AIMS Commentary
Atlantic Institute for Market Studies

The LNG Window of Opportunity: Opened or Closed?

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When AIMS first examined LNG in 2005, it identified an emerging issue that continues to be a key factor in liquefied natural gas (LNG) markets today: first mover advantage. Those regasification projects that are first to secure available long-term supplies, market share and infrastructure have a greater chance of success. In North America, this factor is more important than ever. In addition, limited access to resources in politically challenging or remote locations, new supply delays, and rising costs against a backdrop of escalating worldwide demand create new challenges for many projects.

Liquefied natural gas (LNG) is a cold liquid form of natural gas. By cooling this energy source to -160ºC, the volume is reduced 600 times. This makes transportation easier enabling remote, otherwise low value natural gas production to be connected to high value consuming markets through liquefaction and shipping by specially designed large ocean tankers.

North America could be on its way to becoming a major importer of LNG. Growing demand for electricity generation and the prospect of declining conventional production have made LNG an attractive source of additional natural gas supply.

In early 2008, there were still 60 proposed and potential LNG regasification projects in North America, which is virtually unchanged from 2005. Over half of the projects have received regulatory approval and many have proceeded to the construction phase. However, most industry analysts project the market will only be able to support 10 to 12 terminals. The rapid evolution of the global LNG market and supply constraints are changing the economics for many projects even as they proceed to construction.

This Commentary examines global demand and supply for LNG, and changing market dynamics in North America. It considers implications for LNG facilities in Atlantic Canada. At least one terminal in the region, Canaport LNG, is well positioned to enjoy first mover advantage. The other, Maple LNG, to start up in 2010, is in the process of securing supplies.

A key issue in the next five years is whether there will be sufficient LNG supply entering the terminals to make them economic. An evolving global LNG market, excess terminal capacity, tight supply availability and disparate regional prices are factors that complicate the economics for many terminal projects in North America.

Global demand for LNG is being fast-tracked

Global natural gas demand grew by 2.5% in 2006 with China's increase of more than 20 per cent leading that growth.[1] Russia, the second largest consumer of natural gas after the United States, is also increasing its appetite for this cleaner burning fuel. Much of the increase will continue to come from Asia and Europe, where natural gas penetration is still relatively small compared to that of North America. Economic growth, changes in the energy consumption mix as a result of resource availability and environmental policy, and supply diversification to enhance energy supply security are major factors behind the increasing use of natural gas.

Gas import dependency is expected to increase in all major markets, including North America, Europe and Asia, but in particular in India and China, which represent newer and robust markets for LNG. Global LNG markets are entering a new phase of accelerated growth. From 1990 to 2005, growth averaged six per cent per year. From 2006 to 2007, the increase in LNG demand almost doubled to 11 per cent. Much of the rise came from Asia which now comprises two-thirds of world LNG trade. While still a small player in the global LNG market, North American demand jumped 47 per cent.

The demand for LNG is expected to more than triple from seven trillion cubic feet (Tcf) in 2006 to 25 Tcf in 2015. Europe is expected to increase its dependency on gas imports to 70 per cent of supplies by 2015.[2] The largest growth will come from the United States where LNG imports are expected to grow from two per cent share of the total gas supplies to 12 per cent (2.9 Tcf) in 2030.[3] Global growth could be even higher if governments implement policies to reduce greenhouse gas emissions. If countries like China, which consumes 70% of the world's coal, were to increase natural gas' share of its energy mix, additional demand could cause large swings in global supply/demand balances. Security of energy supply for gas import dependent nations has become a key strategic issue.

Supply tightness and project delays

Project delays, difficulty in sourcing necessary inputs, and challenging regulatory environments in much of the world have led to tightening in gas supplies.

Significant projects in Russia, Africa and Australia that were to provide a large part of the world's incremental supplies to 2012 have been delayed. In December 2007, the Governor of the Sakhalin region acknowledged that gas supplies from the $20 billion Sakhalin project, the largest gas project in Russia's history, will not be available until spring 2009, a full year behind the planned start-up date. Other areas including Atlantic LNG's production facilities in Trinidad and Tobago are operating at full capacity.[4]

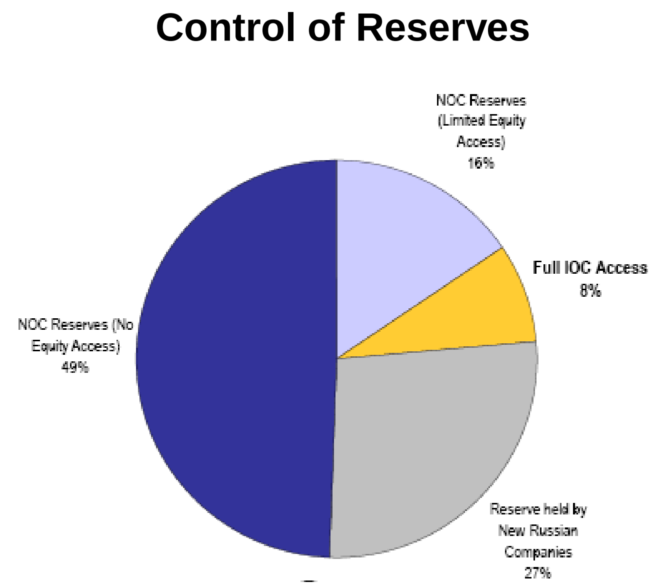
The shortage of skilled technical expertise and escalating costs for labour and equipment are major factors behind the delays. Much of the risk surrounding engineering, procurement and construction delays are being transferred to the project sponsors, as this liability has become too expensive to be shouldered by the major contracting firms. Some projects must now renegotiate fiscal terms, gas supply agreements, and partnership arrangements before proceeding.

In addition, changes in equity access by integrated oil and gas companies and the amounts of money that governments are demanding in resource rents have made supply negotiation with national oil companies (NOCs) complex. Stiffer terms set by producing and exporting countries and tighter competition for natural gas price indexed LNG cargoes are changing the economics of LNG receiving terminals. This will continue to be a major challenge in the industry as the vast majority of known gas reserves in the world are owned by NOCs in countries where governments fully

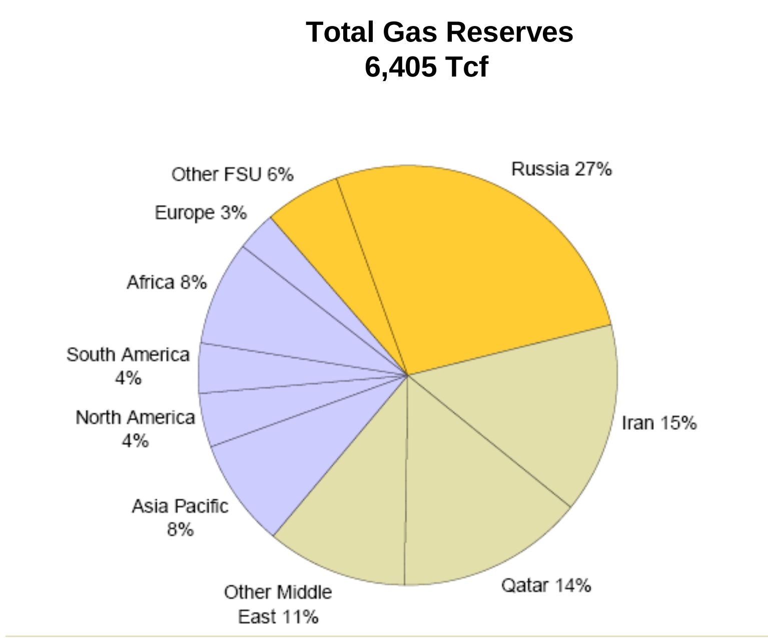
[1] BP Statistical Review 2006, released June 2007.
[2] S. Simmons, 2007. Wood Mackenzie Industry Outlook Presentation. June.
[3] Energy Information Agency (EIA) 2007, Energy Outlook, Early Release. Washington DC: Department of Energy. December.

[4] Platts 2007 LNG Daily, January 12.

control oil and gas interests. It is noteworthy that half of the world's current known gas reserves are in Russia, Qatar and Iran, where there are challenging political issues.



Source: Sempra Energy based on PFC, 2007[5]



Source: BP Statistical Review 2007

[5] Hulse, Darcel 2007. Sempra Energy LNG Presentation, Analyst Conference, March.

There is also the larger issue of identifying gas supplies suitable for LNG development. Global proven natural gas reserves were 6405 Tcf at the end of 2006,[6] with 33 per cent of this amount in Russia and the former Soviet Union. Iran accounts for 15 per cent of total world reserves, followed closely by Qatar with 14 per cent. The large numbers mask the fact that only a small portion of these reserves will ever be brought to market.[7] Many, notably those in Russia, are in remote locations requiring significant investment in production technology, transportation and pipeline infrastructure for the volumes to be connected to markets.

Comparing global LNG prices

The majority of LNG traded is indexed to oil prices. Oil prices broke the $100/barrel (bbl) range at the end of 2007, to average $72/bbl that year, compared with $55/bbl in 2005. Prices are more susceptible to large swings because of tight supply/demand balances and global uncertainty. Tighter inventories and strong demand growth have kept oil prices high, particularly against the backdrop of persistent political tensions, the low US dollar, and increased activity in speculative futures trading.

Three years ago proposed project economics depended on the assumption that North America would be the first-choice market for LNG suppliers because prices had reached par with Europe and Asia. Since October 2007, the capacity utilization rate of US LNG terminals has averaged 20 per cent and volumes in February 2008 remained at the lowest levels in four years.[8] LNG prices in Europe and Asia, which are indexed to oil prices, had doubled year over year and commanded a premium of more than $3/million cubic feet (MMcf) above US prices. Henry Hub gas prices, to which US LNG prices are indexed, were driven lower by continental surpluses, high storage levels, and a deeply liquid market. This resulted in LNG shipments destined for the US gas markets being diverted to higher-priced European and Asian markets.

Potential LNG buyers must now compete against Asian buyers who are willing and able to pay premium prices for spot volumes to balance demand. The current sellers' market is expected to persist for LNG, likely beyond 2011. At the same time, very little LNG is contracted to end-users in the United States. If demand outside the U.S. exceeds baseload contracted supplies and foreign consumers are willing to pay higher prices than those in the U.S., cargoes might be diverted to those markets, leaving U.S. LNG terminal capacity underutilized. The U.S., with its large, competitive natural gas marketplace at Henry Hub and significant storage capacity, is expected to be a "swing market", by acting as a conduit to balance global supply/demand balances in the next several years.[9]

Changing North American supply dynamics

Increases in efficiency from new technology are behind the significant advances in non-conventional production. High natural gas prices in the past two years have allowed natural gas producers/operators to increase production efficiencies in the Gulf of Mexico and from tight sands gas (natural gas extracted from unconventional reservoirs) in the Rocky Mountain states. Rocky Mountain producers are poised to have the greatest gains through 2015 and beyond.[10]

The Rockies Express Pipeline is expected to bring 1.8 Bcf/day of new gas supplies from Colorado to Ohio by early 2009. This project represents the single largest pipeline in North America to be completed in the last twenty years. The recently proposed Northeast Passage Project could take the gas the rest of the way to the northeastern United States as early as 2011. Project proponents also are looking at opportunities to take regasified LNG from the Gulf Coast to the northeast. These projects, which allow previously unproduced volumes to

[6] BP 2007.
[7] Foss, Michelle Michot 2007. "United States Natural Gas prices to 2015". Oxford Institute for Energy Studies NG 18. February.
[8] EIA.
[9] Foss, Michelle Michot 2007. "United States Natural Gas prices to 2015". Oxford Institute for Energy Studies NG 18. February.
[10] National Petroleum Council 2003.

be accessed from the west, may significantly alter pricing dynamics and the price of LNG.

US production has shown increasing efficiency despite falling prices. Since September 2007 total U.S. production reversed its decline with growth in unconventional production more than offsetting declining conventional production. There is also significant interest in developing production in Alaska. Continued increases in overall production will depend on the producers' ability to sustain drilling successes and realize economies of scale at a time of rising material and labour costs[11] and whether these gains are sufficient to leave long lasting effects on future supply.

Still, even with the most robust US production rates, the expected decline in Canadian exports to the United States leaves significant opportunities for LNG imports to satisfy growing North American gas demand. The National Energy Board expects Canadian exports to be less than 6 Bcf/day by 2015 compared to 9 Bcf/day in 2005. Canada's expected diminishing role as a natural gas exporter is driven by two factors: a decline in conventional gas production and increased oil sands demand which will keep more gas in Alberta.[12] Older fields have become less productive over time while new wells experience lower initial production rates and steeper production decline rates. Upstream cost escalations (including labour) combined with lower gas prices and changes to Alberta's royalty regime have resulted in reductions in exploration and production capital spending.

United States imports of Canadian natural gas will be further reduced by burgeoning demand for gas used in the mining, extraction and upgrading of Alberta's *in situ* oil sands. Natural gas usage for oil sands is expected to triple from 1.2 Bcf/day in 2007 to 3 Bcf/day by 2020.[13]

Access to additional northern, offshore, and unconventional gas and LNG imports is being considered. However, timing remains uncertain as rising costs also have caused substantial delays to gas pipeline projects from the North. ExxonMobil, a participant in both the Mackenzie Delta gas project and Alaska's North Slope project, is not expecting either project to be onstream before 2020, as opposed to previous projected in-service dates of 2014 and 2018, respectively.

Slower North American demand growth

North American natural gas demand may not grow as quickly as previously thought. In its Annual Energy Outlook 2008 the United States' Energy Information Administration (EIA) called for reduced expectations in U.S. gas demand to 2030. The largest change is attributed to the industrial segment, which has become more efficient as a result of the high prices in late 2005. Investment in technology and relocating plants to areas where gas is cheaper has resulted in a permanent shift in industrial gas demand, which will likely not be reversed.

Most of the increase in U.S. gas demand will come from gas-fired electricity generation on the U.S. east coast, but even that demand will remain relatively flat to 2010, reflecting slower than expected economic growth. Beyond 2010, gas-fired electricity generation may face competition from clean coal technologies and nuclear power. U.S. gas demand will continue to grow from 21.8 Tcf in 2006 to 23.2 Tcf in 2010, reaching 23.4 Tcf in 2030.[14]

Implications

There are two projects at different stages of progress in Atlantic Canada. Irving Oil and Repsol's Canaport LNG at Saint John, New Brunswick, is under construction with an expected onstream date by late 2008. Maple LNG, an LNG facility with a petrochemical processing plant located in Goldboro, Nova

[11] Foss, 2007.
[12] The National Energy Board (NEB) has continued to revise downwards its forecast of annual average Canadian gas deliverability. It currently estimates Canadian gas deliverability to be 16.8 Bcf/day in 2007 and 16.4 Bcf/day in 2008.
National Energy Board 2007. Canada's Energy Future: Reference Case and Scenarios to 2030 November.

[13] Canadian Association of Petroleum Producers 2007.
[14] EIA, 2007.

Scotia, is in the process of negotiating supplies and seeking various regulatory approvals for start-up in 2010.

In addition, as depicted in the table below, there are a total of 10 Bcf/day of projects proposed for the northeast United States.

Proposed LNG Projects in Atlantica

Atlantica Projects - Proposed Northeast US Terminals	Location	Capacity Bcf/d	Supply Source	Startup
Northeast Gateway (Excelerate Energy)	Gloucester, Mass.	0.8	Spot Cargoes	2008
Cove Point LNG	Cove Point Maryland	0.8	Trinidad	late 2008
Crown Landing	Logan Township NJ	1.2	Trinidad	2009
Neptune LNG (Suez LNG)	Boston	0.75	Trinidad and Tobago, Algeria, Qatar, Yemen, Nigeria	2009
Broadwater Energy	Long Island NY	1	Possibly Qatar	2010
Weaver's Cove	Fall River Mass	0.8	Unknown	2011
Downeast LNG	Robbinston, ME	0.5	Not known	2010/2011
Quoddy LNG	Split Rock, ME	2	Possibly Trinidad and Tobago	2009-2010
Safe Harbour	Long Island NY	1.25	Not known	2010
Sparrows Point LNG (AES)	Sparrows Point, MD	1.5	Not known	2010
Total US Northeast		**10.6**		
Atlantic Canada Proposed Terminals				
Canaport LNG	Saint John NB	1	Trinidad and Tobago, Algeria	2008
Maple LNG	Goldboro NS	1	Not Known	2010
Total Atlantic Canada		**2**		
Total Atlantica		**12.6**		
Source: FERC, Platts LNG				

Burgeoning global natural gas demand growth, coupled with tight supplies in an illiquid market, could result in excess capacity for North American terminals. What do these shifting dynamics mean for the projects in Atlantica – the northeastern North America region which includes Atlantic Canada, the south shore of Quebec, the northern tier of the New England states, and upstate New York?

If all the proposed projects were to be built, the amount of capacity available would far outweigh demand. Supplies entering this region from the U.S. Gulf Coast by pipeline currently amount to about 4.5 Bcf/day. Existing and proposed LNG terminals to supply this region add another 12 Bcf/day. This would result in a potential of 16.5 Bcf/day to a market that is only expected to grow to 6 Bcf/day by 2015.

Much of the proposed capacity is intended to receive volumes for peak demand.[15] Underutilized capacity will present opportunities for arbitrage,[16] especially as more undedicated volumes come to market beyond 2010 and destination flexibility is built into new and renegotiated contracts. In the meantime, capacity utilization for existing terminals and those scheduled to start-up in the next year may remain low if UK and Asia forward prices continue to be higher than Henry Hub.

Projects could be challenged by an uneven supply picture. Long lead times and delays in liquefaction projects could imply scarcity of worldwide LNG supplies. Prices will continue to be bid up in times of shortage, causing it to be economical for shippers to divert cargoes to higher priced markets, even if supplies are under contract.[17] If the North American market desires additional LNG, it may have to pay a premium above Henry Hub prices for LNG volumes to be landed in North America if

[15] This is additional utility gas demand required for heating homes during cold temperatures and gas-fired electricity demand required for space cooling during the hottest days of the summer months.

[16] The purchase of LNG volumes from one market for immediate resale to another market in order to profit from a price discrepancy.

[17] In 2007, BG, a leading global LNG player remarketed more than 1/3 of its cargoes to capture higher prices. - The BG Group presentation, London, 07 February 2008.

European and Asian prices are above U.S. prices.

Given the recent project delays, there could be a production supply surge after 2013 if all projects proceed. If worldwide LNG prices fall below North American prices, LNG imports may rise further, resulting in weaker North American gas prices.

Security of supply may become the single most important issue in the next several years. When many of the terminals were proposed, the key issue was how to monetize stranded gas, and find a market where gas could be sold to justify the investment. At the same time, suppliers were concerned about security of demand. In 2008 a supply constrained environment and escalating costs have meant the end of cheaply produced gas. With Asia, Europe and North America competing for the same supplies, the issue now becomes who will pay the highest price. Baseload demand and assured supplies will continue to be paramount to terminal economics.

As global LNG markets evolve and trade among these markets increases, there likely will be spare capacity, and this could significantly impact the success of some proposed projects. There could be a major project shakeout as first movers secure available supplies, infrastructure and pipeline capacity.

Projects for second movers might be delayed beyond 2010 until supplies are secured. A key risk associated with delayed project start-up is that the economics of regasification terminals may change further with the continued evolution of the global LNG markets. Wild cards include:

- timing of increase in worldwide supply surge vis-à-vis changing global demand conditions;
- unexpected changes in demand from China and India which could further alter global supply demand balances;
- North American frontier gas enters the market;
- continued success in gas production;
- northeast market access to additional volumes from the US Rockies;
- changes in regulatory policy to address greenhouse gas emissions that could impact natural gas demand; and
- US imports from Mexico.

In our last paper[18] we identified the critical success factors for LNG terminals. A project would have a better chance of proceeding if it satisfies the following criteria:

- be located close to consuming markets;
- have local support;
- satisfy safety criteria;
- be located in a jurisdiction with a stable business and regulatory environment;
- have access to pipeline transportation to move gas to markets;
- have deepwater accessibility all year round;
- have access to storage to mitigate demand swings;
- have access to reliable long term supplies; and,
- have well structured contractual agreements that would mitigate supply, market and other risks.

The last critical success factor has become challenging for some projects. How are some LNG proponents mitigating the market risks? Some seek partnerships with entities that have ownership interest or participate in multiple parts of the LNG value chain, including liquefaction facilities, shipping capacity, regasification facilities, pipelines, storage and end-use markets.

Some energy companies focus on selling long-term capacity to parties seeking a specific market. In some new project proposals, long term supply contracts underpin at least 50% of regasification capacity – which helps mitigate the risk in capacity utilization.

Participants also partner with global energy companies with a portfolio of supplies including those that are undedicated. Leveraging on transportation infrastructure, these companies

[18] Angela Tu Weissenberger, 2006. Casting a Cold Eye on LNG. Atlantic Institute for Market Studies.

are in a unique position to optimize arbitrage opportunities.

Some companies build multiple regasification terminals in Europe and the U.S. to optimize arbitrage opportunities. They recognize that intra-basin competition will continue to exist with prices that are driven by a disparate set of factors.

Other terminal sponsors seek partnerships with entities that procure LNG for own use and marketing, or market LNG for national oil companies that do not have presence in a specific market.

In terms of first mover advantage, where does Atlantica stand? Canaport will likely be among the first new LNG receiving terminals to be built on the east coast of North America.

Another project, Northeast Energy Bridge near offshore Boston owned by terminal developer Excelerate Energy, will begin receiving spot volumes in early 2008.[19] Local support, a deep water port to accommodate larger tankers, year round access to supplies, and secured transportation to US Northeast markets are major factors behind Atlantic Canada's first mover advantage. Canaport's major shareholder and operator, Repsol, has among the largest amount of contracted supplies worldwide, along with ownership of production facilities.

Maple LNG is in the process of securing supplies and seeking regulatory permits for startup in 2010. The ability to secure reliable supplies, find end users, and obtain competitively priced pipeline transportation access to markets will likely determine whether the project is a successful second mover. Storage facilities are being proposed for Alton, Nova Scotia to store revaporized LNG from various planned terminals. The project is still subject to several regulatory approvals.

Atlantic Canada's advantage is also bolstered by its geographic location and its natural trade ties in Atlantica. The northeastern United States may end up benefiting from additional security of supply without having numerous LNG facilities situated in this highly populated region. At the same time, Atlantic Canada could benefit from increased investment activity and potential access to gas supplies to diversify its energy mix and grow its economic base.

Conclusion

The global market for LNG is changing rapidly as more new players enter the market. Increased competition for supplies may mean that the amount of LNG entering the North American markets could vary from year to year. In the past twelve months there have been project delays because of failure to procure supplies. We expect to see more delays in the coming year as global LNG demand increases and supplies remain tight.

Even if the projects are able to secure the supplies, key questions remain for some North American terminals regarding at what prices supplies will come, and whether the projects are economic with fluctuation in utilization capacity. In 2007 the average terminal utilization rate dipped as low as 20%.

If the divergence between the price of oil and US natural gas continues to persist, we can expect more cargoes to be diverted to higher priced markets. The EIA expects North American terminal utilization to be at 35% through 2013.[20]

Atlantic Canada may well be on its way to becoming a first mover in the North American LNG market.

Canaport has access to supplies through its partner Repsol, an integrated European gas company with large supplies and multiple regasification terminals. Canaport has transportation access to the fastest growing market in the United States. It is in the process of applying for its final regulatory permits

[19] Subject to US Coast Guard operating permit. In February 2008, RWE, an integrated European energy firm agreed to buy 50% stake in Excelerate.

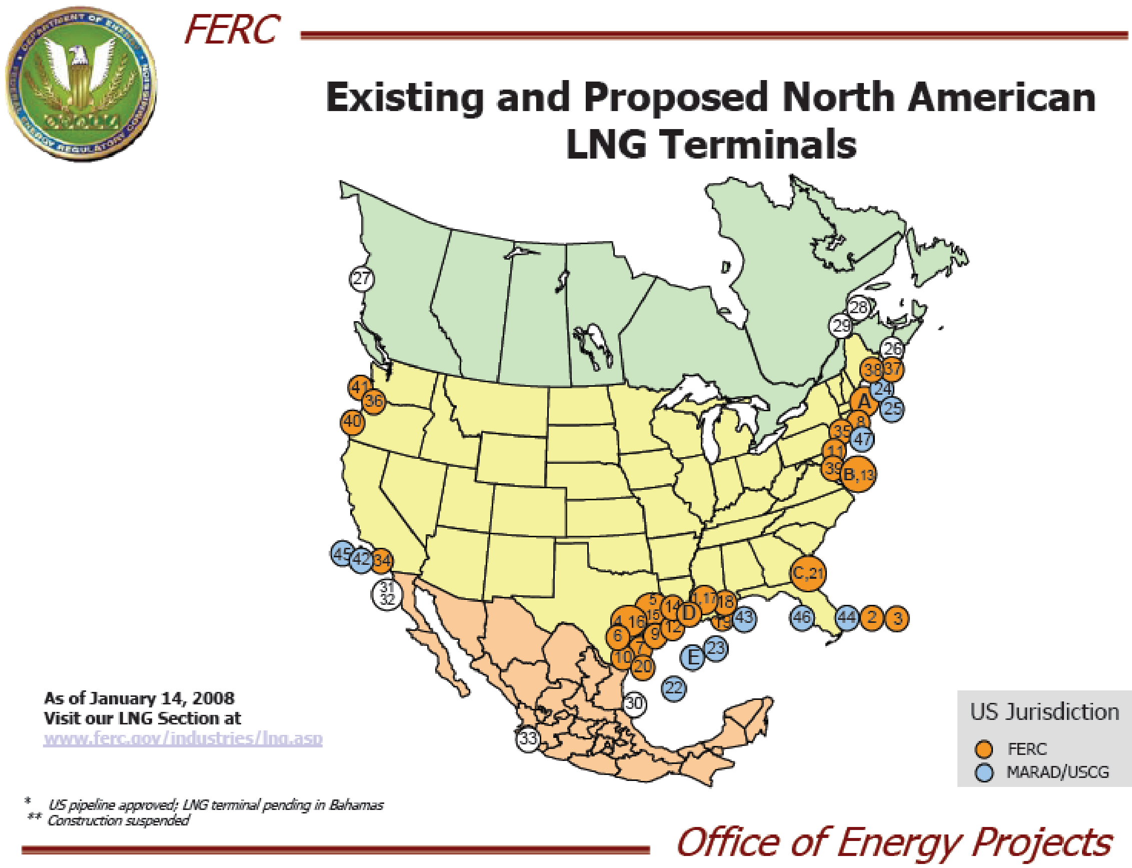
[20] Energy Information Agency (EIA) 2007, Energy Outlook, Early Release. Washington DC: Department of Energy. December.

including import/export licences from the National Energy Board. As the industry expands, the project may well be able to keep its cost advantage from economies of scale.

However the next three to five years may not be entirely smooth. Canaport, like other early movers, may have to live with the fluctuating utilization rates from swings in supply as the global LNG market emerges.

Angela Tu Weissenberger *leads a consulting practice that provides strategic, economic, and competitive advice for market growth and access to capital. She has led a number of projects identifying business opportunities in energy, banking, commercial real estate, transportation, manufacturing, and other industries critical to the North American economy.*

Appendix



Source: Federal Energy Regulatory Commission

Existing and Proposed North American LNG Terminals

CONSTRUCTED

A. Everett, MA : 1.035 Bcfd (DOMAC - SUEZ LNG)
B. Cove Point, MD : 1.0 Bcfd (Dominion - Cove Point LNG)
C. Elba Island, GA : 1.2 Bcfd (El Paso - Southern LNG)
D. Lake Charles, LA : 2.1 Bcfd (Southern Union - Trunkline LNG)
E. Gulf of Mexico: 0.5 Bcfd (Gulf Gateway Energy Bridge - Excelerate Energy)

APPROVED BY FERC

1. Hackberry, LA : 1.8 Bcfd (Cameron LNG - Sempra Energy)
2. Bahamas : 0.84 Bcfd (AES Ocean Express)*
3. Bahamas : 0.83 Bcfd (Calypso Pipeline)*
4. Freeport, TX : 1.5 Bcfd (Cheniere/Freeport LNG Dev.)
5. Sabine, LA : 2.6 Bcfd (Sabine Pass Cheniere LNG)
6. Corpus Christi, TX: 2.6 Bcfd (Cheniere LNG)
7. Corpus Christi, TX : 1.1 Bcfd (Vista Del Sol – 4Gas)
8. Fall River, MA : 0.8 Bcfd (Weaver's Cove Energy/Hess LNG)
9. Sabine, TX : 2.0 Bcfd (Golden Pass - ExxonMobil)
10. Corpus Christi, TX: 1.0 Bcfd (Ingleside Energy - Occidental Energy Ventures)**
11. Logan Township, NJ : 1.2 Bcfd (Crown Landing LNG - BP)
12. Port Arthur, TX: 3.0 Bcfd (Sempra Energy)
13. Cove Point, MD : 0.8 Bcfd (Dominion)
14. Cameron, LA: 3.3 Bcfd (Creole Trail LNG - Cheniere LNG)
15. Sabine, LA: 1.4 Bcfd (Sabine Pass Cheniere LNG - Expansion)
16. Freeport, TX: 2.5 Bcfd (Cheniere/Freeport LNG Dev. - Expansion)
17. Hackberry, LA : 0.85 Bcfd (Cameron LNG - Sempra Energy - Expansion)
18. Pascagoula, MS: 1.5 Bcfd (Gulf LNG Energy LLC)
19. Pascagoula, MS: 1.3 Bcfd (Bayou Casotte Energy LLC - ChevronTexaco)
20. Port Lavaca, TX: 1.0 Bcfd (Calhoun LNG - Gulf Coast LNG Partners)
21. Elba Island, GA: 0.9 Bcfd (El Paso - Southern LNG)

APPROVED BY MARAD/COAST GUARD

22. Port Pelican: 1.6 Bcfd (Chevron Texaco)
23. Offshore Louisiana : 1.0 Bcfd (Main Pass McMoRan Exp.)
24. Offshore Boston: 0.4 Bcfd (Neptune LNG - SUEZ LNG)
25. Offshore Boston: 0.8 Bcfd (Northeast Gateway - Excelerate Energy)

CANADIAN APPROVED TERMINALS

26. St. John, NB : 1.0 Bcfd (Canaport - Irving Oil/Repsol)
27. Kitimat, BC: 1.0 Bcfd (Kitimat LNG - Galveston LNG)
28. Rivière-du- Loup, QC: 0.5 Bcfd (Cacouna Energy - TransCanada/PetroCanada)
29. Quebec City, QC : 0.5 Bcfd (Project Rabaska - Enbridge /Gaz Met/Gaz de France)

MEXICAN APPROVED TERMINALS

30. Altamira, Tamulipas : 0.7 Bcfd (Shell/Total/Mitsui)
31. Baja California, MX : 1.0 Bcfd (Energia Costa Azul - Sempra Energy)
32. Baja California, MX : 1.5 Bcfd (Energy Costa Azul - Sempra Energy - Expansion)
33. Manzanillo, MX: 0.5 Bcfd

PROPOSED TO FERC

34. Long Beach, CA : 0.7 Bcfd, (Mitsubishi/ConocoPhillips - Sound Energy Solutions)
35. LI Sound, NY: 1.0 Bcfd (Broadwater Energy - TransCanada/Shell)
36. Bradwood, OR: 1.0 Bcfd (Northern Star LNG - Northern Star Natural Gas LLC)
37. Pleasant Point, ME : 2.0 Bcfd (Quoddy Bay, LLC)
38. Robbinston, ME: 0.5 Bcfd (Downeast LNG - Kestrel Energy)
39. Baltimore, MD: 1.5 Bcfd (AES Sparrows Point – AES Corp.)
40. Coos Bay, OR: 1.0 Bcfd (Jordan Cove Energy Project)
41. Astoria, OR: 1.5 Bcfd (Oregon LNG)

PROPOSED TO MARAD/COAST GUARD

42. Offshore California : 1.4 Bcfd, (Clearwater Port LLC - NorthernStar NG LLC)
43. Gulf of Mexico: 1.4 Bcfd (Bienville Offshore Energy Terminal - TORP)
44. Offshore Florida: 1.9 Bcfd (SUEZ Calypso - SUEZ LNG)
45. Offshore California: 1.2 Bcfd (OceanWay - Woodside Natural Gas)
46. Offshore Florida: 1.2 Bcfd (Hoëgh LNG - Port Dolphin Energy)
47. Offshore New York: 2.0 Bcfd (Safe Harbor Energy - ASIC, LLC)

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