Shaping the Dream
Green India with Clean Fuel
The Company

Petronet LNG Limited (PLL), formed in 1998, as a Joint Venture by India’s four major Oil & Gas Public Sector Undertakings to import LNG and set up LNG terminals in the country.

LNG is an environment friendly green fuel. Petronet LNG is supplying 55 MMSCMD gas which is approximately 40% of the gas consumption in India.

Vision
To be a key energy provider to the nation by leveraging Company’s unique position in the LNG value chain along with an international presence.

Mission
- Create and manage world-class LNG infrastructure.
- Pursue synergetic business growth opportunities.
- Continue excellence in LNG business.
- Maximum value creation for the stakeholders.
- Maintain highest standards of business ethics and values.

Stakeholders/Promoters

Petronet LNG Limited is promoted by three Global Fortune 500 Companies namely Indian Oil Corporation Limited, Oil & Natural Gas Corporation Limited, Bharat Petroleum Corporation Limited and one Maharashtra Oil & Gas major GAIL (India) Limited. Each of them is holding 12.5% equity and balance 50% equity held by Public and various Financial Institutions.

Business Profile

Petronet LNG Ltd., one of the fastest growing world-class companies in the Indian energy sector, has set up South East Asia’s first LNG Receiving and Regasification Terminal at Dahej, Gujarat and another Terminal at Kochi, Kerala.

While the Terminal at Dahej, has a name plate capacity of 15 MMTPA (equivalent to 55 MMSCMD of Natural Gas) and is scheduled to be expanded to 17.50 MMTPA by June 2019, whereas the Kochi Terminal has a capacity of 5 MMTPA (equivalent to 18 MMSCMD of Natural Gas).

LNG Sourcing

Petronet LNG Ltd is importing 7.5 MMTPA of LNG from RasGas, Qatar under a 25 year long-term LNG Sale and Purchase Agreement (LNG SPA). The supply under the LNG SPA started in the year 2004.

Petronet LNG is also importing 1.44 MMTPA LNG from ExxonMobil, Gorgon LNG terminal in Australia.

The quantity sourced under the RasGas and ExxonMobil contracts is sold under back-to-back Gas Sale and Purchase Agreements to GAIL, IOCL, BPCL and GSPC.

The Product

Liquefied Natural Gas (LNG) is predominantly Methane but also contains smaller and varying portions of Ethane, Propane and Butane. Natural Gas when cooled to minus 160°C becomes liquid and more compact occupying 1/600th of its gaseous volume.

It is liquefied to facilitate transportation in cryogenic tanker across sea. Re-gasification takes place at receiving terminal. LNG is a colourless, non-toxic and non-corrosive transparent liquid.

Physical Properties of Methane (CH₄)
- Carriage Temperature: (-160°C)
- Cargo Pressure: (-170 mbar)
- Specific Gravity: 0.460

<table>
<thead>
<tr>
<th>LNG Properties</th>
<th>Value</th>
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<tbody>
<tr>
<td>1 MMT LNG</td>
<td>1.23 MMT oil equivalent</td>
</tr>
<tr>
<td>1 MMTPA LNG</td>
<td>3.75 MMSCMD of Natural Gas</td>
</tr>
<tr>
<td>1 MMTPA LNG</td>
<td>1 MMT LNG can sustain Power Plant of 1000-1200 MW Gas Reserves</td>
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Dahej LNG Terminal

The Company established South East Asia’s First LNG Receiving and Re-gasification Terminal of 5 MMTPA capacity at Dahej, Gujarat, which is in commercial operation since April 2004.

The 5 MMTPA project was commissioned in a time period of 36 months which is record for a project of its magnitude and complexity. Petronet LNG Ltd. expanded capacity of Dahej Terminal to 10 MMTPA in the year 2009-10. The Dahej Expansion Project is a shining example of achieving low cost expansion of an existing LNG terminal at a cost which is less than the Phase-I project cost. Dahej is the first base load LNG plant in the world that uses unique ambient air heater for Re-gasification of LNG. This is a cost effective and eco-friendly process compared to conventional ORVs (Open Rack Vaporizers), which use sea water as medium of vaporization. Dahej Terminal is connected to major trunk pipelines namely HVJ, DUPL, DVPL, Torrent DGEN and GSPL.

Petronet LNG has two LNG jetties at Dahej Terminal. The second jetty is to attain higher operational efficiency and leverage enhanced capacity of Dahej LNG Terminal even beyond nameplate capacity of 15MMTPA as well as serve as a risk mitigation measure, if the first jetty may not be available for any reason. The second jetty is designed to handle the highest capacity LNG tankers currently available in market i.e. Qmax tankers having capacity of 260,000 cubic meters.

Lump sum EPC contract to increase the Re-gasification capacity of Dahej LNG Terminal from 15 to 17.5 MMTPA is signed with CTCI, Taiwan, and its Indian subsidiary CINDA Engineering Construction Pvt. Ltd. The expansion project shall be completed by the end of June 2019.

Tolling services on long-term basis is being provided to off-takers/bulk customers from Dahej Terminal.

Kochi LNG Terminal

In order to meet the Natural Gas requirement of Southern part of India for power generation, fertilizer, steel, city gas distribution and other emerging industries, Petronet LNG Ltd. has constructed its second LNG Receiving and Re-gasification Terminal at Kochi, Kerala. The Terminal is of 5 MMTPA capacity. The availability of gas at Kochi is expected to give fillip to industrial activity in Kerala and nearby States.

Petronet LNG achieved a significant milestone when the LNG Carrier “Wilenergy” laden with 123,000 cubic metres of LNG berthed at Kochi LNG Terminal. The momentous event is significant as it positioned Kerala on World LNG map and has paved way for industrialization and development. This also heralded an era of accessibility to one of the cleanest energy sources not only to Kerala but other nearby states as well. The availability of R-LNG is positively impacting key industries in the region. FACT and BPCL Refinery, Nitta Gelatin, Tata Ceramics, HLL etc. has already started receiving Natural Gas from this Terminal.

Tolling services is also offered to off-takers/bulk customers from Kochi Terminal.
**Vessels**

Three LNG vessels, namely ‘Disha’, ‘Raahi’ and ‘Aseem’ carry the LNG volume under the RasGas contract from Qatar to Dahej & Kochi and the fourth LNG vessel ‘Prachi’ carries the LNG volume under ExxonMobil contract from Gorgon to Dahej & Kochi. Shipping Corporation of India (SCI) is amongst equity partner in the ship-owning companies and all four vessels are manned, maintained and operated by SCI. The vessels operate on a long-term time charter basis. Petronet LNG Ltd. also owns equity in Aseem and Prachi.

**Truck Loading Facility**

Dahej: In order to meet the requirement of consumers who do not have access to gas pipelines, a facility to supply LNG through cryogenic tankers by road has been set up at Dahej and is operating successfully for the last 7 years. The facilities further extended and Petronet LNG Ltd. can now load up to 50 trucks in a day. Thus, India has joined an elite club of developed nations such as USA & Japan where LNG is being supplied by road tankers Petronet LNG Ltd. has plans to further increase its business of overland and transportation of LNG.

Kochi: Petronet LNG Ltd. has started the supply of LNG to the consumers by road trucks under its brand name “Taral,” the Pilot project and the first ever such project in South India was launched with the starting of LNG supply to HLL Lifecare Limited in Trivandrum. This venture shall open vast opportunities for various consumers not connected to the pipeline and for value added applications such as LCNG and LNG on board for automobile and marine applications.

The availability of R-LNG is also expected to pave way for meeting the aspirations of the household segment of Kochi city by usage as Piped Natural Gas in houses. Similarly, the transportation sector will be greatly benefitted by switching over to this clean energy, hitherto enjoyed by Delhi, Mumbai and some other cities in Gujarat.

**Value added Services offered at Kochi LNG terminal**

Petronet LNG Ltd. has achieved several milestones since its inception in 1998. PLL is now capable through increasing Natural Gas supply by operating a fully equipped and functional LNG terminals has also made progress in offering innovative solutions to international LNG players. Since 2015, PLL is offering new value added activities relating to unload and re-export of LNG, gassing up & cool down for new built vessels on maiden voyage or vessels coming after dry dock and supplying LNG as bunker fuel to LNG powered ships from Kochi LNG terminal.

PLL has set up one of its kind of learning centre, the “LNG Academy (LNGA)” at its Kochi LNG Terminal. To impart training on the entire LNG value chain and organize Workshops including simulation training to share the experience of Indian LNG Professionals, on various aspects of the LNG vertical right from upstream, liquefaction, shipping, re-gasification, pipeline transmission/distribution and up to burner tip consumption by the consumers of Natural Gas/LNG. The LNGA shall ensure enhancement and updation of knowledge and impart practical hands-on experience to the aspirants.

**Solid Cargo Port at Dahej**

Petronet LNG Ltd. is a joint venture partner in Adani Petronet (Dahej) Port Pvt. Ltd. along with Adani Ports for setting a solid cargo port in Dahej SEZ, Gujarat. The solid cargo port has the facility to import/export coal, steel, fertilizers etc.
Small Scale LNG Initiatives

The test run of first LNG fueled bus was launched by the Hon’ble Minister, Petroleum & Natural Gas and Skill Development & Entrepreneurship, Shri Dharmendra Pradhan in the presence of the Hon’ble Chief Minister of Kerala Shri Pinarayi Vijayan, a gathering of Oil & Gas Industry Professionals and a host of dignitaries at Trivandrum, Kerala as part of a plan of the Ministry of Petroleum and Natural Gas to use LNG directly for mass transportation in order to reduce carbon emissions in the country simultaneously generating savings.

PLL is working to promote LNG as an automotive fuel in the country. Taking this initiative forward, PLL had organized stakeholder conference in March, 2018 at New Delhi. Hon’ble Minister of Petroleum & Natural Gas and Skill Development & Entrepreneurship assured full support of MoPNG to establish the LNG as an automotive fuel. Based on the inputs from the stakeholders and traffic study on different highways across India, a pilot phase to build 20 LNG/LCNG dispensing stations on selective National Highways is envisaged. PLL is planning to use LNG as a fuel for buses for plant employees along with setting up LNG dispensing station

Corporate Social Responsibility

As a responsible Corporate citizen, Petronet LNG Ltd. undertakes Socio-Economic Development Programs through its CSR arm Petronet LNG Foundation to meet priority needs of the community with the aim to help them become self-reliant. These efforts are being undertaken generally around work centres mostly in the areas of Education, Rural Infrastructure, Healthcare, Sports, Culture, Environment and Entrepreneurship in the community.

Petronet LNG Foundation (A wholly owned subsidiary of Petronet LNG Ltd.)

www.petronetlngfoundation.org
Opinions that matter

Prabhat Singh
Managing Director & CEO
The future of LNG in India’s energy mix is projected to grow even brighter with further expansion of the Dahej Terminal. This optimistic outlook is due to various factors which draw from past experience, national and international responses to India’s energy demand and global developments in LNG supply around the world.

Rajender Singh
Director (Technical)
Excellence in resource utilization and creating world-class infrastructure facilities has enabled Petronet LNG Ltd. to play leadership role in Indian Natural Gas Industry.

Vinod Kumar Mishra
Director (Finance)
Petronet LNG Limited is pioneering the endeavor of Government of India’s to enhance share of Natural Gas in energy mix by expanding the capacity of its LNG Terminal.

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