Uncertainties in the Case for the Pipeline: the “Gold Rush” for LNG Exports, and the Promise of Cheaper Alternatives

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North to South Pipeline Capacity:
350 mmcf /day Portland Natural Gas (half used) Northern NH to Dracut
833 mmcf/day Maritimes Northeast (300mmcf from offshore) to Dracut
Canaport LNG: A Can-Do Exporter, Consultancy Says

Gordon Jarosko May 21, 2014

More than a year after an eager East Coast provincial government named Canada’s lone liquefied natural gas (LNG) import terminal as a prime candidate to switch to revenue-generating exports, the plant refuses to be rushed into making the change.

The Nova Scotia energy department identified Canaport LNG as a logical Atlantic Canadian entry into overseas trade in a report that it commissioned by ICF Consulting Canada Inc. of Toronto and circulated widely early in 2013. The idea regained a flurry of attention in recent days as a potentially quick way to carry out political wishes in Ottawa and Washington, DC, to punish Russian behavior in the Ukraine by creating fresh competition against Siberian gas exports to Western Europe.

Canaport’s owners -- Spain’s Repsol YPF SA as 75% senior partner, and Irving Oil Ltd. with 25% -- greeted speculation that they are at last acting on the idea with stony silence, refusing comment and letting the regulatory record speak for itself. The record to date confirms that converting the plant, a six-year-old addition to Irving’s oil refinery in its hometown St. John. NB, is an option but sets no

LNG Export Proposal #1
Along with Canaport, the 14-year-old Maritimes & Northeast Pipeline (MNP) plays a central role in the armchair economic generals' hopes for the two provinces. Traffic on MNP changed radically since the line was built in 1999 for deliveries from the Sable Offshore Energy Project (SOEP) to Nova Scotia, New Brunswick and the New England states, the 134-page survey of market conditions said.

Production from SOEP has fallen to less than 150 MMcf/d from 550 MMcf/d due to natural depletion of the wells offshore Nova Scotia. Encana Corp.'s nearby, new Deep Panuke production platform is providing an initial burst of up to 300 MMcf/d, but the volume is expected to fall off swiftly as low gas prices prevent additional drilling to compensate for rapid drainage of the conventional reservoir, ICF said. Deep Panuke began full operations in December (see Daily GPI, May 13).

Repsol holds about three-quarters of MNP's delivery capacity. Canaport is linked to MNP by a pipeline from its site at the Irving refinery in the harbor at St. John. MNP and the Canaport connection have potential for reversal into an export network for blending production from the United States into offshore Canadian gas output into a united overseas export stream, said the consultants' encouraging report to the Nova Scotia government.

**Pipeline Reversal (Canada National Energy Board Application)**
The Downeast LNG import terminal, which has been long-planned for Washington County, ME, has come back to life as a bidirectional liquefied natural gas (LNG) import/export project, its backer said Friday.

And with plans to contract for 300 MMcf/d of firm pipeline capacity into New England, Downeast could pull a new long-haul pipeline into the gas-hungry region.

"Having a bidirectional facility will give us the ability to respond to market conditions and customer needs while increasing the supply of natural gas in the state, whether we are importing or exporting," said Dean Girdis, founder of Downeast.

"It's probably counter-intuitive," Girdis told NGI. "I know some people are saying, 'Wait, why would you export LNG from Maine? It's not a supply region.'"

During the winter, New England often finds itself short on gas and long on high prices for the commodity. Having the Marcellus/Utica shales almost in its backyard doesn’t help due to a lack of pipeline capacity.

Projects to address the problem are in the works. Portland Natural Gas Transmission System has its Continent-to-Coast Expansion, and Spectra Energy Corp. has the Atlantic Bridge project (see Daily GPI, June 20). Kinder Morgan's Tennessee Gas Pipeline is targeting New England, too (see Daily

LNG Export Proposal #2
Downeast Files at FERC for LNG Export/Import Project

Joe Fisher July 23, 2014

Downeast LNG (DELNG) has made its profiling request with FERC for its $2 billion bidirectional liquefied natural gas (LNG) terminal proposed for Robbinston, ME.

The project as currently conceived is a revamp of a previously proposed import-only project for the same site. The new project envisions a much smaller capacity for imports and adds natural gas liquefaction and export capability (see Daily GPI, June 20).

According to the filing, the facility would be able to produce up to 3 million tons per annum (mtpa) of LNG per year beginning in 2019-2020 for LNG buyers through a tolling model. DELNG recently increased capacity by 1 mtpa due to market interest, said Downeast founder Dean Girds. Construction is expected to begin in 2016. DELNG said it plans to submit free-trade agreement (FTA) and non-FTA export requests to the U.S. Department of Energy.

The project would be able to access gas from the United States as well as Canada, with supplies committed under fixed-price contracts or a floating index.

"The Downeast LNG Export Project will have the ability to access Canadian gas via the existing Maritimes & Northeast Pipeline-U.S. system that interconnects with that of Maritimes & Northeast Pipeline-Canada and accesses gas production in Nova Scotia," Downeast said in its filing at the Federal Energy Regulatory Commission (FERC). "It will also have the ability to access Canadian gas via the existing PNGTS [Portland Natural Gas Transmission System] pipeline system, which interconnects with TransCanada’s Trans Quebec & Maritimes Pipeline, which in turn interconnects with TransCanada’s Mainline, sourcing gas from Western Canada.

"Alternatively, the...project could also access U.S. and Canadian gas at Wright, NY, via the proposed Kinder Morgan (Tennessee Gas Pipeline) project or the existing TransCanada Mainline and the

FERC Docket is Now Open, for Northeast LNG
THE GOLDBORO LIQUEFIED NATURAL GAS (LNG) PROJECT WILL BE THE EAST COAST OF CANADA’S LNG EXPORT FACILITY. NORTH AMERICAN NATURAL GAS SUPPLIES WILL BE TRANSPORTED TO GOLDBORO, NOVA SCOTIA USING EXISTING PIPELINES AND EXPORTED BY SHIP TO INTERNATIONAL MARKETS.

The Goldboro LNG project consists of an LNG processing facility, storage tanks and marine works. The facility will be located at the Goldboro Industrial Park in Guysborough County, Nova Scotia, Canada. The natural gas supply feeding the project is to be delivered via the existing Maritimes & Northeast Pipeline, located directly adjacent to the project. The target markets for the LNG produced at the Goldboro LNG project are Europe, South America and Asia.

Goldboro LNG is a Pieridae Energy Canada project.

LNG Export Proposal #3
Market Volume and Liquidity Available in Atlantic Canada and the North East US:

M&NP is a 1,101-kilometre mainline transmission pipeline built to transport natural gas from developments offshore Nova Scotia to markets in Atlantic Canada and the northeastern US. A joint venture of Spectra Energy (77.53%), Emera Inc. (12.92%), and ExxonMobil (9.55%), M&NP is headquartered in Halifax, Nova Scotia and operates an additional business office in Waltham, Massachusetts.

The M&NP system consists of 30"/24" diameter underground mainline running from Goldboro, Nova Scotia through Nova Scotia and New Brunswick to the Canadian - US border near Baileyville, Maine. The pipeline continues through Maine and New Hampshire into Massachusetts where it connects with the existing North American pipeline grid at Dracut, Massachusetts. The pipeline also extends from Methuen, Massachusetts to Beverly, Massachusetts. M&NP also provides natural gas to downstream North American markets through interconnects with Portland Natural Gas Transmission System, Tennessee Gas Transmission, and Algonquin Gas Transmission.

Canada National Energy Board Application
Germany’s Eon to enter US physical gas markets
19 Apr 2013 17:19 (+01:00 GMT)

Dusseldorf, 19 April (Argus) — German utility Eon will start trading physical gas in the US in 2014 as part of a wider expansion in line with the development of the global LNG market.

The move into the US market will help to position Eon for the potential reshaping of the world market by exports of US shale gas, which is expected to begin in significant volume around 2017.

Eon, which is already active in financial gas and power markets in the US, will trade physical gas from its Chicago offices, where it is adding five traders. The Chicago desk will also start trading physical power in the fourth quarter of this year, largely to manage price risk around the group’s US renewable generation portfolio.

The new push into physical markets globally, which also includes a bigger presence in physical oil and Asian coal markets, forms the core strategy of Eon Global Commodities (EGC), the new trading unit that combines Eon Energy Trading and supply business Eon Ruhrgas.

“North American energy markets will be very interesting,” EGC chief commercial officer, global merchant trading and origination, Gareth Griffiths said. Eon’s presence in the US could include gas tolling agreements and storage trading, Griffiths said.

Eon is also expanding its presence in the Pacific market where it will focus on LNG and coal. Two more originators are expected to join the Singapore office, where two are already active. “The market has globalised,” EGC chairman of the board of management Klaus Schaefer said. “We have to be present in these markets in order to understand price setting globally.”

Eon has successfully built up its coal business and now plans to become more active in LNG, physical oil and in other markets including weather, Schaefer said.

Eon’s plan to grow its presence in global LNG markets comes as it develops a portfolio of regasification capacity in Europe, with bookings at the UK’s Isle of Grain, the Netherlands’ Gate facility in Rotterdam and OLT, a floating regasification terminal at Livorno in Italy. “We have to have the position to attract LNG,” Schaefer said. The European LNG market will be “difficult” in the near term but exports of US shale are expected to change the market in 2017-18, Schaefer said.

Send comments to: feedback@argusmedia.com

German Investment Firm Driving LNG Push
Natural Gas Forecast 2014

Natural Gas Price Forecast: Where We Are and Where We’re Going.

European Union Natural Gas Import Price: 9.27 USD/MMBtu for Jul 2014

Overview

European Union Natural Gas Import Price is at a current level of 9.27, down from 9.77 last month and down from 11.60 one year ago. This is a change of -5.12% from last month and -20.09% from one year ago.

Category: Energy
Region: European Union

Report: Commodity Markets Review
Source: World Bank

For advanced charting, view our full-featured Fundamental Chart

Prices for LNG sent to Europe down 20% in one year!
Gas users warn LNG exports may impact Canada's domestic supply

CALGARY – Dow Chemical Co. and other big manufacturers are bringing their fight
India’s energy imports may rise to $230 bn by FY23: Goldman Sachs

The country’s annual energy imports in the next decade would be driven up by economic growth, greater industrialization and urbanization.

Alternate Destination: India?
H-Energy’s planned LNG plant for Melford garners global clients

JOANNE ALBERSTAT BUSINESS EDITOR
Published: July 16, 2014 - 6:59pm

The developer of a proposed $3-billion LNG plant and export terminal in Melford, Guysborough County, says it’s already signed up multiple customers.

Indian company H-Energy said in a statement Friday it has memorandums of understanding for

LNG Export Proposal #4
Kinder Morgan is planning to file a pre-filing with the Federal Energy Regulatory commission in September, the first step toward a regulatory-approval process in which FERC will determine whether the new infrastructure is needed. If approved, the company plans to begin construction in January 2017 for the pipeline to be in service by November 2018.

Kinder Morgan representatives say the pipeline will meet a demand for a source of clean, affordable energy in New England.

"Multiple studies continue to suggest there is a need for up to 2 billion cubic feet per day of new pipeline capacity into New England and neighboring markets, and the commitment by the LDCs represents a critical milestone in the development of TGP's (Tennessee Gas Pipeline Company, a Kinder Morgan subsidiary) role in solving the need for new energy infrastructure," Watson's statement said.

"TGP provides unmatched supply diversity, including access to the prolific Marcellus shale, making the Northeast Energy Direct Project an ideal solution to satisfy rapidly growing natural-gas demand that is forecasted in the Northeast and New England in the years ahead."

The companies that have signed on to distribute gas through the pipeline include the Berkshire Gas Co., Columbia Gas of Massachusetts, Connecticut Natural Gas Corp., Liberty Utilities (EnergyNorth Natural Gas) Corp., National Grid and Southern Connecticut Gas.

Kinder Morgan is in the process of negotiating contracts with more gas-distribution companies, said Richard Wheatley, director of corporate communications.

Although some of the pipeline's opponents have said they're concerned a portion of the gas might be liquefied and exported to Europe or Asia for higher profits, Wheatley said that decision is ultimately out of Kinder Morgan's hands.

"I can't speculate on the ultimate destination of where the gas would go. It is entirely dependent on the customers that we have," Wheatley said. "We are an open-access pipeline and that means that customers can obtain capacity on the pipeline if it's built.

[SUN issued Correction last week, contracts not really signed yet]
B. Forecast Methodology and Results

1. Summary of Forecast Results

Berkshire's Normal Year Firm Sendout is expected to increase at a 1.6% compound annual growth rate ("CAGR") from 2014/15 through 2018/19 (the "Forecast Period"), while Normal Year Total Planning Load is expected to increase at a 2.3% CAGR during the forecast period. Residential demand is forecasted to increase by approximately 3.4% per year, and Commercial and Industrial ("C&I") demand is forecasted to increase by approximately 1.5% per year during the Forecast Period. The Normal Year Firm Sendout and Planning Load forecast results are summarized in the table below.

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<td>3,047,431</td>
<td>4,135,973</td>
<td>(80,601)</td>
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<td>7,119,792</td>
<td>1,633,484</td>
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<td>(245,320)</td>
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<td>7,529,482</td>
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<td>(297,559)</td>
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<td>1,614,271</td>
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<td>CAGR</td>
<td>3.4%</td>
<td>1.5%</td>
<td>-3.7%</td>
<td>1.6%</td>
<td>-0.3%</td>
<td>34.0%</td>
<td>-1.3%</td>
<td>2.3%</td>
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UIL Holding Corporation
- Berkshire Gas Co.
- Connecticut Natural Gas Corp
- Southern Connecticut Gas

Columbia Gas of Massachusetts (southeast MA)
National Grid (largest utility)
Liberty Utilities (EnergyNorth Natural Gas) Corp (Mostly NY)
Residential & Commercial Demand Increase:
0.5% to 3% CAGR -> 10 to 12 percent over 5 years

200 to 250 million cubic ft./day additional gas capacity

Power Plant Demand Increase:
Governor, Industry is claiming 8000 MW retirements. How much
Is coming on line? With 4500 MW coming online, 3500 MW is needed.

800 million cubic ft./day additional gas capacity
Tesla Gigafactory Is Underway: Cheap Energy Storage?

Aug. 5, 2014 4:37 PM ET | About Tesla Motors (TSLA), Includes: SCTY
Disclosure: The author has no positions in any stocks mentioned, and no plans to initiate any positions within the next 72 hours. (More...)

Summary

- Tesla & Panasonic Gigafactory seems to be underway.
- Such extreme capacity expansion will cause a ripple effect throughout the industry.
- The Gigafactory will push higher adoption of solar energy storage.

Tesla (NASDAQ:TSLA) announced last week it has signed an agreement with Panasonic which revealed some details of the cooperation to build the much

#1: Low cost Batteries
How much of the Brayton Point capacity would we save if all landlords and commercial buildings were required to make their buildings compatible with LED lighting by 2017 (installing new fixtures as needed) and if all cities and towns were required, with loan assistance from the state, to install LED street lamps by 2018?

#2: Light Bulb Cost Reductions
How does CHP Work?

Conventional power plant

Energy in 100% → Wasted energy 60-70% → Useful electricity 30-40%

CHP power plant

Energy in 100% → Wasted energy 10% → Useful electricity & heat 90%

#3: Replace Centralized Gas Generation with decentralized CHP
SolarCity’s prospects upbeat as Cuomo sees more state incentives
#3: Solar Costs Declining: Factory Coming to Buffalo, NY
Minn. Judge: Solar Beats Natural Gas for Utility Procurement

James Montgomery, Associate Editor, RenewableEnergyWorld.com
January 03, 2014 | 15 Comments

New Hampshire, USA — In what is being called an unprecedented decision, solar energy went head-to-head with natural gas in a competitive evaluation for utility resource planning — and solar came out on top.

Minnesota's renewable portfolio standard (RPS) calls for 25 percent of generation by 2025 from renewable energy sources. For Xcel, the state's largest electric utility, the rules are more aggressive at 31.6 percent by 2020. Last spring the state added a solar carve-out of 1.5 percent from solar by 2020.

#3: Solar Grid Party Coming Soon?
Anatomy of a Deal: 4-Cent-per-Kilowatt-Hour Solar in Palo Alto

Controlling soft costs wins “the lowest price ever for a solar PPA for distributed generation.”

Eric Wesoff
March 20, 2014

Palo Alto, California’s municipal utility already has low electricity prices -- local recreation center Oshman Family JCC reported paying about 9 cents per kilowatt-hour at certain rate tiers. But THINKnrg, an energy project developer, was able to provide the center with a 50 percent discount and close a deal with a twenty-year solar PPA price at 4 cents per kilowatt-hour.

This is a relatively small project -- it comprises 398 kilowatts spread across twelve rooftops. And although that doesn’t compare in scale to, say, Austin’s 5-cent-per-kWh, 150-megawatt PPA, the JCC project distinguishes itself by creatively financing a small project while keeping soft costs down.
US Energy Efficiency Programs Cost 2 Cents Per Kilowatt-Hour Saved

March 25th, 2014 by Silvio Marcacci

America’s most comprehensive study of energy efficiency costs has found programs paid for by utility customers cost just two cents per kilowatt-hour (kWh) of power saved.

The new study from Lawrence Berkeley National Laboratory (LBNL), “The Program Administrator Cost of Saved Energy for Utility Customer-Funded Energy Efficiency Programs,” puts a price tag on the cost of saving energy through various types

#4: Energy Efficiency is Still Cheaper