Second Quarter 2017 Conference Call

July 28, 2017

TransCanada
In business to deliver

Forward Looking Information and Non-GAAP Measures

This presentation includes certain forward looking information, including future oriented financial information or financial outlook, which is intended 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 in this presentation includes statements related to: future dividend growth, the future growth of our Mexico natural gas pipeline business and our successful integration of Columbia.

Our forward looking information is based on certain key assumptions and 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 and the expected growth of our Mexico natural gas pipeline business, timing and completion 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, inflation and foreign exchange rates, weather, cyber security and technological developments. You can read more about these risks and others in our July 27, 2017 Quarterly Report to Shareholders and 2016 Annual Report filed with Canadian securities regulators and the 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, Comparable Earnings Before Interest, Taxes, Depreciation and Amortization (Comparable EBITDA), Funds Generated from Operations, Comparable Funds Generated from Operations, Comparable Distributable Cash Flow (DCF) and Comparable DCF per share. Reconciliations to the most closely related GAAP measures are included in this presentation and in our July 27, 2017 Quarterly Report to Shareholders filed with Canadian securities regulators and the SEC and available at www.transcanada.com.

Russ Girling

President & CEO







Second Quarter 2017 Highlights

Generated very strong financial results

- Comparable earnings were $0.76 per share
- Comparable funds generated from operations of $1.4 billion

Declared quarterly dividend of $0.625 per common share

- Equivalent to an annualized $2.50 per share, a 10 per cent increase over 2016

Advancing $24 billion near-term capital program

- Includes additional $2 billion of expansions on the NGTL System and $0.2 billion on Canadian Mainline

Raised $2.5 billion to help fund capital program

- Issued $1.5 billion of junior subordinated notes in Canada
- Completed drop down to TC PipeLines, LP valued at US$765 million

Other developments

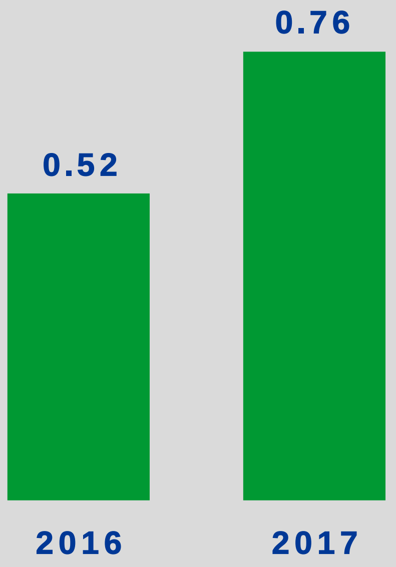
- Completed sale of U.S. Northeast merchant power assets
- Fully retired Columbia acquisition bridge facilities

Performance Highlights Diversified, Low Risk Business Strategy

Financial Highlights – Three Months Ended June 30 (Non-GAAP)

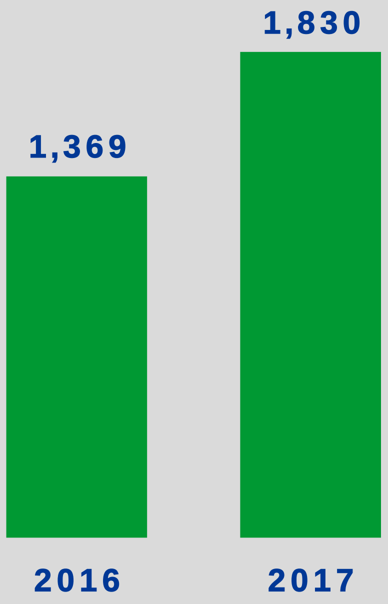
Comparable Earnings per Share*
(Dollars)

46% Increase



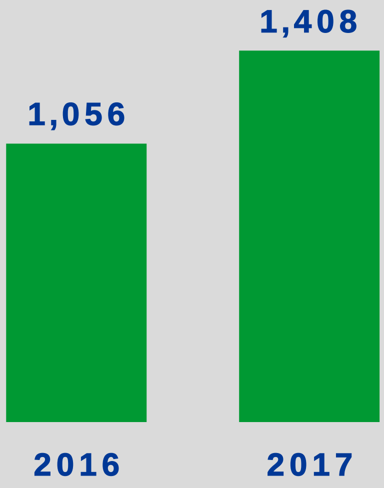
Comparable EBITDA*
($Millions)

34% Increase



Comparable Funds Generated from Operations*
($Millions)

33% Increase



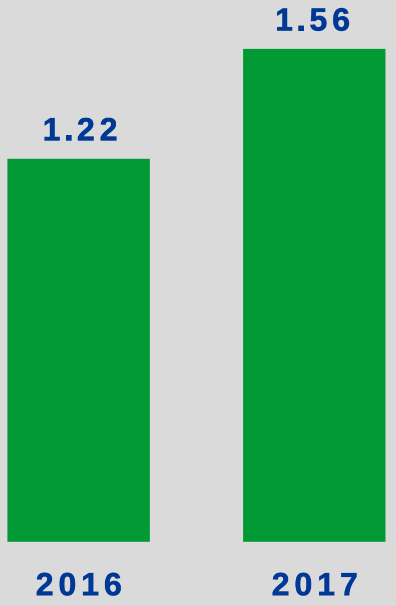
**Comparable Earnings per Share, Comparable EBITDA and Comparable Funds Generated from Operations are non-GAAP measures. See the forward looking information and non-GAAP measures slide at the front of this presentation for more information.*

Financial Highlights – Six Months Ended June 30 (Non-GAAP)

Comparable Earnings per Share*

(Dollars)

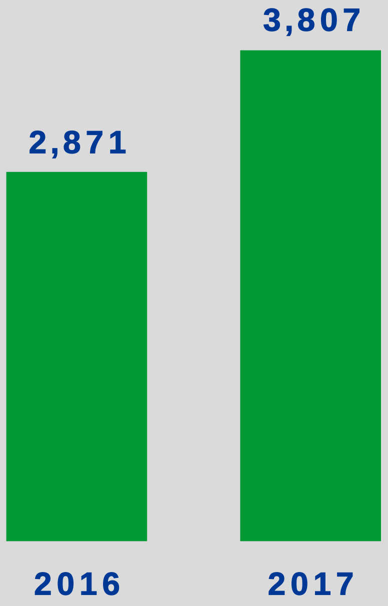
28% Increase



Comparable EBITDA*

($Millions)

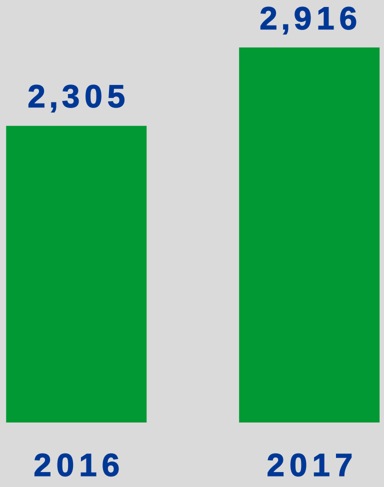
33% Increase



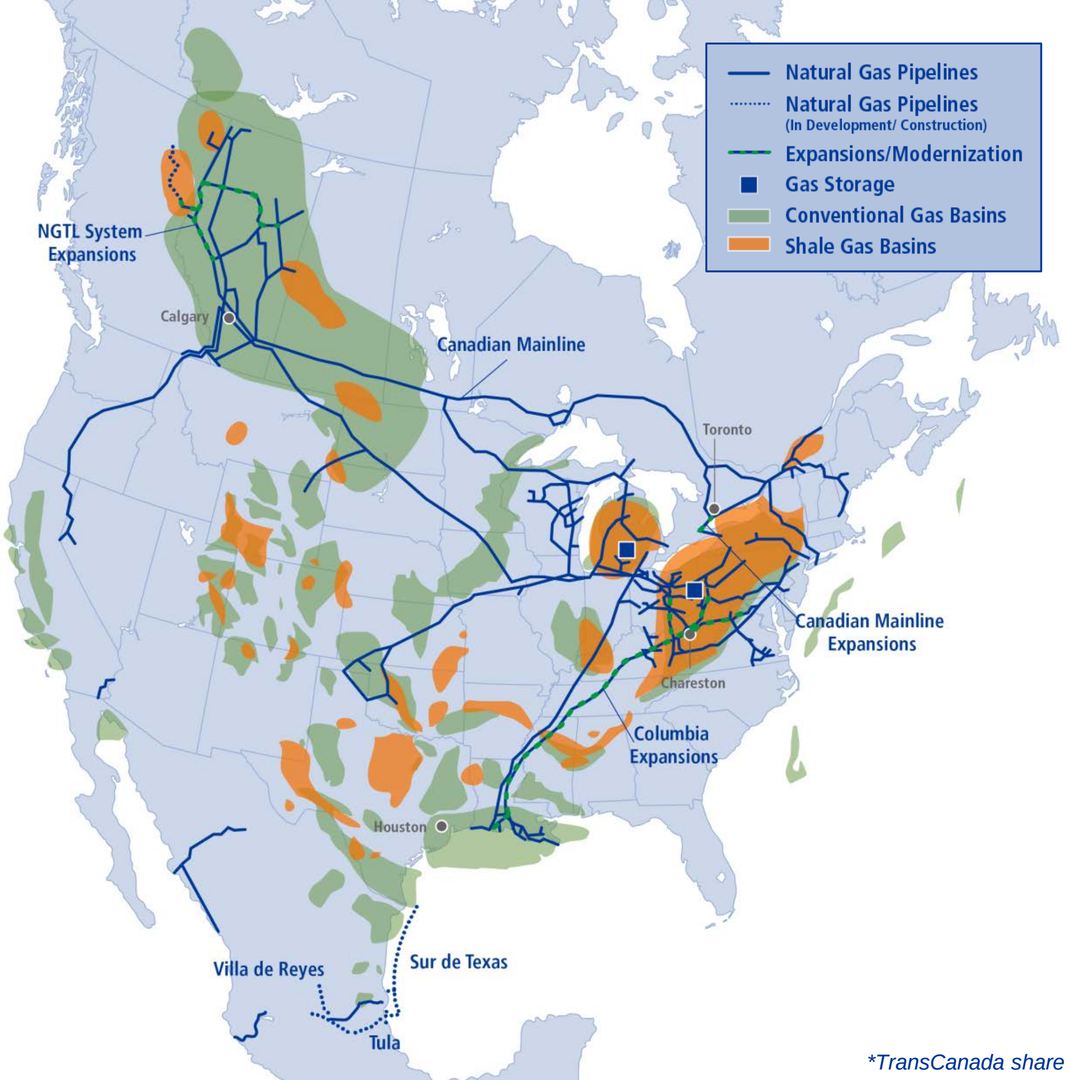
Comparable Funds Generated from Operations*

($Millions)

27% Increase



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



Natural Gas Pipelines Recent Developments

Canadian Natural Gas Pipelines

- $2 billion of additional NGTL System expansions announced in June
- Supported by customer demand for 3 Bcf/d of receipt and delivery capacity
- Canadian Mainline also received requests for $0.2 billion expansion in southern Ontario

U.S. Natural Gas Pipelines

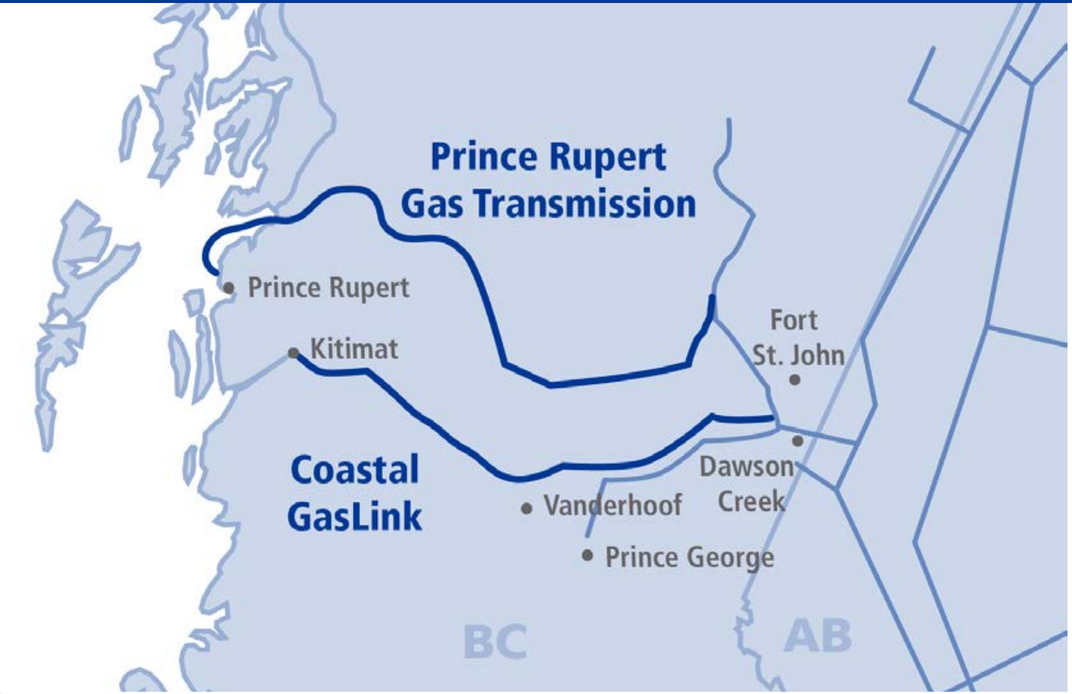
- Construction continues on Leach XPress and Rayne XPress – both expected to enter service in November 2017
- Continue to advance WB XPress, Mountaineer XPress and Gulf XPress – all expected to enter service in 2018

Mexico Natural Gas Pipelines

- US$2.5 billion* of projects progressing

*TransCanada share

West Coast LNG



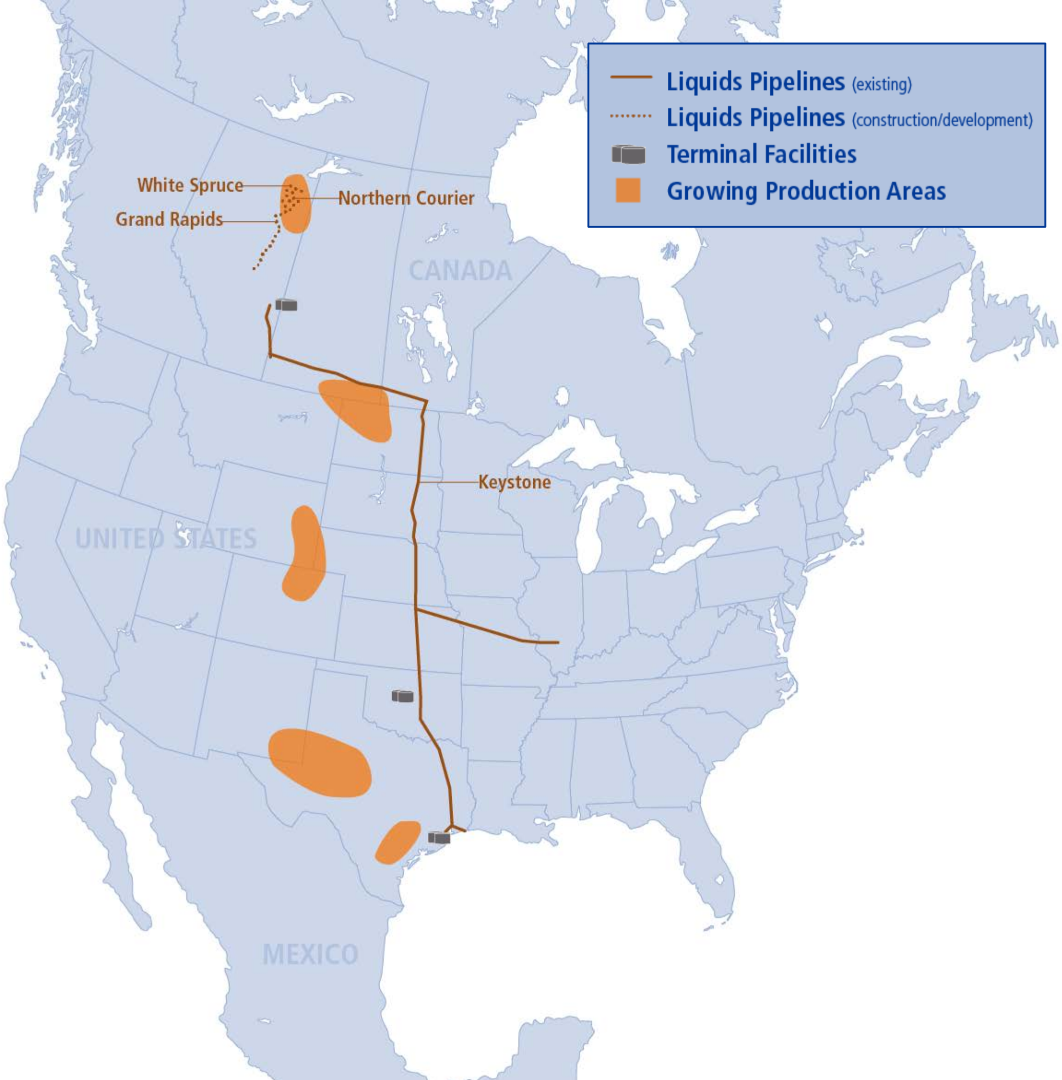
Prince Rupert Gas Transmission (PRGT)

- We were notified that Pacific Northwest LNG would not be proceeding with their proposed LNG project
- Following receipt of termination notice we would be reimbursed for the full costs and carrying charges to advance PRGT
- We expect to receive this payment later in 2017

Coastal GasLink

- Delays in the Final Investment Decision (FID) for the LNG Canada project triggered a restructuring of provisions in the project development agreement
- ~$80 million payment will be received in September 2017, followed by quarterly payments of ~$7 million for carrying charges on costs incurred since inception of the project
- We continue to work with LNG Canada under the agreement towards an FID

Liquids Pipelines Recent Developments



Keystone Producing Solid Results

- Contribution from 545,000 bbl/d of long-term, long-haul contracts supplemented by higher short-term volumes

Alberta Regional Pipeline Projects Continue to Advance

- $900 million Grand Rapids pipeline commenced line fill activities
- $1 billion Northern Courier project nearing completion of construction
- Both expected to be in-service in 2017

Keystone XL

Open Season

- Launched on July 27, 2017 to solicit additional binding commitments from interested parties for transportation services to Cushing, Oklahoma and the U.S. Gulf Coast
- Ends September 28, 2017

Nebraska Regulatory Process

- Nebraska Public Service Commission continues to review regulatory application
- Decision expected by the end of November 2017

A Competitive Transportation Solution to U.S. Gulf Coast

Energy
Recent Developments

6,200 MW of capacity with the sale of U.S. Northeast power assets complete

- ~95% of capacity underpinned by long-term contracts with solid counterparties

Near-term Capital Projects Progressing

- Construction of $1.1 billion Napanee facility continues; expected to be in-service in 2018
- Work continues at Bruce Power under long-term life extension agreement

Advancing $24 Billion Near-Term Capital Program

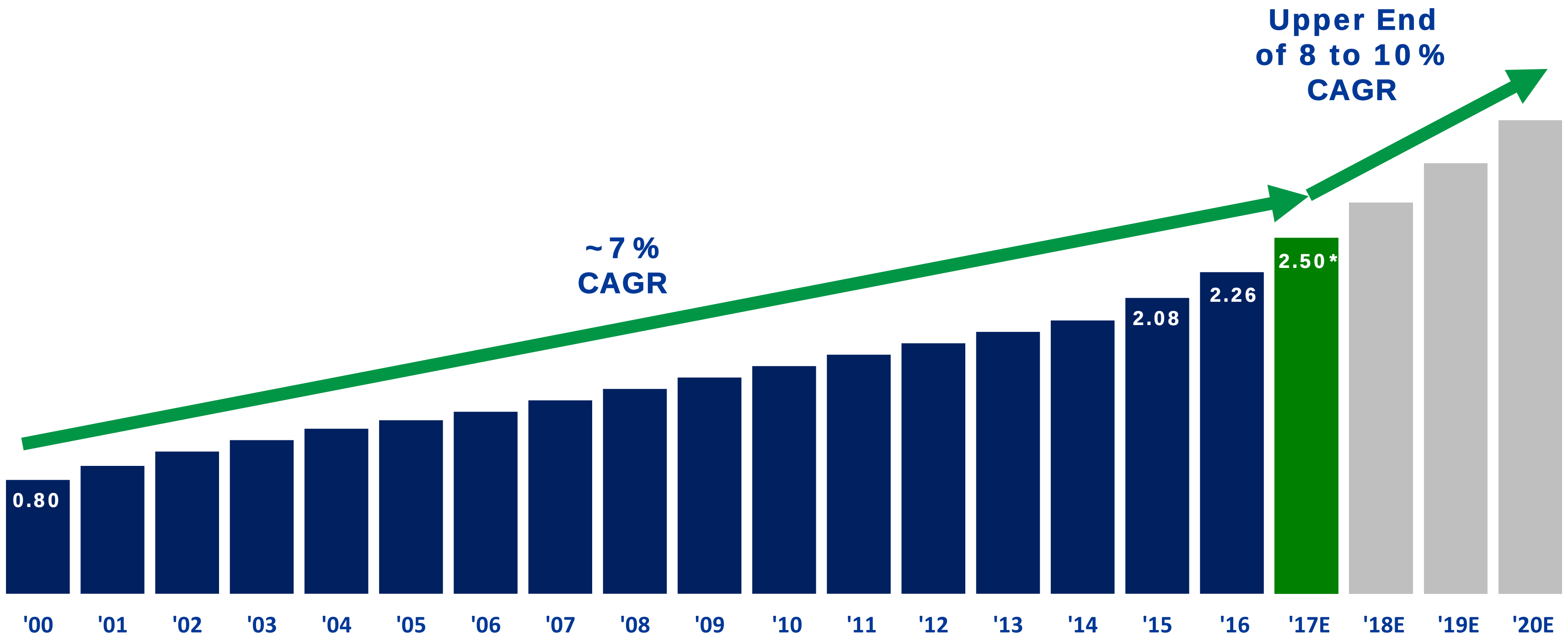
Illustrates the configuration of TransCanada's near-term projects

Project	Estimated Capital Cost*	Invested to Date	Expected In-Service Date*
Columbia	US7.2	US2.3	2017-2020
NGTL System	7.1	1.6	2017-2021+
Canadian Mainline	0.5	0.2	2017-2019
Tula	US0.6	US0.4	2018
Villa de Reyes	US0.6	US0.3	2018
Sur de Texas	US1.3	US0.4	2018
Grand Rapids	0.9	0.8	2017
Northern Courier	1.0	1.0	2017
White Spruce	0.2	-	2018
Napanee	1.1	0.8	2018
Bruce Power Life Extension	1.0	0.2	Up to 2020+
Foreign Exchange Impact (1.30 exchange rate)	2.9	1.0	-
Total Canadian Equivalent	24.4	9.0	

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

Underpinned by Long-Term Contracts or Cost-of-Service Regulation

Dividend History and Growth Outlook



Growth Outlook Supported by Expected Growth in Earnings and Cash Flow and Strong Coverage Ratios

** Annual rate based on third quarter dividend of $0.625 per share*

Don Marchand

Executive Vice President & CFO







Consolidated Results of Operations

(unaudited) (millions of dollars, except per share amounts)

	Three months ended June 30		Six months ended June 30	
	2017	2016	2017	2016
Net Income Attributable to Common Shares	881	365	1,524	617
Specific items (net of tax):				
Net gain on sales of U.S. Northeast power assets	(265)	-	(255)	-
Integration and acquisition related costs - Columbia	15	113	39	139
Keystone XL asset costs	4	9	11	15
Keystone XL income tax recoveries	-	-	(7)	-
Alberta PPA terminations	-	-	-	176
Restructuring costs	-	10	-	10
TC Offshore loss on sale	-	-	-	3
Risk management activities	24	(131)	45	(100)
Comparable Earnings(1)	659	366	1,357	860
Net Income Per Common Share	$1.01	$0.52	$1.76	$0.88
Specific items (net of tax):				
Net gain on sales of U.S. Northeast power assets	(0.30)	-	(0.29)	-
Integration and acquisition related costs - Columbia	0.02	0.16	0.04	0.20
Keystone XL asset costs	-	0.01	0.01	0.02
Keystone XL income tax recoveries	-	-	(0.01)	-
Alberta PPA terminations	-	-	-	0.25
Restructuring costs	-	0.01	-	0.01
Risk management activities	0.03	(0.18)	0.05	(0.14)
Comparable Earnings Per Common Share(1)	$0.76	$0.52	$1.56	$1.22
Average Common Shares Outstanding (millions)	870	703	868	703

(1) Non-GAAP measure. For additional information on these items see the July 27, 2017 Quarterly Report to Shareholders

Business Segment Results[1]
(unaudited) (millions of dollars)

	Three months ended June 30		Six months ended June 30	
	2017	2016	2017	2016
Comparable EBITDA[2]				
Canadian Natural Gas Pipelines	527	561	1,031	1,049
U.S. Natural Gas Pipelines	551	252	1,271	590
Mexico Natural Gas Pipelines	145	49	285	102
Liquids Pipelines	332	276	644	572
Energy	287	231	592	559
Corporate	(12)	-	(16)	(1)
Total	1,830	1,369	3,807	2,871

Second quarter 2017 comparable EBITDA increased $461 million compared to same period in 2016. Principal variances included:

- **U.S. Natural Gas Pipelines**
  - Higher due to the Columbia acquisition and additional ANR revenues from increased rates
- **Mexico Natural Gas Pipelines**
  - Positively impacted by contributions from Topolobampo and Mazatlán
- **Liquids**
  - Higher earnings mainly from higher volumes on the Keystone System
- **Energy**
  - Higher earnings from Bruce Power mainly due to higher volumes resulting from fewer planned outage days

(1) For more information, see the July 27, 2017 Quarterly Report to Shareholders; (2) Non-GAAP measure. For additional information on these items see the July 27, 2017 Quarterly Report to Shareholders

Other Income Statement Items[1]
(unaudited) (millions of dollars)

	Three months ended June 30		Six months ended June 30	
	2017	2016	2017	2016
Comparable EBITDA[2]	1,830	1,369	3,807	2,871
Depreciation and amortization	(516)	(444)	(1,026)	(898)
Comparable EBIT[2]	1,314	925	2,781	1,973
Interest expense[3]	(524)	(405)	(1,024)	(825)
Allowance for funds used during construction	121	111	222	212
Interest income and other[3]	40	4	45	51
Income tax expense[3]	(198)	(189)	(442)	(369)
Net income attributable to non-controlling interests	(55)	(52)	(145)	(132)
Preferred share dividends	(39)	(28)	(80)	(50)
Comparable Earnings[2]	659	366	1,357	860

Principal variances between second quarter 2017 and the same period in 2016 included:

- **Depreciation and amortization**
  - Higher due to the acquisition of Columbia and new assets placed into service
- **Interest expense[3]**
  - Higher primarily due to assumed Columbia debt and new debt issuances
- **Interest income and other[3]**
  - Higher due primarily to income from payments related to Coastal GasLink project costs incurred to date
- **Income tax expense[3]**
  - Higher primarily due to increased pre-tax earnings and changes in the proportion of income earned between Canadian and foreign jurisdictions

(1) For more information, see the July 27, 2017 Quarterly Report to Shareholders; (2) Non-GAAP measures. For additional information on these items see the July 27, 2017 Quarterly Report to Shareholders; (3) Represents amounts included in comparable earnings

Comparable Distributable Cash Flow

(unaudited) (millions of dollars, except per share amounts)

	Three months ended June 30		Six months ended June 30	
	2017	2016	2017	2016
Comparable Funds Generated From Operations[2]	1,408	1,056	2,916	2,305
Dividends on preferred shares	(38)	(23)	(77)	(46)
Distributions paid to non-controlling interests	(69)	(62)	(149)	(124)
Maintenance capital expenditures including equity investments[1]	(365)	(269)	(532)	(459)
Comparable Distributable Cash Flow[2]	936	702	2,158	1,676
Per Common Share[2]	$1.08	$1.00	$2.49	$2.38
Dividends per Common Share	$0.625	$0.565	$1.25	$1.13
Coverage Ratio	1.7	1.8	2.0	2.1

(1)

Maintenance capital expenditures including equity investments				
Canadian Natural Gas Pipelines	71	42	120	97
U.S. Natural Gas Pipelines	237	94	307	165
Other	57	133	105	197
Total	365	269	532	459

[2] Non-GAAP measure. For additional information on these items see the July 27, 2017 Quarterly Report to Shareholders

Funding Program Continued to Advance in Second Quarter

Strong, predictable and growing cash flow from operations

- Comparable funds generated from operations were $1.4 billion in the period
- $1.5 billion of cash and cash equivalents on hand at June 30

Access to capital markets remains strong

- Issued $1.5 billion of 60-year junior subordinated notes at an initial rate of 4.65 per cent
- Raised US$500 million in 10-year notes at TC PipeLines, LP at a rate of 3.9 per cent

Portfolio management including drop downs to TC PipeLines, LP and asset sales

- Completed drop down of interests in Iroquois and PNGTS to TC PipeLines, LP valued at US$765 million
- Closed US$3.1 billion sale of U.S. Northeast Power generation assets; fully retired Columbia bridge facilities

Dividend Reinvestment Plan participation remains significant

- Approximately 35 per cent of dividends reinvested in common shares in quarter

At-The-Market (ATM) program, as appropriate

- Established $1 billion program to issue common shares from treasury at TransCanada's discretion
- To be utilized if and as appropriate; no common shares issued under ATM to date

Completion of $24 Billion Near-Term Capital Program Does Not Require Discrete Equity

Key Takeaways

Track Record of Delivering Long-Term Shareholder Value

14% average annual return since 2000

Visible Growth Portfolio

$24 billion to 2020
Additional opportunity set includes over $40 billion of medium to longer-term projects

Attractive, Growing Dividend

3.9% yield
8-10% expected CAGR through 2020

Strong Financial Position

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

Performance Highlights Diversified, Low Risk Business Strategy

Question & Answer Period

Russ Girling

Don Marchand

Karl Johannson

Paul Miller

Glenn Menuz

David Moneta

Appendix – Reconciliation of Non-GAAP Measures (millions of dollars)

	Three months ended June 30		Six months ended June 30	
	2017	2016	2017	2016
Comparable EBITDA[1]	1,830	1,369	3,807	2,871
Depreciation and amortization	(516)	(444)	(1,026)	(898)
Comparable EBIT[1]	1,314	925	2,781	1,973
Specific items:				
Net gain on sales of U.S. Northeast power assets	492	-	481	-
Integration and acquisition related costs - Columbia	(20)	(10)	(59)	(36)
Foreign exchange loss - inter-affiliate loan	(8)	-	(8)	-
Keystone XL asset costs	(5)	(13)	(13)	(23)
Alberta PPA terminations	-	-	-	(240)
Restructuring costs	-	(14)	-	(14)
TC Offshore loss on sale	-	-	-	(4)
Risk management activities	(91)	228	(147)	103
Segmented Earnings	1,682	1,116	3,035	1,759

(1) Comparable EBITDA and Comparable EBIT are non-GAAP measures. See the non-GAAP measures slide at the front of this presentation for more information.

Appendix – Reconciliation of Non-GAAP Measures continued (millions of dollars, except per share amounts)

	Three months ended June 30		Six months ended June 30	
	2017	2016	2017	2016
Net Cash Provided by Operations	1,353	1,148	2,655	2,229
(Decrease) / increase in operating working capital	(17)	(218)	138	(86)
Funds Generated From Operations[1]	1,336	930	2,793	2,143
Specific items:				
Integration and acquisition related costs - Columbia	20	113	52	139
Keystone XL asset costs	5	13	13	23
U.S. Northeast power disposition costs	6	-	17	-
Current income taxes on sales of U.S. Northeast power assets	41	-	41	-
Comparable Funds Generated From Operations[1]	1,408	1,056	2,916	2,305
Dividends on preferred shares	(38)	(23)	(77)	(46)
Distributions paid to non-controlling interests	(69)	(62)	(149)	(124)
Maintenance capital expenditures including equity investments	(365)	(269)	(532)	(459)
Comparable Distributable Cash Flow[1]	936	702	2,158	1,676
Per Common Share[1]	$ 1.08	$ 1.00	$ 2.49	$ 2.38

(1) Funds Generated from Operations, Comparable Funds Generated from Operations, Comparable Distributable Cash Flow and Comparable Distributable Cash Flow per Common Share are non-GAAP measures. See the non-GAAP measures slide at the front of this presentation for more information.

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