Natural Gas Supply – 2018 and Beyond
Moncton, NB
November 15, 2018

Mike Whalen
General Manager
Development of Local Gas Markets
2014-18 M&N Canada Domestic Demand

<table>
<thead>
<tr>
<th>Year</th>
<th>Average</th>
<th>Peak</th>
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</thead>
<tbody>
<tr>
<td>2014</td>
<td>183k</td>
<td>246k</td>
</tr>
<tr>
<td>2015</td>
<td>182k</td>
<td>258k</td>
</tr>
<tr>
<td>2016</td>
<td>176k</td>
<td>259k</td>
</tr>
<tr>
<td>2017</td>
<td>160k</td>
<td>238k</td>
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<tr>
<td>YTD 2018</td>
<td>155k</td>
<td>217K</td>
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2018 M&N Canada Domestic Demand

- **LDC**: 24%
- **CNG**: 7%
- **Power Gen**: 32%
- **Industrial**: 37%
M&NP Gas Supply (2017 & YTD 2018)

- **Sable**: 101k (2017) vs. 68k (YTD 2018)
- **EnCana**: 21k (2017) vs. 2k (YTD 2018)
- **Canaport**: 41k (2017) vs. 49k (YTD 2018)
- **PNGTS**: 164k (2017) vs. 236k (YTD 2018)
M&NP Gas Supply (Oct 2017 – Sep 2018)
Seasonality of Gas Supply

October 2017 – September 2018

Average Dth/D

- Sable: Winter Average (Nov-Mar) = 80k, Summer Average (Apr-Aug) = 71k
- Canaport: Winter Average (Nov-Mar) = 101k, Summer Average (Apr-Aug) = 14k
- PNGTS: Winter Average (Nov-Mar) = 230k, Summer Average (Apr-Aug) = 212k

Source: Maritimes & Northeast Pipeline
Atlantic Bridge

Increasing pipeline capacity to allow abundant, economical, regional supplies to flow to New England and Atlantic Canada markets

Project Scope:
- ~133 MMcf/d expansion of the Algonquin and M&N pipelines
- CapEx: $500MM

Customers:
- Various local distribution and industrial companies in New England and Atlantic Canada
Supply serving Eastern Canada
Robust Market at Dawn

Dawn is the largest natural gas trading hub in Eastern Canada and second largest in North America.

Eastern Canadian and U.S. NE LDCs as well as power generators and industrial customers choose Dawn to meet their gas supply needs.
1.3 PJ/d of capacity added – On time! On budget!

Open Season for 2021/2022 incremental expansion
Connect with us

uniongas.com
Portland Natural Gas Transmission System/
TransCanada Mainline

Natural Gas Supply – 2020 and Beyond
November 15, 2018
Forward Looking Statement

Forward-Looking Information

This presentation may contain certain information that is forward-looking and is subject to important risks and uncertainties. The words "anticipate", "expect", "believe", "may", "should", "estimate", "project", "outlook", "forecast" or other similar words are used to identify such forward-looking information. Forward-looking statements in this presentation are intended to provide information regarding TransCanada and its subsidiaries, including management’s assessment of PNGTS’ future financial and operations plans and outlook. Forward-looking statements in this document may include, among others, statements regarding the anticipated business prospects and financial performance of PNGTS, expectations or projections about the future, and strategies and goals for growth and expansion. All forward-looking statements reflect TransCanada’s beliefs and assumptions based on information available at the time the statements were made. Actual results or events may differ from those predicted in these forward-looking statements. Factors that could cause actual results or events to differ materially from current expectations include, among others, the ability of PNGTS to successfully implement its strategic initiatives and whether such strategic initiatives will yield the expected benefits, the operating performance of PNGTS, the availability and price of energy commodities, capacity payments, regulatory processes and decisions, changes in environmental and other laws and regulations, competitive factors in the pipeline and energy sectors, construction and completion of capital projects, and the current economic conditions in North America. By its nature, forward looking information is subject to various risks and uncertainties, which could cause actual results and experience to differ materially from the anticipated results or expectations expressed. PNGTS undertakes no obligation to update publicly or revise any forward-looking information, whether as a result of new information, future events or otherwise, except as required by law.
Portland Natural Gas Transmission System

- Links supply from TCPL with downstream deliveries to MNE

- Delivers WCSB (conventional and shales) and Marcellus gas to:
  - Atlantic Canada markets at Westbrook, Maine
  - New England markets at Dracut, Massachusetts

- PNGTS owned by:
  - TC Pipelines, LP 61.71%
  - Energi 38.29%
Plentiful North American Supplies

- **Rockies / San Juan**
  - 2007: 299 Tcf
  - 2017: 396 Tcf

- **Mid-Continent / Permian**
  - 2007: 274 Tcf
  - 2017: 274 Tcf

- **Gulf Coast**
  - 2007: 339 Tcf
  - 2017: 593 Tcf

- **Appalachia**
  - 2007: 207 Tcf
  - 2017: 1,103 Tcf

- **WCSB**
  - 2007: 165 Tcf
  - 2017: 1,018 Tcf
TransCanada’s Natural Gas Pipeline Network
The Portland Xpress Project

Project Scope:

- LDC-based Project
- Total Project Capacity of ~193,000 GJ/d
  - 19,000 GJ/d to Atlantic Canada
- Construction (in Canada) on the TransCanada Mainline and TQM
- Construction of Compression only on PNGTS’ Joint Facilities
- Nov-20 Target In-Service Date (phased-in over 3 year period 2018-2020)
The Westbrook Xpress Project

Project Scope:

- Serves predominantly Atlantic Canada Market at Westbrook
- Construction (in Canada) on the TransCanada Mainline
- Construction of Compression only at Westbrook, Maine
- Target In-Service:
  - Phase I 11/2019
  - Phase II 11/2021
ENERGY INFRASTRUCTURE

Belledune

Point Lepreau

Mactaquac
NB POWER STRATEGIC PLANNING

• Develops an integrated resource plan
  • Matches supply and demand at the least cost possible

• Uses advanced modelling
  • Predicts economic dispatch and fuel requirements over short run

• Applies strategic plan, gov’t policies, & regulations
  • Renewable Portfolio Standards - LORESS
  • Carbon pricing impacts
  • Energy Smart NB
TRENDS IMPACTING NB POWER

Asset Retirement Opportunities

Environment & Climate Change

Changing Customer

New Competition & Grid Complexity

Affordability
Clean Energy/Environment
Customer Options/Programs & Services
SETTING OUT ON A NEW PATH...

Énergie NB Power

energy smart

smart grid • smart habits • smart solutions
Nutrien writes off N.B. potash mine
“The cash cost of production in New Brunswick is just so much higher than Saskatchewan.”

“…430 jobs won’t be coming back to the location near Sussex, New Brunswick.”

- CEO of Nutrien
Gas Cost for Canadian Gas Utilities

Price per GJ

Average 2014-2017

- Atlantic
- Ontario
- British Columbia
- Alberta
- Quebec
- Saskatchewan
Some Basic Math

Atlantic Canadians pays $7.00/GJ more

Customers use approximately 50,000 GJs/day

There are 365 days in a year

$128 million ... PER YEAR
Gas Cost for Power Plants and Industry

Price per GJ

Forward Prices

- Atlantic
- Ontario
- British Columbia
- Alberta
- Quebec
- Saskatchewan
Some Basic Math

Power plants and industrial users pay $4.00/GJ more.

Customers use approximately 100,000 GJs/day.

There are 365 days in a year.

$146 million ... PER YEAR
What Could We Do With...

$128m + $146m... $274m/yr?

Shorter Wait Times

Stop Closing Schools

Lower Power Rates

Attract Industry?
Enbridge
Global energy infrastructure leader

- We transport energy.
- We generate energy.
- We distribute energy.
Enbridge Gas New Brunswick
Providing safe, reliable natural gas to New Brunswickers

- Operates & maintains over 1,200 km pipeline
- Serves 12,000 customers in 12 communities
- Invested over $500 Million in NB
- 2/3 of residents benefit from natural gas
  ✓ Energy of choice in public schools, hospitals, universities, retail locations
- In last 5 yrs, customers saved $45M by choosing natural gas
  ✓ Homeowners see 20% savings compared to electricity for home heating
- 2.5 M tonnes of GHG emissions reduced in NB
  ✓ As a result of our customers choosing natural gas over higher-carbon energy options
Where does our supply come from?

Primarily from multiple North American Sources

- Traditionally: Sable Island, NS.

- More recently: primarily from multiple NA sources, including **Western Canadian Sedimentary Basin** (in Alberta, parts of Saskatchewan and British Columbia), **Marcellus shale deposits** (found throughout the Appalachian Basin from New York to Virginia and into eastern Ohio and western New York), and **traditional US production fields**.

- Other sources include LNG from the Canaport LNG terminal and the local supply from McCully Field.