

ENNORE: India's first LNG terminal on east coast



LNG @ doorstep for industrial customers located away from gas pipelines

### LNG as Transport Fuel

To promote LNG as automotive fuel, IndianOil has begun providing mobile LNG dispensing solutions to Tata Motors and Volvo Eicher Commercial Vehicles Ltd.

IndianOil has facilitated the setting up India's first LCNG (Liquid to Compressed Natural Gas) station at Waghodiya, Vadodara, and has been supplying LNG to the station. IndianOil is also setting up a fuel complex, including LNG/LCNG facilities, at Anayara, Tiruvanathapuram, besides identifying fuel stations at strategic locations on National Highways for setting up LNG/LCNG fuelling stations in future.

#### LNG in Mining:

IndianOil and Sasan Power Limited have joined hands for trials on LNG use in coal mining as dual-fuel (HSD + LNG) in dumpers – first three in India in the mining sector.

#### LNG Bunkering:

IndianOil is exploring the possibilities of truck-to-ship LNG bunkering.



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# IndianOil – The Energy of India



# INDIANOIL AND NATURAL GAS

Natural gas is fast emerging as a greener choice over other fuels. IndianOil is investing across the Natural gas value chain in the country and is committed to enhancing its availability in the country.

From a modest start in 2004, IndianOil's has emerged as the second largest player in Natural Gas marketing in India with a 19% share in imported gas during 2017-18. With over 50 spot / strip cargoes imported over the last three years, IndianOil supplies LNG to about 60 institutional customers from fertilisers, power, refining, steel, petrochemical plants and other industrial sectors. The Corporation expects to boost its cumulative regassification capacity to  $\sim 14$  MMTPA from 4.18 MMTPA currently.



# **Investing in Natural Gas Infrastructure**

IndianOil is committed to making this green fuel available across the country. The Corporation is making significant investments and capacity commitments across the value chain, viz., LNG Sourcing, LNG Import Terminals, Natural Gas Pipelines, City Gas Distribution Networks, etc. IndianOil has also pioneered LNG supply by road tankers (LNG at Doorstep) to cater to bulk users located away from gas pipelines.

#### LNG Sourcing

IndianOil sources liquefied natural gas (LNG) from international suppliers through longterm contracts as well as spot purchases. Gas parcels are received at the Dahej Terminal of Petronet



LNG Ltd. (PLL), and supplied through pipelines to large-volume customers. To ensure uninterrupted supply, IndianOil has tied up a portfolio of LNG supplies from various countries / companies across the world, besides direct investments in global gas fields.

## LNG Terminals

West Coast: IndianOil has access to 30% of all lonaterm LNG imports of PLL in Dahei (Guiarat) and Kochi (Kerala) LNG Terminals. Additionally, IndianOil has booked 1.5 MMTPA capacity in Dahej LNG Terminal and 1 MMTPA capacity in Jafarbad, Gujarat LNG terminal of SWAN Energy.

**East Coast:** IndianOil has set up a 5 MMTPA LNG Terminal at Kamarajar Port, Ennore in Tamil Nadu, It is the first LNG terminal on the east coast of India and is scheduled to be commissioned in Q1 2019. The Terminal has 2 LNG Storage tanks each of 1,80,000 cu. mtr. capacity and a dedicated LNG Jetty to berth LNG ships up to 2,66,000 cu. mtr. capacity. There is a provision to expand its capacity up to 10 MMTPA in future. The terminal will provide Natural Gas to most of the districts of Tamil Nadu and some of the districts in southern parts of Andhra Pradesh & Karnataka. The terminal has facilities for regasification, LNG storage & reloading and loading of LNG into cryogenic tankers. LNG bunkering service will also be provided ex-Ennore LNG Terminal later.

IndianOil has also booked 3 MMTPA capacity in upcoming LNG Terminal at Dhamra to meet the captive requirements of IndianOil's eastern coast refineries.

#### Gas Pipelines

- IndianOil has a Dadri-Panipat Natural Gas pipeline (140 km, 10 MMSCMD - Common Carrier) besides commitment for long term capacity booking of  $\sim$ 2 MMTPA natural gas in GAIL's pipeline from Hazira / Dahej for supply to nothern India.
- To supplement the value chain of Ennore LNG terminal, IndianOil is building a 1265 km natural gas pipeline connecting Ennore-Thiruvallur-Bengaluru-Puducherry-Nagapatinam-Madurai-Tuticorin at cost of ₹ 4500 crore.



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- As part of a joint venture, IndianOil is building a pipeline network of ~4000 km connecting Mallavaram (near Kakinada, Andhra Pradesh) on the east coast to Srinagar, Jammu & Kashmir in the northernmost part of India.
- Mehasana Bhatinda Pipeline (MBPL)
- Bhatinda Jammu Srinagar Pipeline (BJSPL)
- Mallavaram Bhilwara and Vijaipur Pipeline (MBBVPL)

Guwahati to major towns in the Northeast.

# City Gas Distribution CGD is the last and critical component of the value chain, delivering Natural Gas to various segments of gas users Transport Domestic

Lucknow. The Corporation is setting up new CGD networks through IndianOil-Adani Gas Pvt. Ltd. in Allahabad, Chandigarh, Panipat, Daman, Ernakulam, Udham Singh Nagar, Dharwad, South Goa and Bulandhshahr (part networks in 18 more cities.



#### As part of another joint venture, IndianOil is building a natural gas pipeline grid connecting

