

A high-stakes race against time

Can investors move quickly enough to capture the liquefied natural gas opportunity before it evaporates?

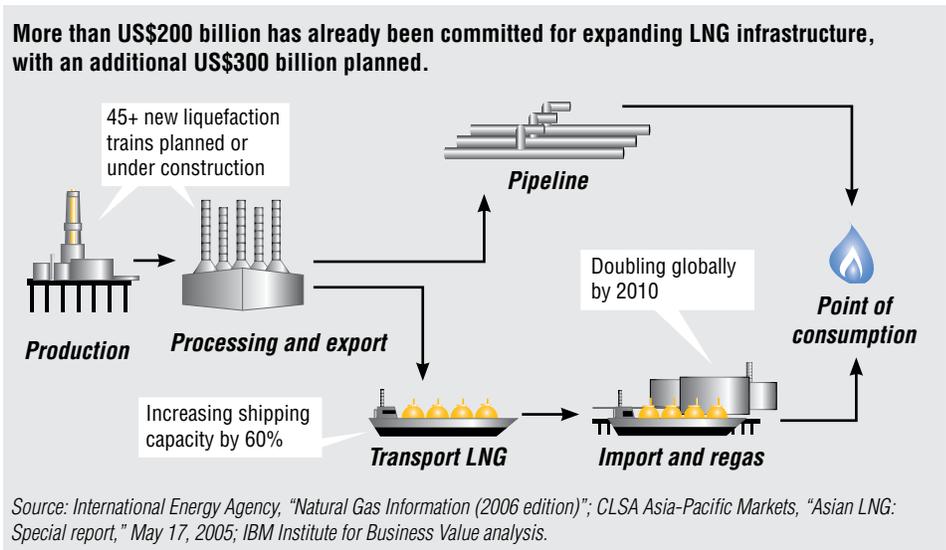
The market for liquefied natural gas is currently experiencing significant growth, thanks to rising global energy demand. The exact extent of this windfall, however, is difficult to project, given the volatility of natural gas prices and the availability of competing fuels. To capitalize on this window of opportunity, investors must mobilize quickly and establish flexible business and operational models for a very unpredictable, high-stakes future.

The global market for liquefied natural gas (LNG) is expected to double over the next five years.¹ Not surprisingly, investors are anxious to grab their share of this growth. Energy prices of late have made it economically feasible to invest in LNG. However, the same high prices that have spurred frenzied investment in LNG may become detrimental to the industry. International Energy Agency forecasts suggest that if natural gas prices persist at higher levels, consumers may turn to other fuels, causing global demand for natural gas to level off after 2010.² The question is: can investors scale their LNG infrastructure quickly enough to capitalize on a bubble of opportunity? And equally important, how can they make their businesses flexible enough to withstand the cyclic nature of this industry long term?

Uncertainty, complexity and risk

The LNG business is plagued by uncertainty, complexity and risk. Demand for LNG is caught in a tug-of-war between natural gas and oil, with threats of substitution. It's becoming inordinately more

difficult to manage the LNG supply chain and protect its distributed liquefaction and regas facilities. Long-term contracts are giving way to a commodity market. The business complexity is matched only by the financial stakes involved. The price tag for a gas liquefaction plant, for example, can total in the billions. Because of the risk, much of the industry investment is managed through joint ventures. The joint venture structure, in turn, complicates visibility of investments, assets, inventory and financials, and each investment partner brings to the venture its own business practices and technology standards, increasing the challenge.





Early readiness, enduring flexibility

So how can industry players and nations protect the investments and mitigate the risk amid the complexity? It is important for LNG ventures to focus on actions that can accelerate successful scale-up, while positioning themselves for long-term flexibility. We believe investment partners should consider four key actions early in the joint venture process:

- *Focus constrained joint venture resources* – Investors need to focus resources on the most strategic areas of the LNG business as well as those that carry the risks, and partner in areas of the business better performed by others.
- *Instill a culture of safety* – Safety must be a core value designed into the business from the start. Every decision the joint venture makes – from where facilities are located to who they partner with – should involve a safety element.

- *Increase visibility for faster decision making* – All partners need access to the same set of operational, financial, logistical and asset management information to facilitate faster decision making and more timely response to business changes.
- *Establish a reusable business model and associated infrastructure* – New joint ventures create an entrepreneurial environment in which they can adopt industry-leading processes, practices and technologies to create flexible business models and reusable components for future ventures.

Early readiness, particularly in these four action areas, can help investors move quickly enough to capture the LNG opportunity, while remaining flexible enough to thrive amid a chaotic and cyclic industry.

© Copyright IBM Corporation 2009

IBM Global Services
Route 100
Somers, NY 10589
U.S.A.

Produced in the United States of America
January 2009
All Rights Reserved

IBM, the IBM logo and ibm.com are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both. If these and other IBM trademarked terms are marked on their first occurrence in this information with a trademark symbol (® or ™), these symbols indicate U.S. registered or common law trademarks owned by IBM at the time this information was published. Such trademarks may also be registered or common law trademarks in other countries. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at ibm.com/legal/copytrade.shtml

Other company, product and service names may be trademarks or service marks of others.

References in this publication to IBM products and services do not imply that IBM intends to make them available in all countries in which IBM operates.

To request a full version of this paper,
e-mail us at iibv@us.ibm.com

How can IBM help?

- **Strategy and Change:** Help to address changing business models and partnering
- **Selected Industry Solutions:** Solutions providing new answers and breaking new ground by applying leading technologies including enterprise systems, asset management, large-scale project management, analytics and dashboards, and knowledge management
- **IBM products:** Innovative products to support the chemical and petroleum industries

Key contacts:

Global

Americas

Northeast Europe

Southwest Europe

IBM Institute for Business Value

Steve Edwards, steve.edwards@uk.ibm.com

Dixie Adams, dixiea@us.ibm.com

James Kulbeda, jim.g.kulbeda@us.ibm.com

Tommy L Eubanks, tom.eubanks@us.ibm.com

Axel Preiss, axel.preiss@de.ibm.com

Jeremie Caullet, jeremie.caullet@fr.ibm.com

Penny Koppinger, pkopping@us.ibm.com

References

1 "Natural Gas Information (2006 edition)." International Energy Agency.

2 Ibid.