



# Pembina Pipeline Corporation

TSX: PPL | NYSE: PBA

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**2018 INVESTOR DAY**

May 29, 2018

Building Something Extraordinary



# Forward-looking statements and information



This presentation contains certain forward-looking statements and information that are based on Pembina's expectations, estimates, projections and assumptions in light of its experience and its perception of historical trends as well as current market conditions and perceived business opportunities. In some cases, forward-looking information can be identified by terminology such as "expects", "will", "would", "anticipates", "plans", "estimates", "develop", "intends", "potential", "continue", "could", "forecast", "create", "keep", and similar expressions suggesting future events or future performance.

In particular, this presentation contains forward-looking statements, including certain financial outlooks, pertaining to, without limitation: financial results and financial ratios related to and growth opportunities including: adjusted EBITDA expectations, volume expectations, revenue amounts and sources, future capital program, capital expenditures, anticipated capacity, timing of key decisions, capital cost expectations, and in-service dates for growth projects, further expansion opportunities, counterparty exposure, fee-for-service cash flows, future dividends which may be declared on Pembina's common shares and any future dividend payment date; the ongoing utilization and expansions of and additions to Pembina's business and asset base, expectations regarding future commodity market supply, demand and pricing and supply and demand for hydrocarbon and derivatives services.

Undue reliance should not be placed on these forward-looking statements and information as they are based on assumptions made by Pembina as of the date hereof regarding, among other things: that favourable growth

parameters continue to exist in respect of current and future growth projects (including the ability to finance such projects on favorable terms); future levels of oil and natural gas development; potential revenue and cash flow enhancement; future cash flows; that Pembina is able to achieve anticipated synergies from acquired businesses and assets; with respect to Pembina's dividends: prevailing commodity prices, margins and exchange rates, that Pembina's businesses will continue to achieve sustainable financial results and that future results of operations will be consistent with past performance and management expectations in relation thereto, the availability and sources of capital, operating costs, ongoing utilization and future expansions, the ability to reach required commercial agreements, and the ability to obtain required regulatory approvals.

While Pembina believes the expectations and assumptions reflected in these forward-looking statements are reasonable as of the date hereof, there can be no assurance that they will prove to be correct. Forward-looking statements are subject to known and unknown risks and uncertainties which may cause actual performance and financial results to differ materially from the results expressed or implied, including but not limited to: customer demand for the company's services, commodity prices and interest and foreign exchange rates; planned synergies; capital efficiencies and cost-savings; applicable tax laws; future production rates; the sufficiency of budgeted capital expenditures in carrying out planned activities; the impact of competitive entities and pricing; reliance on key industry partners, alliances and agreements; the strength and operations of the oil and natural gas industry and related commodity prices; the regulatory environment

and the ability to obtain regulatory approvals; fluctuations in operating results; the availability and cost of labour and other materials; the ability to finance projects on advantageous terms; and tax laws and tax treatment.

Additional information on these factors as well as other risks that could impact Pembina's operational and financial results are contained in Pembina's Annual Information Form and Management's Discussion and Analysis for the year ended December 31, 2017, and described in our public filings available in Canada at [www.sedar.com](http://www.sedar.com) and in the United States at [www.sec.gov](http://www.sec.gov). Readers are cautioned that this list of risk factors should not be construed as exhaustive.

The forward-looking statements contained in this document speak only as of the date of this document. Except as expressly required by applicable securities laws, Pembina and its subsidiaries assume no obligation to update forward-looking statements and information should circumstances or management's expectations, estimates, projections or assumptions change. The forward-looking statements contained in this document are expressly qualified by this cautionary statement. Readers are cautioned that management of Pembina approved the financial outlooks contained herein as of the date of this presentation. The purpose of the financial outlooks contained herein is to give the reader an indication of the value of Pembina's current and anticipated growth projects. Readers should be cautioned that the information contained in the financial outlooks contained herein may not be appropriate for other purposes.

# Non-GAAP measures



In this presentation, Pembina has used the terms operating margin, adjusted earnings before interest, taxes, depreciation and amortization (Adjusted EBITDA), Adjusted EBITDA per common share, cash flow from operating activities per common share, adjusted cash flow from operating activities, and adjusted cash flow from operating activities per common share, which do not have any standardized meaning under IFRS ("Non-GAAP Measures"). Since Non-GAAP financial measures do not have a standardized meaning prescribed by GAAP and are therefore unlikely to be comparable to similar measures presented by other companies, securities regulations require that Non-GAAP financial measures are clearly defined, qualified and reconciled to their nearest GAAP measure. These Non-GAAP measures are calculated and disclosed on a consistent basis from period to period. Specific adjusting items may only be relevant in certain periods. The intent of Non-GAAP measures is to provide additional useful information respecting Pembina's financial and operational performance to investors and analysts and the measures do not have any standardized meaning under IFRS. The measures should not, therefore, be considered in isolation or used in substitute for measures of performance prepared in accordance with IFRS.

In accordance with IFRS, Pembina's jointly controlled investments are accounted for using equity accounting. Under equity accounting, the assets and liabilities of the investment are net into a single line item on the Consolidated Statement of Financial Position, Investments in Equity Accounted Investees. Net earnings from Investments in Equity Accounted Investees are recognized in a single line item in the Consolidated Statement of Earnings and Comprehensive Earnings, Share of Profit of Investments in Equity Accounted Investees. Cash contributions and distributions from Investments in Equity Accounted Investees represent Pembina's proportionate share paid and received in the period to and from the equity accounted investment.

Other issuers may calculate these Non-GAAP measures differently. Investors should be cautioned that these measures should not be construed as alternatives to revenue, earnings, cash flow from operating activities, gross profit or other measures of financial results determined in accordance with GAAP as an indicator of Pembina's performance. For additional information regarding Non-GAAP measures, including reconciliations to measures recognized by GAAP, please refer to Pembina's management's discussion and analysis for the period ended March 31, 2018, which is available online at [www.sedar.com](http://www.sedar.com), [www.sec.gov](http://www.sec.gov) and through Pembina's website at [www.pembina.com](http://www.pembina.com).

# Our team presenting today and agenda



**Mick Dilger**  
President &  
Chief Executive Officer



**Scott Burrows**  
Senior Vice President &  
Chief Financial Officer



**Stuart Taylor**  
Senior Vice President,  
Marketing and New  
Ventures & Corporate  
Development Officer



**Jaret Sprott**  
Senior Vice President &  
Chief Operating Officer,  
Facilities



**Jason Wiun**  
Senior Vice President &  
Chief Operating Officer,  
Pipelines

## Agenda and presentation outline

Introduction	Mick Dilger
Purpose of Pembina	Mick Dilger
Strong Foundation	Mick Dilger
Pipelines Division	Jason Wiun
Facilities Division	Jaret Sprott
Marketing & New Ventures	Stuart Taylor
Strong Financial Position	Scott Burrows
Value Proposition	Mick Dilger

# Introduction

Mick Dilger



## A lot can happen in a year

- ✓ Successfully integrated the largest acquisition in the Company's history
- ✓ Record 2017 Adjusted EBITDA of ~\$1.7 BB and ACFPS<sup>(1)</sup> of \$3.27, a year-over-year increase of 43% and 29%, respectively
- ✓ Placed ~\$5 BB of major projects into service throughout 2017
- ✓ Record first quarter 2018 results
- ✓ Expect to complete ~\$1 BB of growth projects in 2018
- ✓ Raised ~\$1.8 BB of capital to fund growth/keep our balance sheet strong<sup>(2)</sup>
- ✓ Secured incremental growth projects (Phase VI, Duvernay II, Prince Rupert Terminal, North Central Liquids Hub, Empress Infrastructure)
- ✓ Announced open season for a potential Alliance Expansion
- ✓ Expect to complete FEED phase for PDH/PP by late 2018, followed by FID decision
- ✓ Highest total shareholder return amongst TSX energy infrastructure peer group

Achieving success on numerous fronts → safety, operations, business development and financial performance

(1) Adjusted Cash Flow Per Share or ACFPS refers to adjusted cash flow from operating activities per common share. Adjusted Cash Flow or ACF refers to adjusted cash flow from operating activities.

(2) Figures based on May 2017 – May 2018, excluding equity issued as part of the Veresen acquisition. See "Forward-looking statements and information" and "Non-GAAP measures."

# Ten Year Scorecard



	2008	2018	% Change
<b>WTI</b>	\$99.68 <sup>(1)</sup>	\$66.73 <sup>(1)</sup>	(33%)
<b>AECO</b>	\$7.71 <sup>(1)</sup>	\$1.71 <sup>(1)</sup>	(78%)
<b>WCSB Liquids production<sup>(2)</sup> (bbl/d)</b>	2.7 mmbpd	4.5 mmbpd	67%
<b>WCSB Natural gas production<sup>(2)</sup> (bcf/d)</b>	15.6 bcf/d	16.7 bcf/d	7%
<b>Volumes<sup>(3)</sup></b>	1,214 mboe/d	3,266 mboe/d <sup>(3)</sup>	169%
<b>Adjusted EBITDA</b>	\$288 million	\$2,650 to \$2,750 million	820% - 855%
<b>Adjusted EBITDA per share</b>	\$2.16	~\$5.25 to ~\$5.50 <sup>(4)</sup>	143% - 155%
<b>Dividends per share</b>	\$1.49	\$2.24 <sup>(5)</sup>	50%
<b>Payout ratio</b>	96%	55% - 60%	(36% - 41%)
<b>Enterprise value</b>	~\$3 billion	~\$33 billion <sup>(6)</sup>	~1,000%
<b>Employees</b>	~400	~1,700 <sup>(7)</sup>	325%

Transformational change over the past 10 years

(1) 2008 prices represent a daily average price from January 1, 2008 – December 31, 2008; 2018 YTD pricing as at May, 22, 2018.

(2) Source: National Energy Board. 2018 production as at April 13, 2018.

(3) 2008 volumes represent total throughput volumes. 2018 volumes represent revenue volumes for the three months ended March 31, 2018.

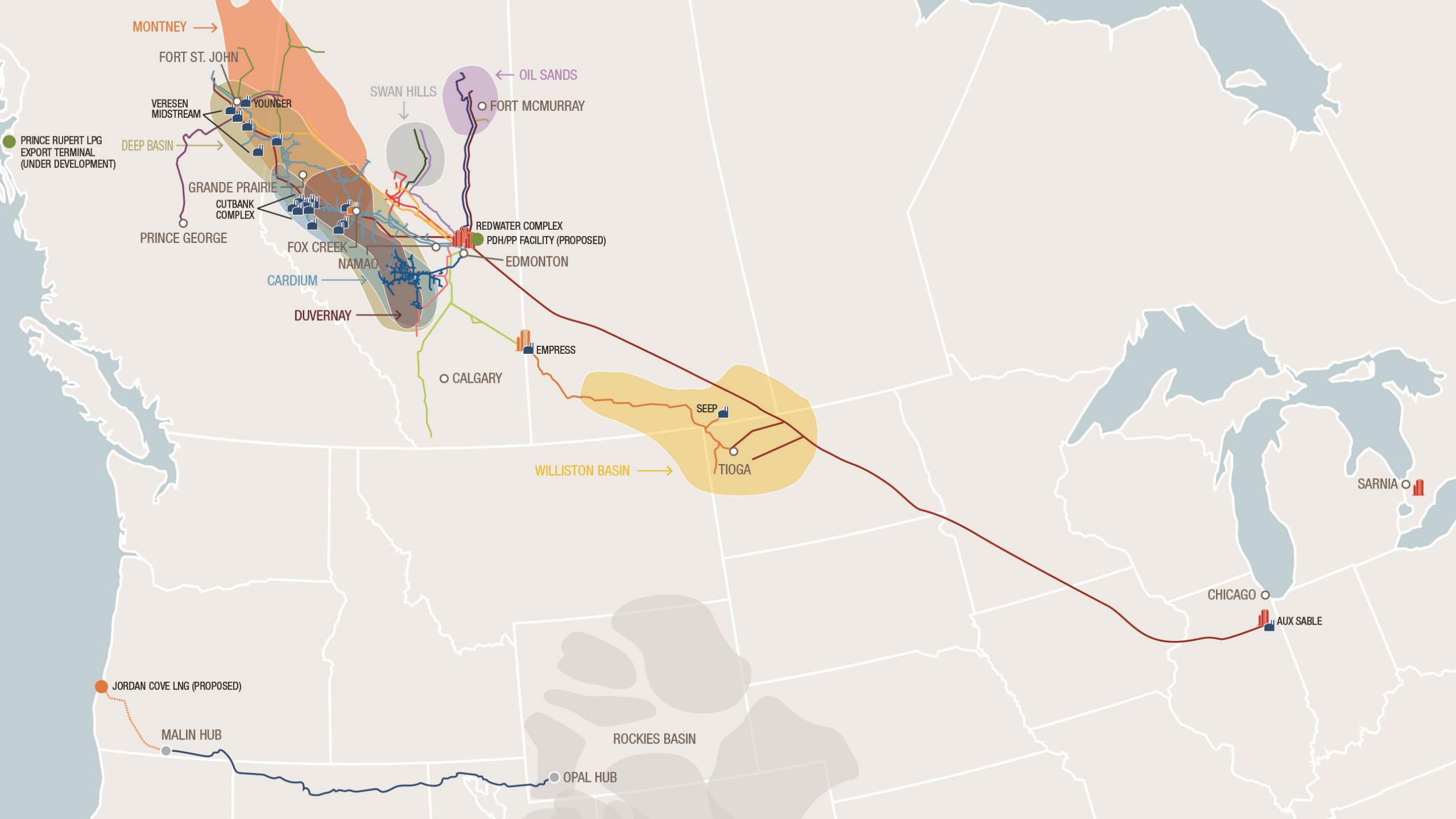
(4) 2018 full year guidance range based on 503 million common shares outstanding as at March 31, 2018.

(5) Assumes a \$0.19 per share monthly dividend from May 2018 – December 2018.

(6) As at May 11, 2018.

(7) Approximate employees as at April 30, 2018.

See "Forward-looking statements and information" and "Non-GAAP measures."



MONTNEY →

FORT ST. JOHN

VERESEN MIDSTREAM

PRINCE RUPERT LPG EXPORT TERMINAL (UNDER DEVELOPMENT)

DEEP BASIN →

GRANDE PRAIRIE

CUTBANK COMPLEX

PRINCE GEORGE

FOX CREEK

CARDIUM

DUVERNAY →

SWAN HILLS

OIL SANDS

FORT MCMURRAY

REDWATER COMPLEX

PDH/PP FACILITY (PROPOSED)

EDMONTON

EMPRESS

CALGARY

WILLISTON BASIN →

SEEP

TIOGA

ROCKIES BASIN

OPAL HUB

JORDAN COVE LNG (PROPOSED)

MALIN HUB

SARNIA

CHICAGO

AUX SABLE



# Keys to success

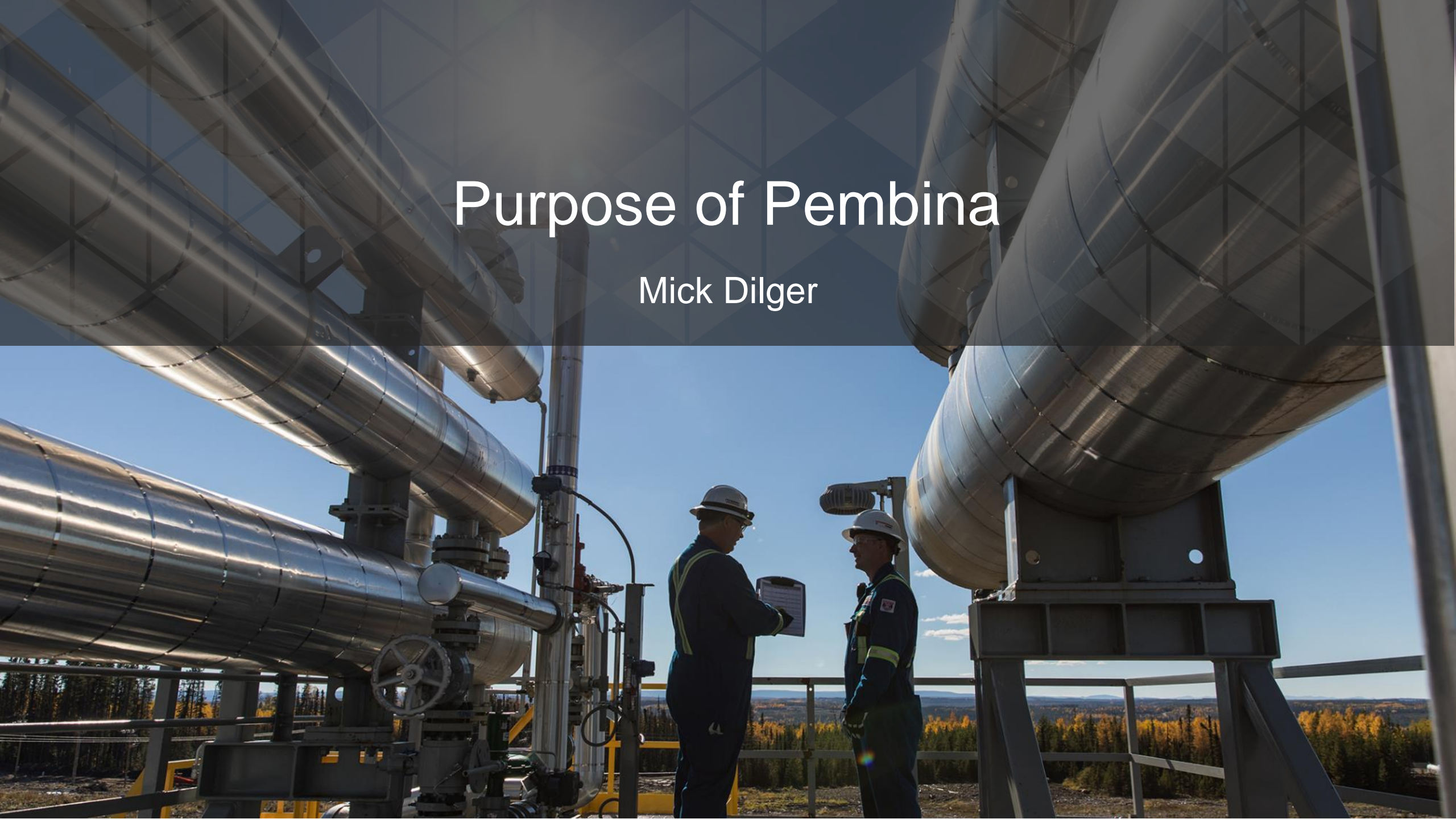
- ✓ Assets serving the best geology in the basin
- ✓ Pursuit of integration across the value chain
- ✓ Commercial creativity
- ✓ Developing critical mass of feedstocks
- ✓ Revolutionary technology revitalized the upstream oil and gas industry
- ✓ Family culture focused on all stakeholders
- ✓ Delivering on our promises
- ✓ Successful on time and on budget capital program execution



Pembina's unwavering commitment to its strategy has resulted in a history of long-term success

# Purpose of Pembina

Mick Dilger



# Purpose of Pembina



**Customers choose us first for reliable and value added services**



**Investors receive sustainable industry-leading total returns**

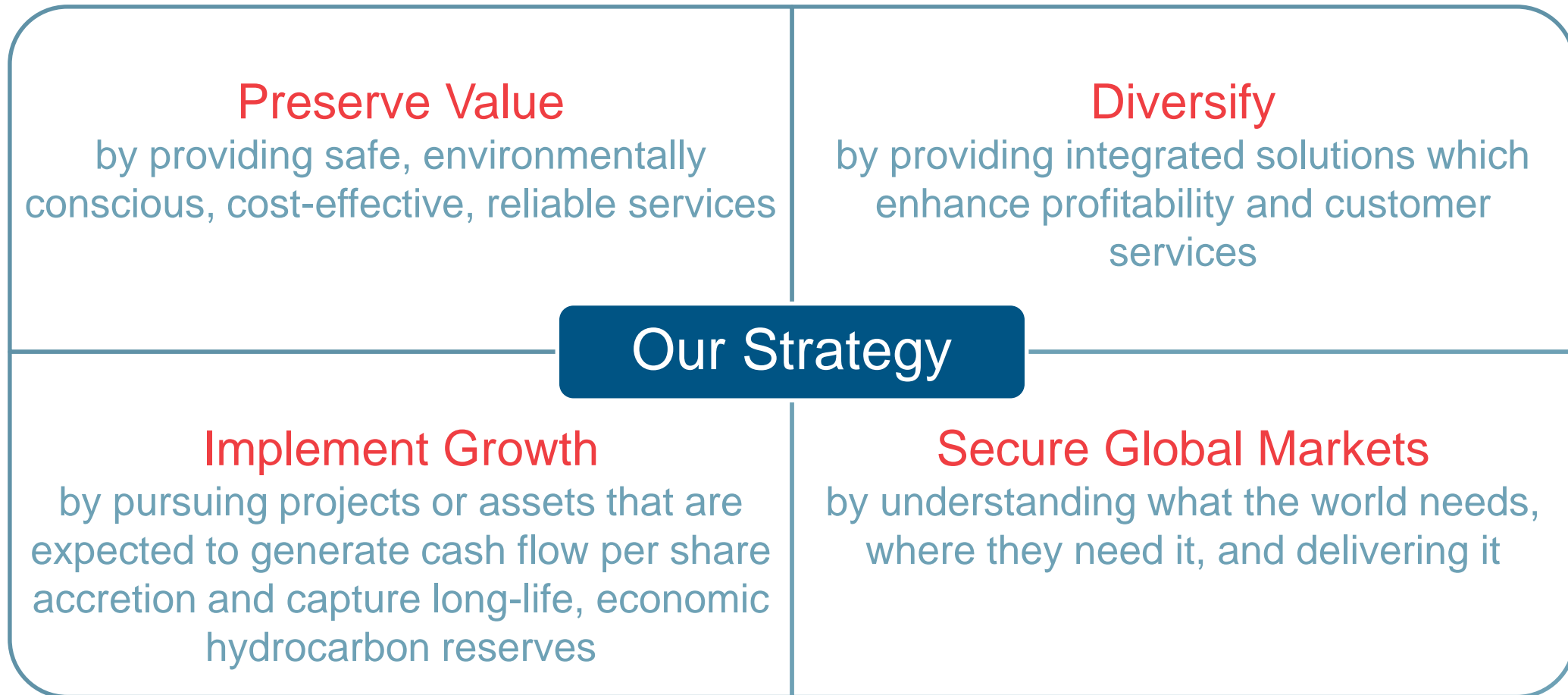


**Employees say we are the 'employer of choice' and value our safe, respectful, collaborative and fair work culture**



**Communities welcome us and recognize the net positive impact of our social and environmental commitment**

**To be the leader in delivering integrated infrastructure solutions connecting global markets**



Focused on creating and capturing advantage for our stakeholders

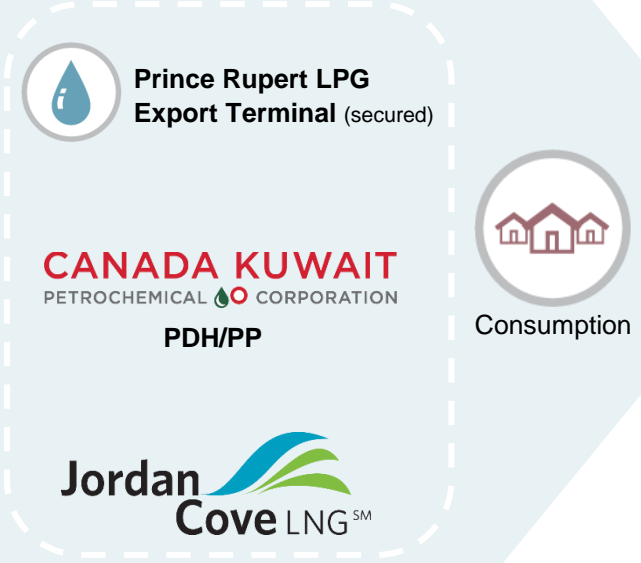
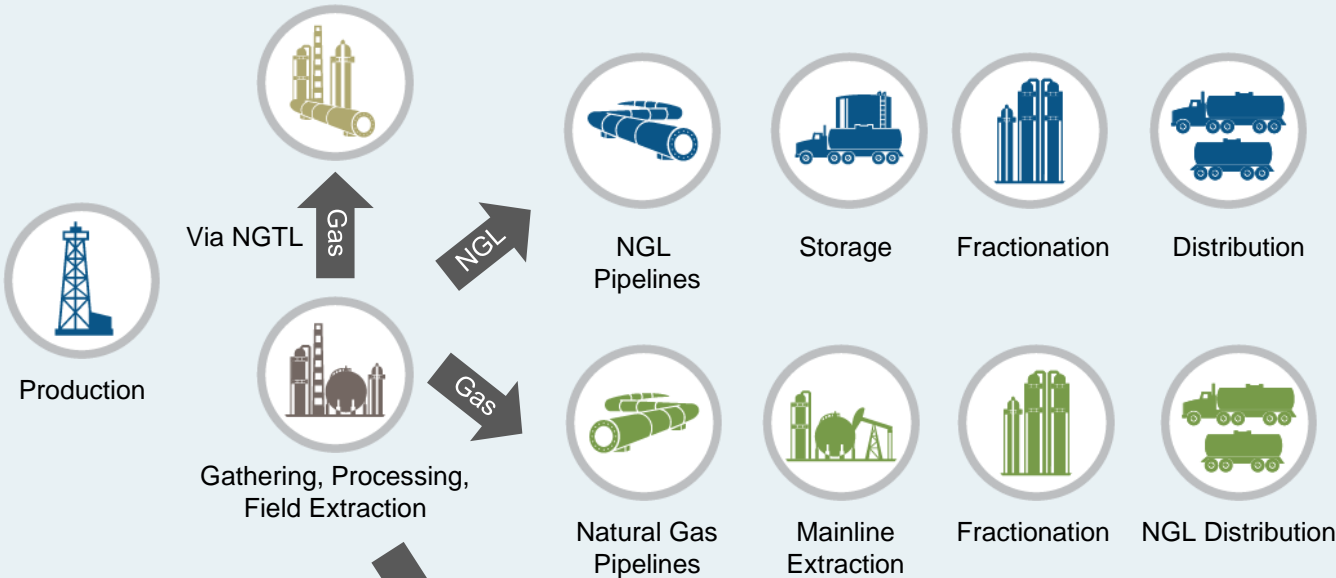
# The Pembina Store: integrated, customer-focused services



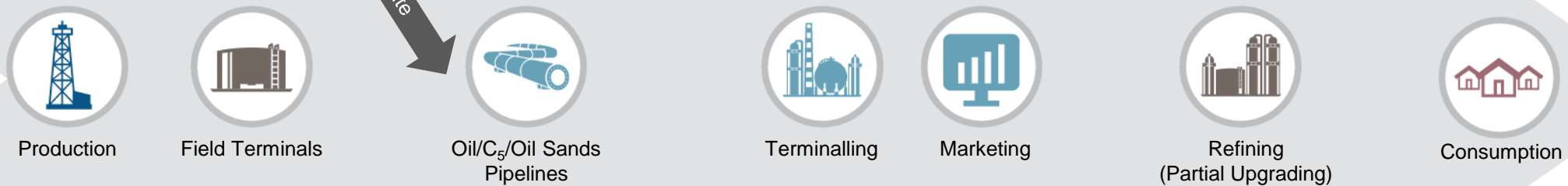
Empress, Sarnia and Corunna  
(Mainline Extraction, Fractionation, Distribution)

Value chain  
extension opportunities

Gas & NGL  
Value Chain  
("HVP")



Oil &  
Condensate  
Value Chain  
("LVP")

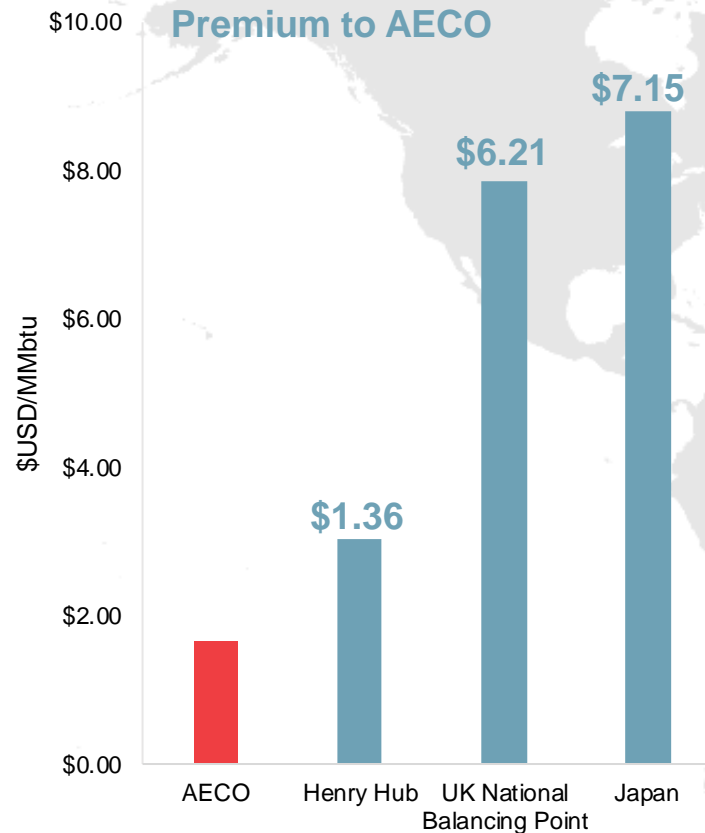


Pembina has a fully-integrated value chain for natural gas, NGL, crude oil and condensate

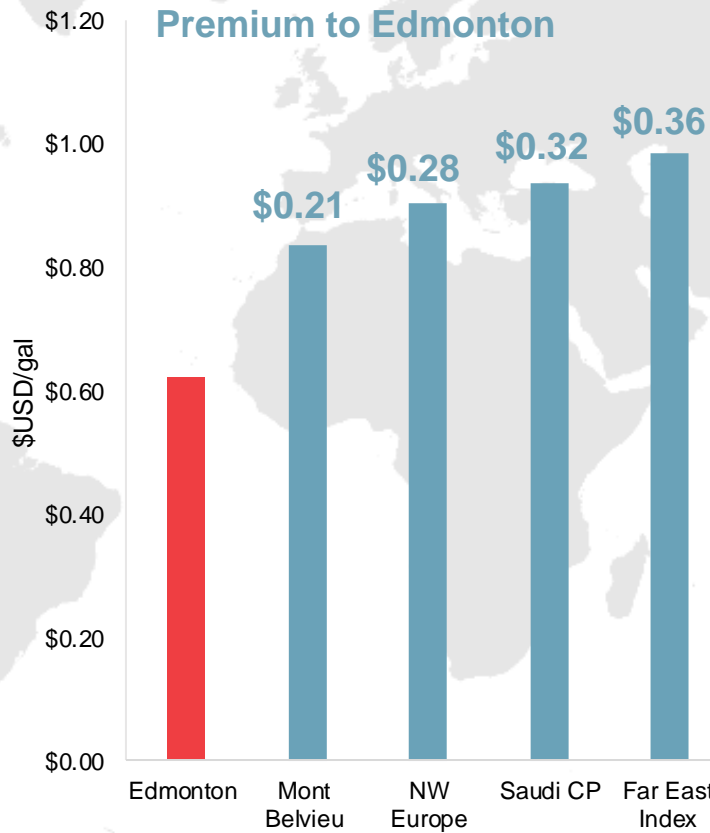
# However...Canadian hydrocarbons are highly discounted



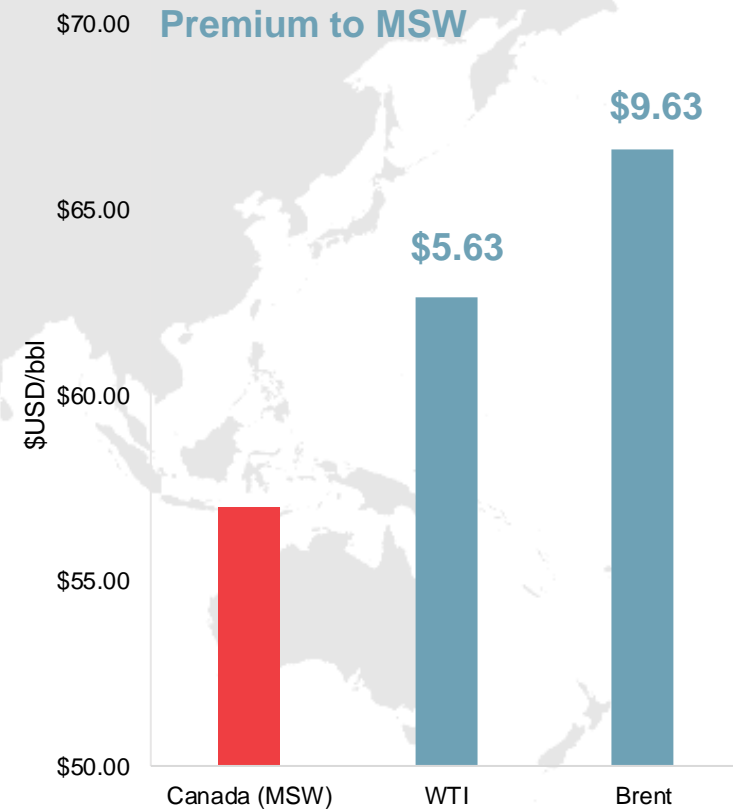
Natural gas (average Jan-Mar 2018)



Propane (average Jan-Mar 2018)



Crude oil (average Jan-Mar 2018)



Canadian producers face some of the lowest pricing in the world for natural gas, propane and crude oil

Source: IHS Markit and Bloomberg.  
See "Forward-looking statements and information."

# Costing Canadians billions of dollars

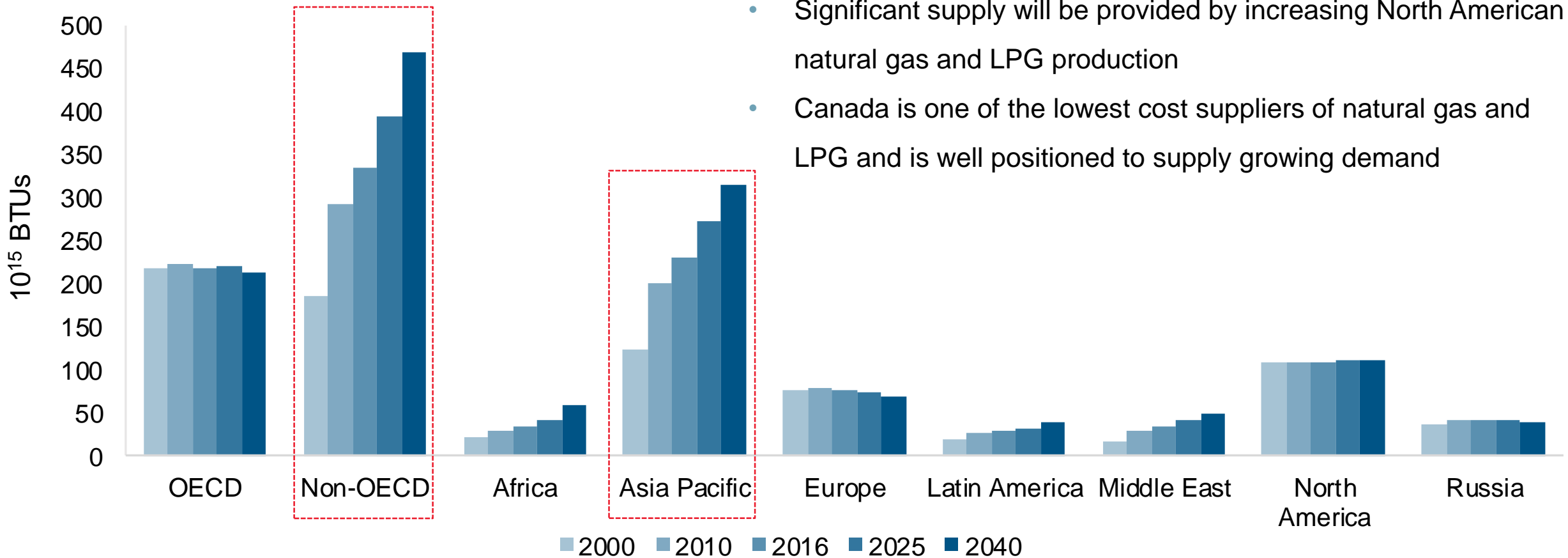
~\$20 Billion in lost revenue for Canadians in 2018



- Lack of oil pipelines will cost Canadians approximately \$15 billion in lost revenue in 2018
- Inadequate gas transportation will cost Canadians approximately \$5 billion in lost revenue in 2018
- Lack of propane egress expected to cost the Canadian economy approximately \$500 million in lost revenue in 2018

Lack of Canadian egress options has resulted in substantial economic losses for the entire country

# Future energy demand will come from global markets



- Developing countries continue to drive energy demand growth
- Significant supply will be provided by increasing North American natural gas and LPG production
- Canada is one of the lowest cost suppliers of natural gas and LPG and is well positioned to supply growing demand

Growing economies outside North America will drive substantial demand growth for energy



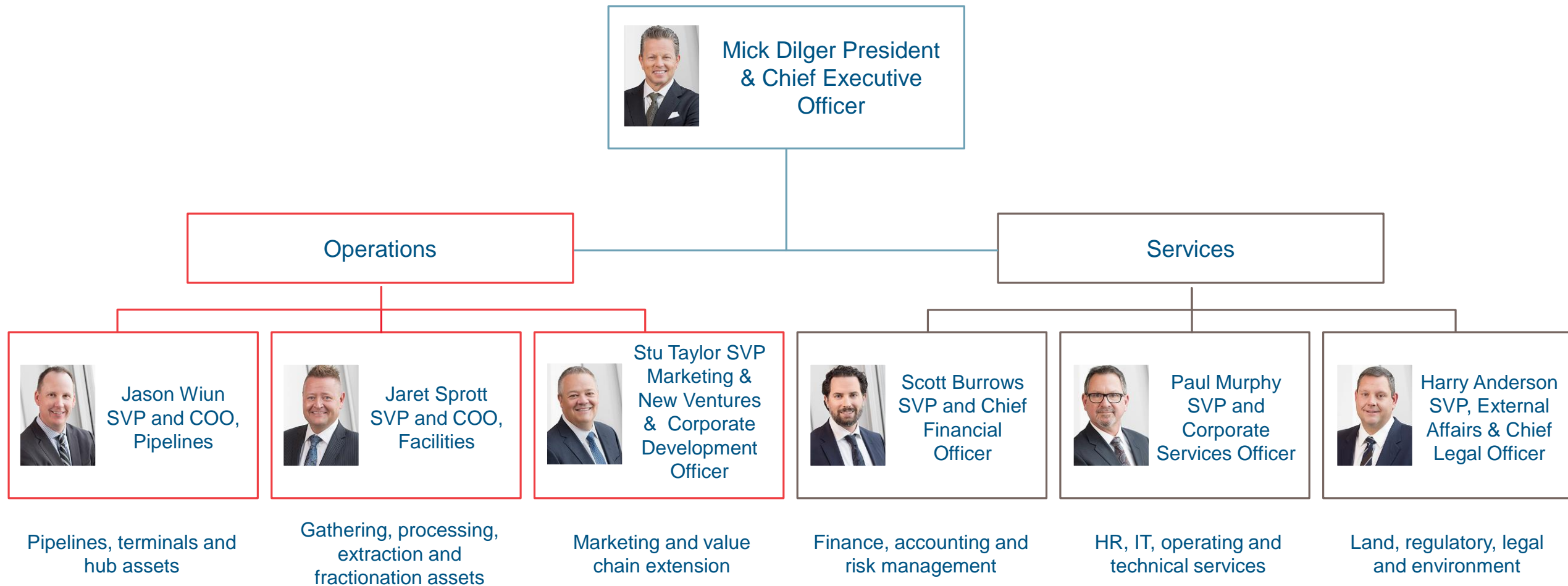
# Pembina's advantage in accessing global markets



- ✓ Natural 'step' in Pembina's value chain extension model
- ✓ Strategically located assets supporting leading geology in North America
- ✓ Critical mass of products to meet global needs and build world-scale facilities
- ✓ Commercial creativity
- ✓ History of delivering projects on time and on budget
- ✓ Recognition of knowledge gaps and ability to add expertise (key staff, partners, board members)
- ✓ Location advantage for access to Far East markets via North American west coast

Global strategy will enhance the value of Pembina's existing assets while structurally changing the profitability of the WCSB

# New corporate structure aligns operations and strategy



Pembina has been reorganized to meet the future needs of the business and achieve strategy execution



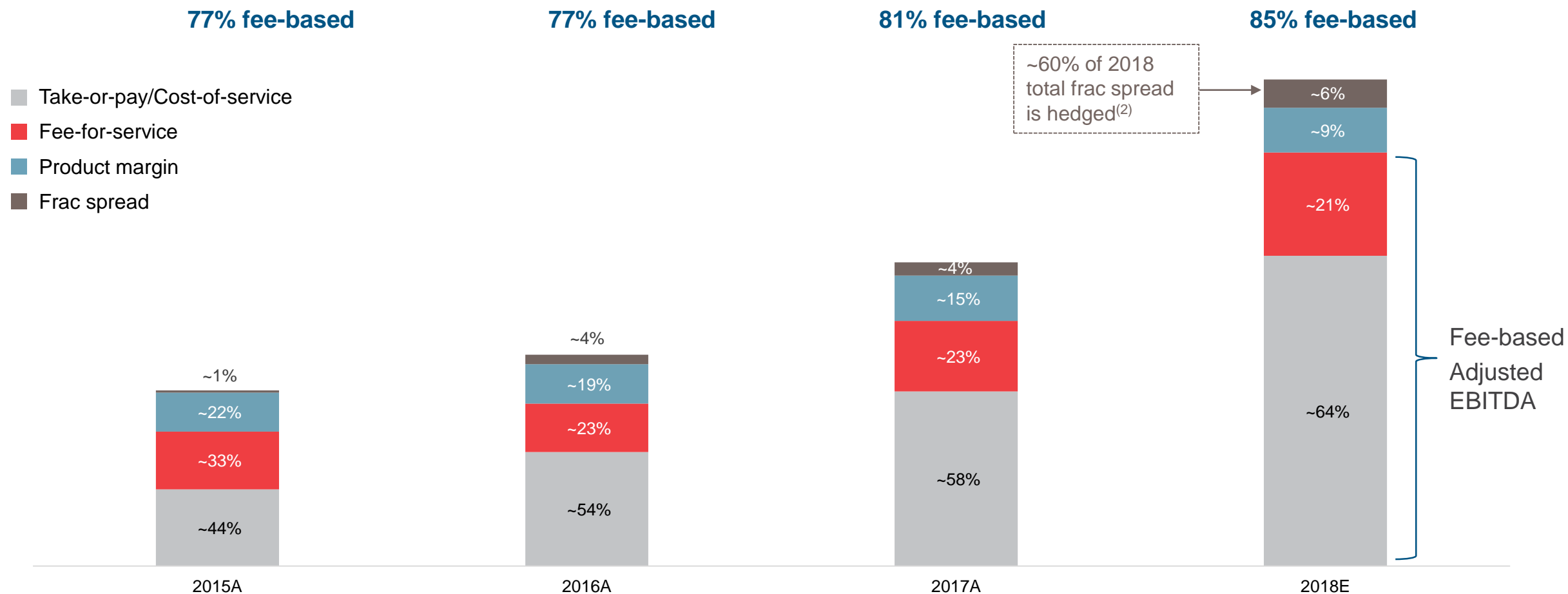
# A Strong Foundation

Mick Dilger

# Our business is highly contracted



Contribution by revenue type (\$MM)<sup>(1)</sup>



Pembina has significantly grown its fee-based contribution to Adjusted EBITDA

(1) 2015 - 2017 figures based on actual results (including internal allocations), while forward years are based on Pembina's forecast; actual results may vary depending on asset utilization, project in-service dates, commodity pricing and other factors.

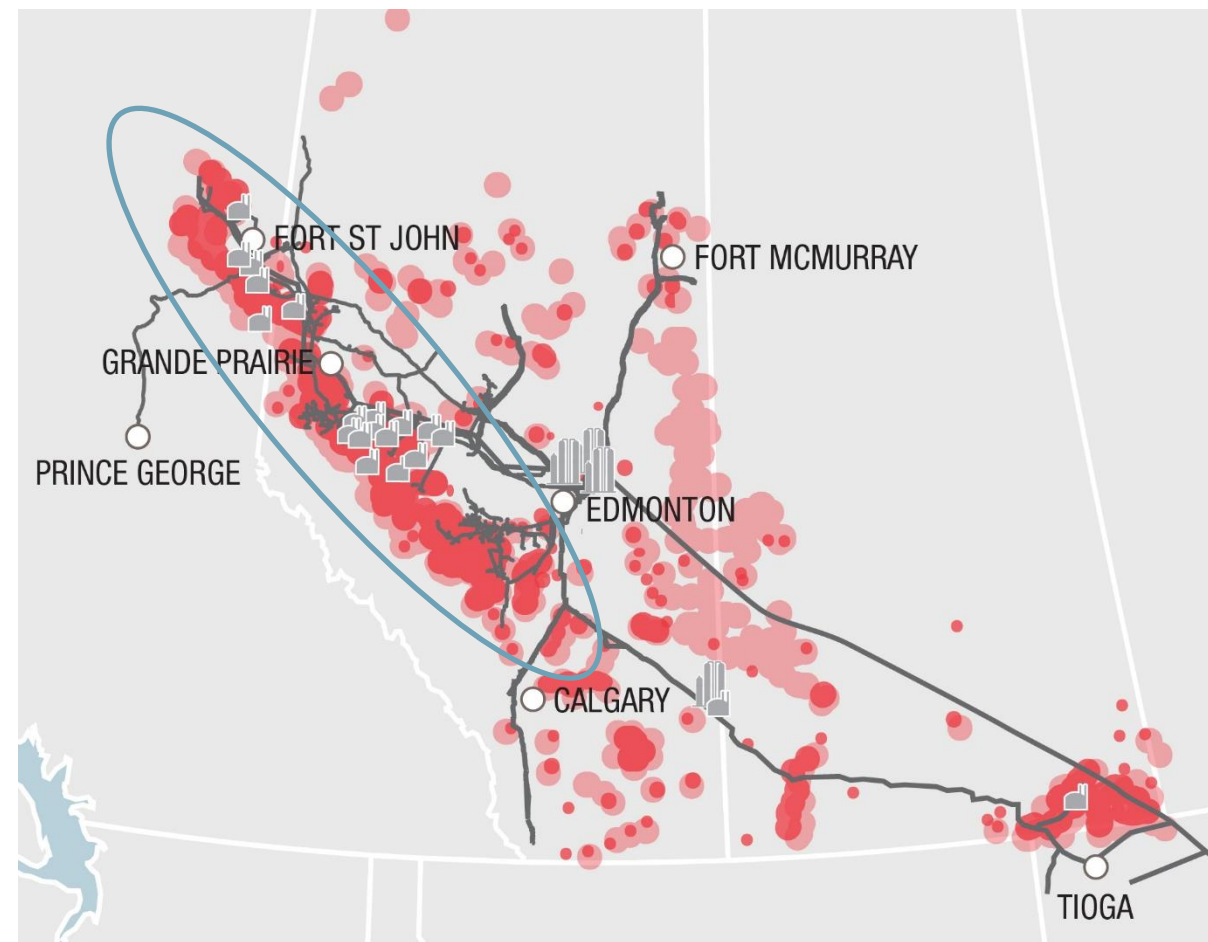
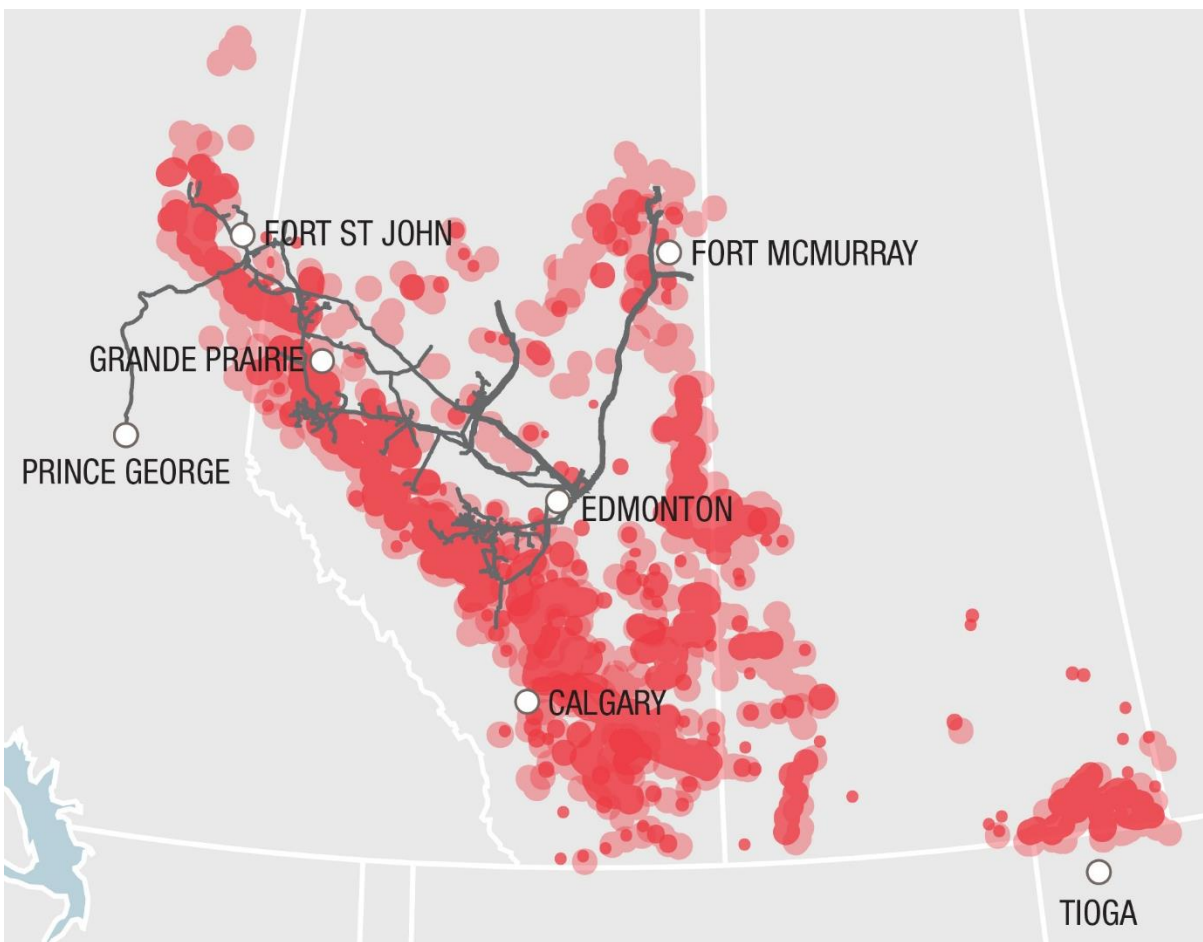
(2) As at May 25, 2018. See "Forward-looking statements and information" and "Non-GAAP measures."

# Location is everything



WCSB drilling activity – 2008

WCSB drilling activity – 2018 TTM



Pembina's assets serve the best geology where producers continue to drill and invest

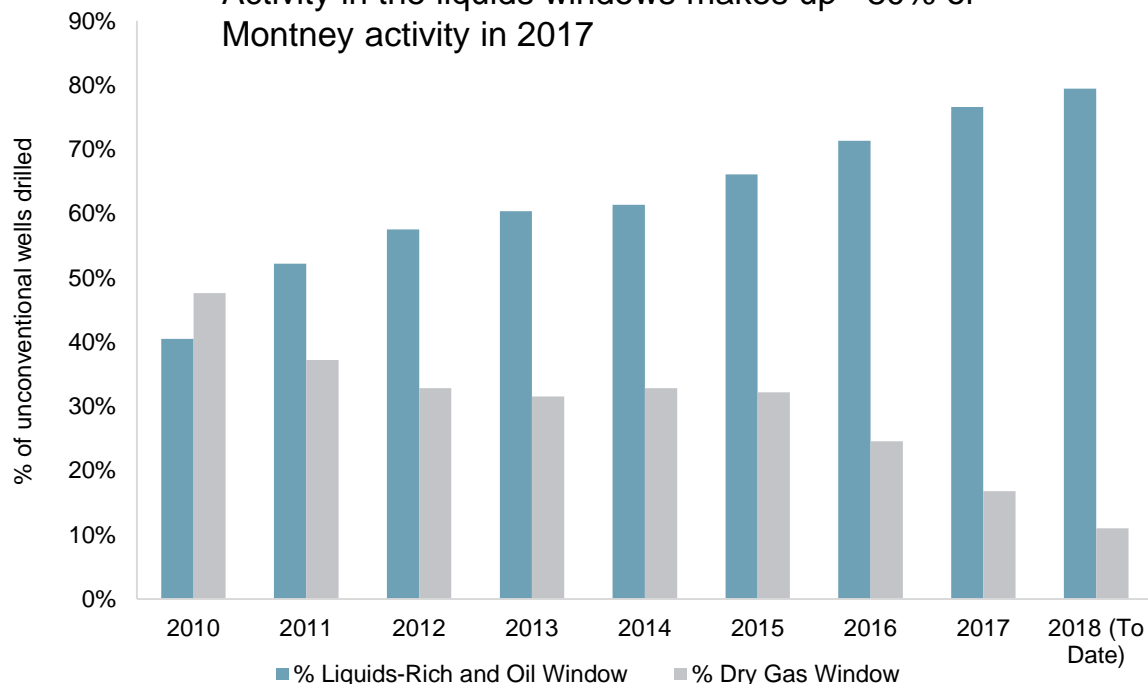
Source: Accumap.  
(1) Map illustrates newly spud or licensed wells trailing 12 months ("TTM") from the period ending March 2018.

# Resource delivery continues to improve

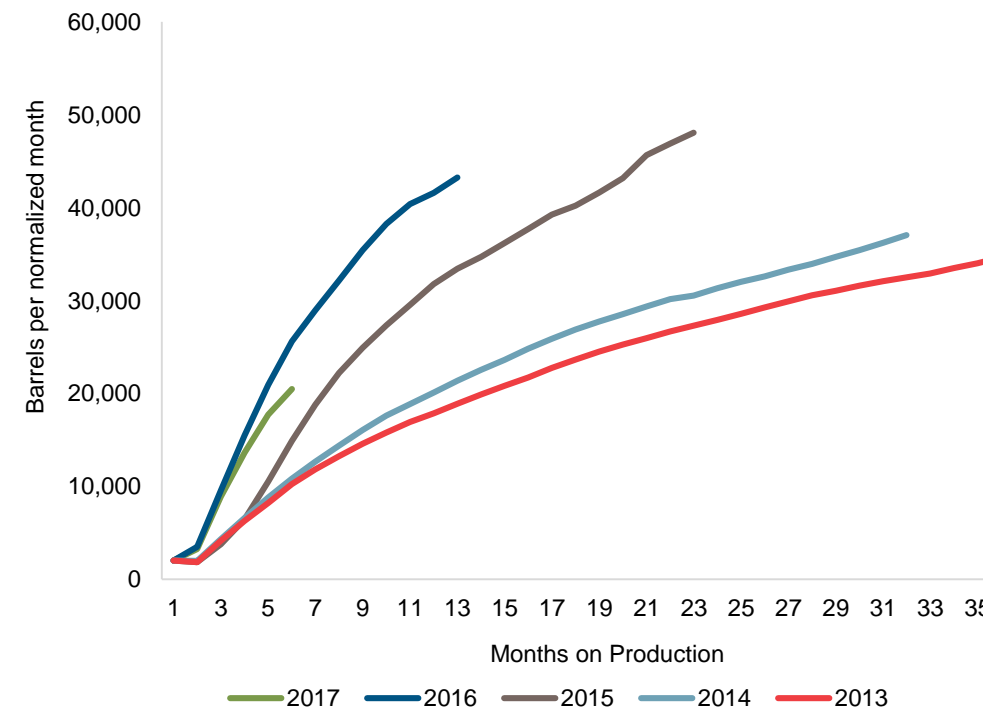


## Montney drilling activity<sup>(1)</sup>

- Shift in focus from drilling in dry gas window to liquids-rich areas
- Activity in the liquids windows makes up ~80% of Montney activity in 2017



## Average single well cumulative condensate rates<sup>(2)</sup>



Per well condensate rates in the WCSB have risen significantly since the sanctioning of the Phase III Expansion

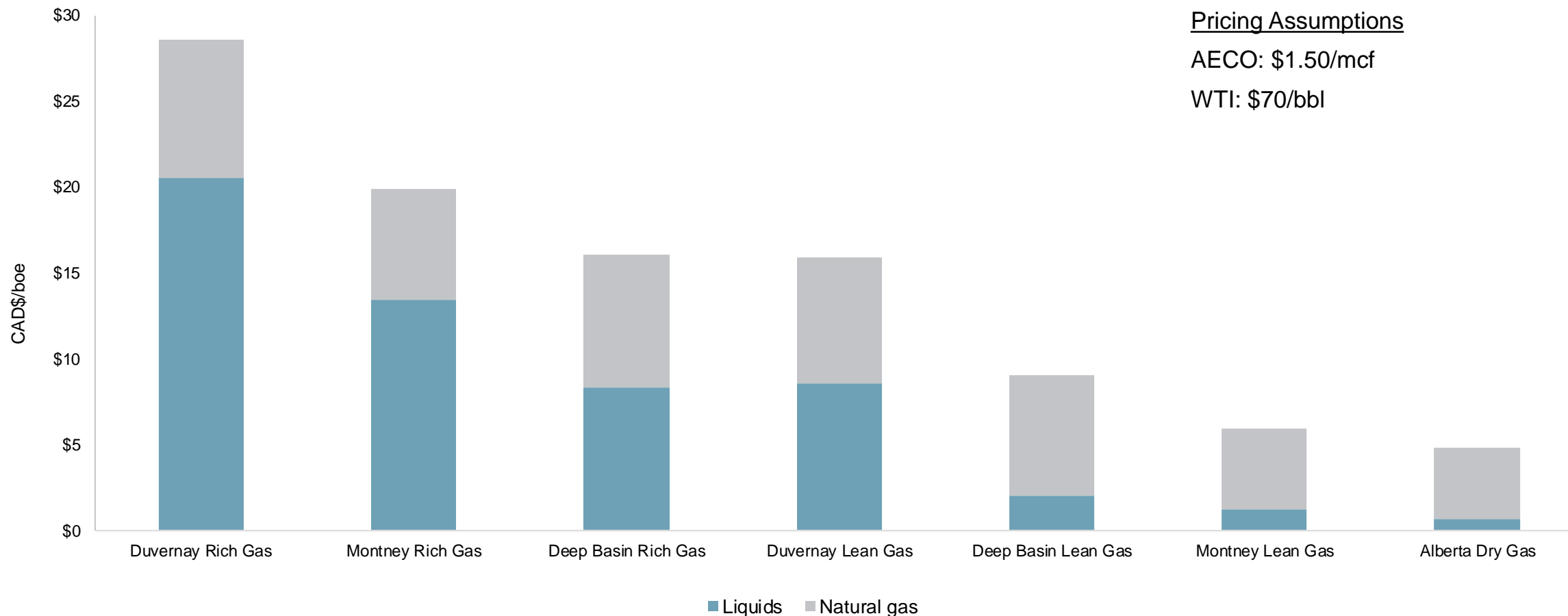
(1) GeoScout Data – as per Scotiabank GBM defined windows.  
Source: Scotia GBM. See "Forward-looking statements and information."

(2) GeoScout Data – data represents an average of all Montney wells with reported condensate data on a rig release year basis - All zero values, whether it was a dry gas well, a well without condensate reported or a well with partially reported.

# Liquids are driving well profitability



Illustrative play netbacks<sup>(1)</sup>



**Strong netbacks from liquids volumes are incentivizing producers to drill wells despite low gas prices**

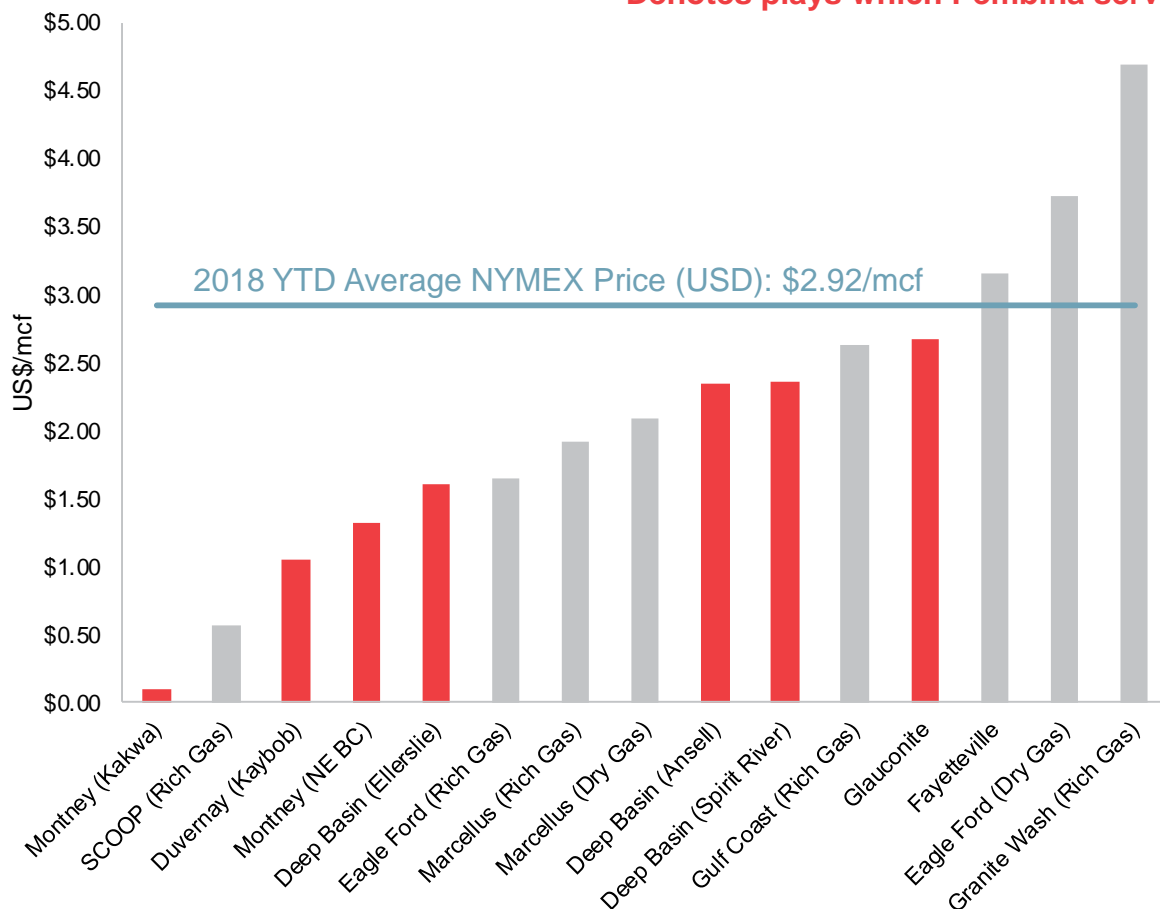
(1) Assumed cash costs have been distributed on a volume weighted basis. Pricing assumptions as of May 17, 2018. Liquids weightings based on fractionation yields. Source: National Bank Financial. See "Forward-looking statements and information."

# Our customers focus on long-life economic reserves



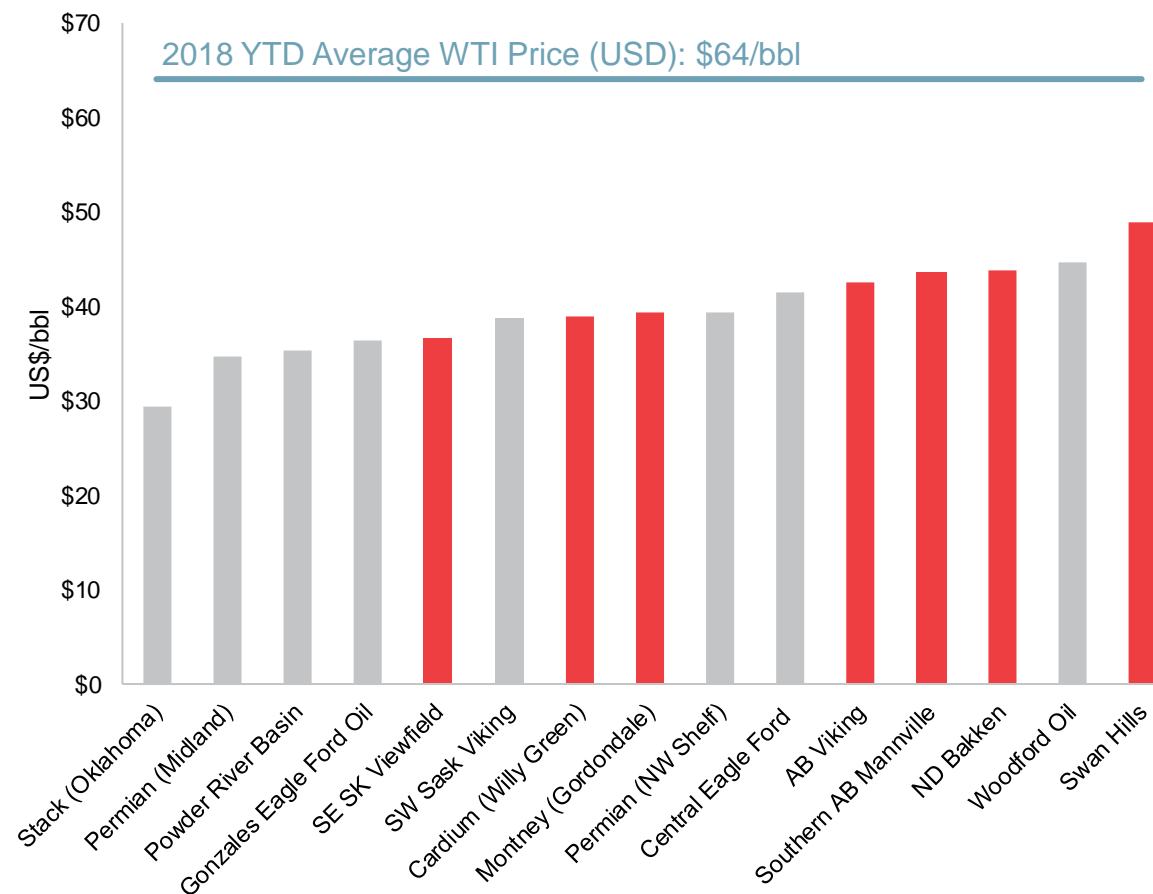
## North American Gas resource play break even<sup>(1)</sup>

Denotes plays which Pembina serves



## North American Oil resource play break even<sup>(1)</sup>

Denotes plays which Pembina serves



Some of North America's premiere resource plays are situated in the WCSB

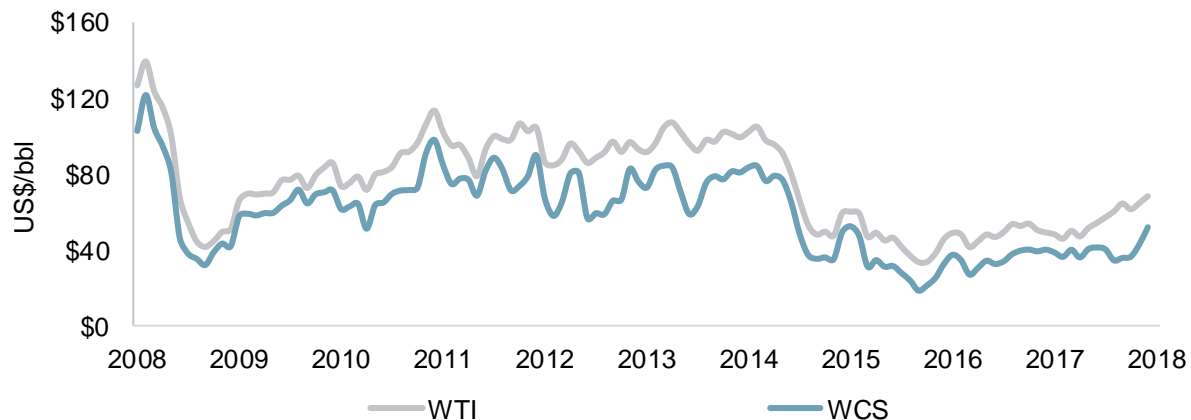
(1) Figures per Scotiabank GBM; representative sample of North American resource plays per Playbook (Q4-17). Assumes a CAD/USD foreign exchange rate of \$0.78 and an AECO differential of \$0.70. See "Forward-looking statements and information."



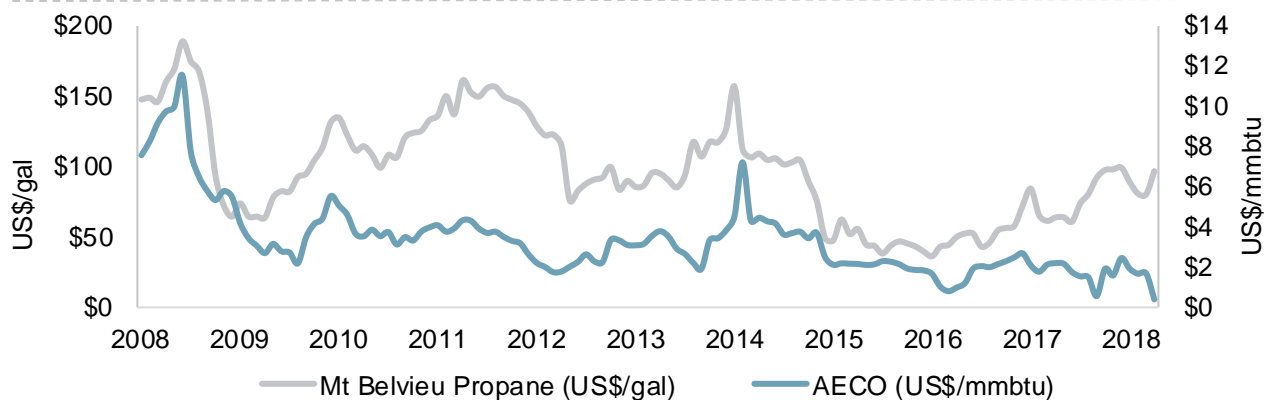
# We are built to generate value throughout the cycle



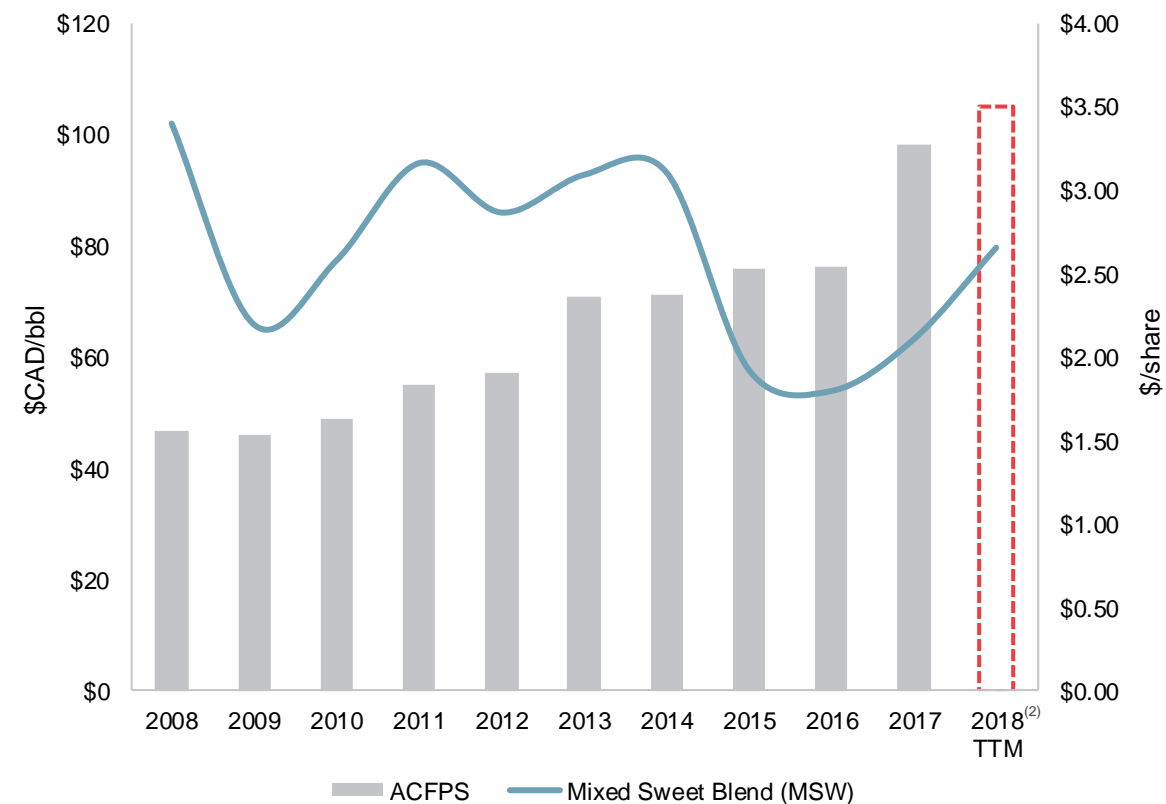
### Crude oil historical prices<sup>(1)</sup>



### Natural gas and propane historical prices<sup>(1)</sup>



### Adjusted cash flow per share vs. Canadian light oil price



**Pembina's adjusted cash flow per share has grown and is largely resilient to commodity prices**

(1) Source: Bloomberg.

(2) 2018 commodity prices are a January to April 2018 monthly average.

See "Non-GAAP measures" and "Forward-looking statements and information."

# How Pembina will make money despite commodity cycles



	Natural Gas	LPG	Crude Oil and Condensate
High price (No Arb)	<ul style="list-style-type: none"> <li>✓ Volume increases on:                             <ul style="list-style-type: none"> <li>› Transmission Pipelines</li> <li>› Gas Services</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>✓ Marketing</li> <li>✓ Drives volumes on:                             <ul style="list-style-type: none"> <li>› Gas Services</li> <li>› NGL Services</li> <li>› Conventional Pipelines</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>✓ Conventional Pipelines</li> <li>✓ Oil Sands Pipelines</li> <li>✓ Marketing</li> </ul>
Low price (High Arb)	<ul style="list-style-type: none"> <li>✓ Jordan Cove LNG</li> <li>✓ Marketing (frac spreads)</li> <li>✓ Chicago – AECO differentials</li> </ul>	<ul style="list-style-type: none"> <li>✓ Prince Rupert LPG Export Terminal</li> <li>✓ PDH/PP Facility</li> <li>✓ Storage</li> </ul>	<ul style="list-style-type: none"> <li>✓ Storage</li> <li>✓ Marketing</li> </ul>

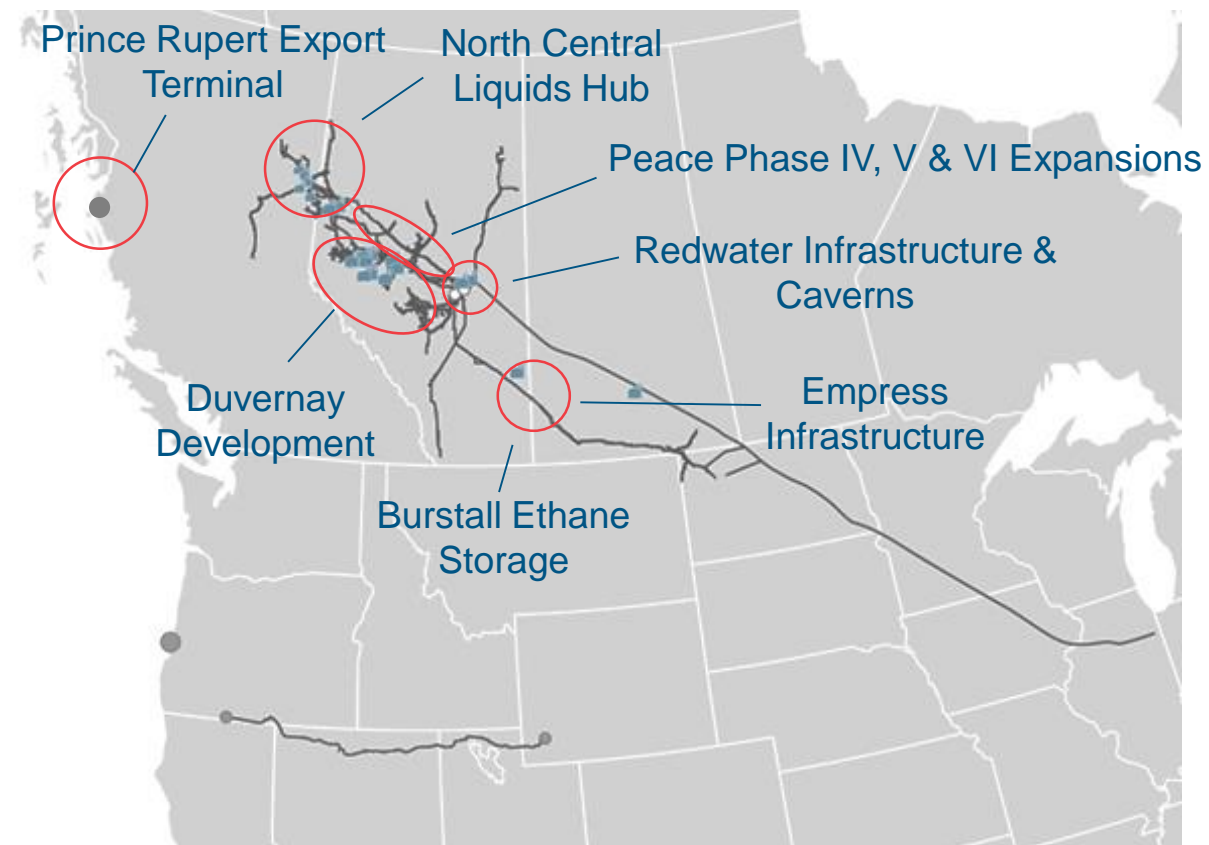
Natural hedges to commodity prices embedded in Pembina's business

# We continue to secure new projects



## Secured Growth Projects Under Construction

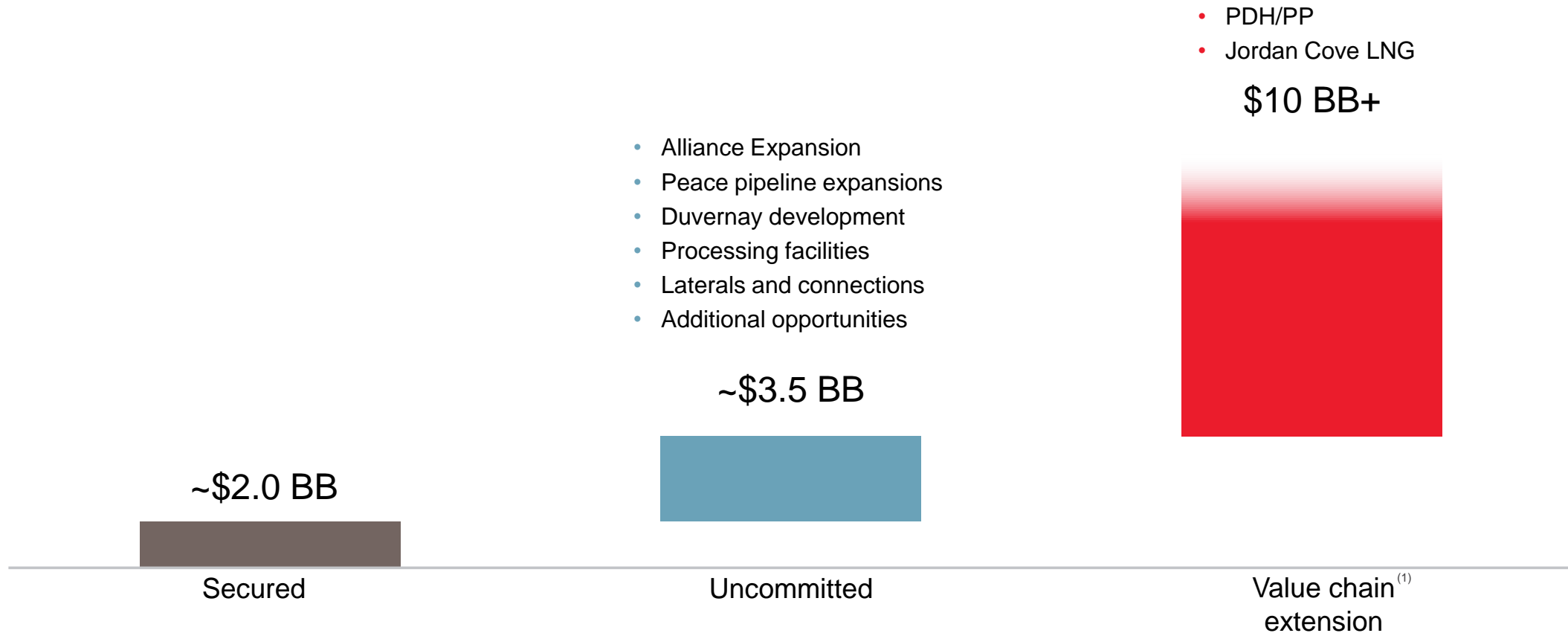
	In-service	Capital Cost <sup>(1)</sup> (\$MM)
Duvernay II	Mid to late 2019	\$290
Prince Rupert Export Terminal	Mid 2020	\$250
Burstall Ethane Storage	Late 2018	\$190
North Central Liquids Hub	Late 2018	\$150
Empress Infrastructure	Late 2020	\$120
Redwater Infrastructure	Various	\$118
Cavern Development	Throughout 2018	\$80
<b>Facilities Total</b>		<b>\$1.2 BB</b>
Phase IV & V	Late 2018	\$460
Phase VI	Early 2020	\$280
Other laterals	Various	\$20
<b>Pipelines Total</b>		<b>\$0.8 BB</b>
<b>Total</b>		<b>\$2.0 BB</b>



**\$2.0 billion in secured capital projects adding incremental EBITDA through 2020**

(1) Capital cost is shown as net to Pembina unless otherwise noted.  
See "Forward-looking statements and information" and "Non-GAAP measures."

# We are working on billions of dollars of new projects



Over \$15 billion of potential capital projects to address base business needs and global market access

(1) Assumes Pembina maintains a 60% ownership stake of Jordan Cove LNG, a 50% ownership of the Pacific Gas Connector Pipeline and a 50% ownership in PDH/PP. See "Forward-looking statements and information."

# We have delivered on-time and on-budget



Project	Completed on-time?	Completed on-budget?	Safety metric <sup>(1)</sup>		
			Man Hours	Travel (km)	LTI Frequency
<b>Pipelines</b>					
NEBC Expansion	On time ✓	On budget ✓	750,000+	2,900,000+	0.53
Phase III Expansion	On time ✓	Under budget ✓	7,300,000+	39,200,000+	0.18
Phase II Mainline Expansion	Slightly delayed	On budget ✓	1,400,000+	9,700,000+	0.13
Phase I Mainline Expansion	On time ✓	On budget ✓	320,000+	3,200,000+	0
Horizon Expansion	On time ✓	Under budget ✓	244,000+	1,500,000+	0
CDH	On time ✓	Under budget ✓	350,000+	1,200,000+	0
<b>Facilities</b>					
Duvernay I	Ahead of schedule ✓	Under budget ✓	149,000+	500,000+	0
Musreau III	Ahead of schedule ✓	Under budget ✓	134,000+	500,000+	0
Musreau II	Ahead of schedule ✓	Under budget ✓	200,000+	1,800,000+	0
SEEP	On time ✓	Under budget ✓	100,000+	1,000,000+	0
Saturn II	On time ✓	Under budget ✓	500,000+	150,000+	0
RFS III	Ahead of schedule ✓	Under budget ✓	580,000+	35,000+	0
RFS II	One quarter delayed	On budget ✓	1,140,000+	n.a.	0.35

Pembina has an exemplary track record of safe, on-time and on-budget project execution

(1) Project metrics for man hours, kilometers driven and lost-time injuries ("LTI") are based on contractors or sub-contractors only. See "Forward-looking statements and information" and "Non-GAAP measures."

# Veresen synergies are on track



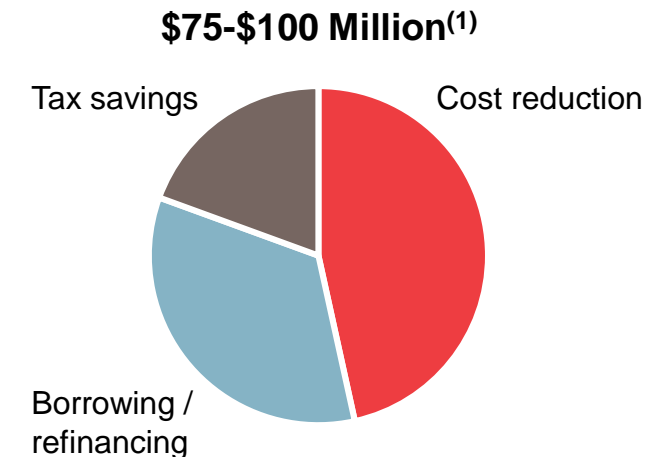
- New staff in Pembina offices two days after closing the transaction
- System integration successfully completed on January 1, 2018
- Accounting, including reorganization, completed in Q1 2018



- Re-contracted 95% of AEGS capacity under 20 year take-or-pay agreement at increased toll
- Transitioning to owner-operator model for Alliance and Aux Sable to enhance strategic alignment with owners and drive efficiencies
- Amended, extended and upsized Veresen Midstream credit facilities to reduce borrowing cost, enhance flexibility and enable additional cash distributions to Pembina
- Announced Alliance open season
- Announced North Central Liquids Hub



- Realization of synergies on-track and trending within expected range for 2018+



Veresen integration complete and synergy targets on-track

(1) Average over first 5 years.  
See "Forward-looking statements and information" and "Non-GAAP measures."

# Updated 2018 Adjusted EBITDA guidance



Previous 2018  
Adjusted EBITDA  
Guidance:

**\$2.55 - \$2.75**  
billion

- ✓ Utilization continues to increase in both the Pipelines and Facilities divisions
- ✓ Rising commodity prices are driving marketing upside
- ✓ Hedged ~60% of frac spread throughput for 2018

Updated 2018  
Adjusted EBITDA  
Guidance:

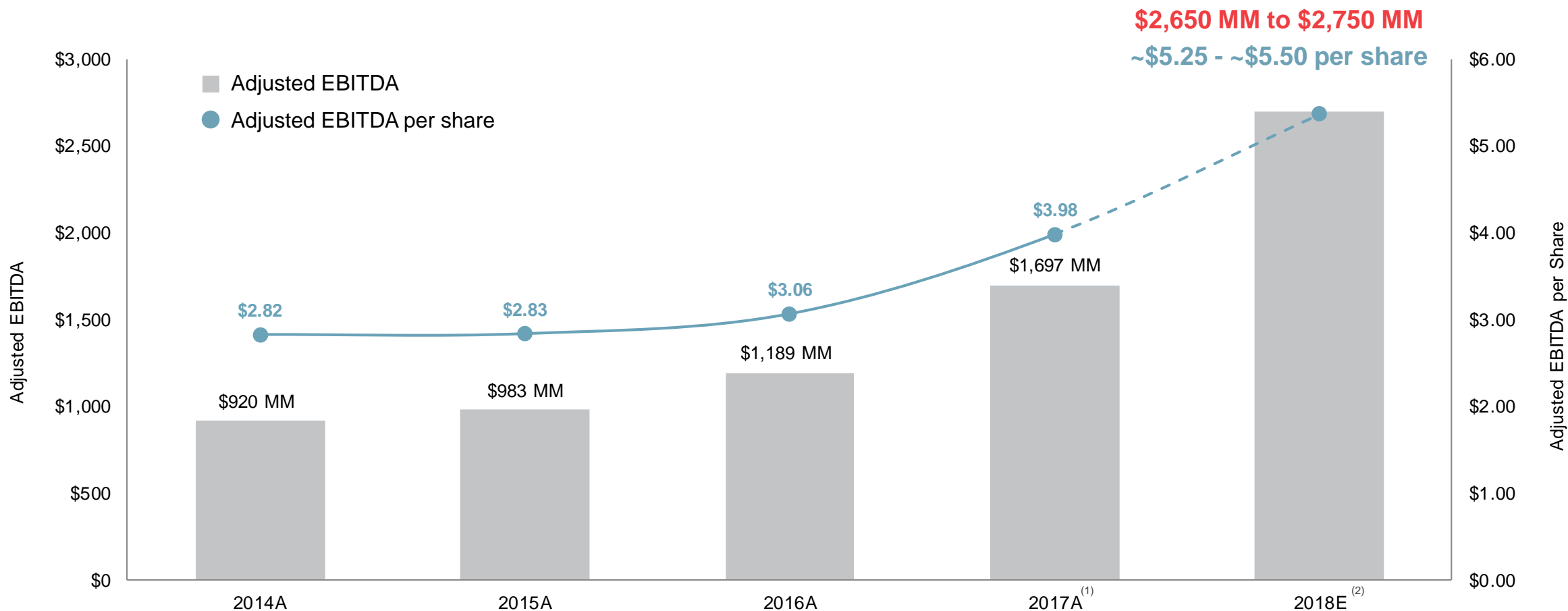
**\$2.65 - \$2.75**  
billion

Strong start to the year supports raising bottom end of our 2018 guidance range

# Transformational growth is generating record financial results



Adjusted EBITDA and Adjusted EBITDA per share



Pembina has delivered on its promises and created a stronger foundation for long-term growth

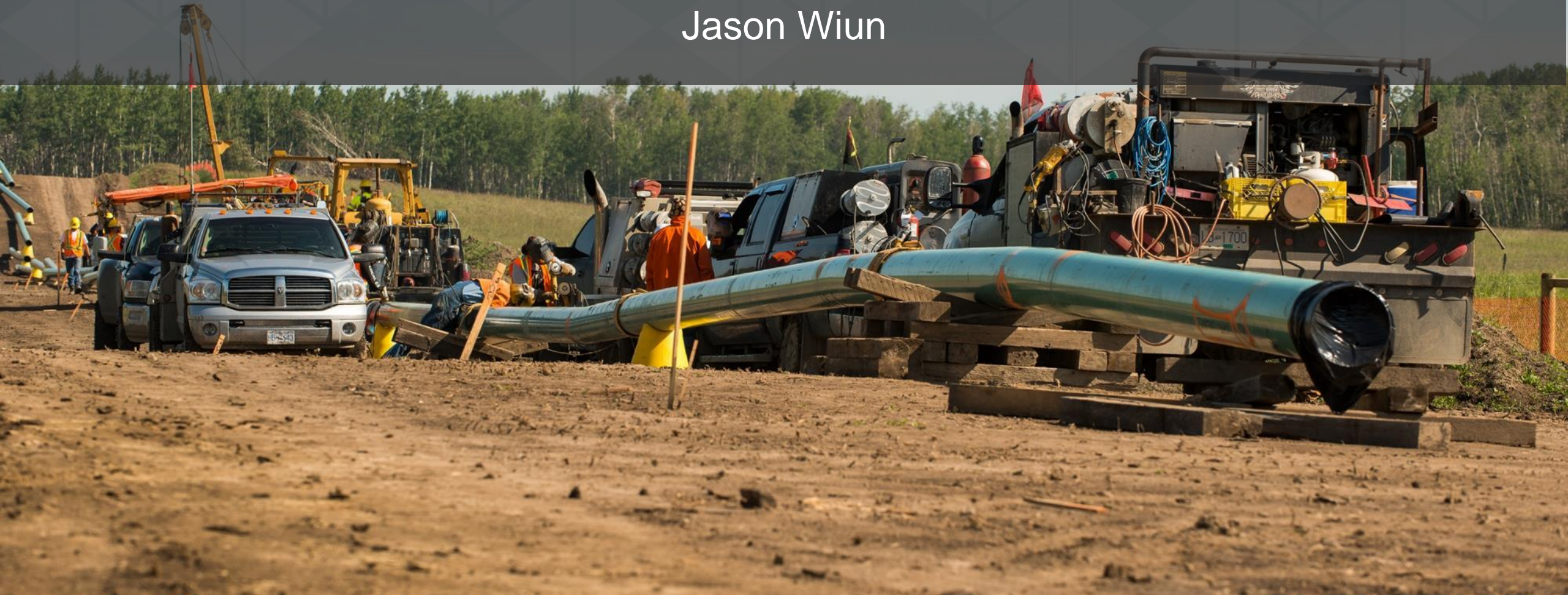
(1) 2017 Adjusted EBITDA and Adjusted EBITDA per share have been restated for the adoption of IFRS 15. See "Forward-looking statements and information" and "Non-GAAP measures."

(2) 2018 forecasted Adjusted EBITDA and Adjusted EBITDA per share for Pembina reflects proportionate consolidation of equity accounted investments. Based on 503 million common shares outstanding as at March 31, 2018.

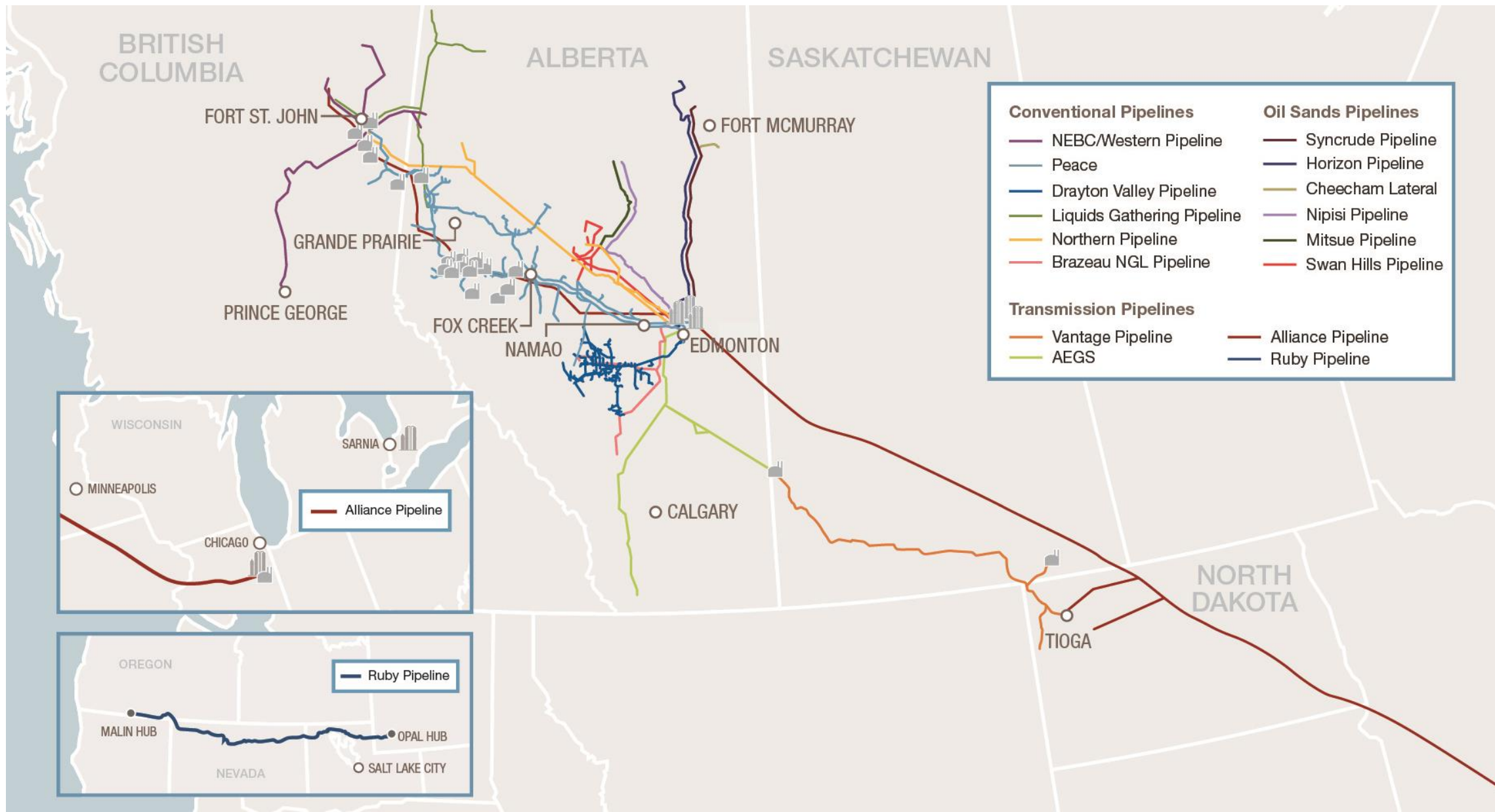


# Pipelines Division Overview

Jason Wiun

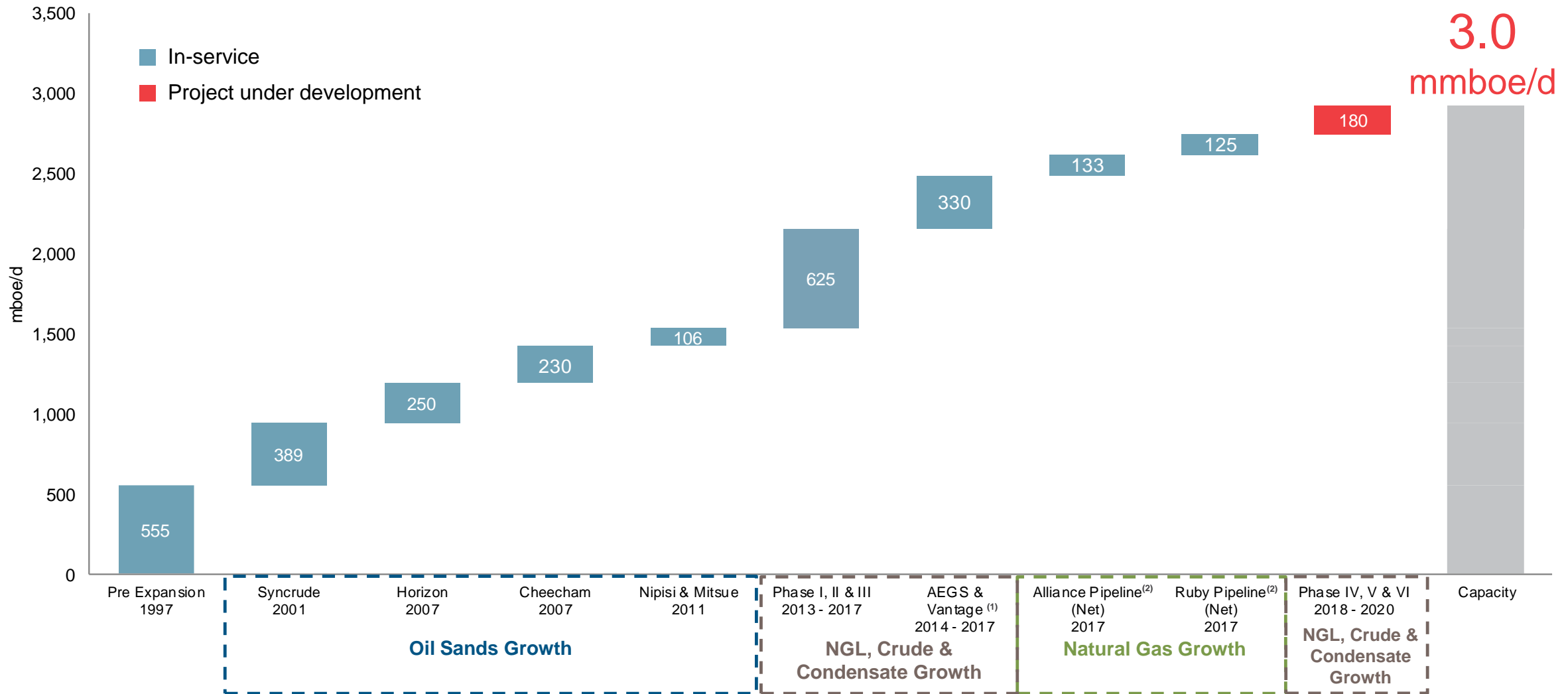


# Pipelines Division assets



# Pipeline transportation

## Net pipeline capacity through time



**Total hydrocarbon transportation capacity set to reach ~3 mmboe/d**

(1) Pembina's 68 mbpd Vantage ethane pipeline is a key supply source for AEGS, and feeds into the total system capacity. See "Forward-looking statements and information."

(2) Alliance Pipeline and Ruby Pipeline capacities are presented net to Pembina and converted to mboe/d (thousands of barrels of oil equivalent per day) from million cubic feet per day (mmcf/d) at 6:1 ratio.

# Pipelines Division update

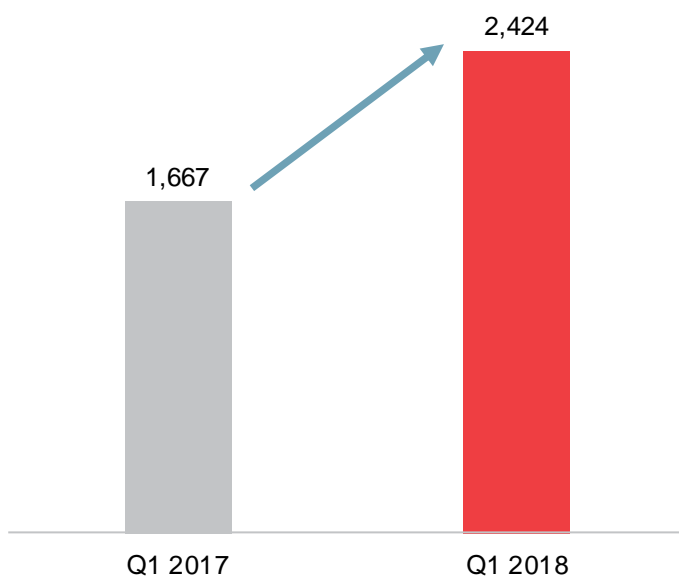


## Revenue volumes (mboe/d)<sup>(1)</sup>

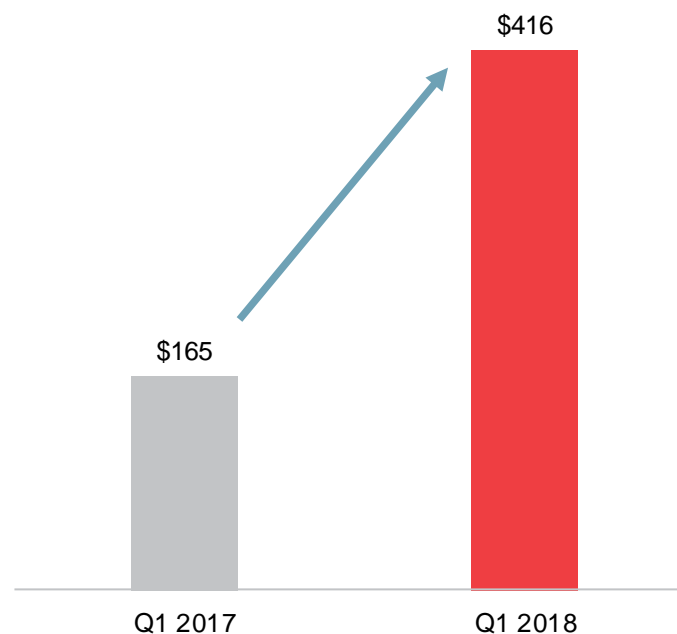
## Operating margin (\$MM)

## 2017 and Q1 2018 highlights

Y-o-Y increase of 45%



Y-o-Y increase of 152%



### 2017 Highlights

- Record annual revenue volumes (**2,304 mboe/d**)<sup>(1)</sup>
- Record operating margin (**\$947 MM**)<sup>(1)</sup>
- Another year of safe and reliable operations

### Q1 2018 Highlights

- Revenue volumes continue to ramp up from previous Conventional Pipeline expansions placed into service in 2017 (**2,424 mboe/d in Q1 2018**)
- Advancing Phase IV and V for late 2018 in-service with continued producer demand underpinning a Phase VI expansion (~\$740 MM total capital under development)
- Volume growth on expansion projects meeting expectations in the quarter
- Alliance demand very strong in Q1 due to wide spread from AECO to Chicago
- Consistent oil sands results

**Solid operational and financial performance + revenue volume ramp up from 2017 in-service growth projects**

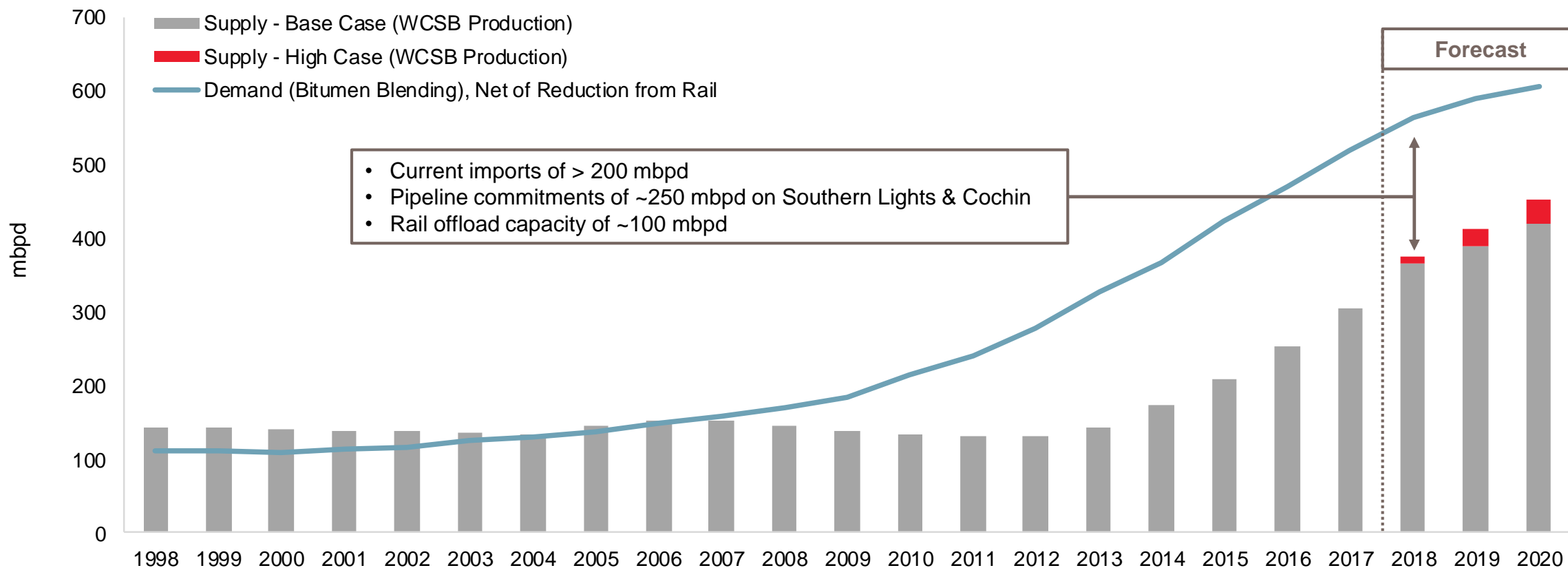
(1) Revenue volumes are equal to physical volumes plus volumes recognized from take-or-pay commitments. 2017 revenue volumes and operating margin have been restated for the corporate reorganization effective January 1, 2018.

See "Forward-looking statements and information" and "Non-GAAP measures."

# Producer drilling is being driven by condensate demand



## Western Canadian condensate supply and demand



## Reliance on imported condensate creates long runway for domestic condensate production

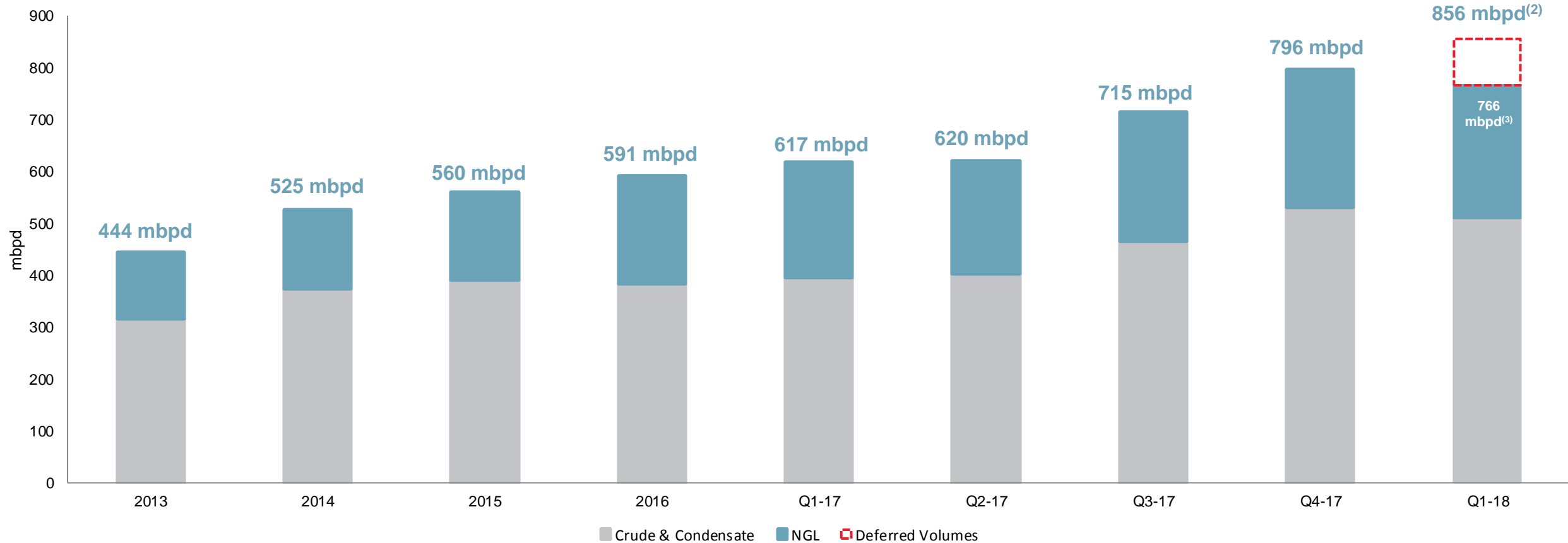
(1) Peters & Co estimates, AER, Geoscout, company reports. Assumes no incremental blending with synthetic oil above current levels, and incorporates reduction in condensate demand from increased use of rail to move heavy blend (assumes volumes of 150 mbpd of heavy by 2017 and 250 mbpd by 2020).

Source: Peters & Co. Winter 2018 Oil and Gas Overview. See "Forward-looking statements and information."

# Our liquids pipelines are filling up



Conventional Pipelines revenue volumes<sup>(1)</sup>



Pembina's Conventional Pipeline business continues to see strong system volume growth

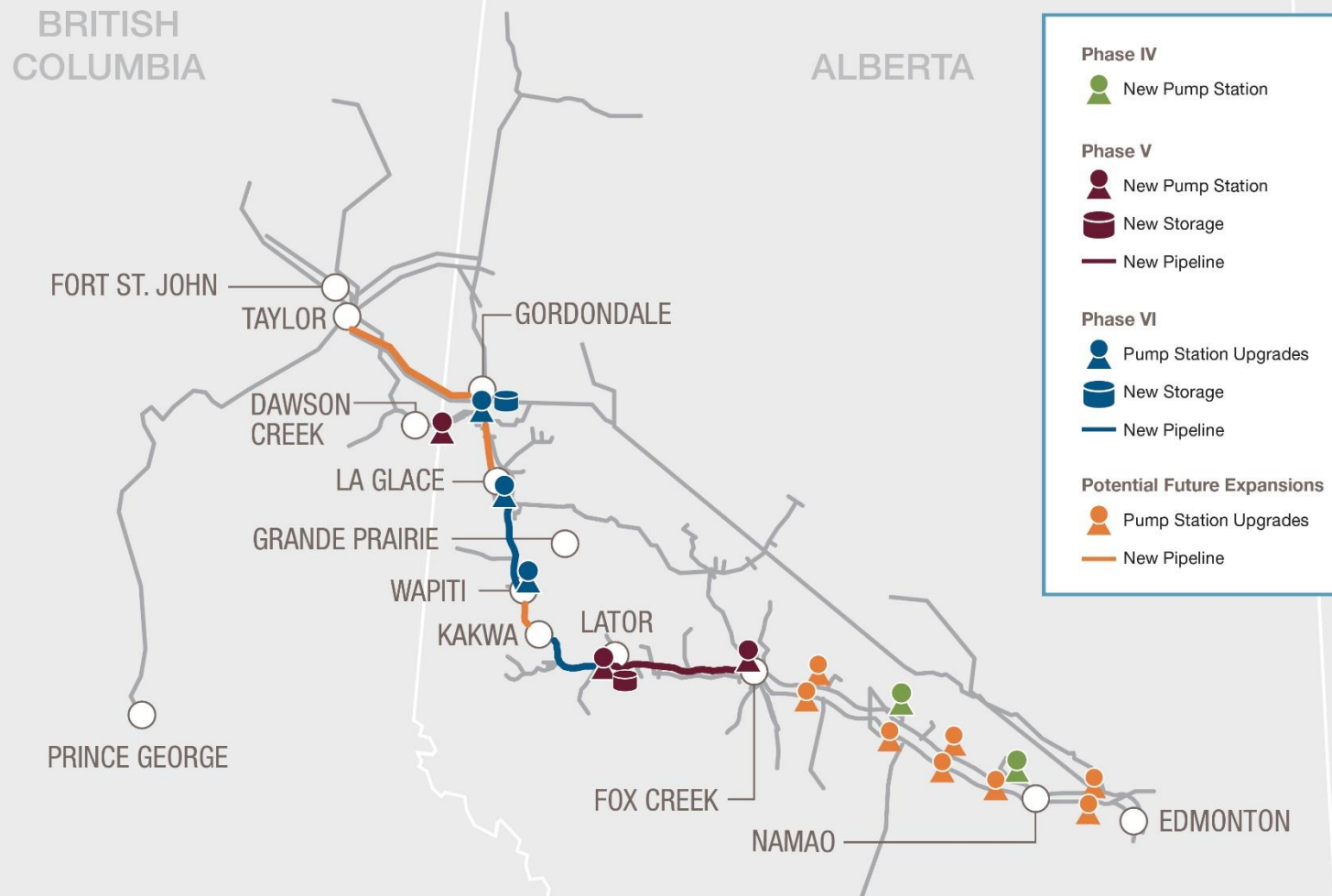
(1) 2013-2017 volumes have been restated to remove Swan Hills and Vantage Pipeline revenue volumes.

(2) Q1 2018 revenue volumes plus volume impact of IFRS 15 deferred revenue volumes.

(3) As reported in Q1 2018 Interim Report.

See "Forward-looking statements and information."

# Demand supports continued Peace build out



- ~1.1 mbpd of Edmonton area market delivery (includes Phase IV) capacity
- Market delivery capacity can be further expanded to at least 1.3 mbpd through the addition of pump stations
- Peace expansions supported by long-term contracts with current peak firm volume commitments reaching ~835,000 bpd in 2019<sup>(1)</sup>
- Ability to move quickly to meet customer demands

Including Phase IV, Pembina will have ~1.1 mbpd of capacity for delivery into the Edmonton area market

(1) Firm contracts as at May 14, 2018 and only include commitments for the Peace and Northern systems. See "Forward-looking statements and information."

# Conventional Pipelines

## Phase IV and Phase V Expansions



### Project overview

- Phase IV: \$75 million
  - › Two pump stations will be added from Fox Creek to Namao and will increase capacity in that area by ~180 mbpd
  - › Further expansions possible through additional pump stations
  - › Civil construction 50% complete and mechanical design 100% complete
- Phase V: \$385 million
  - › 90 km, 20" pipeline increases capacity between Lator and Fox Creek by ~260 mboe/d and provides access to downstream capacity
  - › Mechanical construction underway and detailed design 75% complete
- Projects underpinned by long-term take-or-pay contracts and expected to be in-service in late 2018

Progressing Peace expansions to support growing volumes from the Montney, Deep Basin and Duvernay



# Conventional Pipelines

## Phase VI Expansion

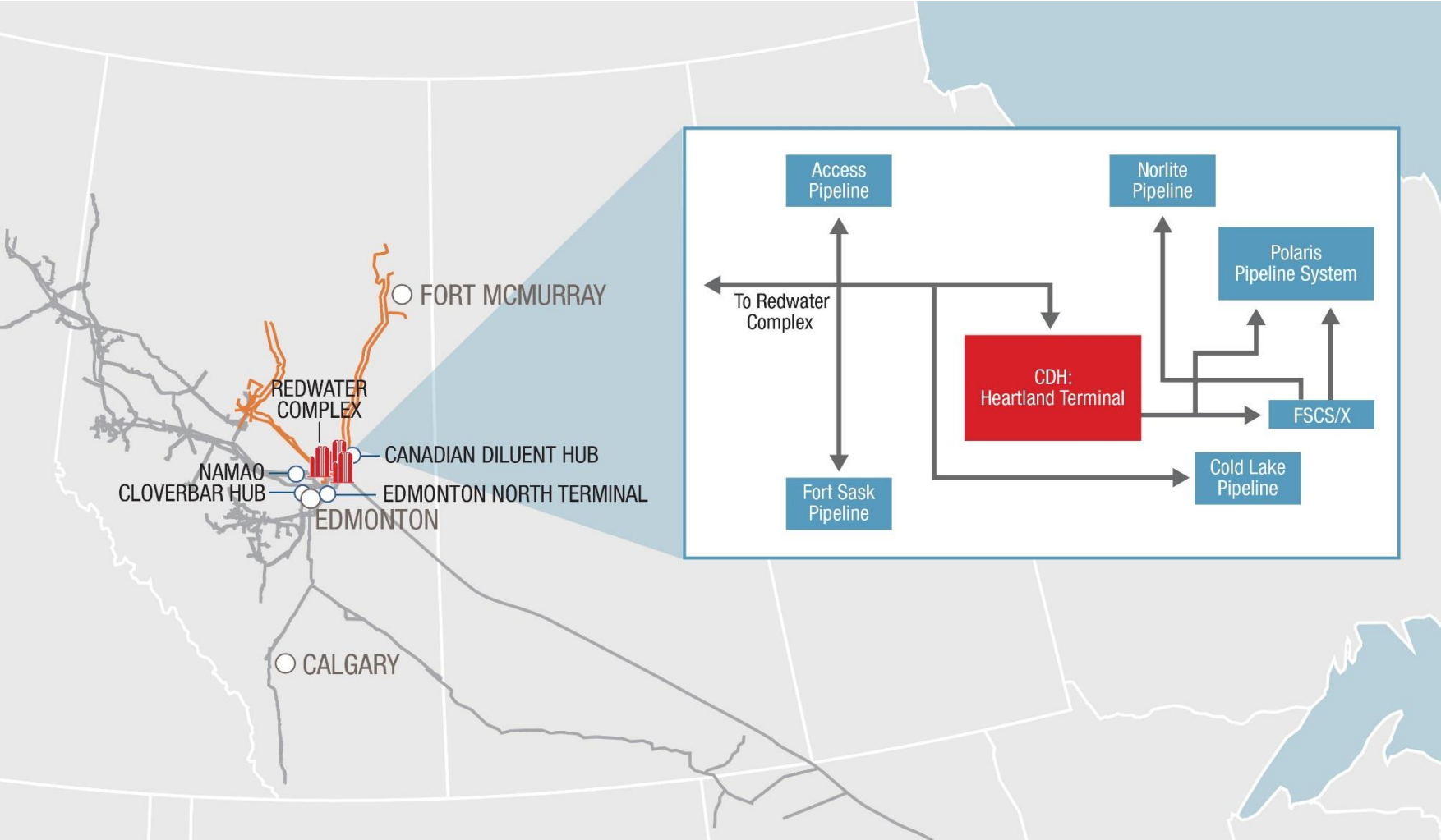


### Project overview

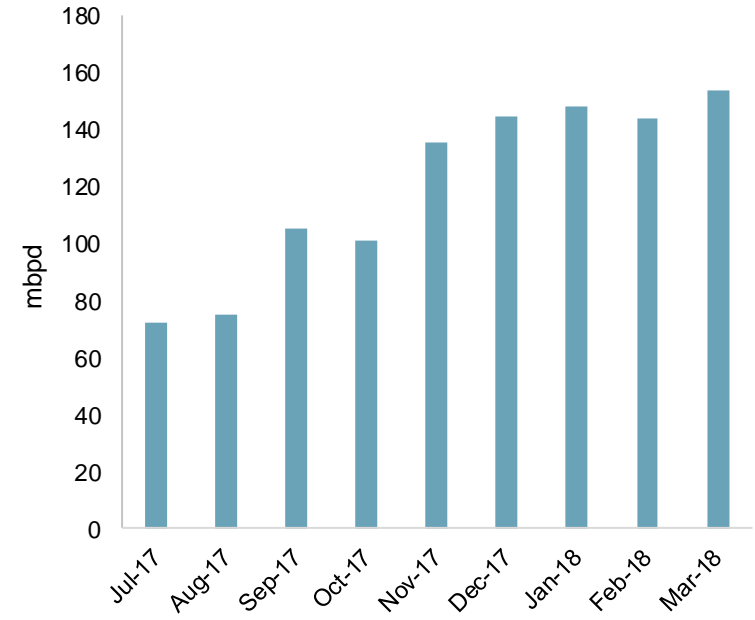
- Phase VI supports continued producer drilling in the Montney, Duvernay and Deep Basin plays
- Total expected capital ~\$280 MM
- Project entails:
  - › Gordondale upgrades
  - › Laglace to Wapiti new 16" pipeline and associated pump station upgrades
  - › Kakwa to Lator new 20" pipeline
- Currently progressing FEED and procuring long lead deliverables
- Expected to be placed into service in early 2020

Ongoing customer demand drives recently announced Phase VI pipeline expansion

# CDH is well-positioned and interconnected to drive value<sup>(1)</sup>



CDH volume summary



- CDH volumes have increased by ~115% since it was placed into service in July 2017

**CDH is strategically located, creating a competitive advantage for condensate deliveries, and it is easily expandable**

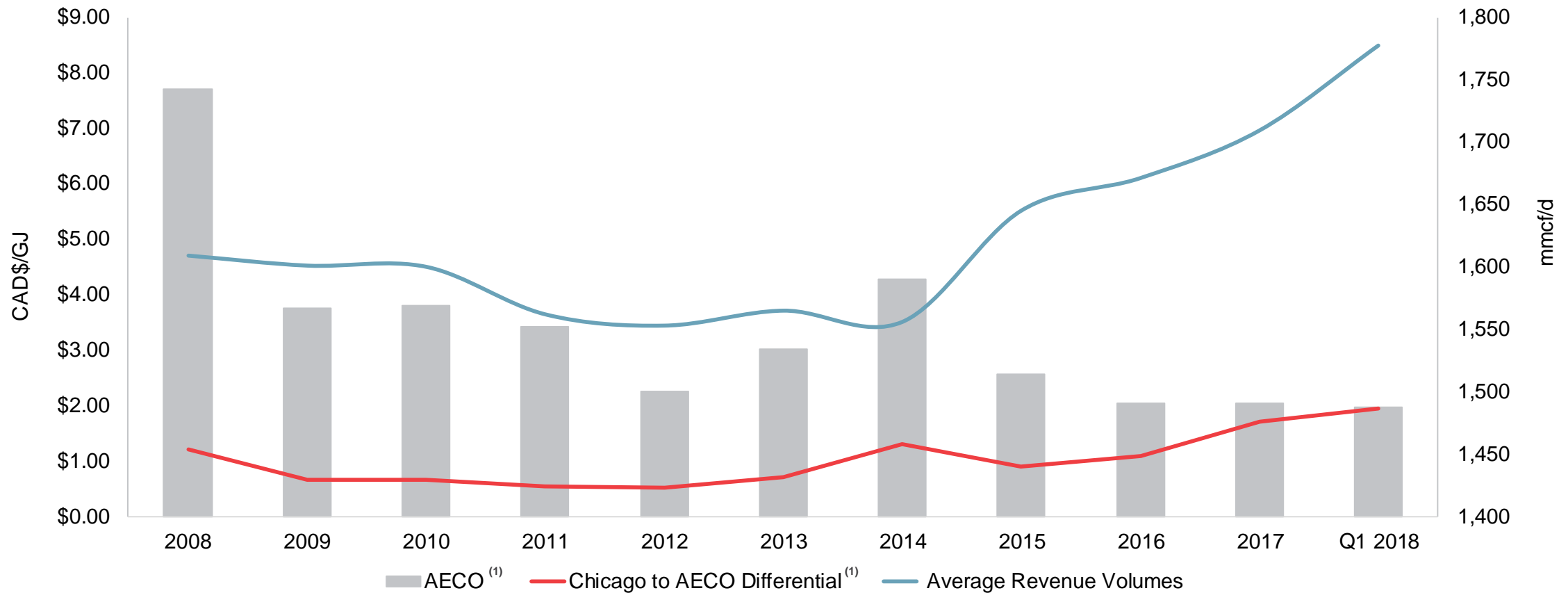
(1) Canadian Diluent Hub is denoted as ("CDH").  
See "Forward-looking statements and information."

# Transmission Pipelines

## Alliance Pipeline



### Alliance Pipeline utilization



Alliance Pipeline has shown high utilization rates in all commodity price environments

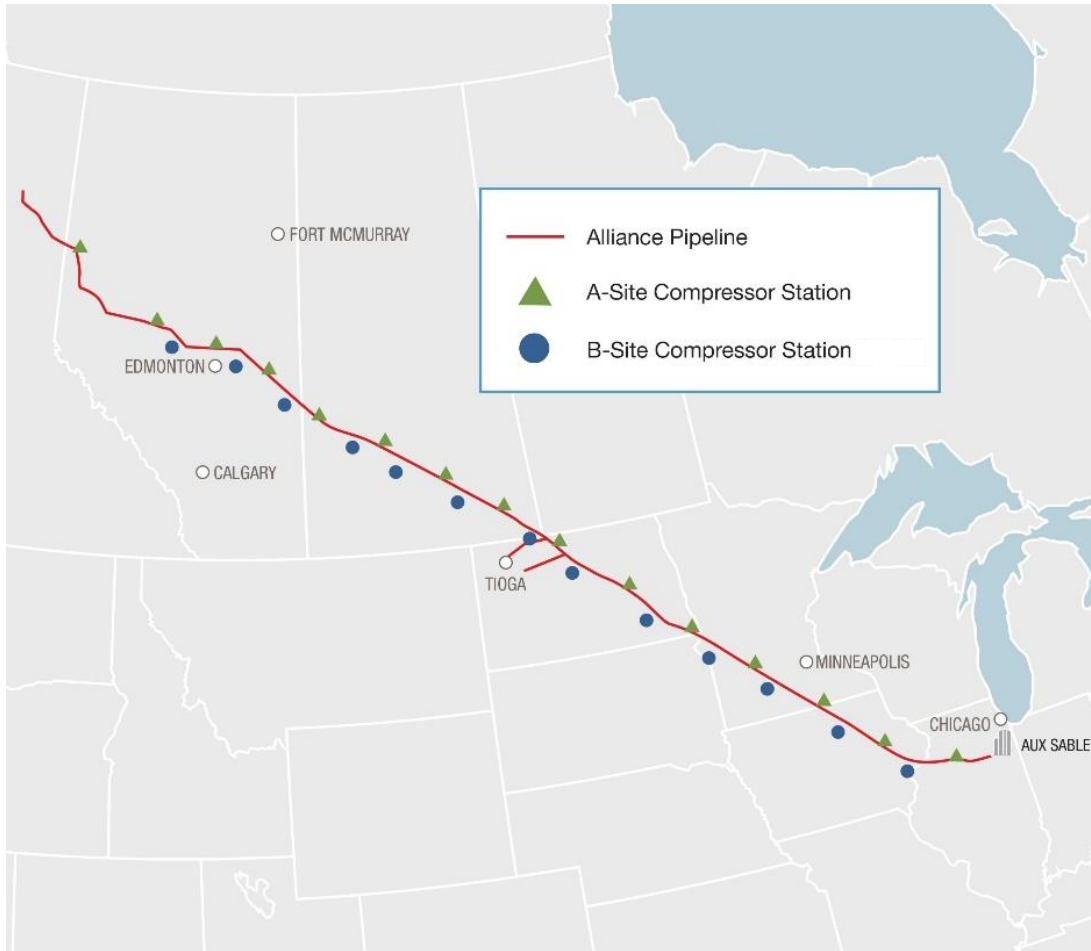
(1) Source: Bloomberg; Natural Gas Intelligence.  
See "Forward-looking statements and information" and "Non-GAAP measures."

# Transmission Pipelines

## Proposed Alliance Expansion



### Project overview



### Expansion details

- Binding open season for expansion capacity commitments closes on May 31, 2018
- Available for existing and prospective shippers
  - › Minimum term of 15 years
  - › Take-or-pay, firm contracts
- Expected capital cost of ~\$2 billion (gross), ~\$1 billion net to Pembina
- Pursuing long-term re-contracting of existing capacity

### Key activities in 2018 to date

- Announced expansion open season on an incremental 400 MMcf/d of capacity
- Kicked off early regulatory, land and environmental engagement
- Progressing front-end engineering to support final investment decisions

### Future milestones

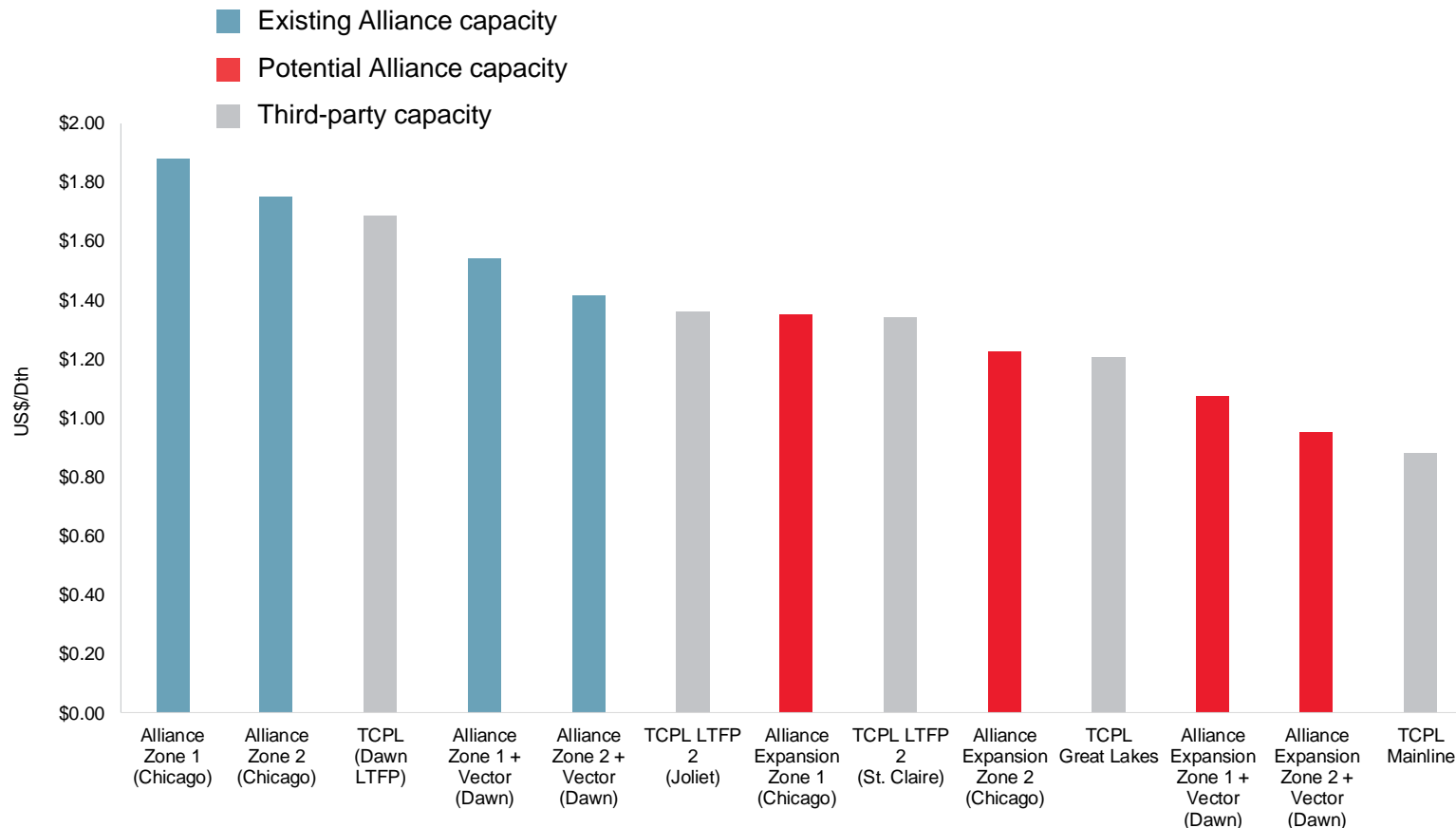
- Final investment decision expected in late 2018, pending open season results
- Expansion would be in-service in late 2021, subject to regulatory and environmental approvals

Potential to expand customer access into the premium Chicago gas market

# Alliance delivers premium netbacks



## Natural gas transportation - illustrative shipper netbacks<sup>(1)</sup>



## Competitive advantages

- Access to both the premium Chicago market and the Dawn market
- Delivery to the large Chicago market and downstream access
- Flexibility to transport liquids-rich natural gas
- Competitive on a shipper netback basis to both Chicago and Dawn markets
- Over 99% reliability in 2017
- Fixed toll provides cost certainty to customers

Alliance is a competitive egress option to Chicago and Dawn markets

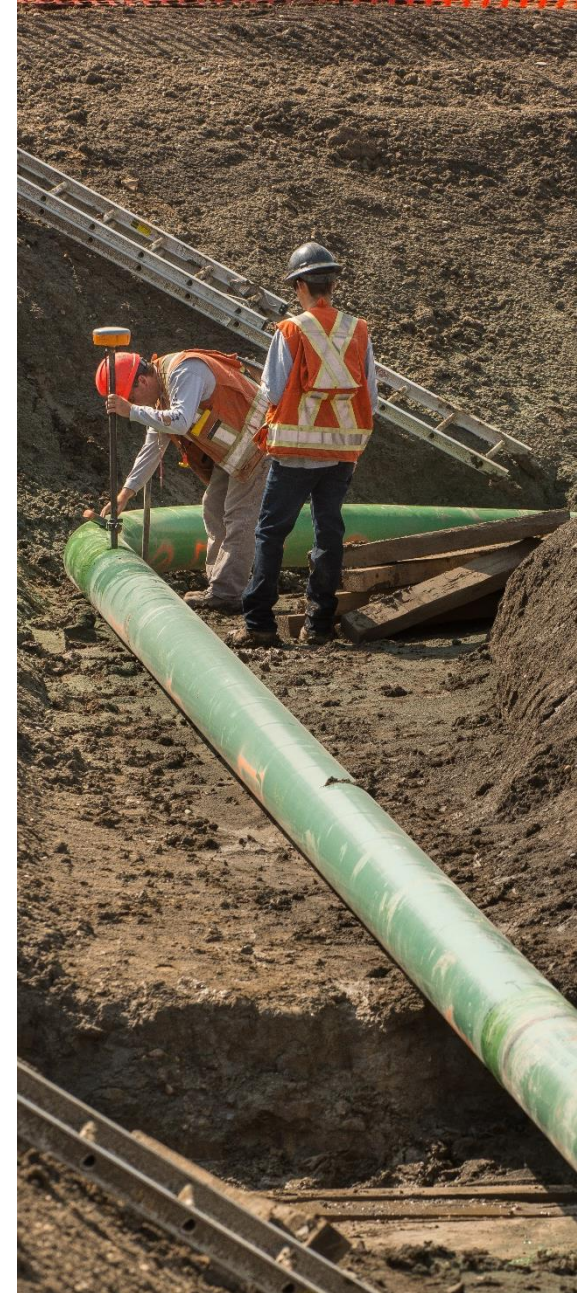
(1) Tolls sourced from Alliance and TransCanada toll calculator as at May 9, 2018. Gas prices sourced from Bloomberg. Netbacks from portions of British Columbia connected to third-party egress via NGTL would result in a reduction in shipper netback.

See "Forward-looking statements and information."

# Pipelines Division outlook

## Outlook

- Record revenue volumes in Q1 2018 of 2,424 mboe/d
  - › Conventional throughputs continue to grow in line with contractual commitments and existing capacities
  - › Demand for Transmission Pipelines remain strong (AECO-Chicago gas price differential continues to drive strong volumes on Alliance)
  - › Oil sands system volumes continue to strengthen supported by low-risk, largely investment grade counterparties who ship high-value synthetic crude (not WCS)
- Producers are focusing on the high netback high liquids plays which continues to drive increasing gas and liquids volumes in the WCSB
  - › Supports long term growth of the Pipelines Division assets, particularly Peace, Northern, Alliance and CDH



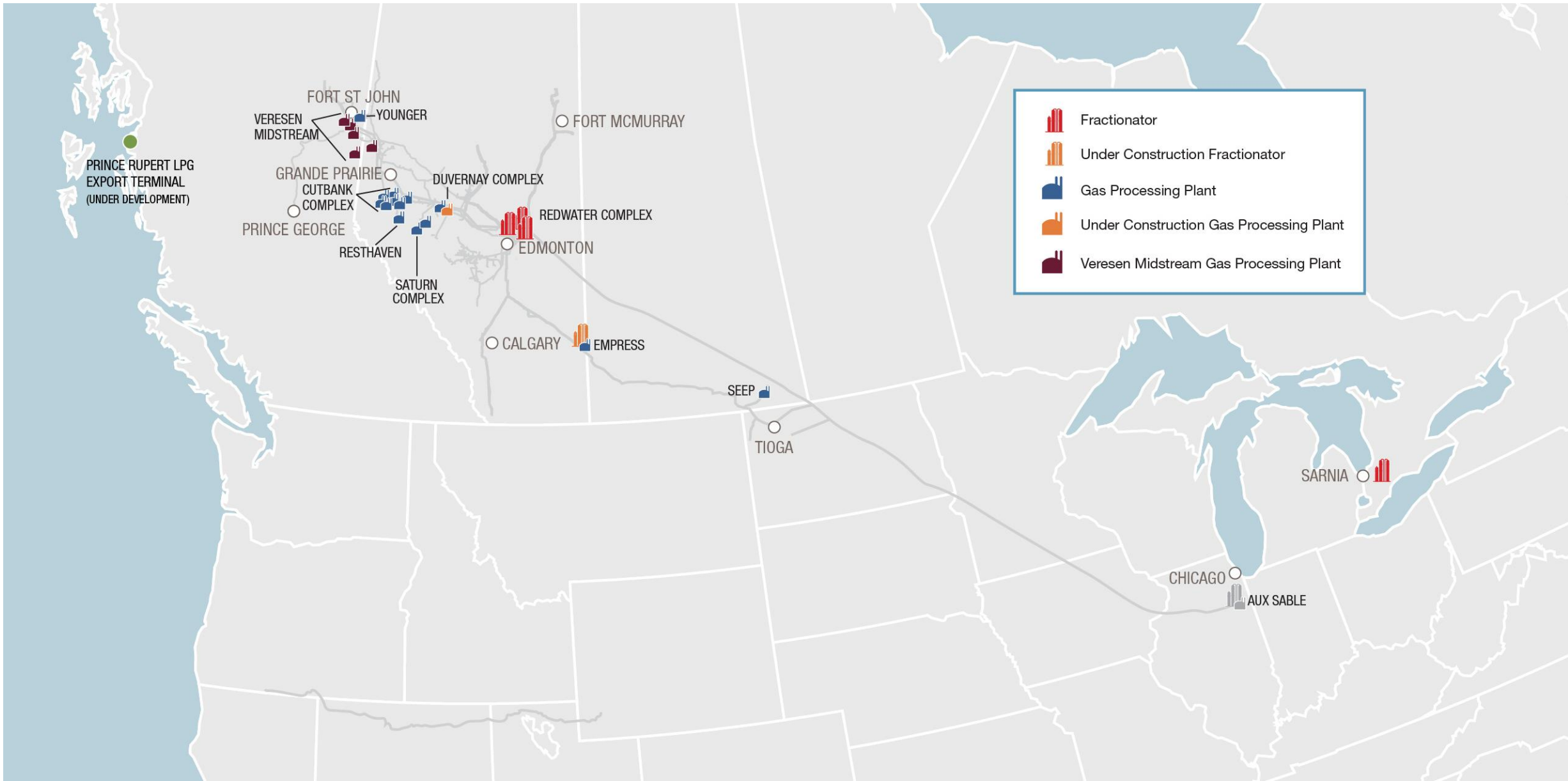
Producer activity continues to support strong demand for our Pipeline services

# Facilities Division Overview

Jaret Sprott



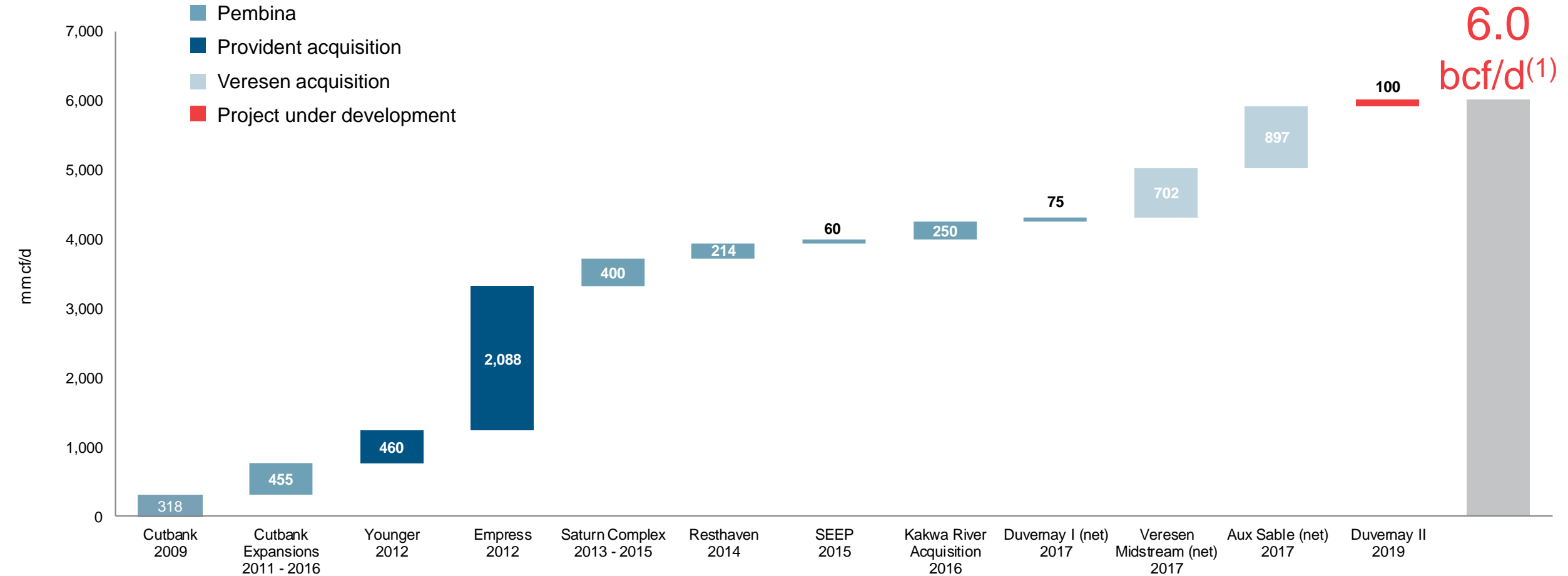
# Facilities Division assets





# Largest third-party gas processor serving the WCSB

## Net processing capacity

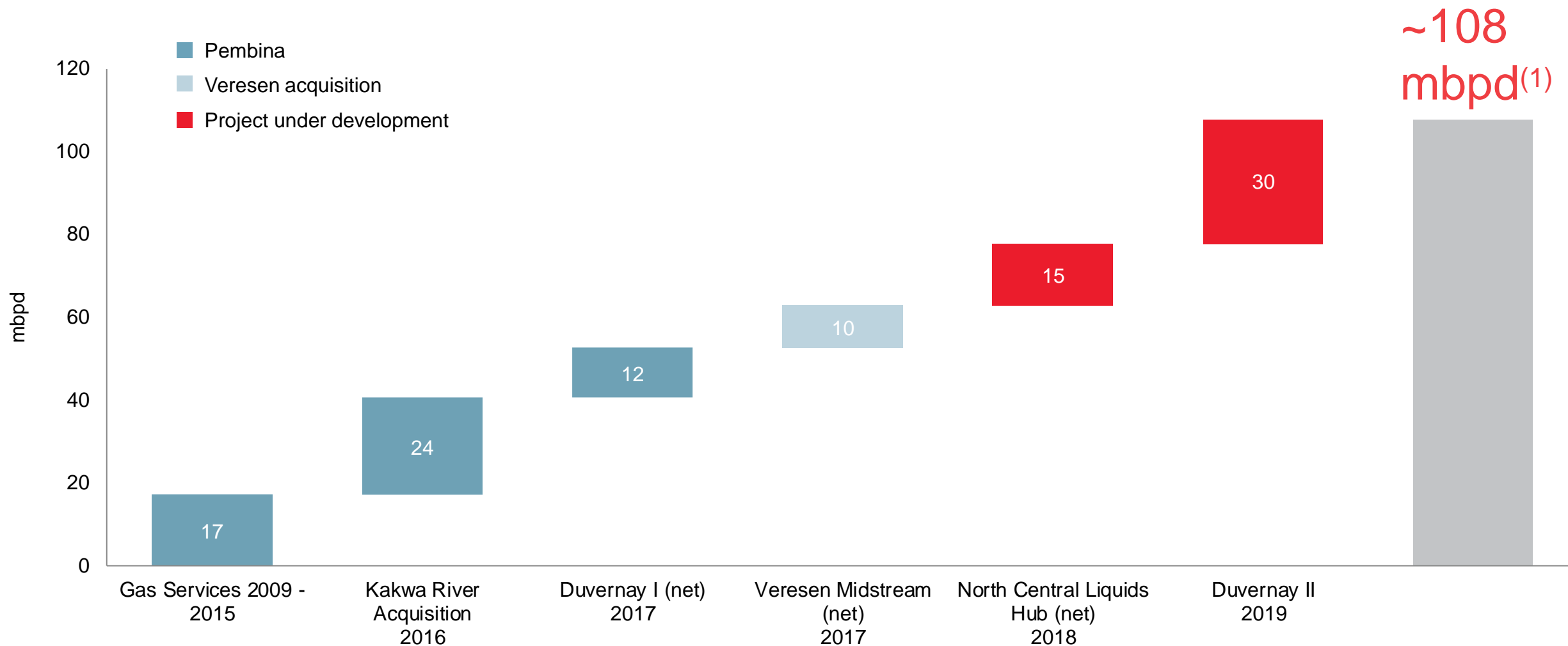


Large-scale field processing asset base complemented by strategically-located mainline extraction plants

(1) All capacities are shown as net to Pembina unless otherwise noted. See "Forward-looking statements and information."

# Growing condensate stabilization capacity

Net field based condensate stabilization

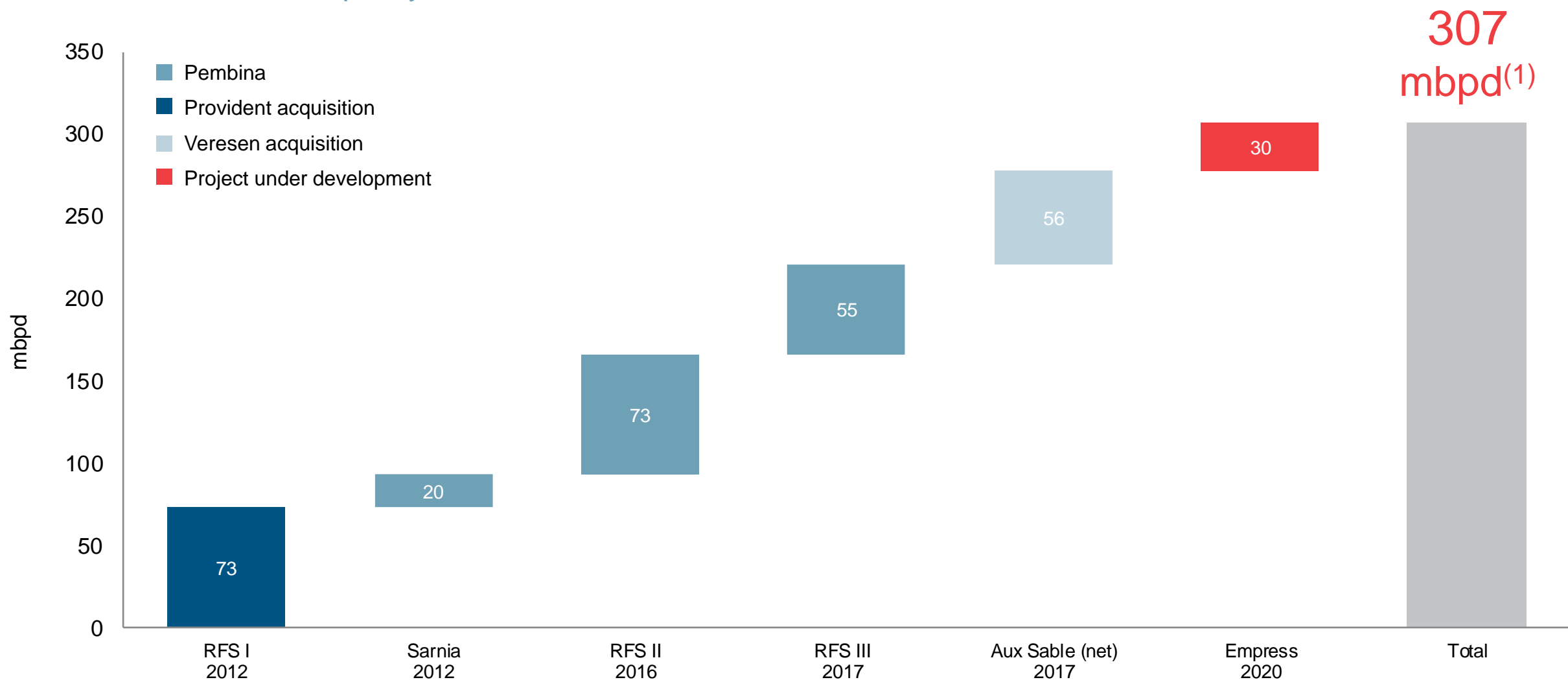


Geological diversification has resulted in facility diversification

(1) All capacities are shown as net to Pembina unless otherwise noted. See "Forward-looking statements and information."

# Largest fractionation capacity serving the WCSB

Net fractionation capacity

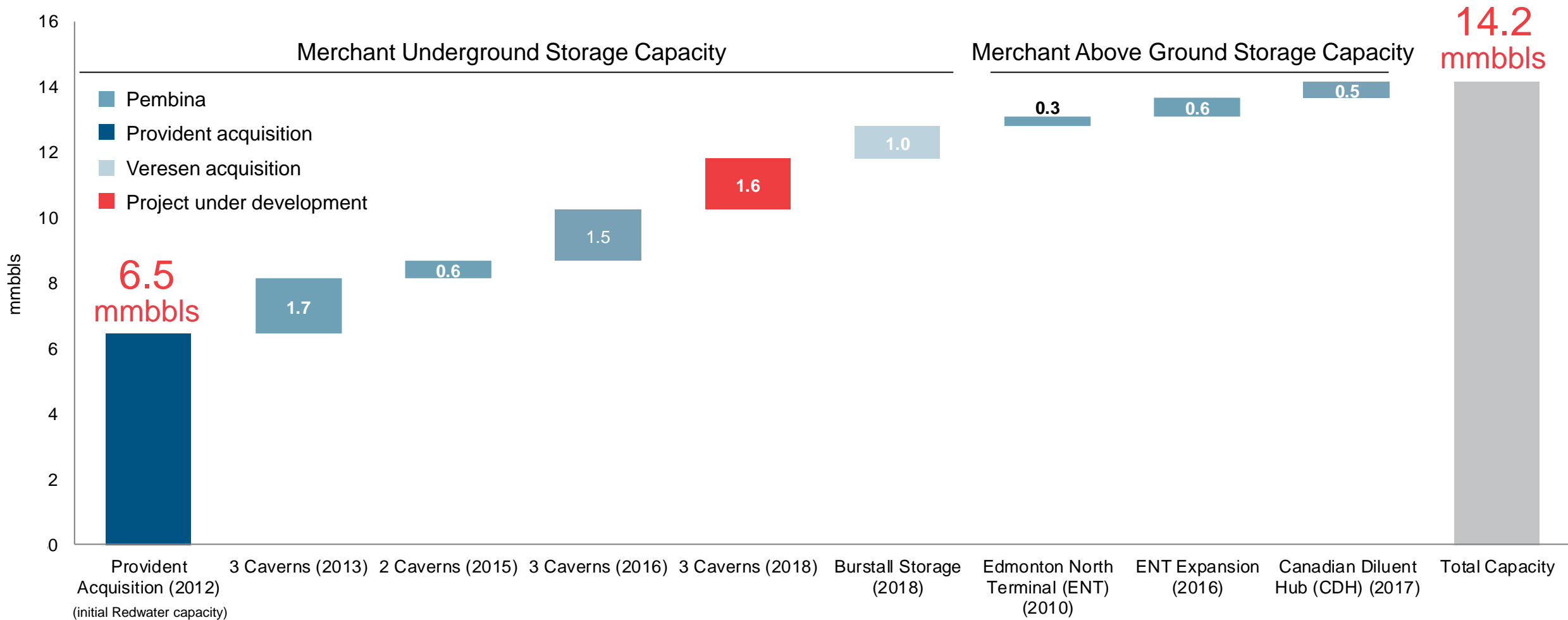


**~300+ mbpd of NGL fractionation capacity across premier liquids markets: Alberta, Sarnia and US midcontinent**

(1) All capacities are shown as net to Pembina unless otherwise noted. See "Forward-looking statements and information."

# Significant hydrocarbon storage capacity

Net storage capacity



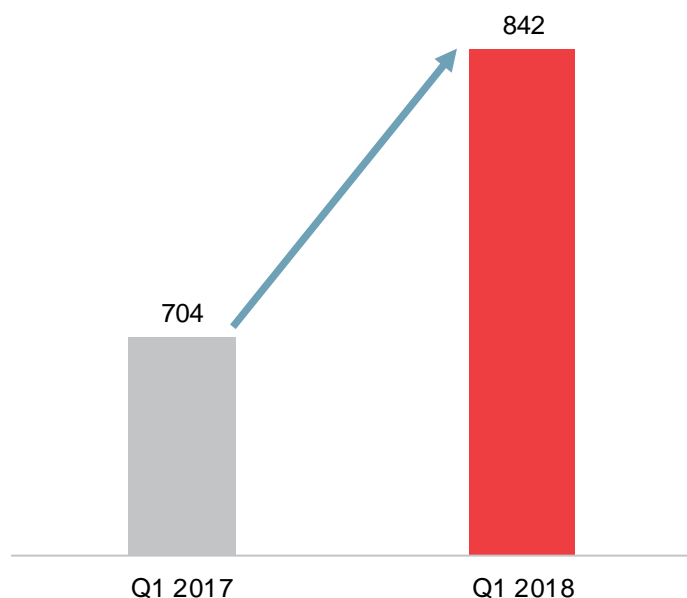
One of Canada's largest storage owners

# Facilities Division update



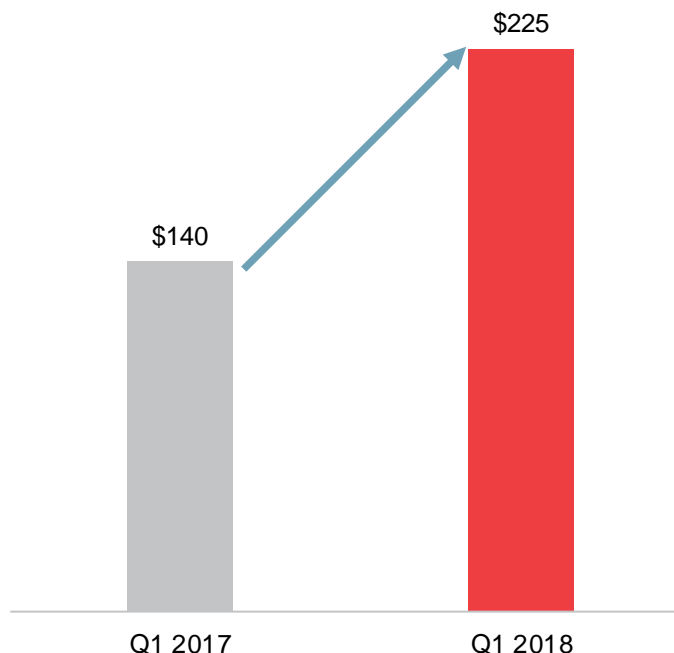
## Revenue volumes (mboe/d)<sup>(1)</sup>

Y-o-Y increase of 20%



## Operating margin (\$MM)

Y-o-Y increase of 61%



## 2017 and Q1 2018 highlights

### 2017 Highlights

- Record annual revenue volumes (**746 mboe/d**)<sup>(1)</sup>
- Record operating margin (**\$597 MM**)<sup>(1)</sup>
- Another year of safe operations across all facilities
- Commissioned 150 mboe/d<sup>(2)</sup> of gross processing capacity with the Duvernay I Facility and the Midstream Partnership facilities → **in aggregate, under budget and on or ahead of schedule**

### Q1 2018 Highlights

- Revenue volumes are strong with 842 mboe/d in Q1 2018 driven by new assets acquired or placed into service and higher spot volumes during 2017 and 2018

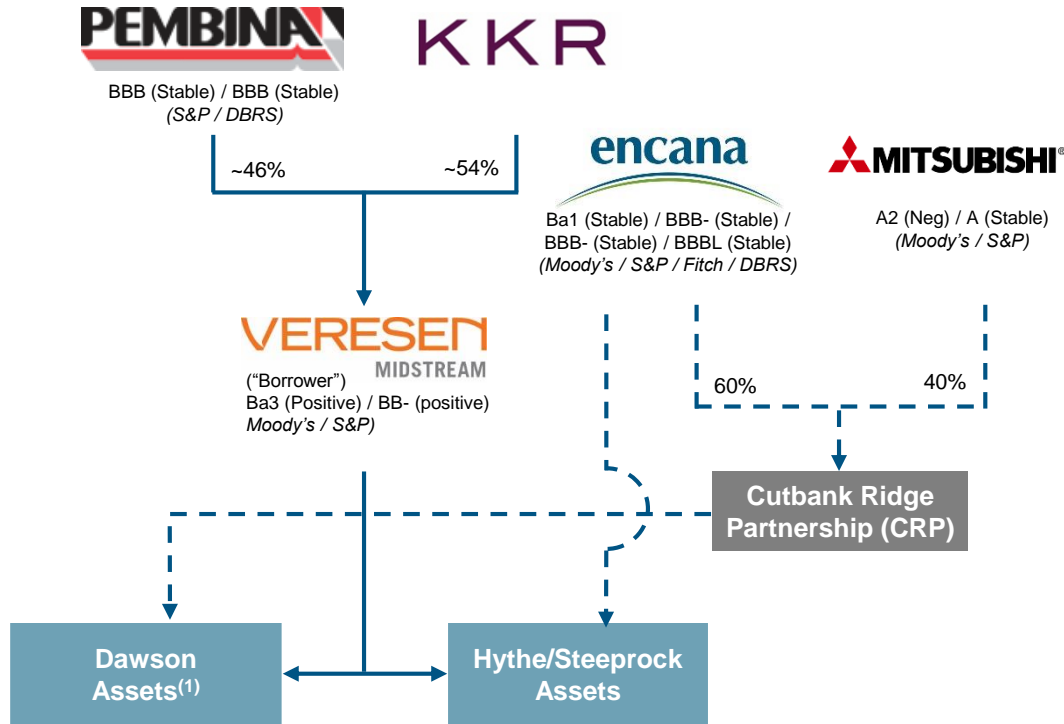
**Solid operational and financial performance + revenue volume ramp up at newly in-service assets**

(1) Revenue volumes are equal to contracted and interruptible volumes. 2017 revenue volumes and operating margin have been restated for the corporate reorganization effective January 1, 2018.

(2) Natural gas volumes converted from mcf/d to boe/d at a ratio of 6:1.

See "Forward-looking statements and information" and "Non-GAAP measures."

# Midstream Partnership: highly secured asset base



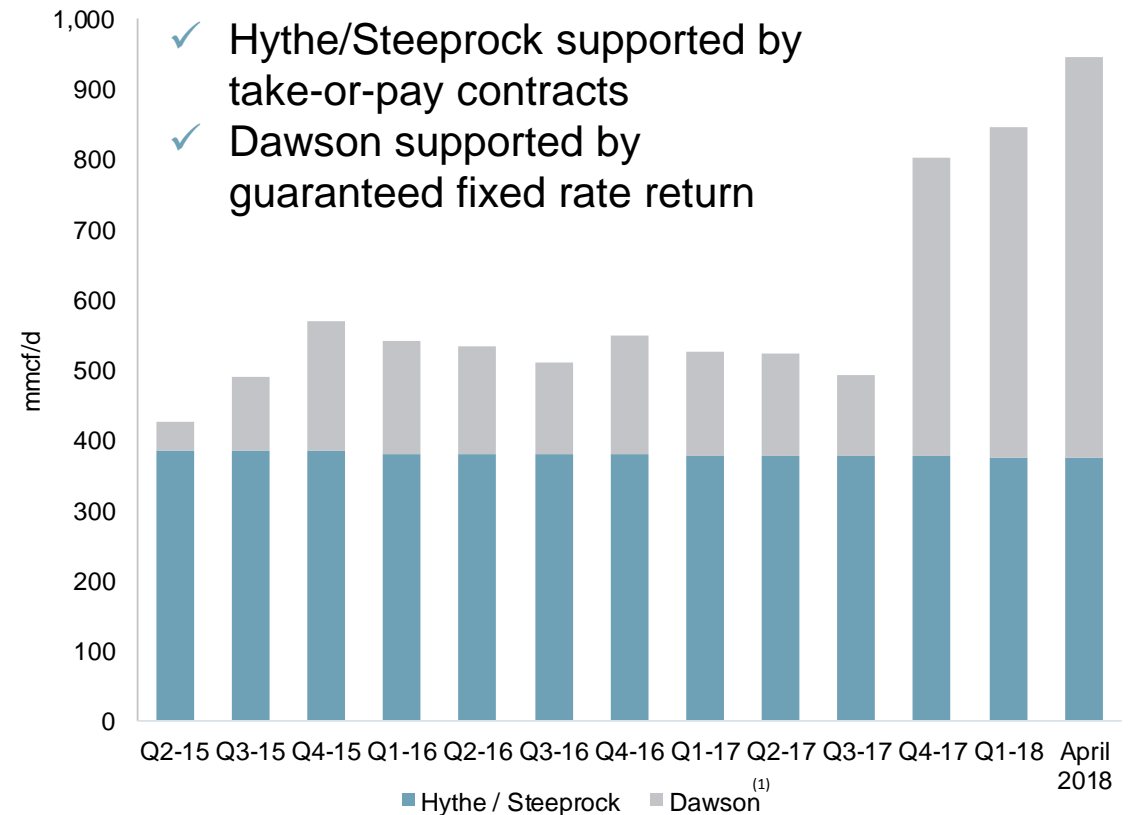
**Contract Highlights:**

- > Fee-for-service through 2044
- > Acreage dedication
- > Contractual guarantees
- > 8 year simple payout
- > Fee resets on pipe
- > Opex flow through

**Contract Highlights:**

- > Take-or-Pay through 2031
- > Capital recovery through ROIC formula
- > Opex flow through subject to performance band

## Revenue volumes

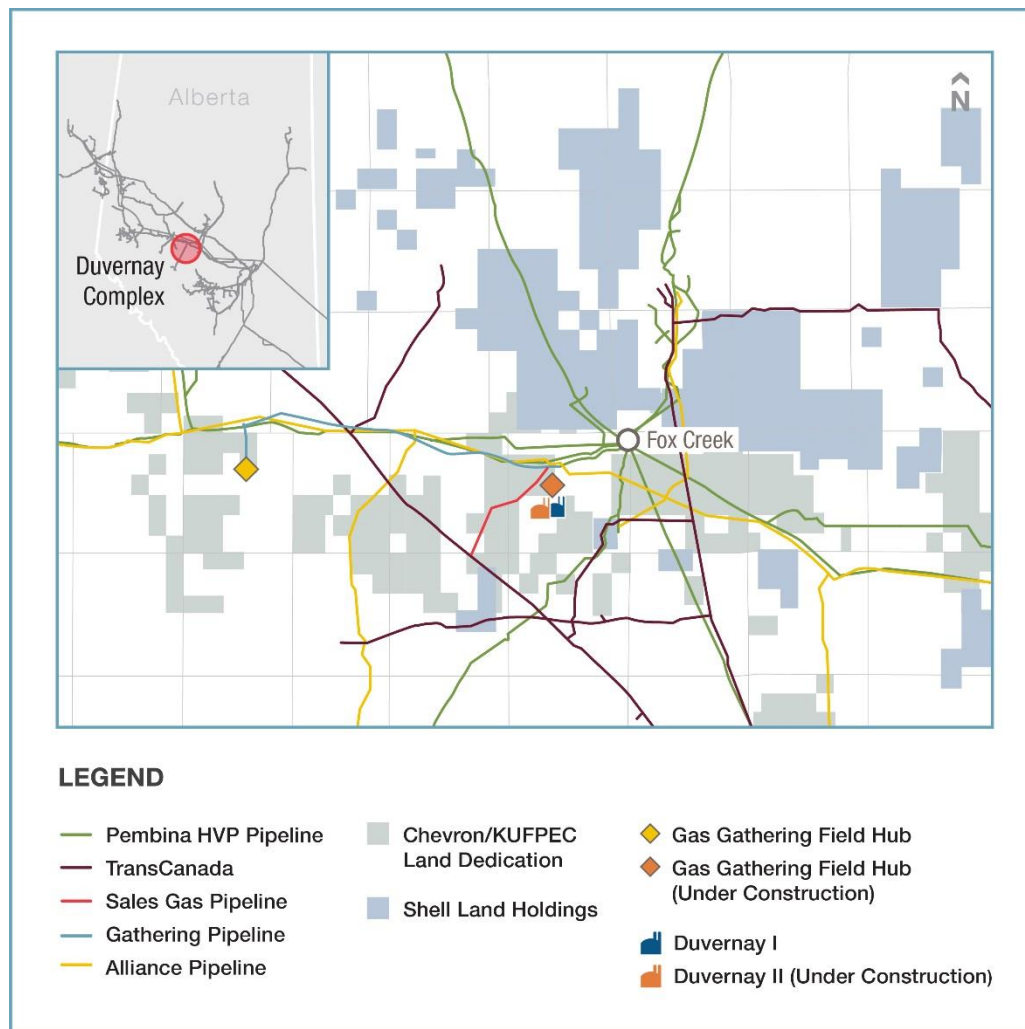


Significant recent ramp up of revenue volumes from new assets placed into service

(1) Dawson assets include: Sunrise, Tower and Saturn gas plants.  
See "Forward-looking statements and information" and "Non-GAAP measures."

# Gas Services

## Duvernay II



### Project overview

- Developing first tranche of infrastructure under the 20-year agreement with a significant area of dedication across Chevron and KUFPEC's Duvernay land base
- Pembina will develop and construct:
  - › Raw product separation and water removal infrastructure
  - › Condensate stabilization with ~30 mbpd of handling capacity
  - › Duvernay II 100 mmcf/d shallow cut gas plant (replica of Duvernay I)
  - › 10-inch condensate lateral
- Underpinned by 20 year fee-for-service and fixed-return arrangements
- Completed FEED and commenced detailed engineering
- Estimated capital cost of \$290 MM and expected to be placed in-service mid to late-2019<sup>(3)</sup>
- Pipeline transportation and fractionation agreements also executed

Pembina has substantially increased our competitive position in the Duvernay

(1) Lands shown on the illustrative map are based on current public data; not all lands are dedicated exclusively to Pembina.  
(2) Subject to gas compositions.

(3) Subject to regulatory and environmental approval.  
Source: IHS AccuMap. Map is for illustrative purposes only. See "Forward-looking statements and information."

# Midstream Partnership

## North Central Liquids Hub



### Project overview

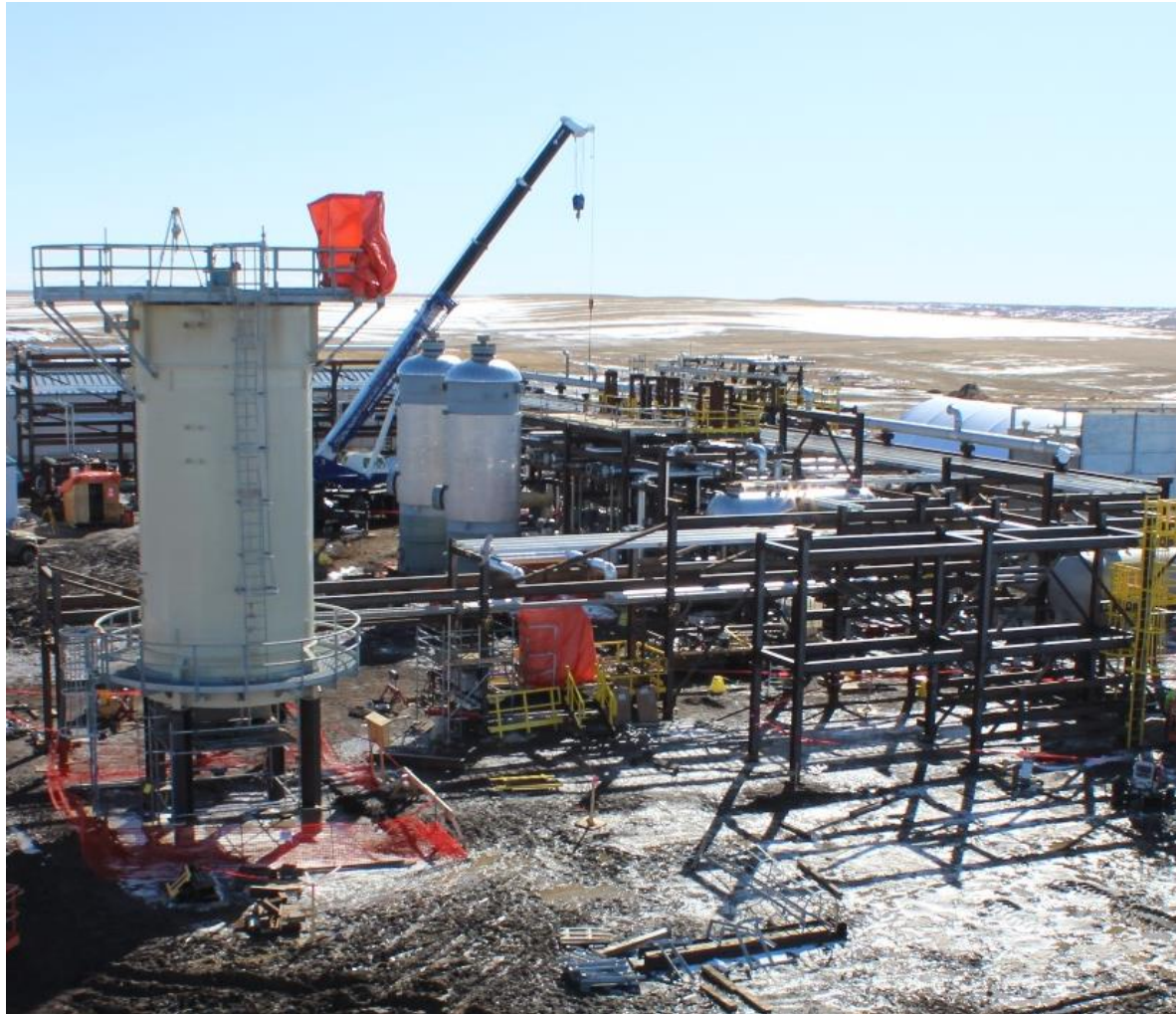
- Supports operations of CRP within the world-class Montney resource play
- Will provide separation and stabilization of increased condensate volumes from the CRP to support the Saturn and Sunrise gas plants
- Estimated net capital cost is \$150 MM and is expected to be placed into service in late 2018
- Can be further expanded to serve the future requirements of CRP as well as other potential third-party producers
- Will connect into Pembina's pipeline system
- Tanks erected and all pipelines within facility complete
- Trending ahead of schedule and under budget

Supporting growing liquids rich development in the world-class Montney formation



# NGL Services

## Burstall Ethane Storage Cavern



### Project overview

- Salt cavern ethane storage facility with a capacity of ~1 million barrels
- Expected in-service date of late 2018 at an estimated cost of ~\$190 MM
- Pipeline connected to key regional ethane pipelines owned by Pembina
- Underpinned by a 20-year firm contract with NOVA Chemicals
  - › Provides valuable operational storage, mitigating potential supply disruptions to Alberta petrochemical facilities
- Overall construction is 75% complete

1 million barrel ethane storage project supporting Alberta's petrochemical industry

# NGL Services

## Empress Fractionation



### Project overview

- Constructing fractionation and terminalling facilities at Empress, Alberta
- ~30 mbpd of propane-plus capacity will be added to the Empress East system
- Repurposing existing assets for depropanization and constructing a new debutanizer and a finished product treating facility
- Adding propane rail loading and butane truck terminalling services
- Expected in-service date of late 2020 at an estimated cost of \$120 MM, subject to environmental and regulatory approval
- Will provide increased NGL volumes and market optionality, as well as enhanced propane supply access which could further support the Prince Rupert terminal and proposed PDH/PP facility
- Detailed engineering commenced in April 2018

Increased Alberta NGL market optionality and further supporting Pembina's propane feedstock growth projects

# NGL Services

## Prince Rupert Export Terminal



### Project overview

- Developing a Prince Rupert LPG Export Terminal with an expected capital cost of \$250 million
- Permitted up to ~25 mbpd of LPG export capacity
- Site features sheltered berth, adequate existing dock infrastructure and well-established rail connections between Redwater, AB and Watson Island, BC
- Offers efficient shipping routes to the Americas and Asia
- LPG will largely be sourced from Pembina's Redwater Complex
- Secured a long-term export permit
- Commenced detailed engineering and award early works contracts
- Site remediation is currently underway
- Expected to be in-service in mid-2020, subject to regulatory and environmental permitting

Prince Rupert export terminal will provide our customers with international market access

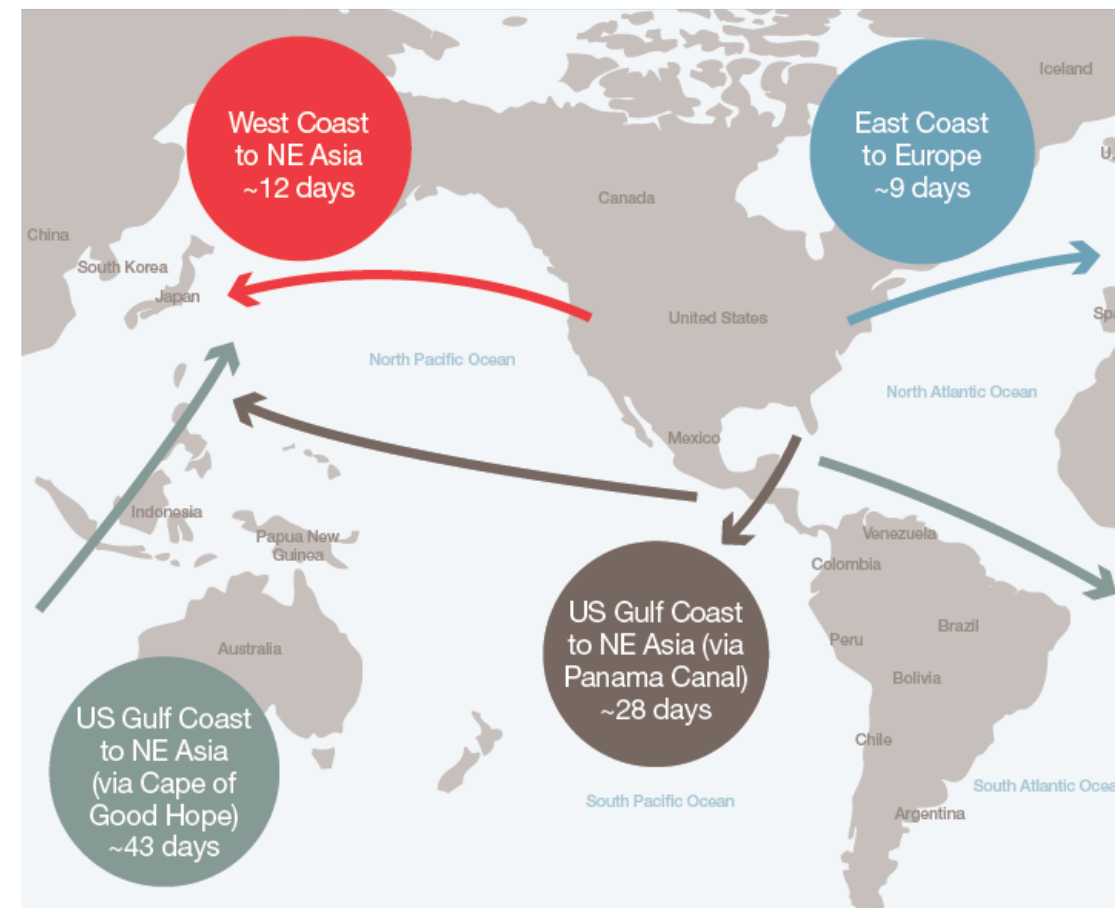
# Prince Rupert is competitively located to export LPG



## LPG export terminal opportunity

- Global opportunity
  - › Growing North American production and robust international market demand
- Decline of traditional markets
  - › Eastern Canada and US expected to be supplied by growing US production
- Canadian upstream development shift
  - › Gas-weighted firms are reliant on NGL production
- Advantageous position
  - › West coast provides advantageous shipping routes to numerous markets

## Illustrative shipping considerations<sup>(1)</sup>



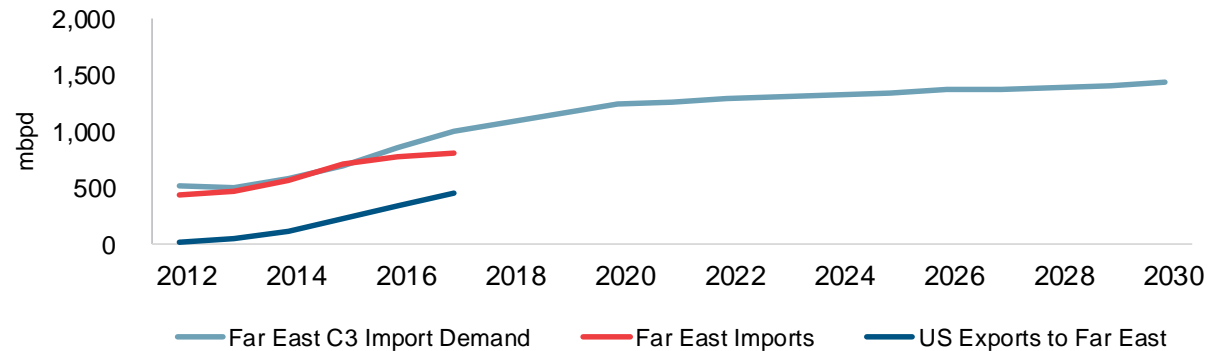
Propane export terminal will extend Pembina's value chain and secure international market access

(1) Illustrative shipping days are based on one way trip. See "Forward-looking statements and information."

# LPG export creates value for our customers



## Propane import demand & historical waterborne supply<sup>(1)</sup>



- Demand for propane in the Americas and Asia has been growing and is forecast to continue growing
- US LPG exports to Far East Asia increased from 13 mboe/d in 2012 to over 330 mbpd in 2017
- Far East Asia waterborne propane imports from US increased from 3% in 2012 to 52% YTD in 2018
- Approximately 50% of propane exported from US is shipped to Far East Asia
- LPG export to Far East Asia results in a ~36% netback pricing uplift relative to Edmonton propane pricing
- Other target markets include western North and South America

## Prince Rupert Terminal illustrative cost comparison



North American propane is needed to meet growing global demand

(1) Source: IHS Markit  
See "Forward-looking statements and information."

(2) Source: Bloomberg for FEI pricing & OPIS LPG report for Edmonton propane prices. Prices based on May 2018 month-to-date pricing as of May 16, 2018.

# Facilities Division outlook

## Outlook

- Revenue volumes continue to ramp up given producer activity within the liquids rich WCSB
  - › Record revenue volumes in Q1 2018 of 842 mboe/d
- Customers continue to lower supply cost in WCSB
  - › Increased 180 day IP rates and EURs
  - › Capital reductions through technology advancements
  - › Strong liquids pricing in the face of gas headwinds
- Continuing to diversify the Facilities portfolio
  - › Value chain extension; Empress Frac, Co-Gen, C3 export
  - › Gas processing; sour gas, field stabilization
  - › Formation diversity; ~46% of field-based processing from Duvernay and Montney
- Significant long-term Area of Dedication within high netback geology
  - › 30 years in Montney with CRP
  - › 20 years in Duvernay with Chevron & KUFPEC



Pembina's facility diversification is well-suited to meet customer needs

# Marketing and New Ventures Division Overview

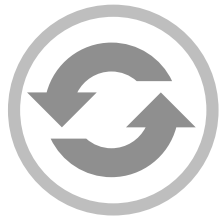
Stu Taylor



# Value of Marketing to Pembina



Marketing plays a role in utilizing capacity in Pembina's infrastructure and **enabling western Canadian producer customers to access markets**, connecting supply sources to demand points



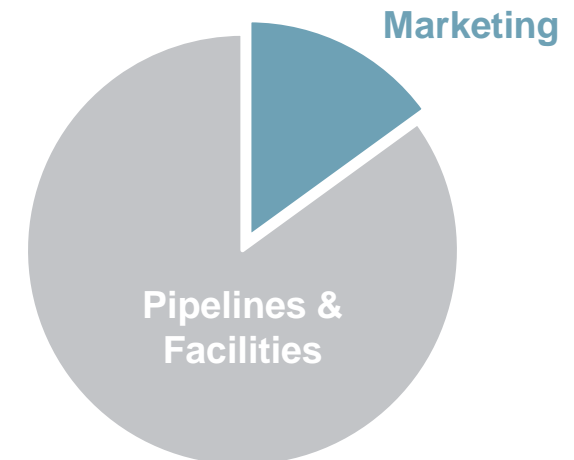
Day-to-day market participation and gained **market intelligence improves Pembina's understanding of customers' needs** and identifies future market-driven infrastructure opportunities



Marketing activity **enhances customer netbacks**, encouraging further development of the basin, thereby benefiting Pembina's infrastructure businesses

**~15%**

of Pembina's operating margin in 2018



Marketing enhances the value of Pembina's infrastructure assets



Marketing **combines Pembina's infrastructure with market knowledge to capture value** in a range of commodity market environments

## Pembina's Infrastructure

- Marketing pays market fees for use of Pembina and select third-party infrastructure:
  - › Pipelines
  - › Edmonton North Terminal (ENT)
  - › Canadian Diluent Hub (CDH)
  - › Other storage and terminal facilities
  - › Rail and truck facilities
  - › Extraction plants
  - › Fractionators – Redwater, Sarnia

## Intellectual Capital

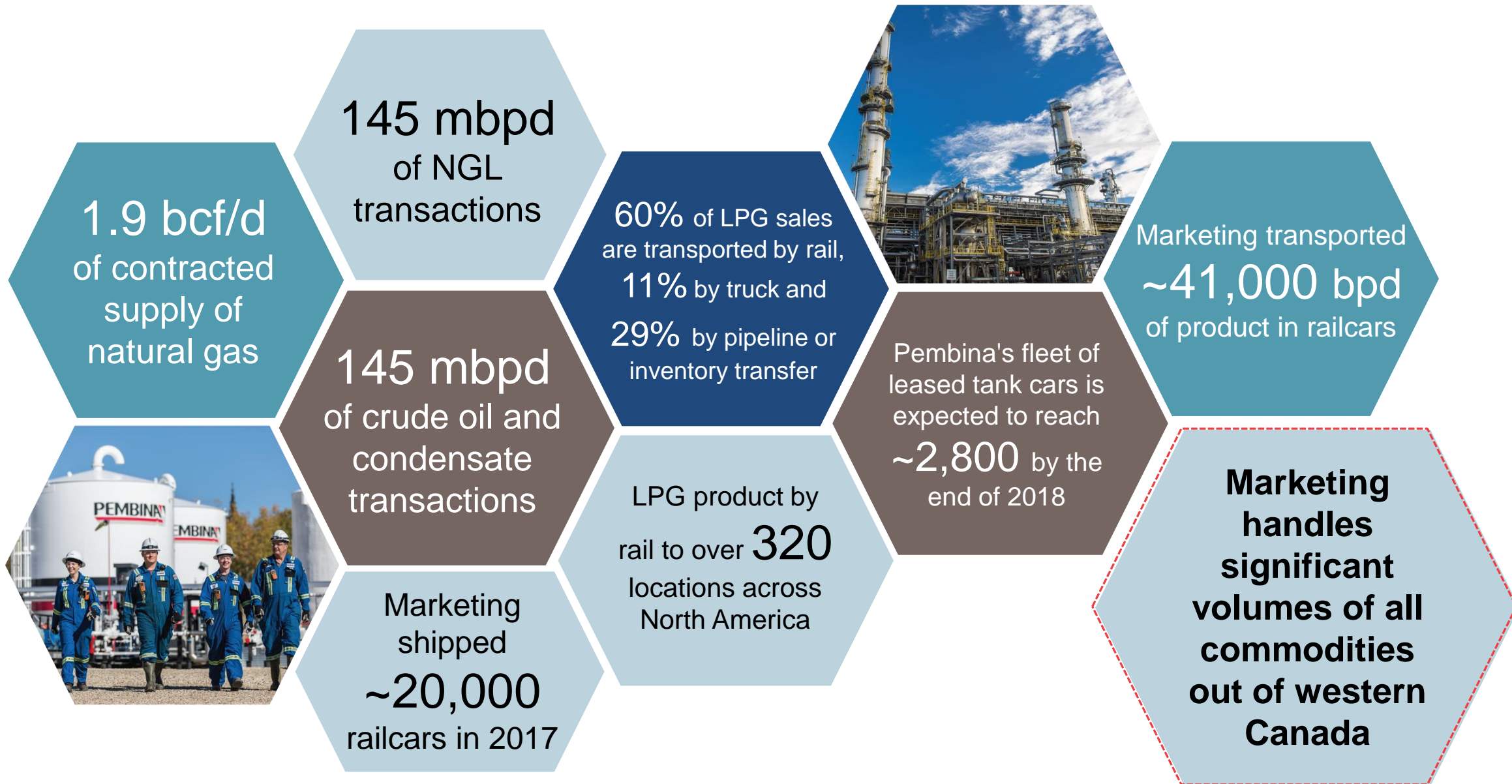
- Market knowledge & commercial capability/competitive advantage
- Scheduling & logistics is a core competency
- Operational excellence
- Risk management

## Market Environment

- Pricing structure (differentials & price spreads)
- Market volatility
- Commodity differentiation
- Market imperfections (locational arb)
  - › Driving infrastructure growth
- Feedstock for value chain extension

Strategically advantaged assets + superior market knowledge

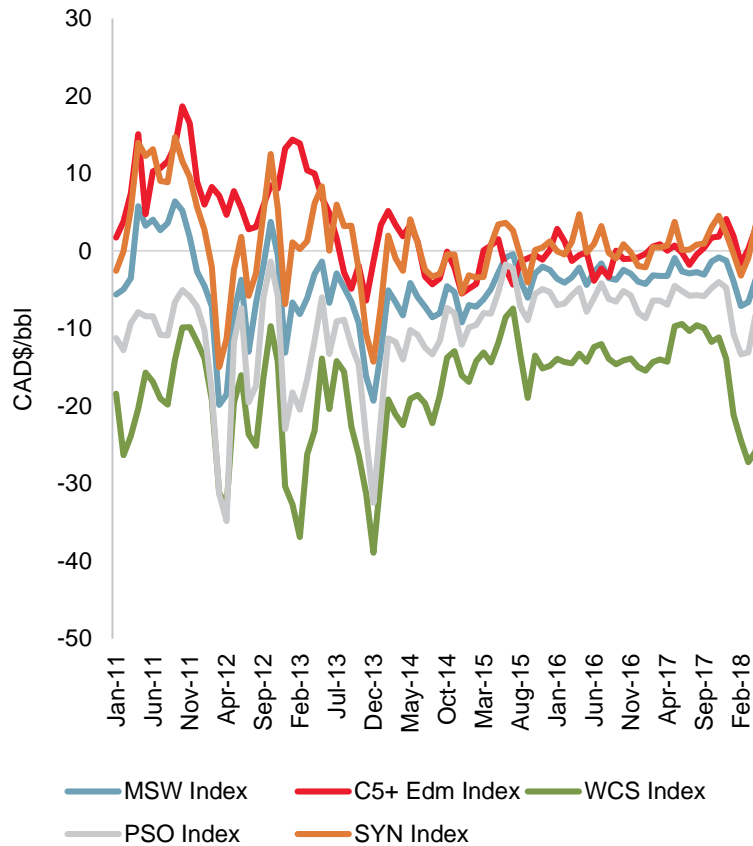
# Marketing highlights



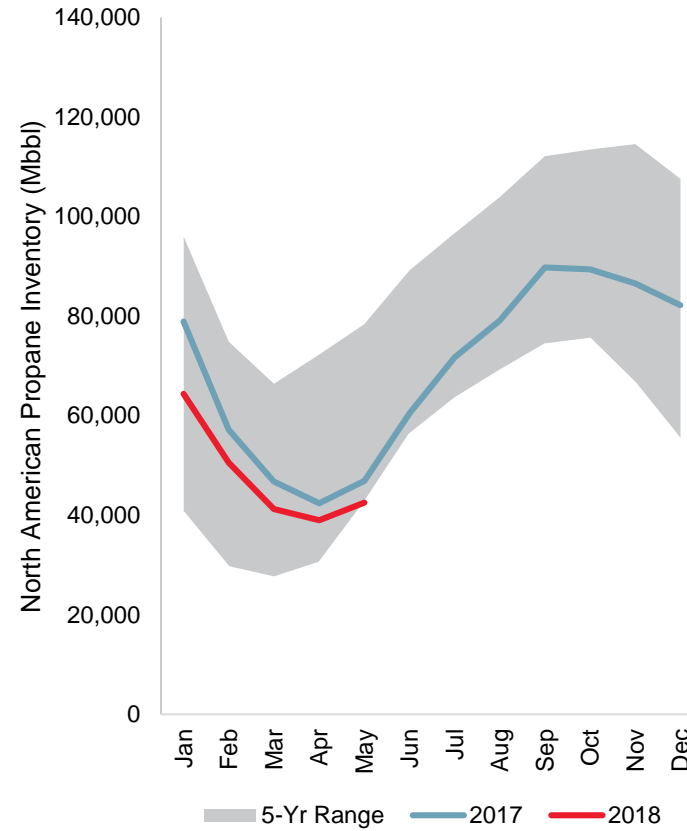
# Marketing value drivers



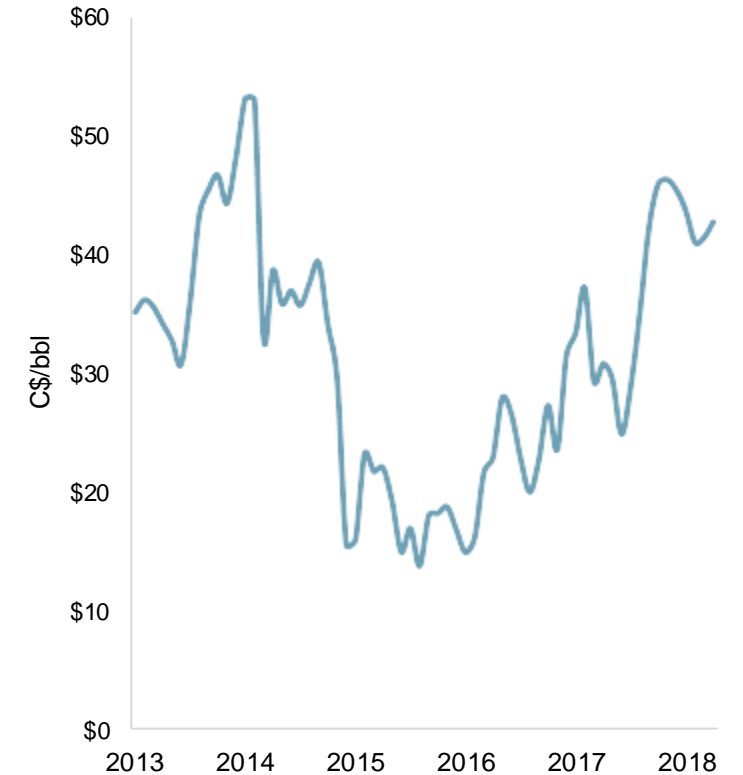
### Crude oil differentials<sup>(1)</sup>



### Propane inventories<sup>(2)</sup>



### Propane frac spreads<sup>(3)</sup>



Marketing leverages embedded value across hydrocarbon value chain

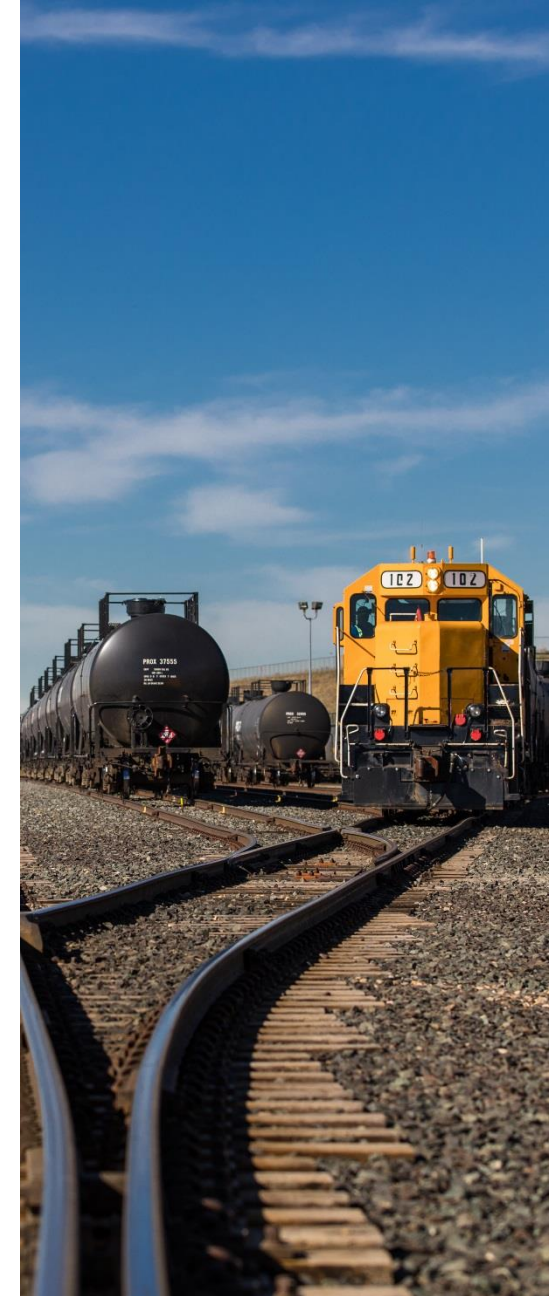
(1) Source: Bloomberg.  
(2) Source: EIA, NEB.

(3) Illustrative Mont Belvieu frac spread; source: Pembina.

# Marketing Division outlook

## Outlook

- Base business volumes are expected to increase which results in access to more marketing barrels
- 2018 commodity outlook remains supportive:
  - › Low AECO gas price is driving strong frac spreads
  - › Solid LPG prices with increased North American exports
  - › Crude oil prices have strengthened which has increased producer activity
- Marketing can participate with base business to invest in infrastructure and develop merchant role around assets
- Marketing knowledge and expertise can lead to additional new venture opportunities:
  - › Over supply of propane and low AECO gas price creates export opportunities through feedstock advantages
  - › Prince Rupert Terminal, PDH/PP and Jordan Cove will provide more marketing optionality



Base business growth and global strategy creates new marketing opportunities

A photograph showing the lower half of four workers in blue high-visibility workwear walking on a gravel surface. The workers are wearing blue jumpsuits with reflective yellow-green stripes on the legs and arms. Some are wearing black rubber boots, while others are wearing brown work boots. The background is a blurred industrial setting with various equipment and structures.

# New Ventures: Jordan Cove LNG

Stu Taylor

# Jordan Cove LNG project



- Situated on 240 acres on the North Spit of Coos Bay, Oregon
- Liquefaction and export facility with an LNG production capacity of 7.8 mmtpa<sup>(1)</sup> (~1.3 bcf/d)
  - › Five 1.5 mmtpa liquefaction trains
  - › Two full-containment LNG storage tanks with a total storage capacity of 320,000 m<sup>3</sup>
  - › Gas treating facilities
  - › Marine facilities
- Access to over 25 bcf/d of gas supply from western Canada and the U.S. Rockies
- Significant economic benefit for southwest Oregon
  - › Create over 6,000 jobs at peak construction and over 8,500 indirect and spin off jobs, including 1,500 permanent jobs
  - › Generate \$60 million per year in average property tax revenue for southern Oregon

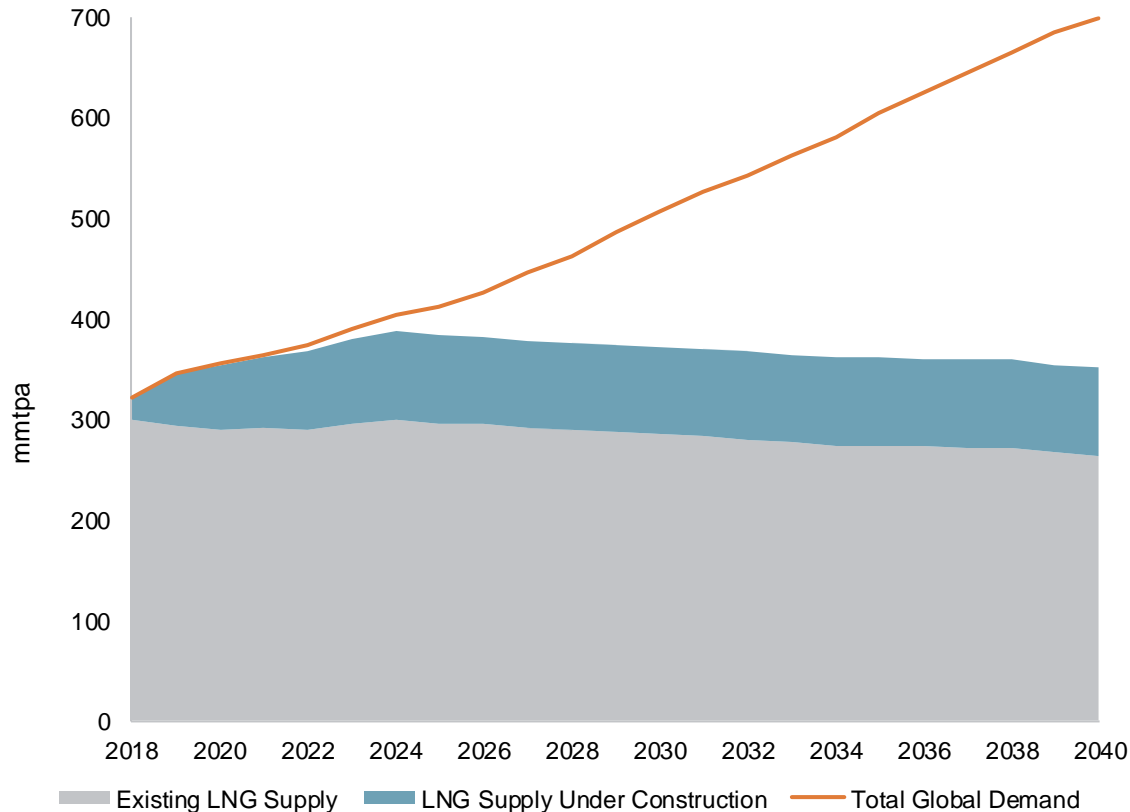


Pembina is proposing to develop a world-scale LNG export facility to transport North American natural gas to Asia

(1) Million metric tonnes per annum  
See "Forward-looking statements and information."

# LNG demand is expected to almost double by 2030

## Global LNG supply and demand balance<sup>(1)</sup>



## Demand considerations

- ~65% of global gas demand growth will come from Asia
- Chinese imports in Q1 2018 have increased by 50% year-over-year
- 50% of Japan's existing long term supply contracts expire between 2019 and 2025

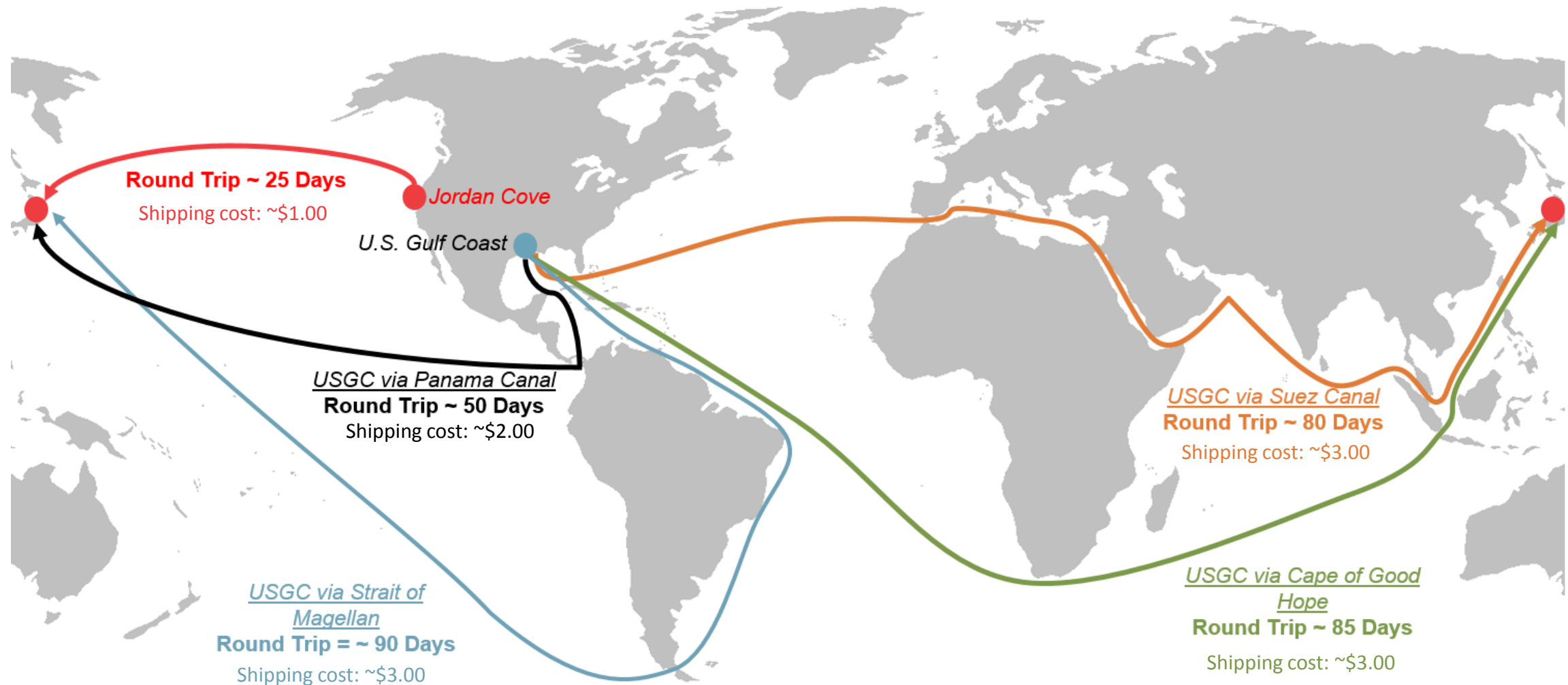
## Supply considerations

- Australia and Middle East currently supply ~ 50% of global LNG exports
- North America's abundant supply of low cost natural gas positioned to satisfy future demand

LNG demand expected to exceed current supply by 2023

(1) Source: IHS estimated existing LNG supply, LNG supply under construction, and total global demand See "Forward-looking statements and information."

# West coast shipping advantage<sup>(1)</sup>



U.S. west coast holds significant shipping cost advantage to Far East markets and avoids Panama Canal risk

(1) Shipping costs assume 170,000 m3 of LNG ships at a daily charter rate of US\$85,000 per day. Based on shipping distances as derived from Platts Portworld shipping distance calculator. See "Forward-looking statements and information."



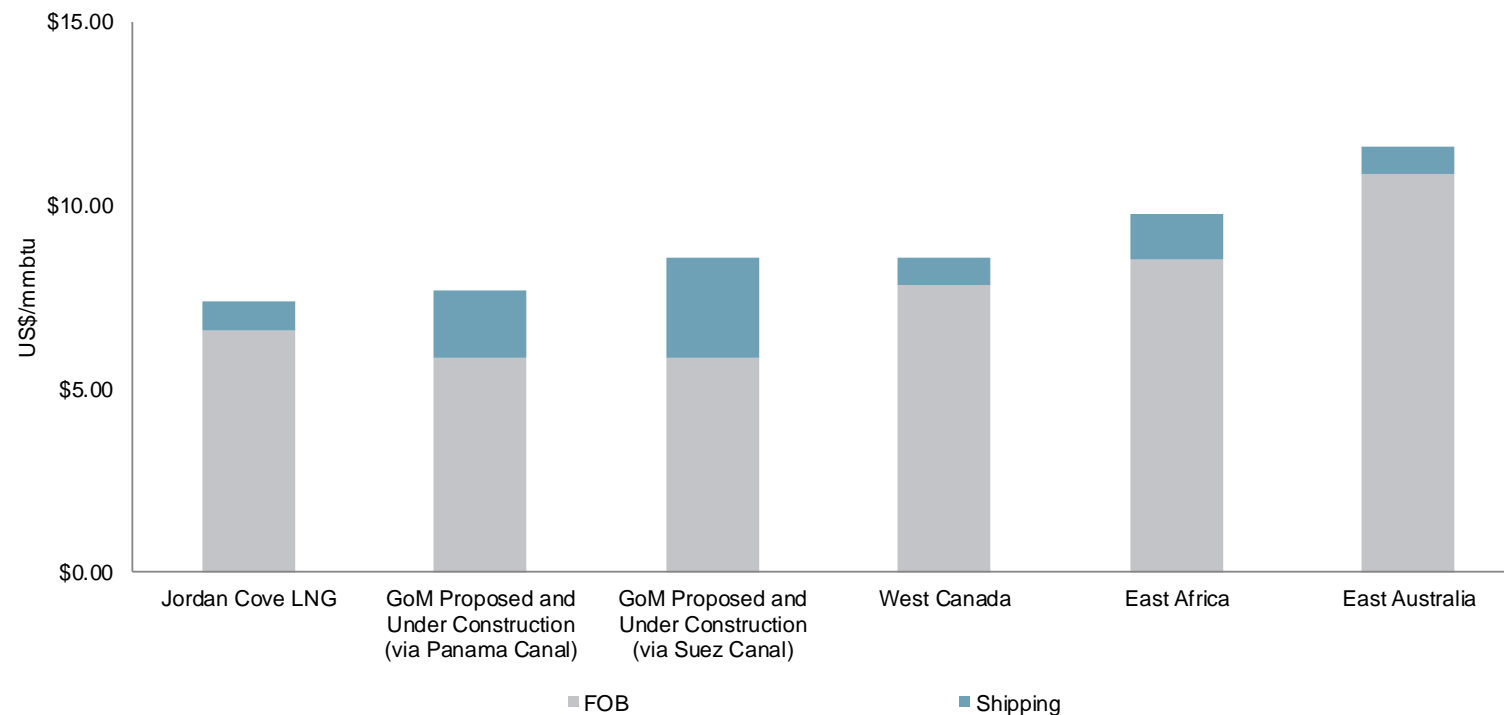
# Highly competitive landed cost to Japan



## LNG and its role in global demand

- LNG is expected to be the fastest growing component of global gas consumption, increasing from 10% in 2016 to 16% in 2030<sup>(2)</sup>
- The market will allocate incremental LNG demand by the cost of supply; the lowest cost producers will win
- Jordan Cove and Canada's west coast have the shortest shipping distance to Asia, allowing the projects to compete with brownfield Gulf Coast projects

## LNG cost stack against North American peers<sup>(1)</sup>



Jordan Cove is a low cost LNG supply source to Asia & represents a desired global diversification of WCSB and Rockies supply

(1) Based on JCLNG interpretation of IHS data. Liquefaction and project pipeline rates that yield a 10% and 7%, breakeven IRR, respectively, consistent with breakeven rates referenced within the global peer group. Assumes a US \$3/MMBtu Henry Hub and a US \$2/MMBtu AECO gas price.

(2) Source: IHS Markits. See "Forward-looking statements and information."

# Actively managing project risks



## Capital cost

- Liquefaction facility supported by lump sum turnkey EPC contract
- EPC contract awarded to joint venture of experienced contractors
  - › Kiewit, Black & Veatch, JGC
- Pacific Connector Gas Pipeline reviewed by Pembina team responsible for engineering and construction of Pembina Phase III Peace Pipeline expansion

## Funding

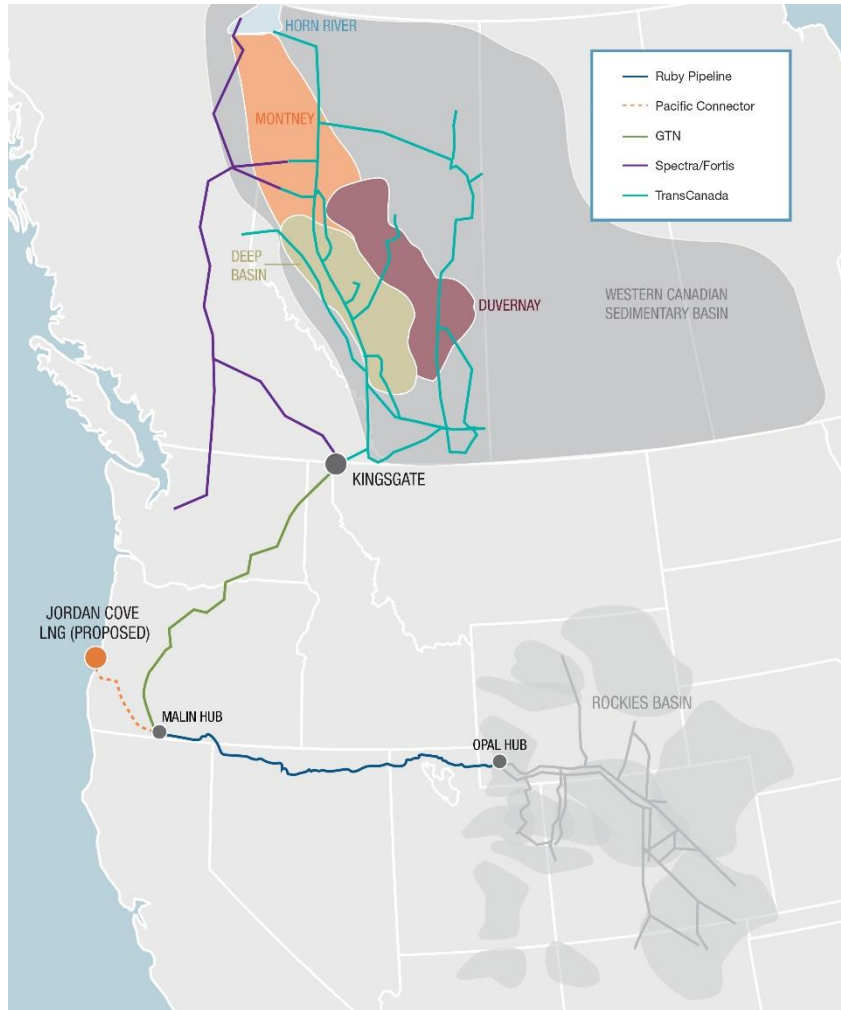
- Sell-down to maintain controlling interest
  - › Off-takers want equity stake with commitment
- Conservative capitalization and utilization of project-level financing
  - › International export credit agencies
  - › Commercial bank market

## Strategic alignment

- Pembina prides itself as setting the standard for stakeholder relations
- Actively engaged with off-takers, producers, local stakeholders, tribes and all levels of government
- Gas egress supports Pembina's base business
- LNG is a global transition fuel

Pembina is committed to growing the business while maintaining its financial guard rails

# High degree of alignment with Pembina's strategy



## What makes Jordan Cove attractive?

- WCSB and U.S. Rockies provide sustainable low cost gas supply
- Long-term gas supply at Malin Hub from two long-haul pipelines fed by major resource plays (WCSB and U.S. Rockies)
- Shortest shipping distance to Asian markets without hurricane/Panama Canal risk
- Lowest LNG cost stack to Tokyo from west coast NA proposed facilities

## How Pembina's expertise can help advance Jordan Cove

- Proven track record of successfully constructing and operating major projects on-time and on-budget
- Demonstrated history of relationship building across all stakeholder groups including Tribes, landowners, communities and regulators
- Robust balance sheet and low cost of capital supports project financing
- Strong relationships with large customer base that could support supply needs

Supporting our strategy of providing customers access to higher value international markets

# Jordan Cove LNG: key milestones

## Opportunity Identification

- Ideally located on a 400 acre industrial site on the North Spit of Coos Bay, Oregon – 1.5 hours from open ocean
- Strategically located to provide access to supplies from western Canada and the U.S. Rockies
- Strong political and community support

## Development Stage

- Submitted FERC application in September 2017
- Progressing numerous other Federal, State and local permitting requirements
- Signed key term sheets with JERA and ITOCHU; Progressing discussions with other potential off-takers

## Front End Engineering Design

- Lump-sum, turnkey contract for the LNG terminal awarded in 2017
- Currently progressing FEED process for the Pacific Gas Connector Pipeline (PGCP)

## Final Investment Decision

- Completion of FEED process for PGCP
- Final investment decision expected following receipt of regulatory and environmental approvals

## Detailed Engineering, Procurement & Construction

- Commence detailed engineering, procurement and construction

Currently progressing FEED study for the PGCP and engaging with additional off-takers

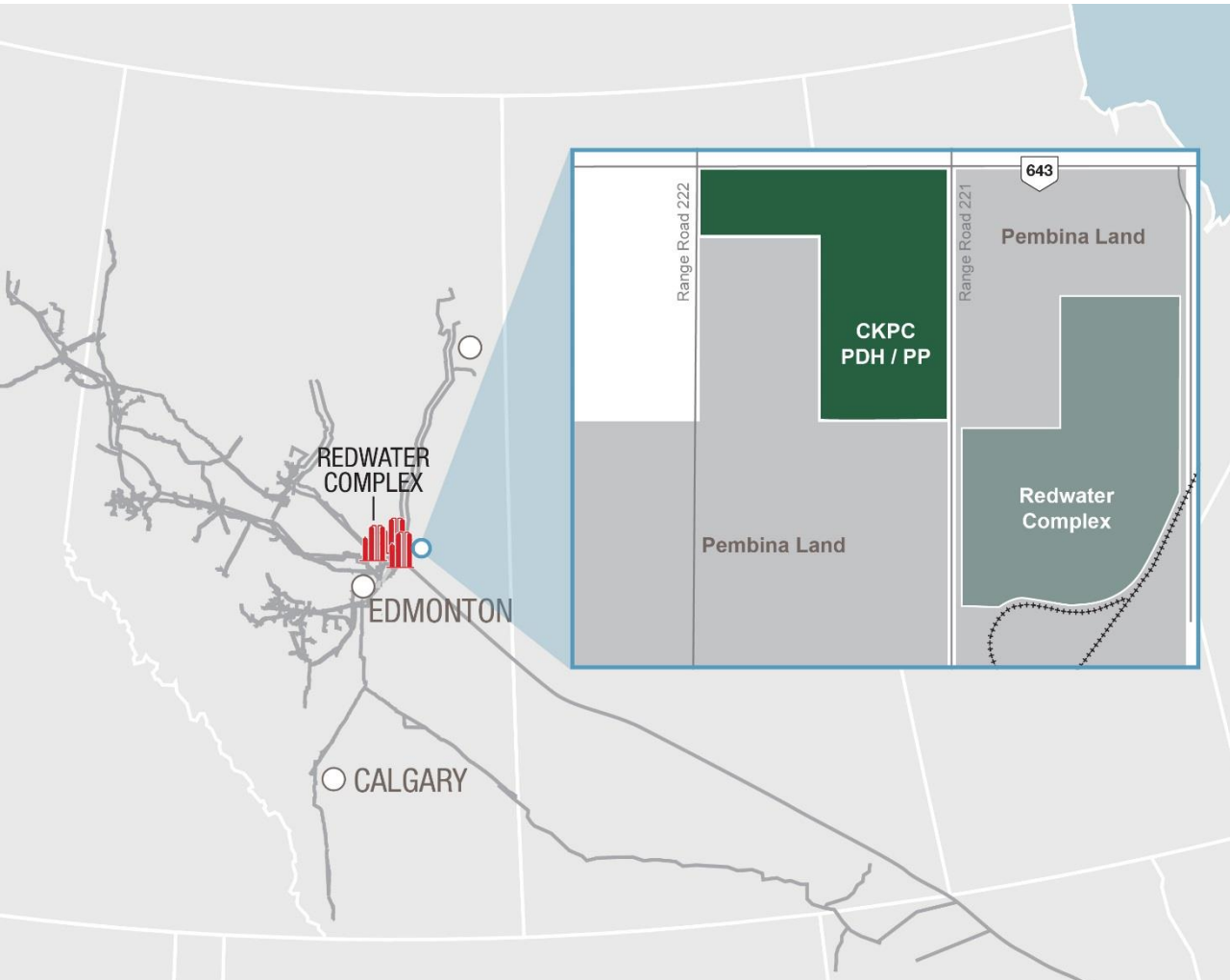
# New Ventures: Petrochemicals

Kevin Jagger



# New Ventures

## CKPC: PDH/PP project



### Project overview

- Canada Kuwait Petrochemical Corporation ("CKPC") is developing a world-scale integrated propane dehydrogenation plant and polypropylene upgrading facility
- Joint venture of Pembina and Petrochemical Industries Company K.S.C ("PIC")
- Strategically located in Sturgeon County, Alberta, immediately adjacent to Pembina's Redwater fractionation complex
- ~550 thousand metric tonnes per annum ("kTa") polymer-grade propylene and polypropylene production capacity
- ~23,000 barrels per day of propane consumed from pipeline-connected natural gas liquids fractionation facilities
- ~C\$4 billion estimated capital cost, which includes central utility block, rail and associated connectivity

CKPC is proposing to develop a ~\$4 billion, world-scale complex to convert discounted Alberta propane into polypropylene



# Structural changes supporting investment thesis

## Pricing Impact

1 Alberta Propane



Unprecedented growth in liquids-rich drilling across North America resulting in continent-wide oversupply and corresponding lower propane prices



Infrastructure shift (2014 Cochin Pipeline reversal) forcing spec Alberta propane exports to travel exclusively by rail, increasing costs to reach market and reducing Alberta propane prices

2 North American Propylene



Declining gasoline demand pressuring refinery utilization and yielding less propylene



Rise of shale gas production leads to US steam crackers transitioning feedstock to lighter ethane from heavier naphtha, yielding less propylene

3 North American Polypropylene



Incremental capacity is needed to both satisfy growing demand and offset prior capacity rationalization (+ export opportunities)



Numerous applications see growing demand → i.e. rising fuel economy standards and electric cars creates need for lighter automobiles

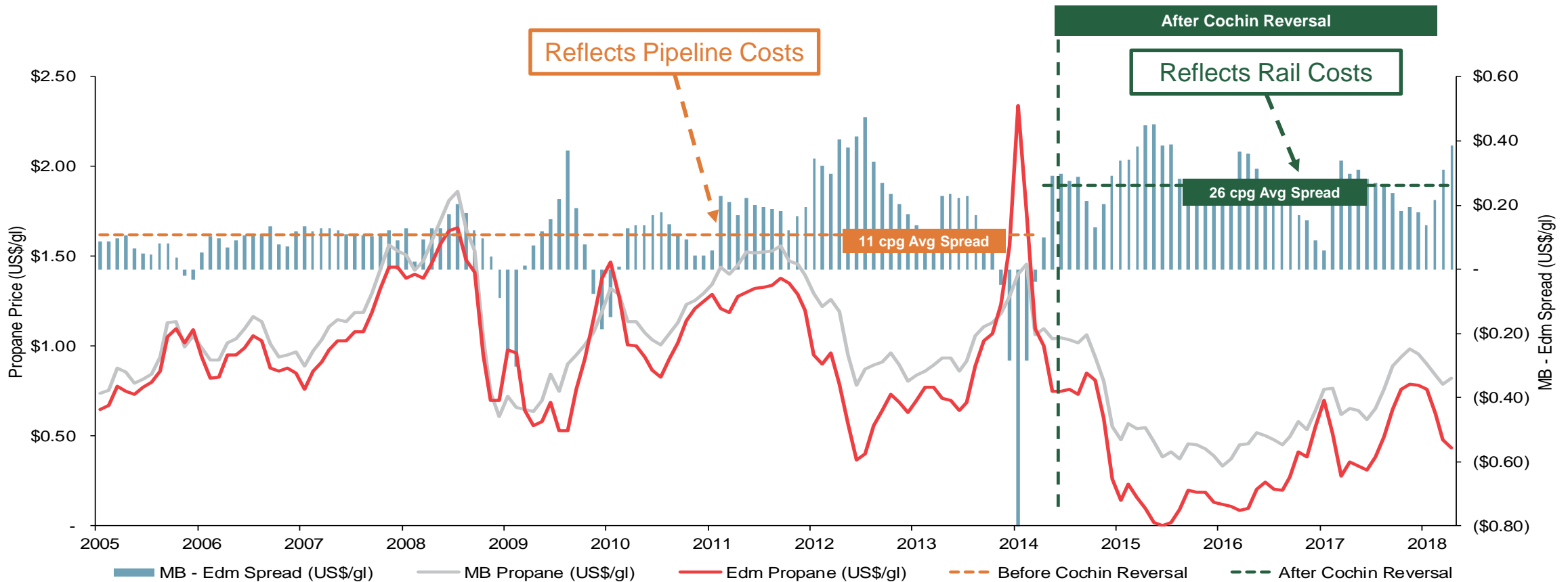
Increasing demand for polypropylene coupled with strong propane supply growth creating opportunity for Alberta PDH/PP



# Alberta advantaged by low-cost feedstock



North American propane prices



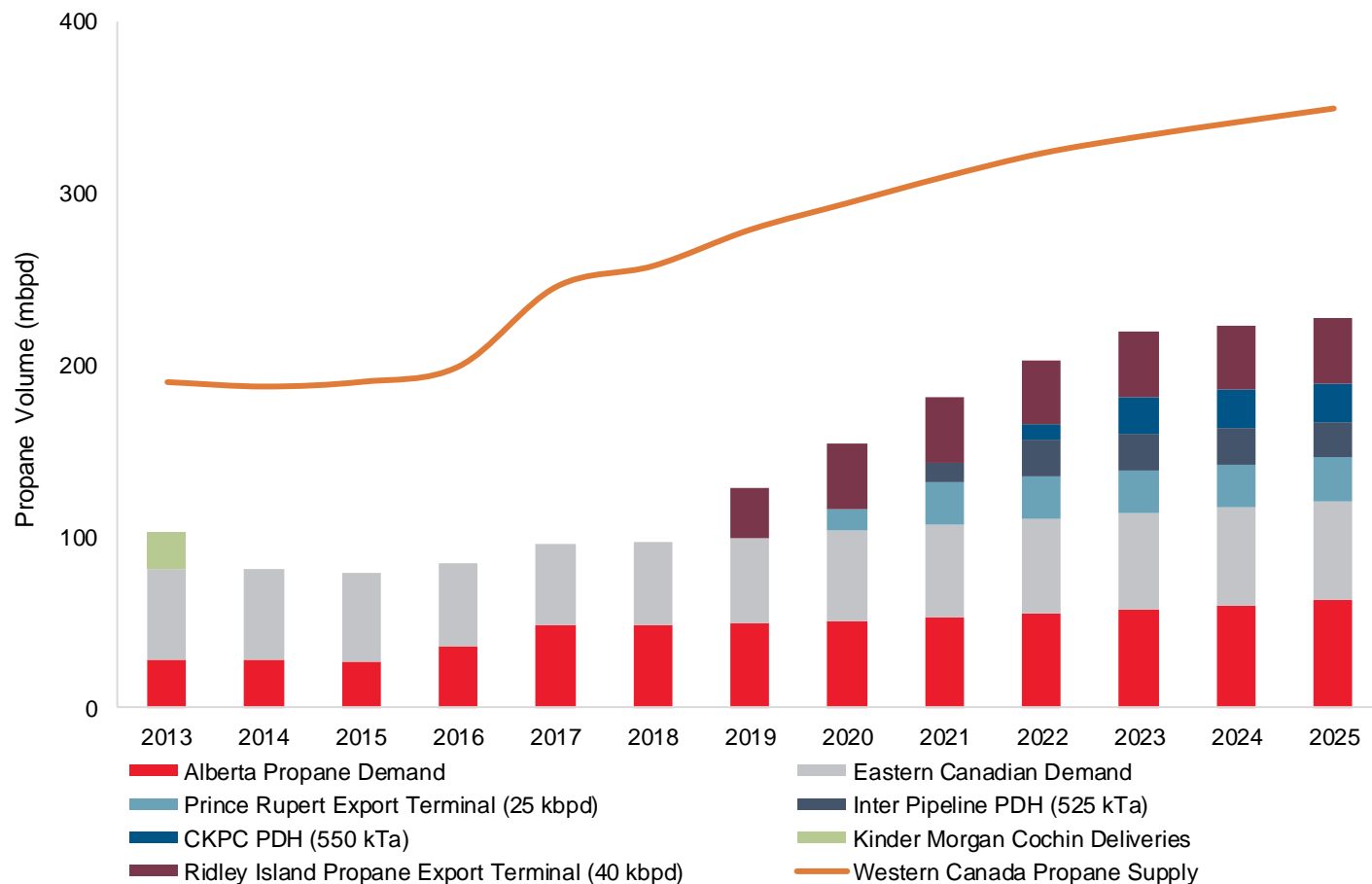
With no additional propane export pipelines planned, Edmonton propane faces a structural discount to the USGC

Source: OPIS, IHS Markit (December 2017).  
See "Forward-looking statements and information."

# The Alberta feedstock advantage



Illustrative WCSB propane supply & demand<sup>(1)(2)</sup>



- The WCSB currently has an excess supply of propane and ample propane fractionation capacity which creates the Alberta-feedstock advantage
- WCSB has some of the most economic resource plays in North America, further supporting our supply thesis
- Many processing plants are leaving liquids in the gas stream and there remains potential to enhance the LPG volume extracted

Propane market conditions are very supportive of value-added infrastructure

(1) Source: NEB, AER, Woodmac and company filings.

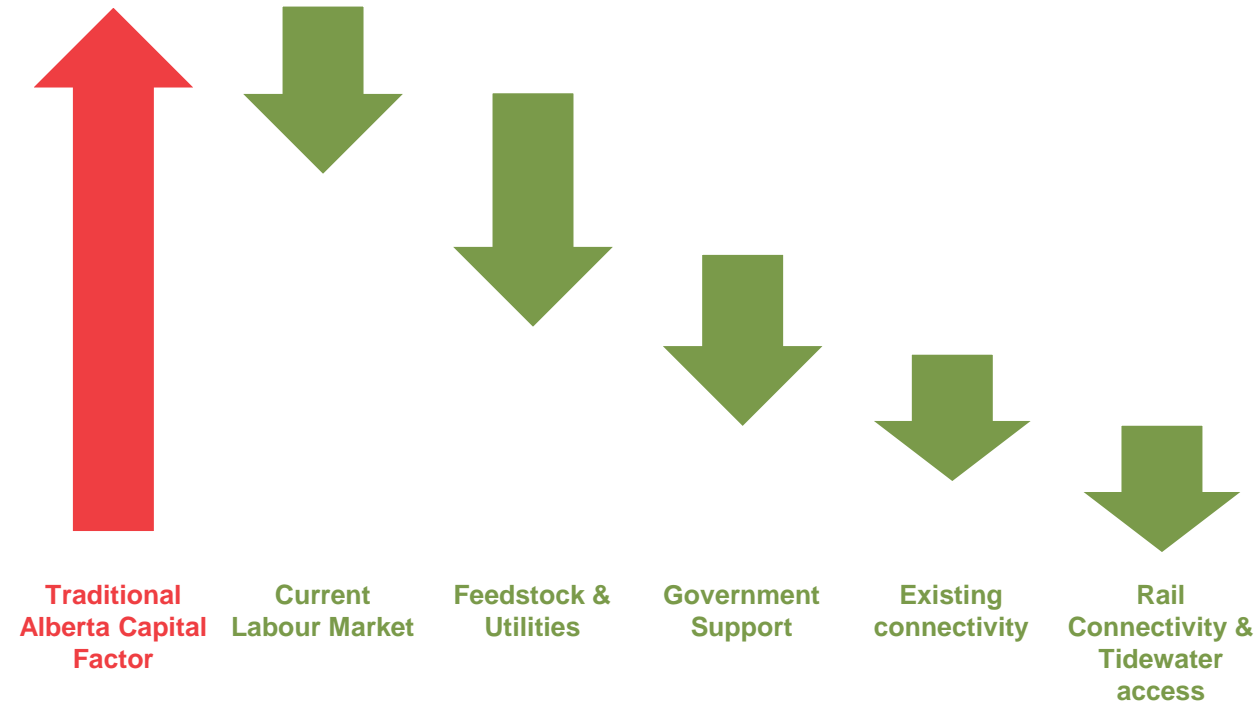
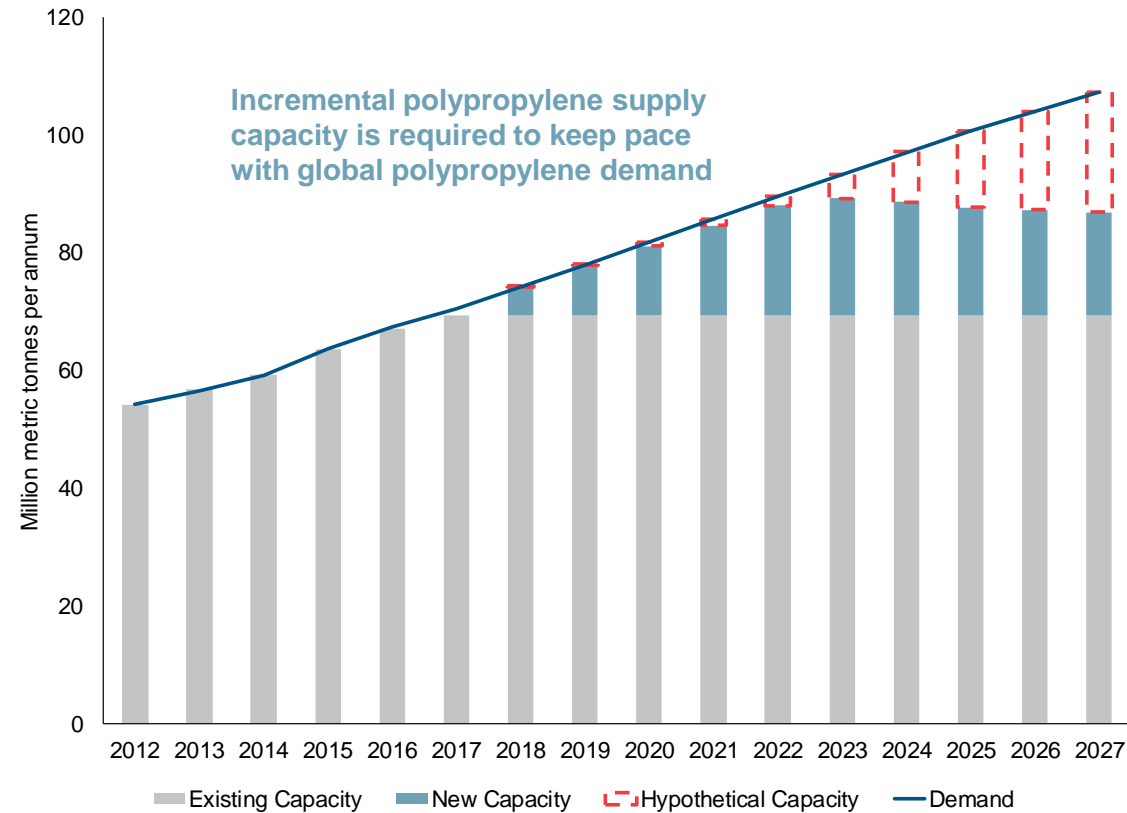
(2) Timelines noted are meant to be illustrative and actual schedule may vary.

See "Forward-looking statements and information."

# Is there room for two Alberta PDH/PP facilities?

Global polypropylene supply & demand<sup>(1)</sup>

The Alberta advantage is broader than feedstock



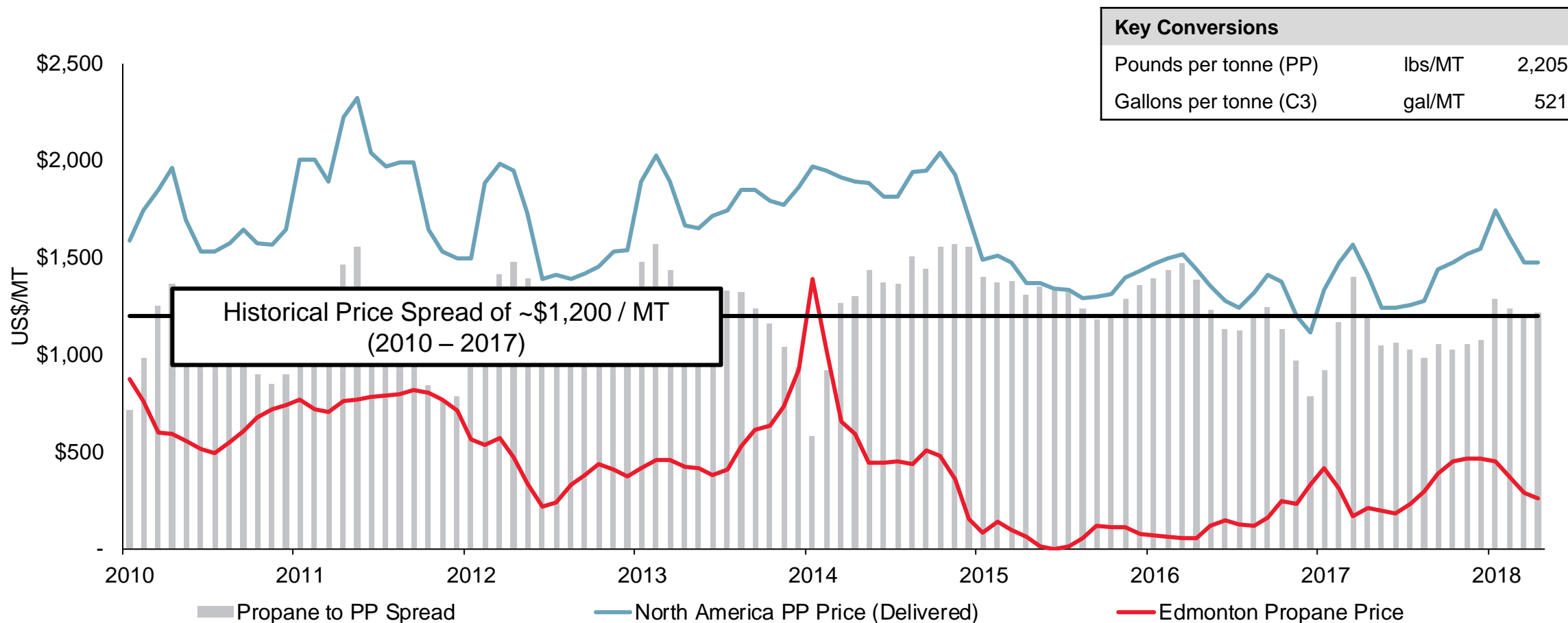
Alberta projects are well positioned to complete globally to meet rising global polypropylene demand

(1) Source: IHS Markit (December 2017). See "Forward-looking statements and information."

# Polypropylene is a value-added product



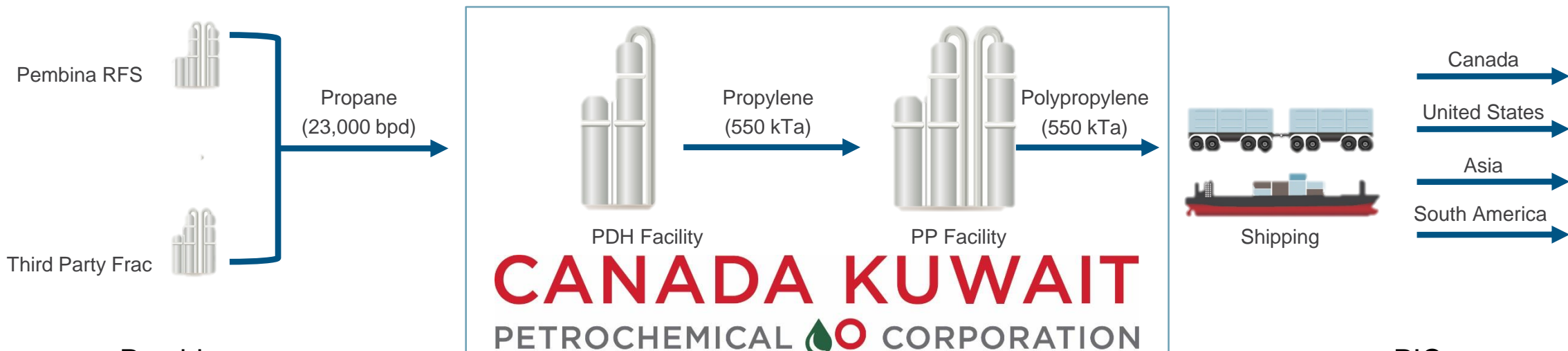
## Polypropylene indicative margin



**Strong economic value proposition makes Alberta propane the ideal feedstock for polypropylene**

Source: IHS Markit (December 2017).  
See "Forward-looking statements and information."

# CKPC: stronger than the sum of its parts



## Pembina

- ✓ Alberta-specific operating and project execution experience
- ✓ Market connectivity & producer relationships
- ✓ Responsible for aggregating 100% of CKPC propane feedstock

# CANADA KUWAIT

## PETROCHEMICAL CORPORATION



Pursuing 50% of Pembina's 50% share under fee-for-service contracts

## PIC

- ✓ PDH & PP experience, along with global marketing channels
- ✓ PIC will market 100% of CKPC polypropylene
- ✓ All parties will receive the same weighted average sales price
- ✓ Affiliated with Kuwait Foreign Petroleum Exploration Company ("KUFPEC")

Pembina's goal is to contract half of our half under fee-for-service contracts

# Partners with complementary strengths



Feedstock  
Access

Alberta  
Project  
Execution

Well Suited  
Land &  
Connectivity

Rail  
Logistics  
Experience

Alberta  
Operating  
Experience

Robust  
Access to  
Capital

Process  
Technology  
Experience

PP & PDH  
Experience

Global  
Marketing  
Channels

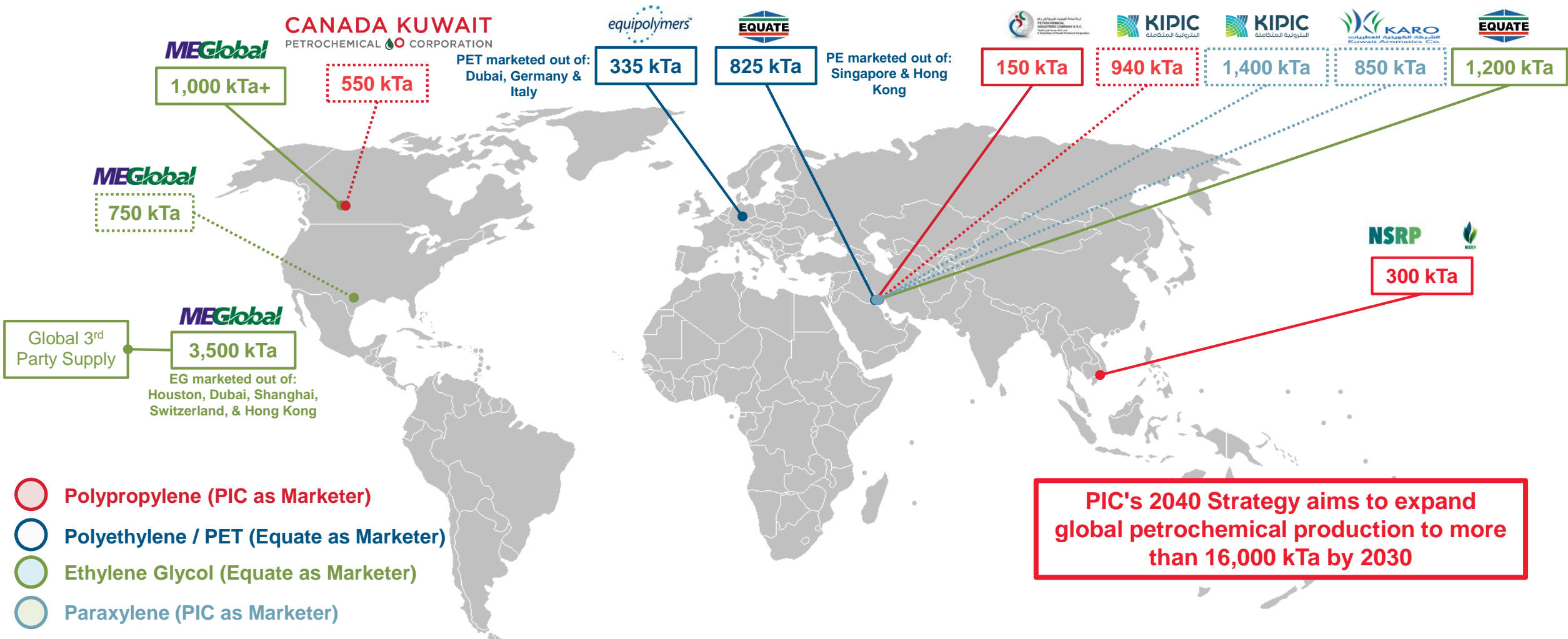


شركة صناعة الكيماويات البترولية (ش م ك)  
PETROCHEMICAL INDUSTRIES COMPANY K.S.C.  
إحدى شركات مؤسسة البترول الكويتية  
A Subsidiary of Kuwait Petroleum Corporation  
*Possibilities without limit*

**CANADA KUWAIT**  
PETROCHEMICAL   CORPORATION

CKPC partnership brings expertise to all areas of the project

# PIC's significant and growing global marketing reach



**PIC's 2040 Strategy aims to expand global petrochemical production to more than 16,000 kTa by 2030**

**By 2025, PIC expects to be marketing more than 2,000 kTa of polypropylene globally**

Dotted lines denote facilities under construction/development. Logos denote facility owner. See "Forward-looking statements and information."

# Consistent approach to managing risk



## Construction advantages

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- Comprehensive FEED
- EPC lump sum pricing for construction of PDH and PP facilities
- Modularization
- Availability of skilled trades
- Large, accessible site
- Best practices from other projects
- Commercially proven technologies

## Operating advantages

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- Leverage existing industry knowledge
- Global recruitment of management and operations teams
- Training and support from technology licensors
- Complementary strengths of the partners

## Economic advantages

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- 50% partner with PIC
- Fee-for-service for half of Pembina's 50% share
- Proximate, diverse, low cost supply
- Global market access
- \$300 million royalty credit award

Same approach to mitigating risk as Pembina has employed in the past



# PDH/PP Facility: key milestones



## Opportunity Identification

- Purchased 2,200 acres of lands adjacent to RFS → PDH/PP only requires ~400 acres
- PIC and Pembina announce they would be jointly evaluating feasibility of an Alberta-based PDH/PP facility

## Development Stage

- Detailed feasibility study for the project completed
- Awarded \$300 MM in royalty credits<sup>(1)</sup> from Alberta's Petrochemicals Diversification Program
- Executed 50/50 JV agreements and formed Canada Kuwait Petrochemical Corporation (CKPC)

## Front End Engineering Design

- No Environmental Impact Assessment required determination from AEP → April 2017
- Executed PDH & PP process technology licenses in July 2017
- Primary FEED contract awarded in Q3 2017

## Final Investment Decision

- Completion of primary FEED contract → expected in late 2018
- Followed by Final Investment Decision from Pembina and PIC's Board of Directors (PIC approval includes KPC's Board of Directors)

## Detailed Engineering, Procurement & Construction

- Commence detailed engineering, procurement and construction

**CANADA KUWAIT**  
PETROCHEMICAL CORPORATION



Currently progressing FEED study of proposed PDH/PP Facility

(1) Conditional award from the Alberta Government's Petrochemicals Diversification Program. The project is subject to approval of Pembina and PIC's Board of Directors, as well as required approvals. See "Forward-looking statements and information."

# Strong investment thesis



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Project has a long-term, diversified, secure and cost advantaged supply of propane feedstock

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Extensive existing connectivity to multiple sources of feedstock

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Cost effective access to domestic and global export markets via existing rail infrastructure

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Reduces the need for contracted rail cars by ~50%

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Committed financial incentives from multiple levels of government + supportive regional investment climate

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Pembina & PIC are experienced, well funded and strategically aligned partners with complementary strengths

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CKPC is well positioned to provide market solutions for customers

# Strong Financial Position

Scott Burrows



# Financial Guard Rails



	2015A	2018E
1 Maintain target of 80% fee-based contribution to Adjusted EBITDA	~77%	~85%
2 Target <100% payout of fee-based distributable cash flow by 2018 <sup>(3)</sup> (Standard Payout Ratio)	~135% (72%)	~85% (55% - 60%)
3 Target 75% credit exposure from investment grade and secured counterparties	79%	~80% <sup>(1)</sup>
4 Maintain strong BBB credit rating <sup>(2)</sup>	~16% FFO/Debt	~19% FFO/Debt

We remain committed to building our business within the Guard Rails while targeting 8% -10% annual cash flow growth per share

(1) Based on gross 60-day exposure. Counterparty ratings are representative of the counterparties' current rating as of May 11, 2018. Non-investment grade exposure that is secured with letters of credit from investment grade banks are considered investment grade. See "Forward-looking statements and information" and "Non-GAAP measures."

(2) Based on Standard and Poor's methodology and adjustments.

(3) Illustrative calculation based on total common share dividends, preferred share dividends, interest, general and administrative expenses and illustrative cash taxes as compared to consolidated fee-for-service operating margin.

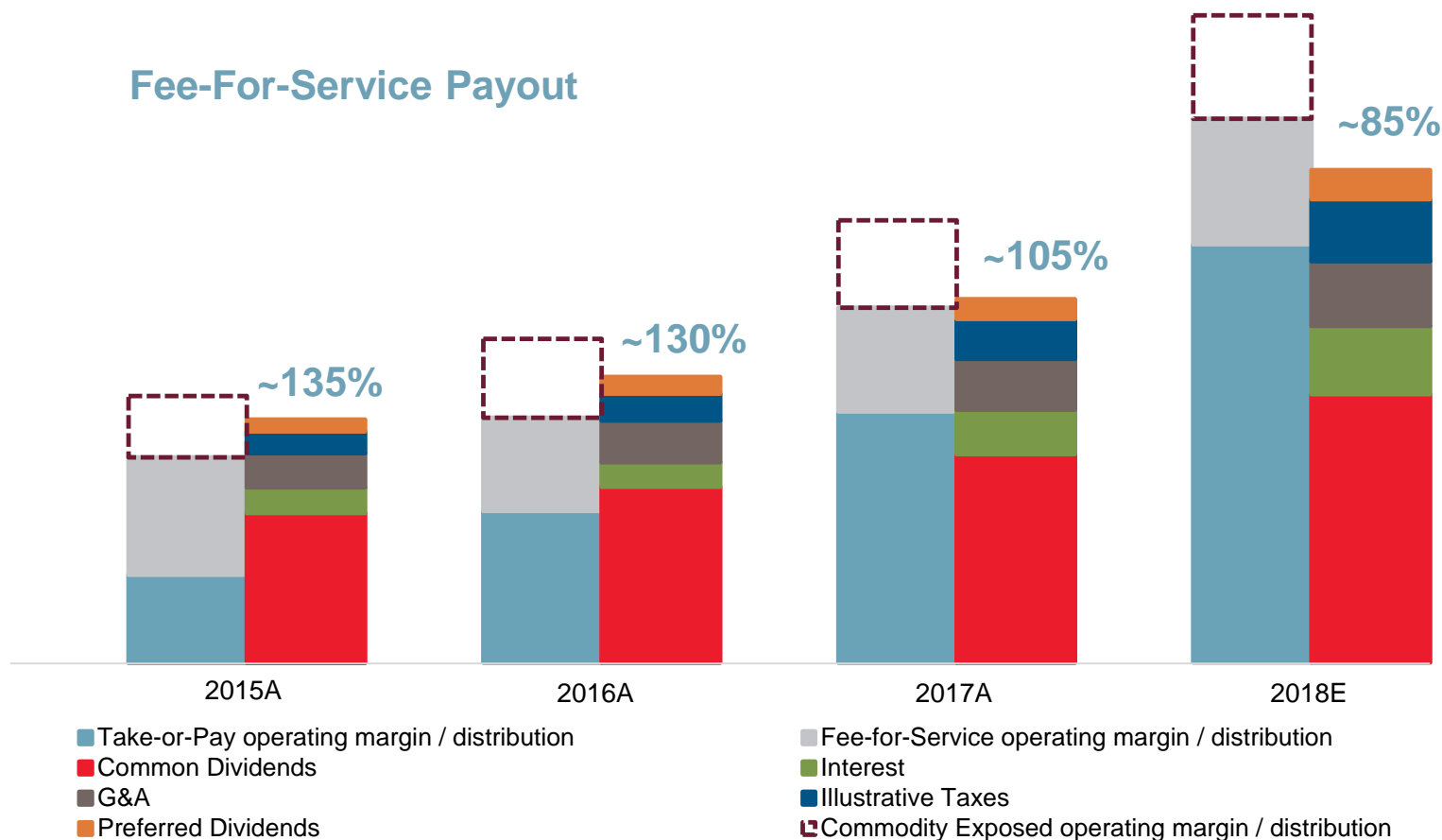
# Dividend strategy supported by fee-for-service cash flow



## Illustrative fee-for-service distributable cash flow analysis<sup>(1)</sup>

## Considerations

### Fee-For-Service Payout



- Dividend and all corporate costs are underpinned 100% by fee-for-service cash flows
- Significant optionality for excess fee-for-service cash flow and commodity-exposed operating margin
  - › Organic growth fully funded
  - › Debt repayment
  - › Dividend growth
  - › Share repurchases

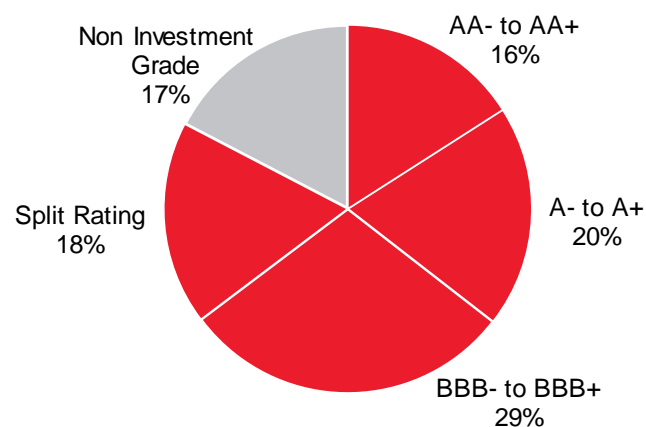
**Pembina has confidence in sustaining this financial 'Guard Rail' over the long-term**

(1) 2015, 2016 & 2017 figures based on actual results, while forward years are based on Pembina's long-term forecast and actual results may vary depending on asset utilization, project in-service dates, commodity pricing and other factors. Take-or-pay operating margin includes take-or-pay and cost-of-service contracts. See "Forward-looking statements and information" and "Non-GAAP measures."

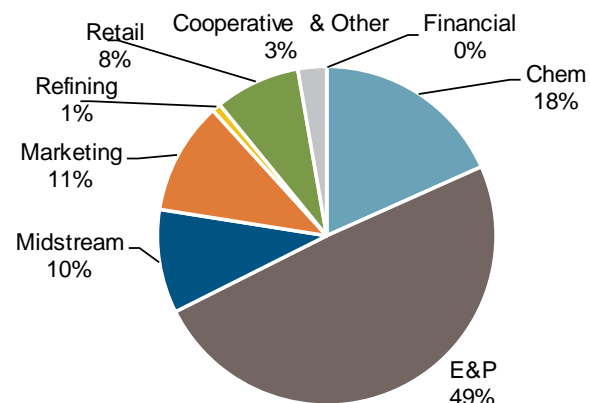
# Credit considerations and counterparty credit stats



## 60-day credit exposure<sup>(1,3)</sup>



## Non-investment grade and split-rated<sup>(3)</sup> overview



- Pembina assesses all counterparties during on-boarding process and actively monitors credit limits and exposures across the business
  - › ~200+ counterparties of varying operational scope and financial size
- Overall 60-day credit exposure:
  - › 65% with investment grade counterparties and 20% with split-rated<sup>(3)</sup> counterparties
- Non-investment grade counterparties may be required to provide one of the following<sup>(2)</sup>:
  - › Parental guarantee, letter of credit, pre-payment, cash deposit
- Non-investment grade and split-rated counterparty exposure is diversified among various industries
- No material losses as a result of bad debts

## Low-risk and diverse counterparty exposure

(1) Based on gross 60-day exposure of Pembina. Counterparty ratings are representative of the counterparties' current rating as of May 11, 2018. Non-investment grade exposure that is secured with letters of credit from investment grade banks are considered investment grade.

(2) Depending on financial materiality, Pembina uses its discretion regarding requirements for non-investment grade counterparties.

(3) Split-rated denotes a counterparty has an investment grade rating by one rating agency and a non-investment grade rating by the other rating agency. See "Forward-looking statements and information" and "Non-GAAP measures."

# Commitment to a strong BBB credit rating



Debt/Adjusted EBITDA (2018 Forecast)<sup>(1)</sup>



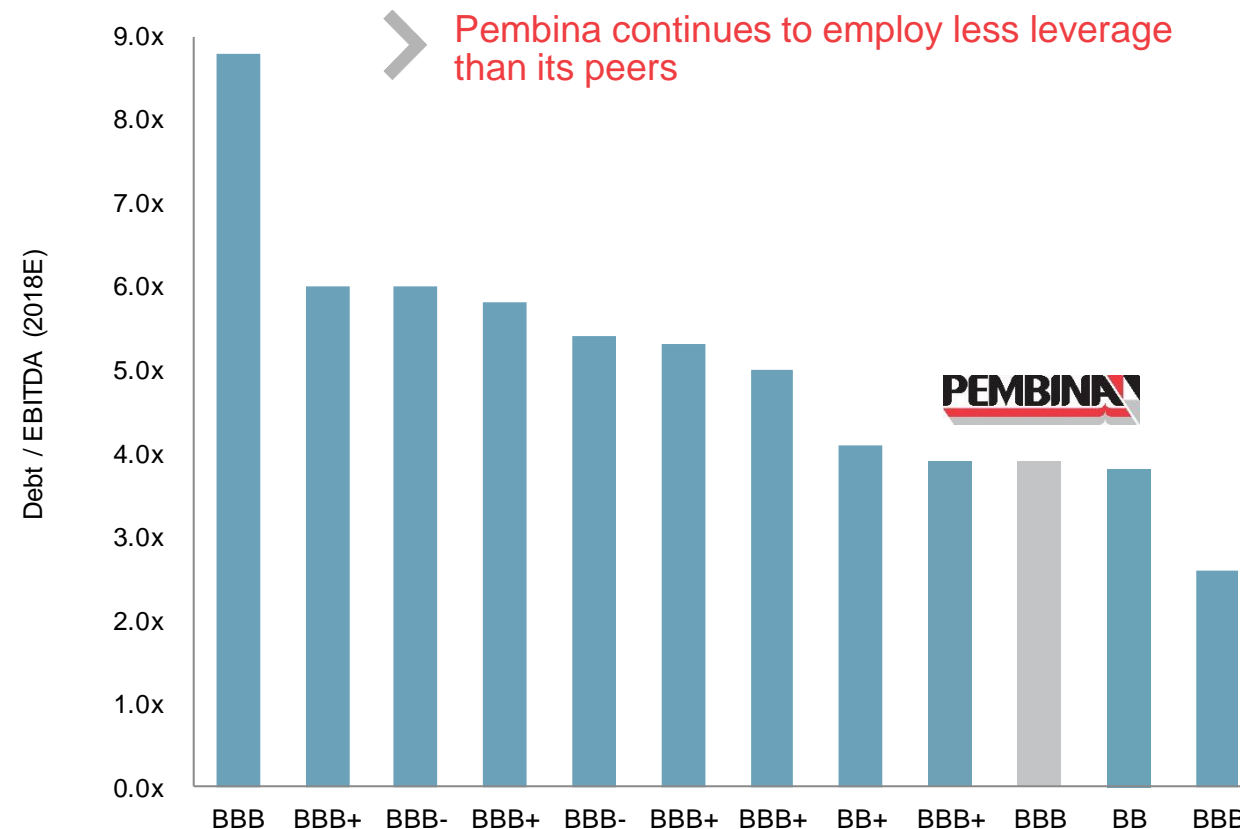
Fund from Operations/Debt (2018 Forecast)<sup>(2)</sup>



Debt to Total Capitalization (2018 Forecast)<sup>(3)</sup>



Leverage comparison across industry<sup>(4)</sup>



Pembina remains committed to prudent financial management & maintaining a strong BBB credit rating

(1) Debt to Adjusted EBITDA calculated as total debt divided by Adjusted EBITDA, on a proportionate consolidation basis.

(2) Debt to funds from operations defined and calculated as per Standard and Poor's methodology.

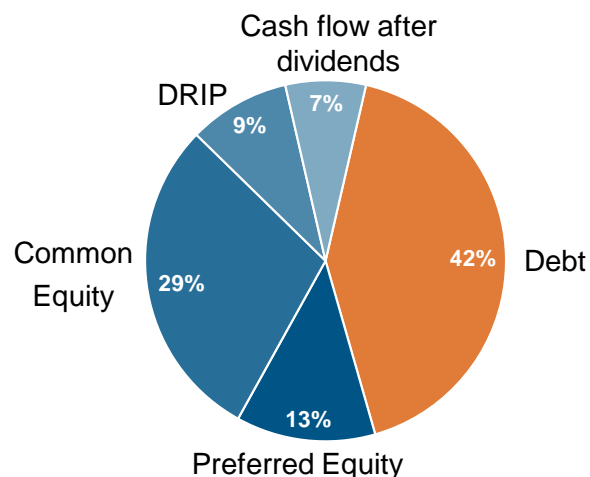
(3) Debt to total capitalization calculation excludes debt of equity accounted investees.

(4) Source: CIBC World Markets, Barclays, (May, 10 2018). Peers include AltaGas, Canadian Utilities, Emera, Enbridge, Enterprise Product Partners, Fortis, Gibson, Inter Pipeline, Keyera, Plains All American, TransCanada. Credit ratings are senior unsecured and based on lower of Moody's or S&P ratings. See "Forward-looking statements and information" and "Non-GAAP measures."

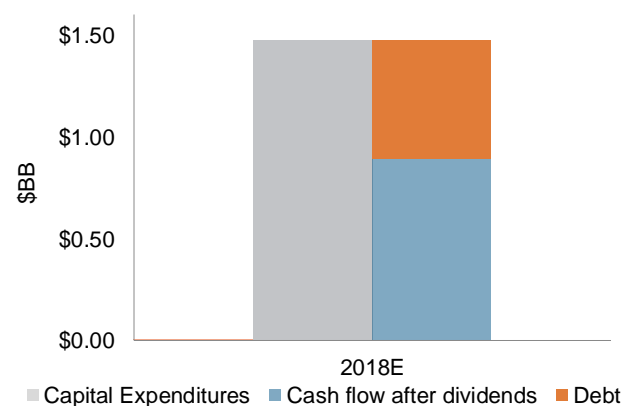
# Financing history and objectives



## Historical funding (2012 – 2017)<sup>(1)</sup>



## Funding plan for 2018<sup>(2)</sup>



## Ongoing financing objectives

- Finance growth ~50/50 debt/equity over the long term
- Maintain strong BBB rating with conservative balance sheet metrics
- Manage through the investment cycle
- Ensure ample liquidity to fund capital program
  - › No external equity needed to fund \$1 to \$2 billion in capital per year
  - › Currently have ~\$300 million of cash on hand and \$2.2 billion of undrawn credit facility room
- Ensure financing flexibility to respond to market conditions
- Pembina remains actively engaged with the rating agencies
- Maintain simple financial structure
- Limit dilution

**Pembina's current plan is to fund growth without dilution of issuing external equity**

<sup>(1)</sup> Includes equity issued and debt assumed in acquisitions, except for the 2012 acquisition of Provident. Cash flow after dividends includes cash flow from operating activities, less dividends on common and preferred shares, plus proceeds from options. On March 7, 2017, Pembina announced the suspension of its Premium Dividend™ and Dividend Reinvestment Plan ("DRIP"), effective April 25, 2017.

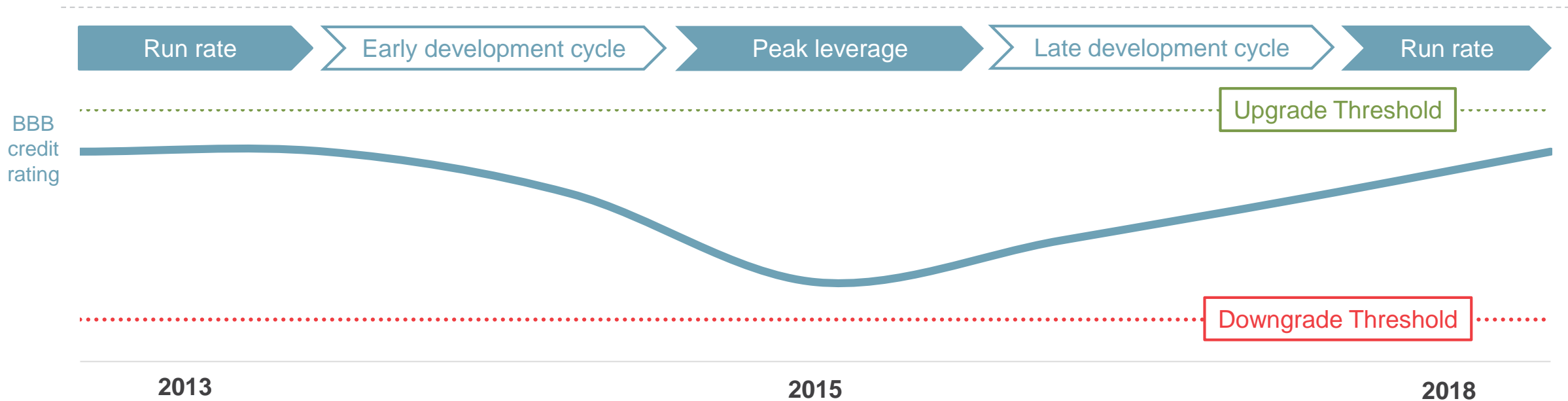
<sup>(2)</sup> Includes capital expenditures, contributions to equity accounted investees, interest on development capital and other cash flow from investing activities per the Statement of Cash Flows in Pembina's financial statements. Cash flow after dividends includes cash flow from operating activities, less dividends on common and preferred shares, plus proceeds from options, plus changes in cash during the year. See "Forward-looking statements and information" and "Non-GAAP measures."



# Approach to managing balance sheet

- Pembina manages its balance sheet to avoid falling below the rating agencies' downgrade threshold
- Upon completion, metrics trend back towards upper end of BBB range

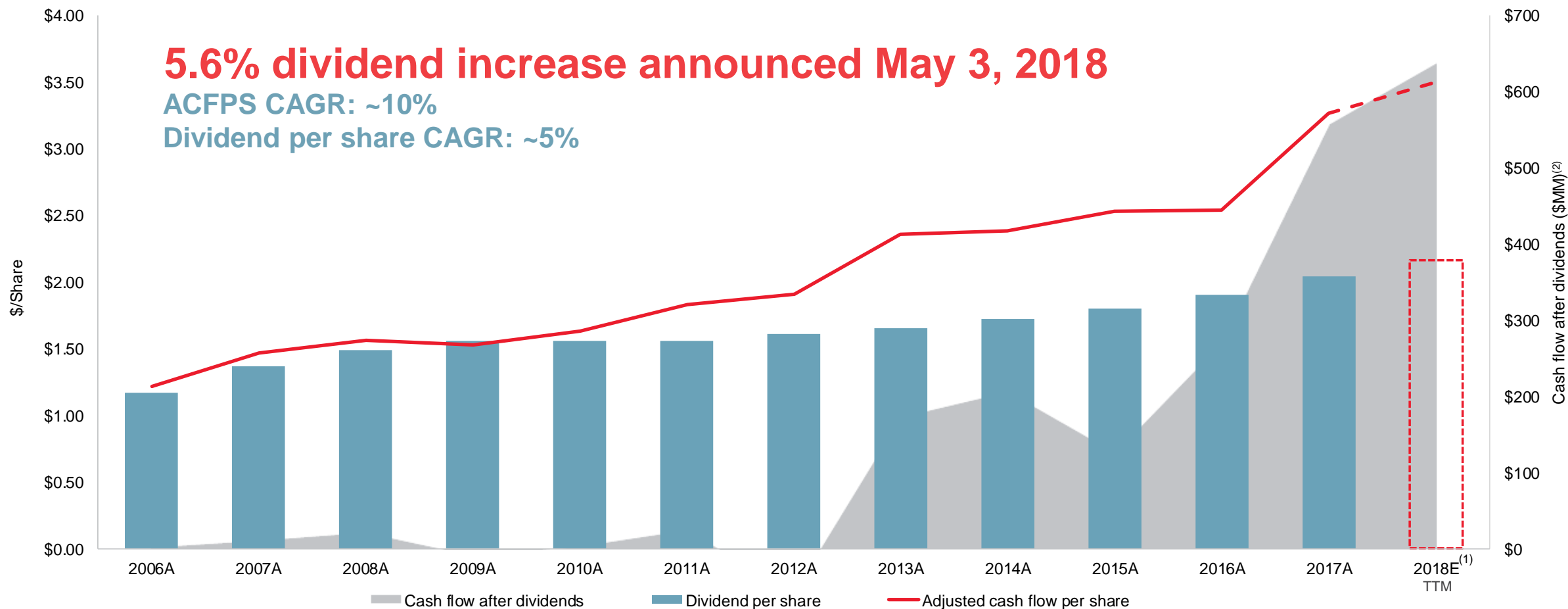
Illustrative FFO<sup>(1)</sup> / Debt across the development cycle



Prudent funding philosophy provides certainty and flexibility across major expansions and commodity cycle

(1) Based on Standard and Poor's methodology and adjustments. See "Forward-looking statements and information."

# Dividend growth supported by growing cash flow



**Strong history of growing Pembina's dividend and adjusted cash flow per share**

(1) Assumes a \$0.19 per share monthly dividend from May 2018 through December 2018. Cash flow after dividends and adjusted cash flow per share are based on trailing 12 months as at March 31, 2018.

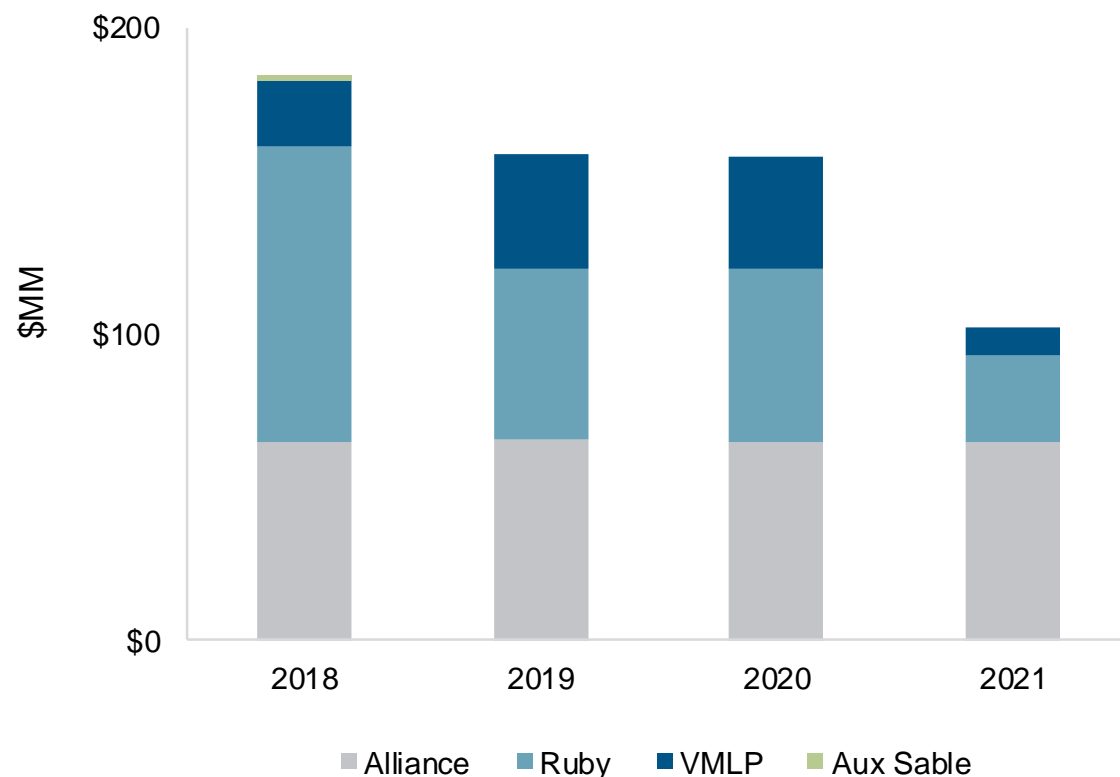
(2) Cash flow from operating activities less common and preferred dividends (excluding any impact from the DRIP).

See "Forward-looking statements and information" and "Non-GAAP measures."

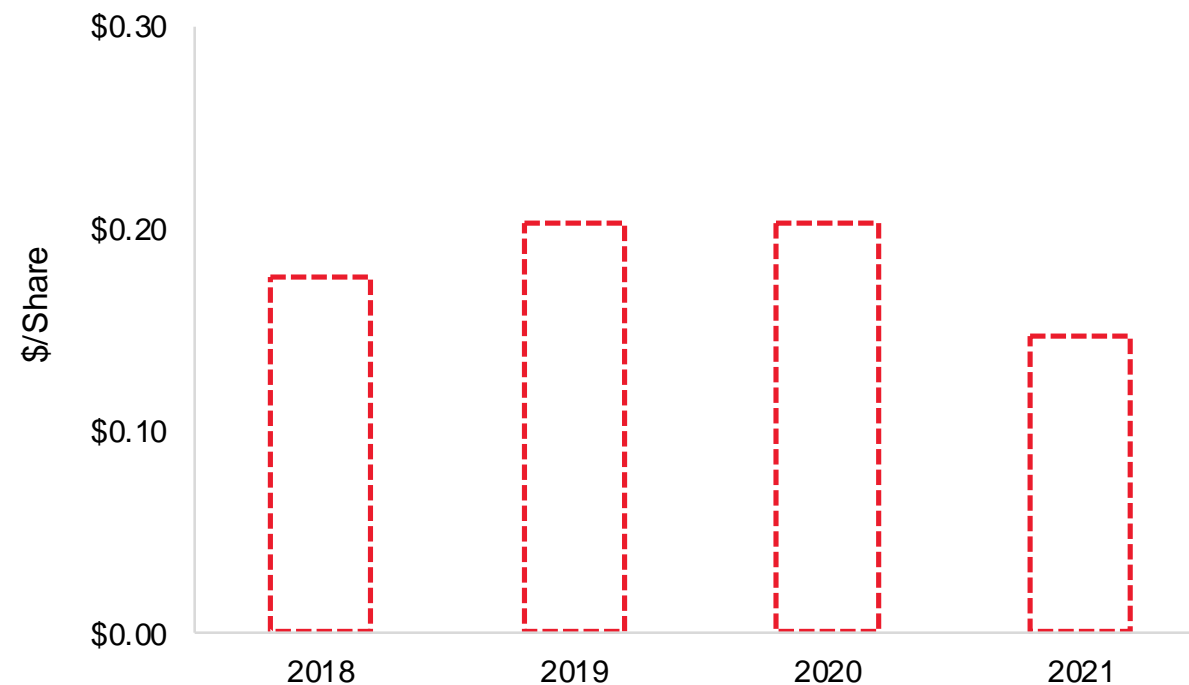
# Conservative approach to adjusted cash flow



Loans and Borrowing Amortization Schedule<sup>(1)</sup>



Impact of amortization on Adjusted Cash Flow<sup>(2)</sup>



**Conservative approach to debt amortization at our JV entities reduces adjusted cash flow over the life of the debt**

(1) Balances reflect Pembina's ownership percentage of the reported balance. See "Forward-looking statements and information" and "Non-GAAP measures."

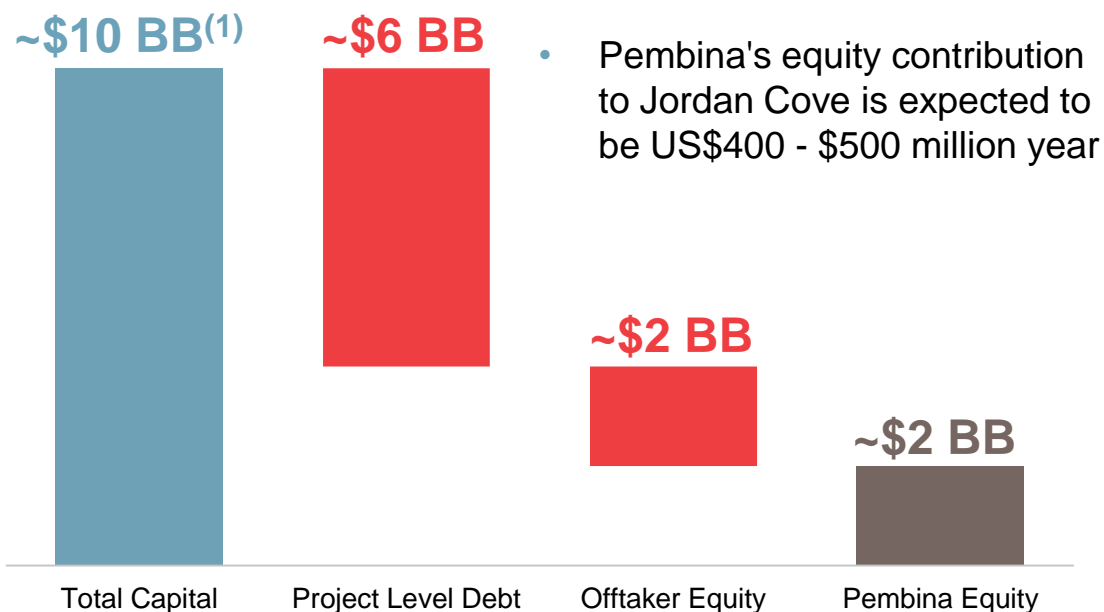
(2) Adjusted cash flow refers to adjusted cash flow from operating activities. Assumes 503 million common shares outstanding over time horizon. Impact of Ruby pipeline is not included due to the nature of Pembina's preferred interest ownership.

# Funding value chain extension projects

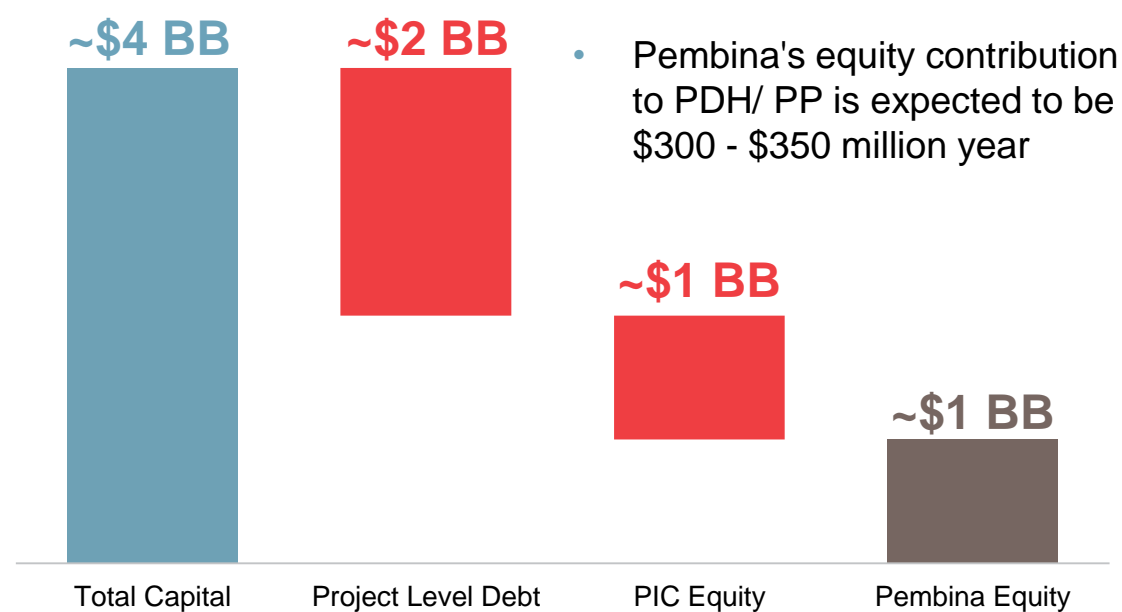


- Anticipate utilizing project level debt on Jordan Cove and PDH/PP
- Partner and off-taker equity contributions mitigate Pembina's equity requirement
- Long construction cycles

Illustrative Jordan Cove funding (US\$BB)



Illustrative PDH/PP funding (C\$BB)



Value chain project funding is manageable through project level and partner funding

(1) Based on legacy capital cost estimate; remains subject to ongoing refinement and scoping, assumes a 60% ownership of Jordan Cove LNG and a 50% ownership of Pacific Gas Connector Pipeline.

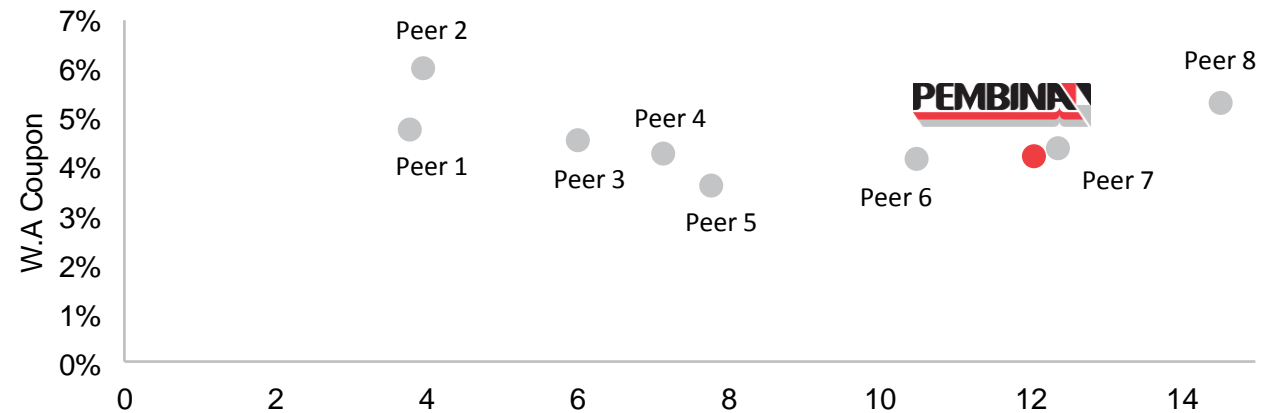
See "Forward-looking statements and information."

# Long-dated debt maturity profile

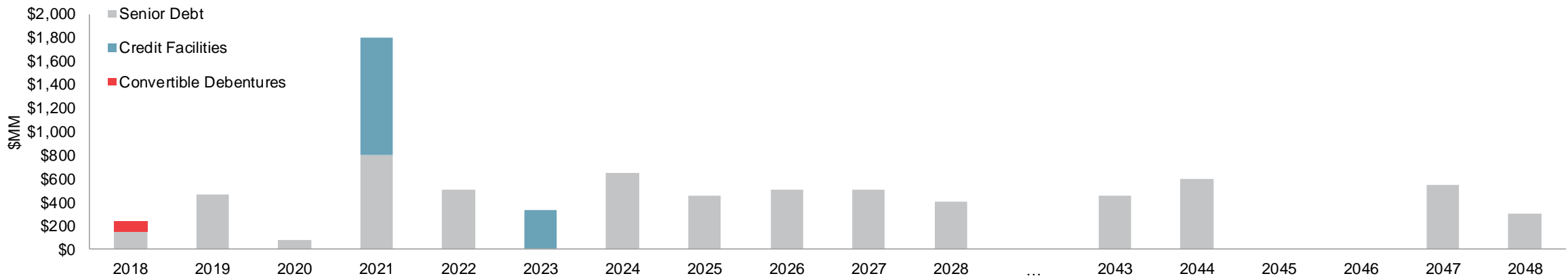


- Pembina's debt portfolio is more conservative than its peer group:
  - › Weighted average maturity of 12.1 years vs. peer group average of 8.3 years
  - › Weighted average coupon of 4.2% vs. peer average of 4.6%

Peer group comparative tenor and cost of funds<sup>(1)</sup>



Pembina's current debt maturity profile



**Pembina has extended tenor of its maturities without sacrificing overall cost of debt**

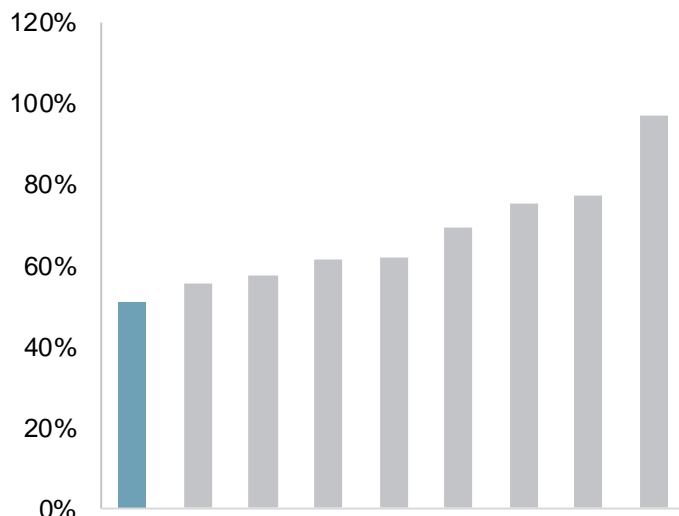
(1) C\$ fixed rate denominated debt only as of May 9, 2018.

Source: National Bank Financial. Peers include AltaGas, Brookfield Renewable Power, Capital Power, Enbridge, Enbridge Income Fund, Inter Pipeline, TransAlta, TransCanada.

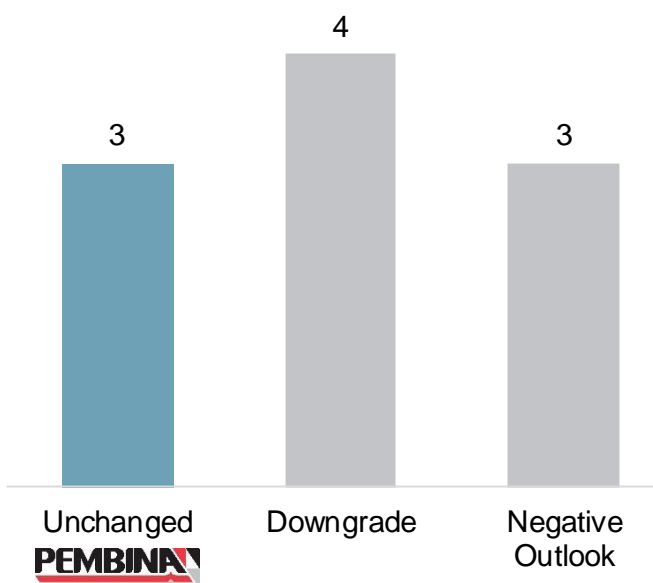
# Conservatively positioned compared to our peers



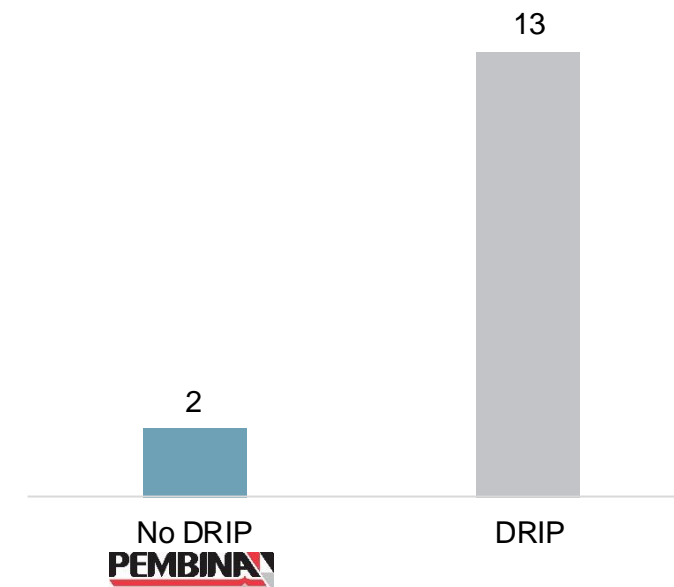
Payout ratio (Q1 2018)<sup>(1)</sup>



Peer group credit rating changes<sup>(2)</sup>



Peer group DRIP programs<sup>(3)</sup>



- Pembina's payout ratio is the most conservative in its peer group

- Pembina's credit rating has remained unchanged while several peers have been placed on negative outlook or have been downgraded

- Pembina is one of the few companies in its peer group that is able to fund its current capital program without requiring external equity

**We are financially well-positioned compared to our peers**

(1) Source: NBF. Payout ratio = dividends declared/AFFO. Companies included: ALA, GEI, KML, ENF, TRP, IPL, ENB, KEY and PPL

(2) Credit rating changes from January 1, 2015 to May 1, 2018. Companies included: ENB, IPL, ALA, TRP, KMI, ETP, WPZ, PAA, EPD and PPL.

(3) Companies include: PPL, KML, ALA, IPL, ENF, FTS, EMA, H, TRP, CU, ENB, KMI, EPD, ETP and WPZ.

See "Forward-looking statements and information."

# Value Proposition

Mick Dilger



# Purpose of Pembina – All stakeholders are of equal importance



To be the leader in delivering integrated infrastructure solutions connecting global markets



# Customers choose us first for reliable and value added services

- ✓ Multi-product service offering
- ✓ Potential discounts for multiple service commitments
- ✓ Volume discounts
- ✓ Ability to align commitments across the value chain (i.e. outage coordination)
- ✓ Linked step-up rights across infrastructure
- ✓ Priority access to potential expansion opportunities
- ✓ Curtailment/apportionment protection through storage access
- ✓ Developing access to alternative markets (New Ventures)

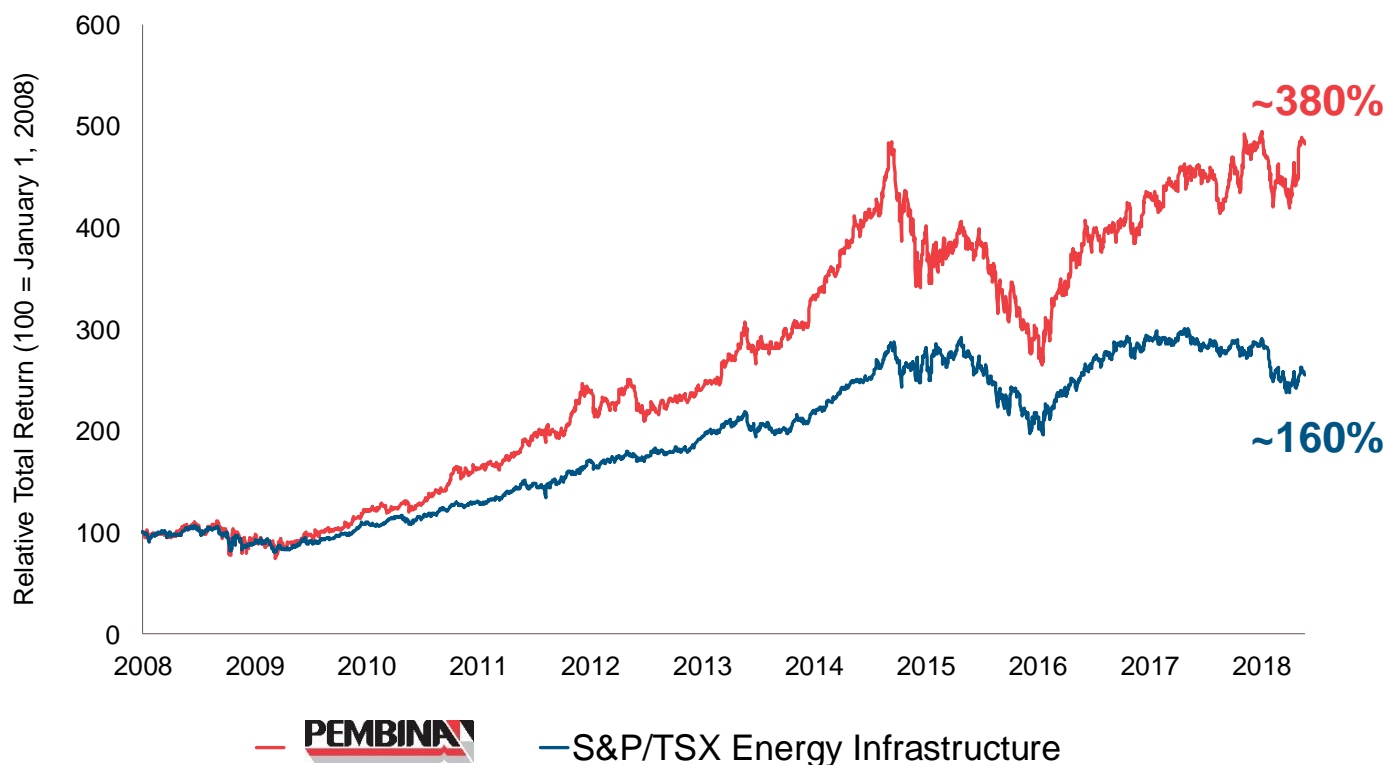


Pembina offers integrated solutions that provide flow assurance, price certainty and netback protection

# Investors receive sustainable industry-leading total returns



## Total Return: Pembina vs. S&P/TSX Energy Infrastructure<sup>(1)</sup>



## Key Metrics

- ✓ 4.2% Dividend growth rate<sup>(2)</sup>
- ✓ ~\$6 billion in dividends paid since inception<sup>(3)</sup>
- ✓ 8% – 10% target adjusted cash flow per share growth
- ✓ 16% Share price compound annual average return<sup>(4)</sup>
- ✓ 380% Total Shareholder return<sup>(4)</sup>

Proven long-term track record of shareholder value creation

(1) Source: Bloomberg.

(2) Compound average annual growth rate from 2008 through 2018.

(3) As of May 2018. Pembina began paying dividends in 1997.

(4) Calculated from January 1, 2008 – May 23, 2018 inclusive of dividends reinvesting. Source: Bloomberg. See "Forward-looking statements and information."

# Employees say we are the 'employer of choice' and value our safe, respectful, collaborative and fair work culture

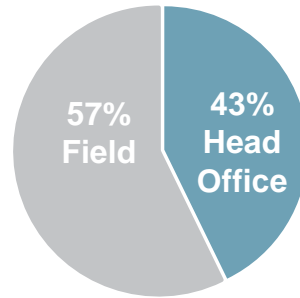


## Employee summary

### Total Employees



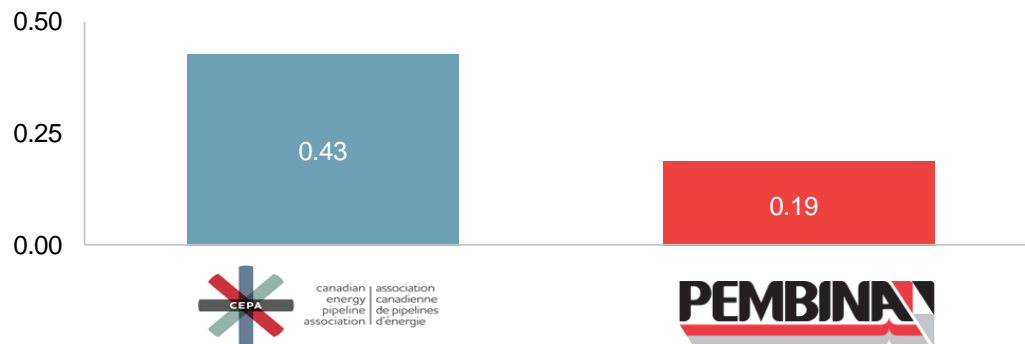
### Location



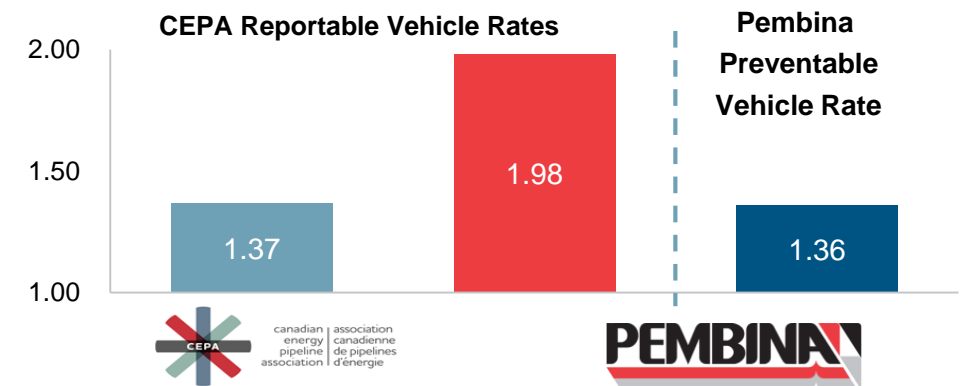
## Recognized for being a top employer



## Employee recordable injury rates per 200,000 hours worked in 2017



## Employee motor vehicle rates (per 1,000,000 km driven in 2017)<sup>(1)</sup>



One of Pembina's most valuable assets are its dedicated people that come to work every day

(1) Recordable injury rate is a measure of the rate of recordable workplace injuries, normalized per 100 workers per year. CEPA recordable cases consist of employee lost-time, modified work and medical aid recordable incidents. Lost-time injury rates measures the number of workplace lost-time injuries normalized per 100 workers per year. CEPA classification of lost-time injuries occurs when an employee sustains a work-related injury which results in lost time from work after the day of the incident (i.e. the next scheduled shift) as prescribed by a licensed physician.

# Communities welcome us and recognize the net positive impact of our social and environmental commitment



**\$4,004,476**

Invested



**4,049**

Hours volunteered



**\$2,485,119**

In Staff Contributions



**United Way**

**\$3,389,526**

Total raised  
(with company match)

**12**

Number of Campaigns

**523**

Volunteer Hours



Pembina employees and Ryan Nielson, Habitat Manager, Calgary Zoo, on our Western System right-of-way.



Pembina employees celebrate the opening of a breakfast program at Dr. KA Clark Elementary school in Fort McMurray, after the 2016 fires impacted many of the students.



IN PARTNERSHIP WITH



In partnership with Alberta Food Banks



Pembina makes meaningful and long-term commitments to the communities we operate in

## Closing thoughts: Pembina's value proposition

- ✓ Diverse and integrated assets, strategically located to serve world-class geology
- ✓ Visible growth while remaining dedicated to our financial guard rails
- ✓ Large scale growth and value chain extension projects under development
- ✓ Organic growth is self-funded
- ✓ Fee-for-service assets support a growing and sustainable dividend
- ✓ Strong balance sheet and conservative payout ratio
- ✓ Committed to all stakeholders



Pembina is a leading North American energy infrastructure company

# CONTACT US

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