

2nd Edition

A VIRTUAL CONFERENCE

SMALL-SCALE LNG IN INDIA

Emerging Requirements, Demand
Drivers, Outlook and Opportunities

December 15, 2020



2nd Edition

A VIRTUAL CONFERENCE

STORAGE IN OIL & GAS

Current Infrastructure, New Requirements,
Future Outlook and Opportunities

December 16, 2020

Organisers:

**Indian
Infrastructure**

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SMALL-SCALE LNG IN INDIA

Mission

- Small-scale liquefied natural gas (SSLNG) has emerged as a viable option for serving end users in areas that are not connected to the main pipeline infrastructure. In the past three to four years, the supply of natural gas through the development of SSLNG stations has gained traction in the country. Currently, around 90 billion tonnes of LNG is supplied through road tankers to existing SSLNG facilities from the Dahej, Ennore and Kochi terminals.
- In recent years, the city gas distribution (CGD) sector has developed as one of the biggest consumers of SSLNG in India. Several CGD companies such as GAIL Gas, Think Gas, IOCL and Adani Gas are setting up liquid-to-compressed natural gas (LCNG) stations or satellite stations in geographical areas (Gas) that lack pipeline connectivity, for their early monetisation. Moreover, a network of LCNG/LNG fuelling stations is being created along the 6,000 km long golden quadrilateral highways.
- On the regulatory front, several initiatives have been taken by the government to create an efficient ecosystem for SSLNG development. These include the recognition of LNG as an automotive fuel; amendments to the Gas Cylinder Rules and the Static and Mobile Pressure Vessels Rules to support the supply chain of LCNG stations; and the Petroleum and Natural Gas Regulatory Board's recent announcement permitting an entity to set up an LNG station in any GA, even if it is not an authorised entity for that GA. A greater emphasis is also being laid on the use of advanced technologies and digital tools for the operations and maintenance of SSLNG facilities.
- In the coming years, the SSLNG market is poised to grow on the back of support from the government and significant demand from the CGD sector. At least 7-10 mtpa of LNG demand is expected to come from the SSLNG segment by 2025. In terms of infrastructure, over 150 LNG/LCNG stations are expected to be set up across various locations in the country.
- The ongoing Covid-19 pandemic has accelerated the shift towards SSLNG facilities, which can be built much faster than conventional gas infrastructure. Besides, favourable LNG prices are expected to further drive demand for the SSLNG segment. However, issues such as shortage of skilled manpower, raw materials and land for the development of LCNG stations; the lack of a harmonised tax regime for natural gas; and safety concerns need to be dealt with in a time-bound manner to realise the full potential of the segment.
- The mission of this one-day virtual conference is to discuss the emerging trends and recent developments in the SSLNG segment, identify the upcoming opportunities in the LCNG, truck loading and bunkering segments, highlight the experience of key stakeholders, and assess the demand potential from key industrial segments. The conference will also provide a platform to showcase the recent advancements and innovations in technology and equipment.

Target Audience

- The event is expected to draw participation from executives, managers and decision-makers from:
 - LNG Suppliers
 - Engineering and Design Firms
 - Technology Providers
 - Small-scale LNG Potential Buyers
 - Pumps, Valves and Compressors
 - Steel Manufacturers
 - End Users/Industrial Consumers
 - LNG Transport Companies
 - Financial Institutions
 - LNG Storage Facilitators
 - Government Agencies and Policymakers
 - R&D Organisations
 - LNG Terminals
 - Regulatory Agencies
 - Industry Analysts
 - Ports and LNG Shipping Companies
 - Equipment Manufacturers
 - Consultants, etc.

AGENDA/STRUCTURE

TRENDS, IMPACT OF COVID-19 AND OUTLOOK

- ❖ What are the trends and developments in the SSLNG market? What has been the impact of Covid-19 on project delivery, LNG prices and investments?
- ❖ What are the key issues and challenges?
- ❖ What is the outlook for the segment? What are the upcoming opportunities?

INDUSTRY/KEY STAKEHOLDERS' PERSPECTIVE: EXPERIENCE, NEW INITIATIVES AND FUTURE PLANS

- ❖ What has been the experience in setting up and operating SSLNG stations?
- ❖ What are the ongoing initiatives and investments? What has been the impact of Covid-19 on project execution?
- ❖ What are the future SSLNG capacity expansion requirements and plans in light of the growing gas demand and declining domestic production?
- ❖ What are the new and upcoming opportunities?
- ❖ What is the future outlook?

REGULATORY LANDSCAPE: KEY DEVELOPMENTS AND OUTLOOK

- ❖ What are the existing regulations, standards and guidelines for the SSLNG segment?
- ❖ What key initiatives are being taken by the central and state regulators to promote SSLNG development?
- ❖ What has been the impact of recent regulatory developments/initiatives?
- ❖ What is the regulatory outlook?

COSTS ECONOMICS AND VIABILITY OF SSLNG TERMINALS

- ❖ What factors determine the business viability of SSLNG projects?
- ❖ What are the key cost components? How has the cost economics evolved?
- ❖ What are the trends in LNG prices? What will be the impact of domestic natural gas price fluctuations on the cost competitiveness of SSLNG/L-CNG plants?

CGD PERSPECTIVE: CURRENT SSLNG INFRASTRUCTURE, FUTURE PLANS AND POTENTIAL DEMAND

- ❖ What are the current requirements of the CGD sector? What percentage of gas requirements is being met through RLNG?
- ❖ What is the existing SSLNG capacity (in terms of satellite stations, LCNG stations)? Are SSLNG stations a viable option?
- ❖ What are the future plans for setting up SSLNG facilities? What are the investment requirements?
- ❖ How is the gas demand expected to increase in the next couple of years? What role can SSLNG play in meeting the increased demand?

FOCUS ON SSLNG INFRASTRUCTURE: CURRENT STATE, FUTURE PLANS AND OPPORTUNITIES

- ❖ LNG SATELLITE AND LCNG STATIONS
- ❖ LNG TRUCK LOADING FACILITY
- ❖ LNG BUNKERING INFRASTRUCTURE
- What are the key features of the project (in terms of components/infrastructure, technology used, capacity, storage, etc.)? What are the capex and opex requirements?
- What are the existing sources of gas/LNG supply?
- What are the key considerations and challenges in the construction of these facilities?
- What are the new and emerging trends in technology and equipment deployed?
- What are the upcoming projects and opportunities in this segment?

DEMAND FROM OTHER KEY CONSUMING SEGMENTS: POWER, FERTILISERS, REFINERIES AND PETROCHEMICALS, ETC.

- ❖ What are the current requirements of other gas consuming segments? What percentage of their gas requirements are being met through RLNG?
- ❖ What is the existing SSLNG capacity (in terms of satellite stations, LCNG stations)? Are SSLNG stations a viable option?
- ❖ What are the future plans for setting up SSLNG facilities? What are the investment requirements?

NEW INNOVATIONS IN DESIGN AND ENGINEERING: EXPERIENCE AND BEST PRACTICES

- ❖ What are the emerging trends and advancements in the design and engineering of SSLNG facilities?
- ❖ What are the safety aspects being considered? What are the new technologies and digital solutions deployed?
- ❖ What are the challenges in the use and adoption of these technologies?

TECHNOLOGY AND EQUIPMENT SHOWCASE

- ❖ What are the new and emerging technology and equipment requirements for the SSLNG segment?
- ❖ What are the advancements and innovations in this space? What are the IT and automation systems/tools being deployed for O&M of SSLNG facilities (PLC and SCADA, sensors, flow and pressure devices, etc.)?
- ❖ What are the possible areas/interventions that could lead to cost savings? What is the future outlook?

STORAGE IN OIL AND GAS

Mission

- India presents a growing market for bulk liquids, led by petroleum products, petrochemicals and chemicals. Being a consumption-driven market, significant investments are being made in the storage segment, primarily led by oil marketing companies.
- A number of storage structures have been built, or are being built by oil and gas companies to store domestically produced and imported crude oil, petroleum products and natural gas. There is also increased focus on automation and digitalisation of storage facilities. IT-based solutions such as supervisory control and data acquisition systems, flow meters and remote sensors are being deployed for real-time monitoring and control.
- Meanwhile, the outbreak of Covid-19 has highlighted the need to have a robust storage infrastructure in place. The daily send-out to industrial and commercial customers dropped significantly during the lockdown. Besides, lower spot prices in February 2020 resulted in an unexpected rise in LNG imports. This caused storage tanks to fill to the brim, with importers unable to accept any more cargo. The strategic crude oil reserves have also reached their full capacity. With demand levels gradually recovering with lockdown relaxations, the utilisation levels are expected to return to normal.
- Going forward, capacity expansions at LNG terminals, strategic crude oil reserves, CNG stations and refineries are expected to create opportunities for storage infrastructure in the country. India may also explore the development of underground gas reserves to shield itself from supply disruptions. Besides, the growing investments in domestic E&P activity and rising imports are expected to create new demand for storage infrastructure in the country.
- The mission of this one-day virtual conference is to highlight the emerging opportunities in the crude oil and gas storage segment in India, examine the impact of Covid-19, identify the key issues and challenges, discuss the role of digitalisation and automation. The conference will also showcase some of the key existing and upcoming storage facilities and provide a platform to showcase the recent advancements and innovations in technology and equipment.

Target Audience

- The event is expected to draw participation from executives, managers and decision-makers from:
 - Oil & Gas Producers
 - Storage Tank Manufacturers (Cryogenic, LIN, LOX, Ammonia, etc.)
 - Refineries
 - Corrosion Control Companies
 - Chemical and Petrochemical Companies
 - Oilfield Service Providers
 - EPC Contractors
 - Technology Providers
 - Equipment Manufacturers
 - Consultants, etc.

AGENDA/STRUCTURE

EMERGING TRENDS, IMPACT OF COVID-19 AND FUTURE REQUIREMENTS

- ❖ What are the storage requirements of key oil and gas companies? What is the current storage capacity in the country?
- ❖ What are the emerging trends and developments in the segment? What are the new and advanced technologies and digital tools being deployed for operation and control?
- ❖ In what ways has the Covid-19 outbreak increased the storage requirements of oil and gas companies?
- ❖ What are the specific issues and challenges? What is the future outlook?

INDUSTRY PERSPECTIVE: EXISTING STORAGE INFRASTRUCTURE, NEW PROJECTS AND REQUIREMENTS

- ❖ What is the existing capacity and infrastructure created by the industry for storing crude oil and natural gas?
- ❖ What are the plans for the development of new storage infrastructure? What are the investment requirements?
- ❖ What are the current utilisation levels? In what ways has the Covid-19 outbreak increased your storage requirements?
- ❖ What are the key issues and challenges?

STRATEGIC CRUDE OIL STORAGE FACILITIES AND EXPANSION PLANS

- ❖ What are the key features of the three strategic crude oil storage facilities developed by Indian Strategic Petroleum Reserves Limited?
- ❖ What are the plans for leasing out these underground facilities to global oil companies and traders?
- ❖ What has been the impact of the Covid-19 pandemic on the utilisation levels of existing storage facilities?
- ❖ What are the upcoming facilities and investment requirements?

UNDERGROUND STORAGE FOR OIL AND GAS

- ❖ What are the different kinds of underground storage facilities for oil and gas (depleted fields, salt caverns, aquifers)?
- ❖ What are some of the noteworthy projects? What has been the implementation experience?
- ❖ What were the various risks and complexities involved in constructing these underground storage facilities?

FOCUS ON PRODUCT STORAGE FACILITIES: EXISTING INFRASTRUCTURE, EXPANSION PLANS AND UPCOMING OPPORTUNITIES

- ❖ COMPRESSED NATURAL GAS
- ❖ LIQUIFIED NATURAL GAS
- ❖ REFINED PETROLEUM PRODUCTS (LPG, aviation fuel, diesel, petrol, etc.)
- ❖ PETROCHEMICALS AND CHEMICALS
 - What are the existing storage facilities with key oil and gas companies?
 - What are the new and advanced technologies and digital solutions deployed for O&M of these facilities?
 - What are the capacity expansion plans and targets? What are the investment requirements?

SPOTLIGHT ON STORAGE TANKS: ELEVATED, FLOATING ROOF-TYPE AND UNDERGROUND

- ❖ What are the different types of tanks built for storage of oil and gas?
- ❖ What is the existing capacity of key O&G companies?
- ❖ What are the upcoming facilities and investment requirements?

DIGITALISATION OF STORAGE FACILITIES: ROLE OF AUTOMATION AND INSTRUMENTATION

- ❖ What is the role of IT and automation systems in the O&M of storage infrastructure?
- ❖ What are the most promising technologies/solutions (PLC & SCADA, AI, ML, etc.)? What are the emerging requirements in light of the Covid-19 pandemic?
- ❖ What are the upcoming opportunities and outlook for the segment?

EQUIPMENT AND MATERIALS SHOWCASE

- ❖ What are the new and emerging requirements in terms of equipment for the storage segment (sensors, flow meters, pumps, valves, etc.)?
- ❖ What are the new and emerging material requirements for oil and gas storage facilities (cement, steel, etc.)?
- ❖ What are the recent advancements and innovations in this segment? What is the future outlook?
- ❖ How is the industry gearing up to meet the emerging requirements? How have the procurement strategies evolved?

Previous participants at related conferences:

Adani Ports & SEZ, Aeromarine, Aitut Technologies, Aker Solutions, Ambtronics, Arush Gas Technologies, AUCTION Advisors, Baumer, Bhagyanagar Gas, Black & Veatch, BMR & Associates LLP, BPCL, Brookings India, Burckhardt Corporation, Cairn, Cairn India, Care Ratings, Central UP Gas, Charotar Gas, Cinda, Clarke Energy, Delhi LPG Bulk Carriers, Diamond Gas International, Directorate General of Hydrocarbons, DLF Power & Services, DLF Utilities, DNV-GL, Dolat Capital, DUA Associates, Duraline, E Contols, EIL, Elster, Empire Industries, Engie, Essar Bulk Terminals, ESP Safety, Evonik, Fearnleys LNG, Filter Concept, Flir, Flowserve, Flosil, GAIL India, GE Oil & Gas, Global Infrastructure Partners, GMMCO, GMR Energy, Govt. of Western Australia, Green Fuel Energy, Green Gas, GSPL, Gujarat Fluorochemicals, Gujarat Gas, Gujarat State Fertilizer, HCL, H-Energy, High Commission of Canada, Honeywell, Honeywell Process Solution, Howe Engineering, HPCL, HPCL-Mittal, HSA Legal, ICF, ICICI Bank, ICRA, IEX, IFC, IFFCO, IGL, IMC Limited, Imkemex, India Futuristic Marine, Indian Energy Exchange, Indraprastha Gas, Inel, Inox Wind, IOCL, IOT Infrastructure & Energy Services, IOTL, Itron, Jain Irrigation, Jainsons Industries, JCO Pumps, JSW Steel, Jyotech Engineering, Karaikal Port, Kaveri Napthol LLP, Kawasaki Heavy Industries, Kimplas Piping, Kirloskar Pneumatic Company, Kongunadu Roadlines, Koso Pumps, KPCL, Kraton Polymers, KRIBHCO, L&T Hydrocarbon Engineering, Linde, Lloyd's Register, Lucky Investment Mergers, LuxferUttam, Madras Fertilisers, Magikminds, Mahanagar Gas, Maharashtra Natural Gas, Maharashtra State Power Genco, Mahindra Powerol, Marubeni, Maruti Suzuki, MCX, MECON, Ministry of Petroleum & Natural Gas, Mits Skills, Mitsubishi, Mitsubishi Heavy Industries, Mitsui, Morgan Stanley, Motilal Oswal, Moxa, Mumbai Port Trust, National Fertilizers, NEDO, NTPC, Oil India, ONGC, ONGC Tripura Power Company, ONGC Uran, Orissa Stevedores, OSI, Pace Marine Solution, Parker Hannifin, PetroChina International, Pertonas Energy, Petronet LNG, Petronet LNG Kochi, Pipeline Infrastructures, Piramal Glass, PNGRB, PPAC, PPS, Praxair, Process System Engineers, PROTEGO, Quippo, Rajasthan State Gas, Raychem RPG, Reliance Group, Reshamwala Ship Brokers, Reshamwala Shipbrokers, Rockwin Flowmeter, RSG, Sabarmati Gas, SAGE Group, Saigal Sea Tradem Saipem, Sandvik, Savair, S&P Global, SBI Capital Markets, Scania, SECON, Secure Meters, SENER, Sener India, SGS, Shapoorji Pallonji, Shapoorji Pallonji Oil & Gas, Shell & Tube, SHV Energy, SICK, Siemens, Simorgh Energy, Spark Engineers, Sterling & Wilson, Supertug Offshore, Suren Enterprises, Swagelok, Swiftlifter, TANGEDCO, Tata Communications, Tata Consulting Engineers, The Corporate Profiles, TGE Gas Engineering, The Shipping Corporation of India, Thermax Global, Think Gas, Tieto, Torrent Gas, Toyo Engineering India, Toyota Touche, Tractebel Engineering, Trimble, Tulip Compression, U3S Chemsolutions, Uniper Global Commodities, Varicon Pumps & Systems, VCS Quality, Vimta Labs, Vitrum Glass, Wallfort Financial Services, Western Australia Trade, Zuari Indian Oiltanking, etc.

Organisers

The conference is being organised by **India Infrastructure Publishing**, the leading provider of information on the infrastructure sectors. The company publishes **Indian Infrastructure** (a magazine on infrastructure policy and finance), **Power Line** (India's premier power magazine) and **Renewable Watch** (covers the entire spectrum of renewable energy). It also publishes a series of reports on the Oil and Gas sector including **LNG Market in India** and **City Gas Distribution Market in India**. It also publishes **Oil & Gas News** (a weekly newsletter) and the **Oil & Gas Directory and Yearbook**. Indian Infrastructure also organised the biggest event in the Oil & Gas sector in November, which was in its 19th year. **India Infrastructure Research** (a sister division of Power Line magazine) has just launched two comprehensive reports on the gas sector in India.

REGISTRATION FORM

- I would like to register for the “SMALL-SCALE LNG IN INDIA” conference (December 15, 2020)
- I would like to register for the “STORAGE IN OIL AND GAS “ conference (December 16, 2020)
- I would like to register for **both the conferences**

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Both conferences

	INR	GST@18%	Total INR	Total USD
1 Login	9,000	1,620	10,620	150
2 - 3 Logins	15,000	2,700	17,700	250
4 - 5 Logins	21,000	3,780	24,780	350
6 - 9 Logins	27,000	4,860	31,860	450
10 - 20 Logins	33,000	5,940	38,940	550

Any one conference

	INR	GST@18%	Total INR	Total USD
1 Login	6,000	1,080	7,080	100
2 - 3 Logins	9,000	1,620	10,620	150
4 - 5 Logins	12,000	2,160	14,160	200
6 - 9 Logins	15,000	2,700	17,700	250
10 - 20 Logins	18,000	3,240	21,240	300

- There is a 25 per cent discount before December 1, 2020.
- GST @18 per cent is applicable on the registration fee.
- Registration will be confirmed on receipt of the payment.

Payment Policy:

- Full payment must be received prior to the conference.
- Payments for “early bird” registrations should come in before the last date of discount. Discount offers cannot be combined with any other offer.
- Conference fees cannot be substituted for any other product or service being extended by India Infrastructure Publishing Pvt. Ltd.

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