

India's LNG Imports: A Viable Alternative to the TAPI Pipeline?

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By IndraStra Global Editorial Team



Cover Image Attribute: The file photo of Dahej LNG Terminal, Gujarat, India

As the world's third-largest energy consumer, India's quest for securing its energy needs is a topic of global interest. The Turkmenistan-Afghanistan-Pakistan-India (TAPI) pipeline, a project that promises to deliver natural gas from the energy-rich Central Asian nation of Turkmenistan to energy-hungry India, has been a focal point of this discussion. However, the project's geopolitical complexities and security concerns have raised questions about its feasibility. Amid these uncertainties, India's increasing reliance on Liquefied Natural Gas (LNG) imports presents an intriguing alternative.

LNG, which is natural gas cooled to a liquid state for ease of storage and transport, offers several advantages over pipeline gas. Firstly, it provides flexibility. Unlike pipeline gas, which is tied to specific source and destination countries, LNG can be sourced from a variety of countries and delivered to any location with a regasification terminal. This

flexibility allows India to diversify its energy sources, reducing its dependence on any single country or region.

Secondly, LNG imports can be scaled up or down based on demand, providing a buffer against domestic energy production or consumption fluctuations. This flexibility is particularly valuable in a country like India, where energy demand is expected to grow significantly in the coming decades.

However, the shift towards LNG is not without its challenges. One of the most significant is cost. LNG is generally more expensive than pipeline gas, primarily due to the costs associated with liquefaction, transport, and regasification. While technological advancements have reduced these costs in recent years, they remain a significant factor in the overall cost of LNG.

Map Attribute: India, the world's fourth-largest purchaser of LNG, presently operates six LNG import terminals that collectively have a nominal capacity of 42.5 million tons annually. An additional capacity of 17 million tons is projected to be incorporated this year (further details and a map are provided below). / Source: Energy Intelligence



■ Operating Petronet Terminals ▲ Planned Petronet Terminals
■ Operating Non-Petronet Terminals ▲ Planned Non-Petronet Terminals

Source: EI stories, Indian Ministry of Petroleum and Natural Gas, GIIGNL

The infrastructure required for LNG import and regasification is another challenge. While India has made significant strides in this area, with several LNG terminals in operation and more under construction, the infrastructure development has not kept pace with the growing demand for LNG. This has resulted in supply bottlenecks and increased reliance on expensive spot purchases.

Another critical aspect to consider is the environmental impact of LNG. While natural gas is often touted as a 'clean' fossil fuel, the process of liquefying and regasifying natural gas results in the emission of greenhouse gases. This is a significant concern for a country like India, which is grappling with the dual challenges of energy security and environmental sustainability.

Despite these challenges, the potential of LNG as an alternative to the TAPI pipeline cannot be overlooked. The global LNG market is growing, with new suppliers like the

United States and Australia increasing their production. This growth is likely to lead to increased competition and potentially lower prices, making LNG a more attractive option for countries like India.

Moreover, the geopolitical risks associated with the TAPI pipeline, including instability in Afghanistan and strained relations with Pakistan, make LNG a more stable and reliable option. While the TAPI pipeline represents a significant step towards regional cooperation and energy integration, the realities of regional politics and security cannot be ignored.

While LNG imports are a viable alternative to the TAPI pipeline, they are not a panacea to India's energy challenges. A balanced energy mix, incorporating pipeline gas and renewable energy, is likely the most effective approach. This requires strategic planning, infrastructure investment, and sustainability commitment. As India navigates its energy future, the role of LNG is likely to be significant, but it will be just one piece of a larger puzzle.

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