Fourth Quarter 2017 Conference Call

February 15, 2018

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 core businesses.

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, the operating performance of our pipeline and energy assets, economic and competitive conditions in North America and globally, the availability, demand for 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 and credit risk 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, tax and foreign exchange rates, including the impact of U.S. tax reform legislation, weather, cyber security, technological developments and economic conditions in North America as well as globally. You can read more about these risks and others in our Fourth Quarter 2017 Financial Highlights release and 2017 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 Fourth Quarter 2017 Financial Highlights release filed with Canadian securities regulators and the SEC and available at www.transcanada.com.

Russ Girling

President & CEO

2017 Accomplishments

Generated record financial results

- Comparable earnings per share were $0.82 in the fourth quarter and $3.09 for the year

Integrated Columbia; on track to realize US$250 million of annual synergies

- Acquired Columbia Pipeline Partners, simplifying corporate structure
- Completed sale of U.S. Northeast Power assets, repaid Columbia bridge facilities

Advanced $23 billion near-term capital program

- Placed ~$5.0 billion of projects into service; completed US$1.6 billion Leach XPress in January 2018
- Added over $3.0 billion of secured growth; announced $2.4 billion NGTL expansion in February 2018

Progressed over $20 billion of medium- to longer-term projects under development

- Includes Keystone XL, Coastal GasLink and Bruce Power Life Extension program

Funded $9.2 billion capital program on compelling terms

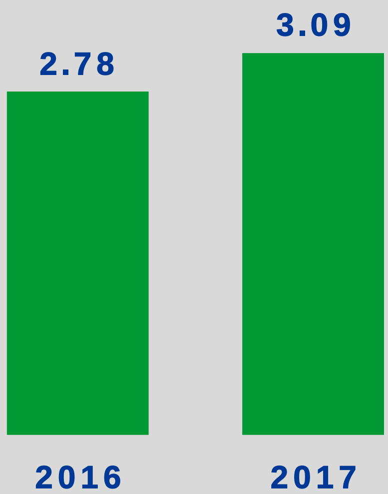
- Raised over $6 billion in capital markets
- Completed dropdown to TC PipeLines, LP for US$765 million
- Reimbursed for development costs incurred on Prince Rupert Gas Transmission and sold Ontario Solar portfolio for combined proceeds of ~$1.1 billion

Successfully Advanced our Strategic Priorities

Financial Highlights – Twelve Months Ended December 31 (Non-GAAP)

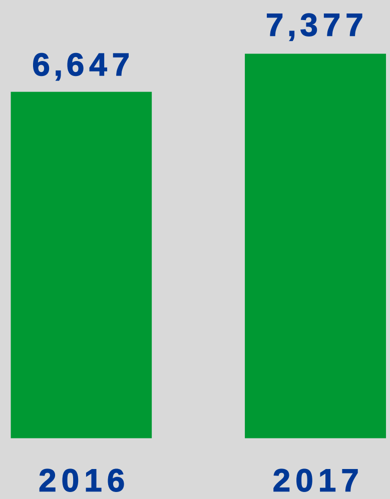
Comparable Earnings per Share*
(Dollars)

11% Increase



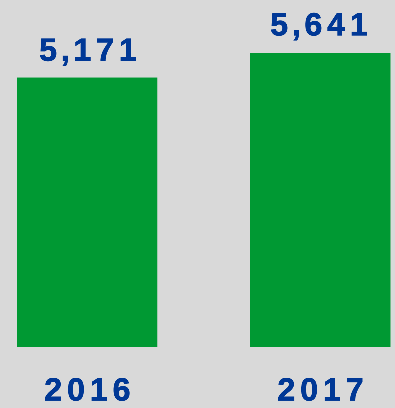
Comparable EBITDA*
($Millions)

11% Increase



Comparable Funds Generated from Operations*
($Millions)

9% Increase

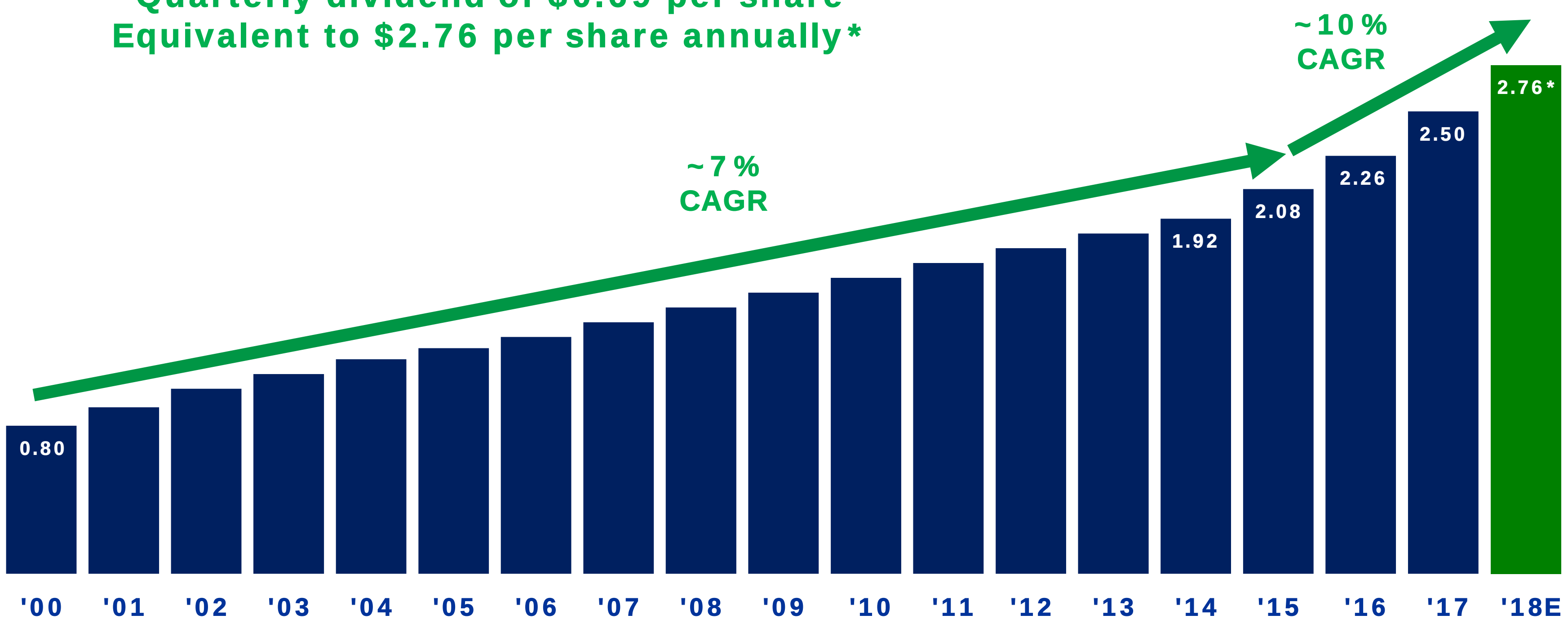


Columbia Acquisition and Integration Contributed to Strong Performance in 2017

**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.*

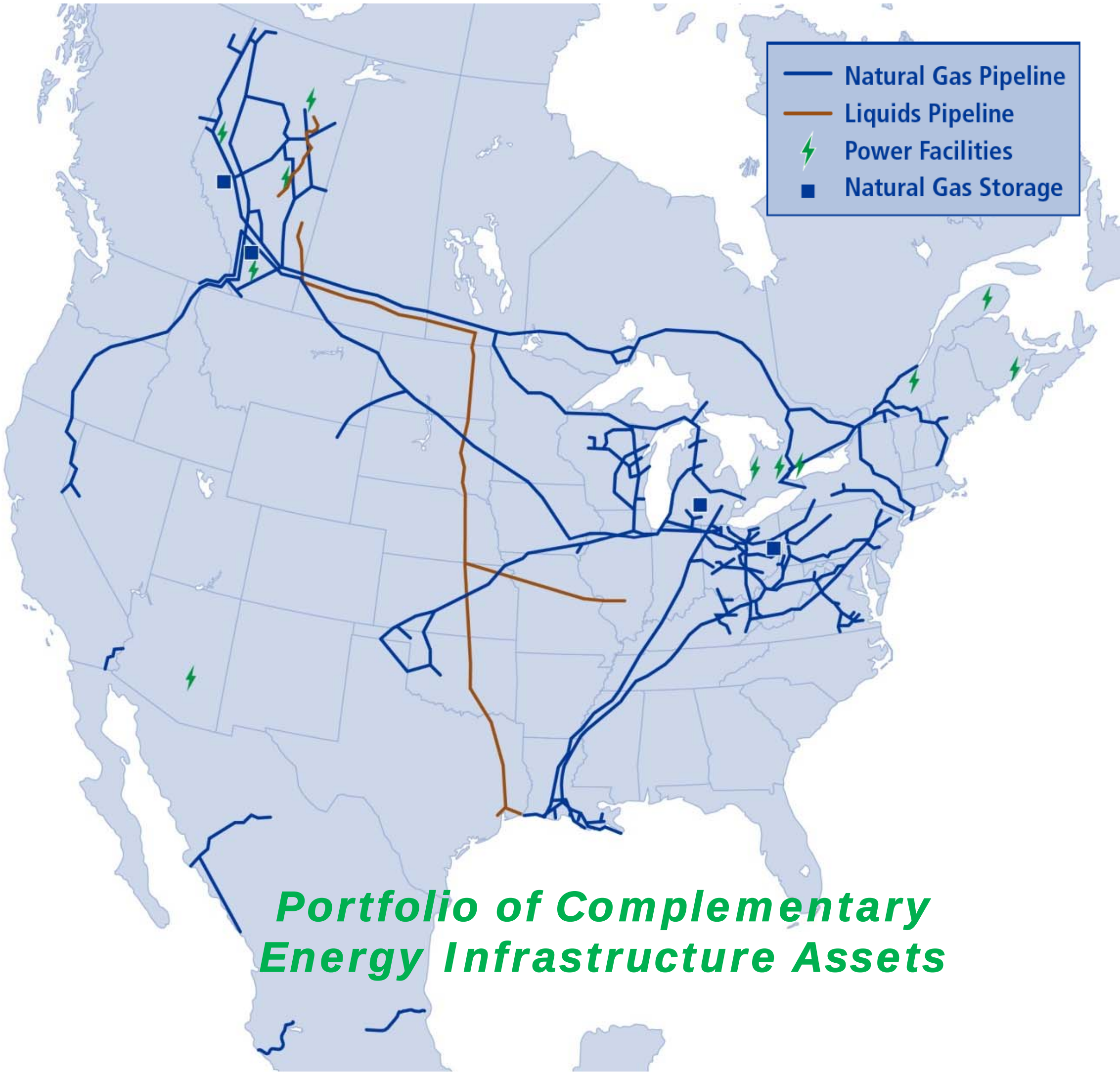
Common Share Dividend Increased 10.4 Percent

Quarterly dividend of $0.69 per share
Equivalent to $2.76 per share annually*



Eighteenth Consecutive Annual Dividend Increase

** Annual rate based on first quarter dividend of $0.69 per share*



Portfolio of Complementary Energy Infrastructure Assets

TransCanada Today

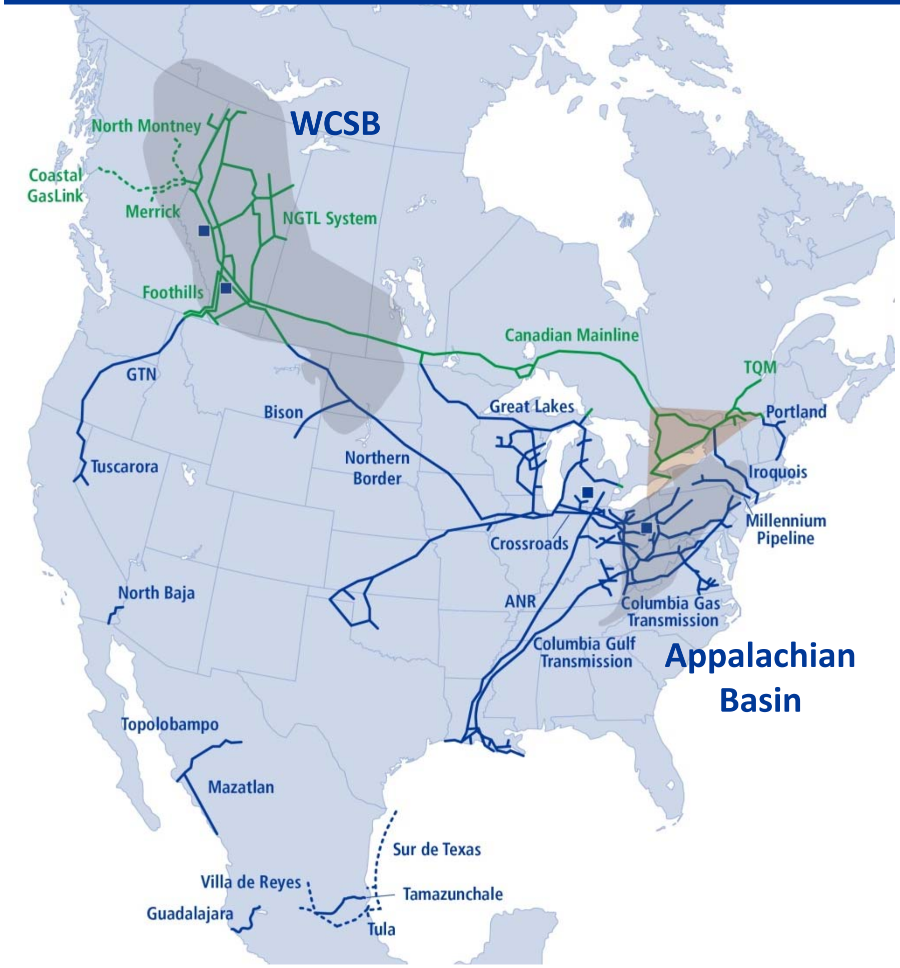
- **One of North America's Largest Natural Gas Pipeline Networks**
  - 91,900 km (57,100 mi) of pipeline
  - 653 Bcf of storage capacity
  - 23 Bcf/d; ~25% of continental demand
- **Premier Liquids Pipeline System**
  - 4,900 km (3,000 mi) of pipeline
  - 555,000 bbl/d Keystone System transports ~20% of Western Canadian exports
- **One of the Largest Private Sector Power Generators in Canada**
  - 11 power plants, 6,100 MW
  - Primarily long-term contracted assets
- **Enterprise Value ~$100 billion**

Advancing $23 Billion Near-Term Capital Program

Project	Estimated Capital Cost*	Invested to Date*	Expected In-Service Date*
Leach XPress	US 1.6	US 1.5	In-Service
Canadian Mainline	0.2	-	2018-2021
NGTL System	0.6	0.2	2018
WB XPress	US 0.8	US 0.4	2018
Mountaineer XPress	US 2.6	US 0.5	2018
Cameron Access	US 0.3	US 0.3	2018
Gulf XPress	US 0.6	US 0.2	2018
Villa de Reyes	US 0.8	US 0.5	2018
Sur de Texas**	US 1.3	US 1.0	2018
Napanee	1.3	0.9	2018
Bruce Power Life Extension**	0.9	0.3	Up to 2020
Modernization II	US 1.1	US 0.1	2018-2020
Other U.S. Gas**	US 0.3	-	2018-2020
White Spruce	0.2	-	2019
NGTL System	2.3	0.3	2019
Tula	US 0.7	US 0.5	2019
Buckeye XPress	US 0.2	-	2020
NGTL System	1.6	0.1	2020
NGTL System	2.7	-	2021
Foreign Exchange Impact (1.25 exchange rate)	2.6	1.3	-
Total Canadian Equivalent	22.7	8.1	

*Billions of dollars. Certain projects are subject to various conditions including corporate and regulatory approvals.
**Our proportionate share.

Natural Gas Pipelines Recent Developments



Canadian Natural Gas Pipelines

- Placed $2.0 billion of facilities into service in 2017
- Advancing $7.4 billion capital program
- Canadian Mainline contracted 1.4 Bcf/d under 10-year contracts starting November 1, 2017

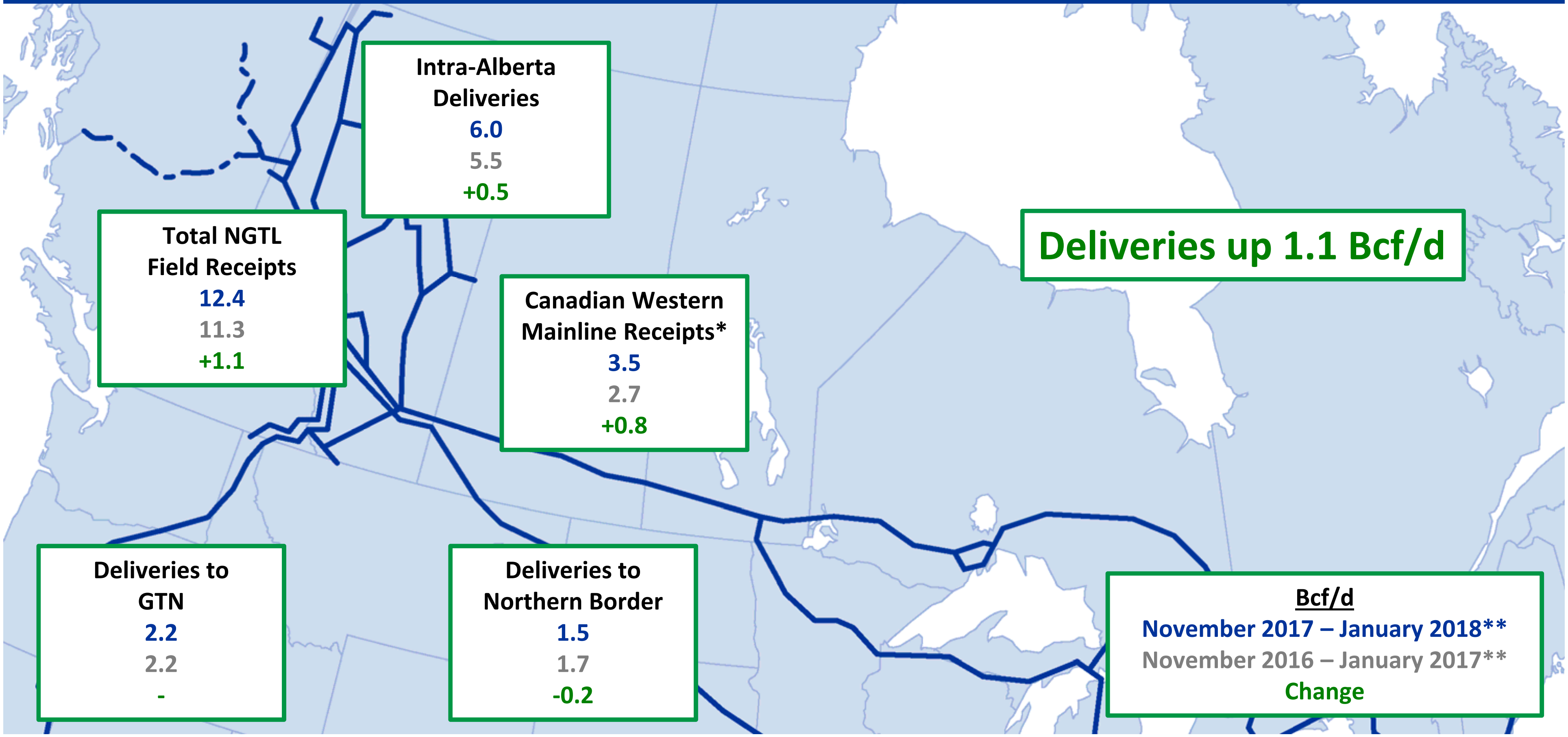
U.S. Natural Gas Pipelines

- Placed US$0.9 billion of projects into service in 2017
- Progressing US$7.5 billion capital program including Leach XPress which entered service on January 1, 2018
- Received FERC certificates for WB XPress, Mountaineer XPress and Gulf XPress; in-service expected end of 2018

Mexico Natural Gas Pipelines

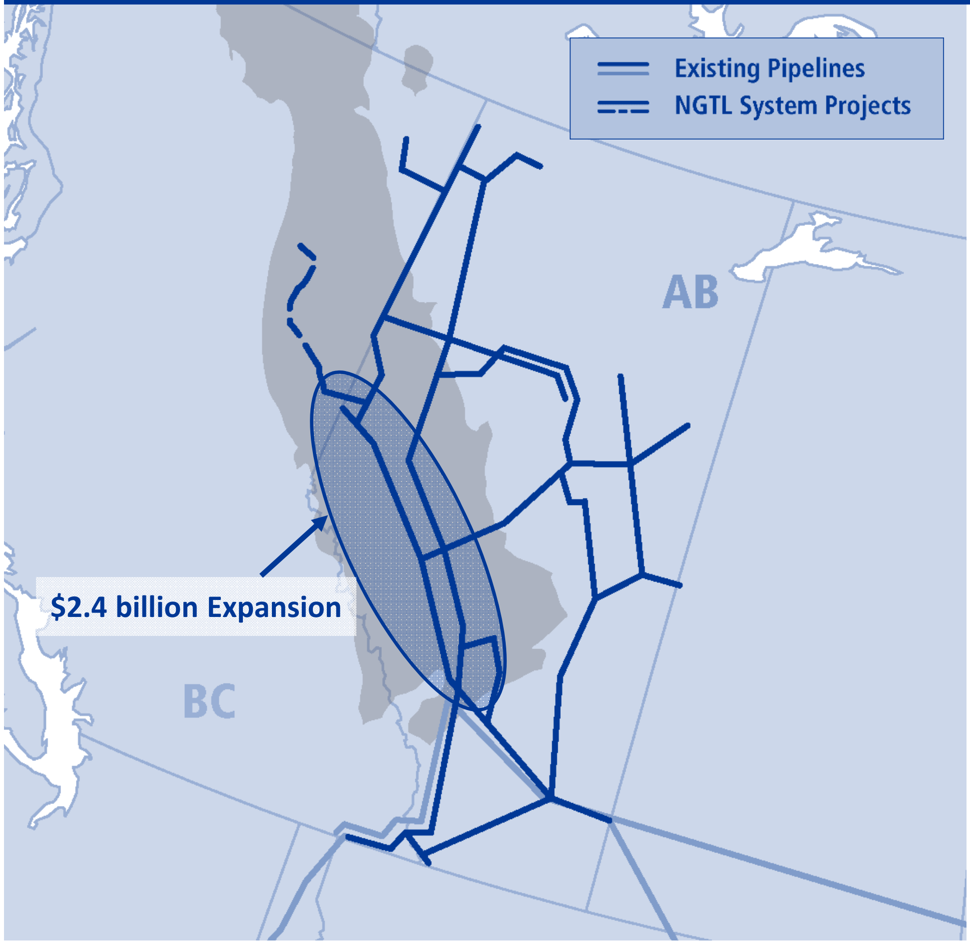
- Advancing US$2.8 billion capital program
- Sur de Texas and Villa de Reyes expected in-service late-2018; Tula expected in-service 2019

NGTL System and Canadian Mainline Volumes



*Includes volumes in Saskatchewan
**Coincides with beginning of new gas year

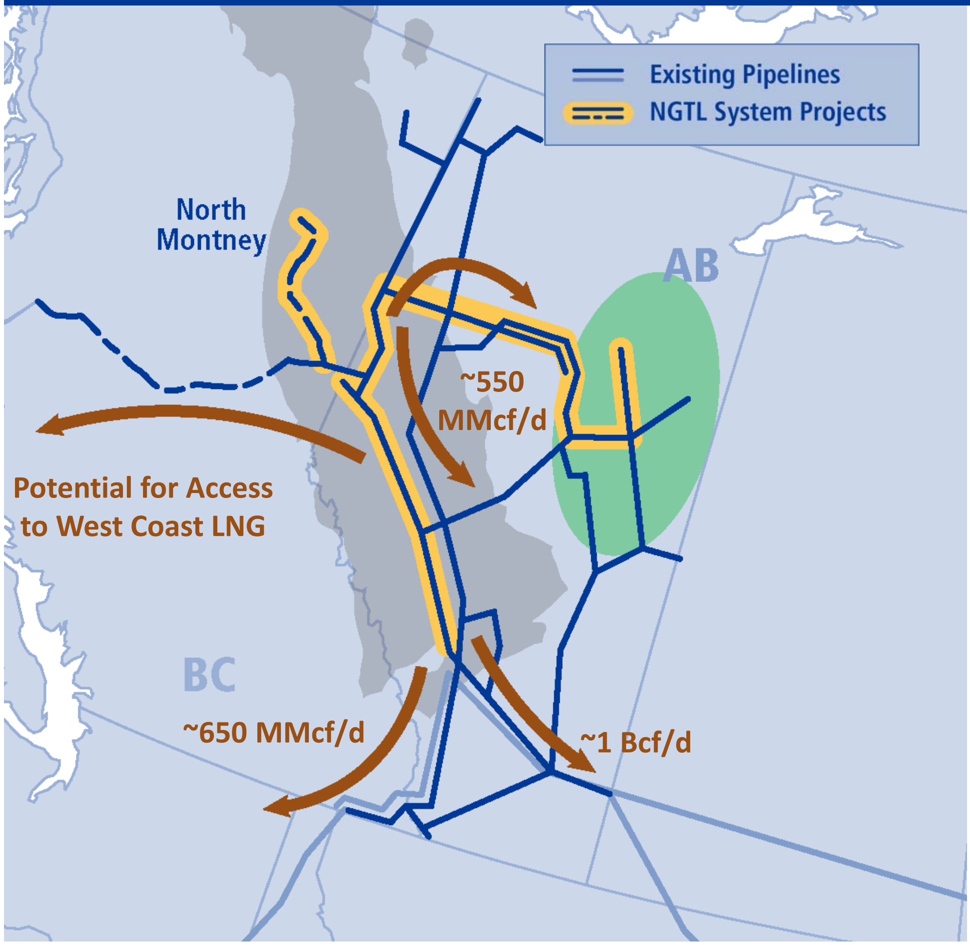
NGTL $2.4 Billion Expansion Project to Increase Capacity by 1.0 Bcf/d



- **$2.4 billion 2021 expansion connects incremental supply and increases delivery capacity at Empress/McNeill**
  - Contracts: 0.6 Bcf/d receipt, 1.0 Bcf/d delivery
  - Average Delivery Contract Term: 28.6 years
  - 375 km (233 mi) large diameter pipeline
  - Compression facilities and meter stations
  - Anticipate filing project description with the NEB in second quarter 2018 to initiate regulatory review process
  - Expect to begin construction in 2019 (subject to regulatory approvals) with service commencing in November 2020 and April 2021

Increases Market Access for WCSB Supply

NGTL $7.2 Billion Capital Program Adds 2.2 Bcf/d of Delivery Capacity by 2021



- **$7.2 billion capital program supported by long-term firm receipt and delivery contracts**
- **Adds 2.2 Bcf/d of incremental delivery capacity to market**
  - Intra-Alberta delivery capacity to increase by 550 MMcf/d
  - Export capacity at Alberta / B.C. border (effectively GTN) to increase by 650 MMcf/d
  - Export capacity at Alberta / Saskatchewan border to increase by 1 Bcf/d
- **Continue to work with industry on further initiatives to connect growing supply to markets including**
  - Potential restoration of Canadian Mainline capacity
  - West coast LNG

Working with Industry to Facilitate Further Economic Access to Key Markets

Liquids Pipelines Recent Developments

Keystone Pipeline System

- Secured incremental long-term contracts for Keystone and Marketlink systems

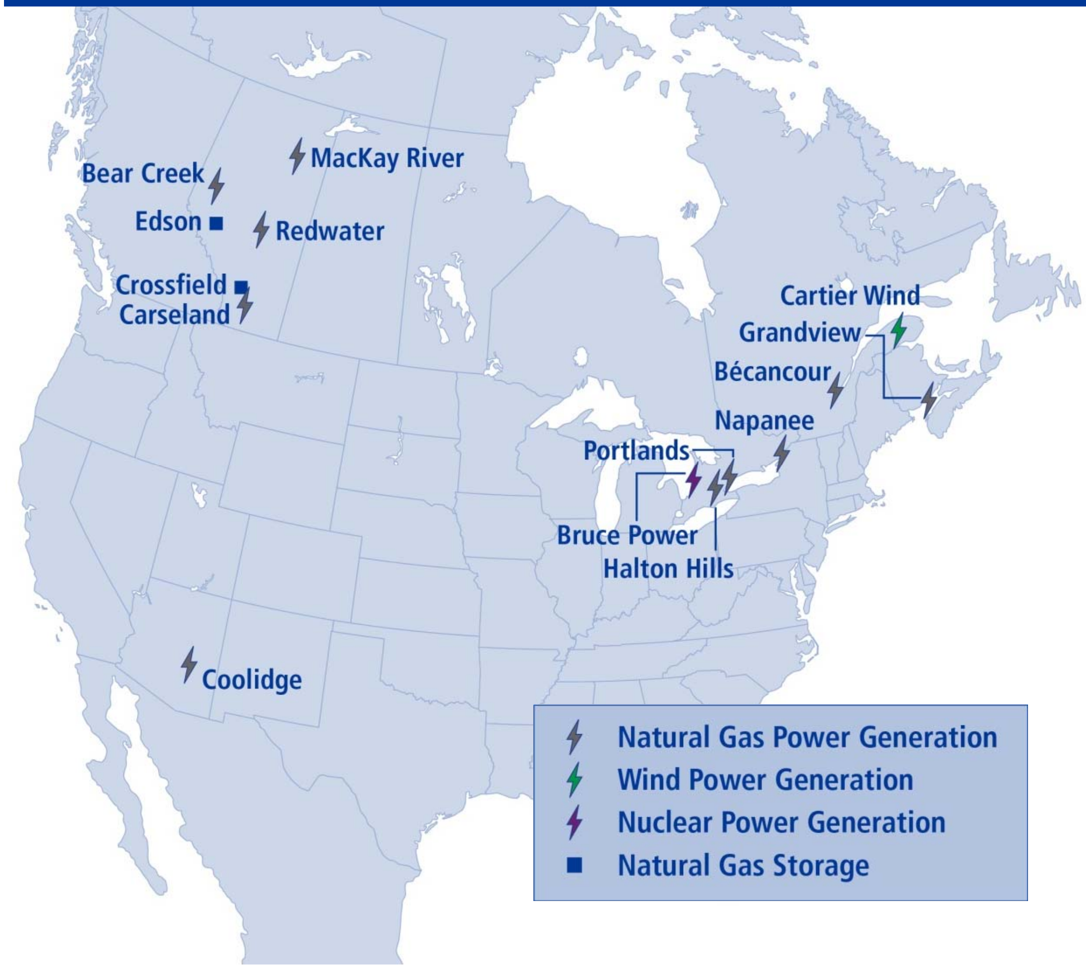
Intra-Alberta Pipelines

- Placed the $1.0 billion Northern Courier Pipeline into service

Keystone XL

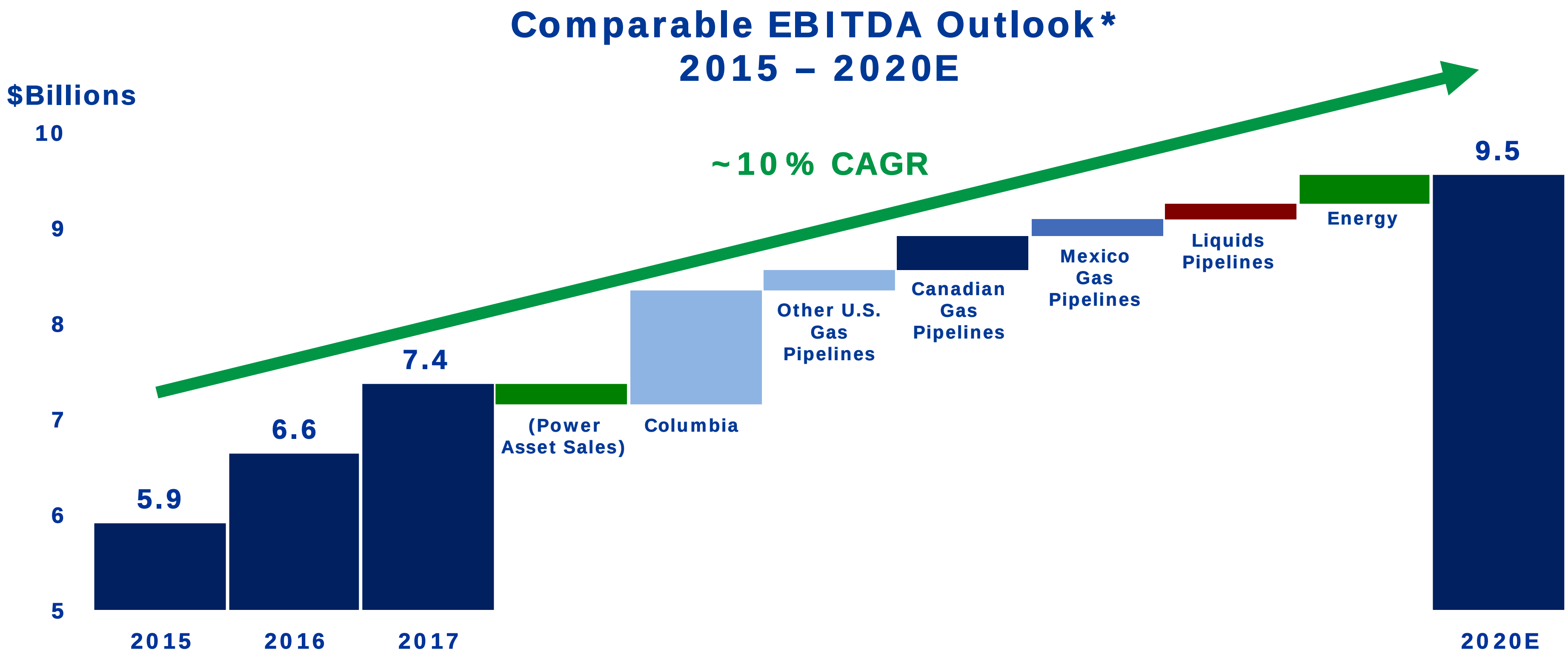
- **NEB approval received**
- **U.S. permits received**
  - U.S. Presidential Permit
  - Montana, South Dakota and Nebraska state approvals
- **Working collaboratively with landowners to obtain the necessary easements in Nebraska for the approved route**
- **Commercial support confirmed**
  - Secured 20-year commitments underpinning return of and on total capital
  - Significantly contracted
- **Construction preparation has commenced**
- **Primary construction is expected to begin in 2019 and will take approximately two years to complete**

Energy Recent Developments



- **Construction progressing on the 900 MW Napanee project**
  - Expected in-service in fourth quarter 2018
- **Preparation work continues on the Bruce Power life extension program**
  - First Major Component Replacement program to begin in 2020
  - Cost to be finalized October 2018 (IESO refurbishment lock-in date)
- **Completed sale of 76 MW Ontario Solar portfolio for $541 million**
- **Entered agreement to sell our U.S. power retail contracts as part of the continued wind down of our U.S. power marketing operations**

$23 Billion of Near-Term Projects Drive Significant Growth

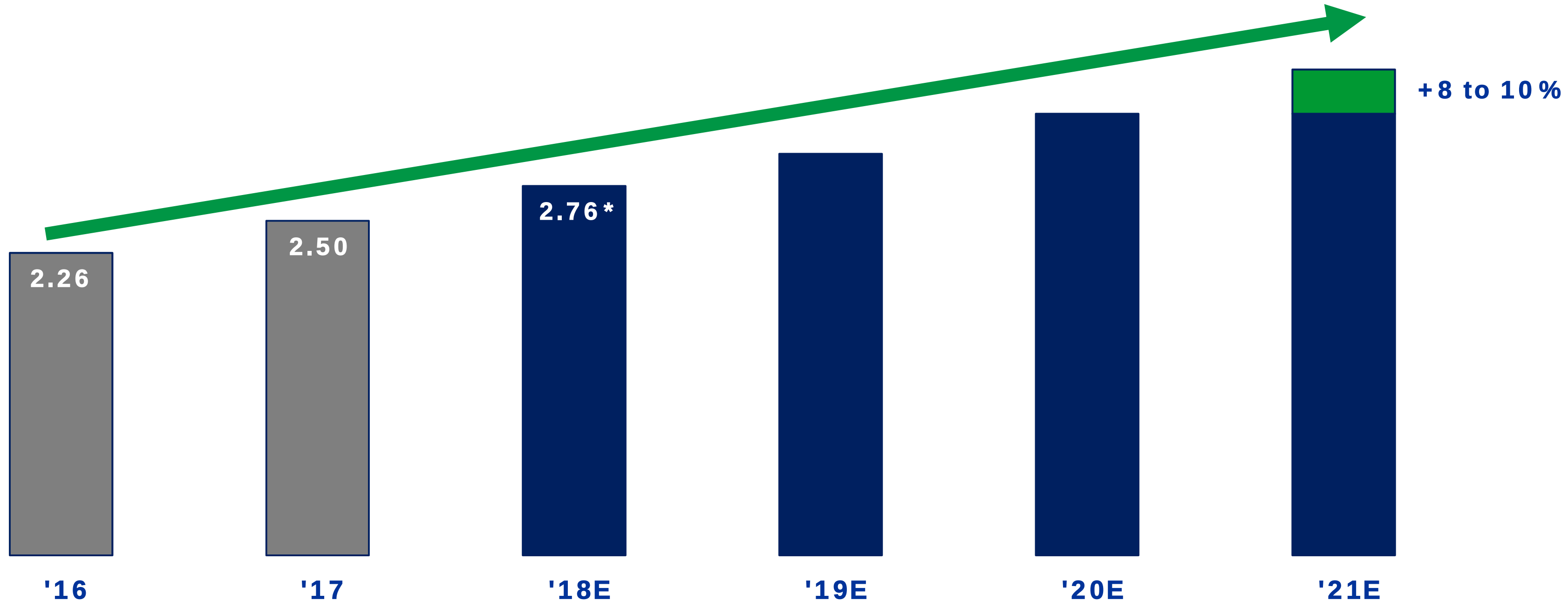


Advancing Over $20 Billion of Additional Projects that could Extend Growth Beyond 2020

** Includes existing assets, non-controlling interests in U.S. Natural Gas Pipelines and $23 billion of near-term projects subject to various conditions including corporate and regulatory approvals. Comparable EBITDA is a non-GAAP measure. See the non-GAAP measures slide at the front of this presentation for more information.*

Dividend Growth Outlook Through 2021

Annual Growth at the Upper End of 8 to 10 Percent Expected to End of Decade
Further 8 to 10 Percent Growth Anticipated in 2021



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

*Annualized based on most recent quarterly declaration

Key Takeaways

Proven Strategy – Low Risk Business Model

- Invested over $75 billion in our core businesses since 2000
- Over 95% of Comparable EBITDA from regulated assets or long-term contracts

Diversified High-Quality Assets Provide Multiple Platforms for Growth

- Five operating businesses, in three core geographies
- Canadian, U.S. and Mexico natural gas pipelines, liquids pipelines and energy

Businesses Performed Very Well in 2017

- Comparable EBITDA, FGFO and EPS reached record levels

Visible Growth

- Advancing $23 billion of near-term growth projects
- Over $20 billion of medium- to longer-term projects in development
- Additional organic growth expected from existing businesses

Dividend Poised to Grow

- Increased dividend by 10.4% in 2018 to $2.76 on an annualized basis
- Expect annual growth to continue at upper end of 8 to 10% range through 2020
- Additional growth of 8 to 10% anticipated in 2021

Don Marchand

Executive Vice President & CFO

Consolidated Results of Operations
(unaudited) (millions of dollars, except per share amounts)

	Three months ended December 31		Year ended December 31	
	2017	2016	2017	2016
Net Income / (Loss) Attributable to Common Shares	861	(358)	2,997	124
Specific items (net of tax):				
U.S. Tax Reform adjustment	(804)	-	(804)	-
Gain on sale of Ontario solar assets	(136)	-	(136)	-
Net (gain) / loss on sales of U.S. Northeast power assets	(64)	870	(307)	873
Energy East impairment charge	954	-	954	-
Keystone XL asset costs	9	18	28	42
Integration and acquisition related costs - Columbia	-	67	69	273
Keystone XL income tax recoveries	-	-	(7)	(28)
Ravenswood goodwill impairment	-	-	-	656
Alberta PPA terminations and settlement	-	68	-	244
Restructuring costs	-	6	-	16
TC Offshore loss on sale	-	-	-	3
Risk management activities	(101)	(45)	(104)	(95)
Comparable Earnings[(1)]	719	626	2,690	2,108
Net Income / (Loss) Per Common Share	$0.98	($0.43)	$3.44	$0.16
Specific items (net of tax):				
U.S. Tax Reform adjustment	(0.92)	-	(0.92)	-
Gain on sale of Ontario solar assets	(0.16)	-	(0.16)	-
Net (gain) / loss on sales of U.S. Northeast power assets	(0.08)	1.05	(0.34)	1.15
Energy East impairment charge	1.09	-	1.09	-
Keystone XL asset costs	0.01	0.02	0.03	0.06
Integration and acquisition related costs - Columbia	-	0.08	0.08	0.37
Keystone XL income tax recoveries	-	-	(0.01)	(0.04)
Ravenswood goodwill impairment	-	-	-	0.86
Alberta PPA terminations and settlement	-	0.08	-	0.32
Restructuring costs	-	0.01	-	0.02
Risk management activities	(0.10)	(0.06)	(0.12)	(0.12)
Comparable Earnings Per Common Share[(1)]	$0.82	$0.75	$3.09	$2.78
Weighted Average Basic Common Shares Outstanding (millions)	877	832	872	759

(1) Non-GAAP measure. For additional information on these items see the Fourth Quarter 2017 Financial Highlights Release.

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

	Three months ended December 31		Year ended December 31	
	2017	2016	2017	2016
Comparable EBITDA(2)				
Canadian Natural Gas Pipelines	569	584	2,144	2,182
U.S. Natural Gas Pipelines	604	570	2,357	1,682
Mexico Natural Gas Pipelines	116	119	519	332
Liquids Pipelines	401	302	1,348	1,152
Energy	214	304	1,030	1,281
Corporate	(1)	11	(21)	18
Total	1,903	1,890	7,377	6,647

Fourth quarter 2017 comparable EBITDA increased $13 million compared to same period in 2016. Principal variances included:

- **U.S. Natural Gas Pipelines**
  - Higher primarily due to lower operating costs including Columbia acquisition synergies
- **Liquids Pipelines**
  - Higher mainly due to increased uncontracted volumes on the Keystone Pipeline System, Grand Rapids and Northern Courier entering service and a higher contribution from Liquids Marketing
- **Energy**
  - Lower due to monetization of U.S. Northeast power assets in second quarter 2017, partially offset by a higher contribution from Bruce Power due to higher volumes from fewer outage days

(1) For more information, see the Fourth Quarter 2017 Financial Highlights Release; (2) Non-GAAP measure. For additional information on these items see the Fourth Quarter 2017 Financial Highlights Release.

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

	Three months ended December 31		Year ended December 31	
	2017	2016	2017	2016
Comparable EBITDA(2)	1,903	1,890	7,377	6,647
Depreciation and amortization	(516)	(514)	(2,048)	(1,939)
Comparable EBIT(2)	1,387	1,376	5,329	4,708
Interest expense(3)	(541)	(542)	(2,068)	(1,883)
Allowance for funds used during construction	140	97	507	419
Interest income and other(3)	56	8	159	71
Income tax expense(3)	(234)	(211)	(839)	(841)
Net income attributable to non-controlling interests(3)	(49)	(70)	(238)	(257)
Preferred share dividends	(40)	(32)	(160)	(109)
Comparable Earnings(2)	719	626	2,690	2,108

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

- **Allowance for funds used during construction**
  - Higher due to increased investment in natural gas pipelines under development and construction
- **Interest income and other(3)**
  - Higher due primarily to an inter-affiliate loan receivable from the Sur de Texas joint venture offsetting corresponding interest expense in Mexico Natural Gas Pipelines EBITDA
- **Income tax expense(3)**
  - Higher primarily due to increased pre-tax comparable earnings and changes in the proportion of income earned between Canadian and foreign jurisdictions

(1) For more information, see the Fourth Quarter 2017 Financial Highlights Release; (2) Non-GAAP measures. For additional information on these items see the Fourth Quarter 2017 Financial Highlights Release; (3) Excludes specific items to arrive at comparable earnings

Comparable Distributable Cash Flow

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

	Three months ended December 31		Year ended December 31	
	2017	2016	2017	2016
Comparable Funds Generated From Operations[1]	1,450	1,425	5,641	5,171
Dividends on preferred shares	(39)	(26)	(155)	(100)
Distributions paid to non-controlling interests	(68)	(78)	(283)	(279)
Maintenance capital expenditures including equity investments				
Recoverable in future tolls	(541)	(323)	(1,364)	(941)
Other	(75)	(70)	(240)	(310)
Comparable Distributable Cash Flow[1]				
Reflecting all maintenance capital expenditures	727	928	3,599	3,541
Reflecting only non-recoverable maintenance capital expenditures	1,268	1,251	4,963	4,482
Comparable Distributable Cash Flow Per Common Share[1]				
Reflecting all maintenance capital expenditures	$0.83	$1.12	$4.13	$4.67
Reflecting only non-recoverable maintenance capital expenditures	$1.45	$1.50	$5.69	$5.91
Dividends per Common Share	$0.625	$0.565	$2.50	$2.26
Coverage Ratio				
Reflecting all maintenance capital expenditures	1.3	2.0	1.7	2.1
Reflecting only non-recoverable maintenance capital expenditures	2.3	2.7	2.3	2.6

(1) Non-GAAP measure. For additional information on these items see the Fourth Quarter 2017 Financial Highlights Release.

Funding Program Continued to Advance in Fourth Quarter

Strong, predictable and growing cash flow from operations

- Record comparable funds generated from operations of $1.5 billion in the quarter and $5.6 billion for 2017
- $1.1 billion of cash and cash equivalents on hand at December 31

Access to capital markets on compelling terms

- Raised US$700 million in senior unsecured notes at a rate of 2.125 per cent and US$550 million in senior unsecured notes at a floating rate, both due in November 2019

Dividend Reinvestment Plan participation remains significant

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

At-The-Market (ATM) program initiated

- Issued 3.5 million common shares at an average price of $63.03 per share for gross proceeds of $218 million

Completion of $23 Billion Near-Term Capital Program Does Not Require Discrete Equity

2018 Comparable Earnings Outlook

Canadian Natural Gas Pipelines	↓	Modestly lower due to declining Canadian Mainline investment base and lower incentive earnings, partially offset by continued growth in the NGTL System
U.S. Natural Gas Pipelines	↑	Higher driven by completion of Columbia expansion projects
Mexico Natural Gas Pipelines	↔	Consistent with 2017. Sur de Texas and Villa de Reyes projects are expected to be in-service in late 2018
Liquids Pipelines	↑	Higher primarily as a result of full year contributions from Northern Courier and Grand Rapids pipelines and incremental contracts on Keystone System
Energy	↓	Lower driven by sale of U.S. Northeast power and Ontario solar assets in 2017, and higher outage days at Bruce Power, partially offset by incremental earnings from Napanee following completion
Other Items Impacting Earnings	↓	Higher interest expense due to borrowings to help fund our capital program and lower capitalized interest and AFUDC on projects entering service as well as cancellation of Energy East; partially offset by lower income tax expense
Capital Spending Outlook*		~$9 billion

2018 Comparable Earnings per Share Expected to be Higher than 2017

**Includes capital expenditures, capital projects in development and contributions to equity investments*

Key Takeaways

Track Record of Delivering Long-Term Shareholder Value

13% average annual return since 2000

Visible Growth Portfolio	Attractive, Growing Dividend	Strong Financial Position
$23 billion to 2020 *Additional opportunity set includes over $24 billion of medium to longer-term projects*	*Dividend raised 10.4%* *5.1% yield* *8-10% expected CAGR through 2021*	*'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


Stan Chapman


Paul Miller


Glenn Menuz


David Moneta

Fourth Quarter 2017 Conference Call

February 15, 2018

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

	Three months ended December 31		Year ended December 31	
	2017	2016	2017	2016
Comparable EBITDA[1]	1,903	1,890	7,377	6,647
Depreciation and amortization	(516)	(514)	(2,048)	(1,939)
Comparable EBIT[1]	1,387	1,376	5,329	4,708
Specific items:				
Energy East impairment charge	(1,256)	-	(1,256)	-
Integration and acquisition related costs - Columbia	-	(47)	(91)	(179)
Keystone XL asset costs	(11)	(15)	(34)	(52)
Net gain / (loss) on sales of U.S. Northeast power assets	15	(839)	484	(844)
Gain on sale of Ontario solar assets	127	-	127	-
Foreign exchange gain – inter-affiliate loan	64	-	63	-
Ravenswood goodwill impairment	-	-	-	(1,085)
Alberta PPA terminations and settlement	-	(92)	-	(332)
Restructuring costs	-	(8)	-	(22)
TC Offshore loss on sale	-	-	-	(4)
Risk management activities	164	101	62	123
Segmented Earnings	490	476	4,684	2,313

(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 December 31		Year ended December 31	
	2017	2016	2017	2016
Net Cash Provided by Operations	1,390	1,575	5,230	5,069
Increase / (decrease) in operating working capital	49	(220)	273	(248)
Funds Generated from Operations(1)	1,439	1,355	5,503	4,821
Specific items:				
Integration and acquisition related costs – Columbia	-	45	84	283
Keystone XL asset costs	11	15	34	52
U.S. Northeast power disposition costs	-	10	20	15
Comparable Funds Generated from Operations(1)	1,450	1,425	5,641	5,171
Dividends on preferred shares	(39)	(26)	(155)	(100)
Distributions paid to non-controlling interests	(68)	(78)	(283)	(279)
Maintenance capital expenditures including equity investments				
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Reflecting all maintenance capital expenditures	727	928	3,599	3,541
Reflecting only non-recoverable maintenance capital expenditures	1,268	1,251	4,963	4,482
Comparable Distributable Cash Flow Per Common Share(1)				
Reflecting all maintenance capital expenditures	$0.83	$1.12	$4.13	$4.67
Reflecting only non-recoverable maintenance capital expenditures	$1.45	$1.50	$5.69	$5.91

(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.