



ENGINEERS INDIA LIMITED



Delivering Excellence through People

About EIL

OUR VISION

To be a Global Leader offering Total Energy Solutions for a Sustainable Future.

OVERVIEW

- Established in 1965
- One of South Asia's leading Consultancy, Project Management and EPC Company in Hydrocarbons and Petrochemicals.
- Focused diversification into other sectors:
 - Fertilizer and LNG
 - Non-Ferrous Metallurgy
 - Infrastructure - Airports, Data Centres, Intelligent Buildings, R&D Centres, Institutional Campus
 - Strategic Crude Oil Storage
 - Water & Waste Water Management
 - Power
 - Coal Gasification
 - Green Hydrogen/ Ammonia
 - CCUS/ Decarbonisation
 - Poly Silicon & Monosilane for Solar PV modules
- Providing services from Concept to Commissioning covering Project Implementation Services, Turnkey Contracts & Specialist Services
- In-house and collaborative R&D with 35 live patents
- Overseas presence in Middle East, Africa and South East Asia



- Equity Stake in Ramagundam Fertilizers and Chemicals Limited and Numaligarh Refinery Ltd.
- Zero debt firm with track record of healthy earnings and dividend payout
- Over 2,700 highly experienced professional & technical workforce
- Large multi-disciplinary engineering work force with over 4.5 million manhours available in Project Management & Engineering offices along with 1.5 million manhours of construction management services annually
- Optimized services to attain highest standards of Customer Delight
- An ISO 9001 : 2015, ISO 14001 : 2015 & ISO 45001 : 2018 accredited company



- 91 Major Refinery Projects incl. 10 Green-field Projects
- 45 Oil & Gas Processing Projects
- 51 Pipeline Projects
- 14 Ports & Storage Terminals
- 33 Mining & Metal Projects
- Strategic Storages 3 Locations
- 15 Gasification Assignments
- 12 Major Petrochemical Projects
- 213 Offshore Projects including Process Platforms
- 12 Fertiliser Projects
- 40 Infrastructure Projects
- 24 Turnkey Projects 30+ Power/Captive Power Projects

Service Offerings

From Concept to Commissioning



EIL provides the complete range of services required to conceptualise, design, engineer and construct projects to meet the specific needs of its clients on EPCM basis. Its association with clients extend beyond the commissioning of their plants through monitoring operation of each plant and accumulating feedback on performance.

PRE-PROJECT SERVICES

- Feasibility Studies
- Environment Impact Assessment
- Technology & Process Licensor Selection
- Cost Estimation
- Planning & Scheduling

PROJECT IMPLEMENTATION SERVICES

- Project Management
- Basic and Detailed Engineering



- Procurement
- Inspection and Third Party Certification
- Construction Management
- Commissioning and Plant Start-up Assistance
- Independent Engineers Services / Owner's Engineer

SPECIALIST SERVICES

- Heat and Mass Transfer Equipment Design
- Environment Engineering
- Specialist Materials and Maintenance
- Plant Operations & Safety including HAZOPS & Risk Analysis
- Corrosion Protection, Plant Integrity and Residual Life Assessment
- Refinery Optimization Studies
- Yield & Energy Optimization Studies
- Information Technology

EPC CONTRACTS

- Open Book Estimate (OBE) contracts
- Engineering Procurement and Construction (EPC) contracts



Areas of Operation

While strengthening its expertise across the hydrocarbon value chain, EIL has also diversified into high growth areas

EIL has to its credit more than 7000 assignments including over 600 major projects successfully completed and operating smoothly, in many cases at more than rated capacity, creating an array of satisfied clients. EIL has secured many repeat businesses from clients which is a sign of client's satisfaction, confidence and trust reposed in EIL. The company has earned the reputation of being a veritable treasure of technical knowledge, skills and professional competence. In the course of setting up various projects, Engineers India has worked with a large number of process licensors and engineering/contracting companies worldwide and is well versed with the engineering codes and practices followed internationally.

LINES OF BUSINESS

PETROLEUM REFINING	FERTILIZERS
PETROCHEMICALS	INFRASTRUCTURE
PIPELINES	MINING & METALLURGY
OIL & GAS (OFFSHORE & ONSHORE)	WATER & WASTE WATER MANAGEMENT
STORAGES & TERMINALS	BIO-FUELS
COAL GASIFICATION	CLEAN & GREEN TECHNOLOGIES (GREEN HYDROGEN)

Petroleum Refining

EIL has been instrumental in the growth of petroleum refining in India

EIL has carved a niche as one of the leading engineering consultancy service providers to the refinery sector in India. EIL's footprints are there in 20 out of 23 Refineries set up in India including 10 greenfield refineries, with a combined refining capacity of more than 150 MMTPA (3 million BPD). In addition, EIL has executed a large number of revamp/modernization projects for most of the Refining companies in India. Barring the process design of a few licensed units, EIL executes complete petroleum refinery projects on its own. In addition to the main fuel refinery units, EIL also has technologies for lube refinery complexes.



MAJOR PROJECTS

- Consultancy Services for 180,000 BPD Cauvery Basin Refinery (CBR) Project at Nagapattinam, Tamilnadu for Chennai Petroleum Corporation Ltd. (CPCL)
- Euro VI (BS VI) Fuel Quality Upgradation project for 10 refineries in India
- 195,000 BPD Guru Gobind Singh Grassroot Refinery Project at Bathinda, India for HMEL
- 130,000 BPD Central India Grassroot Refinery Project at Bina, India for BORL
- 180,000 BPD Visakh Refinery Modernisation Project (VRMP) for HPCL, India
- 180,000 BPD Rajasthan Refinery Project (RRP) for HPCL Rajasthan Refinery Limited (HRRL), India
- Rehabilitation & Adaptation of Skikda Refinery for expansion to 330,000 BPD for SONATRACH, Algeria
- Rehabilitation & Adaptation of Algiers Refinery for SONATRACH, Algeria
- IREP Project at Kochi, India for BPCL for expansion to 300,000 BPD
- Mangalore Refinery Phase - III Project for MRPL for expansion to 300,000 BPD
- Vizag Refinery Clean Fuel Project for HPCL, India
- 300,000 BPD Refinery at Panipat, India for IOCL
- 100,000 BPD Condensate Topping Refinery Project and 4.7 MMTPA LNG Project at Skikda, Algeria for SONATRACH
- Consultancy Services for Fire Fighting, Air Emission & Waste Water Management for TAKREER Refineries
- PFR of West Coast Refinery of RRPCL (Ratnagiri Refinery Petrochemical Corporation Limited)
- Petro FCC, Sulphur Block, Polypropylene Units and SPM & associated facilities for Refinery Expansion & Upgradation Project (Phase-III) at Mangalore of Mangalore Refinery & Petrochemicals Ltd.

Petrochemicals & Chemicals



EIL has built an unmatched track record of providing services to major petrochemical complexes

EIL has been involved in the establishment of 11 of the 12 mega petrochemical complexes in India. EIL has provided engineering consultancy services for various processes including Gas based/Naphtha based cracker complexes (comprising gas sweetening, C_2 / C_3 recovery, Ethylene production and high end products including HDPE, LLDPE, PVC, VCM and EO/EG) and Aromatic plants comprising Naphtha splitters, pre-treaters/reformers, Benzene-Toluene extraction units, pyrolysis gasoline hydrogenation units, Xylene fractionation and isomerization units including overall integration and optimization of such complexes.

MAJOR PROJECTS

- Propylene Derivative Petrochemical Project (PDPP) at Kochi Refinery of Bharat Petroleum Corporation Ltd. (BPCL)
- Guru Gobind Singh Polymer Addition Project of HPCL - Mittal Energy Limited (HMEL)
- Polypropylene Project at Pata for GAIL
- Petrochemical Complex-II at Vijaipur & Pata for GAIL

- Dual feed Petrochemical Complex at Dahej for OPaL
- Dual feed (Gas/Naphtha) Cracker Complex at Lepetkata for BCPL
- Liwa Plastic Project, Oman
- Naphtha Cracker Project at Panipat for IOCL
- Petrochemicals Complex-I at Pata for GAIL
- Aromatics Complex in Kuwait for Kuwait Aromatics Company
- Borouge - 2 Project for BOROUGE, Abu Dhabi
- LLDPE / HDPE Swing Unit (EPCC- 3 Package) for Panipat Naphtha Cracker Project of Indian Oil Corporation Ltd.
- Integrated PX/PTA Project at Panipat of Indian Oil Corporation Ltd.
- Tabriz Petrochemical Complex, Iran
- Bandar Imam Petrochemical Complex, Iran
- Maharashtra Gas Cracker Complex at Nagothane of IPCL (now RIL)
- Naphtha Cracker and Aromatics Complex and Downstream Plants at Vadodara of IPCL (RIL)



Pipelines



EIL's experience in implementing pipelines projects for various high-end products makes it a force to reckon with

EIL has an impressive record of implementing pipeline projects in varied terrains. It has to its credit implementation of 50 Pipeline Projects for transportation of crude oil, petroleum products (single as well as multi-product), gases, LPG, two phase fluids and slurries. It provides a range of services including conceptual scheme, feasibility study, on-site investigation and route survey, cathodic protection and telemetry, telecommunication and telesupervisory control for pipeline projects in addition to project services such as design and engineering, procurement, construction supervision and project management.

MAJOR PROJECTS

- One of Asia's largest pipeline networks, the 1800 km HBJ Gas Pipeline and its subsequent 505 km. Gas Rehabilitation and Expansion Project for GAIL, India
- One of World's largest LPG pipelines, the 1,269 Km Jamnagar – Loni Pipeline of GAIL;

- Associated with conceptual design of world's deepest planned Submarine Pipeline.
- 2000 km Mallavaram-Bhopal- Bhilwara-Vijaipur Natural Gas Pipeline Project for GITL, India
- 36"-18" Dia., 1300 km. Dabhol - Bangalore Gas Pipeline Project for GAIL, India
- 28" Dia., 1014 km. Mundra - Bathinda Crude Oil Pipeline Project for HMEL, India
- 18" Dia., 1066 km Mundra - Delhi Multi Product Pipeline Project of HPCL, India
- 24" Dia., 935 km Vadinar - Bina Crude Oil Pipeline Project of Bharat Oman Refineries Ltd.
- 16" Dia., 660 km Numaligarh- Siliguri Product Pipeline of Oil India Ltd.
- 30" Dia., 340 km Dhabol- Panvel Gas Pipeline Project Ph-II of GAIL (India) Ltd.
- 16"-8" Dia., 775 km Mumbai-Manmad-Mangalya Pipeline and its extension to Piyala Bijwasan of Bharat Petroleum Corporation Ltd.
- 42" Dia., 610 km Dahej - Vijaipur Pipeline Project of GAIL (India) Ltd.
- Replacement of NGL Pipelines Network Project for GASCO, Abu Dhabi
- Habshan-Maqta-Taweelah Pipeline project for GASCO, Abu Dhabi
- Inter-Refineries Pipeline Project for Abu Dhabi Oil Refining Company (Takreer), Abu Dhabi
- Maqta - Taweelah - Jebel Ali gas pipeline for NPCC, Abu Dhabi



Oil & Gas

OFFSHORE

EIL has been involved with some of the most challenging offshore projects in India

EIL has wide capabilities for providing a full range of services for offshore projects such as process and gas compression platforms, well head platforms, water injection platforms, trunk & submarine pipelines etc. EIL has worked extensively with ONGC in developing offshore oil and gas projects in Mumbai High and other offshore fields including South Bassein, Heera, Neelam, Panna, Mukta and Ratna offshore fields on the west coast of India and in the Ravva offshore fields on the east coast of India.

MAJOR PROJECTS

- EIL executed the SHG Platform of ONGC which has the:
 - World's Longest deck (136M) on single jacket.
 - Largest topside loads (Approx 2000T) at ONGC platform
 - Largest Jacket (5600T) at ONGC Platform
- EIL has completed over 3500 Km submarine Pipelines and 1200 Km of Trunk Pipelines of up to 42" diameter.
- Offshore facilities for DeenDayal Field Development Project at Kakinada, India for GSPC
- B-22 Field Development Project for ONGC NQ Complex Reconstruction at Mumbai for ONGC
- 26 Well Platforms Revamp Project at Mumbai for ONGC
- Vasai East Development Project for ONGC
- BHN Revamp Bombay High North Field at Mumbai for ONGC
- Consolidated Topsides Improvement Project for Qatar Petroleum
- MNW Process Platform of Oil & Natural Gas Corporation Ltd.
- D1 Well - cum - Water Injection Platform of Oil & Natural Gas Corporation Ltd.
- Deen Dayal Field Development Project of Gujarat State Petroleum Corporation Ltd.



ONSHORE

EIL has proven capabilities in a wide array of onshore oil & gas processing projects

EIL has developed experience and engineering capabilities for all facets of onshore oil & gas processing projects such as Crude Gathering Stations, Multistage Separation, Crude Desalting/Dehydration and Heavy Oil / Sour Oil Processing, Gas Collection Systems, Compressor Stations, Dewpoint Depression and Cryogenic Natural Gas Liquids Recovery such as LPG and Ethane/Propane Recovery.

MAJOR PROJECTS

- Onshore Gas Terminal for DeenDayal Field Development Project at Kakinada of GSPC, India
- Gas Processing Complex at Vijaipur for GAIL, India
- Western Onshore Redevelopment Project at Ahmedabad, Ankleshwar & Mehsana for ONGC, India
- 1.8 MMBOPD Qusahwira Field Development Project for ADCO, UAE
- LNG Terminal at Dabhol for RGPPL, India
- Additional Gas Processing Facilities at Hazira for ONGC, India
- Expansion of LNG Terminal at Dahej for Petronet LNG, India
- Gas Processing Complex at Gandhar for GAIL, India

Storages & Terminals

EIL is poised to play a pivotal role in the Strategic Crude Storage programme of Govt. of India

EIL has undertaken the construction of various kinds of tanks, terminals and other storage facilities for oil and gas companies that require large storage tanks and terminals in the course of exploration, production, storage and transportation of oil and gas and derivative products. It has provided consultancy services on various coastal engineering projects, including geo-technical engineering, layout preparation for ports and shipyards and materials handling.

In the last two decades, EIL has offered engineering consultancy services for the development of infrastructure projects for clients in the hydrocarbon sector and to various Ports Trust Authorities in India.

The Company has also provided engineering consultancy services for the Govt. of India's energy security initiative in Strategic Crude Storages and has developed particular expertise for providing storage of crude oil in unlined underground rock caverns.

MAJOR PROJECTS

- SPM, Terminal and associated offshore/ onshore Pipeline of HPCL-Mittal Pipelines Ltd. (HMPL) and Bharat Oman Refinery Ltd. (BORL)
- Development of Port Facilities including break-waters, import/export Terminal of RGPPL/GAIL
- Strategic Crude Oil Storage in underground rock caverns at Vizag, Mangalore and Padur for Indian Strategic Petroleum Reserves Ltd. (ISPRL)



Mining & Metallurgy



EIL has deployed cutting-edge technologies to execute Mining & Metallurgical projects

EIL has implemented a number of mining and metallurgical projects involving large non-ferrous metallurgical plants for alumina, aluminum, copper, zinc, lead, titanium, cadmium, gallium, magnesium, rock phosphate, graphite, fluorspar, limestone, coal and lignite for various clients. EIL is the name behind one of the largest Alumina / Aluminium Complexes set up in the world for National Aluminium Company in Odisha. EIL can provide complete range of services for such projects including mine development and beneficiation plants.

MAJOR PROJECTS

- Phase II Expansion Project for Smelter and for Alumina Mines at Damanjodi, Orissa for NALCO
- Phase II Expansion Project for Smelter and for Alumina Mines at Angul, Orissa for NALCO.
- JSW Alumina Refinery Project at Vizag for JSWAL;
- Expansion of Muri Alumina Refinery Project for HINDALCO;
- 1.4 MTPA Alumina Refinery Project at Lanjigarh for Sterlite;
- Expansion of Hirakud Aluminum Smelter at Hirakud for INDAL;
- Expansion of Aluminum Smelter at Angul for NALCO;
- Expansion of Mines and Alumina Refinery at Damanjodi for NALCO; and
- Utkal Alumina Project for Utkal Alumina International Limited.
- Mahan Aluminum Smelter Project at Sidhi, Madhya Pradesh for HINDALCO;
- Fourth Stream Upgradation Project at Damanjodi, Orissa for NALCO;
- Aditya Alumina Smelter Project at Lapanga, Sambalpur, Orissa for HINDALCO;

Infrastructure

EIL undertakes infrastructure development projects spanning a myriad of sectors

EIL has the expertise in providing Engineering, Project Management and Construction Management Services, Third Party Inspection Services, Independent Engineer Services, Technical Audits and other related services for Infrastructure Development Projects involving Urban Development, Airports, Highways & Bridges and Intelligent Buildings.

MAJOR PROJECTS

- Green Data Center Complexes at Manesar & Bengaluru for Unique Identification Authority of India (UIDAI)
- Data Centre Complex at Hyderabad for State Bank of India (SBI)
- Bhamashah State Data Centre (BSDC) at Jaipur for Department of Information Technology & Communications, Government of Rajasthan
- Data Recovery Centre (DRC) at Jodhpur for DoIT&C, Government of Rajasthan
- RF & Wi-Fi set up across the state of Rajasthan including 10,000 Gram Panchayats
- Wild life survey & Anti-poaching system (WS & APS) in 5 reserve forests of Rajasthan
- Green, IT enabled R & D Centre (Phase-I) of Hindustan Petroleum Corporation Ltd (HPCL) at Bengaluru
- Green, IT enabled R & D Centre (Phase-II) of Hindustan Petroleum Corporation Ltd (HPCL) at Bengaluru
- State of the art Intelligent Office Building at Delhi for Unique Identification Authority of India (UIDAI)
- Modernization & Restructuring of Delhi Airport of DIAL (GMR consortium) and Mumbai Airport of MIAL (GVK Consortium)
- New Domestic Terminal Building and associated works at Leh Airport
- Greenfield International Airport at Mopa, Goa
- Rajiv Gandhi Institute of Petroleum Technology (RGPT), Jais, Raebareli
- Rugby Stadium & other sports facilities for Commonwealth Games 2010 at Delhi University
- Redevelopment of Connaught Place for New Delhi Municipal Council
- Complete Township / Colony, Non-Plant Buildings and related infrastructure for Ordnance Factory at Nalanda of Defence Research & Development Organization (DRDO)
- Project Development and Management Consultant (PDMC) for Atal Mission for Rejuvenation and Urban Transformation (AMRUT) for 9 cities of Odisha



Water and Waste Management

EIL is capable of providing engineering consultancy services for a multitude of projects such as water desalination and treatment, urban water distribution, waste water collection & treatment and waste water & residue disposal.

MAJOR PROJECTS

- Interceptor Sewer Project of Delhi Jal Board (DJB) for abatement of pollution in River Yamuna
- Namami Gange Programme – execution of entry level activities (Ghats, Crematoriums & Village level drain treatment) and Sewerage Infrastructure.
- PMC Services for sewerage system in Ponda Colony – Zones IA & IB of Goa for Sewerage and Infrastructure Development Corporation of Goa Limited (SIDCGL).
- EPCM Services for Effluent Treatment Plant at Tengakhat, Assam for Oil India Limited.



Power & Fertilizers

POWER

Leveraging its core competencies, EIL has successfully ventured into Power Sector and demonstrated its capabilities in delivering value added solutions. Some of the recent projects where EIL has been associated:

Nuclear

- 2x1000MWe Kudankulam Nuclear Power Plant-Unit 3 & 4
- Cooling Water and Heat Recovery Systems for ITER (International Thermonuclear Experimental Reactor)
- NPCIL's Nuclear Power Project at Mithivirdi

Thermal

- Captive Power Plants for various clients
- Relocation of 300MW Gas based Power Plant

Renewable

- Power Block for 125 MW Solar Thermal Power Project of Reliance (ADAG) awarded by AREVA
- 5 MW Solar PV Power Project under the National Solar Mission

Solar PV Modules

- Owner's Engineers for Polysilicon & Monosilane units, and complete detail engineering for U&O awarded by Mundra Solar Technology Ltd. (Adani Group)

FERTILIZERS

EIL provides the complete array of services for fertilizer projects with feedstock such as gas, naphtha and fuel oil. EIL has worked with all renowned licensors/contractors of ammonia and urea technologies.

MAJOR PROJECTS

- Revival of FCIL- Ramagundam Fertilizer Plant jointly promoted by FCIL, NFL and EIL (Ammonia 2200 MTPD; Urea 3850 MTPD)
- Eleme Fertilizer Complex for Indorama, Nigeria (Ammonia 2300 MTPD; Urea 4000 MTPD)
- Shahjalal Fertilizer Project for BCIC, Bangladesh (Ammonia 1000 MTPD; Urea 1760 MTPD)
- Ammonia Plant in Central Sulawesi, Indonesia for Panca Amara Utama, Indonesia (Ammonia 1900 MTPD)
- Revamp of Indogulf Fertilizers, Jagdishpur, India (Ammonia 1910 MTPD; Urea 3400 MTPD)
- Brown Field and Green Field Fertilizer Projects for Fertilizer Association of India (Ammonia 2200 MTPD; Urea 3850 MTPD)



Future Ready for Sunrise Sectors



GREEN H2/AMMONIA

- Futuristic & Zero emission fuel and will decarbonise Industry
- Integrate GH2 in Refinery, Fertilizer, CGD, Steel
- Leverage experience of more than 25 H2 and Ammonia Units
- Already engaged in several green H2 assignments
- Consultancy for India's 1st Long distance H2 Pipeline



BIO FUELS

- Key for increasing Energy Security, Fossil Fuel Import Reduction & Emission Reduction
- 20% Ethanol in MS by 2025 & 5% Bio-Diesel in Diesel by 2030
- Collaboration with CSIR-IIP in Bio ATF
- International Collaboration with Chempolis OY for 2G Ethanol
- Agreement with DBT-ICT for Algal based Green Technologies
- 12 + Assignments in Bio Fuels
- EIL is Implementing first of its kind Bio-Refinery project – ABRPL on EPCM basis



COAL TO CHEMICALS

- GoI Mission to gasify 100 MMT of Coal
- 15+ Assignments in Gasification Domain
- PMC for India's 1st Lignite to Methanol project of NLC India Ltd.
- EIL's own Pilot plant for Coal gasification & Syngas Cleaning
- EIL's R&D team has successfully used Computational Fluid Dynamics (CFD) for developing & validating Models for EIL Gasifier for High ash Indian Coal.

Green Hydrogen



EIL's Experience in GH2

- Conceptual Study for Setting up Green hydrogen Plant based on 5000 MW renewable power
- Selection of LEPC Contractor for Green Hydrogen Plant of ~ 8.5 TPD Capacity based on Alkaline or PEM Technology
- PMC Service for Green Hydrogen Plant of 4.3 TPD capacity based on PEM Technology
- Detail Feasibility Report (DFR) For 4000 TPD Green Ammonia Plant
- Consultancy Services for Feasibility and Basic Engineering of H2 pipeline (200+ km) - India's 1st H2 long distance Pipeline
- H2 blending in NGs Pipeline / City Gas Distribution Network

EIL's Capabilities in GH2 Segment

- Feasibility studies and Basic Design and Engineering package for
 - Electrolyser based Green Hydrogen plant with limited support from the Electrolyser Manufacturer
 - Green Hydrogen Storage
 - Green Hydrogen Transportation through pipeline
- Executing the entire value chain on EPCM / PMC Services

Biofuels



2G Ethanol

International Collaboration with Chempolis OY



**With support from our Strategic Collaborator*

Salient Features of Bio-refinery Project

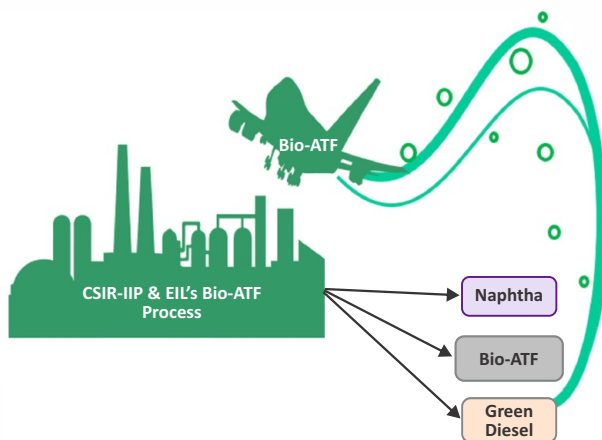
- Catering to the demand of North Eastern part of the Nation
- Bamboo Based feedstock
- Additional Value added Products in the form of Furfural, Acetic acid
- Provision for CO2 utilization
- Scope for Diversification of Products: Inhouse Technology for Furfural to Furfuryl Alcohol conversion

Biofuels



BIO-ATF

Decarbonising Aviation



SALIENT FEATURES

- Single-step HEFA process to convert plant-derived oil and animal-derived fats into hydrocarbons
- Based on non-noble metal-based catalyst
- Easily implementable and economical process as compared to globally available processes.
- Aromatics present in the kerosene range hydrocarbon cut make it a potential candidate for 100 percent drop-in Bio-ATF

PRESENT STATUS

- Produced approximately 10,000 liters of Bio-ATF in the pilot plant.
- Approved for use on all IAF aircraft with a 10% blend (SAF) with jet A1
- Demonstrated in military and passenger flights • Demonstration unit planned at one of the Indian refinery

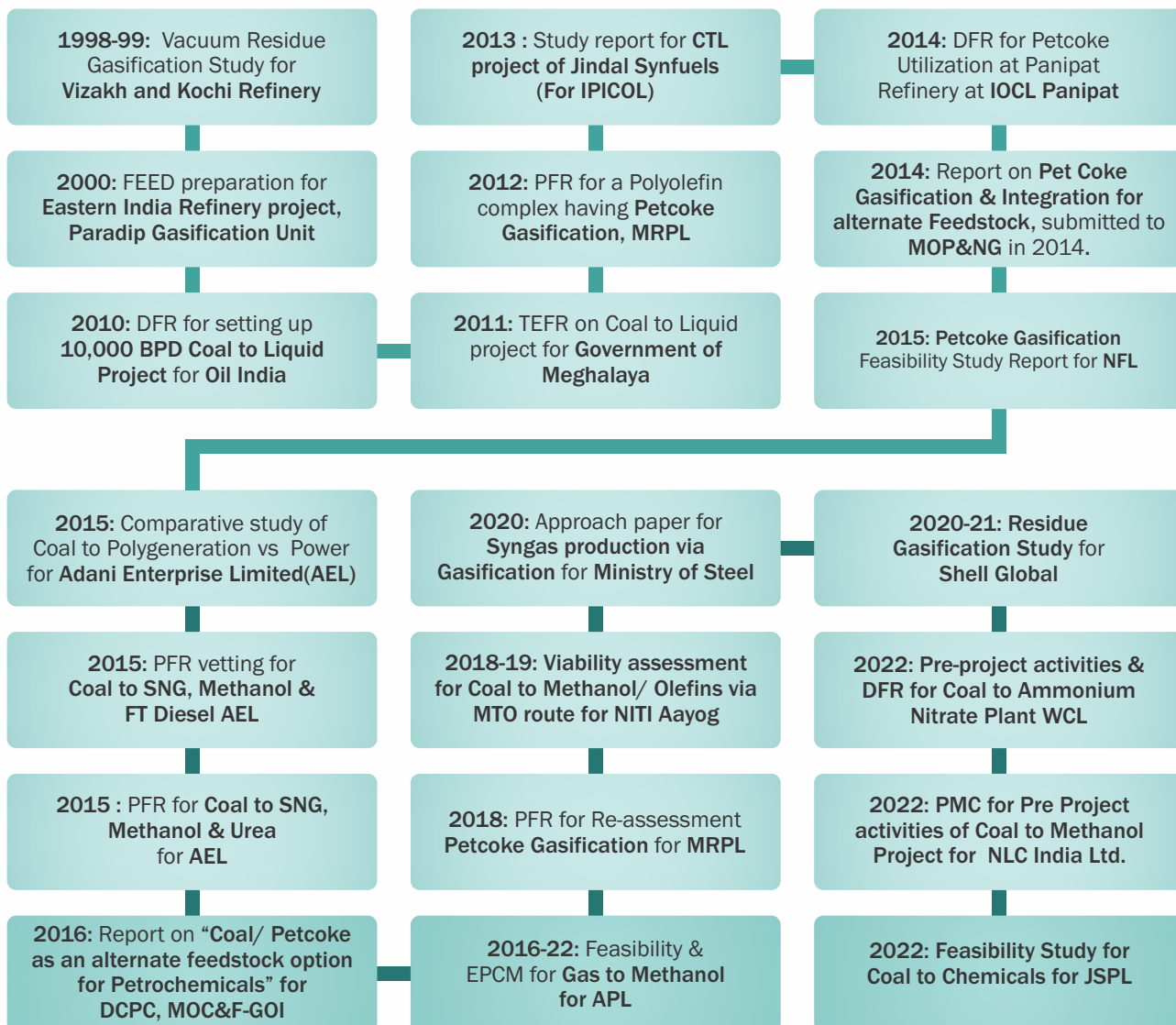
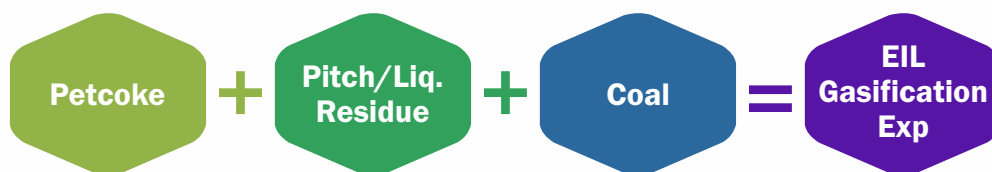


Experience Portfolio

12 + Assignments in Bio Fuels

- DFR for 2G Ethanol Plants of 100 KLPD (Kilolitre per day) at Bhatinda, Punjab and Hardoi, Uttar Pradesh
- DFR for 2G Ethanol Plants of 100 KLPD (Kilolitre per day) at Bargarh, Odisha and Bina, Madhya Pradesh
- DFR for 2G Ethanol Plant of 100 KLPD (Kilolitre per day) at Dahej, Gujarat
- DFR for 2G Ethanol Plants of 60 KLPD (Kilolitre per day) at Harihar, Karnataka
- Technology Selection and DFR Preparation for 2G Ethanol Bio-Refinery at Khamgaon
- DFR for Bagasse based processing unit for making Drop-in Fuels
- EPCM Services for India's 1st and world's largest Bio-Refinery Project at Numaligarh
- Carrying out Feasibility Study for EPCM/PMC Services for India's 2nd Bamboo based bio-ethanol Project
- DPR and Technical Specification for 10 TPD CO₂ to Ethanol Demo Plant
- Preparation of BDEP, DFR and Pre-Project Activities for Bio-ATF Plant at MRPL
- DFR for Biomass to Ethanol via Gasification and Gas Fermentation
- Technical Assessment & Transaction Advisory Services for Setting up Large scale Bio-Methanation and Waste to Energy Projects in selected 25 cities, having million plus population
- EIL had carried out Viability Study for ascertaining the economic viability of Bio CNG plants with two scenarios:
 - Bio-CNG Plant (based on 100 TPD Press mud feed)
 - Bio-CNG Plant (based on 165 TPD Rice straw feed)

Gasification/Coal to Chemicals



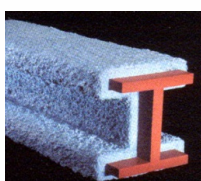
- Part of various committees and sub-committees on surface gasification on behest of NITI Aayog and various Gol ministries.
- Coal Gasification Pilot Plant. EIL along with its partners have been involved in Indigenous gasification technology development for high ash Indian Coal to Syn gas generation.
- EIL's R&D team has successfully used Computational Fluid Dynamics (CFD) for developing & validating Models for EIL Gasifier for High ash Indian Coal.
- EIL is well-equipped to render services in capacity of EPCM/ PMC/ Owner's engineer for any project right from conceptualization stage.
- EIL appointed as PMC for India's 1st Lignite to Methanol project of NLC India Ltd.



Environmental, Water and Safety Services

- Entire range of Environment Pollution Assessment, Control and Management related services under one roof:
 - Wastewater Treatment Plants
 - Effluent Recycle Plants
 - Zero Liquid Discharge Schemes
 - Water Treatment Plants
 - Municipal Sewage Network Design, Treatment & Recycle Plants
 - Environmental Impact Assessment Studies
 - Solid & Hazardous Waste Management
 - Environmental Audits & Water Footprint Studies
 - Petroleum Sludge Management
 - Air Quality Monitoring & Network Design Stack Emission Studies
 - Environment Health Risk Assessment
 - Site Assessment & Remediation
 - VOC & Fugitive Emissions Control
 - Spent Caustic Treatment Technologies
 - Sea Water Desalination Plants
- Unique Experience of executing Water/Wastewater projects in Industries & Municipalities
- HS EIA, Safety (HAZOP/QRA/RRA) & other Specialized Environmental & Safety Studies

Specialist Materials & Maintenance Services (SMMS)



- **Maintenance & Inspection**
 - Fitness for Service (FFS) study
 - Health Study and Residual Life Assessment (RLA)
 - Inspection, Repair & Recertification and Trouble shooting
 - Preservation and Mothballing
 - Integrity Management System
 - Repair of Storage Facilities
- **Refractory & Non Metallic**
- **Materials & Corrosion**
- **Cathodic Protection**

Health Check & RLA Studies carried out for various existing assets as part of Technical Due Diligence Assignments

EPC Contracting



EIL provides single-window solutions under its EPC projects

EIL undertakes EPC contracts wherein it takes single point responsibility for managing all elements of project execution viz. basic & detailed engineering, procurement, plant erection, construction and commissioning. EIL's EPC contracts generally fall into two broad categories: Lump sum Turnkey (LSTK) contracts and Open book estimate (OBE) contracts. EIL offers EPC services on its own as well as in association with other established equipment manufacturers and construction companies in India and internationally.

MAJOR PROJECTS

- Residual Utilities & Off-site for Rajasthan Refinery Project of HPCL Rajasthan Refinery Limited (HRRL)
- Residual Utilities & Off-site & PRU Revamp for Vizag Refinery Modernization Project of Hindustan Petroleum Corporation Ltd. (HPCL)
- Onshore Gas Terminal for Deen Dayal Field Development Project at Kakinada of Gujarat State Petroleum Corporation
- PetroFCC, Sulphur Block, Polypropylene Units and SPM & associated facilities for Refinery Expansion & Upgradation Project (Phase-III) at Mangalore of Mangalore Refinery & Petrochemicals Ltd.
- Euro-IV Quality Upgradation Project consisting of DHDT and NHT / ISOM Units for Chennai Petroleum Corporation Ltd.
- Execution of Euro-VI (BS-VI) Fuel Quality Upgradation Projects for 10 Refineries Units in India for IOCL, CPCL, BPCL, MRPL, HMEL
- LLDPE / HDPE Swing Unit (EPCC- 3 Package) for Panipat NaphthaCracker Project of Indian Oil Corporation Ltd.
- EPCC Packages 1&2 for Integrated PX - PTA Project at Panipat of Indian Oil Corporation Ltd.
- MNW Process Platform of Oil & Natural Gas Corporation Ltd.
- DI Well - cum - Water Injection Platform of Oil & Natural Gas Corporation Ltd.
- Butene-1 at PNC Complex, IOCL
- Modification work at Hazira plant under Daman Development Project

Milestone Projects

Segment	Project	Client
INTERNATIONAL JOBS		
Refineries	PMC Services for Construction of a Crude Oil Refinery in Mongolia	Mongol Refinery State Owned LLC
Refineries	Dangote Refinery and Petrochemical Project at Lekki FTZ, Nigeria	Dangote Oil Refining Company
Refineries	Eastern Refinery Project (Unit-2), Bangladesh	Bangladesh Petroleum Corporation (BPC)
Refineries	Skikda Refinery Rehabilitation and Adaptation Project, Algeria	SONATRACH
Petrochemicals	Liwa Plastics Project in Sohar, Oman	Oman Refineries and Petroleum Industries Company (Orpic)
Refineries, Onshore Oil & Gas, Offshore	General Services Agreements (Engineering & PMC), UAE	ADNOC Group
Onshore Oil & Gas	Qusahwira Field Development Project, UAE	National Petroleum Construction Company (NPCC)
Pipeline	Various Pipeline Projects (9 Nos.), UAE	ADNOC Gas Processing (Formerly GASCO)
NGL	PMC for setting up NGL plant and 300 MW CCGT Power Plant	Government of Republic of Guyana
DOMESTIC JOBS		
Refineries	Consultancy Services for 9 MMTPA Cauvery Basin Refinery (CBR) Project at Nagapattinam, Tamilnadu (Packages: EPCM 1 with MPMC Services and EPCM 3)	Chennai Petroleum Corporation Ltd. (CPCL)
Refineries	9 MMTPA Rajasthan Refinery Project with integrated Petrochemical Complex	HPCL Rajasthan Refinery Ltd. (HRRL)
Refineries	Consultancy Services for Integrated Refinery Expansion Project at Kochi Refinery	Bharat Petroleum Corporation Ltd. (BPCL)
Refineries	Consultancy Services for Execution of Euro-VI (BS-VI) Fuel Quality Upgradation Projects for 10 Refineries Units in India	5 Indian Refiners (IOCL, CPCL, BPCL, MRPL, HMEL)
Refineries	Vizag Refinery Modernization Project (VRMP)	Hindustan Petroleum Corporation Ltd. (HPCL)
Refineries	Consultancy Services for 15MMTPA to 25MMTPA Capacity Expansion of Panipat Refinery (P-25 Project)	Indian Oil Corporation Limited (IOCL)
Refineries	Licensing and EPCM Consultancy Services for Delayed Coker Unit (DCU) Revamp of Numaligarh Refinery Expansion Project	Numaligarh Refinery Limited (NRL)
Refineries / Petrochemicals	Consultancy Services for Petro Resid FCC Unit along with SRU at Mumbai Refinery and PP Unit at Rasayani	Bharat Petroleum Corporation Limited (BPCL)
Petrochemicals	Petrochemical Complex-II at Vijaipur & Pata	GAIL (India) Ltd.
Petrochemicals	Dual feed Petrochemical Complex at Dahej	ONGC Petro-additions Ltd.
Petrochemicals	Propylene Derivative Petrochemical Project (PDPP) at Kochi Refinery	Bharat Petroleum Corporation Ltd. (BPCL)
Petrochemicals	Guru Gobind Singh Polymer Addition Project	HPCL - Mittal Energy Limited (HMEL)
Petrochemicals	Consultancy Services for 500 KTA PDH-PP Project at Usar	GAIL India Limited
Petrochemicals	EPCM Consultancy Services for 60 KTA Poly Propylene Unit at Pata	GAIL India Limited
Onshore O&G - LNG	PMC Services for Chhara LNG Terminal at Village Chhara, District Gir Somnath of Gujarat	HPCL Shapoorji Energy Private Limited (HSEPL)
Pipelines	Consultancy Services for Dabhol - Bangalore Gas Pipeline Project	GAIL (India) Ltd.
Pipelines	Consultancy Services for Crude Oil Terminal (COT) at Paradip, Paradip Numaligarh Crude Oil Pipeline (PNCPL) and NRL Siliguri Product Pipeline (NSPPL)	Numaligarh Refinery Limited (NRL)
Pipelines	Consultancy Services for Upgradation of Facilities of Numaligarh-Siliguri Product Pipeline (NSPL) for transportation of additional products	Oil India Limited (OIL)
Oil & Gas Processing	DeenDayal Field Development Project & Onshore Gas Terminal at Kakinada	Gujarat State Petroleum Corporation Ltd. (GSPC)
Strategic Storages	Strategic Crude Oil Storage in underground rock caverns at Vizag, Mangalore and Padur	Indian Strategic Petroleum Reserves Ltd. (ISPRL)
Storage and Terminals	PMC Services for LPG Cavern at Mangalore	Hindustan Petroleum Corporation Limited (HPCL)
Storage and Terminals	PMC Services for De-Bottlenecking and Augmentation of Cryogenic Facilities of BPCL LPG Import Terminal at Uran	Bharat Petroleum Corporation Limited (BPCL)
Infrastructure	Entry Level Activities for Namami Gange Project	National Mission for Clean Ganga (NMCG)
Infrastructure	Green Data Center Complexes at Manesar & Bengaluru	Unique Identification Authority of India (UIDAI)
Infrastructure	Data Centre Complex at Hyderabad	State Bank of India (SBI)
Infrastructure	Bhamashah State Data Centre (BSDC) at Jaipur	Department of Information Technology & Communications, Government of Rajasthan
Infrastructure	New Domestic Terminal Building and associated works at Leh Airport	Airport Authority of India (AAI)
Infrastructure	Greenfield International Airport at Mopa, Goa	Directorate of Civil Aviation, Government of Goa
Infrastructure	Green, IT enabled R & D Centre (Phase-I & Phase-II) at Bengaluru	Hindustan Petroleum Corporation Ltd. (HPCL)

Overseas Operations



EIL is emerging as an international player with expanding footprints

EIL is continuously expanding its international operations to establish itself globally. The Company is seeking to identify markets where it can provide cost and operational advantages to the clients an USP which distinguishes EIL in the industry. EIL is particularly focused on regions where it has previously implemented projects, such as in the Middle East, Africa and other Asian Countries to capitalize on its past experience.

MAJOR PROJECTS

- Pipeline Projects of Abu Dhabi Gas Industries Ltd. (GASCO), Abu Dhabi
- Rehabilitation & Adaptation of Algiers & Skikda Refineries of SONATRACH, Algeria
- Olefins Conversion Unit and Polypropylene Unit of Abu Dhabi Polymer Company Limited (Borouge) at Ruwais, Abu Dhabi
- Replacement of NGL Pipeline Network of GASCO, Abu Dhabi
- Development of Engineering Capabilities for SONATRACH, Algeria
- Integrity Enhancement of Fire Protection System for Abu Dhabi Refinery Ph-II & Ph-III of Abu Dhabi Oil Refining Company (Takreer), Abu Dhabi
- Ethylbenzene and Styrene Monomer Plant at Bandar Assaluyeh Petrochemical Industries Development Company (PIDMCO), Iran
- ABBR Modification Project of Gasco, Abu Dhabi
- Aromatics Complex in Kuwait for Technimont, Italy
- Mumbasa Refinery Upgrade Project of Kenya Petroleum Refineries Limited (KPRL), Kenya
- PMC for setting up NGL plant and 300 MW CCGT Power Plant for Government of Republic of Guyana
- Dangote Refinery and Petrochemical Project comprising a 650,000 BPD grassroots Petroleum Refinery & 830,000 TPA Petrochemical Complex at Lekki Free Trade Zone, Nigeria for Dangote Oil Refining Company
- Installation of ERL Unit-2 Project of Bangladesh Petroleum Corporation
- Liwa Plastics Project in Sohar, Oman for Oman Refineries and Petroleum Industries Company (Orpic)

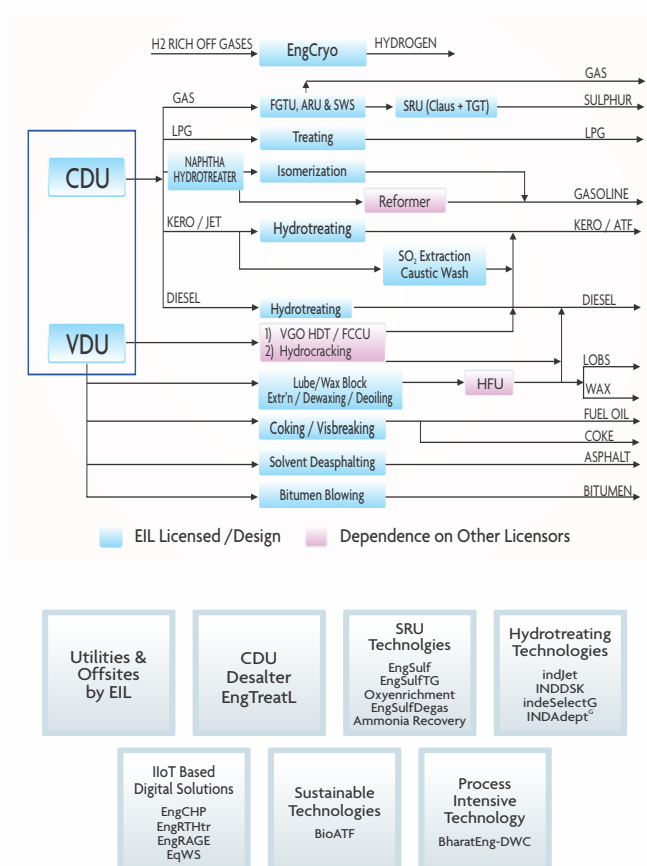
Research & Development

(Research and innovation is the cornerstone of EIL's growth strategy)



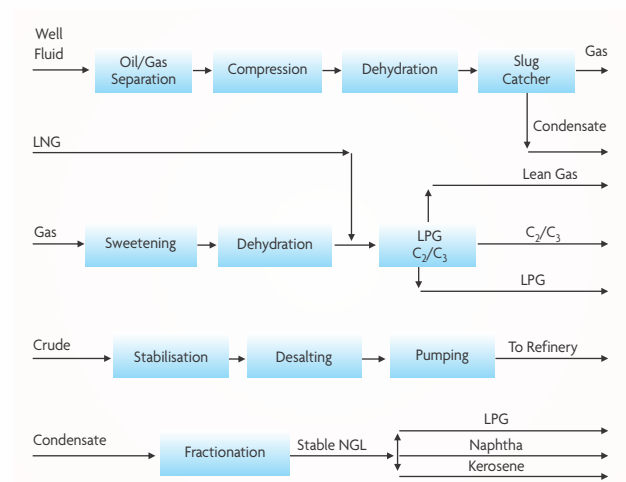
EIL is a technology driven organization which believes that continuous innovation and investment in technology is imperative for maintaining its leadership position in the hydrocarbon sector. The Company has to its credit more than 30 process technologies which include Visbreaker Technology for Petroleum residual fractions, Delayed Coking, Diesel Hydro-Treating, Food Grade Hexane, LPG treating, Sulphur Recovery, Light Naphtha Isomerization and Wax Deoiling among others.

Landscape of EIL's Refining Technologies



EIL's state-of-the-art R&D Centre at Gurugram is actively developing technologies, both in-house and in collaboration with oil & gas PSUs (IOCL, BPCL), premier research and academic institutions. As part of Coal to Liquid (CTL) technology development program, EIL has set-up pilot facilities to perform experimental activities for gasification, gas clean up and hydrodynamics study of slurry bubble column reactor (Fischer Tropsch process). Present forays also include research fields such as Bio-fuels (2nd generation and beyond), integration of solar energy in refinery processes and prominent sunrise areas.

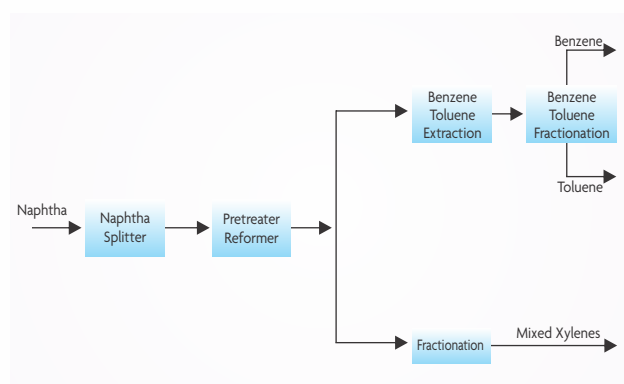
Oil & Gas



Other Strategic Collaborations

CSIR - IIP	Bio-ATF
Chempolis OY	2G Ethanol
CSIR - NCL	DME Technology
Evergreen	Supply of Proprietary Engineered Products
DEEP	Unique Services for Hydrocarbon Storage in underground Caverns
DBT - ICT	Algal based Green Technologies

Aromatics



Corporate Governance

EIL firmly believes in securing the highest level of corporate governance through transparency in all its conduct

EIL is committed to attaining the highest standards of Corporate Governance. EIL's equity shares are listed on the Stock Exchanges and the Company has adopted corporate governance practices in accordance with Clause 49 of the Listing Agreement, entered into with the Stock Exchanges, in terms of broad basing the Board and constitution of various committees thereof. The Company has constituted an Audit Committee and an Investors' Grievance Committee as per the requirements of Clause 49 of the Listing Agreement. The philosophy of the Company in relation to Corporate Governance is to ensure transparency in all its operations, make disclosures and enhance all stakeholders' value within the framework of laws and regulations.



Human Resource Management



EIL boasts of a competent and motivated team of professionals with diverse skills

EIL accords topmost priority to the acquisition and retention of skilled manpower in order to retain its competitive advantage. The personnel policies of the Company are aimed towards recruiting talented employees and facilitating their integration into the Company and encouraging the development of their skills. The Company is dedicated to the development of the expertise and know-how of the employees and has a focused leadership development program in place. EIL believes that the combination of the experienced Board and the dynamic and experienced management team has been key to its success and will enable the Company to capitalize on further growth opportunities.

Health, Safety & Environment

EIL adheres to the highest standards of health, safety and environment management

EIL is committed to internationally accepted best practices and comply with all applicable health, safety and environmental legislations and other requirements in its operations in various jurisdictions. In order to ensure effective implementation of its practices, in every project all hazards are identified at various stages of the project life cycle. Associated risk is evaluated and mitigation measures are implemented by way of upgrading instrumented protective systems, optimizing inventory level and providing guidelines for emergency response planning.

EIL has a robust HSE Management system certified to OHSAS 45001 : 2018 (Occupational Health and Safety Assessment Series) and ISO 14001: 2015 (Environmental Management system) which demonstrates Company's commitment in continual improvement its health & safety practices. Performance of HSE Management System is monitored through internal HSE audits across EIL office locations and Constructions Sites. HSE performance is also monitored through regular HSE meetings by EIL office locations. EIL employees are made aware of the systems & procedures and updates in HSE Management System by imparting HSE awareness sessions about the system as well as through HSE news letters. EIL top Management conducts periodic review of the HSE Management System to ensure its continuity, suitability, adequacy and effectiveness.



Community Development



EIL is committed towards its responsibility as a corporate citizen

EIL has adopted a Corporate Social Responsibility (CSR) policy, pursuant to which the Company strives to operate its business in a socially-responsible manner, emphasizing accountability to the stakeholders. The CSR program aims to assist socially and economically weaker segments of society, as well as define EIL as a socially-responsible business to employees, clients and other stakeholders. The CSR projects of the Company target various activities in education, healthcare, drinking water, sanitation, rural electrification, women empowerment, environmental protection and any other area as defined in Schedule VII of Companies Act 2013.



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