STRENGTH & STABILITY

TransCanada
In business to deliver

2016 ANNUAL AND SPECIAL MEETING

FORWARD-LOOKING INFORMATION

This presentation includes "forward-looking information" and "forward-looking statements" (collectively, "forward-looking information") which is intended to provide potential investors with information regarding TransCanada Corporation ("TransCanada" or the "Corporation"), including management's assessment of our future plans and financial outlook. In some cases the words "anticipate", "expect", "believe", "may", "will", "should", "estimate", "project", "outlook", "forecast", "intend", "target", "plan" or other similar words are used to identify such forward-looking information. Forward-looking information in this presentation may include, but is not limited to, statements regarding: anticipated business prospects; our financial and operational performance, including the performance of our subsidiaries; expectations or projections about strategies and goals for growth and expansion; expected cash flows and future financing options available to us; expected costs for planned projects, including projects under construction and in development; expected schedules for planned projects (including anticipated construction and completion dates); expected regulatory processes and outcomes; expected impact of regulatory outcomes; expected capital expenditures and contractual obligations; expected operating and financial results; expected industry, market and economic conditions; the planned acquisition of Columbia Pipeline Group, Inc. (the "Acquisition") including the expected closing thereof; plans regarding financing for the Acquisition, and the repayment of Acquisition credit facilities through planned divestitures; planned changes in the Corporation's business including the divestiture of certain assets; expected impacts of the Acquisition on EBITDA composition, earnings, cash flow and dividend growth; transportation services to the liquefied natural gas sector and growth opportunities and modernization initiatives relating to Columbia Pipeline Group, Inc.'s ("Columbia") business.

This forward-looking information reflects our beliefs and assumptions based on information available at the time the information was stated and as such is not a guarantee of future performance. By its nature, forward-looking information is subject to various assumptions, risks and uncertainties which could cause our actual results and achievements to differ materially from the anticipated results or expectations expressed or implied in such statements.

Key assumptions on which our forward-looking information is based include, but are not limited to, assumptions about: the timing and completion of the Acquisition including receipt of regulatory and Columbia stockholder approval; the planned monetization of TransCanada's U.S. Northeast merchant power business and of a minority interest in its 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 and Columbia's pipeline and energy assets; integrity and reliability of our assets; access to capital markets; anticipated construction costs, schedules and completion dates; acquisitions and divestitures; and the realization of the anticipated benefits and synergies of the Acquisition to TransCanada including impacts on growth and accretion in various financial metrics.

The risks and uncertainties that could cause actual results or events to differ materially from current expectations include, but are not limited to: our ability to successfully implement our strategic initiatives; whether our strategic initiatives will yield the expected benefits; the operating performance of our and Columbia's pipeline and energy assets; amount of capacity sold and rates achieved in our and Columbia's pipeline business; the availability and price of energy commodities; 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 and credit risk of our counterparties; changes in market commodity prices; changes in the political environment; changes in environmental and other laws and regulations; competitive factors in the pipeline and energy sectors; construction and completion of capital projects; costs for labour, equipment and material; access to capital markets; interest, tax and foreign exchange rates; weather; cybersecurity; technological developments; economic conditions in North America as well as globally; uncertainty regarding the length of time to complete the Acquisition and uncertainty regarding the ability of TransCanada to realize the anticipated benefits of the Acquisition; and the timing and execution of TransCanada's planned asset sales. Additional information on these and other factors are discussed in our Quarterly Report to Shareholders dated April 28, 2016, 2015 Annual Report and final short form prospectus dated March 28, 2016 (the "Prospectus") filed with Canadian securities regulators and the SEC and available at www.transcanada.com.

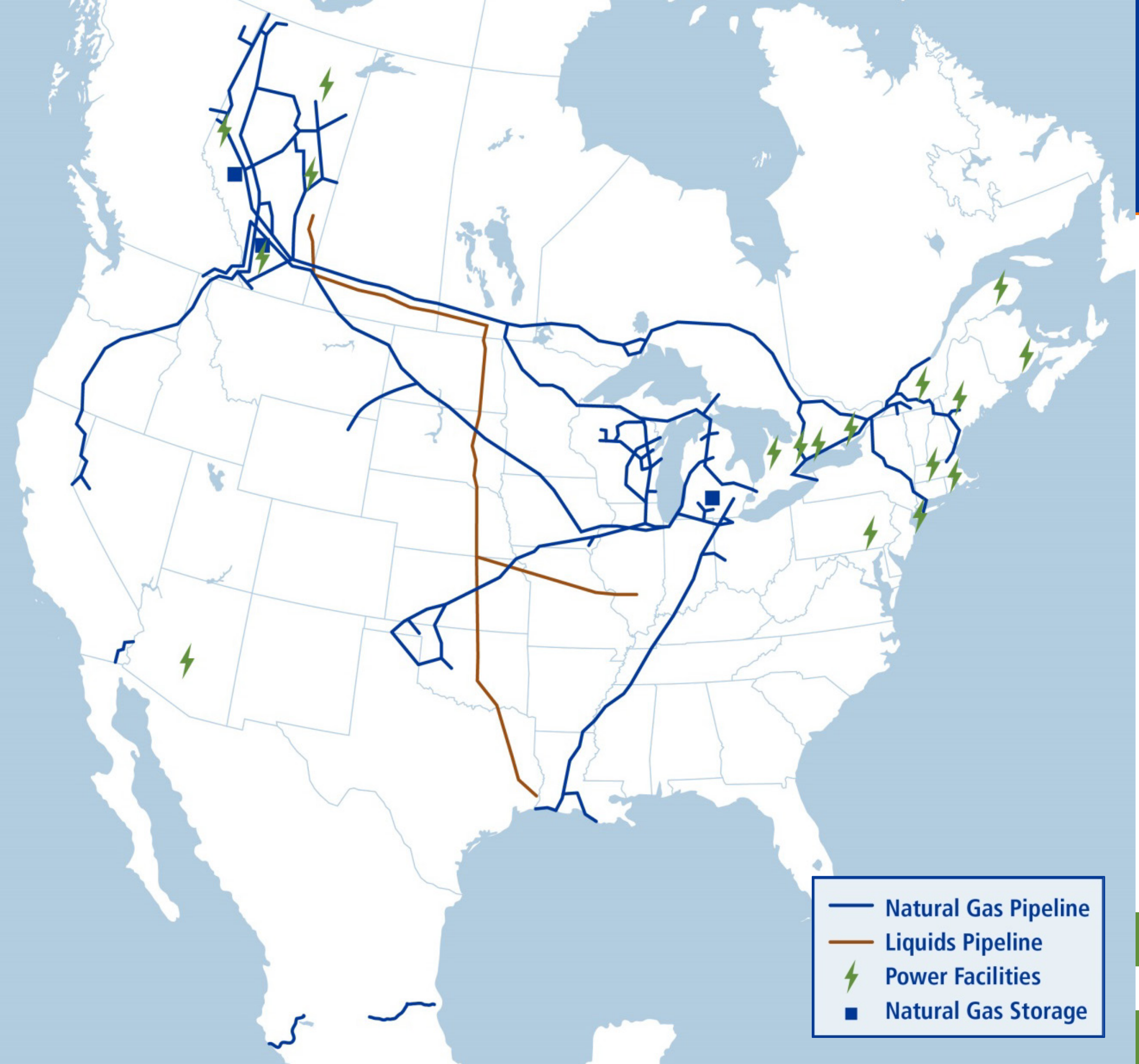
Readers are cautioned against placing undue reliance on forward-looking information, which is given as of the date it is expressed in this presentation or otherwise, and not to use future-oriented information or financial outlooks for anything other than their intended purpose. We undertake no obligation to publicly update or revise any forward-looking information in this presentation or otherwise, whether as a result of new information, future events or otherwise, except as required by law.

NON-GAAP MEASURES

Certain information presented in this presentation with respect to TransCanada and Columbia includes certain financial measures which do not have any standardized meaning as prescribed by U.S. GAAP and therefore may not be comparable to similar measures presented by other entities. Prospective readers are cautioned that these measures should not be construed as an alternative to U.S. GAAP-based audited consolidated financial statements. These non-GAAP measures are Comparable Earnings, Comparable Earnings per Share, Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA), Comparable EBITDA, Adjusted EBITDA, Distributable Cash Flow, Comparable Distributable Cash Flow, Comparable Distributable Cash Flow per Share and Funds Generated from Operations.

A description of the purpose of providing non-GAAP measures and a reconciliation of non-GAAP measures in this presentation to the most closely related GAAP measures can be found in our Quarterly Report to Shareholders dated April 28, 2016 or in the case of Adjusted EBITDA in the Prospectus, in each case filed with Canadian securities regulators and the SEC and available at www.transcanada.com.

Adjusted EBITDA reflects an adjustment to historical and pro forma EBITDA for the year ended December 31, 2015 related to (i) a non-cash impairment charge incurred by TransCanada relating to Keystone XL and related projects, including the Keystone Hardisty Terminal, in connection with the November 6, 2015 denial of the U.S. Presidential permit, and (ii) a non-cash impairment charge incurred by TransCanada relating to certain energy turbine equipment previously purchased for a power development project that did not proceed, each as recorded in the Corporation's audited consolidated financial statements as at December 31, 2015. TransCanada believes that Adjusted EBITDA is a useful measure for evaluating our historical and unaudited pro forma financial results, given the exceptional nature of these one-time asset impairment charges.

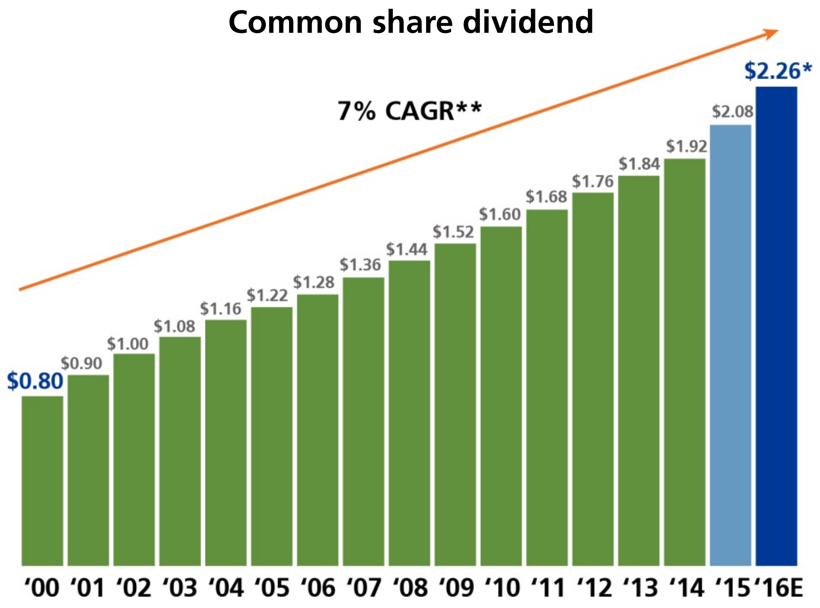


TRANSCANADA TODAY

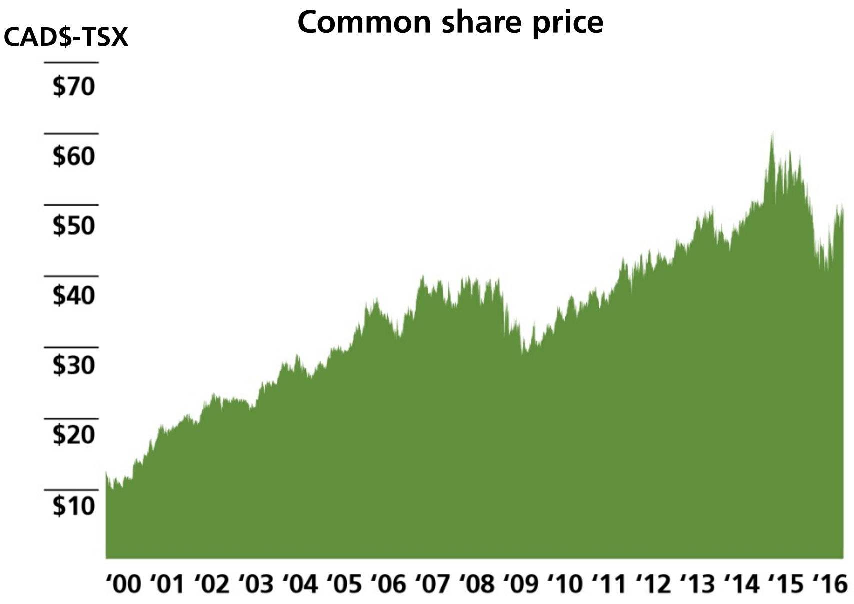
- One of North America's largest natural gas pipeline networks
  - 66,400 km (41,300 mi) of pipeline
  - 368 Bcf of storage capacity
  - 14 Bcf/d or 20% of continental demand
- Premier liquids pipeline system
  - 4,200 km (2,600 mi) of pipeline
  - 545,000 bbl/d or 20% of Western Canadian production
- One of the largest private sector power generators in Canada
  - 17 power facilities, 10,500 MW
- Assets ~ $64 billion as at March 31, 2016

Portfolio of complementary energy infrastructure assets

TRACK RECORD OF DELIVERING LONG-TERM SHAREHOLDER VALUE



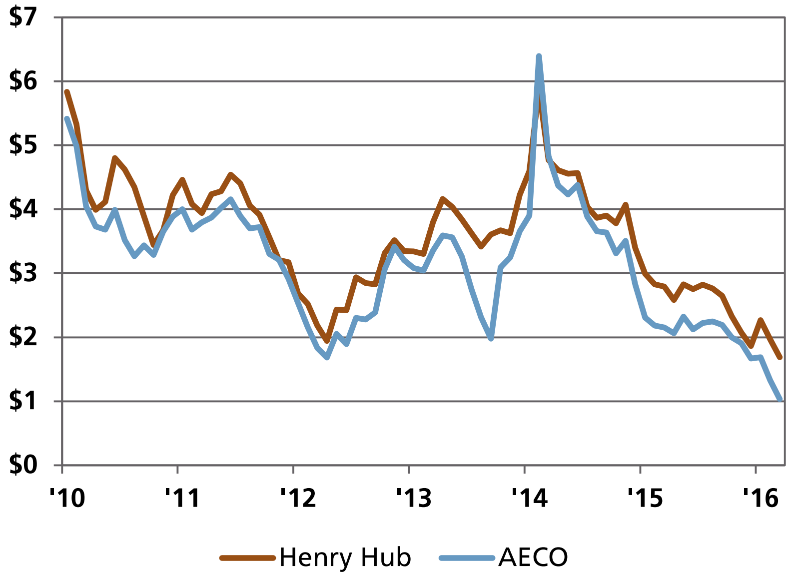
* *Annualized based on second quarter declaration* ** *Compound Average Annual Growth Rate*



13% Average annual total shareholder return since 2000

CHALLENGING ENERGY ENVIRONMENT

Natural gas price – NYMEX
(current US$/MMBTU)



Sources: ICE, 2016 and NGX, 2016

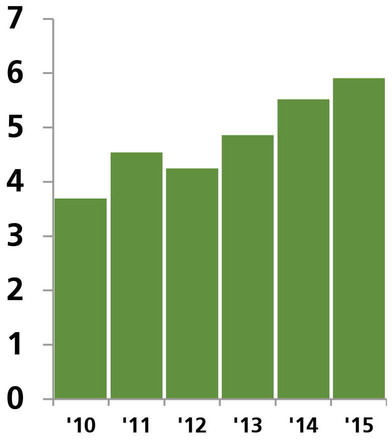
To March 31, 2016

Crude oil price – WTI
(current US$/Barrel)

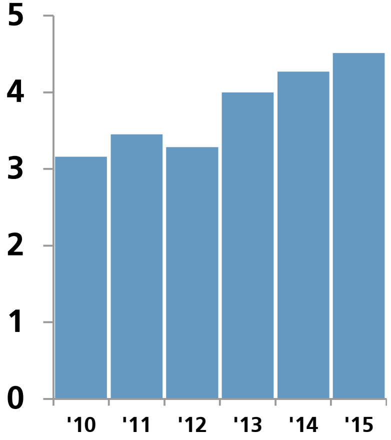
To March 31, 2016

DELIVERING RESULTS IN A CHALLENGING ENVIRONMENT

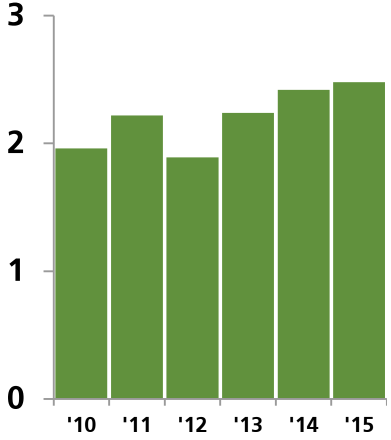
Comparable EBITDA*
($Billions)



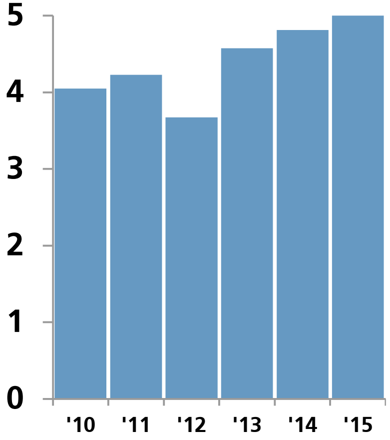
Funds generated from operations*
($Billions)



Comparable earnings per share*
($)



Comparable distributable cash flow per share*
($)



These are non-GAAP measures. See the non-GAAP measures slide at the front of this presentation for more information.

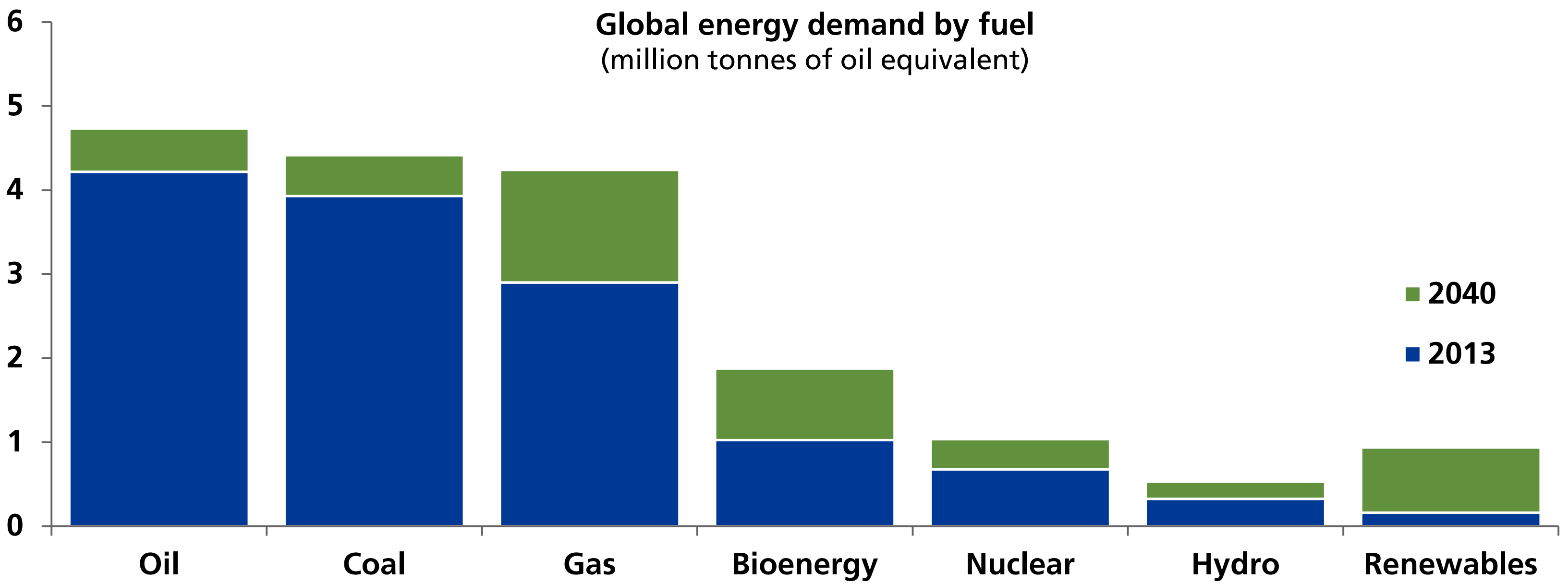
Produced record results in 2015

FIRST QUARTER 2016 FINANCIAL HIGHLIGHTS

- Comparable earnings of $494 million or $0.70 per share – up 6% from 2015
- Comparable EBITDA of $1.5 billion
- Funds generated from operations of $1.1 billion
- Comparable distributable cash flow of $970 million or $1.38 per share

Solid results continue in 2016

GLOBAL ENERGY DEMAND EXPECTED TO INCREASE 32% BY 2040



Source: IEA World Energy Outlook 2015, New Policies Case

Oil remains largest source of energy
Primary shift in supply mix to natural gas and renewables

OUR PRIORITIES

- Maximize the value of our $64 billion asset base by delivering energy safely and reliably, every day
- Complete the US$13 billion acquisition of Columbia Pipeline Group
- Complete $24 billion near-term pro forma capital program
- Advance over $45 billion of long-term projects
- Cultivate a portfolio of additional low-risk growth opportunities
- Maintain financial strength and flexibility

FOCUS ON SAFETY

MAXIMIZING VALUE AND ADVANCING GROWTH PLANS

Natural Gas Pipelines: NGTL expansion, ANR rate case, Mexico projects

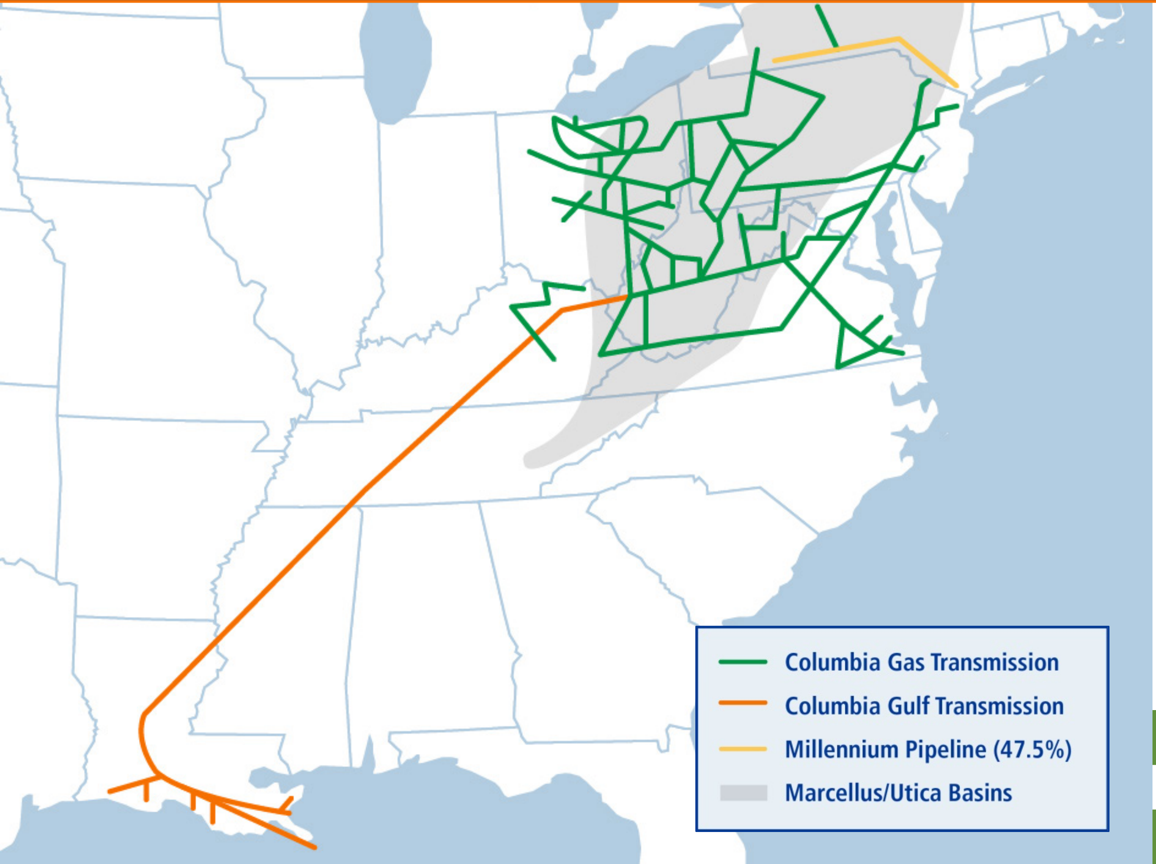
MAXIMIZING VALUE AND ADVANCING GROWTH PLANS

Energy: Bruce Power refurbishment, Ironwood acquisition, Napanee construction

MAXIMIZING VALUE AND ADVANCING GROWTH PLANS

Liquids Pipelines: Keystone contracted capacity rises to 545,000 bbl/d, Alberta projects under construction

CAPTURING LOW RISK GROWTH OPPORTUNITIES

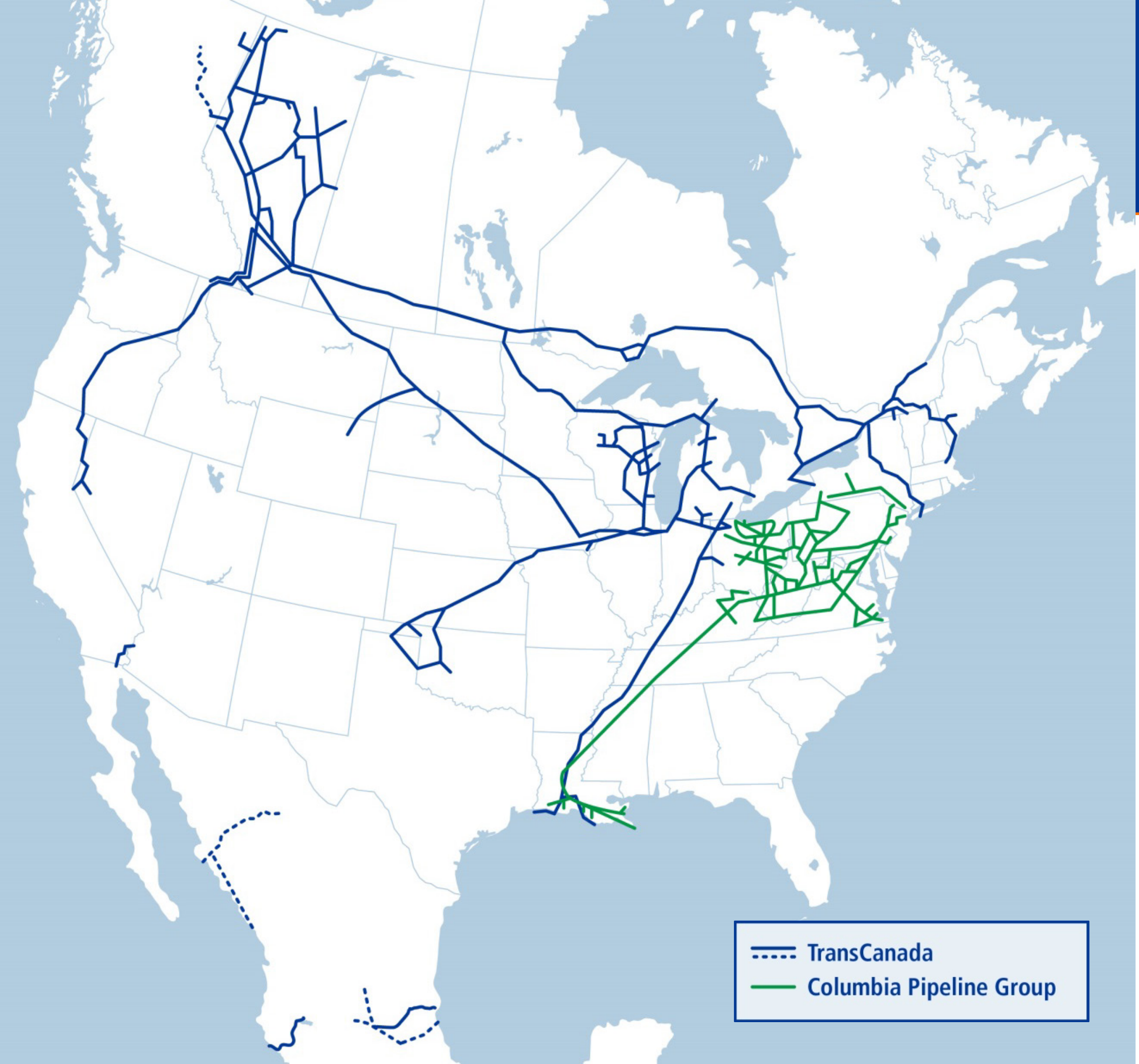


US$13 billion acquisition of Columbia Pipeline Group

- 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
- US$7.3 billion portfolio of growth initiatives and modernization investments

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

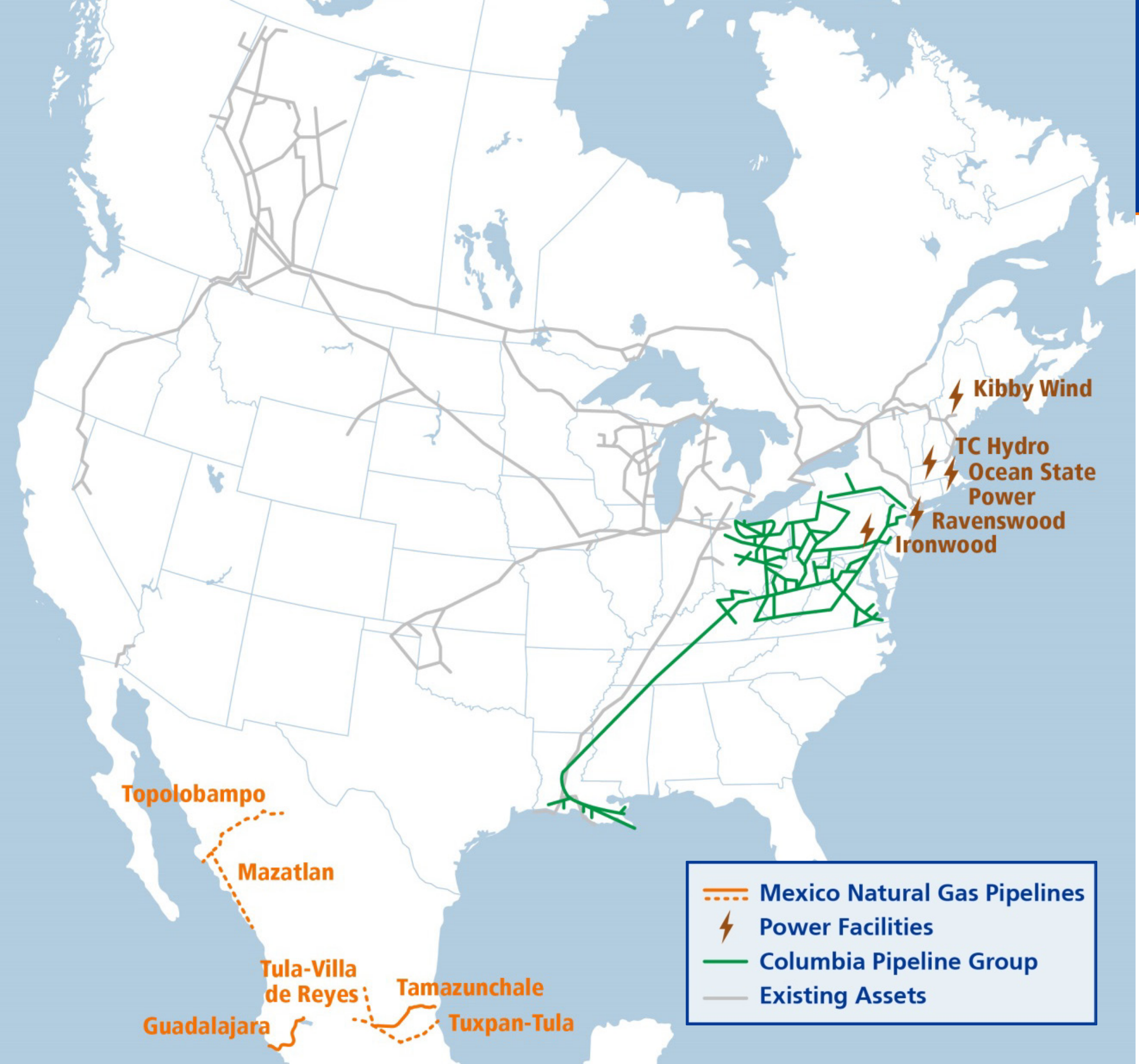
Secures incumbency position in North America's most prolific natural gas basins



COMBINED NATURAL GAS PIPELINE FOOTPRINT

- One of North America's largest natural gas transmission businesses
  - Approximately 91,000 km (56,900 miles) of pipeline
  - 664 Bcf of working gas storage capacity
- Complements our existing assets
  - Long-term, fee-based contracts
  - Diversified customer base
- Adds to basin diversification and access
  - Established position in the Appalachia production basin
  - Improves access to U.S. Northeast, Midwest, Mid-Atlantic and Gulf Coast markets

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



FINANCING OF COLUMBIA ACQUISITION

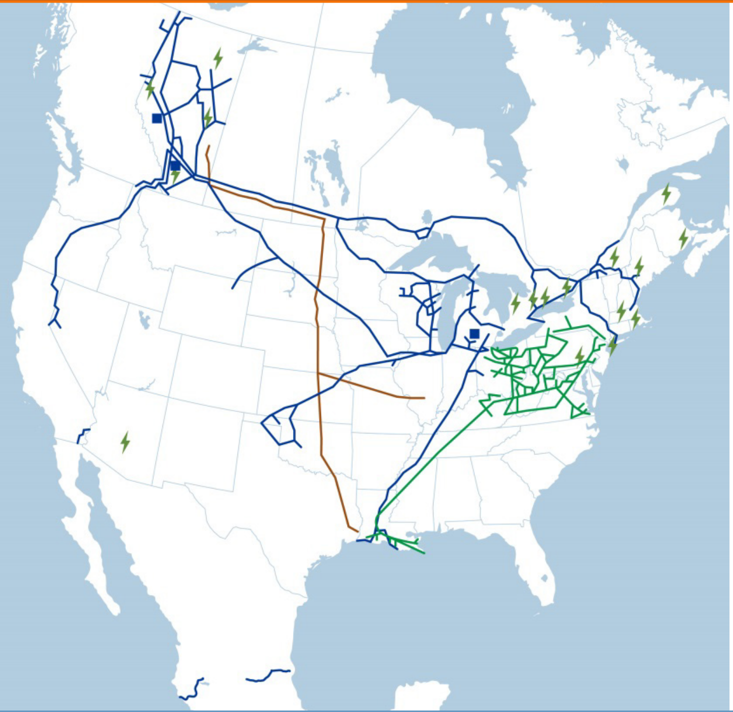
- US$13 billion acquisition of Columbia Pipeline Group includes approximately US$2.8 billion of assumed debt
  - Balance to be funded with subscription receipts of $4.4 billion (issued April 1, 2016)
  - Monetization of U.S. Northeast power and minority interest in Mexican natural gas pipelines business
  - US$6.9 billion bridge facility in place pending asset sales

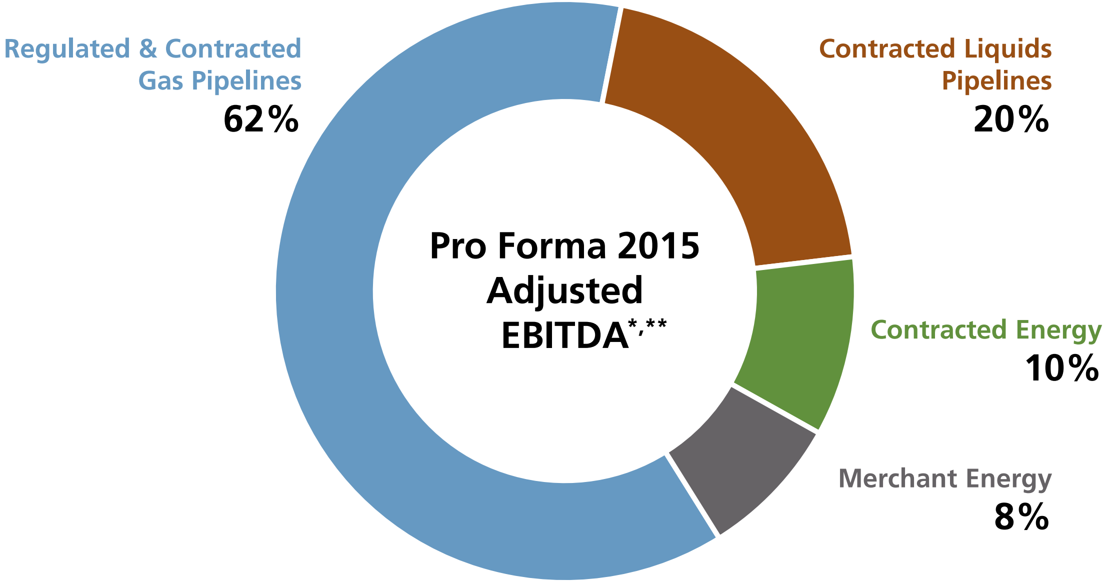
ACQUISITION TIMELINE

- Filed notification with US Federal Trade Commission April 4, 2016
- Filing with Committee on Foreign Investment in the United States was accepted on April 13, 2016
- Special Meeting of Columbia Stockholders scheduled for June 22, 2016

Expect acquisition to close in second half of 2016

PREDICTABILITY AND STABILITY OF EBITDA





*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.

Monetization of U.S. Northeast power will further reduce merchant exposure

INDUSTRY LEADING PRO FORMA NEAR-TERM CAPITAL PROGRAM

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

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
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 (1.32 exchange rate)	CAD23.9	

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

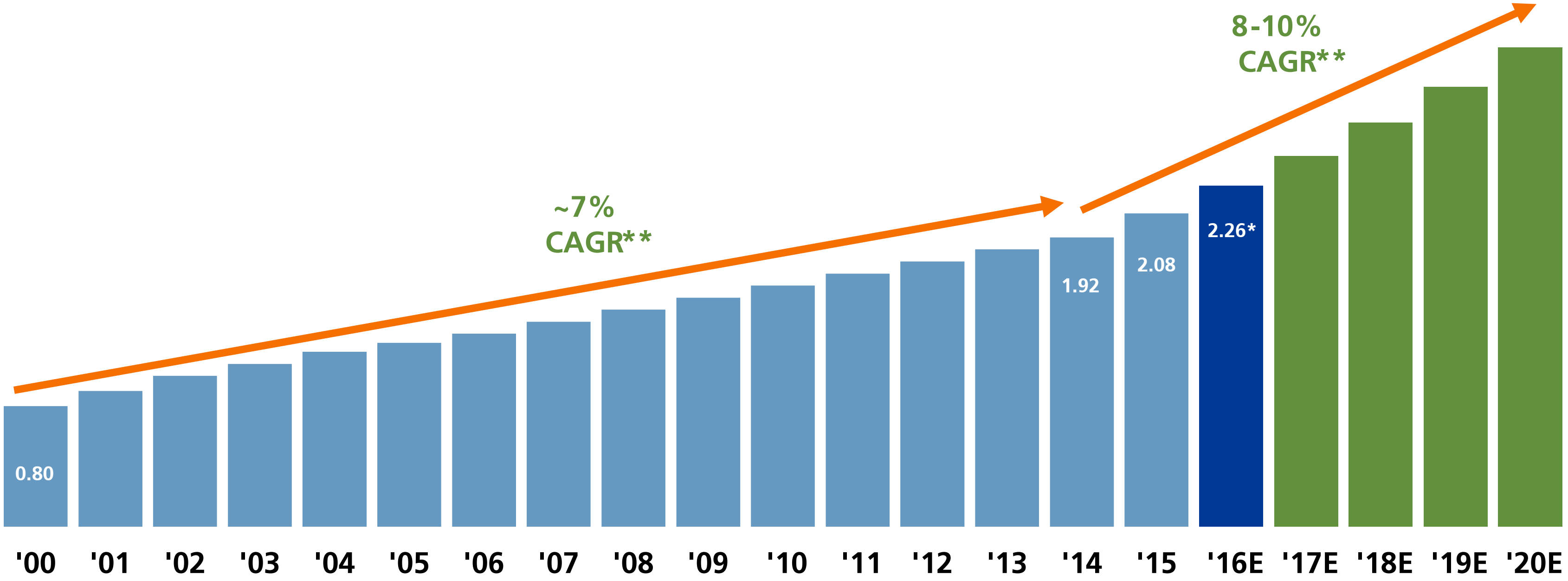
OVER $45 BILLION OF COMMERCIALLY SECURED LONG-TERM PROJECTS*

- Bruce Power Life Extension Agreement
  - To extend operating life of facility to 2064 ($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)

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

Establish us as leaders in the transportation of crude oil and natural gas for LNG export

DIVIDEND HISTORY AND GROWTH OUTLOOK THROUGH 2020



** Annualized based on second quarter dividend of $0.565 per share*   *** Compound Average Annual Growth Rate*

Columbia acquisition supports and may augment 8-10% dividend growth outlook

CONCLUSION


TransCanada
TransCanada
Energizing Our Communities
TransCanada

STRENGTH & STABILITY

TransCanada

In business to deliver

2016 ANNUAL AND SPECIAL MEETING