, multi-stakeholder process.



GAIL acknowledged among the CDP's India Leaders 2015 Climate Disclosure Leadership Index (CDLI).

Disclaimer

In this report, the words 'GAIL', 'we', 'us' and 'our' are also used to refer to GAIL (India) Ltd. and its JVs/subsidiaries in general and where no useful purpose is served by identifying the particular entity or entities. The report also contains forward-looking statements concerning the financial scenarios, results of operations and businesses of GAIL (India) Ltd. Forward-looking statements are statements of future expectations that are based on management's current expectations and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in these statements. All statements other than statements of historical fact may be deemed to be forward-looking statements. Although management believes such statements to be reasonable, no assurance can be given that such expectations will prove correct.

GAIL (India) Ltd. cannot be held responsible for any losses that a party may sustain as a result of reliance of such forward-looking statements. Such statements are subject to risks and uncertainties and such future events could differ materially from those set out in the forward looking statements as a result of, among other factors: (i) price fluctuations in crude oil and natural gas; (ii) changes in demand for GAIL's products; (iii) currency fluctuations; (iv) drilling and production results; (v) reserves estimates; (vi) environmental and physical risks; (vii) risks associated with transactions with national and international bodies, and successful negotiation and completion of such transactions; (viii) fiscal and regulatory developments including regulatory measures addressing climate change; (ix) fluctuations in trading conditions. Except in cases directly regulated under the applicable law, GAIL (India) Ltd. shall not assume any obligation to distribute or publish any updates or adjustments to its forward-looking statements that would reflect any changes of expectation or contain new information, or describe any subsequent events, conditions or circumstances.



GAIL (India) Limited

Regd. Off. :

16, Bhikaiji Cama Place
R.K. Puram, New Delhi-110066
Website : gailonline.com

Follow us : [in](#) [f](#) [t](#) gailvoice.com



Designed by: National Advertising Agency