



**OTC 19510**

## **LNG Imports into North America and Implications<sup>1</sup>**

Mike Juden/McKinsey & Co., Inc. – North America, Tommy Inglesby/McKinsey & Co., Inc. – North America, Scott Nyquist/McKinsey & Co., Inc. – North America, Stuart Bodden/McKinsey & Co., Inc. – Asia, Dieuwert Inia/McKinsey & Co., Inc. – Europe, and Morten Jørgensen/ McKinsey & Co., Inc. – Europe

Copyright 2008, Offshore Technology Conference

This paper was prepared for presentation at the 2008 Offshore Technology Conference held in Houston, Texas, U.S.A., 5–8 May 2008.

This paper was selected for presentation by an OTC program committee following review of information contained in an abstract submitted by the author(s). Contents of the paper have not been reviewed by the Offshore Technology Conference and are subject to correction by the author(s). The material does not necessarily reflect any position of the Offshore Technology Conference, its officers, or members. Electronic reproduction, distribution, or storage of any part of this paper without the written consent of the Offshore Technology Conference is prohibited. Permission to reproduce in print is restricted to an abstract of not more than 300 words; illustrations may not be copied. The abstract must contain conspicuous acknowledgment of OTC copyright.

---

### **Abstract**

The need for LNG to fill the natural gas supply gap in North America may increase dramatically to 2015 and beyond as natural gas demand increases at rates higher than most observers expect. Developing CO<sub>2</sub> legislation, increasingly advantaged gas-fired generation, oil sands demand, and biofuels demand could drive a greater than expected demand for natural gas domestically, with LNG imports expected to fill the gap.

However, LNG liquefaction is expected to continue to be short to 2015 and beyond. These shortages are driven by increasing liquefaction costs, contractor/crew shortages, reserve access issues, project delays, and the often overlooked increasing domestic demand in the LNG exporting countries. Increasingly, LNG contracts will include flexible diversion clauses allowing movement of LNG supplies to markets other than originally contracted markets. Although there is some baseloaded North American LNG, significant LNG is attracted to North American regas based on price/producer-net-backs when other regions have adequate supplies to meet needs. The trend toward greater LNG flexibility could strengthen the linkage in North American natural gas pricing to alternate fuels through competition with Europe for LNG volumes priced at residual fuel oil and eventually with Asian crude-linked LNG.

North America will compete with Europe and Asia for marginal LNG supplies unless European end users have over-contracted for LNG, which may well be the case. European and Asian end users, with based-loaded LNG, will retain LNG supplies, when needed, to fill supply needs irrespective of price. Over-contracted European LNG, if it were to flow to North America, would represent approximately 10 percent or more of U.S. and Canadian demand in 2010 and would go a long way in meeting a potential supply short-fall. With LNG at the margin, mechanisms impacting the level of North American LNG imports influence natural gas pricing, which in turn impacts gas producer and power generator profitability and company valuations.

### **Introduction**

North American natural gas demand, domestic supply, natural gas price setting mechanisms, Atlantic Basin pricing dynamics, and contracting regulations and practices for electric and natural gas utilities all impact the level of LNG imported into North America. The resulting flows of LNG, especially into the U.S., have very significant implications for the global LNG trade, as well as substantial and far-reaching implications for producers, LNG developers, end users, and policy-makers.

CO<sub>2</sub> legislation, power generation, oil sands, and ethanol demand for natural gas will primarily drive North America natural gas demand through 2015 and beyond. Lower 48 production is generally expected to be flat to slightly increasing, with more of a shift to unconventional production. Canada will export far less natural gas volume to the U.S. as oil sands demand for natural gas dramatically increases and Western Canadian natural gas supplies, including CBM, stagnate or decline around 2013. As a result, we expect combined U.S. and Canadian demand to increase at an annual growth rate of around 2.6 percent between 2007 and 2015. Assuming flat production in the U.S. and Canada, the potential resulting supply gap would be around 22 Bcfd in 2015. We would

---

<sup>1</sup> Unless otherwise noted, this paper is based on research/observations from McKinsey & Company, Inc.