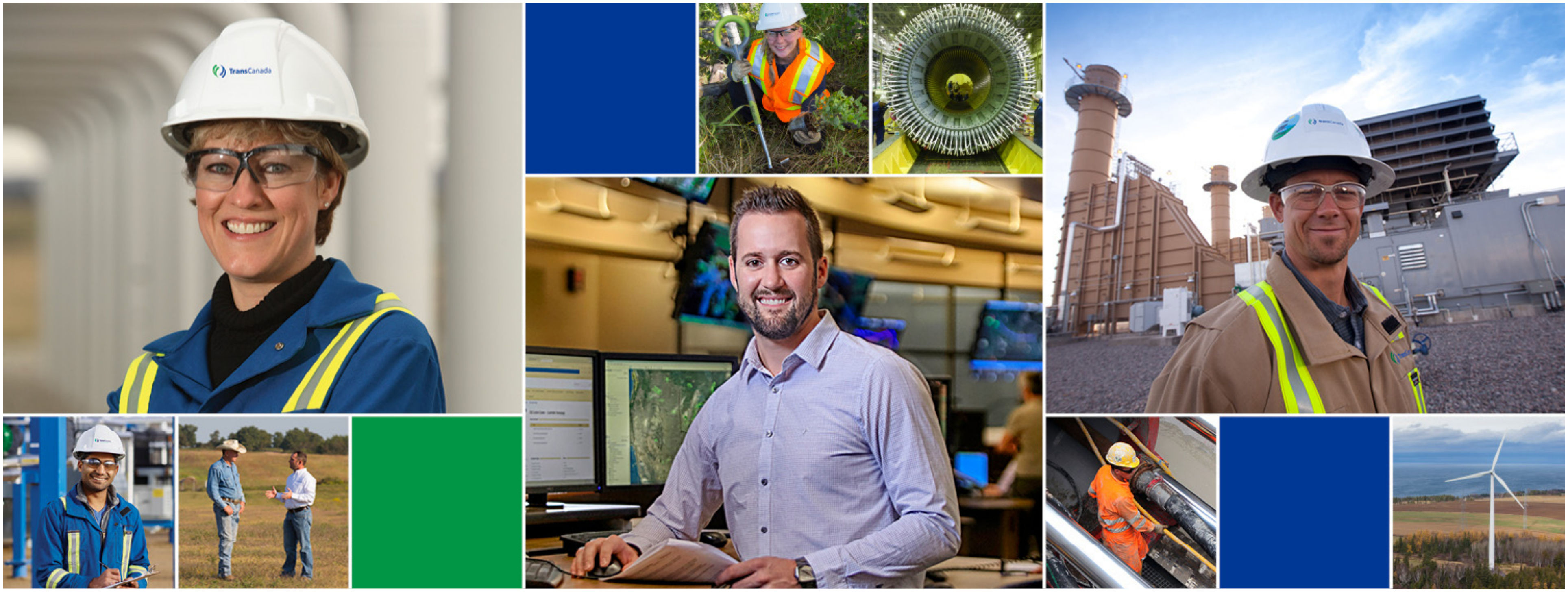


TransCanada Investor Day

November 28, 2017

TransCanada
In business to deliver

Forward Looking Information and Non-GAAP Measures

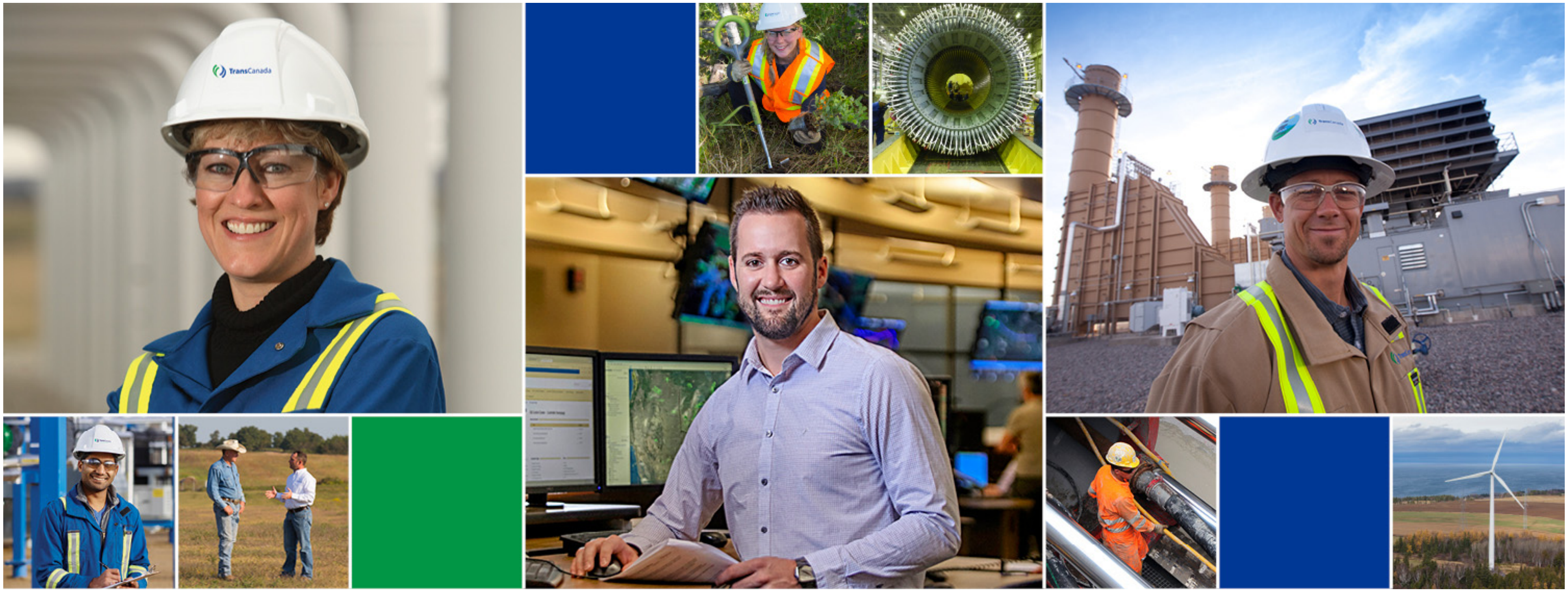
This presentation includes certain forward looking information, including future oriented financial information or financial outlook, which is intended to help current and potential investors understand management's assessment of our future plans and financial outlook, and our future prospects overall. 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 and 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, weather, cyber security and technological developments. You can read more about these risks and others in our November 8, 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 November 8, 2017 Quarterly Report to Shareholders filed with Canadian securities regulators and the SEC and available at www.transcanada.com.



Strategic Overview

Russ Girling
President and Chief Executive Officer

TransCanada
In business to deliver

Investor Day Key Themes

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 Performing Very Well in 2017

- Comparable EBITDA, FGFO and EPS expected to reach record levels

Focused on Operating and Capital Discipline

- Leader in safety and reliability, focused on continuous improvement
- Disciplined capital allocation to maximize shareholder value

Visible Growth

- Advancing $24 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

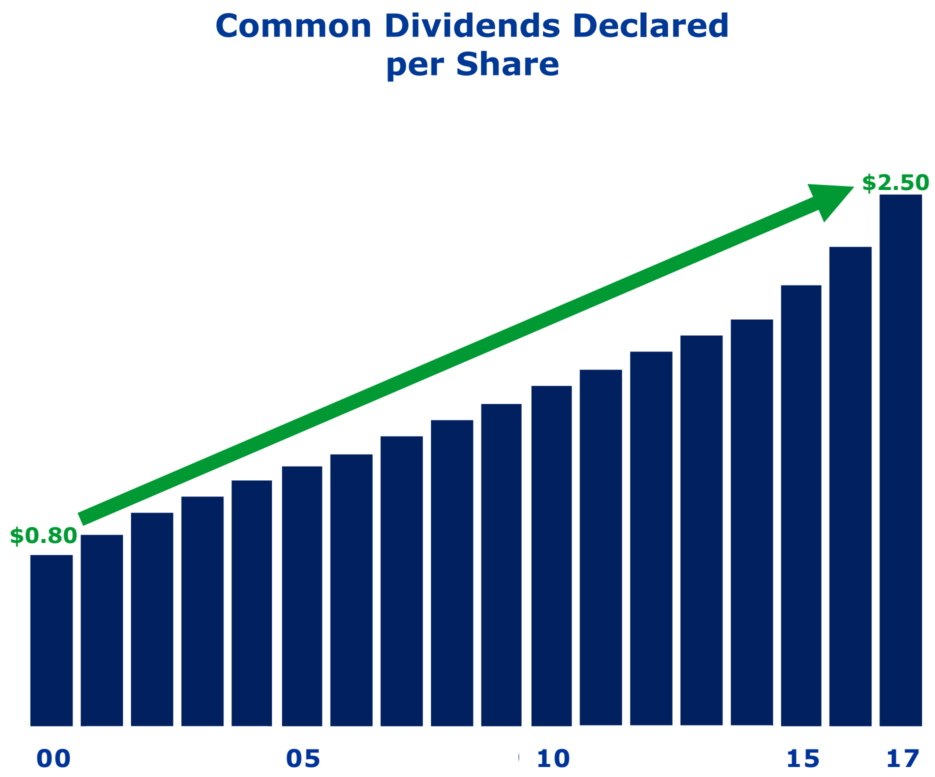
- Reaffirm expected annual growth at upper end of 8 to 10% range through 2020
- Extending 8 to 10% range to 2021

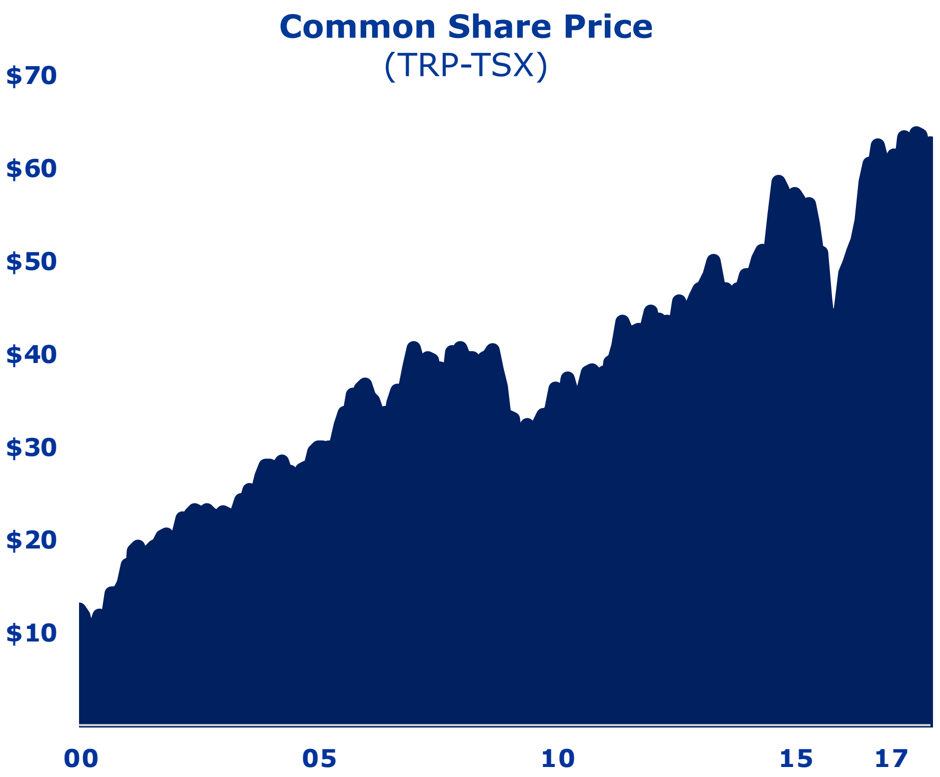
Invested Over $75 Billion Since 2000

- **Added 45,000 km (28,000 mi) of natural gas pipelines**
  - Increased presence in Canada and the U.S.
  - Created platform in Mexico
- **Developed 4,800 km (3,000 mi) liquids pipelines business**
- **Expanded power generation portfolio by 4,500 MW**
- **Enterprise value increased from $20 billion to $100 billion**

Long Track Record of Investing in High Quality, Low Risk Businesses

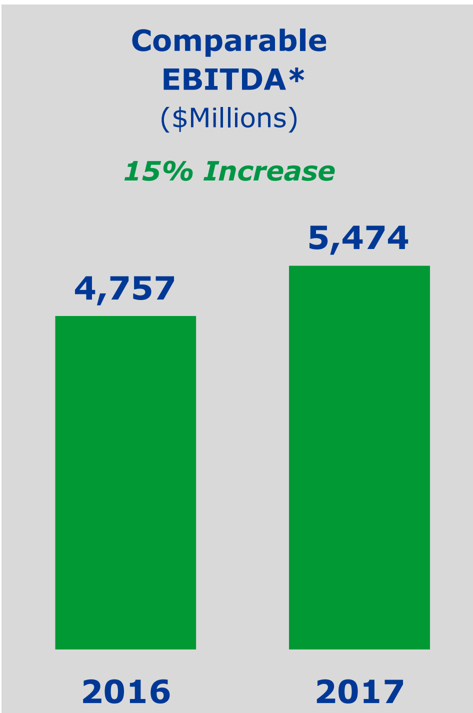
Long Track Record of Delivering Shareholder Value

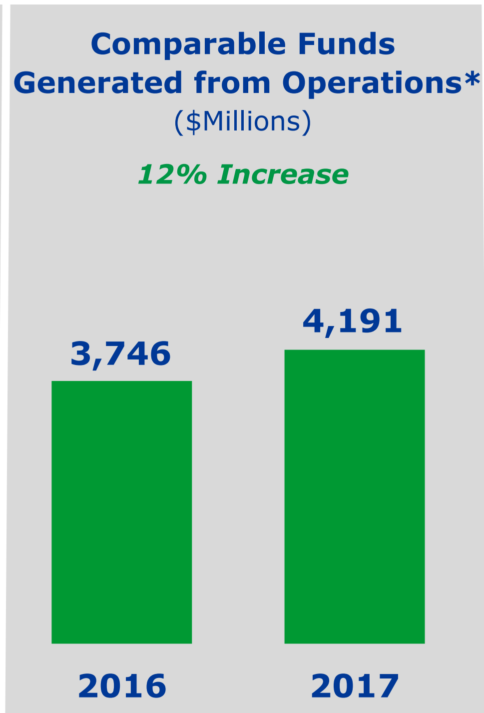


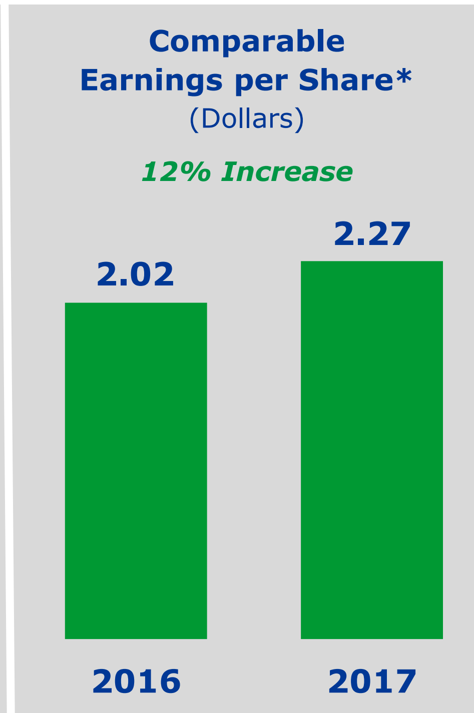


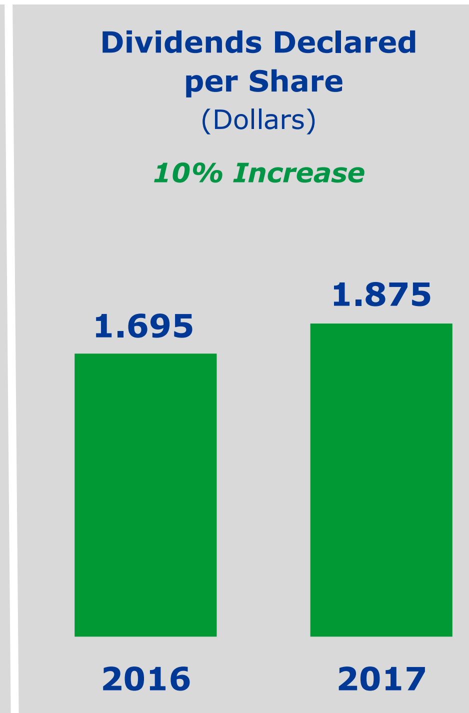
14% Average Annual Total Shareholder Return Since 2000

Financial Highlights – Nine Months Ended September 30









Performance Highlights Diversified, Low Risk Business Strategy

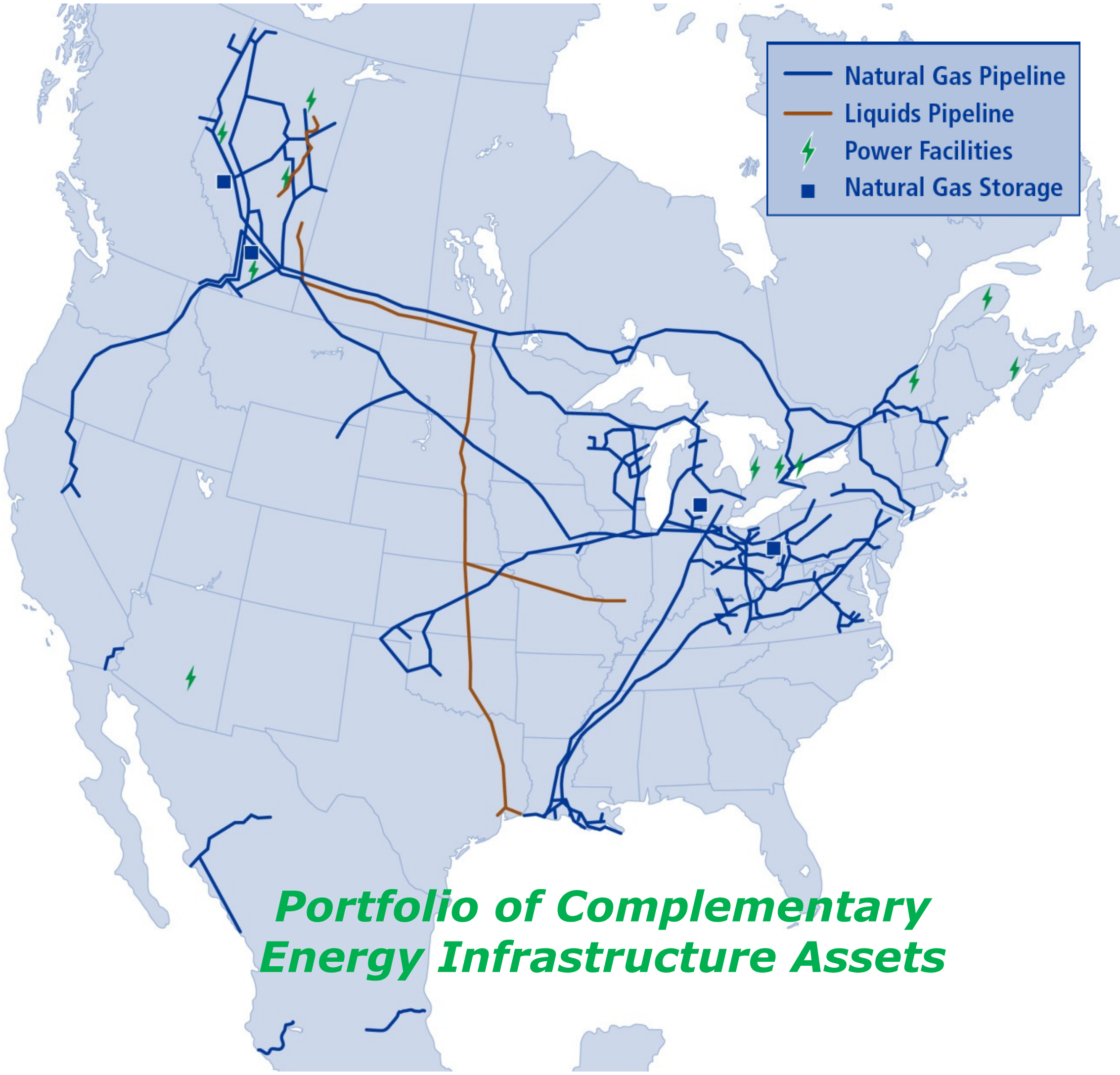
**Comparable EBITDA, Comparable Funds Generated from Operations and Comparable Earnings per Share are non-GAAP measures. See the forward looking information and non-GAAP measures slide at the front of this presentation for more information.*

2017 Accomplishments

- ✓ **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 $24 billion near-term capital program**
  - Expect to place $5.6 billion of assets in-service in 2017
  - Over $3.0 billion of secured growth added
- ✓ **Progressed over $20 billion of medium- to longer-term projects under development**
- ✓ **Canadian Mainline Long-Term Fixed Price (LTFP) service implemented**
- ✓ **Raised $6.1 billion in capital markets to help fund growth program**
- ✓ **Completed dropdown to TC PipeLines, LP for US$765 million**
- ✓ **Reimbursed for development costs incurred on Prince Rupert Gas Transmission and agreed to sell Ontario Solar portfolio for combined proceeds of ~$1.1 billion**

Delivering on Our Strategic Priorities

TransCanada Today



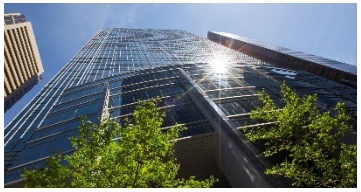
- **One of North America's Largest Natural Gas Pipeline Networks**
  - 91,500 km (56,900 mi) of pipeline
  - 653 Bcf of storage capacity
  - 23 Bcf/d; ~25% of continental demand
- **Premier Liquids Pipeline System**
  - 4,800 km (3,000 mi) of pipeline
  - 555,000 bbl/d Keystone System transports ~20% 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 Over $100 billion**

Our Competitive Advantage

Diverse portfolio of critical energy infrastructure assets

Asset footprint drives attractive organic growth

Talented employees that are expert in their fields



Financial strength and flexibility

65+ Year History of Designing, Building and Operating Large-Scale Energy Infrastructure

Our Strategic Priorities

Deliver energy safely and reliably, every day

Maximize the value of our existing $86 billion asset base

Execute $24 billion near-term capital program on-time, on-budget

Advance over $20 billion of medium- to longer-term projects in development

Cultivate a portfolio of additional low risk growth opportunities

Maintain our financial strength and flexibility

Deliver Superior
Long-Term Shareholder Returns

Corporate Social Responsibility

- **Safety and reliability are critical priorities**
  - Operating objectives, targets and results
- **Long history of working collaboratively with stakeholders**
  - Customers, landowners, Indigenous groups, governments, regulators and local communities
  - Active throughout life-cycle: formative, development, construction and operations
- **Committed to protecting the environment**
  - Member of the Dow Jones Sustainability World Index and the North American Index
  - Voluntarily reported to CDP since 2006

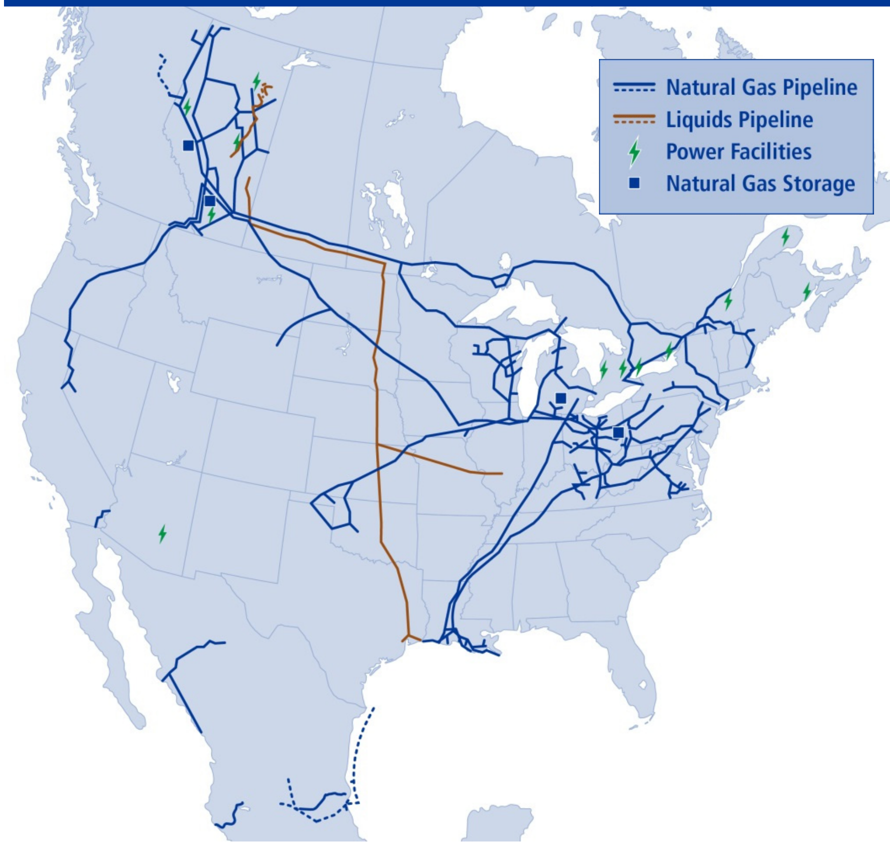
Delivering Energy Responsibly

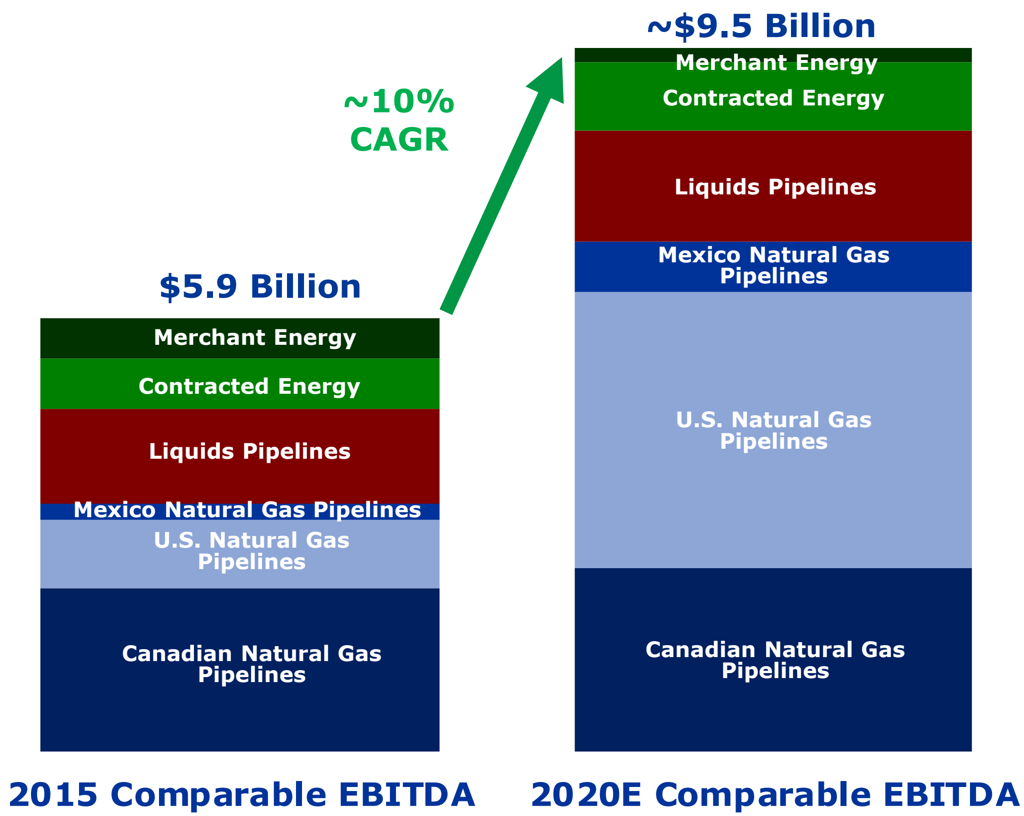
$24 Billion of Assets Expected to Enter Service by 2020

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

** TransCanada share in billions of dollars*

Columbia Acquisition & Near-term Capital Program Drive Significant Growth

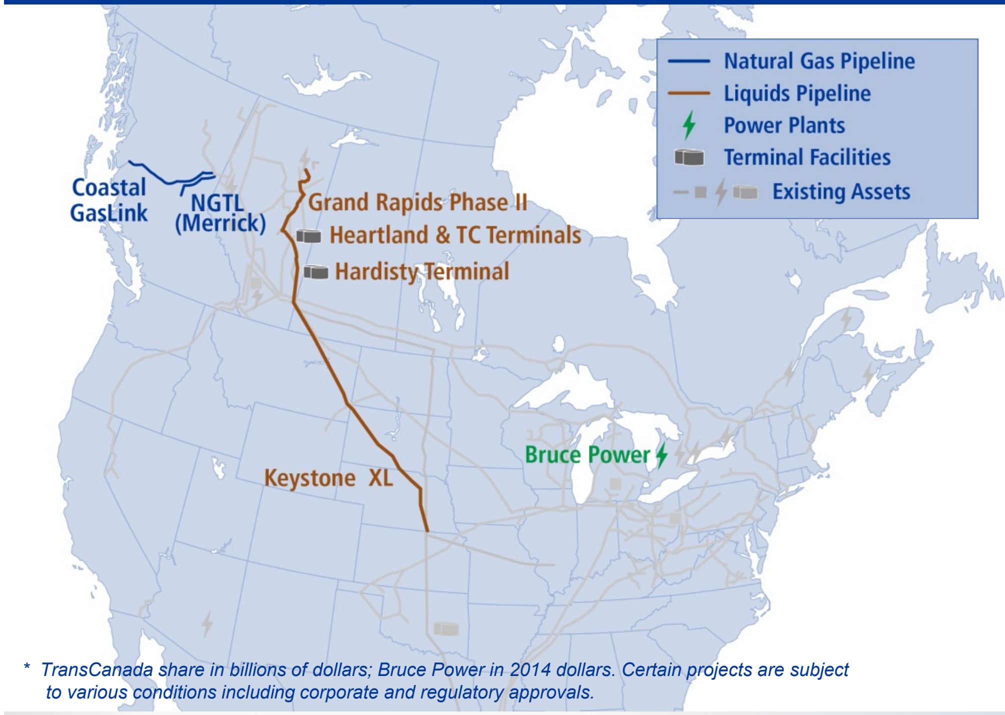




Over 95% of Comparable EBITDA to come from Regulated or Long-term Contracted Assets

**Comparable EBITDA is a non-GAAP measure. See the non-GAAP measures slide at the front of this presentation for more information.*

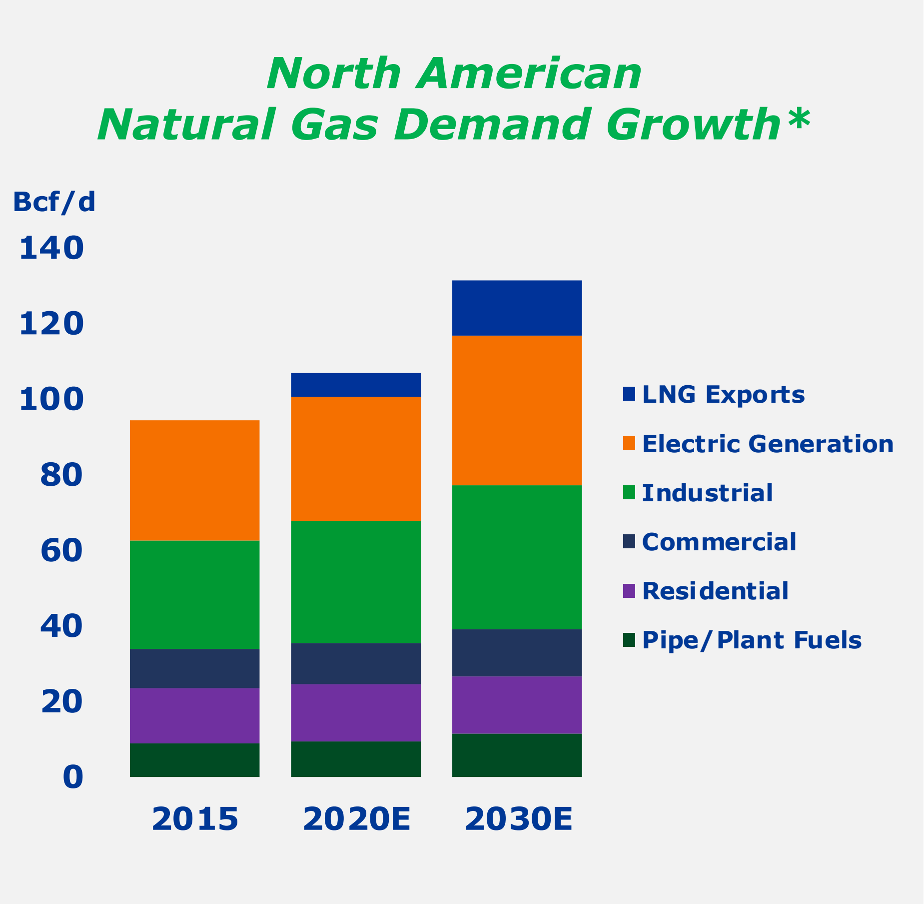
$20 Billion+ of Medium- to Longer-Term Projects in Development*



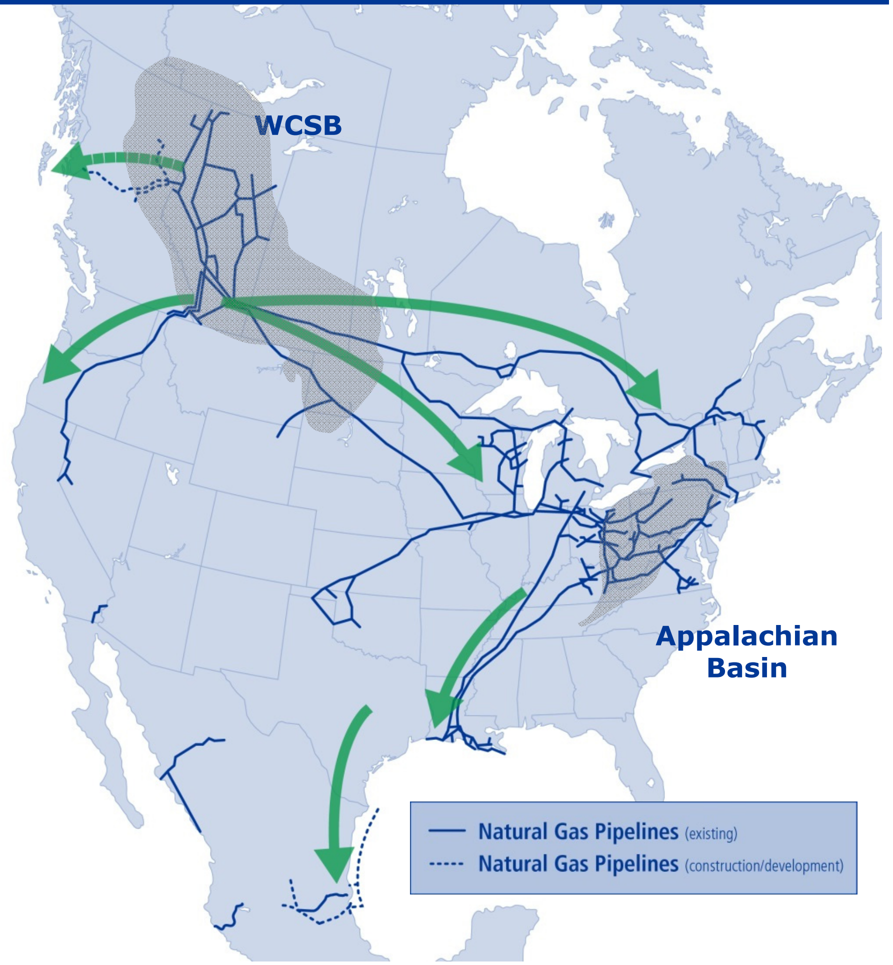
- **Large-scale pipeline projects**
  - Keystone XL (US$8 billion)
  - Coastal GasLink ($4.8 billion)
- **Bruce Power Life Extension Agreement**
  - First Major Component Replacement outage occurs in 2020
  - Expected investment of $5.3 billion post 2020
  - Extends operating life of facility to 2064

* *TransCanada share in billions of dollars; Bruce Power in 2014 dollars. Certain projects are subject to various conditions including corporate and regulatory approvals.*

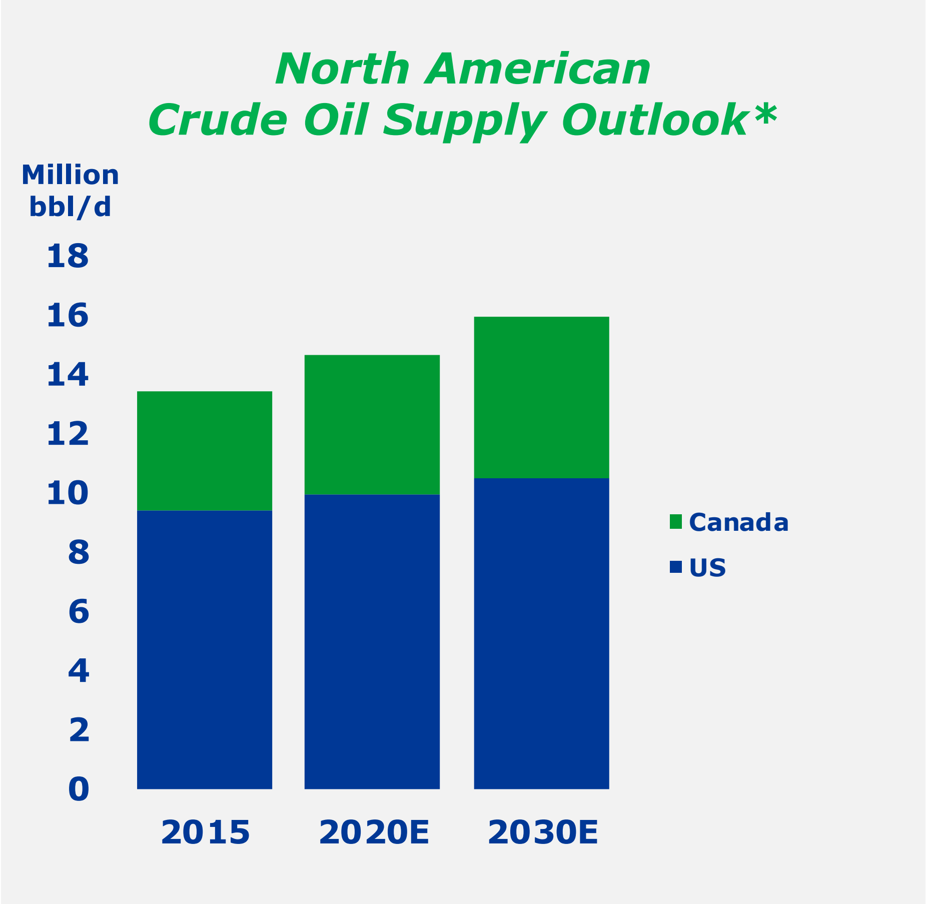
Connecting Growing Natural Gas Supply to Market



* TransCanada Outlook

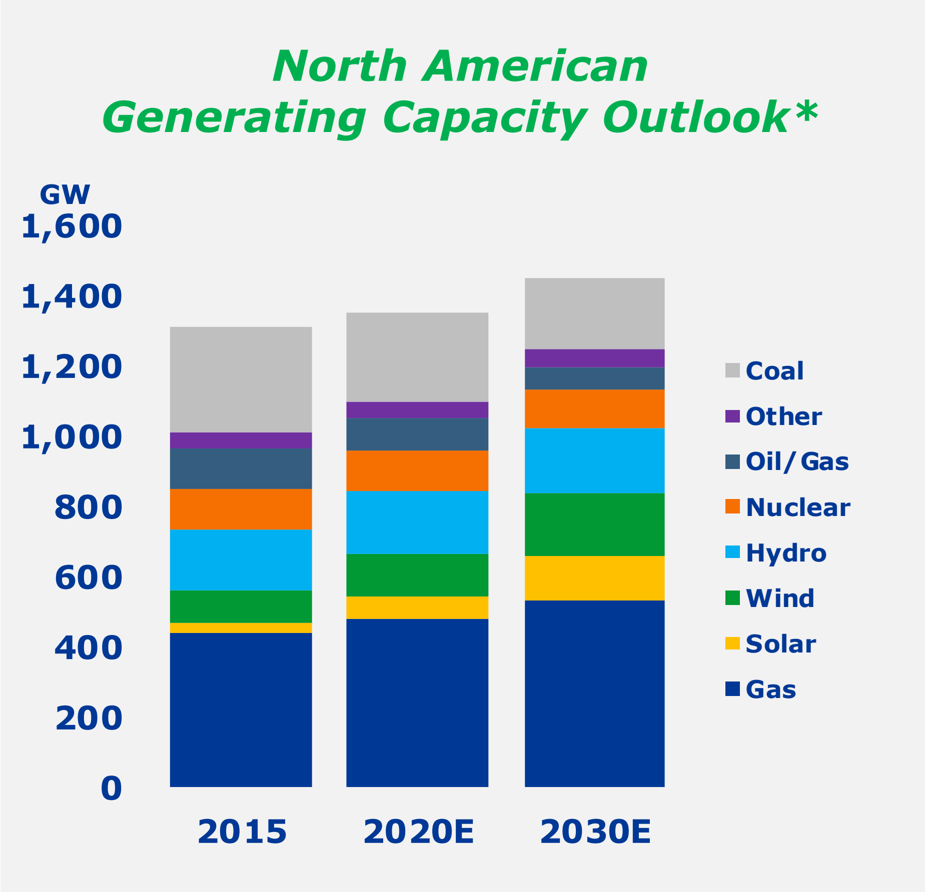


Connecting Growing Crude Oil Supply to Market

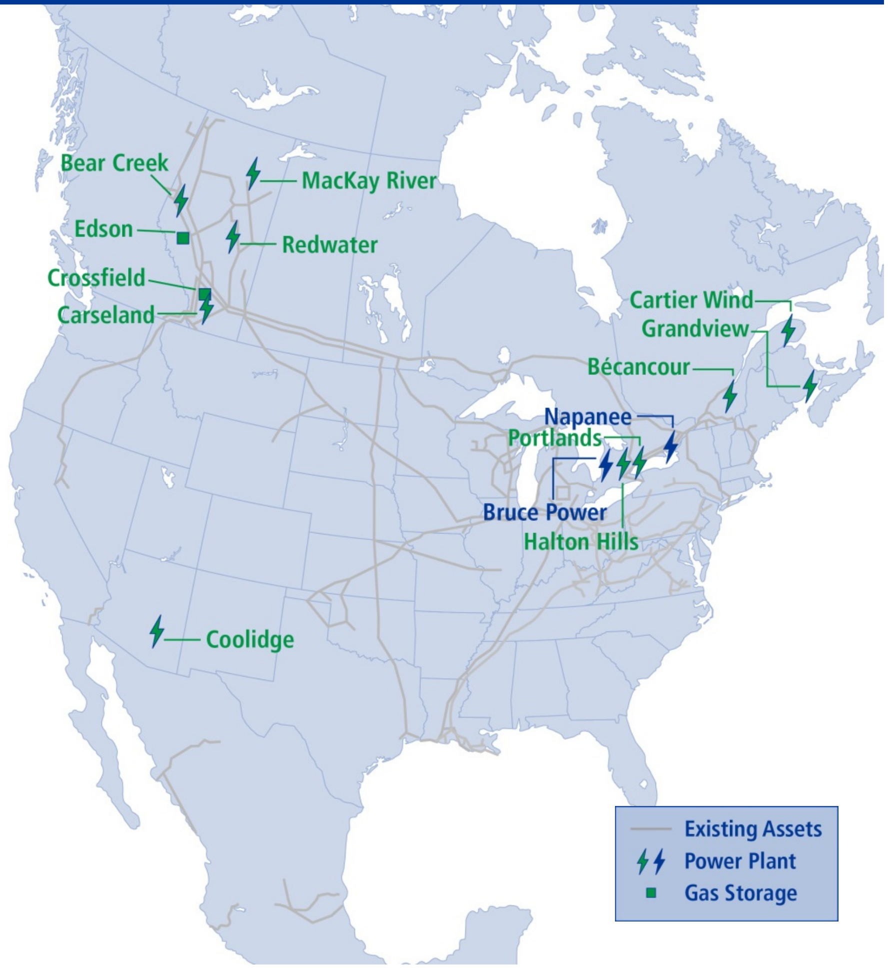


* CAPP, EIA

Significant Power Generation Investment Opportunity



* EIA International Energy Outlook 2017

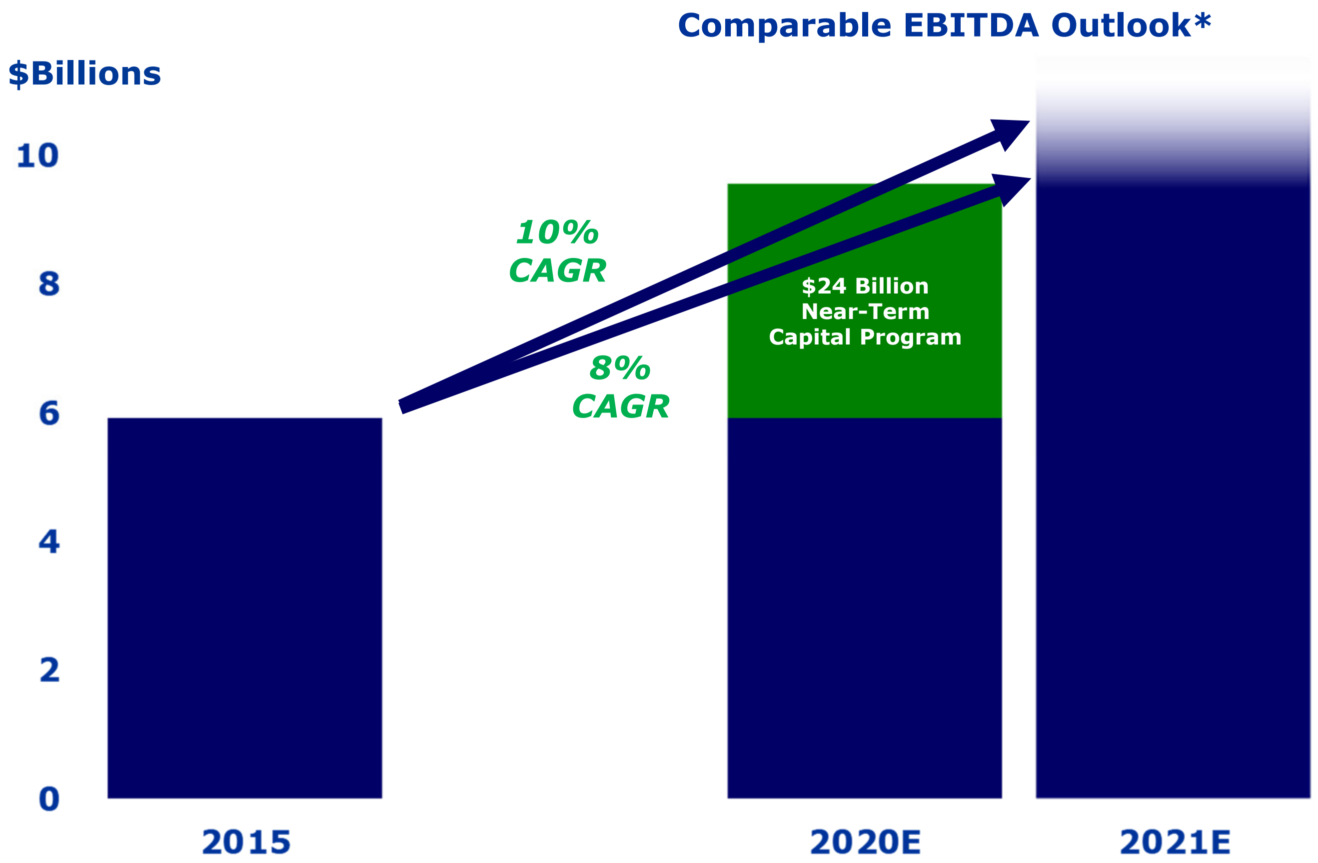


Well Positioned to Capture Future Growth

- **Significant opportunities in our core businesses and geographies**
  - To connect growing natural gas and crude oil supply to market
  - Meet growing demand for power generation as North America shifts to a less carbon-intensive energy mix

Our Existing Assets, Technical Expertise, Financial Strength and Approach to Responsible Development are Competitive Advantages

Visibility to 8-10% Growth Through 2021



Capacity available to invest in future growth opportunities:

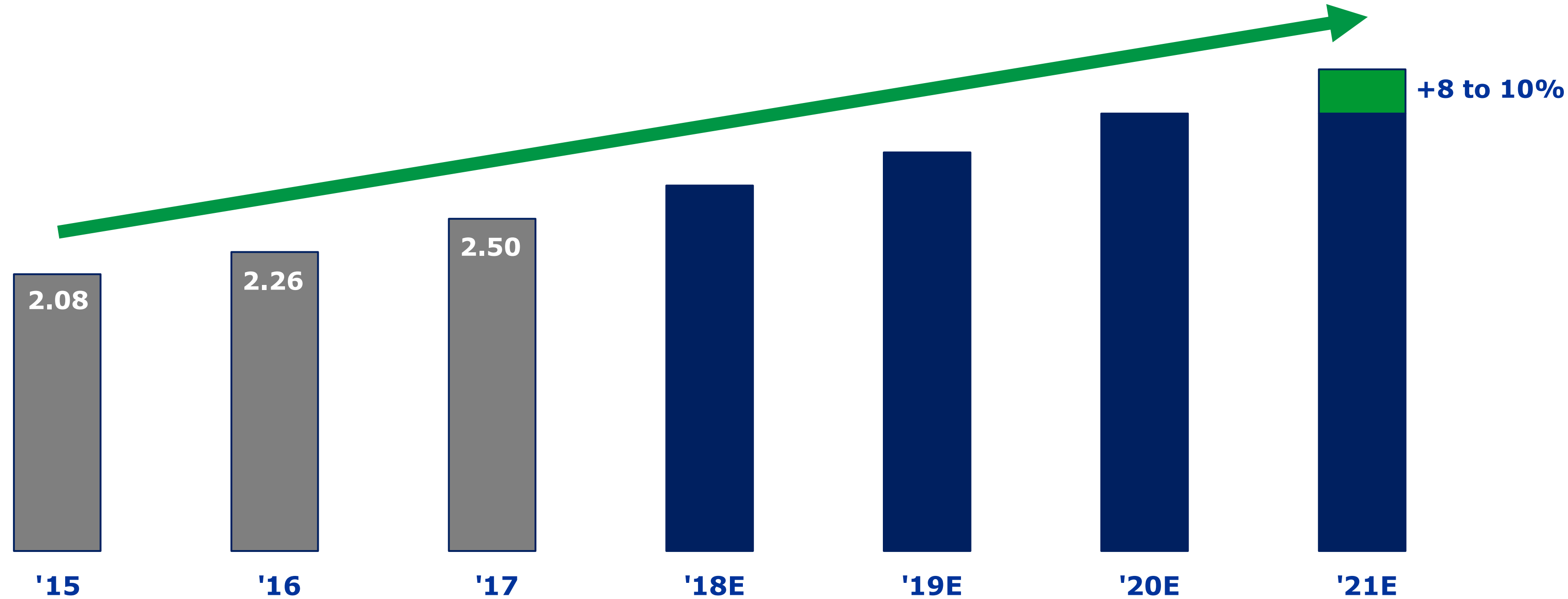
- **Organic growth from existing platform (over $3 billion added in 2017)**
- **Over $20 billion of medium- to longer-term projects in development**

Other revenue enhancements and operating efficiencies across our existing businesses

**Comparable EBITDA is a non-GAAP measure. See the non-GAAP measures slide at the front of this presentation for more information.*

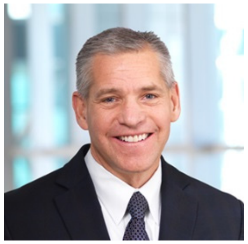
Dividend Growth Outlook Through 2021

Reaffirm Annual Growth at the Upper End of 8 to 10 Percent to End of Decade
Extending 8 to 10 Percent Range to 2021



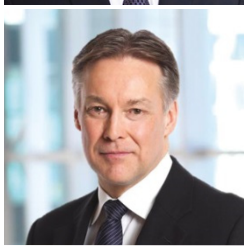
Supported by Expected Growth in Earnings and Cash Flow and Continued Strong Coverage Ratios

Our Executive Leadership Team



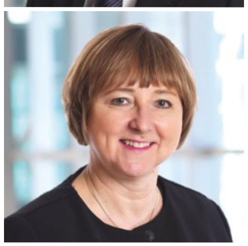
Russ Girling
President and Chief Executive Officer

Karl Johannson
Executive VP and President,
Canada and Mexico Natural Gas
Pipelines and Energy

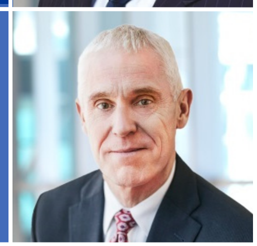


Don Marchand
Executive VP and
Chief Financial Officer

Stan Chapman
Executive VP and President,
U.S. Natural Gas Pipelines

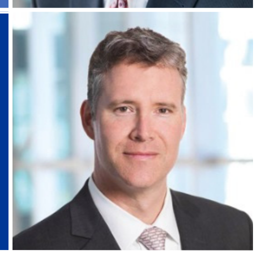


Kristine Delkus
Executive VP, Stakeholder and
Technical Services and General Counsel

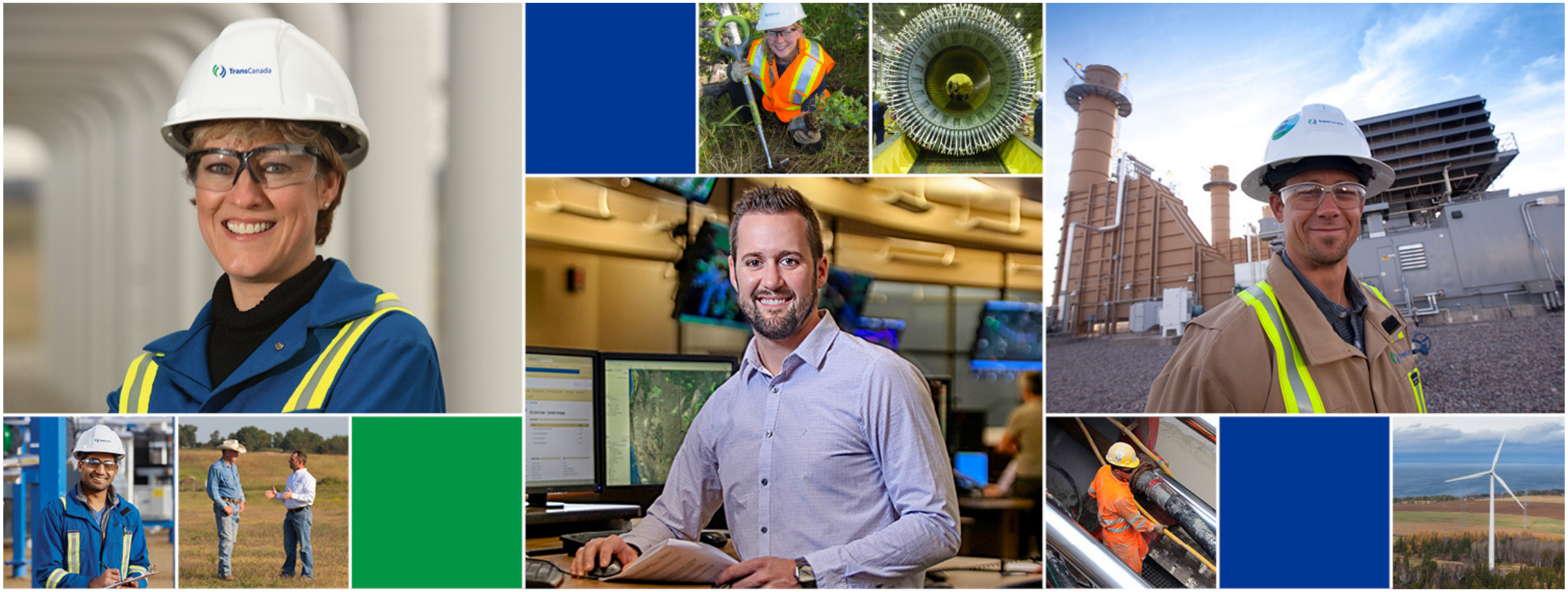


Paul Miller
Executive VP and President,
Liquids Pipelines

Wendy Hanrahan
Executive VP, Corporate Services



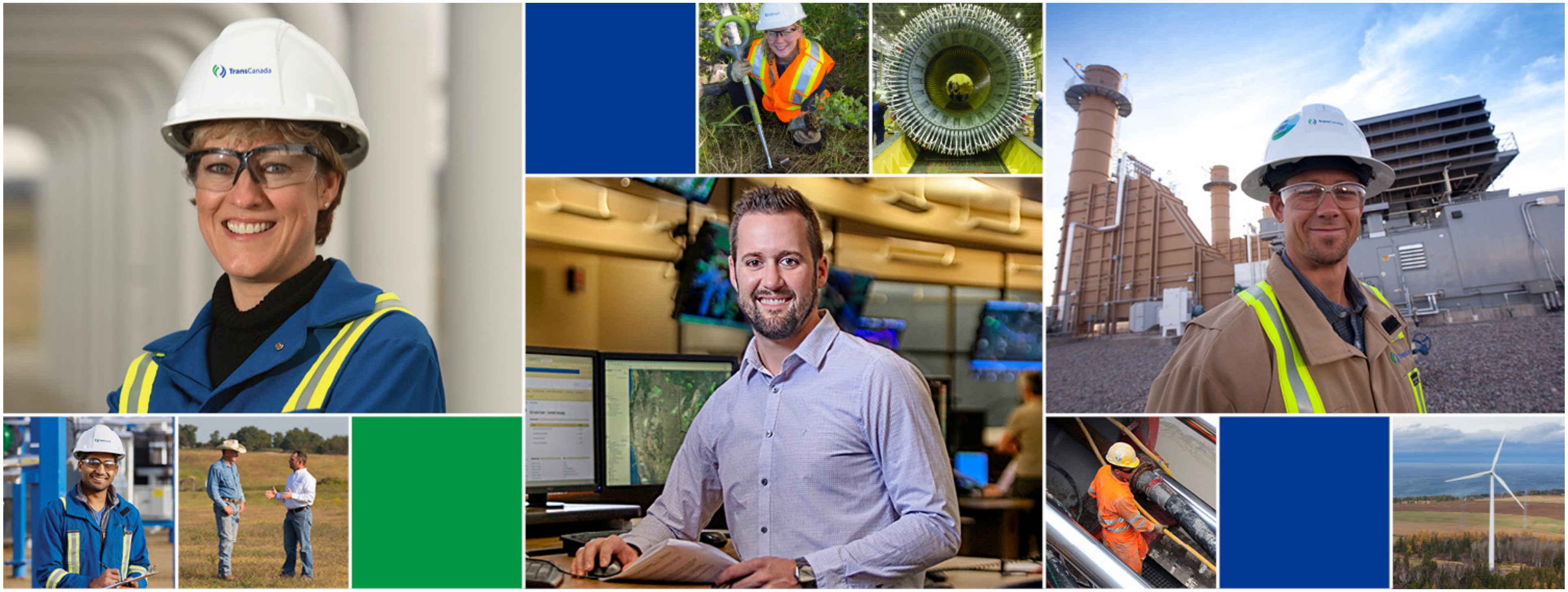
Francois Poirier
Executive VP, Strategy and
Corporate Development



Strategic Overview

Russ Girling
President and Chief Executive Officer

TransCanada
In business to deliver

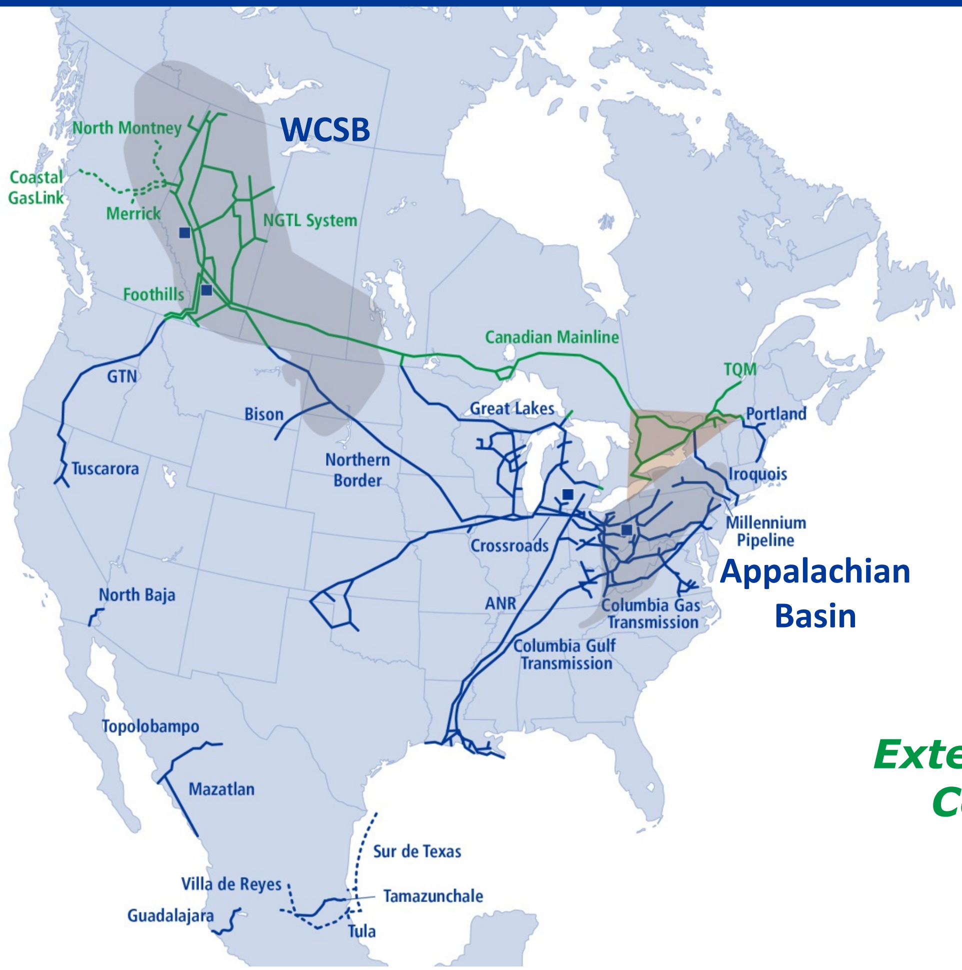


Canada and Mexico Natural Gas Pipelines

Karl Johannson
President, Canada and Mexico Natural Gas Pipelines and Energy

TransCanada
In business to deliver

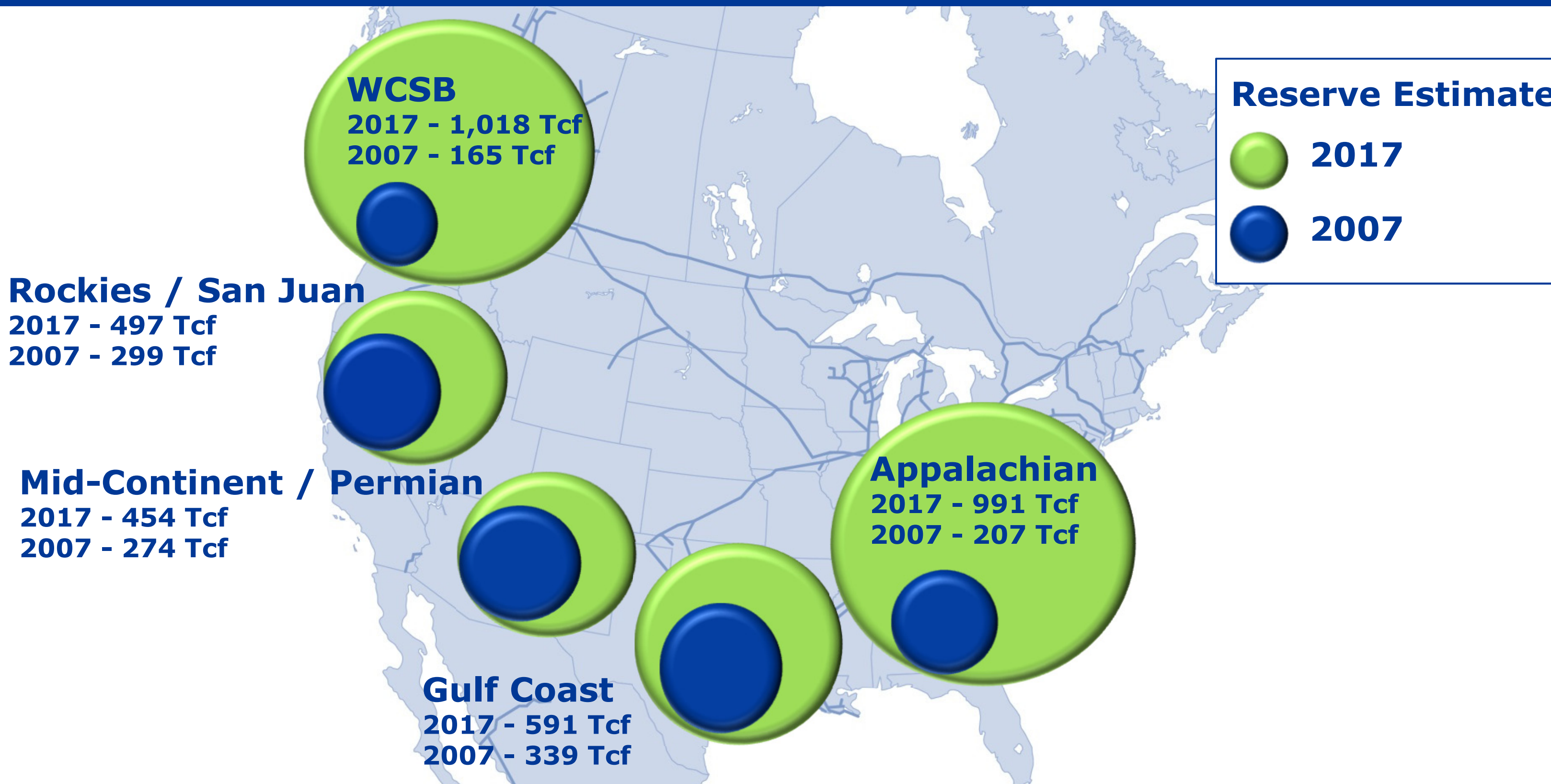
North American Natural Gas Pipeline Footprint



- **Well-positioned assets with access to North America's two most prolific natural gas supply basins**
  - 91,500 km (56,900 mi) of pipeline
  - 653 Bcf of storage capacity
- **Diversified customer base**
- **Large intra-basin demand in Alberta and the U.S. Northeast**
- **Key transportation paths to large demand centres across Canada, the U.S. and Mexico**
  - Deliver ~25 percent of continental demand

Extensive Footprint – Connecting Major Cost Competitive Basins to Markets Across North America

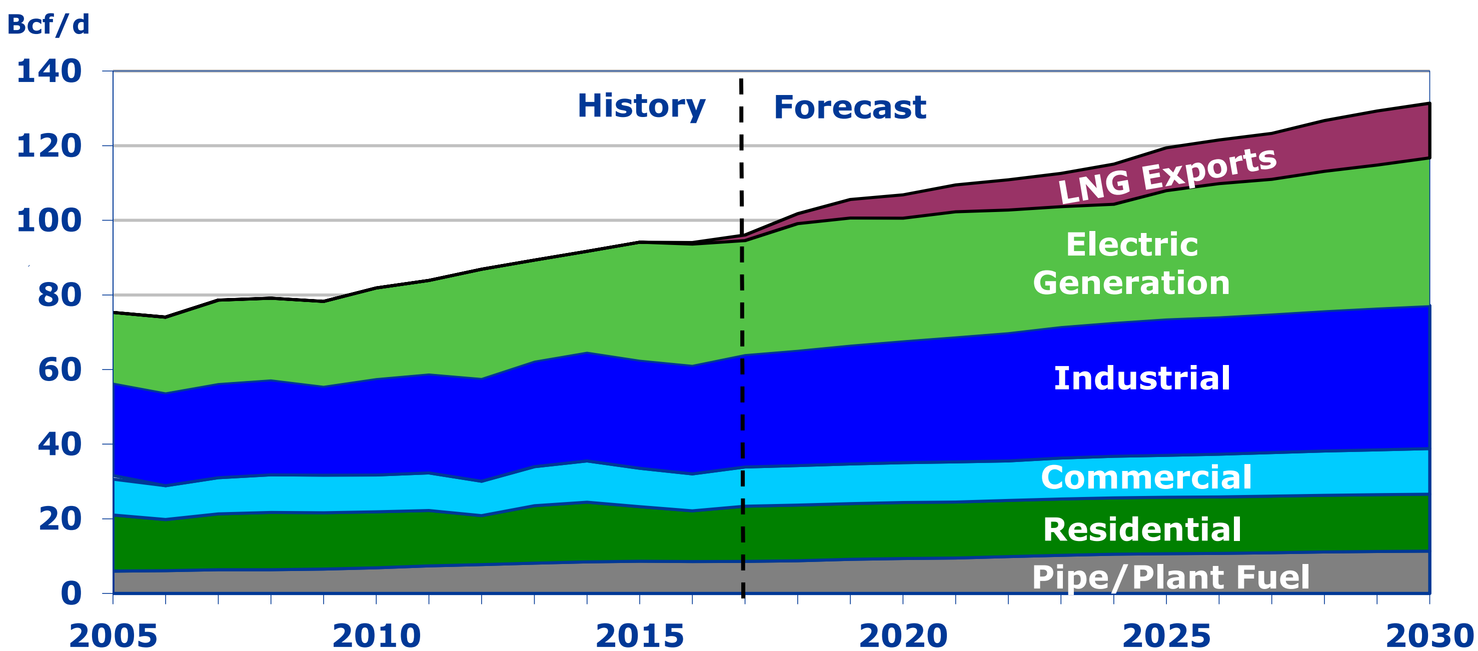
Substantial North American Natural Gas Resource



Reserve Estimates in the WCSB and Appalachian Basin Have Grown Significantly

Source: TransCanada, U.S. Energy Information Agency, U.S. Potential Gas Committee, various Canadian Regulatory Agencies and various Canadian Professional Organizations

North American Natural Gas Demand



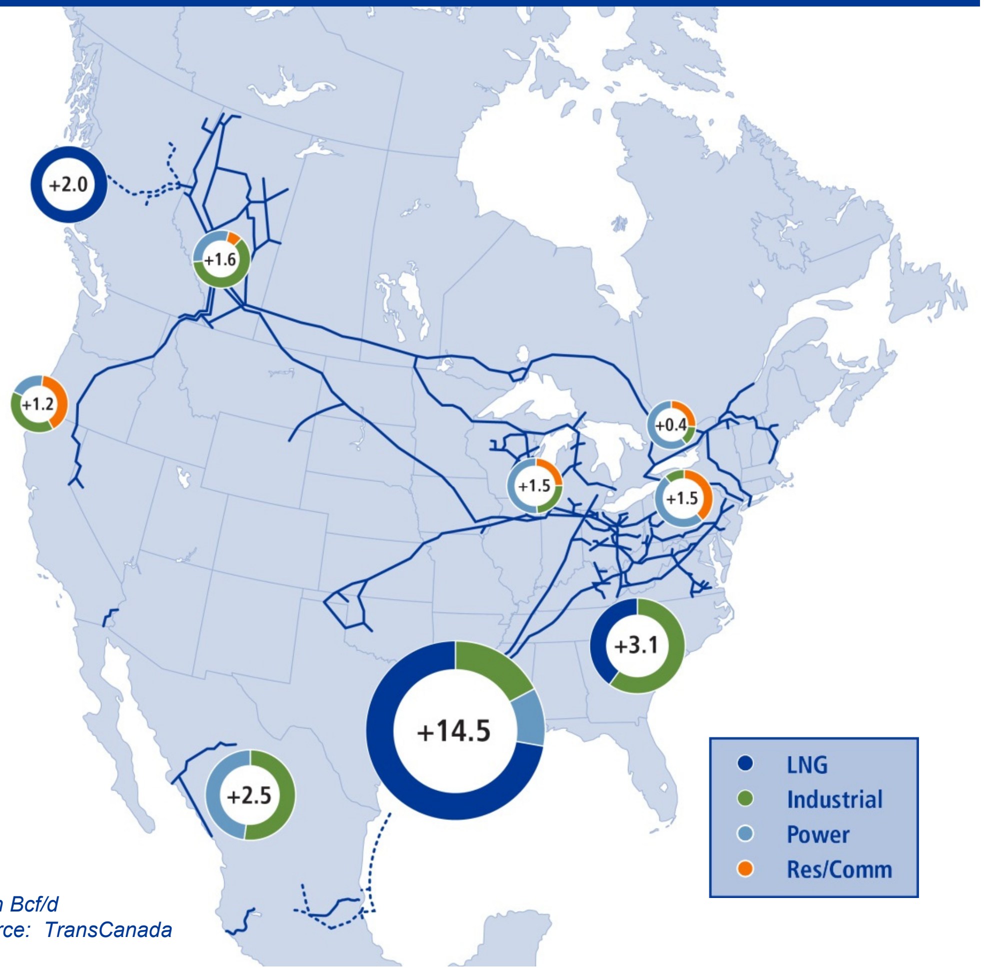
Source: TransCanada

27 Bcf/d of Demand Growth Over the Next Decade Driven by LNG Exports, Gas-fired Power Generation and Industrial Demand

Regional Demand Growth Over the Next Decade

- **Natural gas demand forecast to grow significantly**
  - Across the spectrum, including LNG along the Gulf Coast and potentially in British Columbia
- **Opportunity to provide a seamless connection along our pipelines to growing markets**
  - Gulf Coast
  - Central and Northeast U.S.
  - West coast
  - Mexico

Growing Market Demand Creates Opportunities for Growth

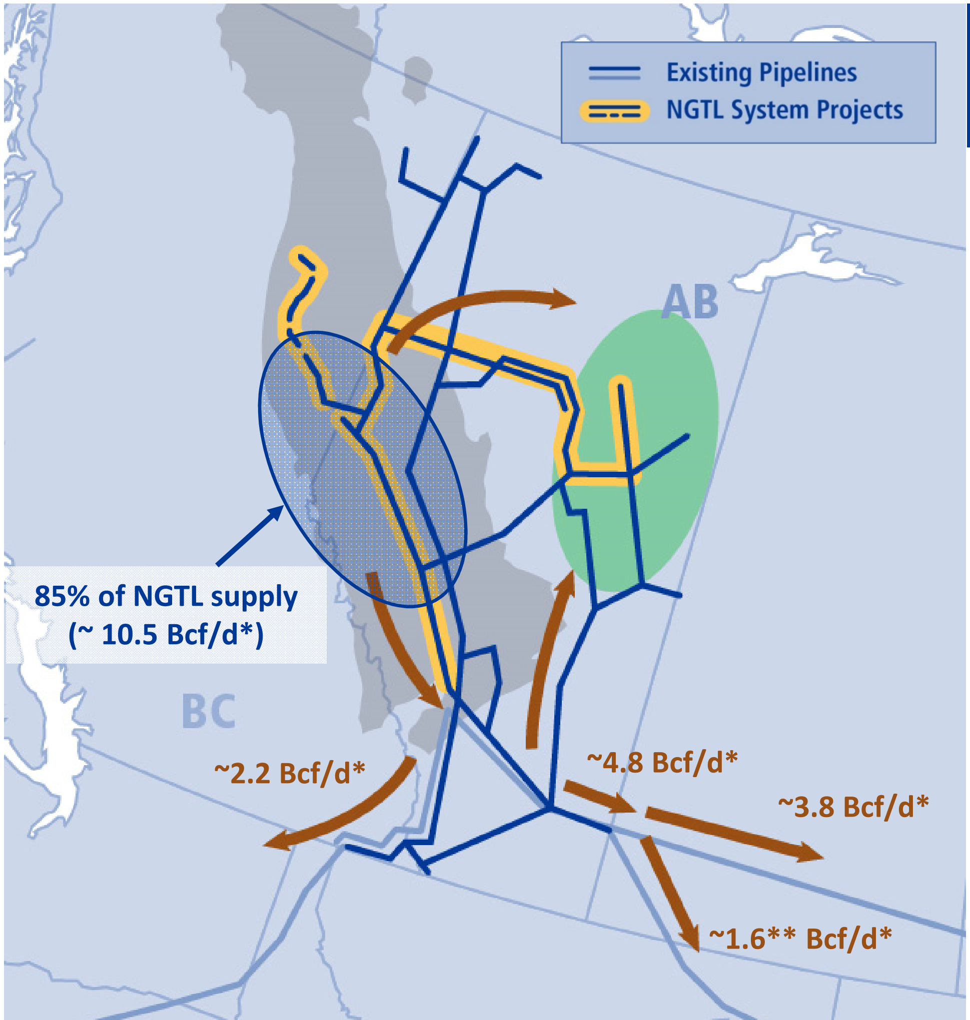


All in Bcf/d
Source: TransCanada

2017 Accomplishments

- **Provided reliable service to NGTL shippers**
  - Less than 3 percent curtailments of firm transportation service
  - Western Canada storage near historical highs going into winter season
- **Expect to place approximately $2.3 billion of NGTL facilities in service**
- **Secured an additional $2.0 billion of NGTL expansion projects to meet approximately 3 Bcf/d of customer contracts**
- **Canadian Mainline LTFP service implemented on November 1**
- **Mainline system highly contracted for 2017/2018 winter season**
- **Announced Maple compressor project to increase natural gas deliveries in Southern Ontario**
- **Advanced construction of US$2.5 billion program in Mexico**

Canada and Mexico Continue to Perform Very Well

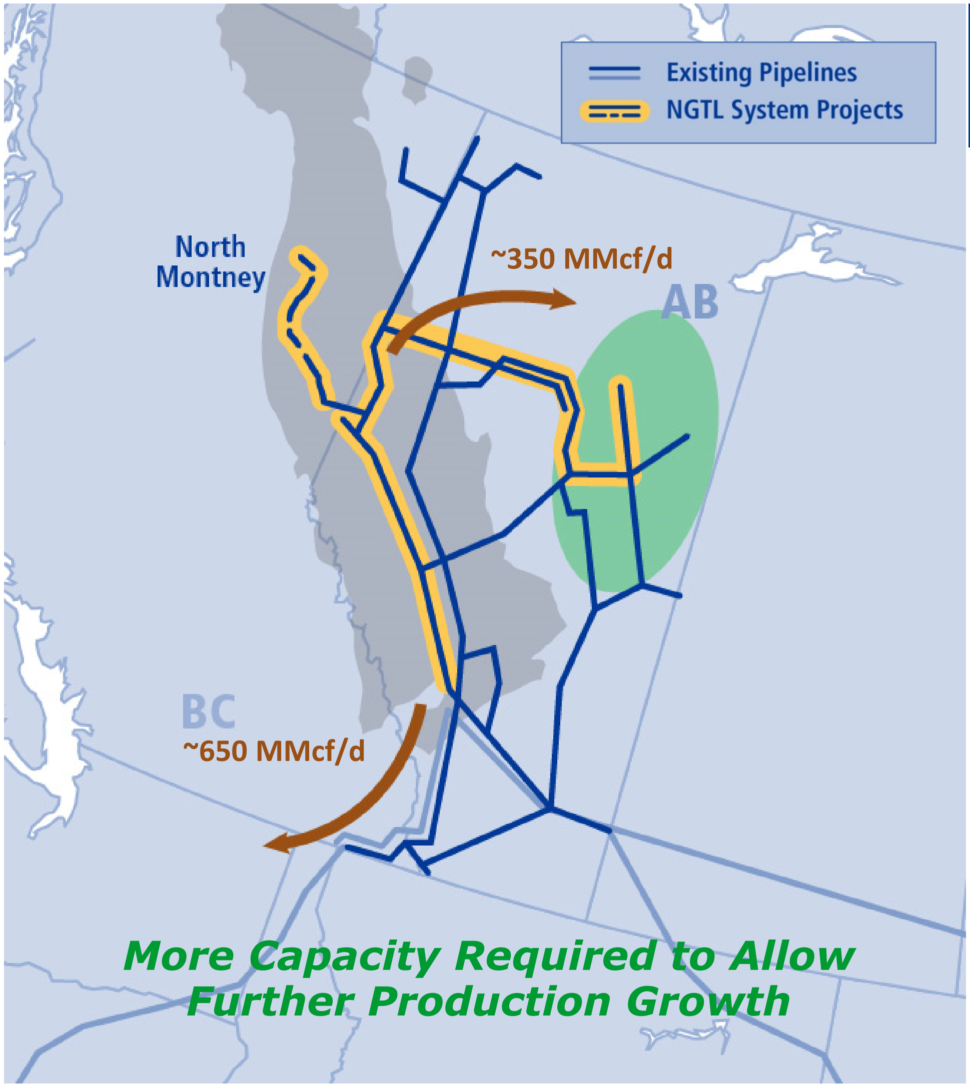


* Effective capacities winter 2017/2018
** Assumes Bakken volumes of 700 MMcf/d

NGTL System Has Evolved

- **Historically, gas production well distributed across the WCSB**
- **Since 2010, production has migrated to Northwest Alberta and Northeast B.C.**
- **Robust production growth in the Montney, Deep Basin, Duvernay regions drove increased firm receipt capacity**
- **Large intra-Alberta demand growth and reduced demand for export capacity resulted in system reconfiguration**
  - Peak intra-Alberta demand approximately 7 Bcf/d
- **Total production exceeds Alberta summer demand and export capacity**
- **Firm delivery capacity now fully contracted**

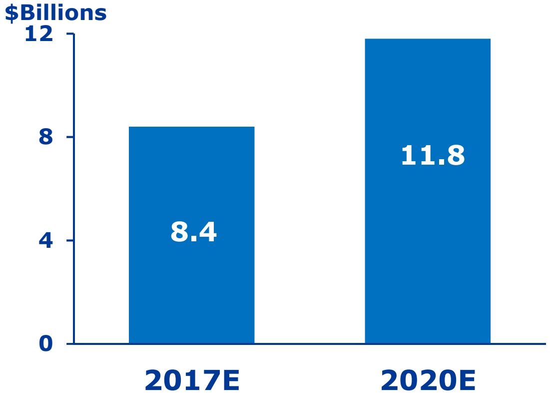
Incumbency Position in the WCSB



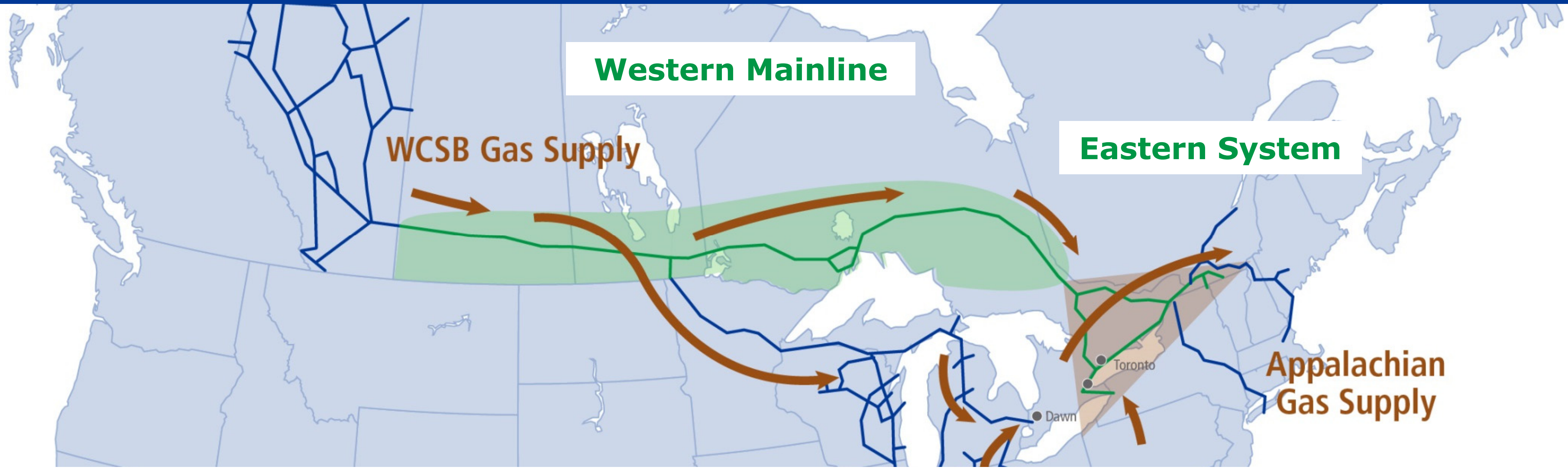
NGTL Near-Term Capital Program

- **$7.1 billion capital program supported by long-term firm receipt and delivery contracts**
  - Expected in-service through 2021
  - Includes $2.3 billion entering service in 2017
- **~1 Bcf/d of incremental delivery capacity by early 2020**
  - Intra-Alberta delivery capacity to increase by 350 MMcf/d
  - Export capacity at Alberta / B.C. border (effectively GTN) to increase by 650 MMcf/d

NGTL Investment Base

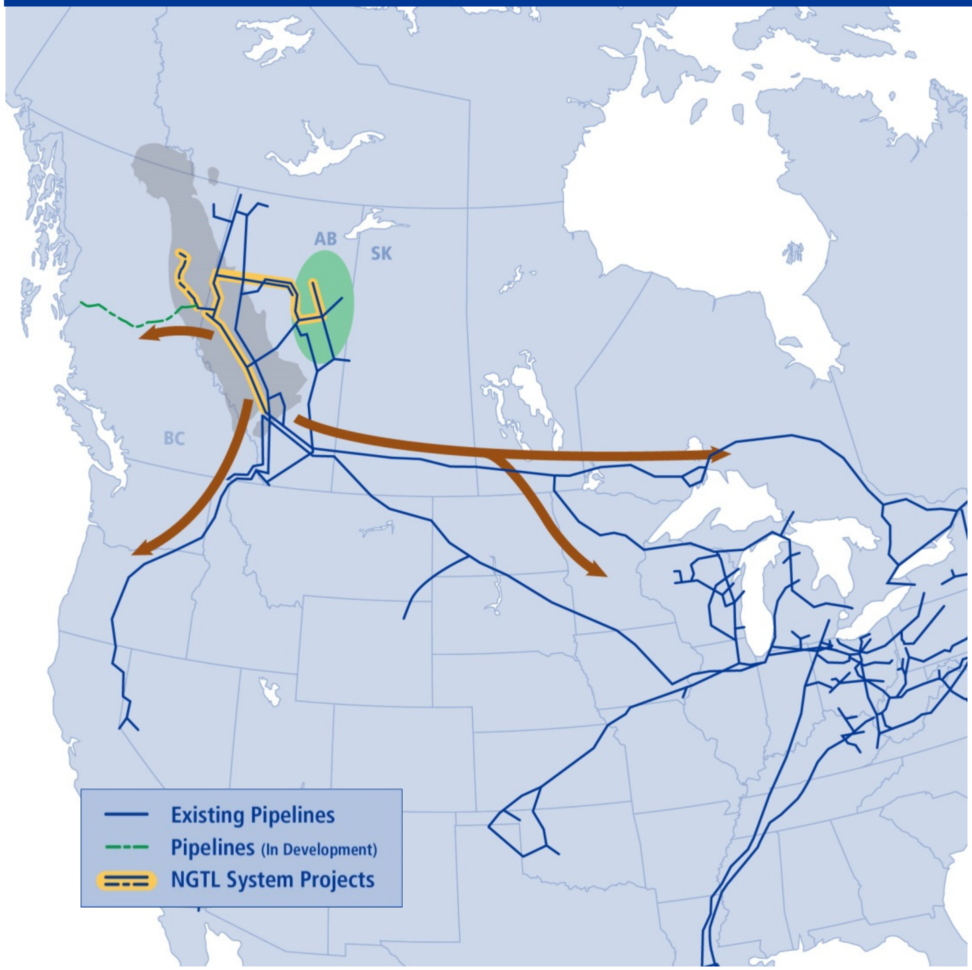


Canadian Mainline – Connecting North American Gas Supply to Market



- **Current investment base of $4.2 billion expected to remain relatively stable**
- **Strong ongoing operating and financial performance following 2014 rate settlement**
  - Mid-way toll review for 2018-2020 including costs, billing determinants, deferral balances
- **Approximately 8.5 Bcf/d of firm transportation contracts on the system**
  - Long-haul capacity contracted at approximately 3.8 Bcf/d from Empress
  - Includes 1.4 Bcf/d of Dawn Long-Term Fixed Price service at $0.77/GJ
- **Expect to invest ~$500 million through 2019 to increase capacity from Dawn to eastern markets**

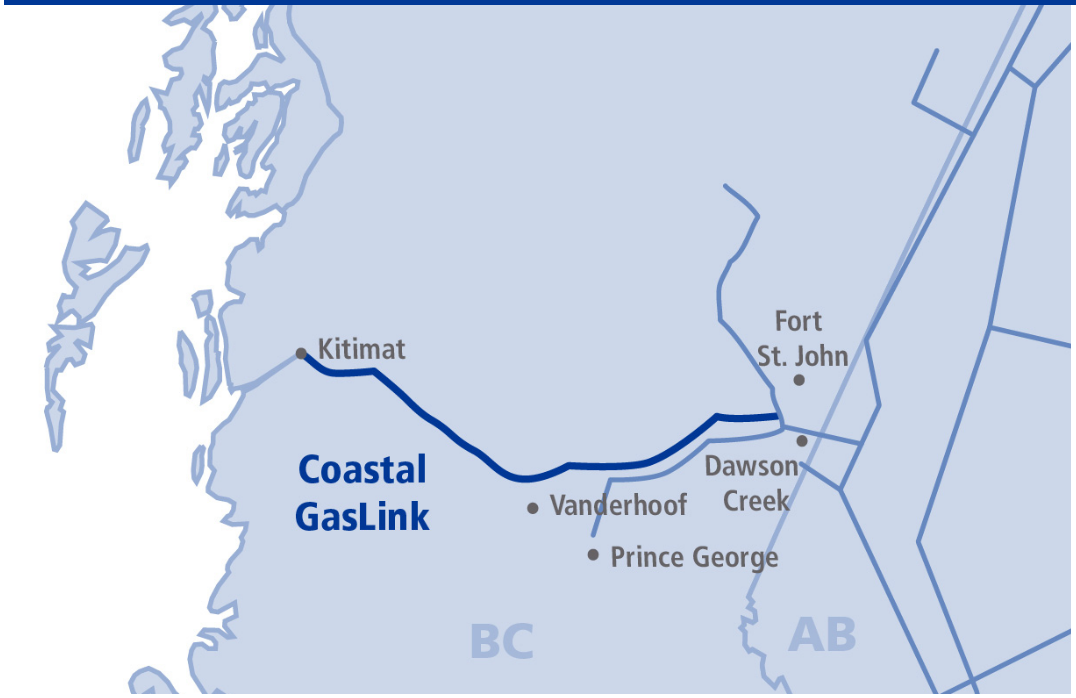
Future Capacity under Assessment



- **Working with WCSB producers to assess options to increase export market access**
- **Additional NGTL delivery capacity required**
- **Canadian Mainline brownfield option:**
  - Six pipes in place along western portion of system
  - Historic capacity of ~6.5 Bcf/d
  - Long haul decontracting between 2005 and 2013 eliminated need to maintain historic capacity
  - Restoration of capacity entails integrity program and compressor overhauls
- **Requires firm long-term contracts**

Required Level of Capital Investment Dependent on Customer Support

West Coast LNG



Coastal GasLink

- **Fully permitted**
- **No development cost risk and minimal capital cost risk**
- **In 2017, restructured provisions in the project development agreement**
  - Received ~$80 million payment in September 2017 and expect to receive quarterly payments of ~$7 million for carrying charges on an ongoing basis
- **Continue to work with LNG Canada towards a Final Investment Decision**

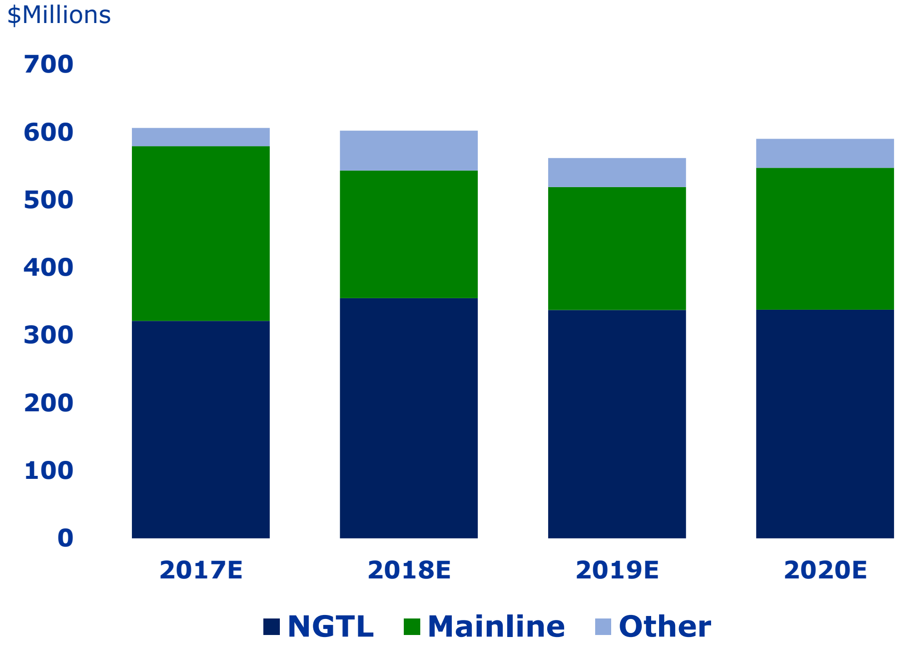
Canadian Natural Gas Pipelines Capital Program

Near-Term Growth Projects

Project	Estimated Capital Cost	Expected In-Service
Canadian Mainline	0.5	2017-2019
NGTL System	2.3	2017
	0.3	2018
	2.2	2019
	1.9	2020
	0.4	2021+
Total ($Billions)	7.6	

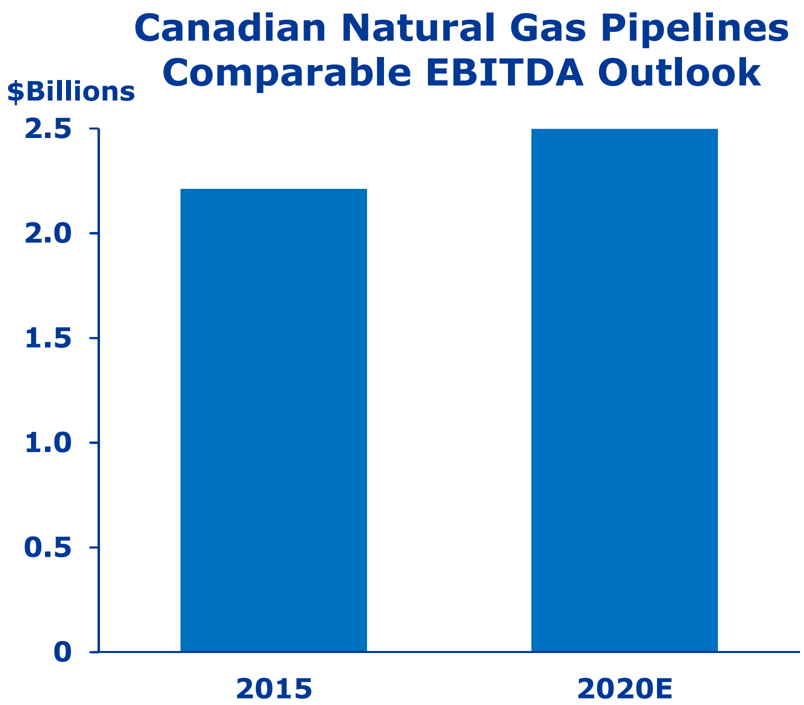
Significant Investment Program for Initial Phases of WCSB Growth

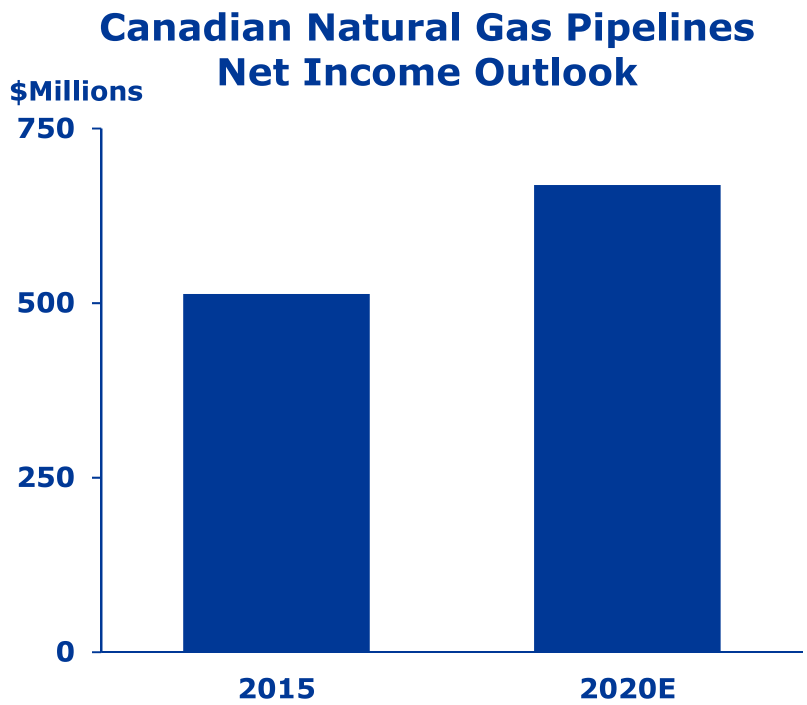
Maintenance Capital



Maintenance Capital Immediately Reflected in Rates and Earns a Return Of and On Capital

Canadian Natural Gas Pipelines Outlook





Comparable EBITDA and Net Income Growth Driven by Near-Term Capital Program

Changes in depreciation, financial charges and income taxes affect EBITDA but do not have a significant impact on net income as they are almost entirely recovered in revenues on a flow-through basis.

Comparable EBITDA is a non-GAAP measure. See the non-GAAP measures slide at the front of this presentation for more information.

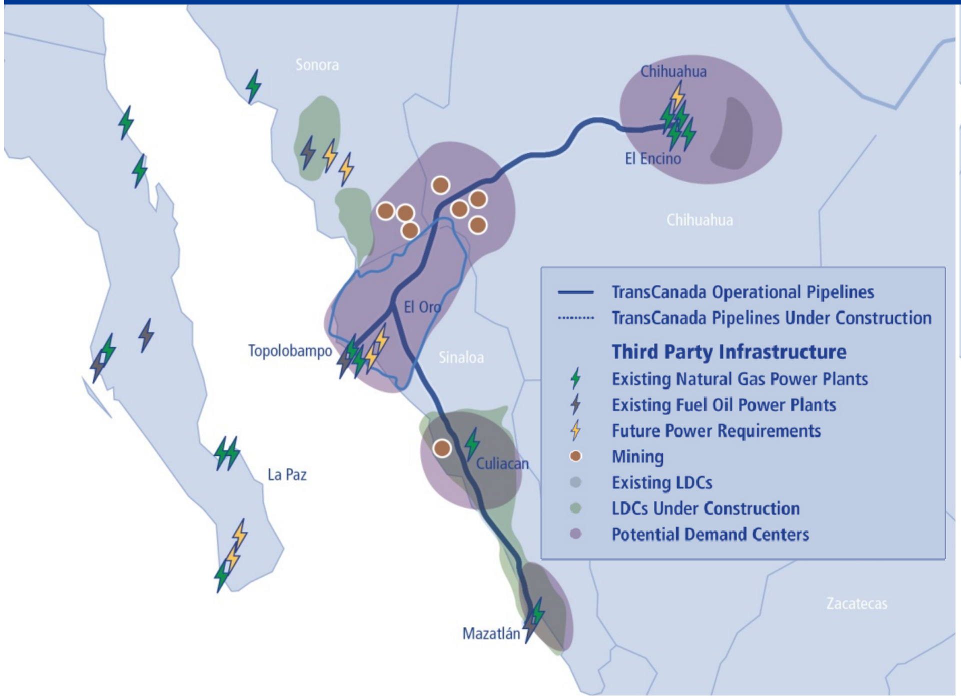
Mexico – Solid Position and Growing

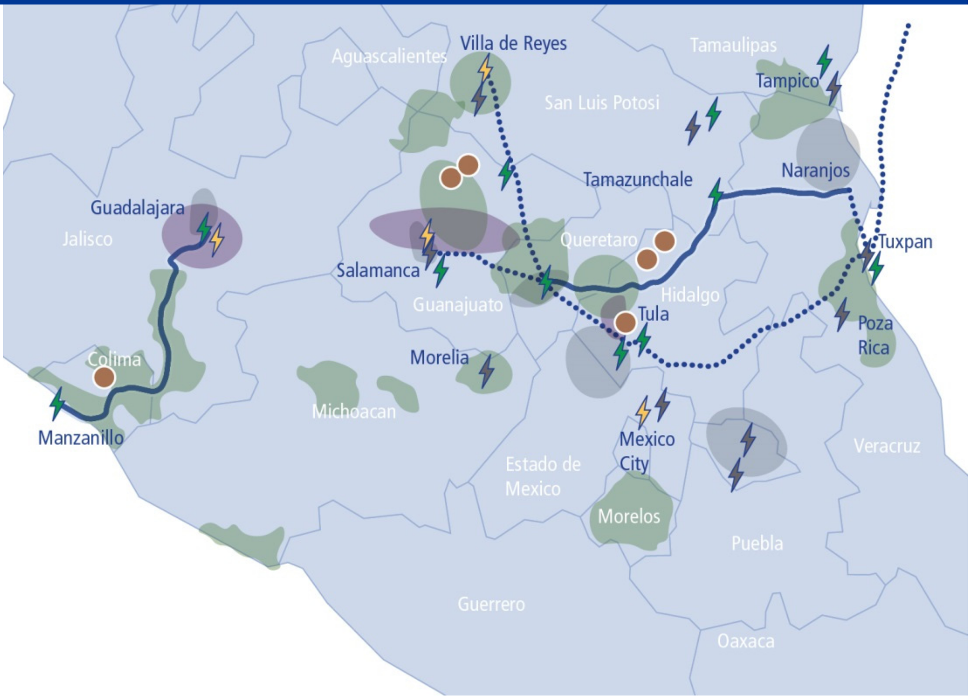
- **Four revenue-generating pipelines**
  - Tamazunchale
  - Guadalajara
  - Mazatlán
  - Topolobampo
- **Three new projects expected to enter service which will increase portfolio to ~US$5 billion**
  - Tula – US$0.6 billion
  - Villa de Reyes – US$0.6 billion
  - Sur de Texas – US$1.3 billion*
- **All underpinned by long-term contracts with the Comisión Federal de Electricidad**
- **Well positioned to connect U.S. natural gas supply to growing power generation and industrial markets in central Mexico**

Developing an Integrated Natural Gas Delivery System

** TransCanada's 60% share*

Opportunities to Increase Natural Gas Utilization

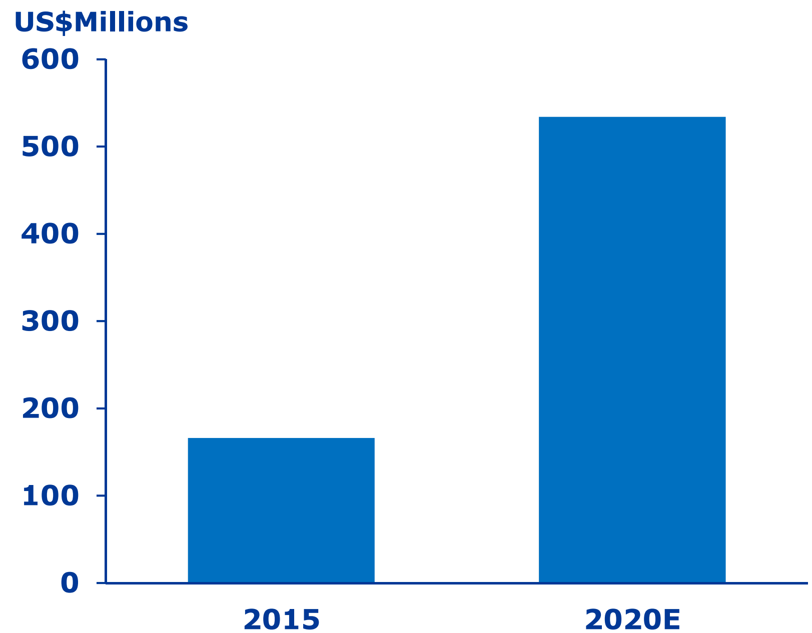




Growing Demand Expected to Enhance the Value of Our Infrastructure

Mexico Natural Gas Pipelines Outlook

Comparable EBITDA Growth Driven by US$2.5 Billion of Near-Term Projects

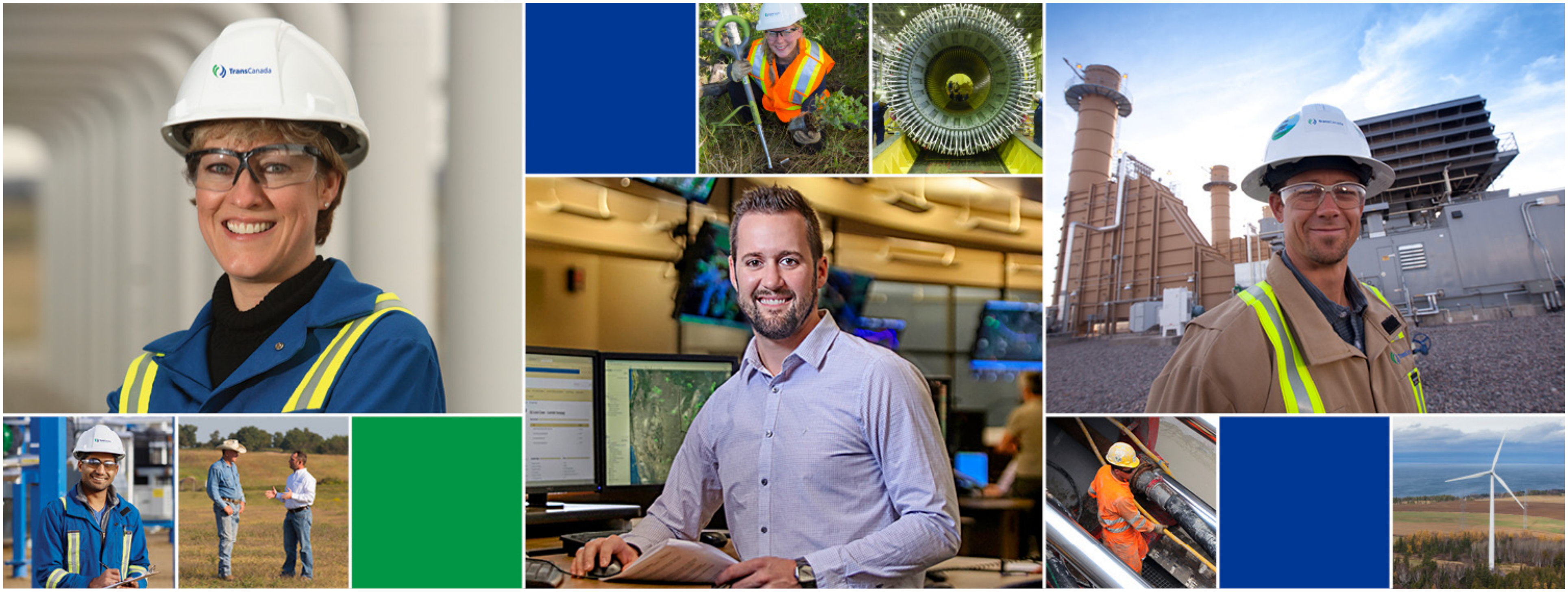


Comparable EBITDA is a non-GAAP measure. See the non-GAAP measures slide at the front of this presentation for more information.

Key Focus Areas and Future Opportunities in Canada and Mexico

- **Advance $10.7 billion of near-term projects**
- **Maximize value of Canada and Mexico franchises**
  - Through rate settlements with shippers
  - Optimize utilization of pipelines
- **Drive competitive growth initiatives**
  - Capacity investments across our network
  - Develop flexible service options to connect growing WCSB natural gas supply to our broad North American network
- **Advance longer-term opportunities**
  - Through Coastal GasLink pipeline, work with LNG Canada to enhance the value of Canadian natural gas in international LNG markets

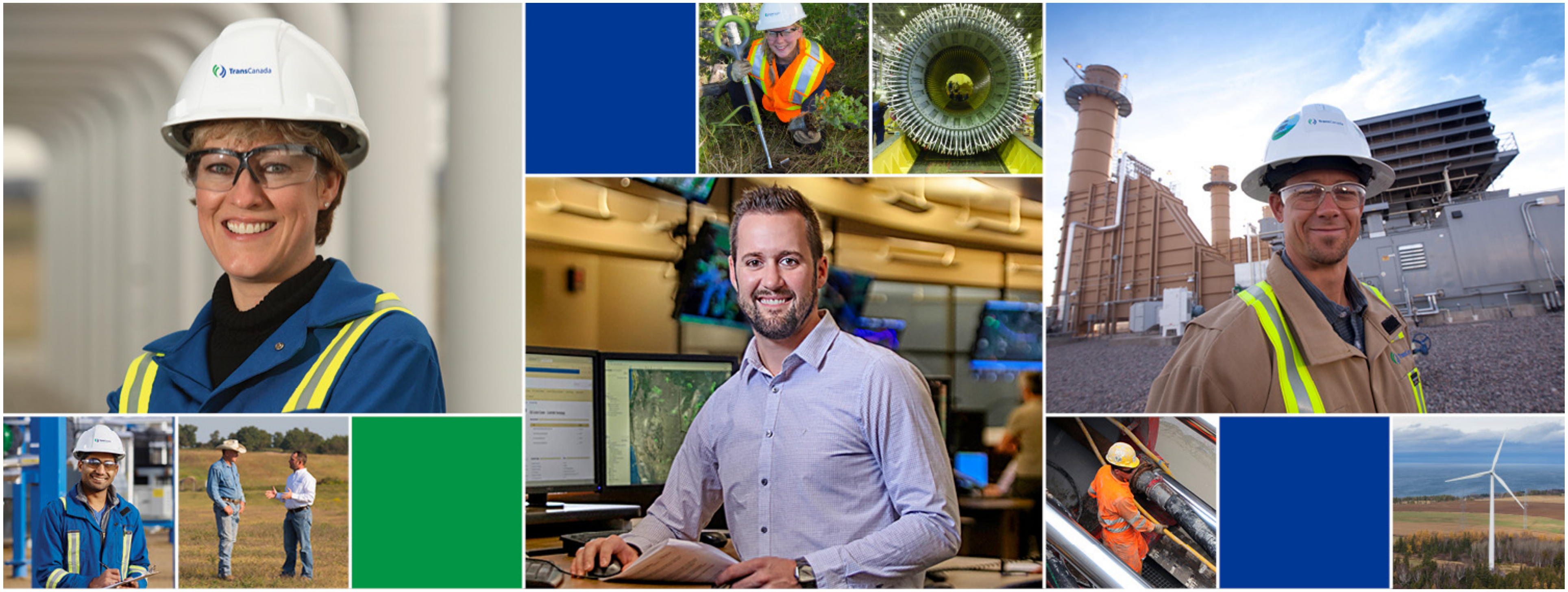
Building on Growing Momentum



Canada and Mexico Natural Gas Pipelines

Karl Johannson
President, Canada and Mexico Natural Gas Pipelines and Energy

TransCanada
In business to deliver

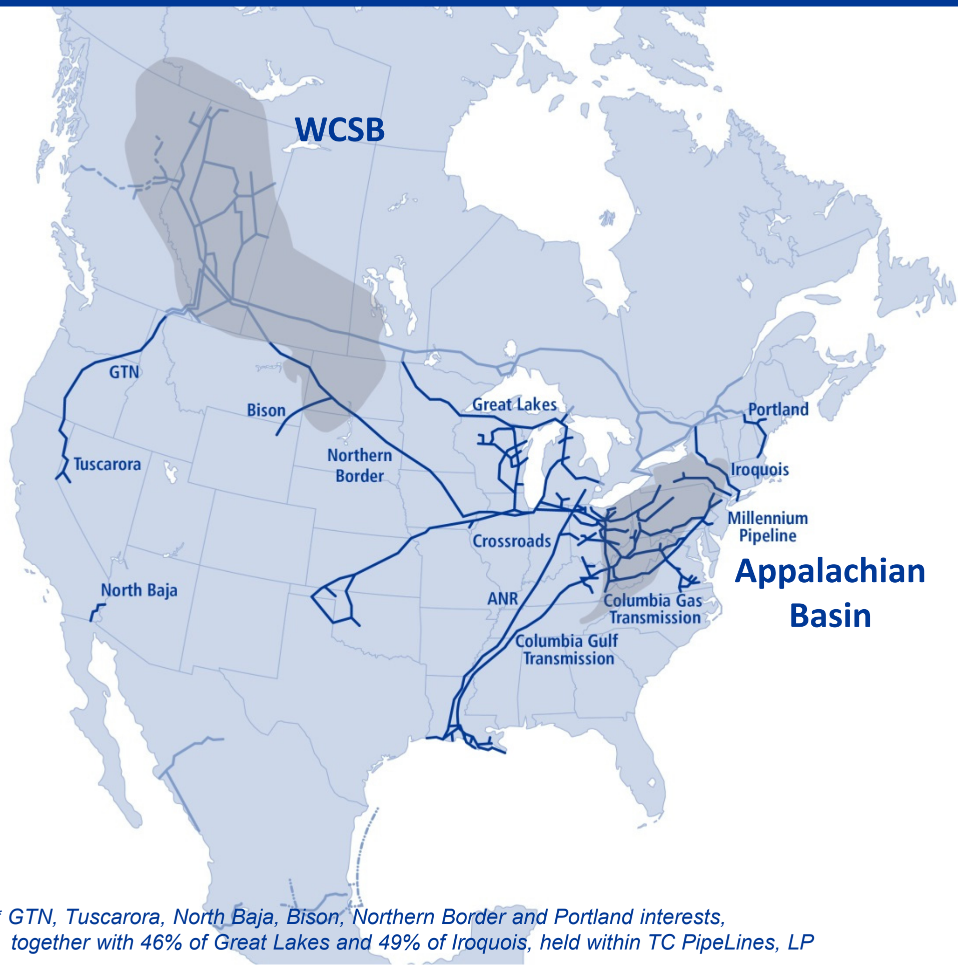


U.S. Natural Gas Pipelines

Stan Chapman
President, U.S. Natural Gas Pipelines

TransCanada
In business to deliver

U.S. Natural Gas Pipelines



* GTN, Tuscarora, North Baja, Bison, Northern Border and Portland interests, together with 46% of Great Lakes and 49% of Iroquois, held within TC PipeLines, LP

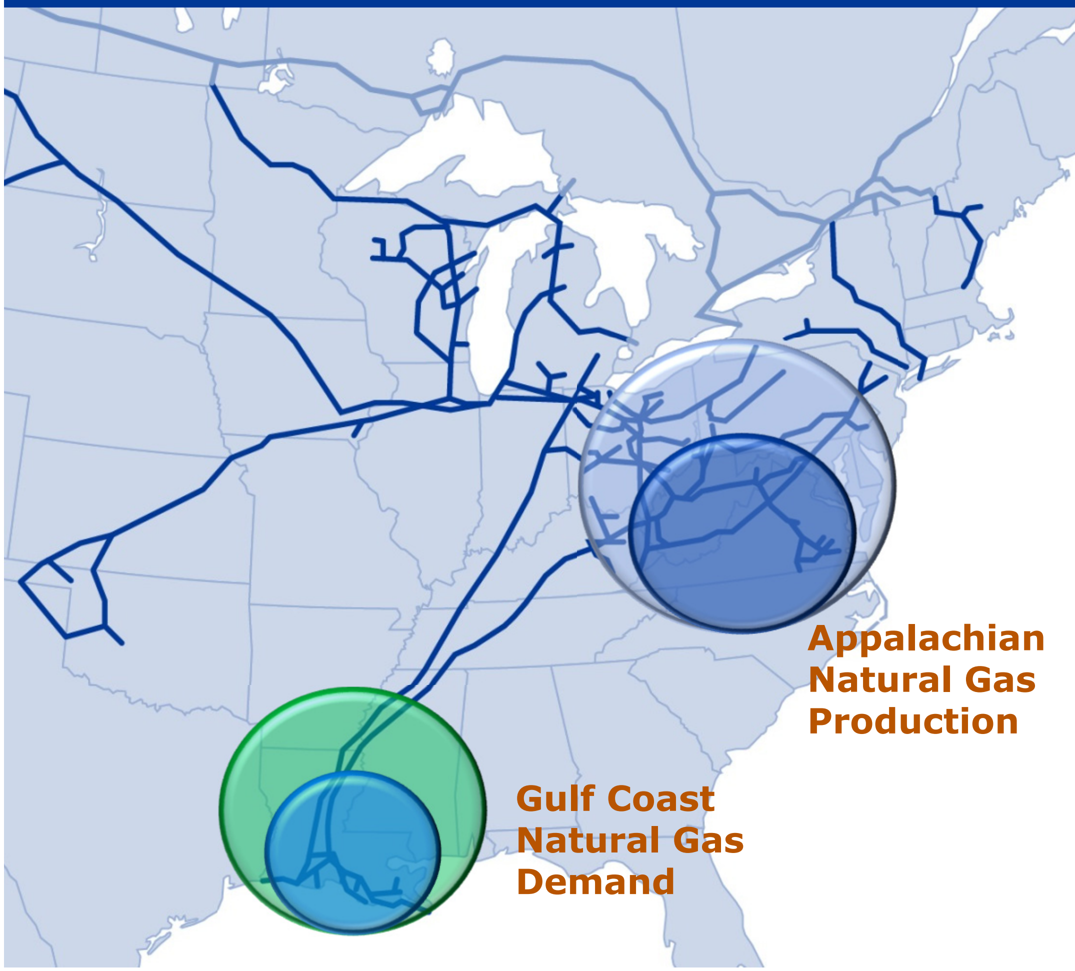
- **Broad National Network**
  - ~31,000 miles of FERC-regulated pipelines across 36 states
  - ~548 Bcf of regulated storage
  - Serves ~20% of U.S. natural gas demand
- **Strategically Connected to Low Cost Supply Basins**
  - Best in class footprint across Appalachian basin
  - Provides market outlets for WCSB natural gas
- **Unparalleled Connectivity to Key Markets**
  - Traditional LDC markets
  - LNG exports, power generation and key interconnects

2017 Accomplishments

- **Columbia integration fully complete; delivering results as expected**
- **Improved market access for growing supply**
  - Rayne XPress and Gibraltar placed in service
  - Leach XPress expected to be in service in early 2018
- **Positive results obtained on rate case settlements with shippers on Great Lakes and Northern Border**
  - Rate stability on remaining portfolio
- **Columbia Gas Transmission Modernization I Program complete**
- **Increased portfolio of commercially secured near-term growth projects to US$8.5 billion**
- **Completed dropdown of 49.3 and 11.8 percent interests in Iroquois and Portland, respectively, to TC PipeLines, LP for US$765 million on June 1, 2017**

Advancing Significant Growth Projects

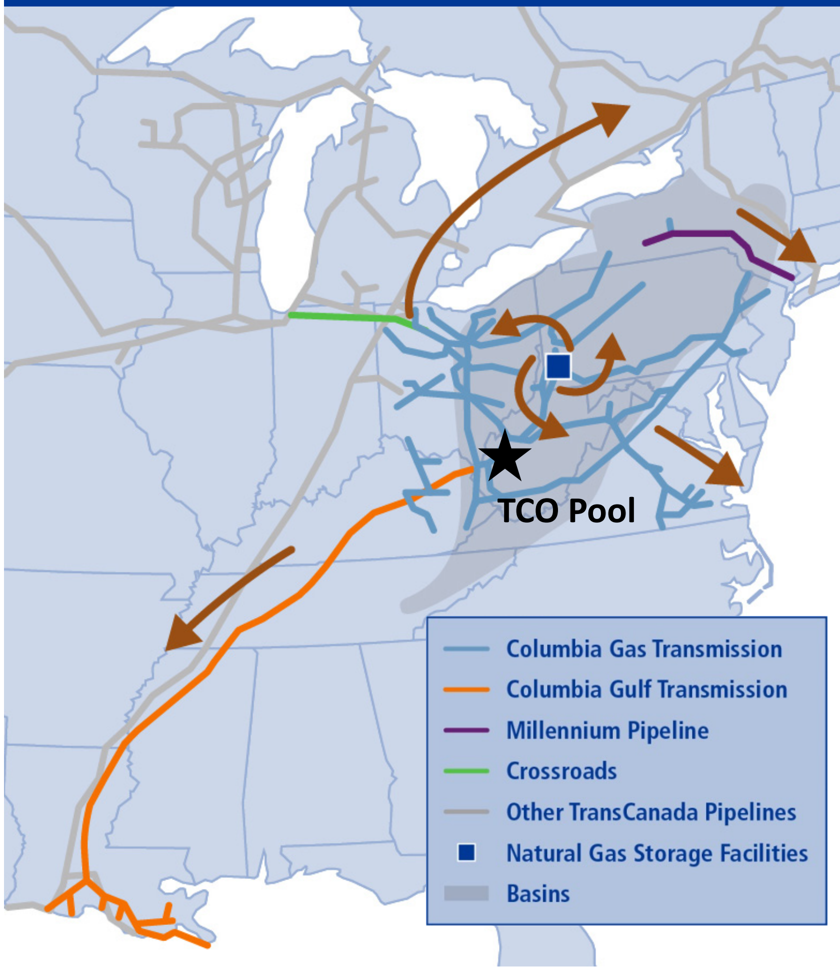
Connecting Increasing Appalachian Supply to Growing Gulf Coast Market



- **Appalachian production expected to grow from ~25 Bcf/d in 2017 to over 40 Bcf/d by 2027**
- **Gulf Coast demand, including LNG exports, expected to grow by over 14 Bcf/d by 2027**
- **Additional investment opportunities expected to connect growing supply to market**

Opportunities for ANR and Columbia Systems

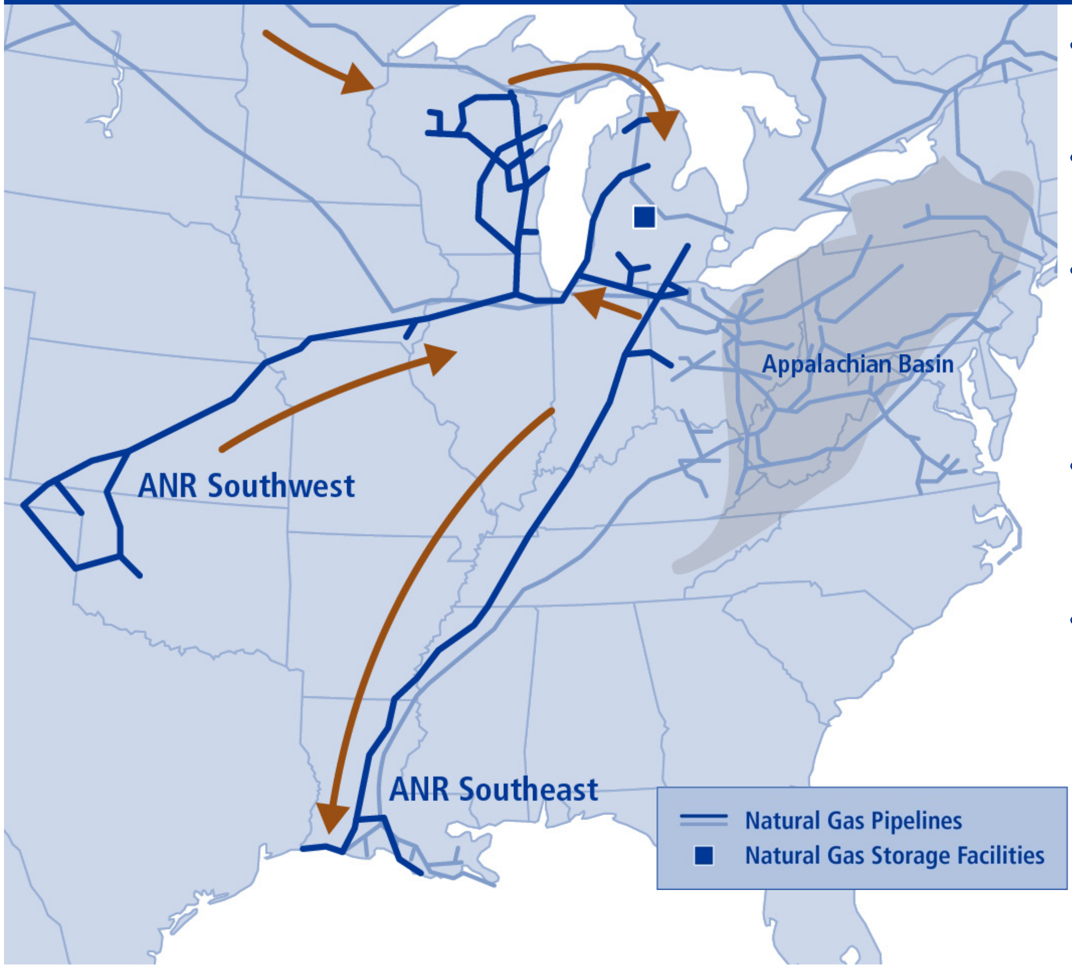
Columbia – Premium Natural Gas Pipeline Network



- **Competitively positioned over Appalachian basin**
- **96% of revenues are derived from firm transportation contracts**
- **TCO pool – provides access to liquid trading hub**
- **US$7.9 billion growth program through 2020**
  - Rayne XPress in-service in November 2017
  - Leach XPress expected to be in-service in early 2018
  - Received FERC certificate for WB XPress
  - Mountaineer and Gulf XPress projects awaiting FERC certificates
  - Modernization programs on Columbia Gas

Unparalleled Position in U.S. Northeast

ANR Pipeline Overview



- **One of the largest interstate natural gas pipeline systems in the U.S.**
- **Owns significant capacity in strategic natural gas storage facilities in Michigan**
- **2016 rate case settlement includes US$837 million of maintenance capital for reliability and modernization projects – reflected in ANR's rates**
- **Approximately 2.0 Bcf/d of long-term contracts at maximum rates on southeast portion of system**
- **Key connection to Great Lakes and our Canadian pipelines**

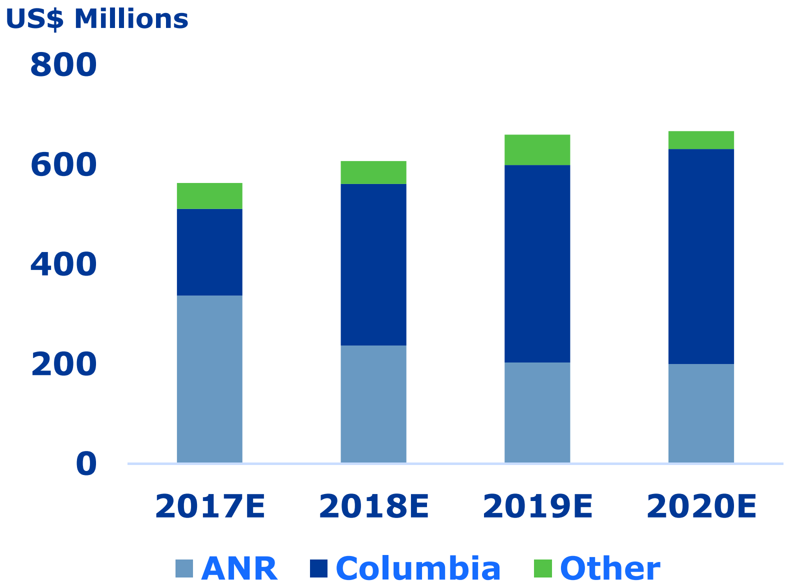
Strategically Positioned Between WCSB and Appalachian Basin

U.S. Pipelines Near-Term Growth Program

Project	Estimated Capital Cost (US$ Billions)	FERC Status	Expected In-Service
Rayne XPress	0.4	Approved	In-Service
Gibraltar	0.3	N/A	In-Service
Modernization I	0.2	Approved	2017
Leach XPress	1.6	Approved	2018
Cameron Access	0.3	Approved	2018
WB XPress	0.8	Approved	2018
Gulf XPress	0.6	Filed*	2018
Mountaineer XPress	2.6	Filed*	2018
Modernization II	1.1	Approved	2018-2020
Buckeye XPress	0.2	-	2020
Other – includes Portland XPress	0.4	-	2017-2020
Total	8.5		

** Received Final Environmental Impact Statement on July 28, 2017*

U.S. Pipelines Maintenance Capital

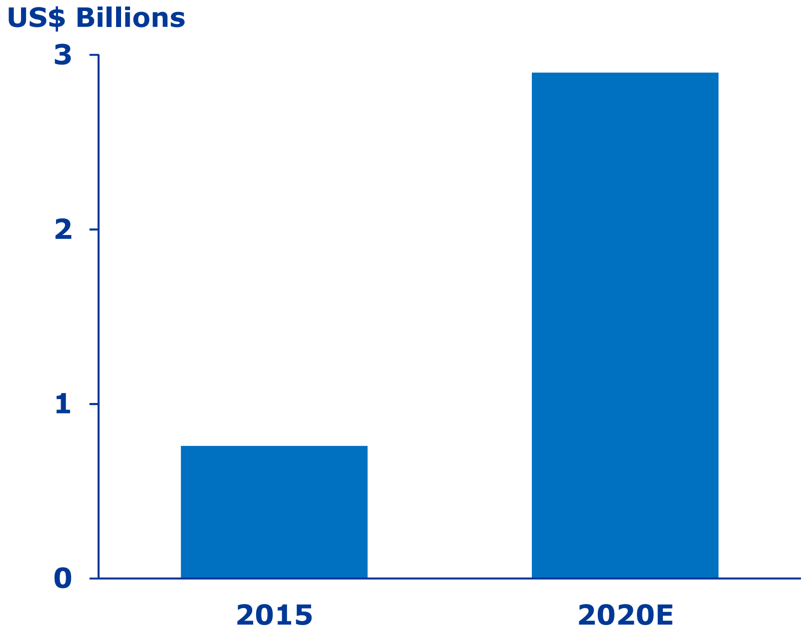


- **Maintenance capital of approximately US$600 million annually**
- **Expenditures are the result of:**
  - Increased utilization due to higher natural gas flows
  - Pipeline integrity work, primarily on Columbia
- **Capital spend expected to become part of rate base and earn a return on and of capital**
  - ANR's maintenance capital for 2017 and 2018 already reflected in rates established under current settlement; next rate case in 2019
  - Columbia Gas' maintenance capital expected to be recovered in next rate case

Maintenance Capital Expected to be Recovered in Future Rate Cases

U.S. Natural Gas Pipelines Outlook

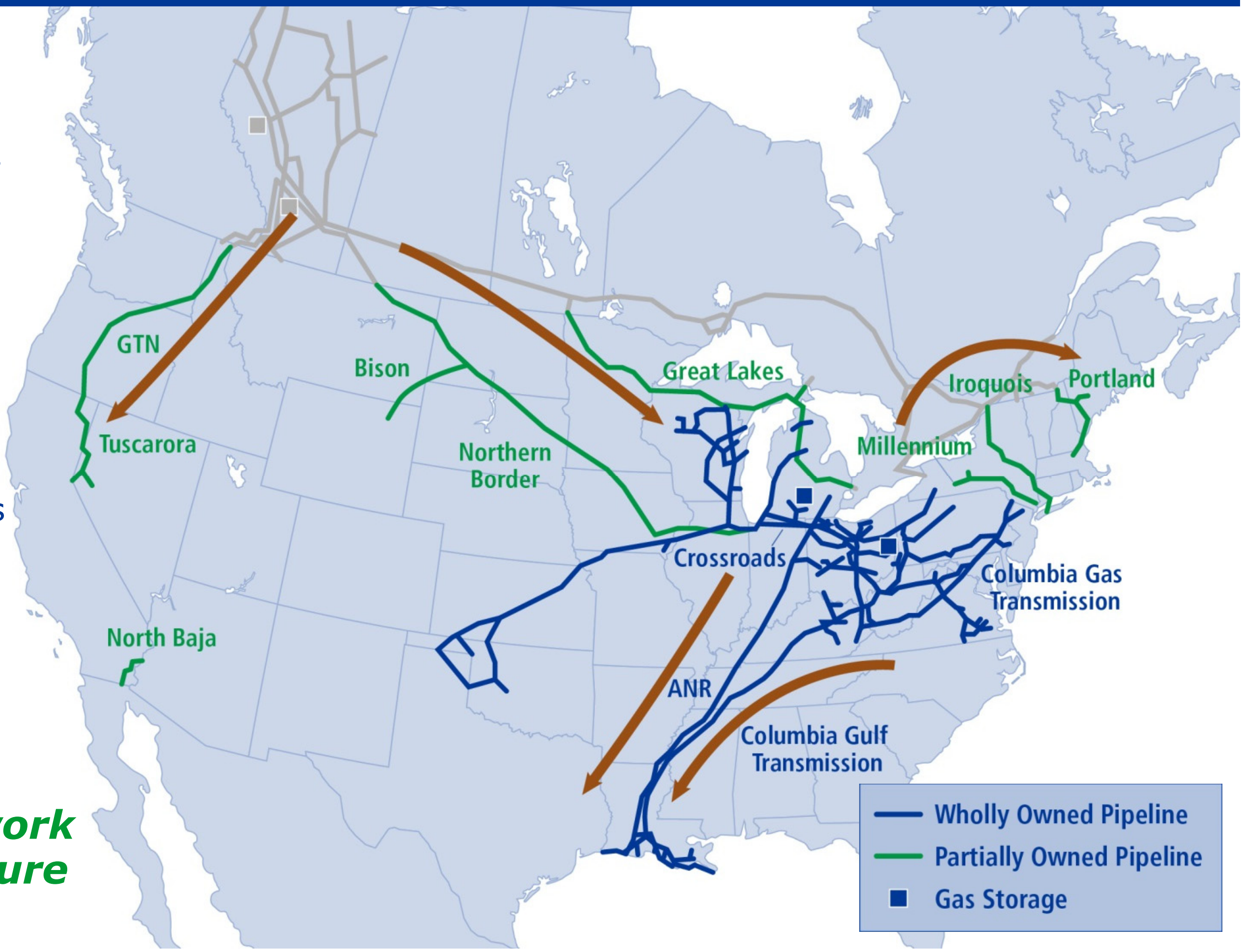
Comparable EBITDA Growth Driven by Columbia Acquisition and Near-Term Projects



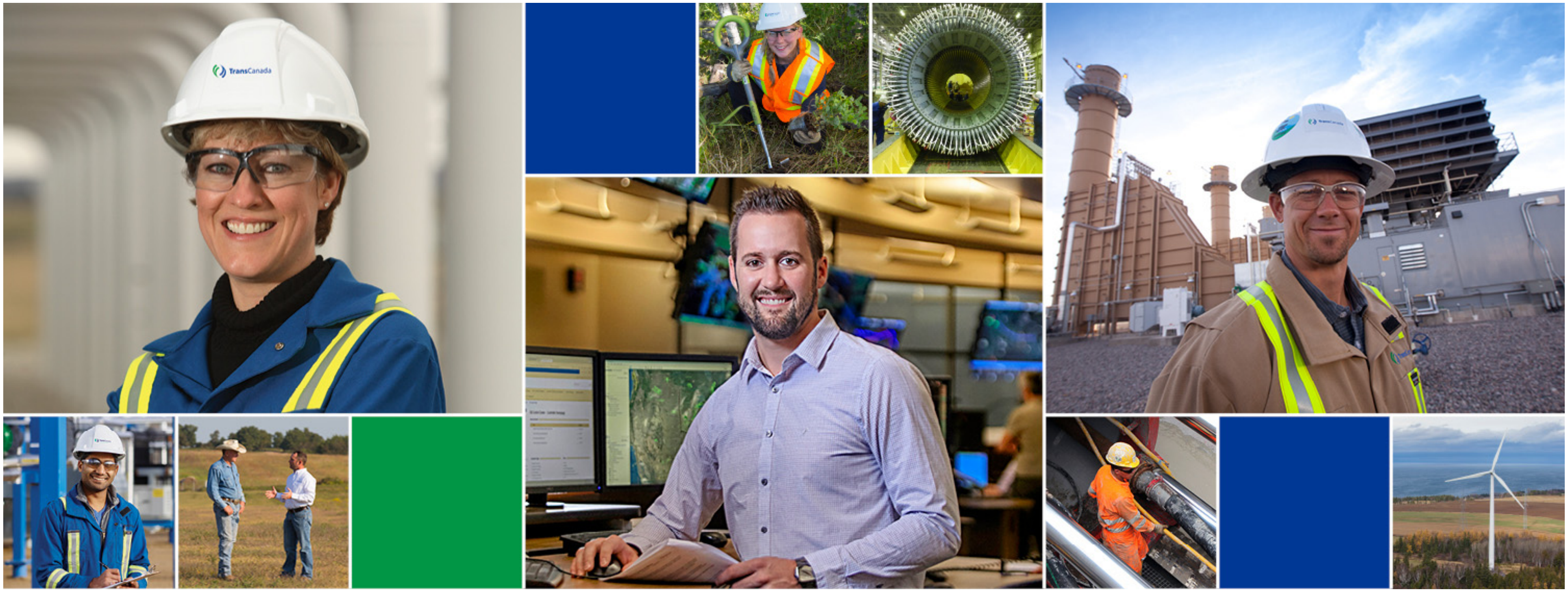
Comparable EBITDA is a non-GAAP measure. See the non-GAAP measures slide at the front of this presentation for more information.

Key Focus Areas and Future Opportunities

- **Advance US$8.5 billion of projects**
- **Seek further synergies across our North American natural gas business**
  - ie. Buckeye XPress and Portland XPress projects
- **Near-term organic opportunities from WCSB**
  - Realize benefits from additional contracts on GTN and Great Lakes
  - GTN fully subscribed in 2020
- **Longer-term opportunities from Appalachian growth**
  - Next phase of Gulf Coast exports



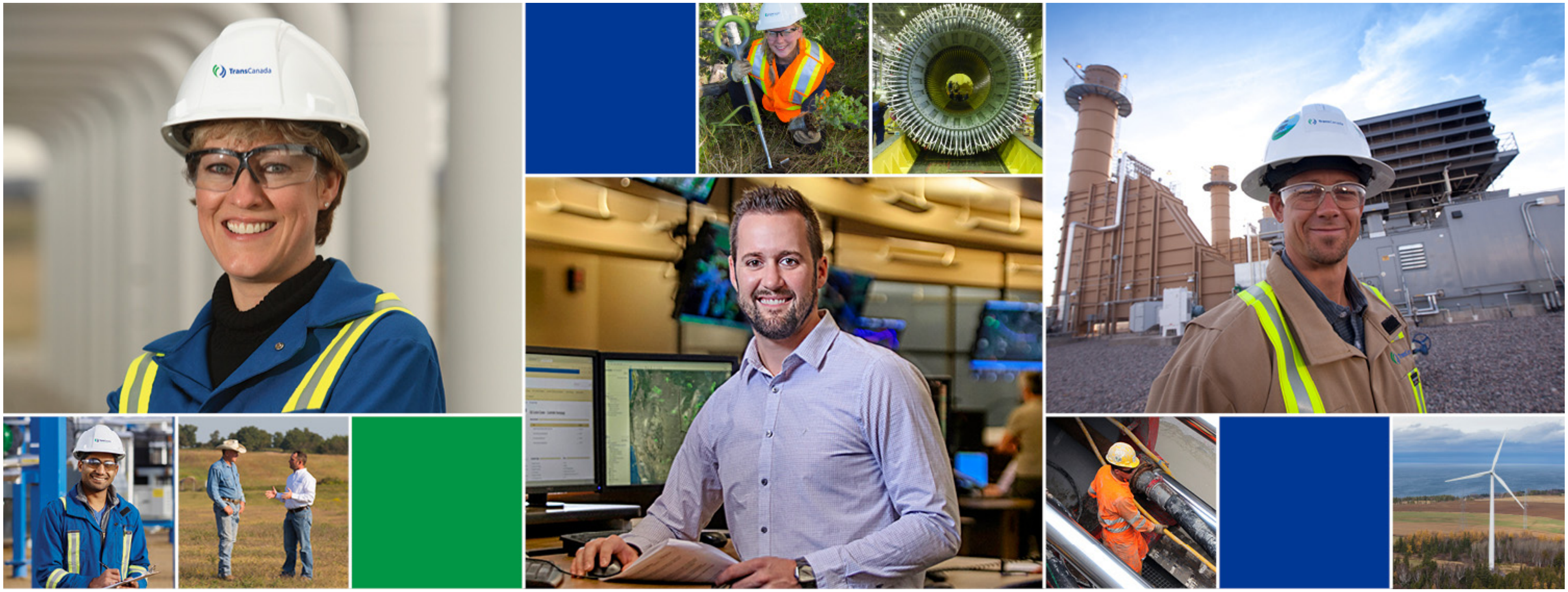
Continue to Develop Network of Critical Gas Infrastructure



U.S. Natural Gas Pipelines

Stan Chapman
President, U.S. Natural Gas Pipelines

TransCanada
In business to deliver



Liquids Pipelines

Paul Miller
President, Liquids Pipelines

TransCanada
In business to deliver

Liquids Pipelines

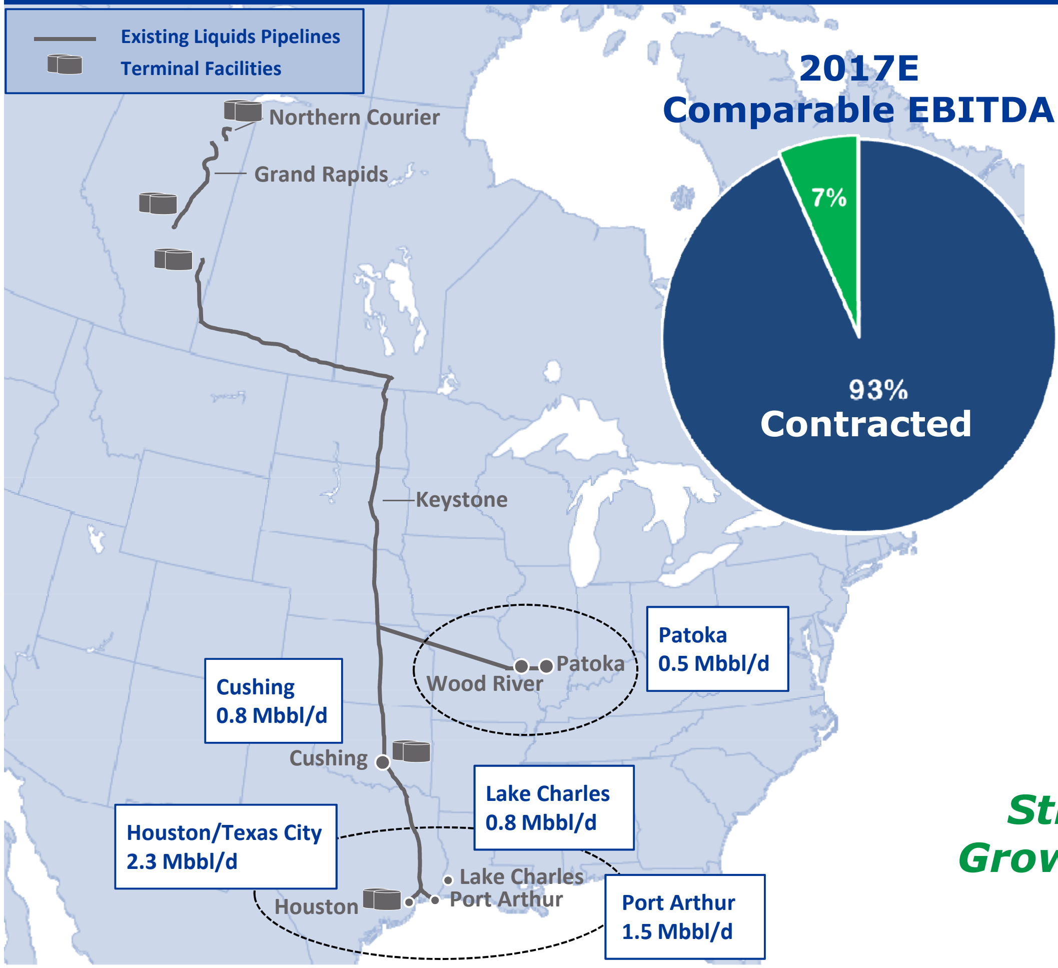
Strategy

- Connect growing supply to key markets
- Maximize value of existing assets
- Pursue new opportunities:
  - Expansions
  - Connections
  - Liquids value chain
  - Geographic

Long-term contracted assets

- Keystone pipeline system
- Alberta pipeline systems

Liquids Pipelines Overview



Keystone pipeline system

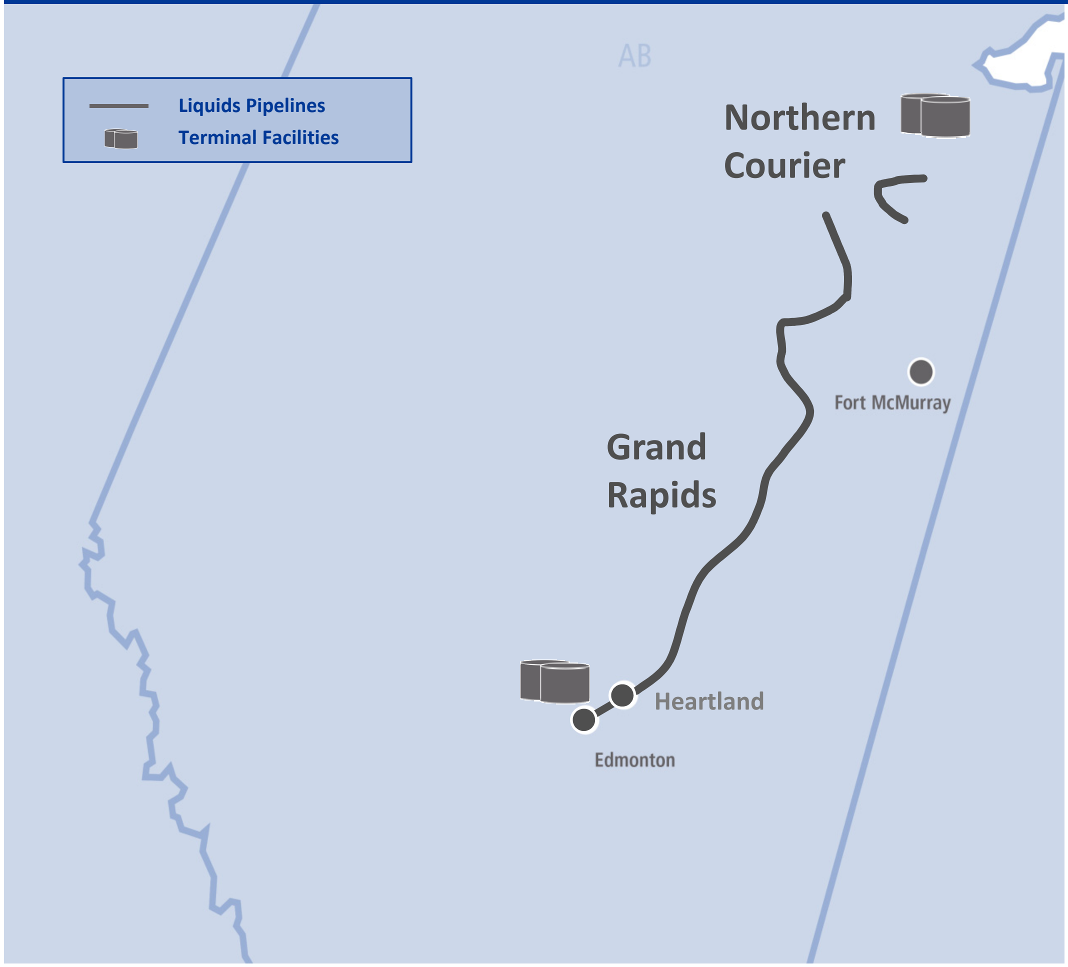
- Transports ~20% of Western Canadian crude oil exports
- Market access to ~6 million bbl/d of refining capacity
- Significantly contracted

Alberta pipeline systems

- Crude oil pipeline gathering systems
- Diluent delivery systems
- Market access for Athabasca region

Strategically Positioned to Transport Growing Crude Oil Supply to Key Markets

2017 Accomplishments



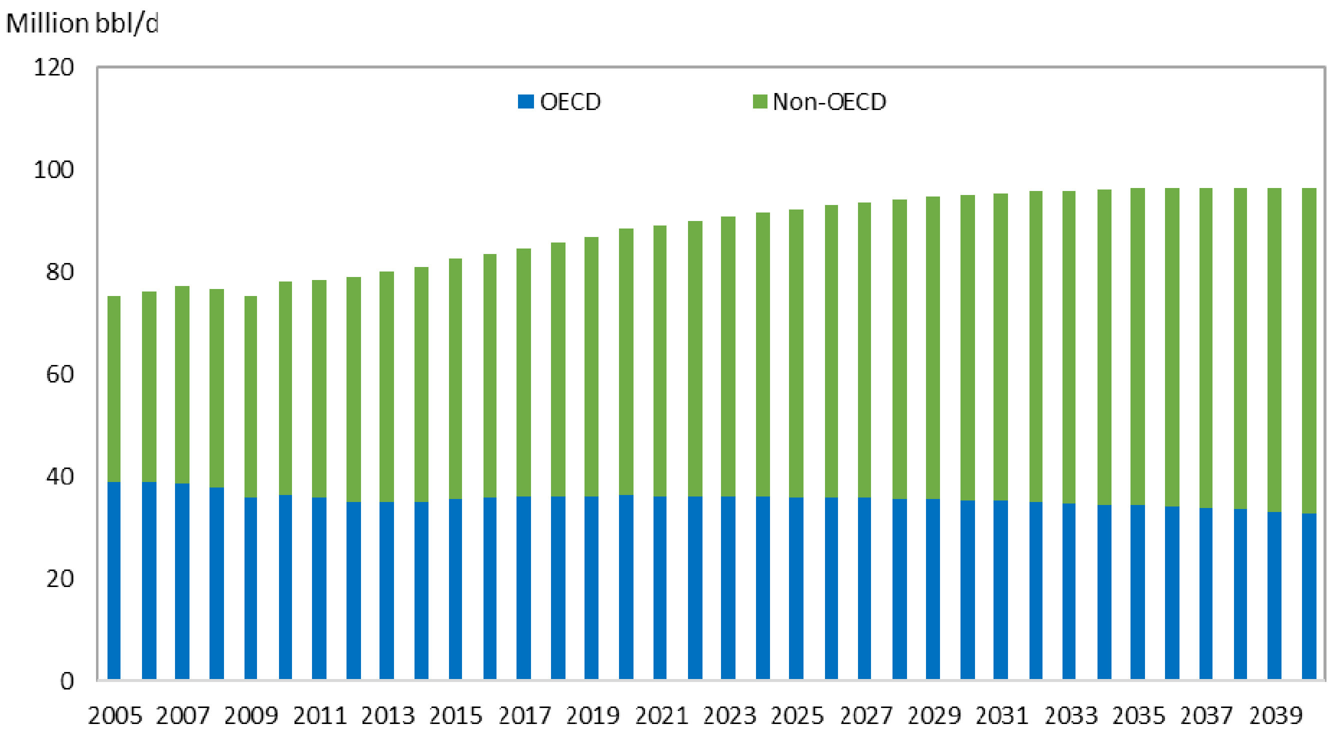
Placed two pipelines in-service in Alberta:

- **Grand Rapids Pipeline**
  - 400 km crude oil pipeline system
  - $900 million investment
  - Long-term contracts
  - In-service August 2017
- **Northern Courier Pipeline**
  - 90 km bitumen/diluent pipeline system
  - $1 billion investment
  - 25 year contract
  - Commercial in-service November 2017
- **Keystone Pipeline contracted**

Macro Market Outlook

- Global oil demand plateaus in late 2030's
- Heavy crude oil demand continues to grow
- U.S. Gulf Coast refiners grow market size
- New supply of 36 million bbl/d required
- Declines by competing producing countries
- Oil sands supply growth

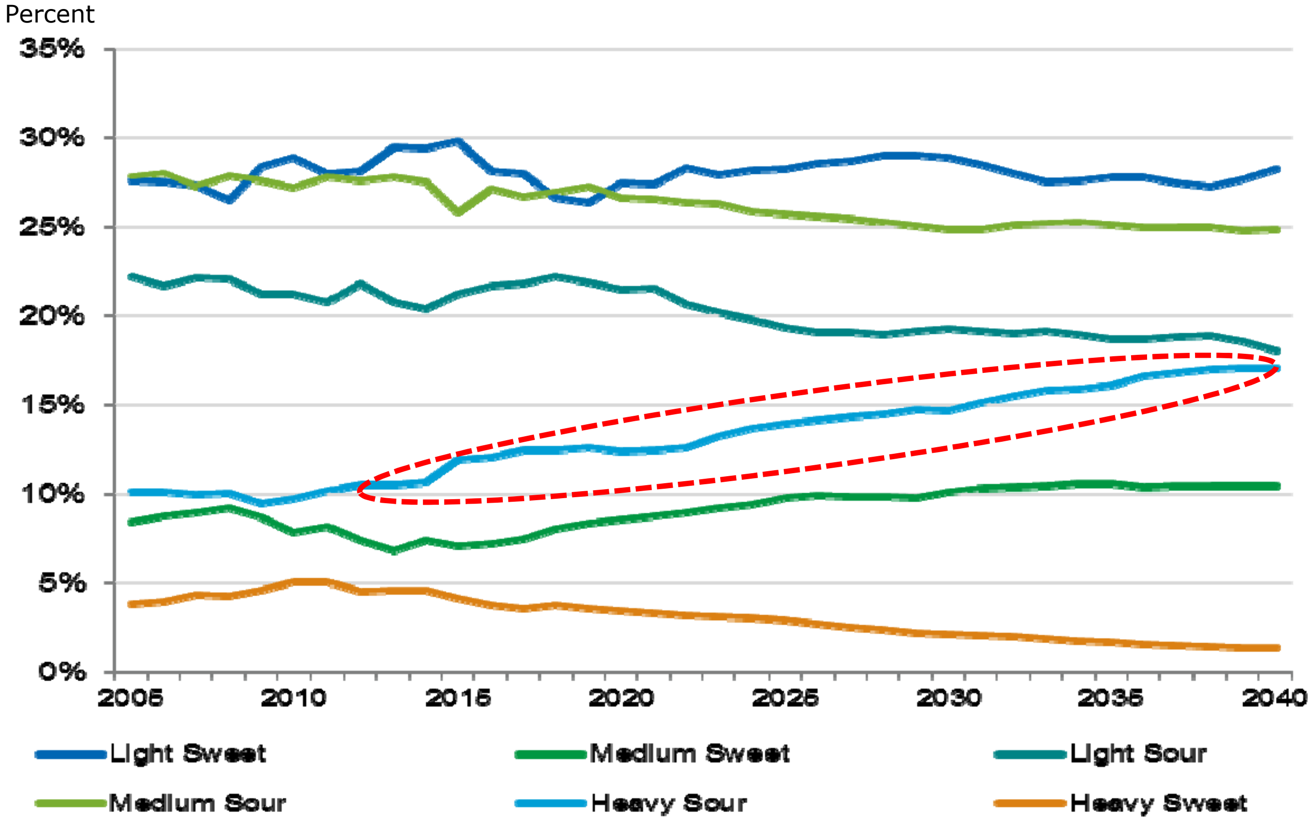
Global Refined Products Demand



Source: IHS Markit

Global Market Demand Growth Plateaus in Late 2030's

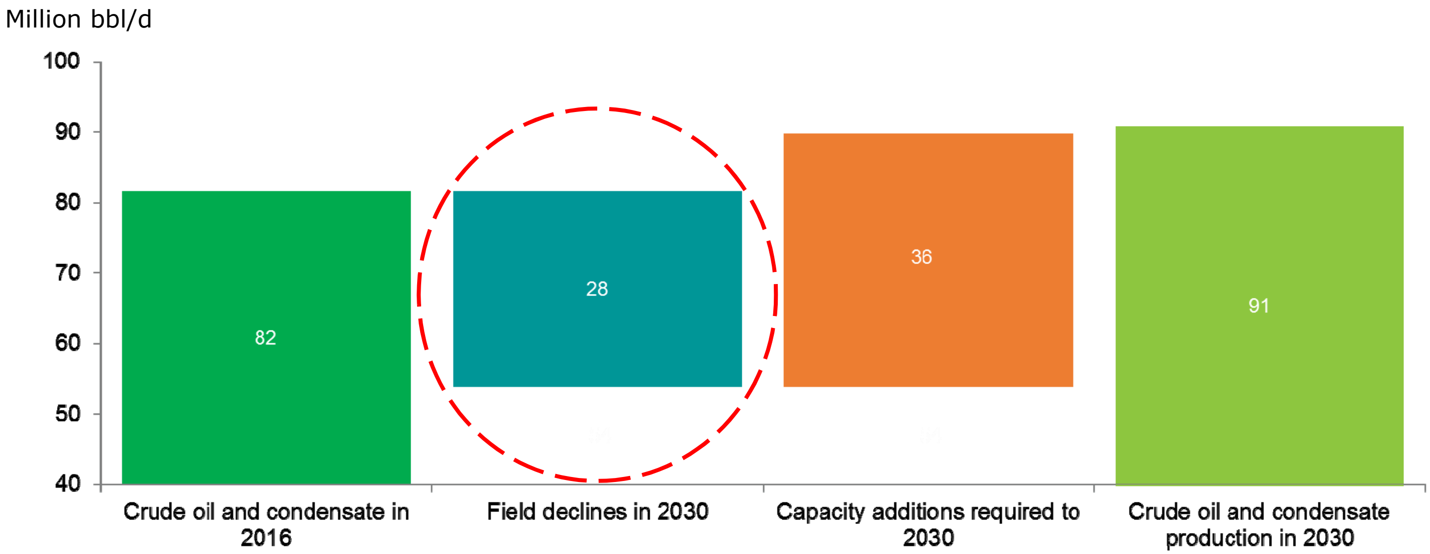
Global Refinery Runs by Crude Type



Source: IHS Markit

Heavy Crude Oil Demand Continues to Grow

Global Crude Oil and Condensate Outlook to 2030

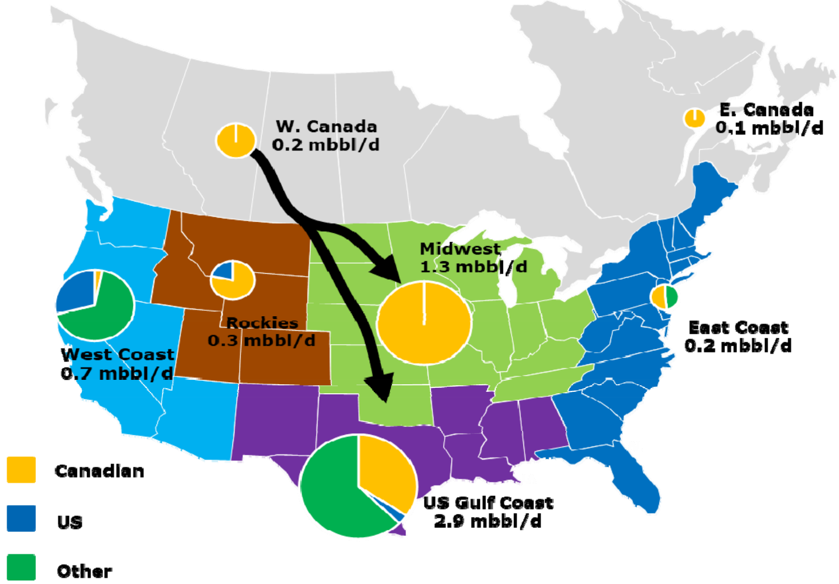


Source: IHS Markit

Significant Supply Growth Required

U.S. Gulf Coast – Growth Market for Canadian Heavy Crude Oil

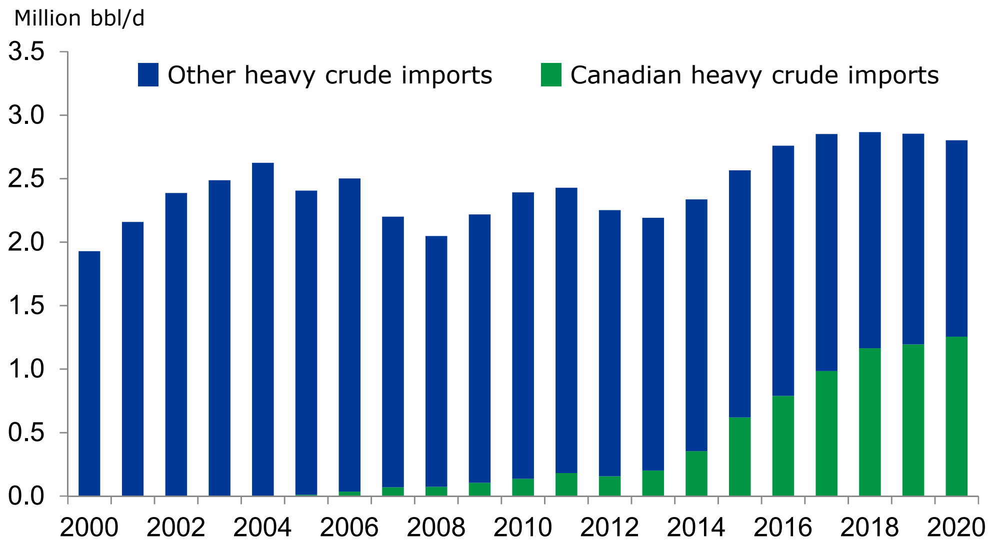
Canada's Share of the North American Heavy Market



Source: IHS Markit

Canadian heavy crude oil has saturated the U.S. Midwest market

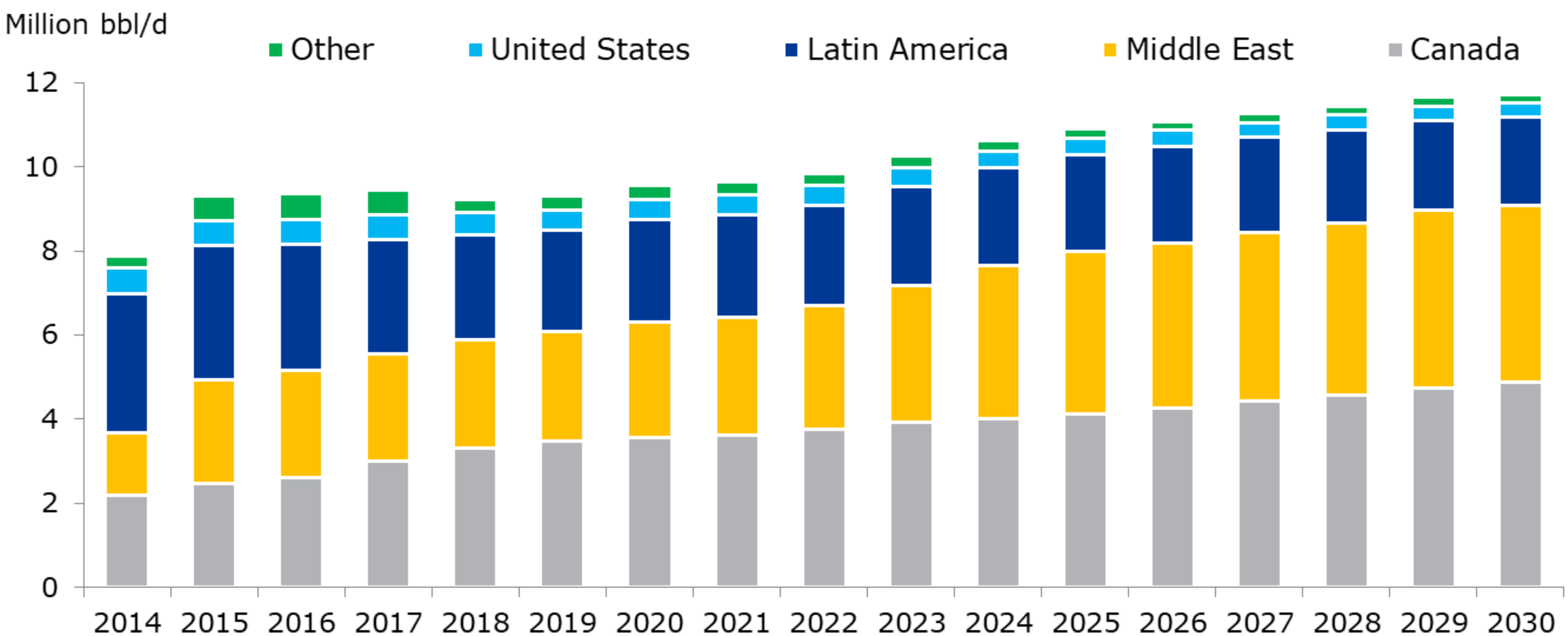
U.S. Gulf Coast Heavy Crude Oil Refinery Runs



Source: IHS Markit

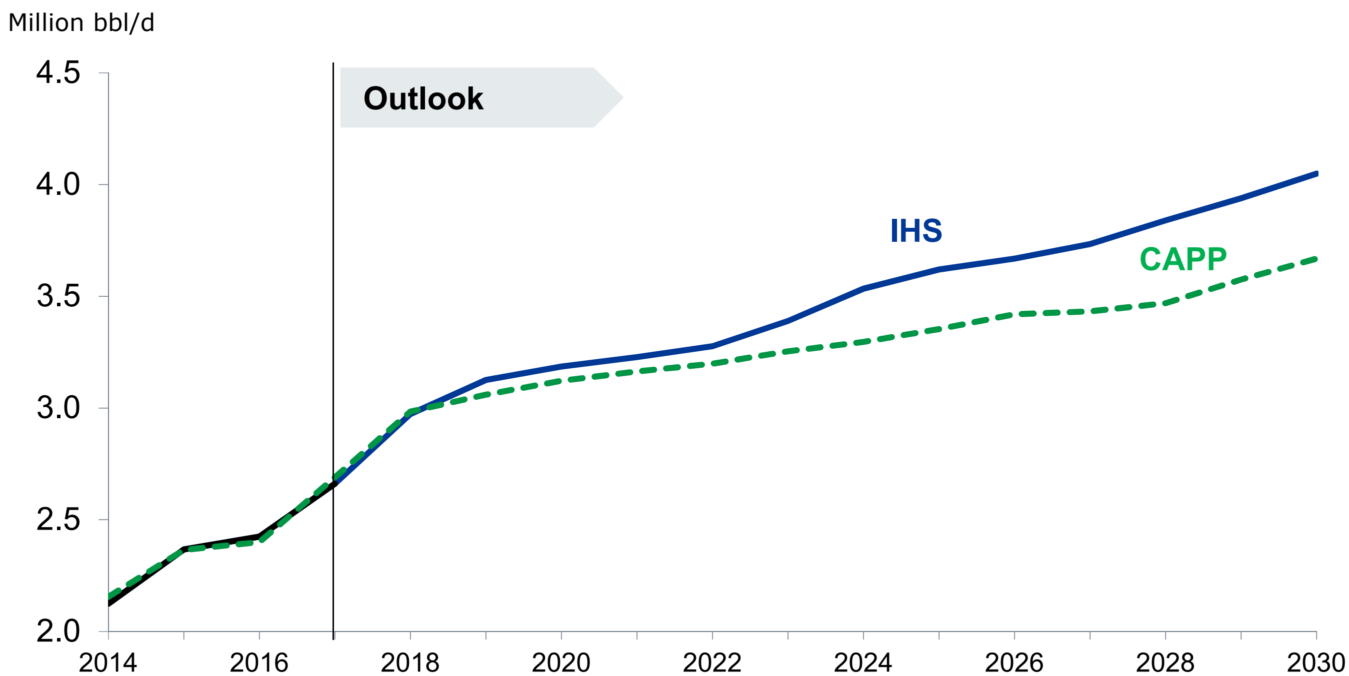
Significant opportunity for Canadian heavy crude oil in the U.S. Gulf Coast

Canada's Market Share Increases



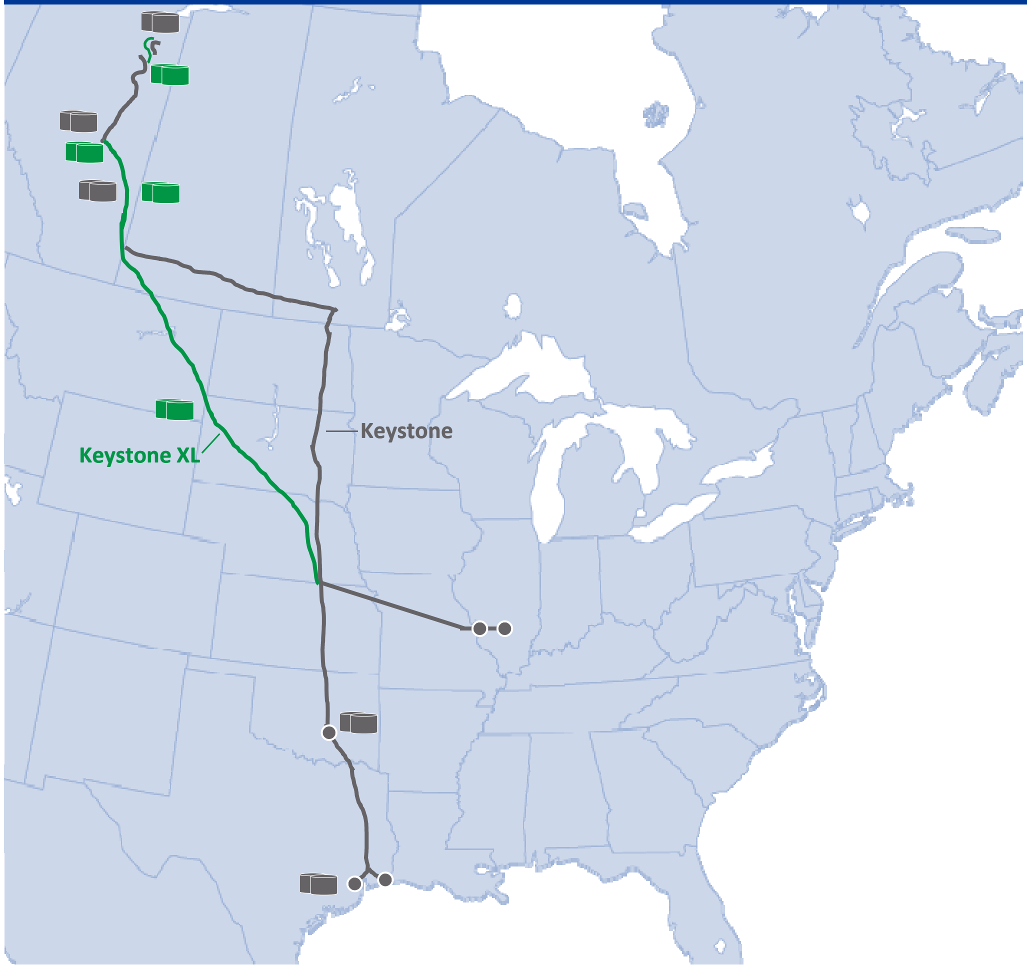
Source: IHS Markit

WCSB Oil Sands Growth Expected



Source: IHS Markit

Keystone XL

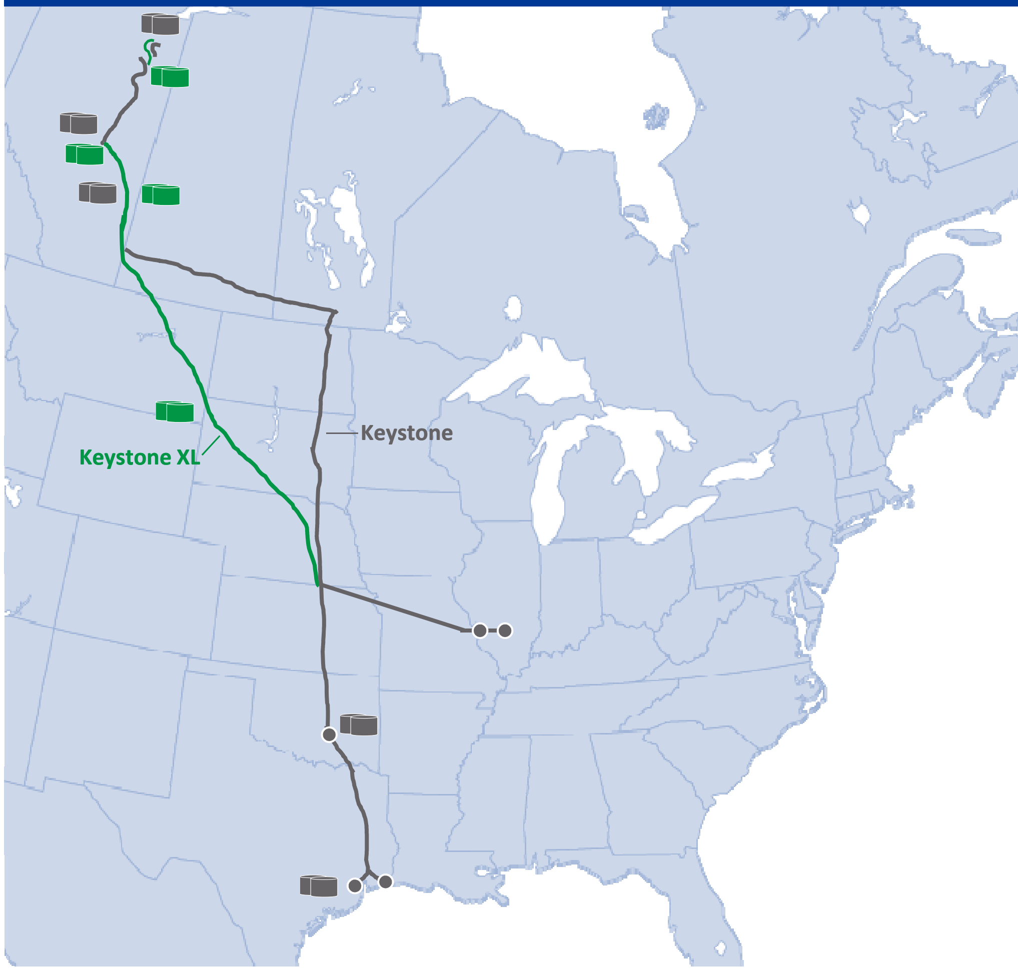


- Direct access to the U.S. Gulf Coast
- Bullet pipeline design
- Significant project spend incurred
- Competitive tolling
- Supply certainty for U.S. Gulf Coast market

Keystone XL Open Season

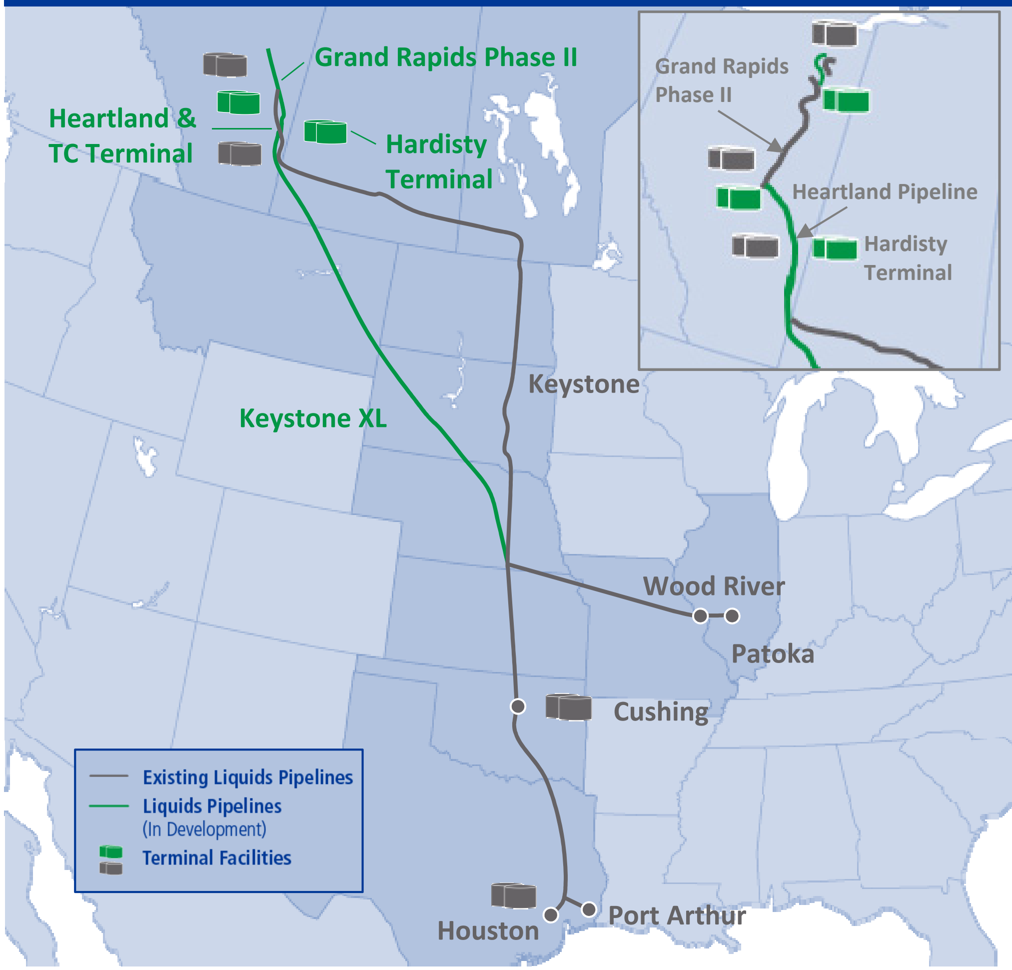
- **Closed on October 26, 2017**
- **Hardisty, Alberta to Cushing, Oklahoma and the U.S. Gulf Coast**
- **Commercial support expected**

Keystone XL Milestones



- **NEB approval received**
- **U.S. permits progressing**
  - U.S. Presidential Permit received
  - Montana and South Dakota state approvals received
  - Nebraska state approval received and under review
- **Subject to Final Investment Decision**
  - Expect to begin construction in 2018
  - Construction expected to take approximately two years

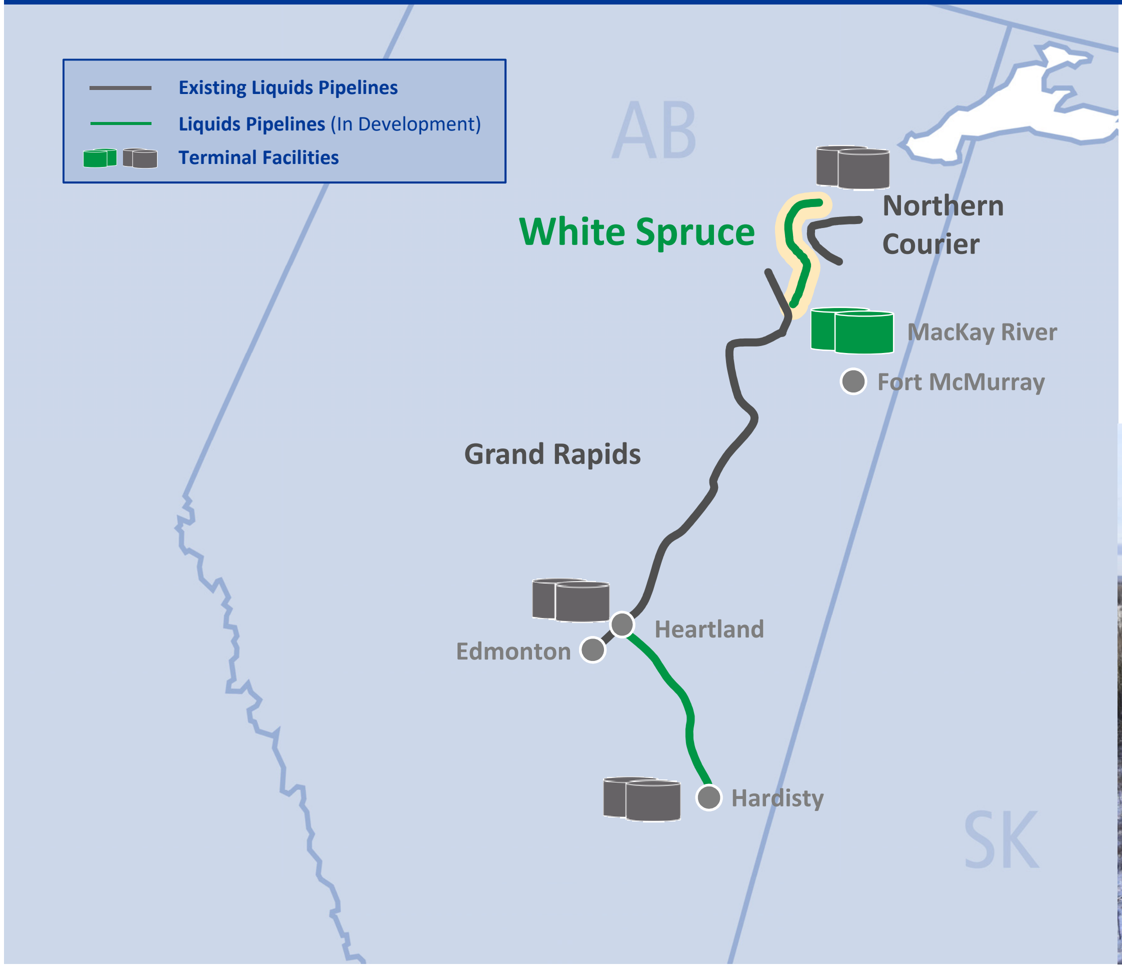
Keystone XL Opportunities



Keystone XL could facilitate further development:

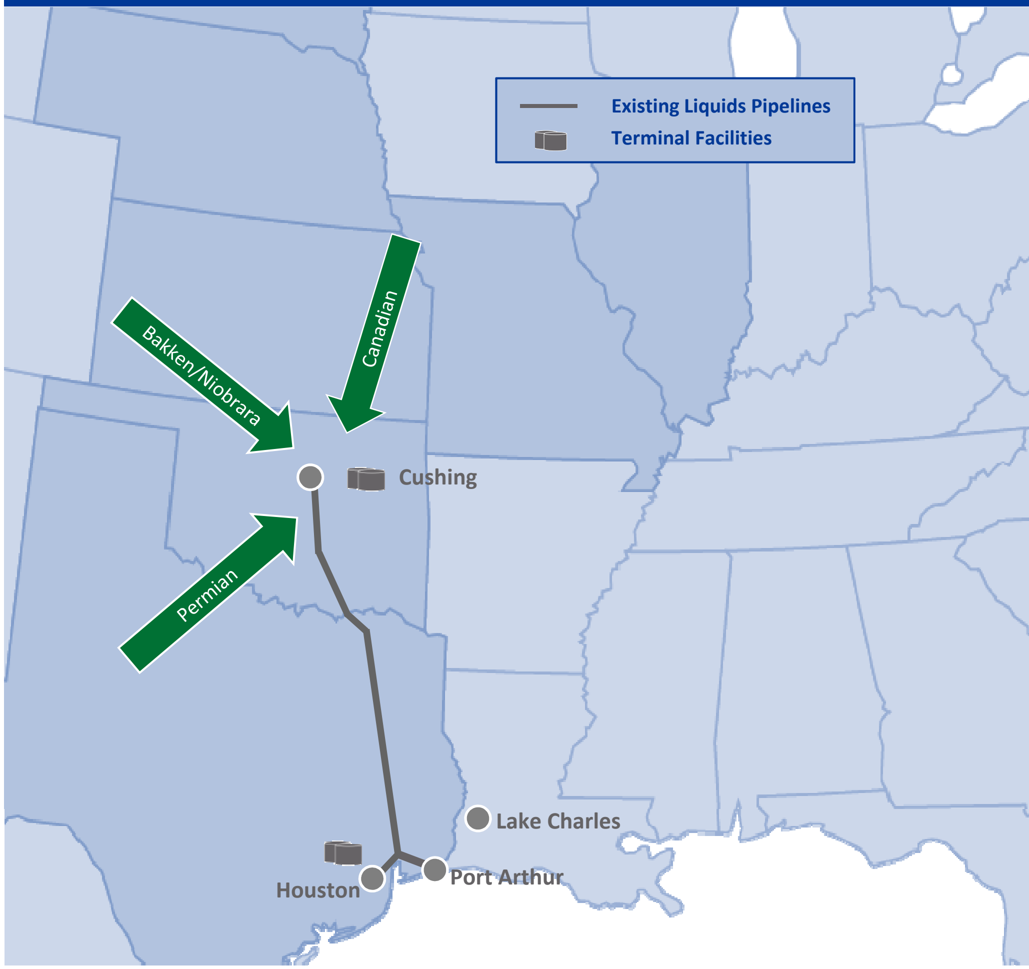
- Grand Rapids Phase II
- Heartland Pipeline
- Keystone Hardisty Terminal
- Market interconnects
- Contiguous path to market

Alberta Regional Growth – White Spruce Pipeline



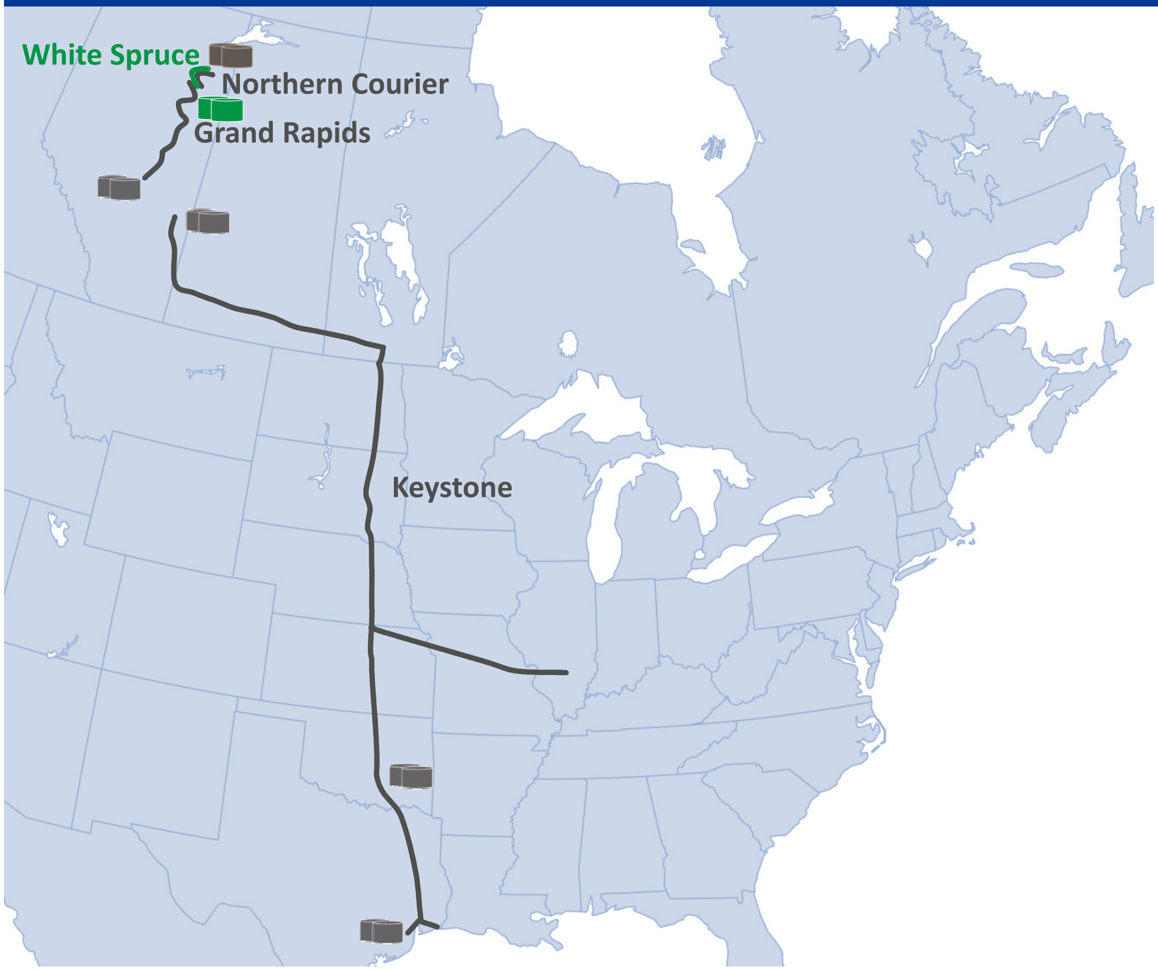
- 72 km pipeline to access Canadian Natural Resources' Horizon crude oil volumes
- $200 million investment
- Expected in-service in 2018

Marketlink – Short-Term Market Fundamentals

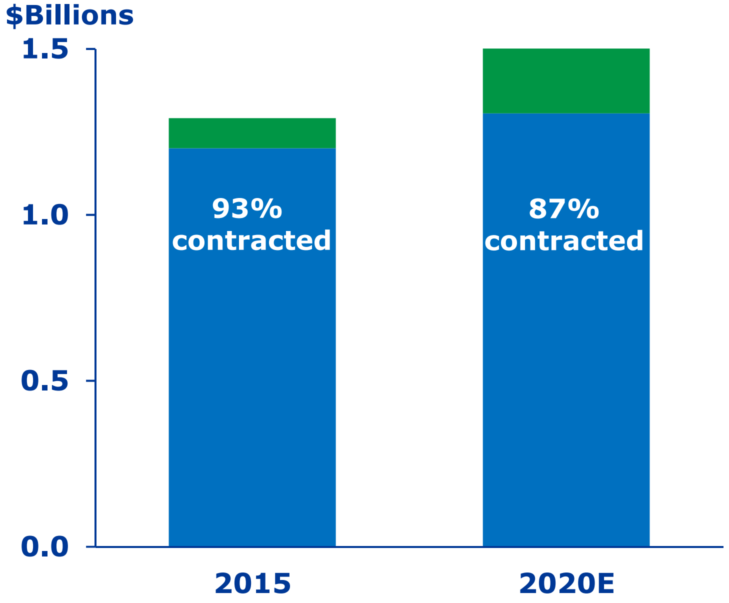


- **Marketlink Pipeline system**
  - Cushing, Oklahoma to U.S. Gulf Coast
- **Well positioned to respond to market demand**
- **Strong demand for transportation service driven by:**
  - High U.S. light crude oil production
  - Higher Brent price
  - Wide Brent-WTI differential

Liquids Pipelines Outlook



Comparable EBITDA Growth Driven by Recent Projects



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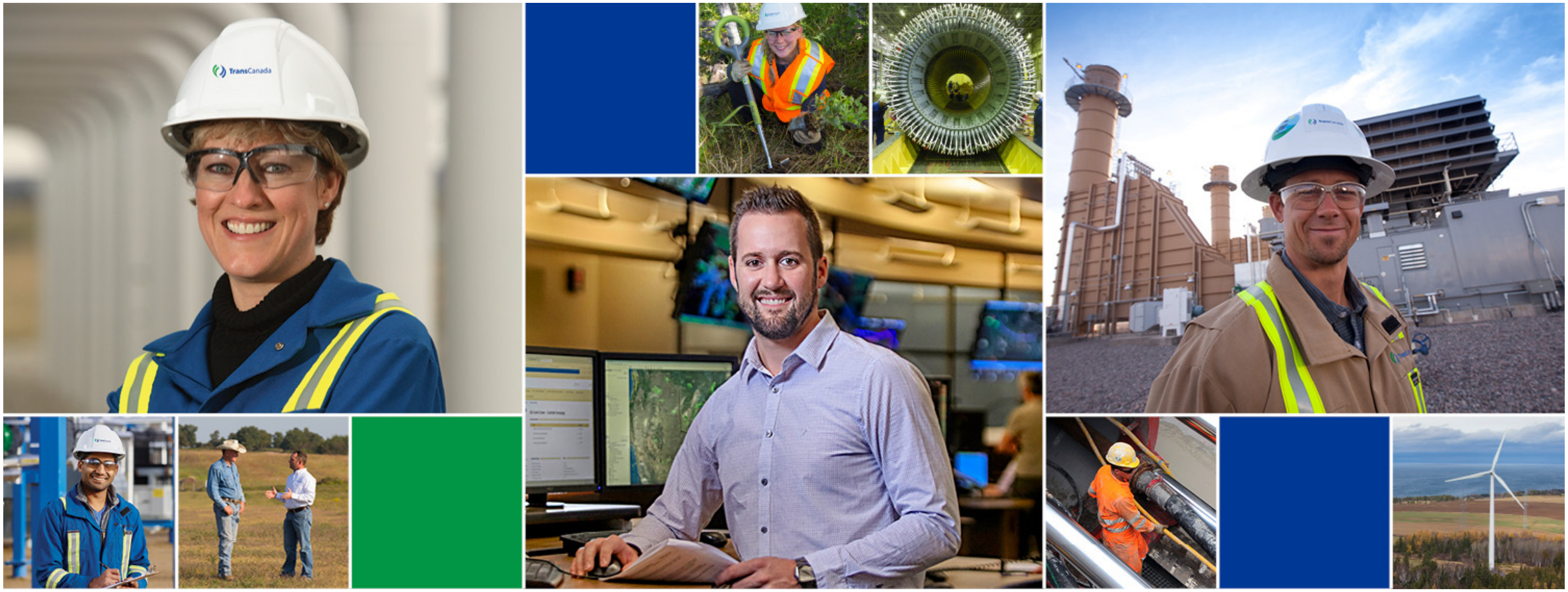
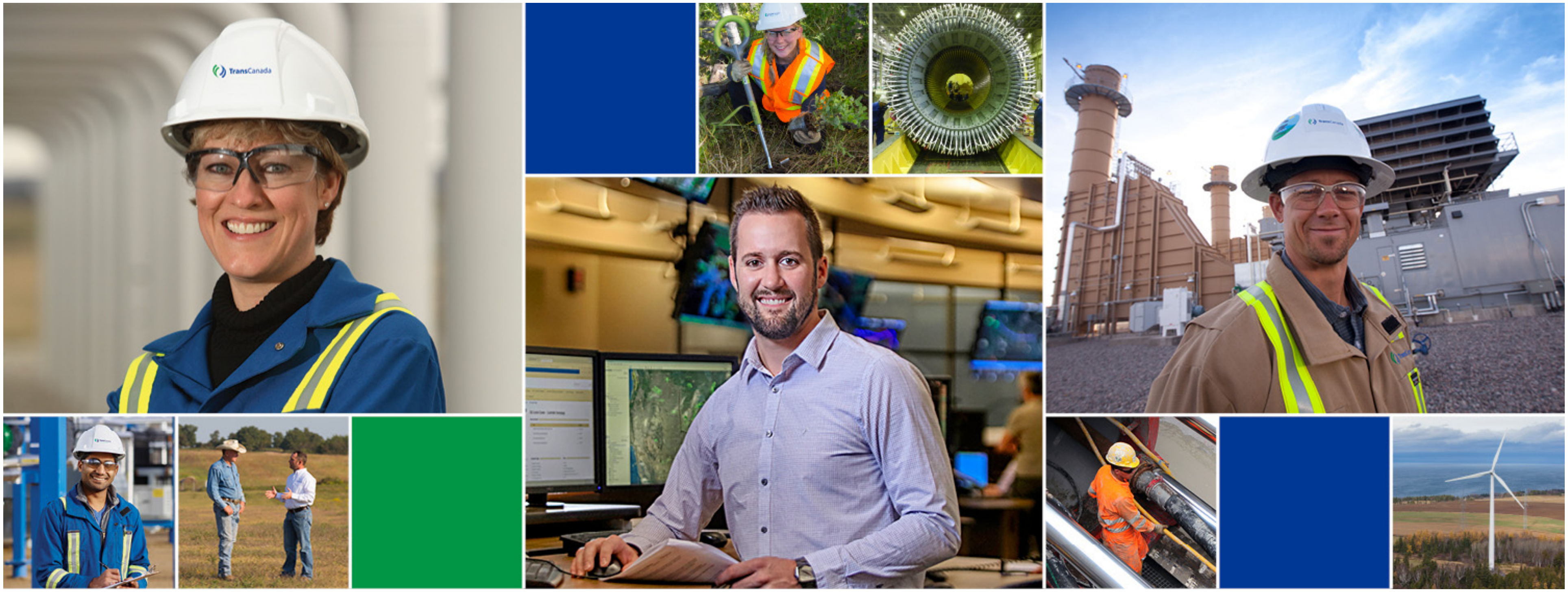


Liquids Pipelines

Paul Miller
President, Liquids Pipelines

TransCanada
In business to deliver



Energy

Karl Johannson
President, Canada and Mexico Natural Gas Pipelines and Energy

TransCanada
In business to deliver

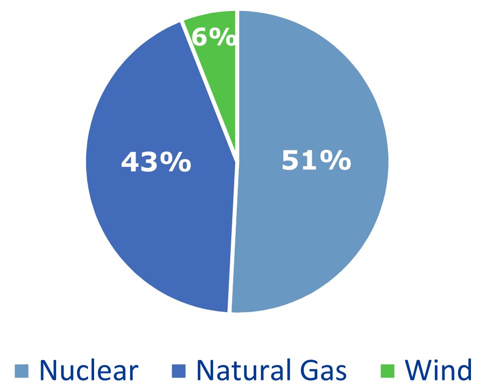
Energy – A Proven Platform

Plant	Capacity (MW)*	Counterparty	Contract Expiry
Coolidge	575	Salt River Project	2031
Bécancour	550	Hydro-Québec	2026
Cartier Wind	365	Hydro-Québec	2026-2032
Grandview	90	Irving Oil	2024
Halton Hills	683	IESO	2030
Portlands	275	IESO	2029
Bruce Power Units 1-8	3,104	IESO	Up to 2064
Napanee (under construction)	900	IESO	20 Years from In-Service

** Our proportionate share of power generation capacity*

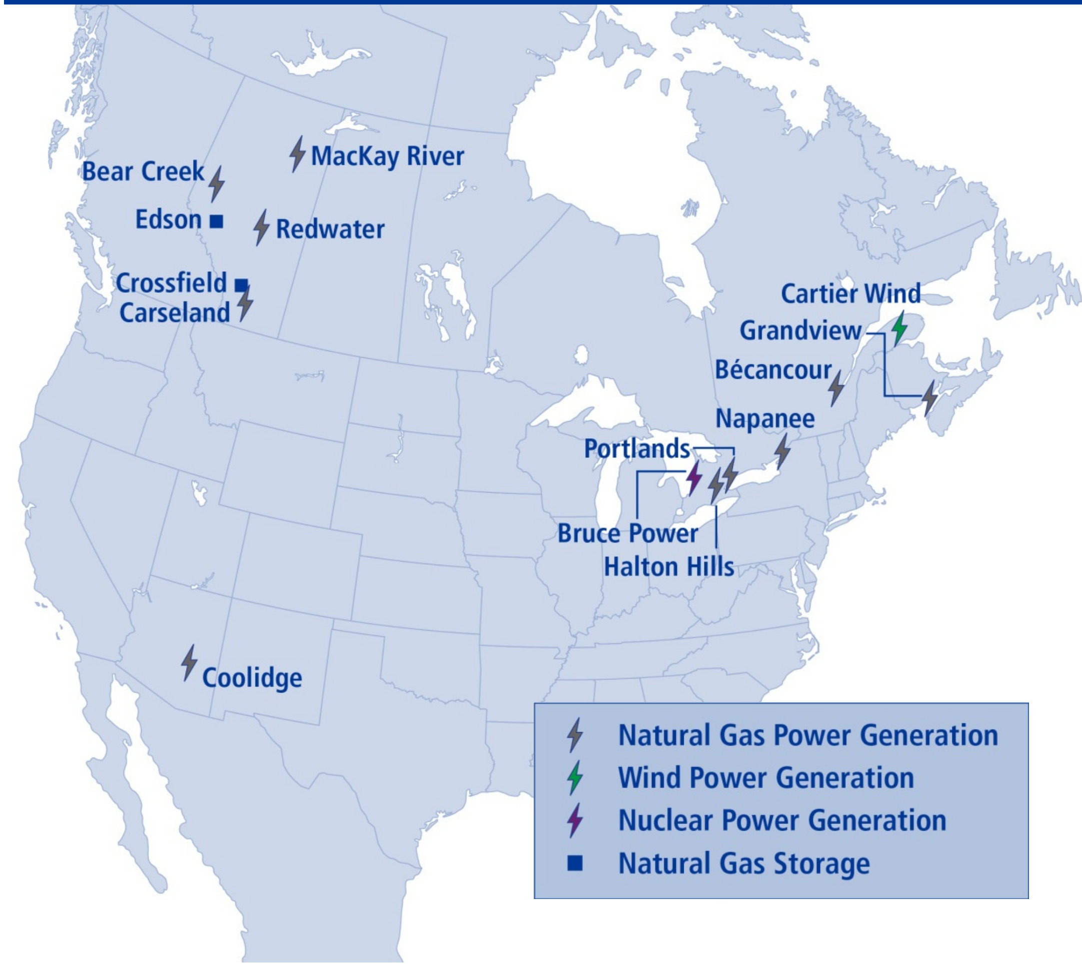
- **Portfolio underpinned primarily by long-term contracts with solid counterparties**
  - 6,100 MW of power generation
  - 57% emission-less power
  - 118 Bcf of natural gas storage capacity

Generation by Type



~95% of Generating Capacity Underpinned By Long-Term Contracts

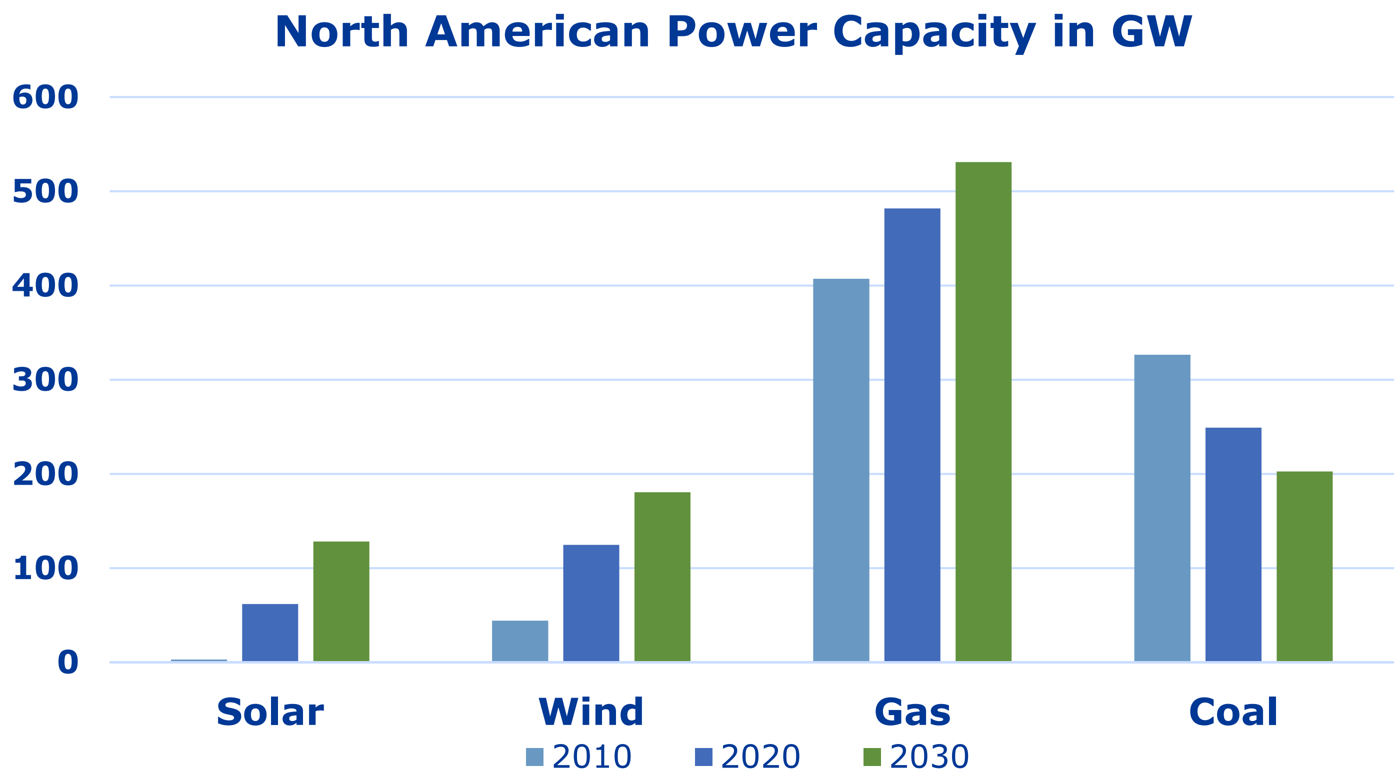
2017 Accomplishments



- **Generated solid results**
- **Construction progressing on the 900 MW Napanee project**
  - Expected in-service in 2018
- **Preparation work continues on the Bruce Power life extension program**
  - First Major Component Replacement program to begin in 2020
- **Closed sale of U.S. Northeast power generation assets for US$3.1 billion**
- **Reached agreement to sell 76 MW Ontario solar portfolio for $540 million**
  - Expected to close by end of 2017

Stable and Predictable Business

Outlook for North American Power Generation



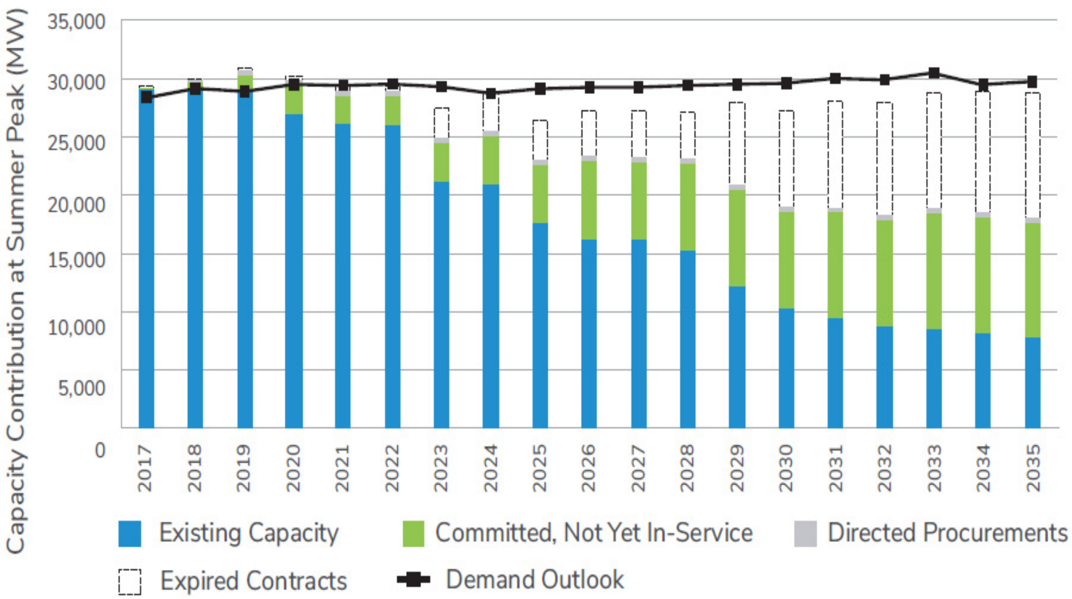
Source: EIA, International Energy Outlook 2017

- **Transition from coal to natural gas and renewable energy continues**
- **Intermittency of renewable energy requires back-up natural gas generation capacity**

Significant Investment in New Generation Capacity Required

Ontario's Long-Term Energy Plan

Supply and Demand Outlook



Source: Ontario IESO

Ontario Government released its Long-Term Energy Plan (LTEP) on October 26, 2017

- Identified a supply gap of approximately 2 GW in the early to mid-2020's
- Reconfirmed that Bruce Power will play an important role in the province's energy sector for decades
- Bruce Power's life extension program is important to ensure a reliable source of low-cost and carbon-free electricity

Napanee Generating Station

- 900 MW natural gas-fired combined cycle plant
- 20 year firm PPA contract with the Ontario IESO
- Construction progressing; over 65% complete
- Expect in-service in 2018
- Capital cost of $1.1 billion; $0.9 billion spent to date

Adds to Stable and Predictable EBITDA

Bruce Power – Critical Component of Ontario's Electricity Market

- **6,400 MW facility supplies ~30% of Ontario's electricity**
- **48.4% ownership interest**
- **Power sales contracted through 2064 with the Ontario IESO**
- **Spent fuel and decommissioning liabilities are the responsibility of Ontario Power Generation**
- **$6.3 billion* investment through 2033 to refurbish and extend life of 6 reactors**
- **Realized sales price $67/MWh in 2017**
- **Average plant availability expected to range between 88 and 90% through 2019**

Fundamental to Ontario's Energy Future

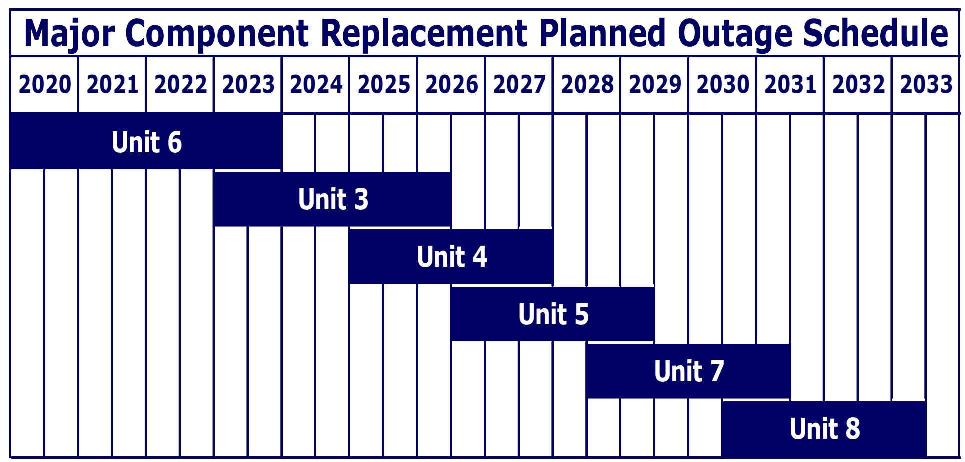
** TransCanada's share in 2014 dollars*

Bruce Power – Fundamental to Ontario’s Energy Future (Video)

Preparing for Major Component Replacement Program (MCR)

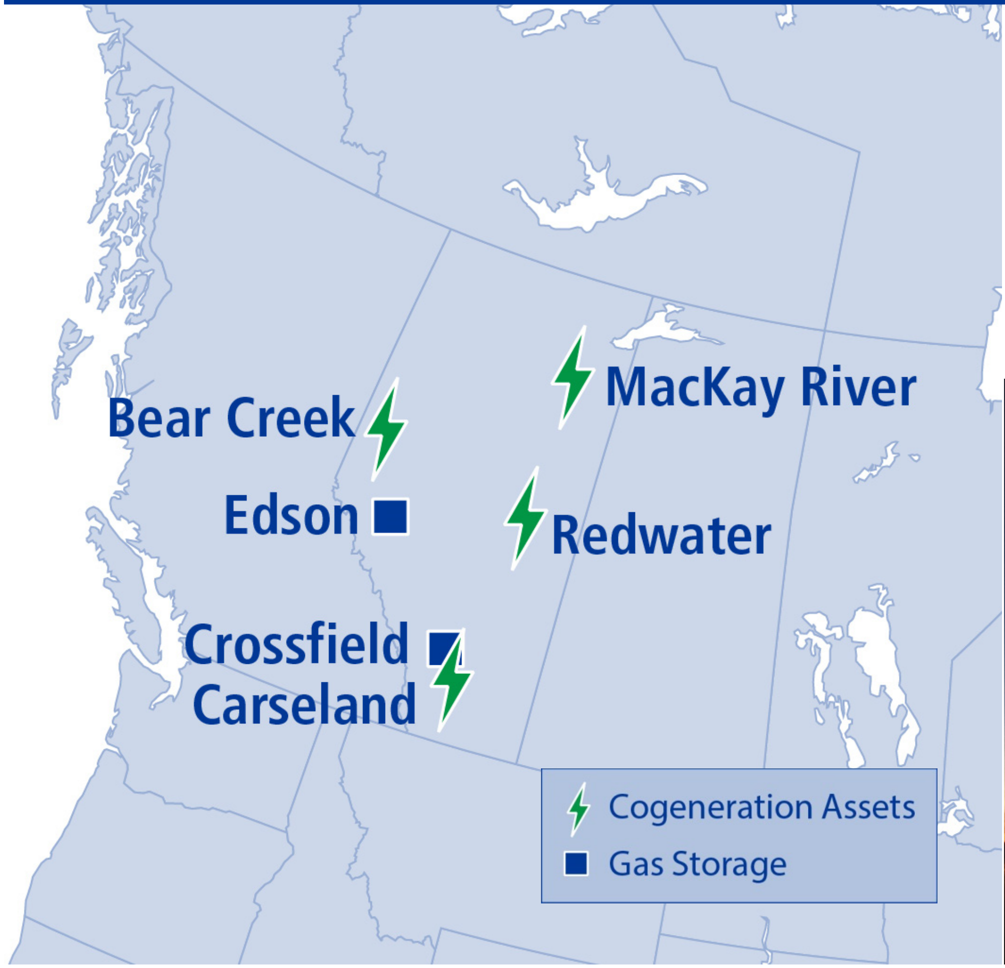
Near-term Focus:

- **Asset Management life extension activities (capital $600 million*) through 2020**
- **Continue preparation for the unit 6 refurbishment under the MCR program**
  - MCR cost to be finalized October 2018 (IESO refurbishment lock-in date)
  - MCR capital to be reflected in the uniform price received beginning April 1, 2019
  - Project start date of 2020



** TransCanada's share in 2014 dollars*

Alberta Power Assets – Power Generation and Natural Gas Storage

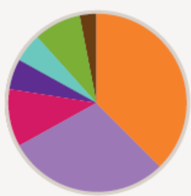


- **Own and operate four natural gas-fired cogeneration plants with total capacity of 438 MW**
- **Also own two non-regulated natural gas storage facilities with 118 Bcf of capacity**
- **Long history of power generation and marketing services in the province**

Alberta Power Market

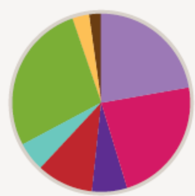
AESO Reference Case
2017 Long-term Outlook

Existing
AIL peak: 11,458 MW



38%	Coal-fired	6,299
30%	Cogeneration	4,934
10%	Combined-cycle	1,746
5%	Simple-cycle	916
0%	Coal-to-gas	0
5%	Hydro	894
9%	Wind	1,445
0%	Solar	0
3%	Other	479
	Total capacity	16,713 MW

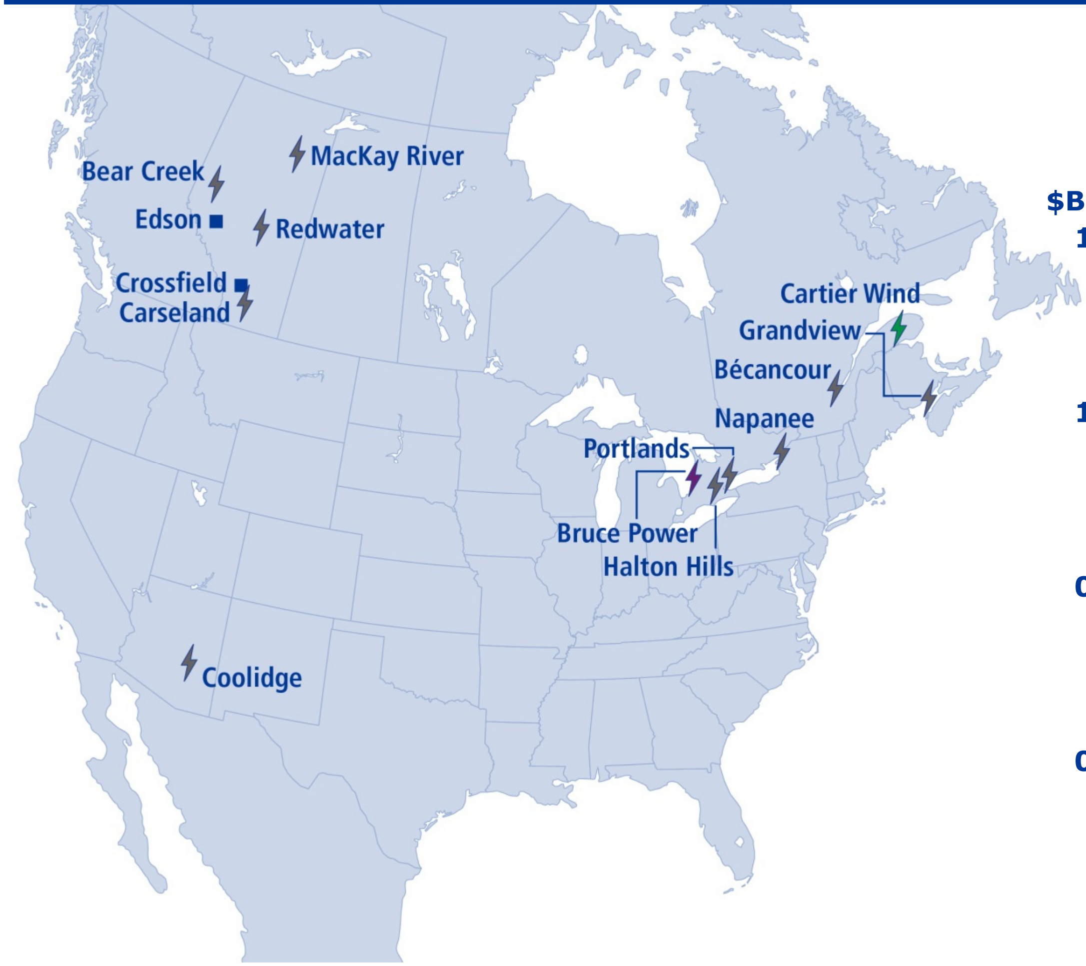
2032
AIL peak: 13,486 MW



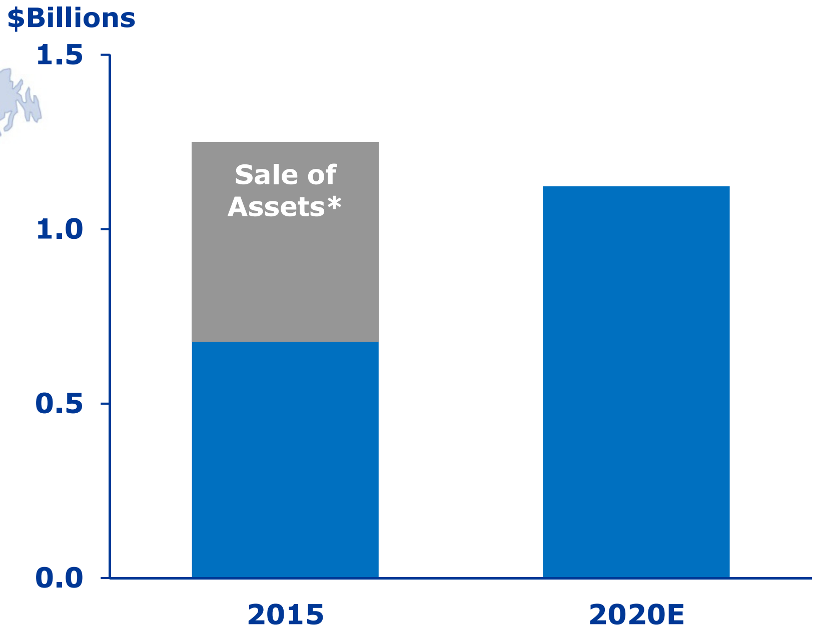
0%	Coal-fired	0
22%	Cogeneration	5,204
23%	Combined-cycle	5,386
6%	Simple-cycle	1,486
10%	Coal-to-gas	2,371
5%	Hydro	1,244
28%	Wind	6,445
3%	Solar	700
2%	Other	479
	Total capacity	23,315 MW

- **In November 2016, the Alberta Government announced plans to move away from an energy-only market and create a capacity market by 2021**
- **Significant investment will be required to meet growing demand and the policy objectives to retire 6.3 GW of coal facilities and to have 30% renewable generation**
- **Equates to 5 GW of renewable and several GW of natural gas opportunities**
- **Continue to assess potential growth opportunities as the capacity market design details are determined**

Energy Outlook



Comparable EBITDA Growth Driven by Near-Term Projects



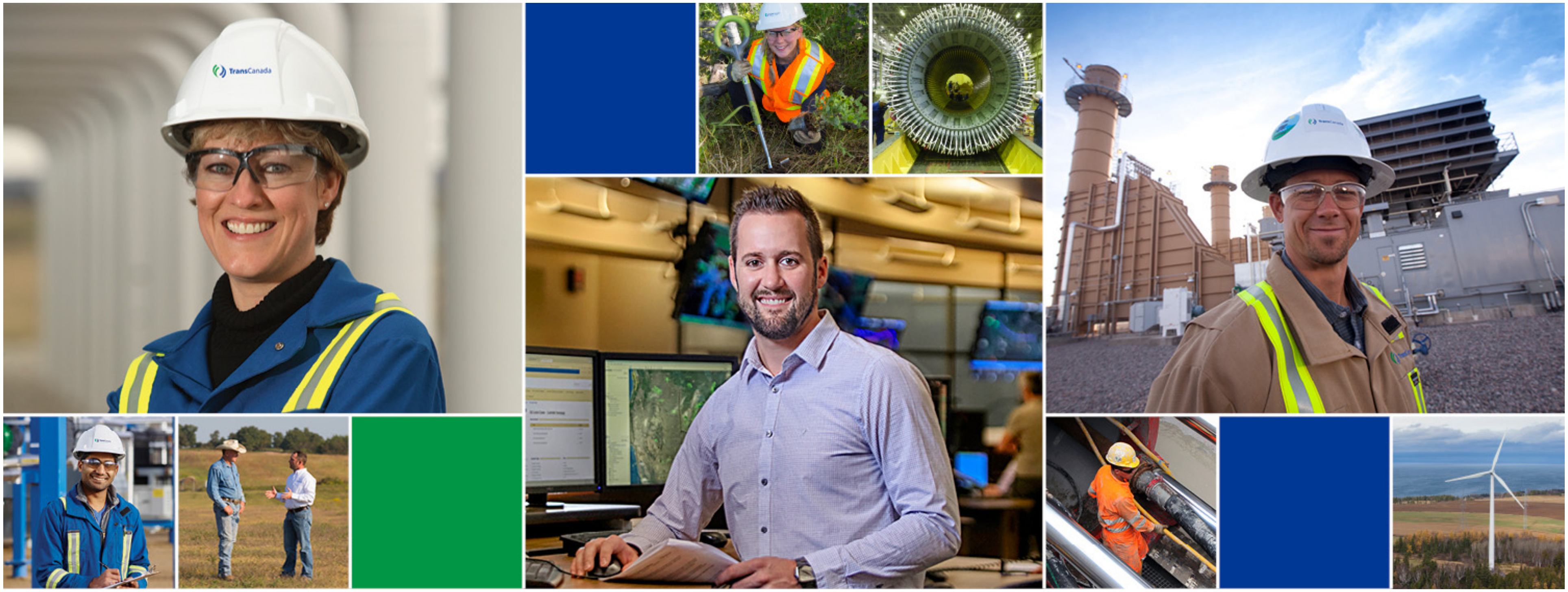
** US NE Power generation assets sold in Q2, 2017; sale of Ontario solar portfolio expected to close in late 2017*

Comparable EBITDA is a non-GAAP measure. See the non-GAAP measures slide at the front of this presentation for more information.

Key Focus Areas and Future Opportunities

- **Maximize the value of existing assets through safe and reliable operations**
- **Deliver stable and predictable results**
- **Complete Napanee plant construction**
- **Advance Bruce Power life extension program**
- **Pursue growth in contracted power infrastructure within our core geographies**

Capture Opportunities as the Move to a Less Carbon Intensive Grid Continues



Energy

Karl Johannson

President, Canada and Mexico Natural Gas Pipelines and Energy

TransCanada

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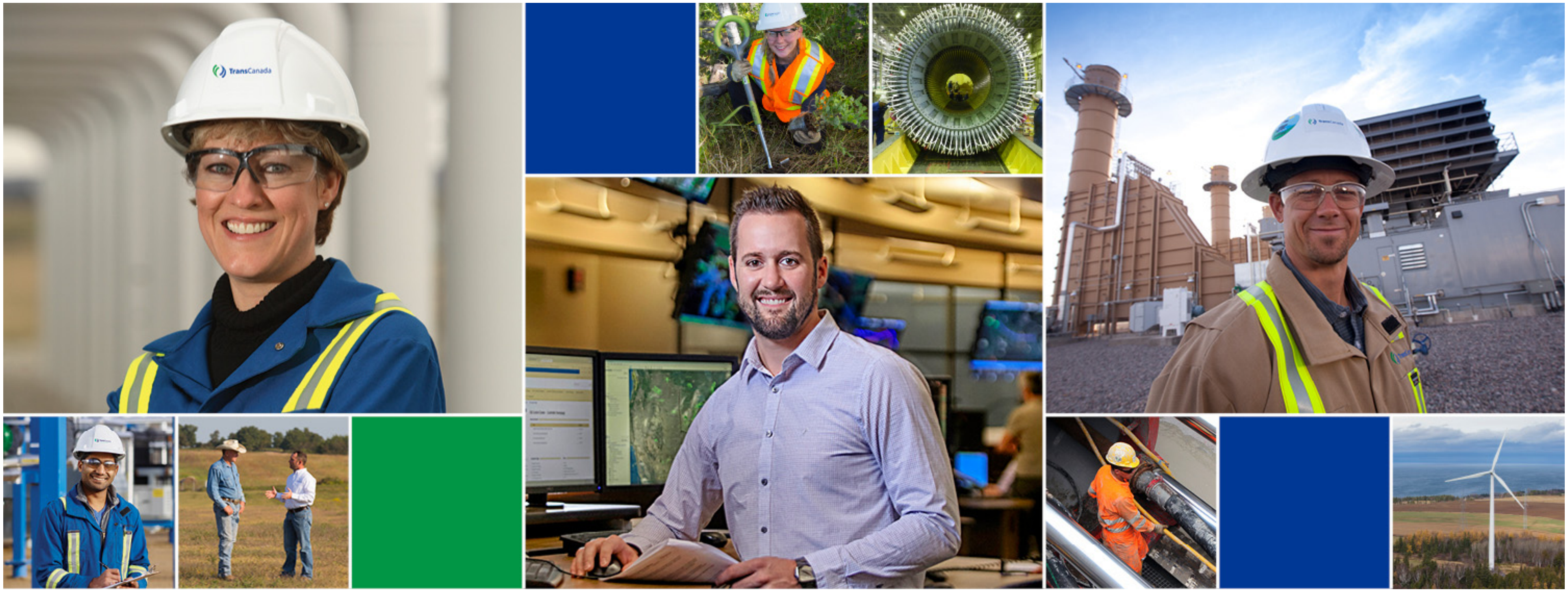

Finance

Don Marchand
Executive VP and Chief Financial Officer

TransCanada
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Financial Strategy

- **Invest in low-risk assets that generate predictable and sustainable growth in earnings, cash flow and dividends**
- **Finance long-term assets with long-term capital**
- **Preserve financial strength and flexibility – value 'A' grade credit rating**
- **Maintain simplicity and understandability of corporate structure**
- **Effectively manage foreign exchange, interest rate and counterparty exposures**

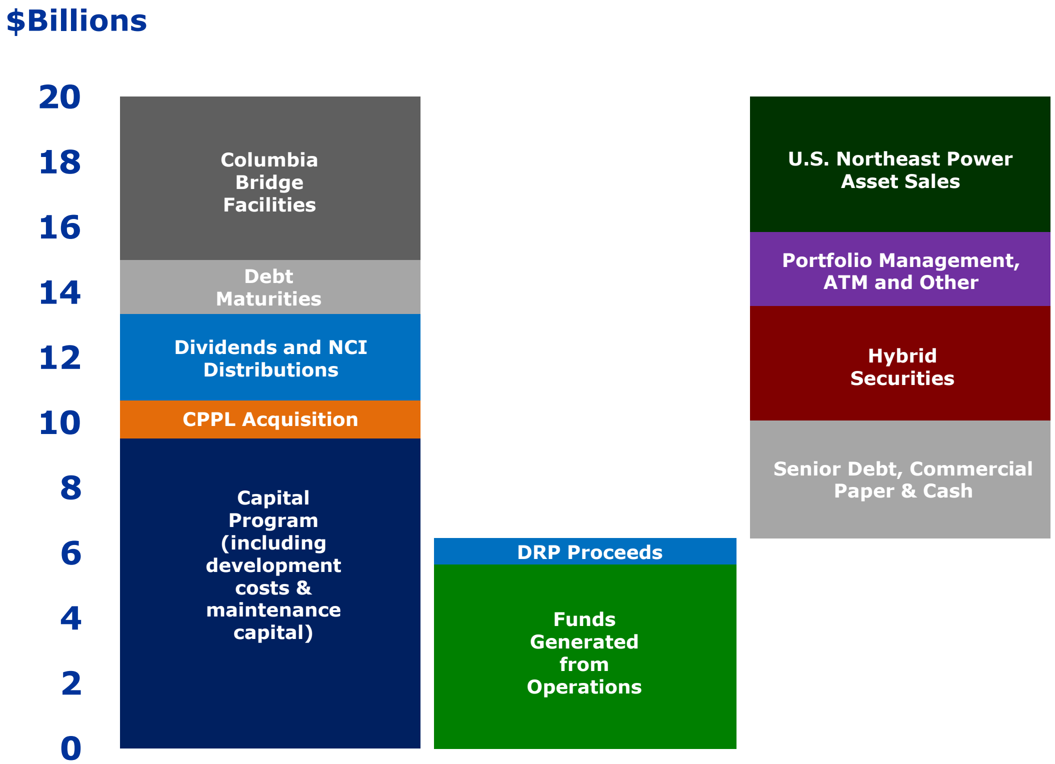
Built For All Phases of the Economic Cycle

2017 Accomplishments

- ✓ $5.6 billion of new assets in-service in 2017; over $3 billion of secured growth added
- ✓ Columbia integrated and on-track to realize US$250 million of targeted annual synergies
- ✓ US$3.1 billion U.S. Northeast Power asset sales completed; Columbia acquisition bridge facilities fully retired
- ✓ Columbia Pipeline Partners buy-in consistent with commitment to simplified structure
- ✓ 2017 growth program funded on compelling terms
- ✓ ‘A’ grade credit ratings maintained

Executing on Commitments

2017 Funding Complete



Over $13 billion raised through an array of attractive funding options

- $2.6 billion of long-term debt in Canadian and U.S. markets
- $3.5 billion of hybrid securities in Canadian and U.S. markets
- ~$800 million of proceeds from Dividend Reinvestment Plan
- US$3.1 billion from sale of U.S. Northeast Power
- $540 million expected from sale of Ontario Solar
- ~$600 million of PRGT costs recovered
- US$765 million dropdown to TC PipeLines, LP
- ATM program established

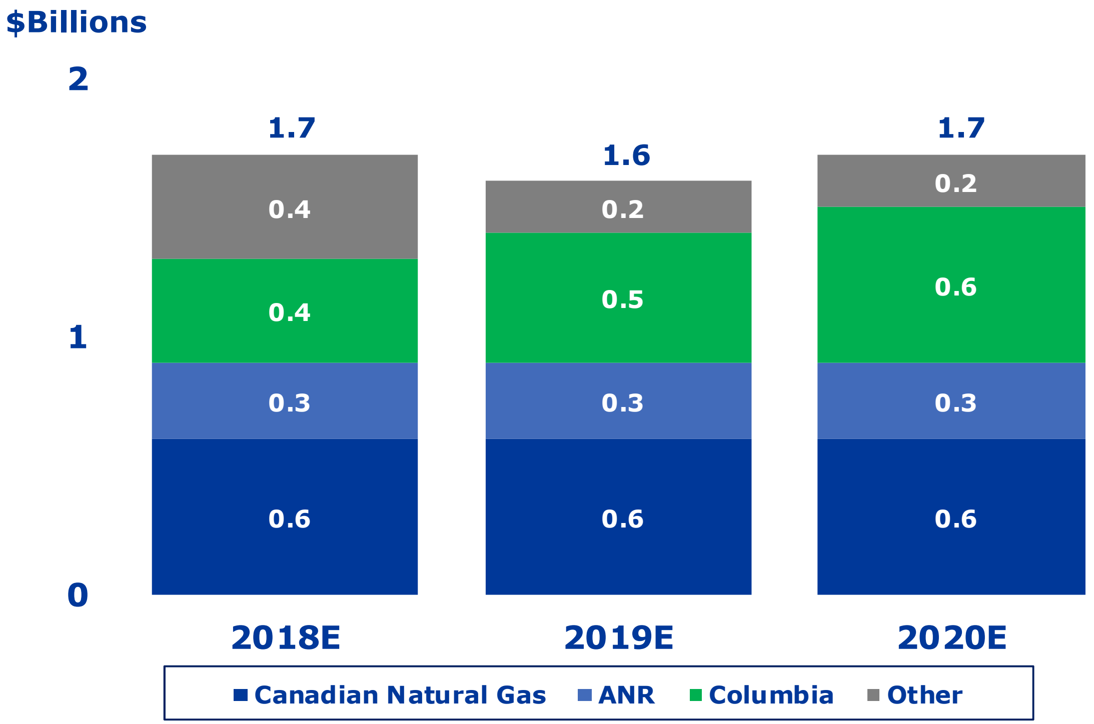
Program Highlights Depth, Diversity and Competitiveness of Funding Levers

Advancing $24 Billion Near-Term Capital Program

Project	Estimated Capital Cost*	Invested to Date	Expected In-Service Date*
Northern Courier	1.0	1.0	In-Service
Rayne XPress	US 0.4	US 0.4	In-Service
Gibraltar	US 0.3	US 0.2	In-Service
Modernization I	US 0.2	US 0.2	2017
NGTL System	2.3	1.5	2017
Canadian Mainline	0.5	0.2	2017-2019
NGTL System	4.8	0.5	2018-2021+
Leach XPress	US 1.6	US 1.3	2018
WB XPress	US 0.8	US 0.3	2018
Mountaineer XPress	US 2.6	US 0.4	2018
Cameron Access	US 0.3	US 0.2	2018
Gulf XPress	US 0.6	US 0.2	2018
Tula	US 0.6	US 0.5	2018
Villa de Reyes	US 0.6	US 0.4	2018
Sur de Texas	US 1.3	US 0.7	2018
White Spruce	0.2	-	2018
Napanee	1.1	0.9	2018
Modernization II	US 1.1	US 0.1	2018-2020
Buckeye XPress	US 0.2	-	2020
Other U.S. Gas	US 0.4	US 0.1	2017-2020
Bruce Power Life Extension	1.0	0.2	Up to 2020+
Foreign Exchange Impact (1.25 exchange rate)	2.8	1.2	-
Total Canadian Equivalent	**24.7**	**10.5**	

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

Maintenance Capital Expenditure Profile

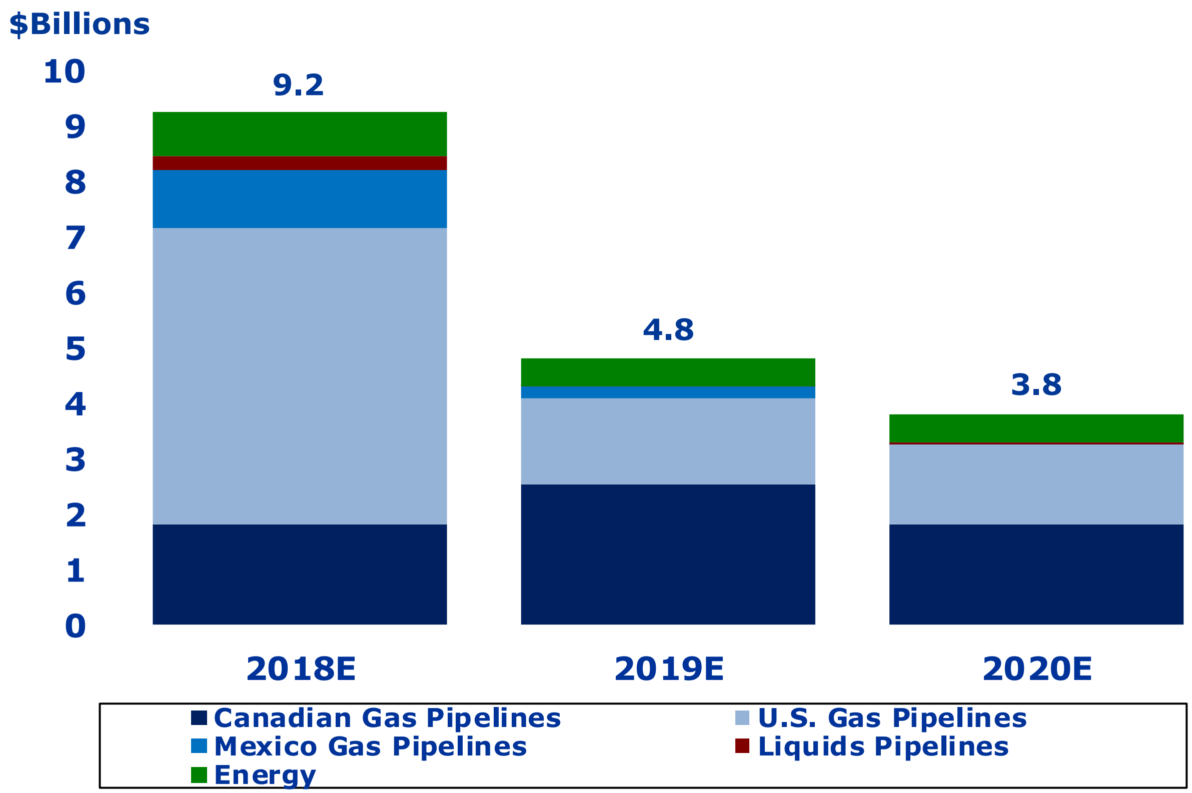


Significant portion of maintenance capital recoverable

- All Canadian Natural Gas Pipelines immediately reflected in rate base
- ANR included in rate settlement through 2018; next rate case in 2019
- Columbia Gas expected to be recovered in next rate case 2022+
- Liquids recovered through tolling arrangements

Majority of Maintenance Capital Effectively Growth Capital as Contributes to Earnings Power

2018-2020 Capital Expenditure Outlook

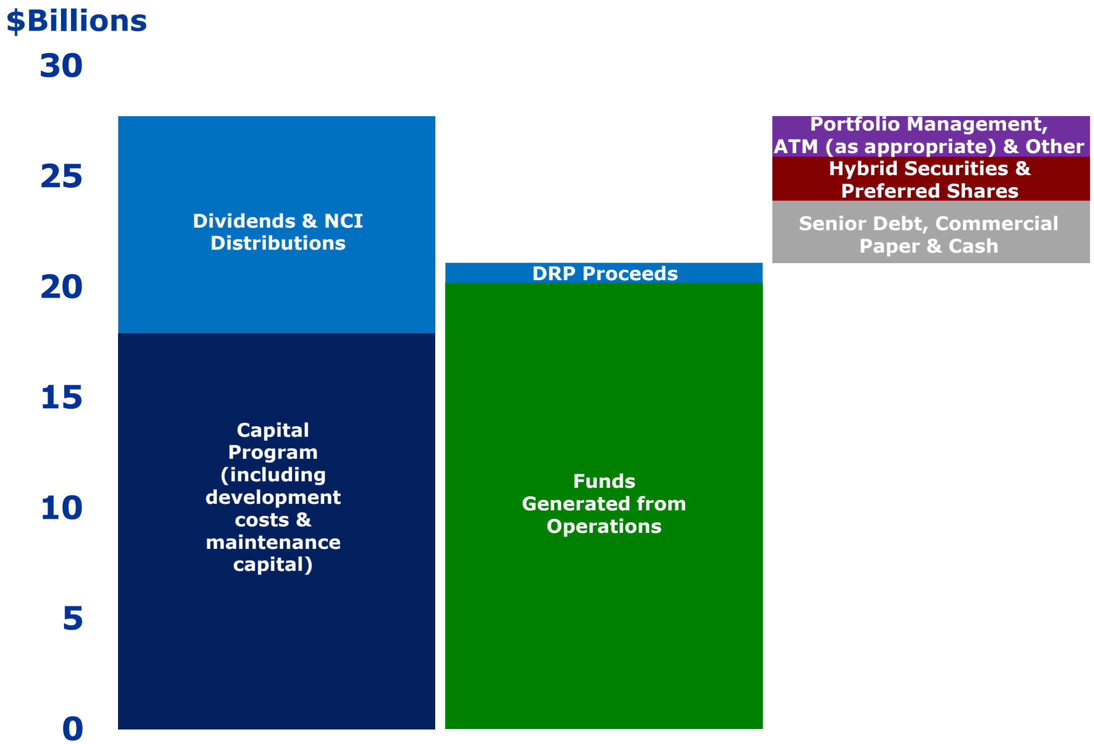


Approximately $18 billion to be invested over the next three years related to:

- Completion of near-term growth portfolio
- Maintenance capital
- Interest during construction (IDC) and debt allowance for funds used during construction (AFUDC)
- Modest development costs associated with medium- to longer-term projects

Secured Capital Program Concentrated in 2018

Funding Program Through 2020



2018 – 2020 Outlook

Numerous Levers Available to Fund Near-Term Capital Program

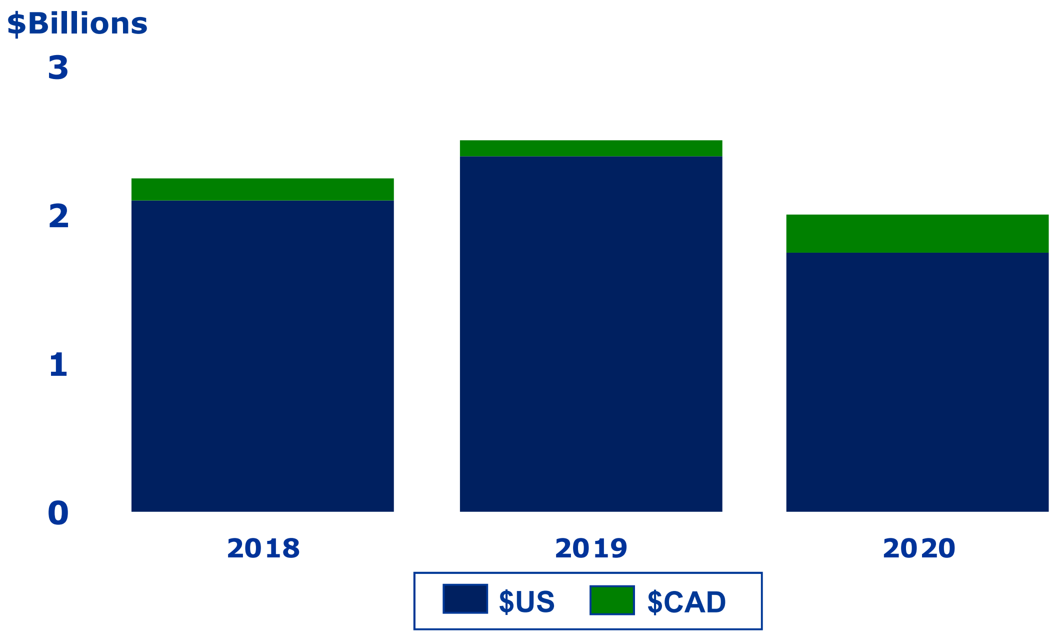
- Strong, predictable and growing cash flow from operations
- Dividend Reinvestment Plan
- Access to capital markets including:
  - Senior debt
  - Hybrid securities and preferred shares
- Portfolio management including possible dropdowns to TC PipeLines, LP
- Potential further project recoveries
- At-The-Market (ATM) program, as appropriate

Funding Program Manageable

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

2018-2020 Debt Maturity Profile

Debt Maturities in Home Currency
(2018-2020)

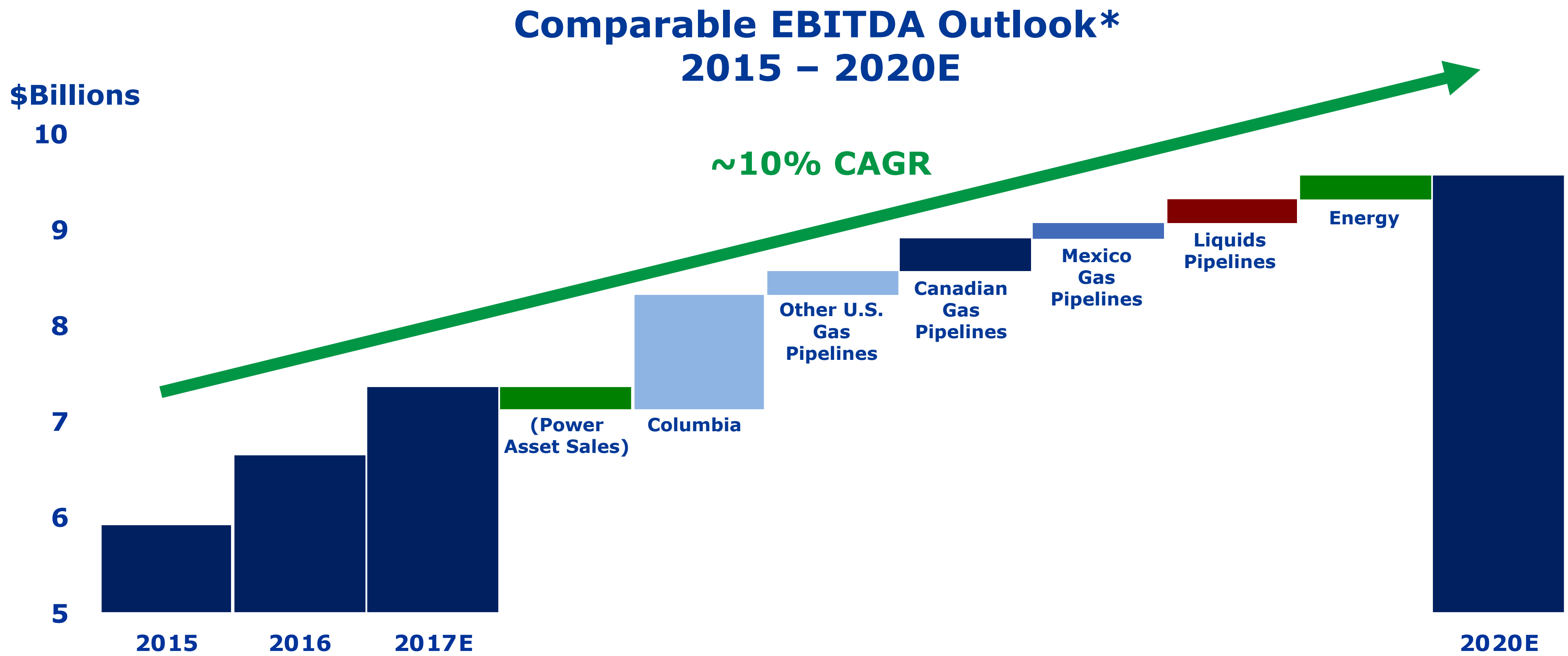


Liquidity and Market Access

- ~$9 billion of committed and undrawn credit lines
- Well supported commercial paper programs
  - Canada – $2.0 billion
  - U.S. – US$2.5 billion
- Shelf facilities in place which allow for expedited access to global capital markets

Normal Level of Scheduled Debt Maturities Through 2020

$24 Billion of Near-Term Projects Drive Significant Growth



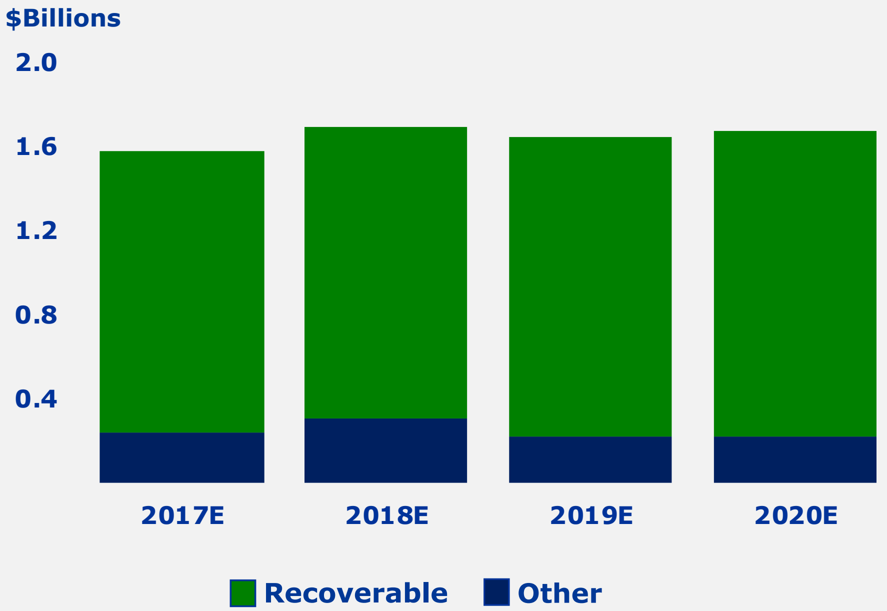
Could be Augmented by Additional Growth Opportunities, Revenue Enhancements and Operating Efficiencies

** Includes existing assets, non-controlling interests in U.S. Natural Gas Pipelines and $24 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.*

Maintenance Capital Outlook and DCF Coverage Ratios Through 2020

Maintenance Capital Outlook

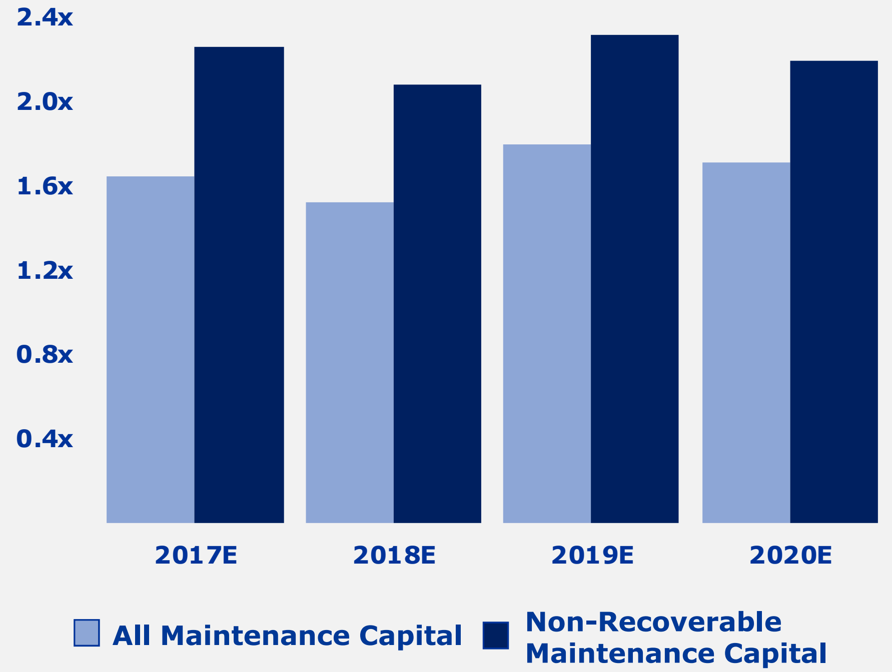
Majority Earns a Return On and Of Capital Expended



DCF Coverage Outlook

(Based on Comparable DCF per share and Dividend Growth at Upper End of 8-10% Range)

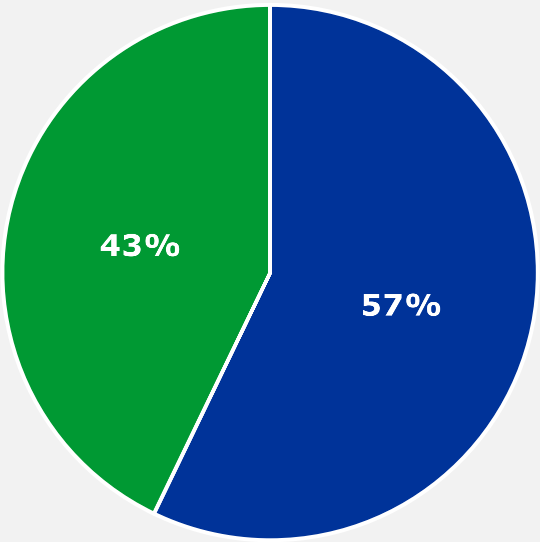
Strong Coverage Ratios



**Comparable DCF is a non-GAAP measure. See the non-GAAP measures slide at the front of this presentation for more information.*

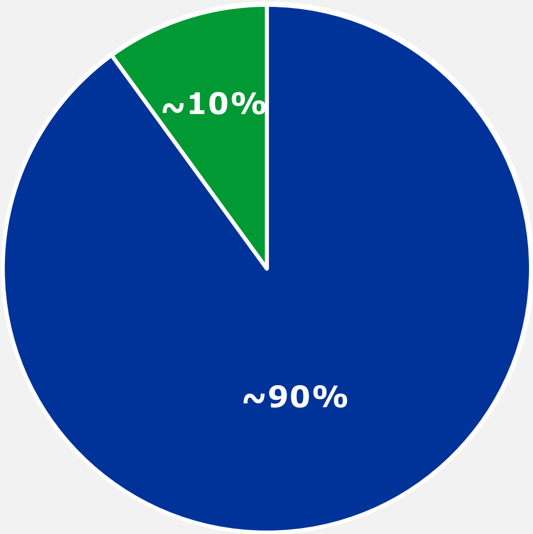
Financial and Commercial Variability

Foreign Exchange
(2017E EBITDA)



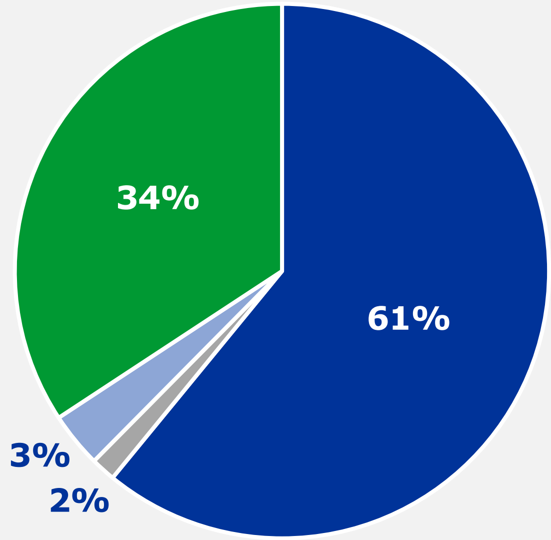
- U.S. Dollar Denominated*
- Canadian Dollar Denominated

Interest Rates



- Fixed Rate Debt
- Floating Rate Debt

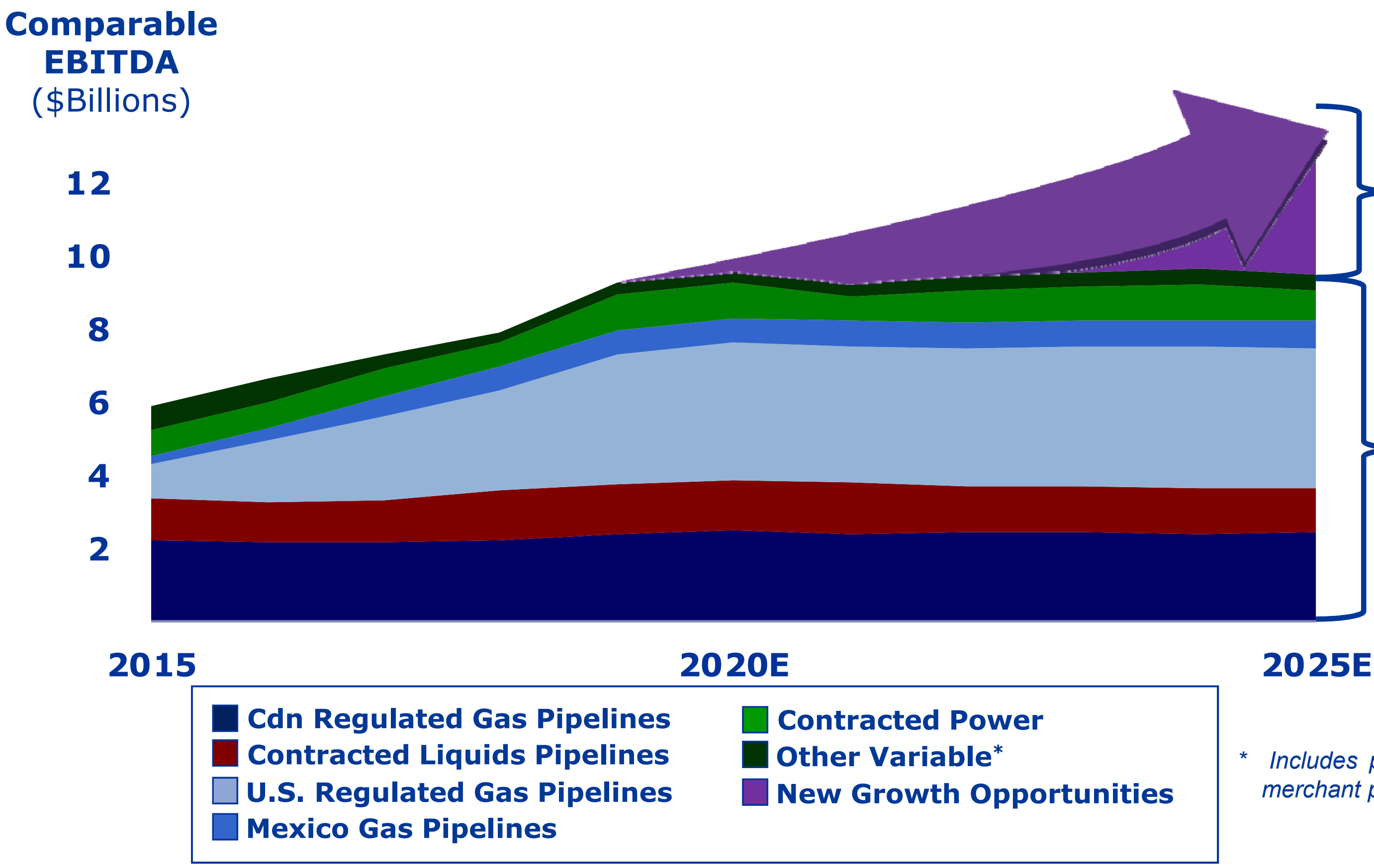
Volumetric & Commodity
(2017E EBITDA)



- Regulated
- Contracted
- Commodity*
- Volumetric

*Includes U.S. Northeast Power assets through dates of sale

Stability and Longevity of Core Asset Base



Incremental investment in our core businesses expected to extend growth beyond 2020

Predictable cost of service and long-term contracted cash flow streams supported by:

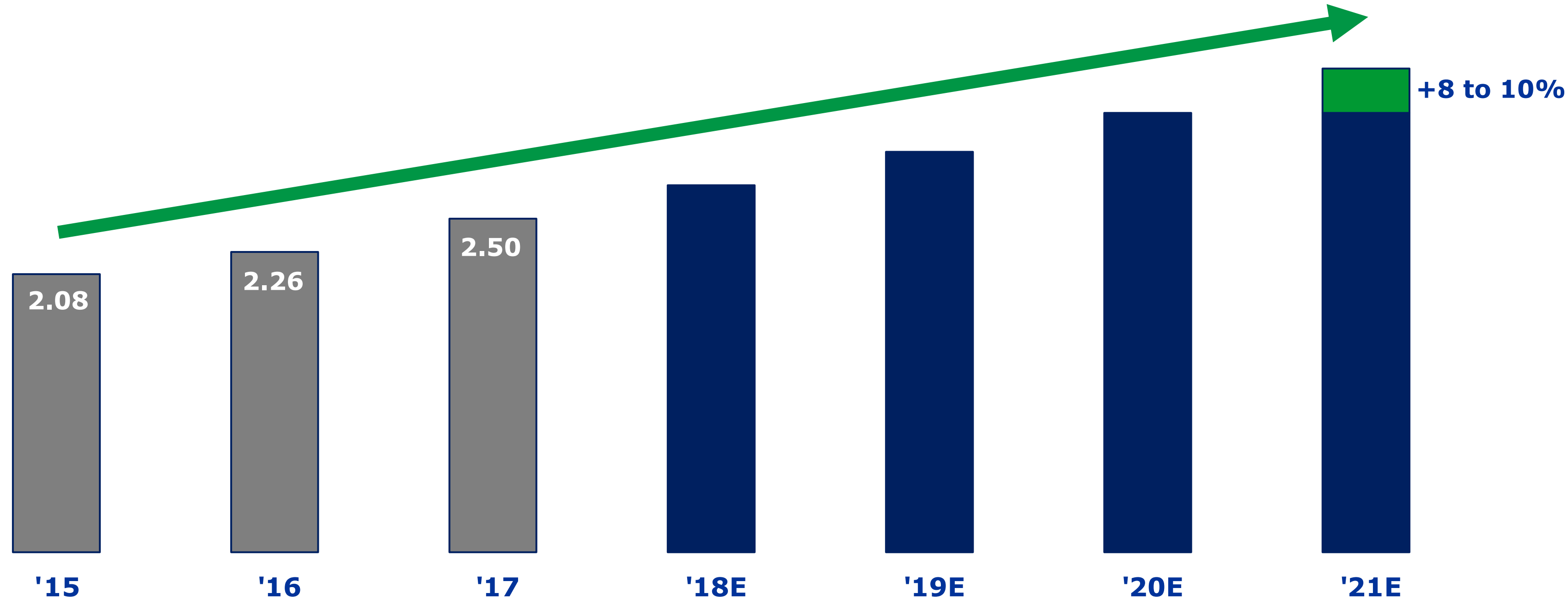
- Solid counterparties
- Minimal volumetric and commodity price risk

** Includes pipeline capacity not under long-term contract, merchant power and unregulated natural gas storage.*

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

Reaffirm Annual Growth at the Upper End of 8 to 10 Percent to End of Decade
Extending 8 to 10 Percent Range to 2021

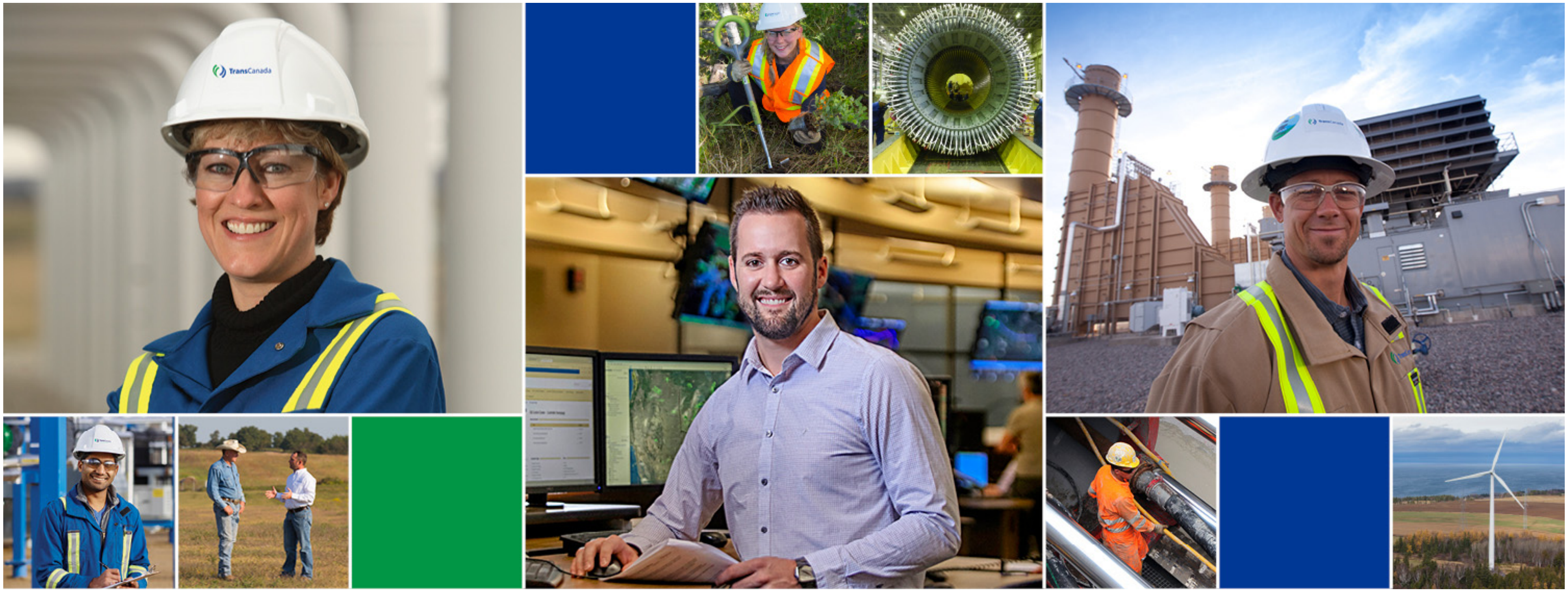


Supported by Expected Growth in Earnings and Cash Flow and Continued Strong Coverage Ratios

Key Takeaways

- **Stable and predictable base business performing well**
  - Over 95% of EBITDA from regulated or contracted assets
- **Visible growth through 2020 and thereafter**
  - $24 billion capital program progressing effectively on-time and on-budget
  - Expect to earn a return on and of majority of maintenance capital
  - Capacity to fund new growth as portfolio of near-term projects enter service
  - Opportunity set sizeable and high quality
- **Manageable financing needs**
  - No discrete common equity required to fund $24 billion near-term capital program
  - Finance plan aligns with ‘A’ grade credit metrics
- **Dividend poised to grow at the upper end of 8 to 10 percent through end of decade – extending 8 to 10 percent range to 2021**
  - Supported by long-term annuity streams and strong coverage ratios

Focus on Share Count and Per Share Metrics
No Need for Discrete Equity



Finance

Don Marchand
Executive VP and Chief Financial Officer

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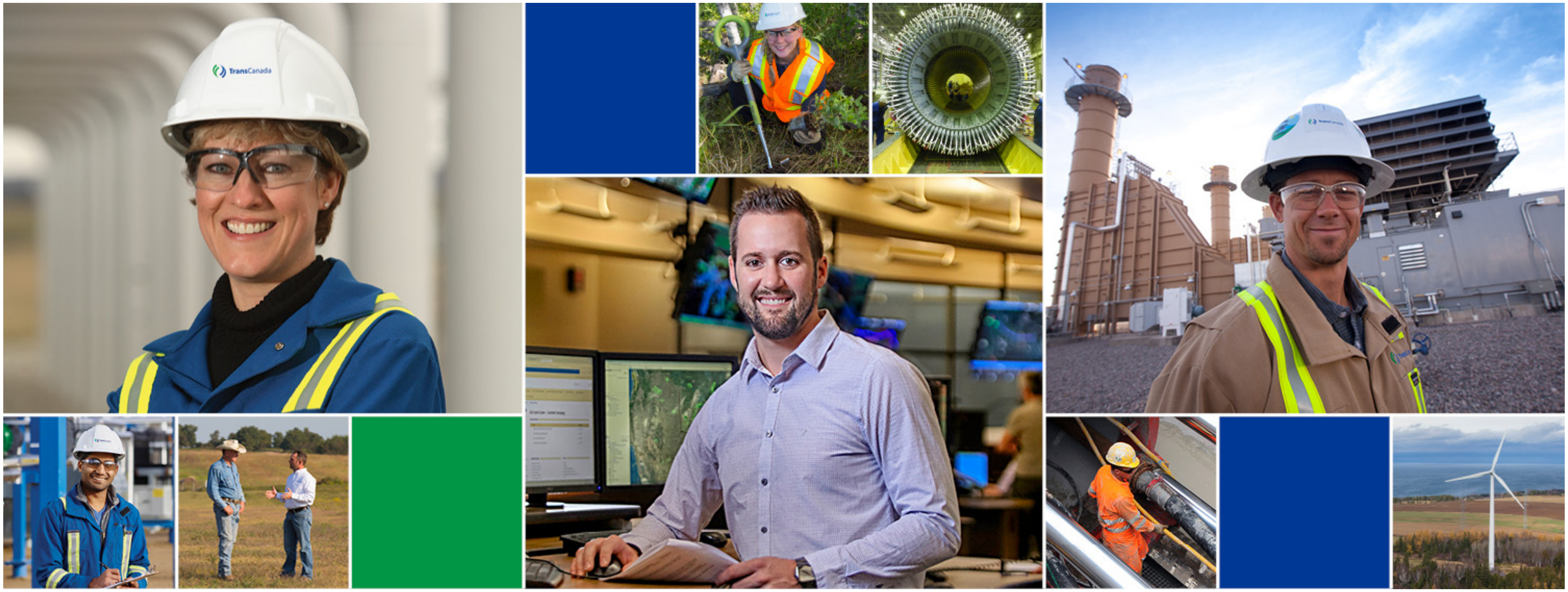

Appendix – Reconciliation of Non-GAAP Measures

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

	Three months ended September 30		Nine months ended September 30	
	2017	2016	2017	2016
Net Income/(Loss) Attributable to Common Shares	612	(135)	2,136	482
Specific items (net of tax):				
Net loss/(gain) on sales of U.S. Northeast power assets	12	3	(243)	3
Integration and acquisition related costs - Columbia	30	67	69	206
Keystone XL asset costs	8	9	19	24
Keystone XL income tax recoveries	-	(28)	(7)	(28)
Ravenswood goodwill impairment	-	656	-	656
Alberta PPA terminations	-	-	-	176
Restructuring costs	-	-	-	10
TC Offshore loss on sale	-	-	-	3
Risk management activities	(48)	50	(3)	(50)
Comparable Earnings(1)	614	622	1,971	1,482
Net Income/(Loss) Per Common Share	$0.70	($0.17)	$2.46	$0.66
Specific items (net of tax):				
Net loss/(gain) on sales of U.S. Northeast power assets	0.01	-	(0.28)	-
Integration and acquisition related costs - Columbia	0.03	0.09	0.08	0.29
Keystone XL asset costs	0.01	0.01	0.02	0.03
Keystone XL income tax recoveries	-	(0.03)	(0.01)	(0.04)
Ravenswood goodwill impairment	-	0.82	-	0.89
Alberta PPA terminations	-	-	-	0.25
Restructuring costs	-	-	-	0.01
Risk management activities	(0.05)	0.06	-	(0.07)
Comparable Earnings Per Common Share(1)	$0.70	$0.78	$2.27	$2.02
Average Common Shares Outstanding (millions)	873	797	870	734

(1) Non-GAAP measure. 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)

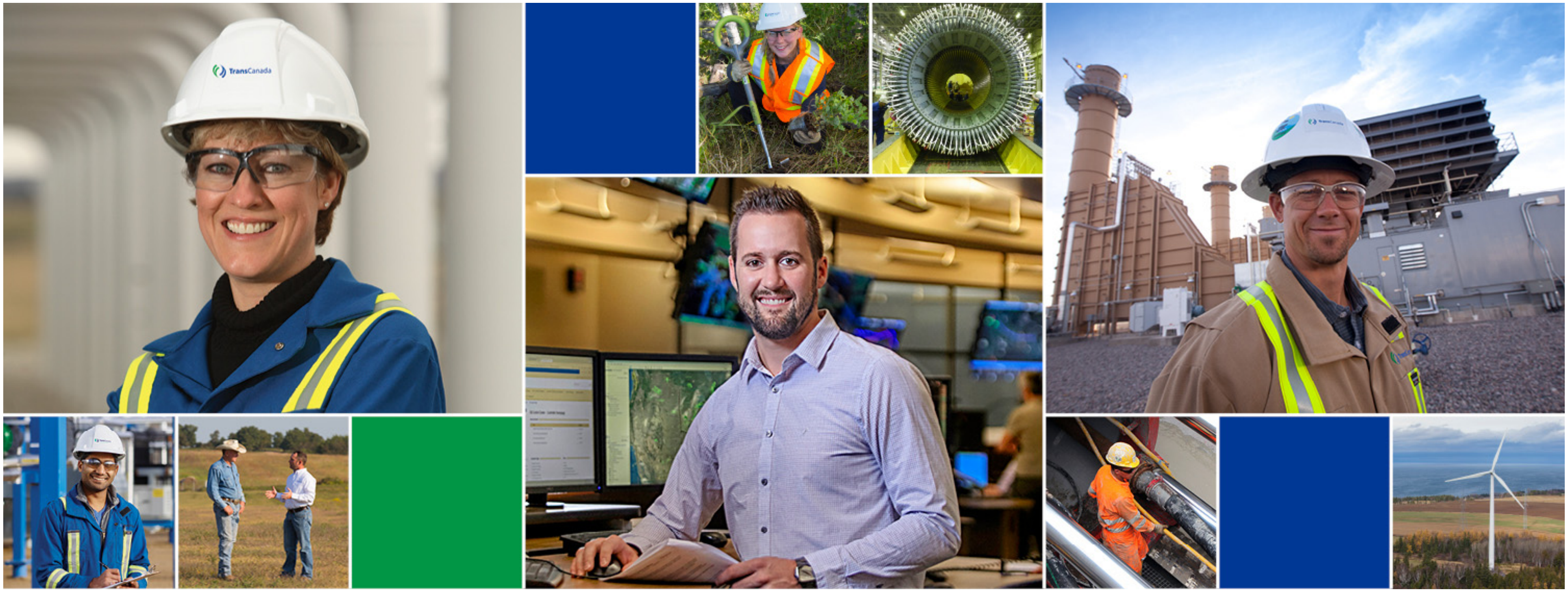
	Three months ended September 30		Nine months ended September 30	
	2017	2016	2017	2016
Comparable EBITDA[1]	1,667	1,886	5,474	4,757
Depreciation and amortization	(506)	(527)	(1,532)	(1,425)
Comparable EBIT[1]	1,161	1,359	3,942	3,332
Specific items:				
Net (loss)/gain on sales of U.S. Northeast power assets	(12)	(5)	469	(5)
Integration and acquisition related costs - Columbia	(32)	(96)	(91)	(132)
Keystone XL asset costs	(10)	(14)	(23)	(37)
Foreign exchange gain/(loss) - inter-affiliate loan	7	-	(1)	-
Ravenswood goodwill impairment	-	(1,085)	-	(1,085)
Alberta PPA terminations	-	-	-	(240)
Restructuring costs	-	-	-	(14)
TC Offshore loss on sale	-	-	-	(4)
Risk management activities	45	(81)	(102)	22
Segmented Earnings	1,159	78	4,194	1,837

(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 September 30		Nine months ended September 30	
	2017	2016	2017	2016
Net Cash Provided by Operations	1,185	1,265	3,840	3,494
Increase/(decrease) in operating working capital	86	58	224	(28)
Funds Generated From Operations[(1)]	1,271	1,323	4,064	3,466
Specific items:				
Integration and acquisition related costs - Columbia	32	99	84	238
Keystone XL asset costs	10	14	23	37
U.S. Northeast power disposition costs	3	5	20	5
Comparable Funds Generated From Operations[(1)]	1,316	1,441	4,191	3,746
Dividends on preferred shares	(39)	(28)	(116)	(74)
Distributions paid to non-controlling interests	(66)	(77)	(215)	(201)
Maintenance capital expenditures including equity investments	(442)	(342)	(988)	(858)
Comparable Distributable Cash Flow[(1)]	769	994	2,872	2,613
Per Common Share[(1)]	$ 0.88	$ 1.25	$ 3.30	$ 3.56

(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.



Closing Remarks

Russ Girling
President and Chief Executive Officer

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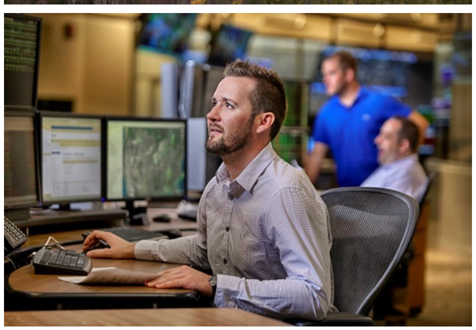
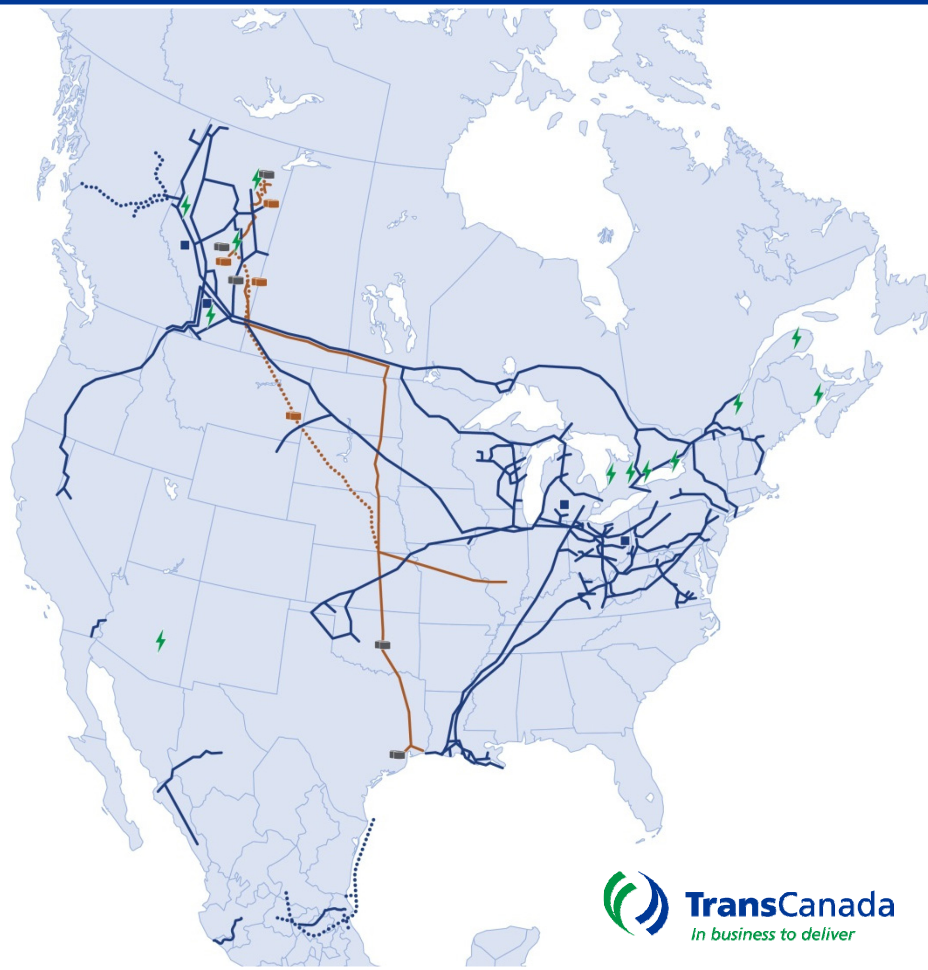
A Leading North American Energy Infrastructure Company





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 $20 billion of medium to longer-term projects

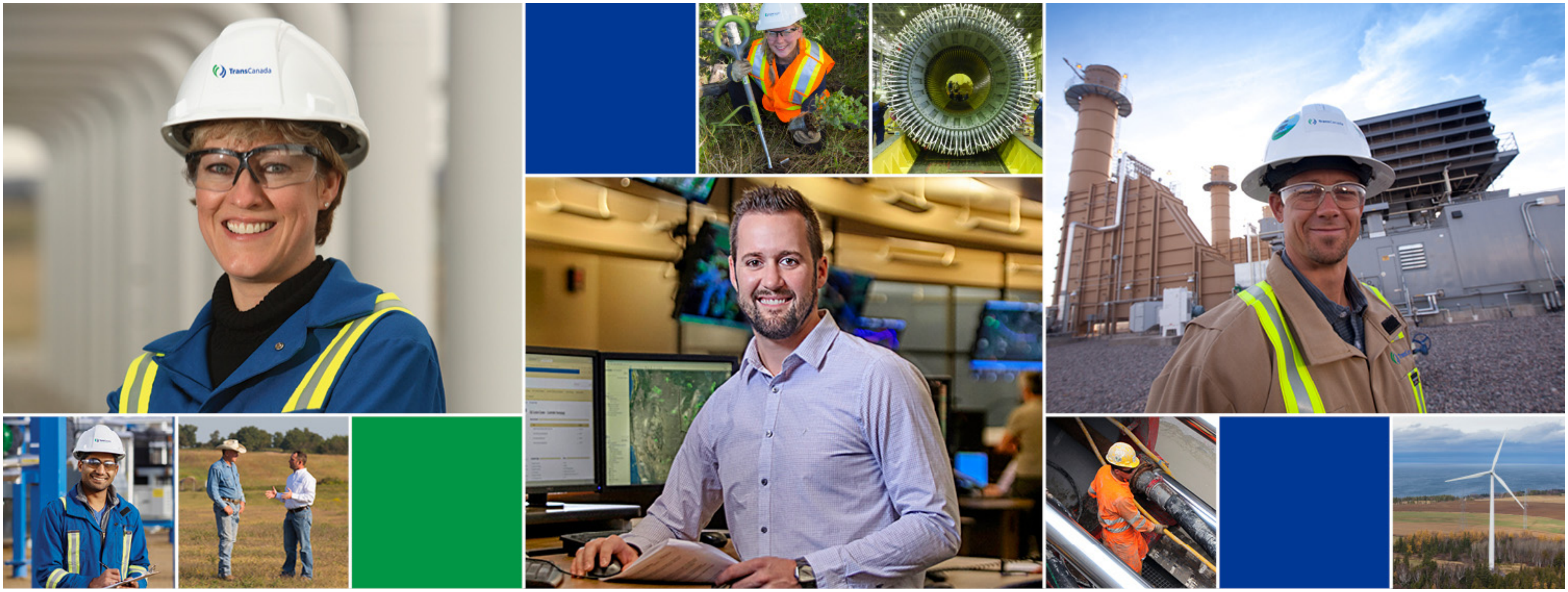
Attractive, Growing Dividend

4.0% yield
8-10% expected CAGR through 2021

Strong Financial Position

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

Performance Highlights Diversified, Low Risk Business Strategy



Closing Remarks

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