



POTEN & PARTNERS

UNLOCKING THE INDIAN LNG MARKET

A MULTI-CLIENT STUDY

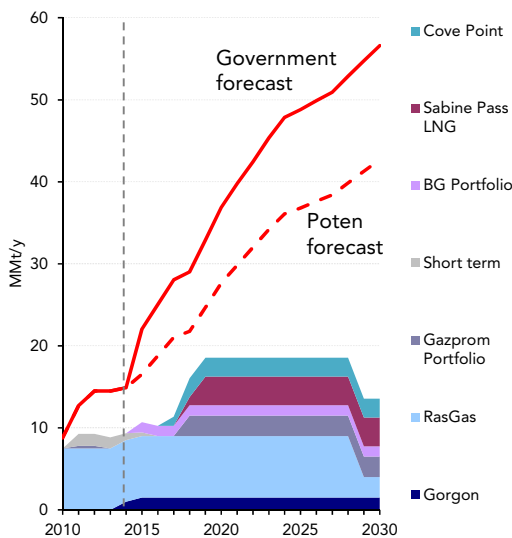
THE CHALLENGE

The development of the Indian LNG market has seen successes, most notably, the Dahej and Hazira import terminals and their associated imports. But efforts to develop the market have been distinguished by their difficulty. The Dabhol terminal is far underutilized, long after it was finally brought on stream. The Kochi terminal was just completed, but cannot deliver as the offtake pipeline was never built—and there is no indication when it will be. Other proposed import ventures could ring the subcontinent like a necklace, but remain on the drawing board. The major domestic gas player, GAIL, has struggled to market US-sourced supplies domestically and seen ship procurement efforts founder on government requirements for local construction. The Modi regime has watered down gas price increases approved by the preceding government. Subsidies and rationing continue to distort the market, resulting in underutilization of gas-fired power generation capacity alongside energy shortages. LNG imports have drifted, with the demand take-off always just around the corner.

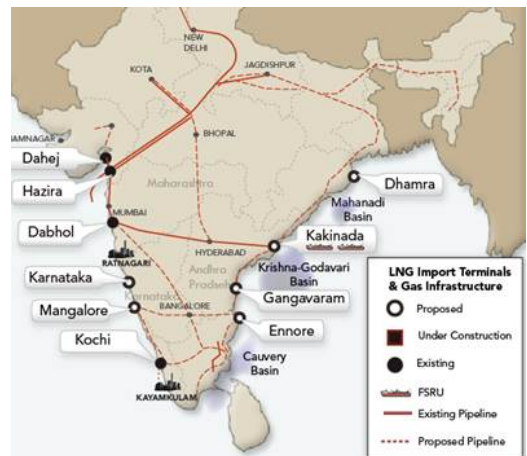
While the challenges of market entry should not be underestimated, LNG players cannot ignore India. A billion potential users and an economy growing at 7% p.a. is a magnet when demand in traditional Asian LNG markets is flat, China is fully contracted, Europe is depressed, and North America has flipped to being an LNG exporter. The imperative is to understand the market in a business sense: how to create robust opportunities, manage risks, position for upside, and see past the wishful thinking to the bedrock realities.

The Indian LNG market has not met expectations

LNG demand is poised to take off, but doesn't



Huge development of regasification capacity planned, but hasn't happened



MEETING THE CHALLENGE

The key to understanding this potential LNG giant is to focus on the state level. India is one nation, but a single Indian energy market is an abstraction. The country's regional differences are enormous. Democracy is a common thread, but how that democracy plays out at a local level – what it takes to be elected, and the alternative means that the public can take to vent its frustration with the system – will largely determine what infrastructure gets built and what does not, which investments are white elephants and which productive, which distortions are removed and which are further institutionalized.

The national government will play a role in stitching the patchwork together, within the limitations exerted by state dynamics.

A new perspective on the Indian market is needed

Old perspective

- GDP and population drive demand
- Infrastructure needed to meet demand will get built
- Regulatory distortions will be removed as free market takes over
- One single market led from top
- Rational planning and development of energy infrastructure
- Effective demand is satisfied

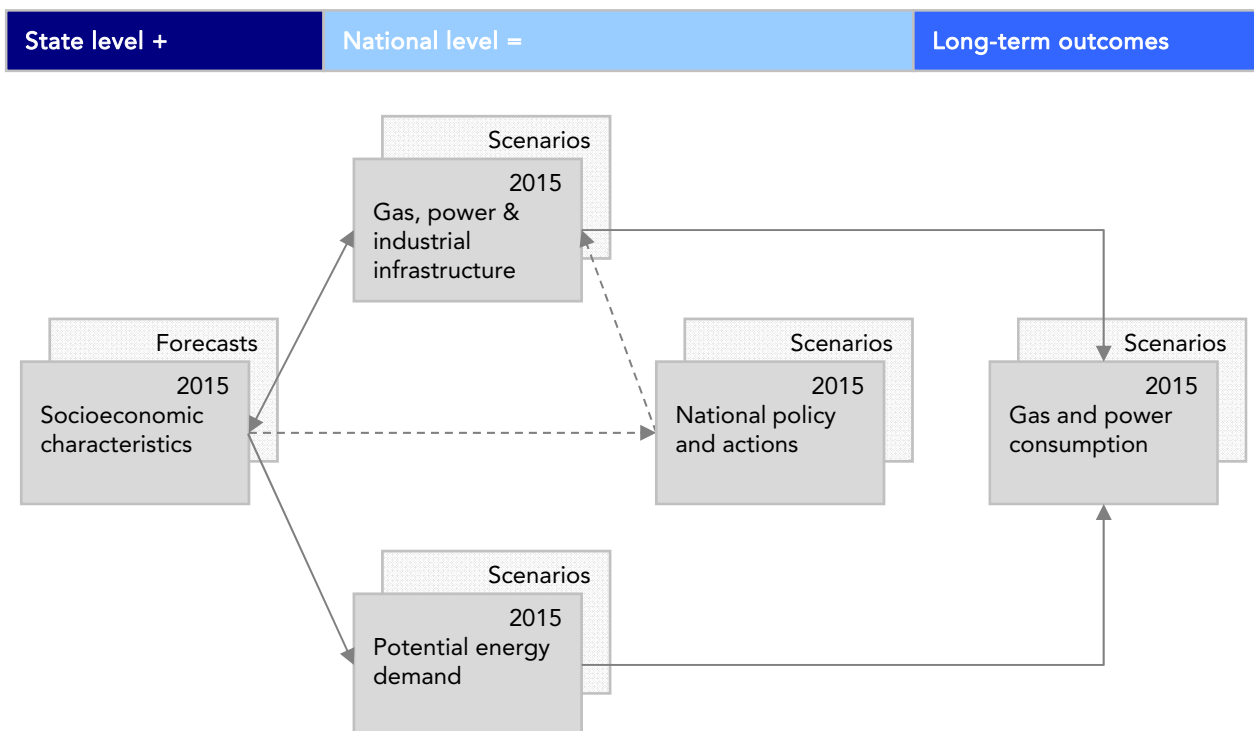
New perspective

- GDP and population drive potential demand
- Infrastructure challenges are major constraint on market development
- Distortions will be accommodated when politically expedient
- Decentralized dynamics with huge variation between states
- A patchwork emerges as some projects go ahead, others delayed
- Players willing to pay premium prices for reliable energy are frustrated

STUDY SCOPE

Poten has advanced in developing a ground-up model that examines the socio-economic fundamentals state by state. We will show how these dynamics explain the current matrix of infrastructure and subsidies—of the relatively few successes and the more numerous problems. We will examine the forces for change at work and how these will mould the development of energy markets in the future. We will create realistic scenarios for how these pieces will be put together by national government and entities cutting across state boundaries. We will provide realistic demand and supply forecasts at a regional and national level, cognizant that demand requires both the economic capacity for consumption and the institutional and physical means. We assess prospects for proposed LNG import projects and key state-owned players. Finally, we will provide a framework for strategy development that can serve as a roadmap for business sense to suppliers and investors.

Model dynamics – schematic diagram





DELIVERABLES & SPONSORSHIP

Poten offers two levels of sponsorship. Premium sponsors (US\$40,000) receive:

1. The Final Report covering the scope described on page 4
2. An Atlas of India's political energy economy, laying out the core logic of the Study in a series of maps
3. The underlying data set for the Atlas

Premium sponsors also receive a customized advisory service including:

4. A Kick-off teleconference to discuss the Study scope, key questions and focus areas
5. Interim and Draft Final reports with individual responses to comments and queries
6. A private presentation of the Final Report, together with an individualized workshop to frame the key issues and implications of the Study for the client's India strategy and scope out its next steps
7. An Excel inventory of existing and proposed gas and power infrastructure by state

The customized advisory service provides a third-party review of a company's existing strategy, examining risks and opportunities, helping Premium sponsors to reshape their India market positioning.

Base sponsors (US\$15,000) will receive the Final Report and Atlas with underlying data set (items 1-3 above).

Multi-client study highlights

Core analytical process delivers superior results to clients



PLUS:

- Analysis and lessons learned by applying the process to India's performance to date
 - Dabhol, Hazira, Dahej and Kochi terminals
 - International LNG procurement efforts
 - KG basin development
 - Industry and sector specific analysis: fertilizer, transportation, residential, refineries, non-utilities power generation
- Prospects for proposed regasification terminal projects
- High-level strategies for ventures

STUDY TEAM

Poten has undertaken over 20 recent assignments with a primary focus on the Indian gas and LNG market and/or support to Indian LNG players. Our core Study team consists of:

- Stephen Thompson (Study Leader), Poten's manager for the Asia Pacific region. Former E&P Manager, Chevron Colombia. A 25-year industry veteran.
- Puneet Goel (Consultant), specialist in the Indian market and development and implementation of LNG strategy. Former senior strategy consultant with IBM.
- Chuck White (Senior Consultant), specialising in decision quality and offshore. Former Global Director, Enhanced Field Development Solutions, WorleyParsons/INTECSEA.
- Gayoung Kim (Senior Analyst), experience from LNG marketing to developing and implementing LNG tolling agreements. Previously with SK E&S and Samsung.



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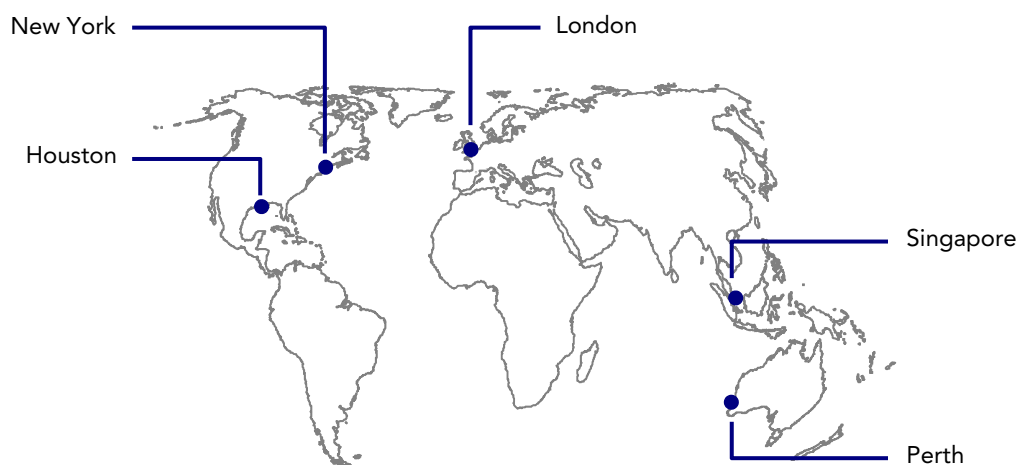
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