J.P. Morgan Energy Conference

June 27, 2016

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TransCanada
In business to deliver

Forward Looking Information and Non-GAAP Measures



This presentation includes certain forward looking information to help current and potential investors understand management's assessment of our future plans and financial outlook, and our future prospects overall. Statements that are forward-looking are based on certain assumptions and on what we know and expect today and generally include words like anticipate, expect, believe, may, will, should, estimate or other similar words. Forward-looking statements do not guarantee future performance. Actual events and results could be significantly different because of assumptions, risks or uncertainties related to our business or events that happen after the date of this presentation. Our forward-looking information is based on the following key assumptions: planned monetization of our U.S. Northeast power assets and a minority interest in our Mexican natural gas pipeline business, inflation rates, commodity prices and capacity prices, timing of financings and hedging, regulatory decisions and outcomes, foreign exchange rates, interest rates, tax rates, planned and unplanned outages and the use of our pipeline and energy assets, integrity and reliability of our assets, access to capital markets, anticipated construction costs, schedules and completion dates, acquisitions and divestitures.

Our forward looking information is subject to risks and uncertainties, including but not limited to: our ability to successfully implement our strategic initiatives and whether they will yield the expected benefits including the expected benefits of the acquisition of Columbia, timing and execution of our planned asset sales, the operating performance of our pipeline and energy assets, economic and competitive conditions in North America and globally, the availability and price of energy commodities and changes in market commodity prices, the amount of capacity sold and rates achieved in our pipeline businesses, the amount of capacity payments and revenues we receive from our energy business, regulatory decisions and outcomes, outcomes of legal proceedings, including arbitration and insurance claims, performance of our counterparties, changes in the political environment, changes in environmental and other laws and regulations, construction and completion of capital projects, labour, equipment and material costs, access to capital markets, interest and foreign exchange rates, weather, cyber security and technological developments. You can read more about these risks and others in our Quarterly Report to shareholders dated April 28, 2016 and 2015 Annual Report filed with Canadian securities regulators and the U.S. Securities and Exchange Commission (SEC) and available at www.transcanada.com.

As actual results could vary significantly from the forward-looking information, you should not put undue reliance on forward-looking information and should not use future-oriented information or financial outlooks for anything other than their intended purpose. We do not update our forward-looking statements due to new information or future events, unless we are required to by law.

This presentation contains reference to certain financial measures (non-GAAP measures) that do not have any standardized meaning as prescribed by U.S. generally accepted accounting principles (GAAP) and therefore may not be comparable to similar measures presented by other entities. These non-GAAP measures may include Comparable Earnings, Comparable Earnings per Share, Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA), Comparable EBITDA, Adjusted EBITDA, Earnings Before Interest and Taxes (EBIT), Comparable EBIT, Distributable Cash Flow, Comparable Distributable Cash Flow, Distributable Cash Flow per Share, Comparable Distributable Cash Flow per Share, Comparable Interest Expense, Comparable Interest Income and Other, Comparable Income Tax Expense, Comparable Net Income Attributable to Non-Controlling Interests, Comparable Net Income from Equity Investments, Comparable Depreciation and Amortization, and Funds Generated from Operations. Reconciliations to the most closely related GAAP measures are included in our Quarterly Report to shareholders dated April 28, 2016 filed with Canadian securities regulators and the SEC and available at www.transcanada.com.

Key Themes

Proven Strategy – Low Risk Business Model

- 90%+ of EBITDA derived from regulated assets or long-term contracts
- Planned sale of U.S. Northeast Power will further reduce merchant exposure

US$13 Billion Acquisition of Columbia Pipeline is Transformational

- Creates one of North America's largest regulated natural gas transmission businesses and positions the company for long-term growth

Visible Growth Through 2020

- $25 billion of pro forma near-term growth projects
- Over $45 billion of commercially secured long-term projects

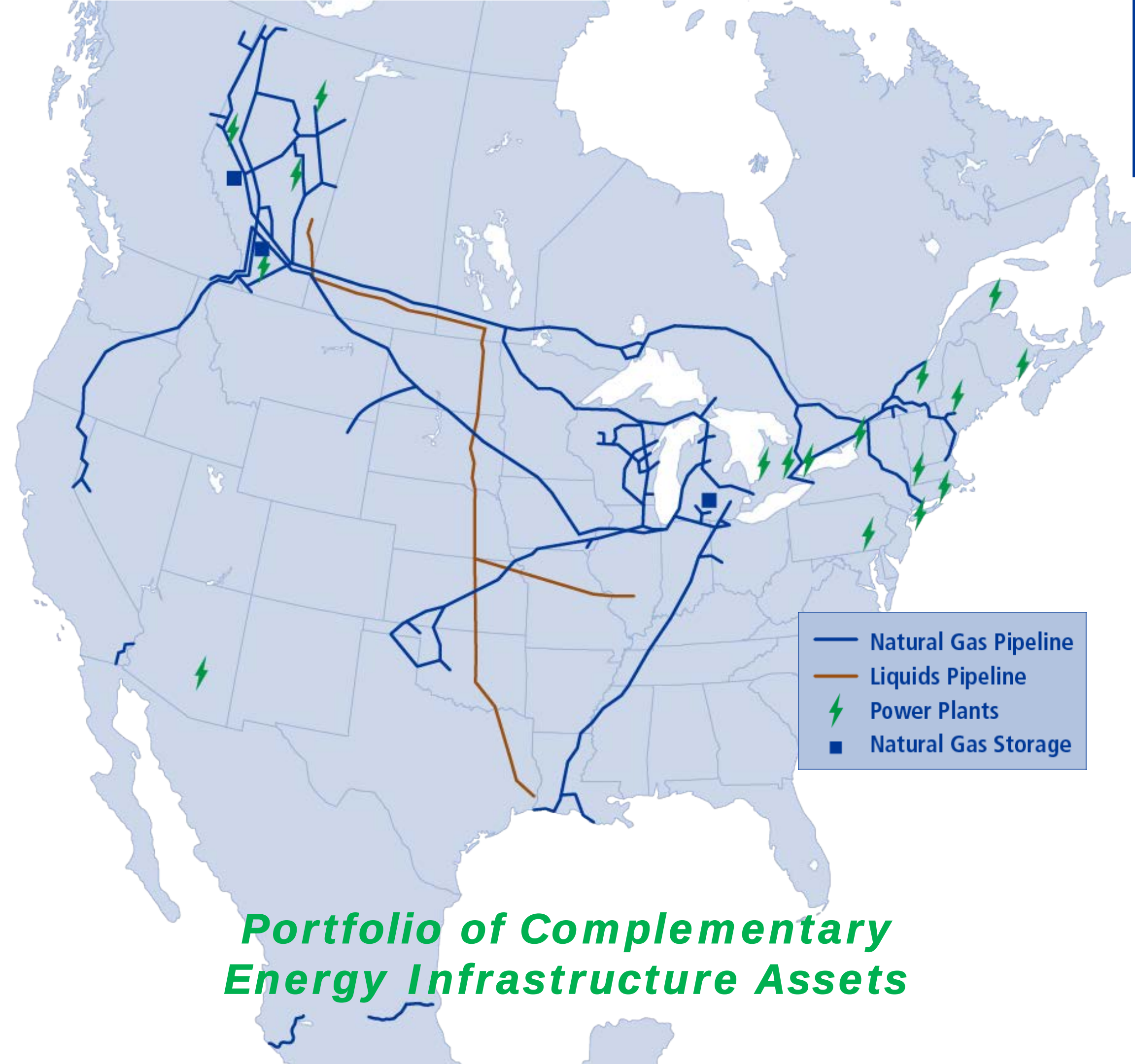
Dividend Poised to Grow Through 2020

- 8-10% average annual growth rate expected
- Columbia Pipeline acquisition supports and may augment dividend growth

Financial Discipline

- Finance long-term assets with long-term capital
- Value 'A' grade credit rating
- Corporate structure is simple and understandable

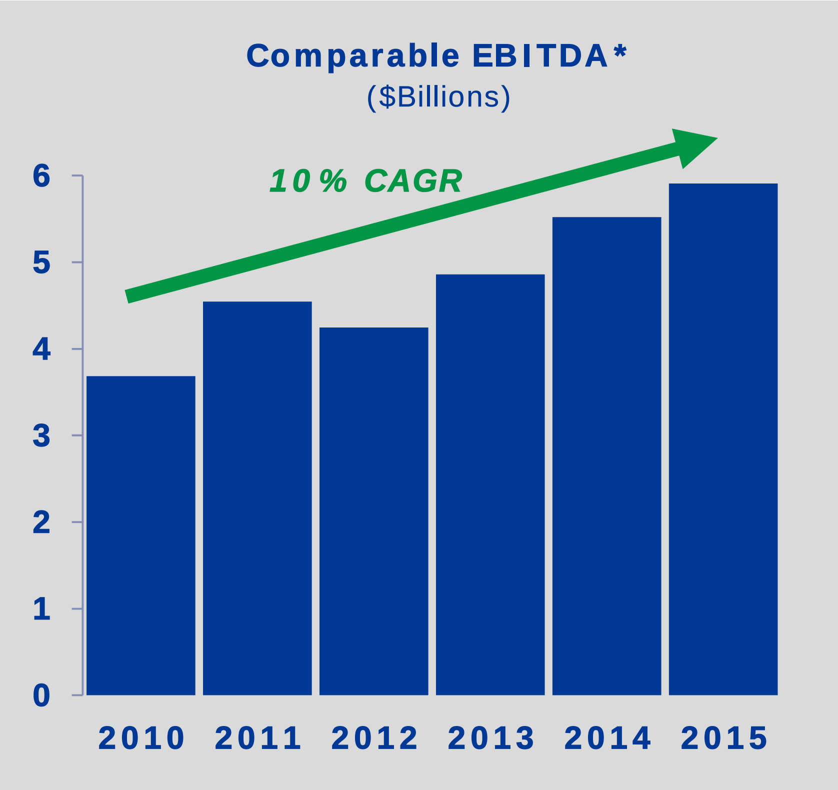
TransCanada Today

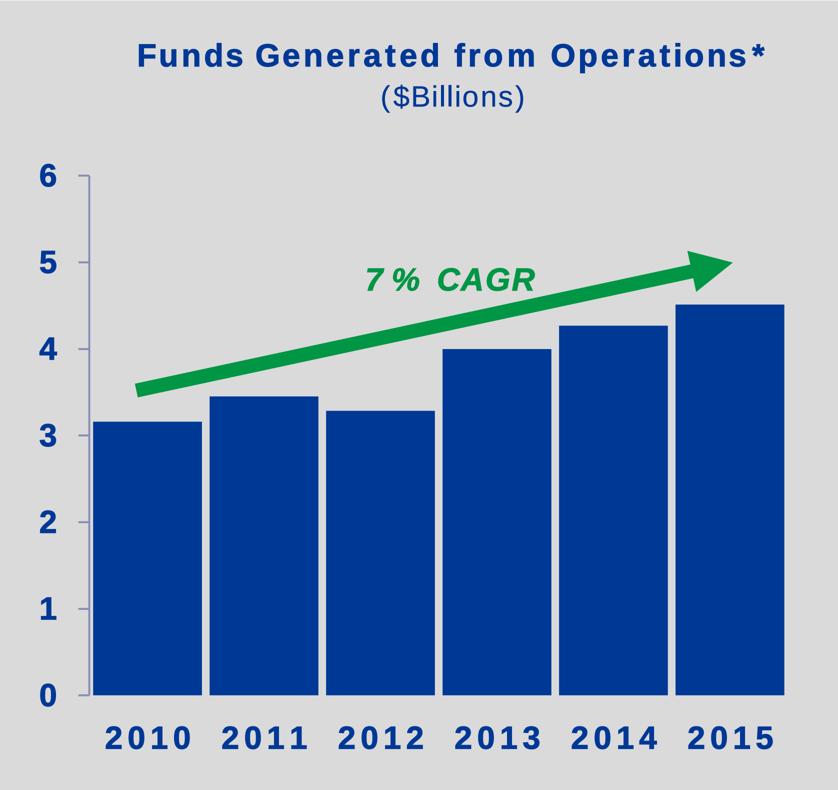


Portfolio of Complementary Energy Infrastructure Assets

- **One of North America's Largest Natural Gas Pipeline Networks**
  - 41,300 miles of pipeline
  - 368 Bcf of storage capacity
  - 14 Bcf/d or 20% of continental demand
- **Premier Liquids Pipeline System**
  - 2,700 miles of pipeline
  - 545,000 bbl/d or 20% of Western Canadian exports
- **One of the Largest Private Sector Power Generators in Canada**
  - 17 power plants, 10,500 MW
- **Total Assets ~ $64 billion as of March 31, 2016**

Strong Historical Financial Performance





Significant Growth in
Comparable EBITDA and Funds Generated from Operations

**Comparable EBITDA and Funds Generated from Operations are non-GAAP measures. See the non-GAAP measures slide at the front of this presentation for more information.*

US$13 Billion Acquisition of Columbia Pipeline Group

Strategic Rationale

- Creates one of North America's largest regulated natural gas transmission businesses and positions the company for long-term growth
- Results in a combined pro forma $25 billion portfolio of secured, near-term growth projects
- Combines TransCanada's financial strength and project execution capabilities with Columbia's attractive growth opportunities

Financial Highlights

- Expected to be accretive to earnings per share in the first full year of ownership
- Targeted annual cost, revenue and financing benefits of approximately US$250 million

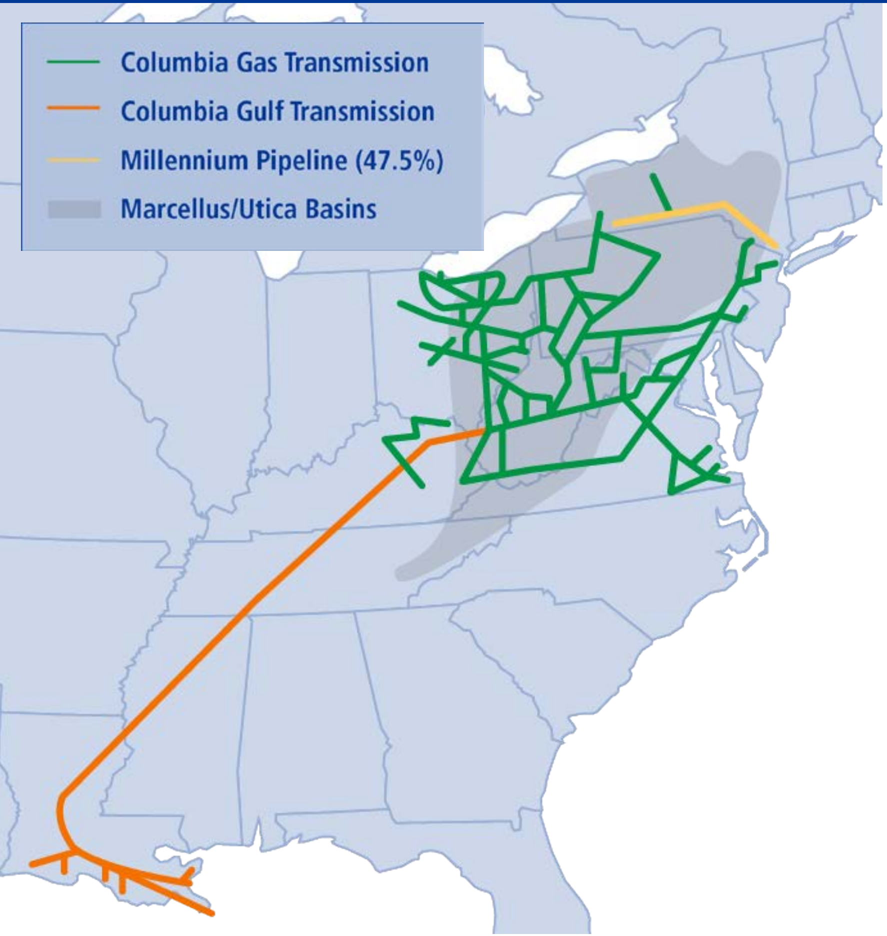
Financing Plan

- Issued $4.4 billion of subscription receipts, announced planned sale of U.S. Northeast power assets and monetization of minority interest in Mexican natural gas pipeline business

Transaction expected to become effective July 1, 2016

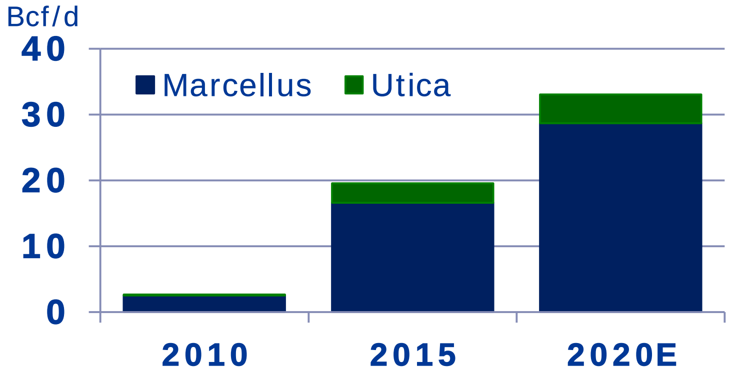
- Columbia stockholders approved the acquisition on June 22, 2016
- Acquisition now remains subject to only customary closing conditions

Acquisition of Columbia Pipeline Group – Strategic Rationale



Illustrates the configuration of material systems within Columbia's natural gas pipeline network

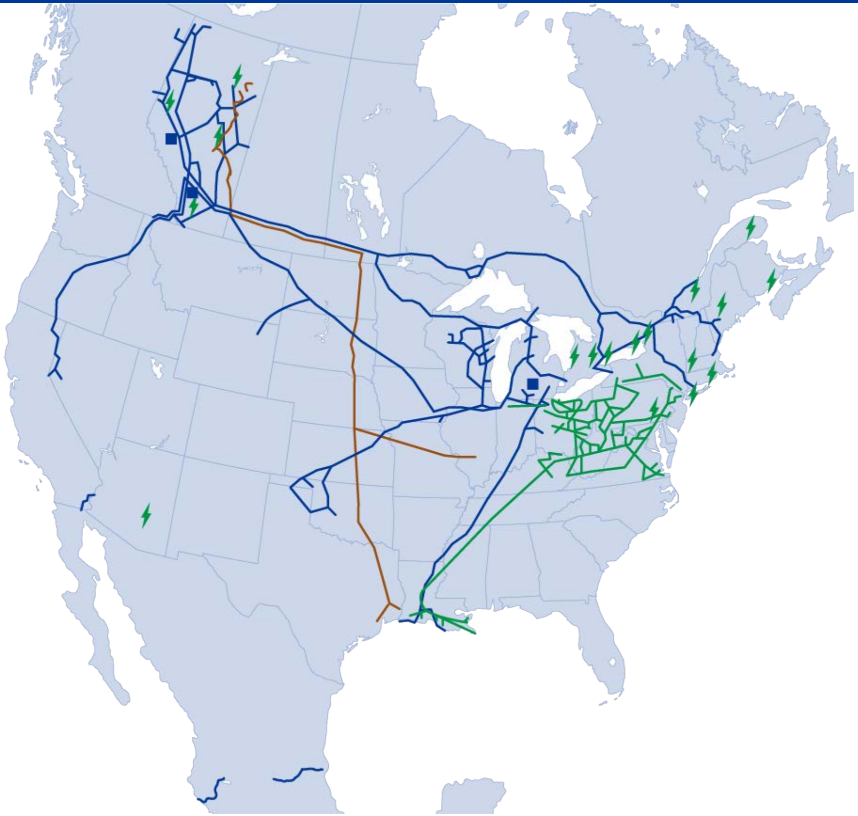
- **Premium natural gas pipeline and storage assets**
- **Extensive position in the Marcellus and Utica shale regions**
- **FERC-regulated assets generate stable and predictable earnings and cash flow**
- **Assets favorably situated to capture growing Marcellus and Utica production**



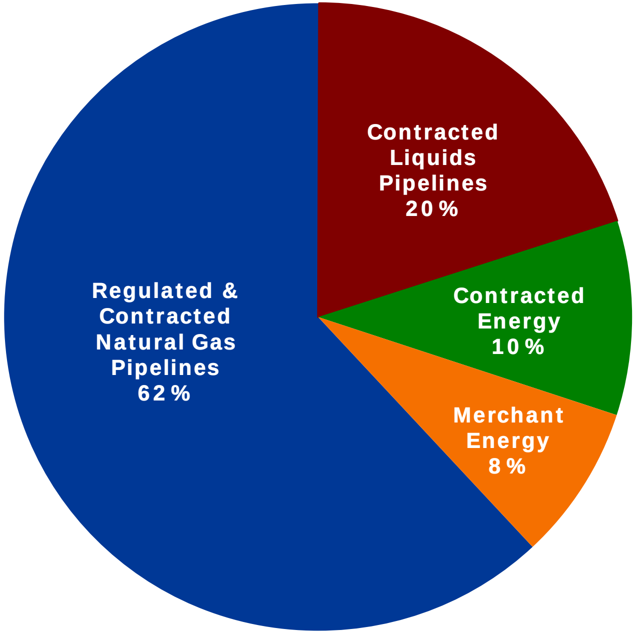
Source: EIA and IHS CERA, February 2016

Secures Incumbency Position in North America's Most Prolific Natural Gas Basins

Predictability and Stability of EBITDA



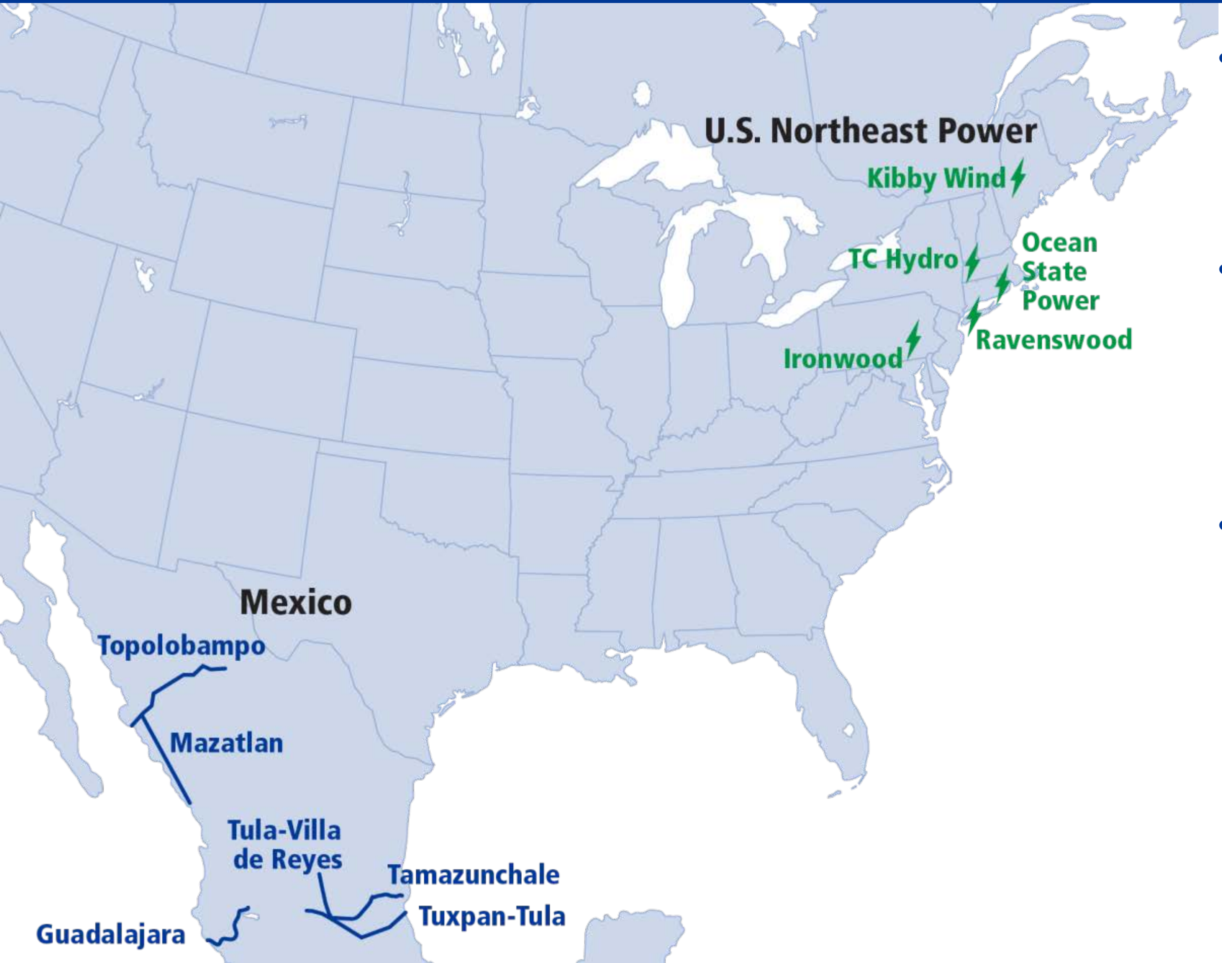
Pro Forma 2015 Adjusted EBITDA*,**



Monetization of U.S. Northeast Power Will Further Reduce Merchant Energy Exposure

*Adjusted EBITDA is a non-GAAP measure. See the non-GAAP measures slide at the front of this presentation for more information.
**Includes Columbia; does not reflect portfolio management changes, acquisition benefits and costs.

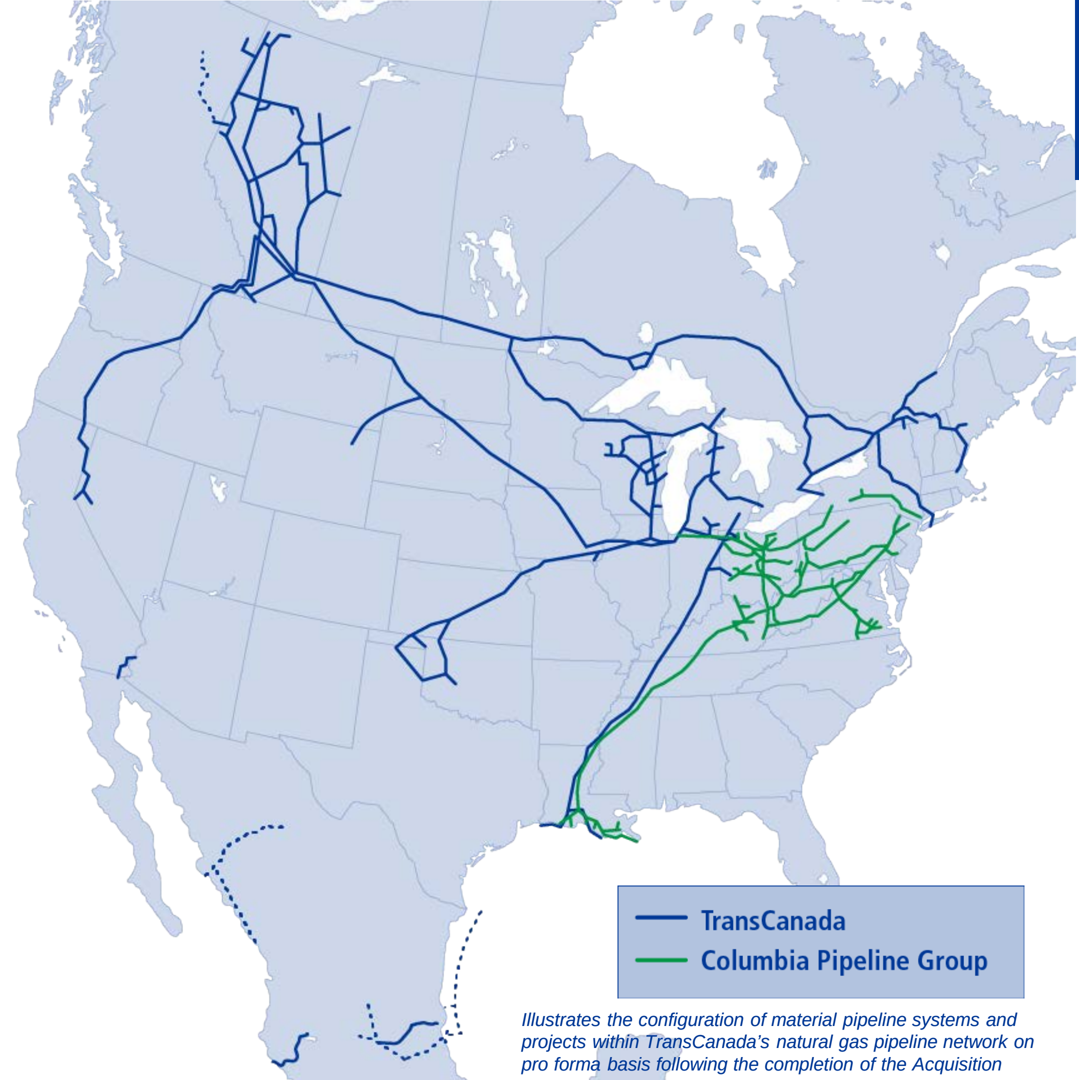
Portfolio Management to Fund a Portion of Columbia Acquisition



- **Selling U.S. Northeast Power portfolio and monetizing minority interest in Mexican Gas pipelines business**
- **Proceeds to pay down asset sale bridge facility in connection with the acquisition of Columbia Pipeline Group**
- **Advisors engaged, processes underway and strong indications of interest received**

Exiting U.S. Merchant Power Business

Combined Natural Gas Pipeline Footprint



Illustrates the configuration of material pipeline systems and projects within TransCanada's natural gas pipeline network on pro forma basis following the completion of the Acquisition

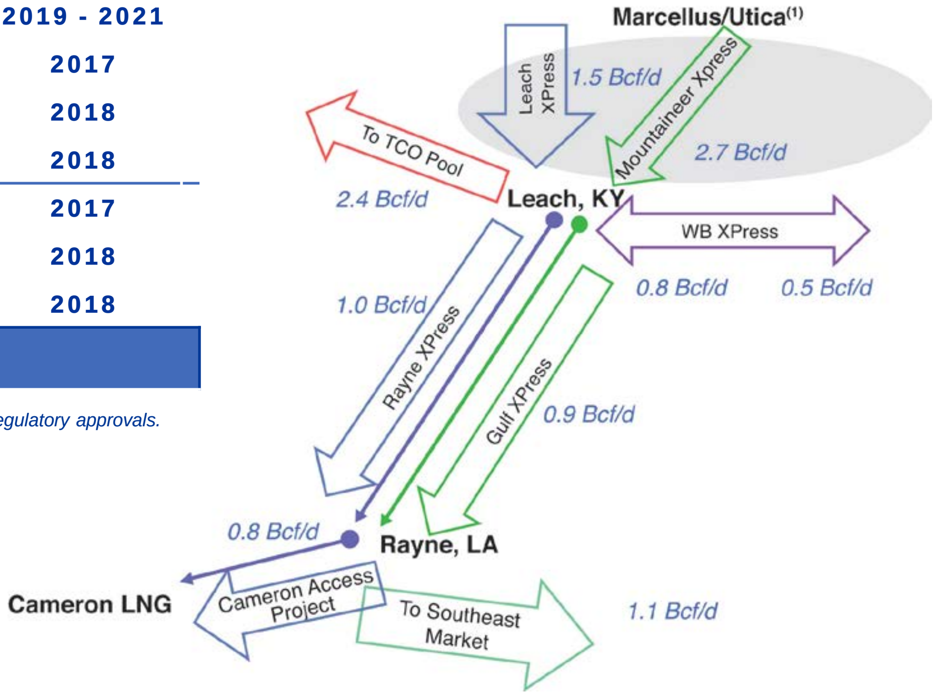
- **One of North America's largest natural gas transmission businesses**
  - 56,100 miles of pipeline
  - 664 Bcf of storage capacity
- **Complements our existing regulated natural gas pipeline and storage assets**
  - Long-term, fee-based contracts
  - Diversified customer base
- **Adds to basin diversification and access to large markets**
  - Established position in the Appalachia, the fastest growing gas production basin in North America
  - Improves access to U.S. Northeast, Midwest, Mid-Atlantic and Gulf Coast markets

Columbia Pipeline Group Capital Program

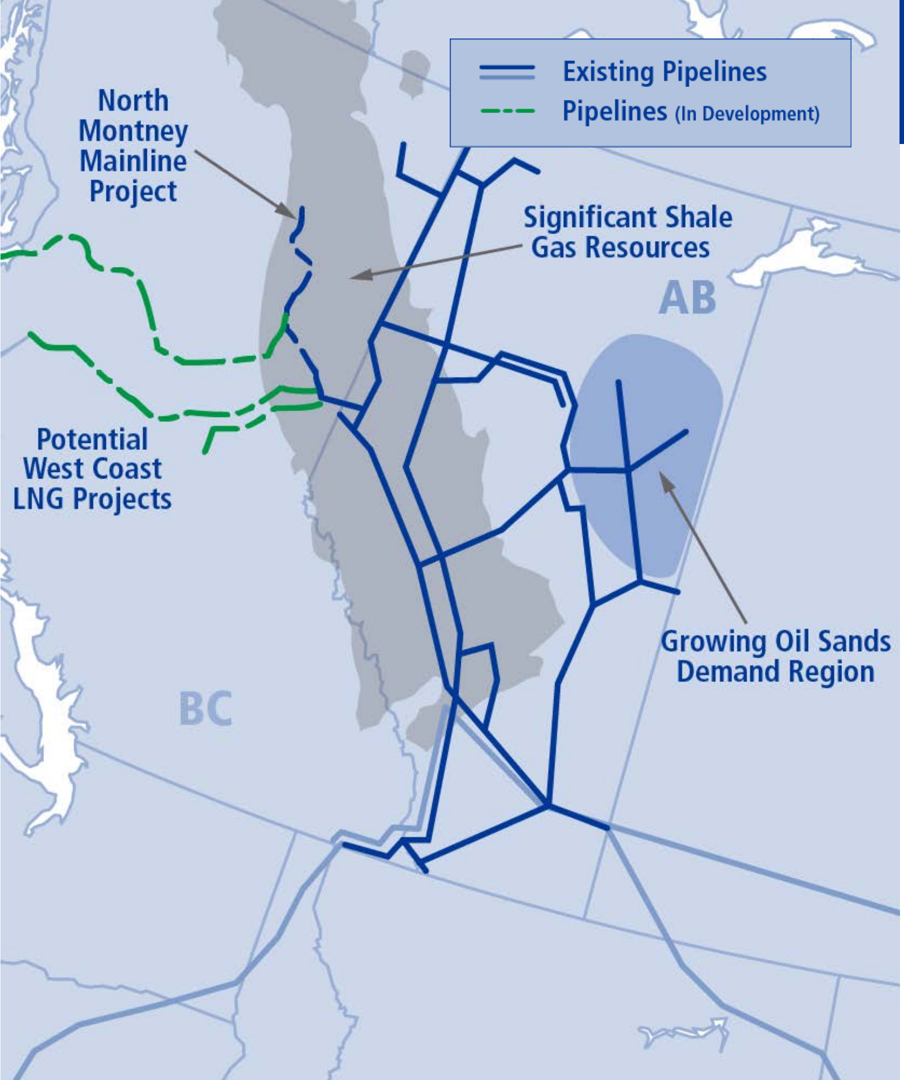
Asset	Project	Estimated Capital Cost (US$) *	FERC Status	Expected In-Service
Gas	Modernization I	0.6	Approved	2017 – 2018
	Modernization II	1.1	Approved	2019 - 2021
	Leach XPress	1.4	Filed	2017
	WB XPress	0.8	Filed	2018
	Mountaineer XPress	2.0	Filed	2018
Gulf	Rayne XPress	0.4	Filed	2017
	Cameron Access	0.3	Approved	2018
	Gulf XPress	0.7	Filed	2018
Total		US7.3		

Columbia share in billions of U.S. dollars. Certain projects are subject to various conditions including regulatory approvals.

Project Gas Flow Direction and Capacity from the Marcellus/Utica



(1) Shaded area represents the Marcellus and Utica shale gas production areas



NGTL System's Unparalleled Position

- **Primary transporter of WCSB supply with key connections to Alberta and export markets**
- **Averaged ~11 Bcf/d in 2015; peak intra-basin demand of 6.5 Bcf/d**
- **Significant new firm contracts**
- **$5.4 billion of new investments expected in-service between 2016 and 2018**
  - $3.7 billion of facility expansions
  - $1.7 billion North Montney pipeline
- **Growth expected to continue**

Mexico – Solid Position and Growing

Asset	Estimated Capital Cost*	Contracted Capacity (Mmcf/d)	Expected In-Service Date
Guadalajara	In-Service	320	In-Service
Tamazunchale	In-Service	825	In-Service
Mazatlan	US0.4	200	2016
Topolobampo	US1.0	670	2016
Tuxpan-Tula	US0.5	886	2017
Tula-Villa de Reyes	US0.6	886	2018
Sur de Texas-Tuxpan	US1.3	2,600	2018

* *TransCanada share in billions of dollars. Certain projects are subject to various conditions including corporate and regulatory approvals.*

- **Five new projects will increase investment in Mexico to over US$5 billion**
- **Underpinned by long-term contracts with the Comisión Federal de Electricidad (CFE)**
- **Monetizing minority interest in business to help fund acquisition of Columbia Pipeline**

Opportunities for Continued Growth

Liquids Pipelines – Expanding the System

- **Keystone System**
  - Delivers 545,000 bbl/d or 20% of Western Canadian exports under long-term contracts
- **Leveraging Existing Infrastructure for Near-Term Growth**
  - **Northern Courier** ($1 billion)
    - 25-year contract with Fort Hills Partnership
  - **Grand Rapids** ($900 million*)
    - Long-term contract with Brion Energy
  - **Houston Lateral & Terminal** (US$600 million)
    - Extends the Keystone System to the Houston, Texas refining market

Connect Growing WCSB and U.S. Shale Oil to Key Refining Markets

**TransCanada Share*

Energy – Growing Portfolio of Long-Term Contracted Assets

- **94% of capacity under long-term contract following the sale of the U.S. Northeast assets**
- **Growing portfolio of contracted assets**
  - **Bruce Power Life Extension** ($6.5 billion*)
    - Multi-stage refurbishment agreement with the Ontario IESO extends life of facility through 2064
  - **Napanee** ($1.0 billion)
    - 900 MW combined-cycle gas-fired plant
    - In-service late 2017/early 2018

Plant	Capacity (MW)*	Counterparty	Contract Expiry
Coolidge	575	Salt River Project	2031
Bécancour	550	Hydro-Québec	2036
Cartier Wind	365	Hydro-Québec	2026-2032
Grandview	90	Irving Oil	2024
Halton Hills	683	IESO	2030
Portlands	275	IESO	2029
Ontario Solar	76	IESO	2032-2034
Bruce Power Units 1-8	3,023	IESO	Up to 2064
Napanee (under construction)	900	IESO	2037

** TransCanada 48.5% share*

Industry Leading Pro Forma Near-Term Capital Program

Project	Estimated Capital Cost*	Expected In-Service Date*
Columbia Pipeline Group	US7.3	2016-2021
Topolobampo	US1.0	2016
Mazatlan	US0.4	2016
Tuxpan-Tula	US0.5	2017
Tula-Villa de Reyes	US0.6	2018
Sur de Texas-Tuxpan	US1.3	2018
Canadian Mainline	0.7	2016-2017
NGTL System	5.4	2016-2018
Houston Lateral & Terminal	US0.6	2016
Grand Rapids	0.9	2017
Northern Courier	1.0	2017
Napanee	1.0	2017 or 2018
Bruce Power Life Extension	1.2	2016-2020
Total Canadian Equivalent (1.30 exchange rate)	**CAD25.4**	

* *TransCanada pro forma share in billions of dollars. Certain projects are subject to various conditions including corporate and regulatory approvals.*

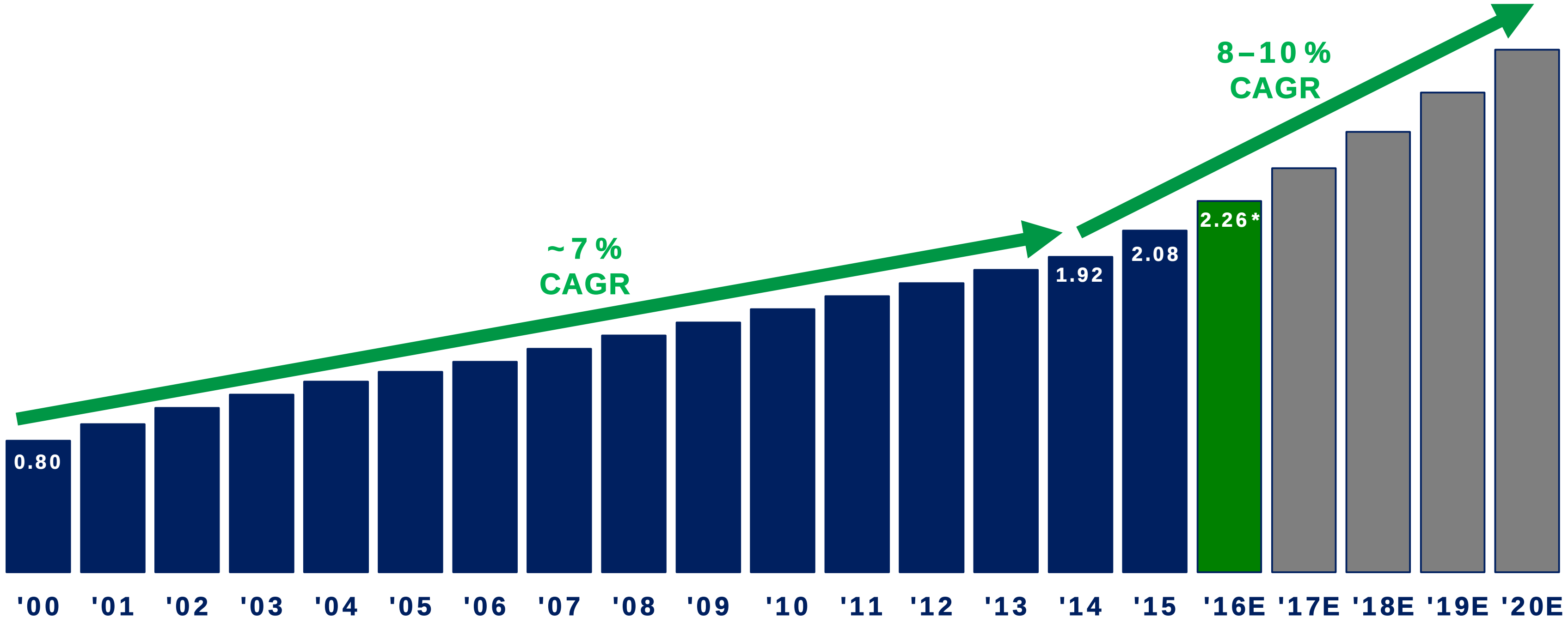
Illustrates the configuration of TransCanada's pro forma near-term projects following the completion of the Acquisition

$45 Billion+ of Commercially Secured Long-Term Projects*

- **Bruce Power Life Extension Agreement**
  - Asset Management and Major Component Replacement post-2020 ($5.3 billion)
- **Four transformational projects**
  - Energy East ($15.7 billion) and related Eastern Mainline Expansion ($2.0 billion)
  - Keystone XL (US$8 billion)
  - Prince Rupert Gas Transmission ($5 billion)
  - Coastal GasLink ($4.8 billion)
- **Establish us as leaders in the transportation of crude oil and natural gas for LNG export**
  - 2 million bbl/d of liquids pipeline capacity
  - 4+ Bcf/d of natural gas pipeline export capacity

* *TransCanada share in billions of dollars. Certain projects are subject to various conditions including corporate and regulatory approvals.*

Dividend History and Growth Outlook Through 2020



Columbia Acquisition Supports and May Augment Dividend Growth Through 2020

* *Annualized based on second quarter dividend of $0.565 per share*

Key Takeaways

Track Record of Delivering Long-Term Shareholder Value

14% average annual return since 2000

Visible Growth Portfolio

$25 billion pro forma to 2020
Additional opportunity set includes over $45 billion of long-term projects

Attractive, Growing Dividend

4.1% yield at current price
8-10% CAGR through 2020

Strong Financial Position

'A' grade credit rating
Numerous levers available to fund growth

Attractive Valuation Relative to North American Peers

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