# Teck

## **Energy Business Unit**

September 4, 2018 Kieron McFadyen, Senior Vice President, Energy Brad Strueby, Director, Operations Glenn Burchnall, Director, Marketing and Logistics



## Forward Looking Information

Both these slides and the accompanying oral presentations contain certain forward-looking statements within the meaning of the United States Private Securities Litigation Reform Act of 1995 and forward-looking information within the meaning of the Securities Act (Ontario) (collectively referred to herein as forward-looking statements). Forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of Teck to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. These forward-looking statements include statements relating to our resource and mine life estimates, including potential production from Frontier, timing of full production at Fort Hills, debottlenecking opportunities, potential benefits and capacity increase from debottlenecking opportunities at Fort Hills, potential for longer term expansion opportunities at Fort Hills and associated costs, the expectation that Fort Hills will provide free cash flow for decades and a steady and reliable cash flow, Energy EBITDA potential, benefits of our marketing and logistics strategy and associated opportunities, and our expectations regarding our innovation and technology initiatives.

The forward-looking statements in these slides and accompanying oral presentation are based on assumptions regarding, including, but not limited to, general business and economic conditions, assumptions regarding the accuracy of our resource and mine life estimates and their underlying assumptions, assumptions that our Fort Hills project develops as contemplated by the partners, assumptions regarding receipt of governmental approvals for our development projects, our costs of production and productivity levels, conditions in the financial markets, the future financial performance of the company and our ongoing relations with our employees and business partners and joint venturers. Certain forward-looking statements are based on assumptions disclosed in the slides or footnotes to the relevant slides, including WTI price assumptions, WTI-WCS differentials, C\$/US\$ exchange rates and operating costs.

Factors that may cause actual results to vary materially include, but are not limited to, changes in commodity prices, inaccurate assumptions that form the basis for our resource estimates, unanticipated operational and development difficulties, government action or delays in the receipt of governmental approvals and issues in obtaining and maintaining permits. Fort Hills operating costs could be negatively affected by delays in or unexpected events involving the ramp-up of production. Our economic projections and expectations for Fort Hills will be affected by, among other things, differences between actual WTI and assumed WTI, actual WTI-WCS differentials and assumed differentials, actual exchange rates and assumed exchange rates, and actual operating costs and assumed operating costs, as well as the actual price at which we sell our barrels. Our Fort Hills project is not controlled by us and construction and production schedules may be adjusted by our partners.

We assume no obligation to update forward-looking statements except as required under securities laws. Further information concerning assumptions, risks and uncertainties associated with these forward-looking statements and our business can be found in our most recent Annual Information Form, as well as subsequent filings of our management's discussion and analysis of quarterly results and other subsequent filings, all filed under our profile on SEDAR (<a href="http://www.secar.com">www.secar.com</a>) and on EDGAR (<a href="http://www.sec.gov">www.secar.com</a>).



### Introduction to Teck Energy

Fort Hills

Energy Marketing & Logistics

**Frontier Update** 

Next Generation Oil Sands Development

Summary



## A Highly Focused Team Leveraging Teck's mining capability



Kieron McFadyen Senior Vice President, Energy In Attendance



## Quality Barrels in a Progressive Jurisdiction 4<sup>th</sup> largest oil sands mining portfolio

### Fort Hills is in operation

Teck 21.3% = 0.6 billion barrels<sup>1</sup>

### Frontier is in the regulatory phase

• Teck 100% = 3.2 billion barrels<sup>2</sup>

### Lease 421 is a future growth opportunity

- Teck 50%
- High quality lease: high grade, high recovery, low fines



## Energy Within Teck's Portfolio Consistent with all our strategic criteria

- ✓ Strategic diversification
- ✓ Long life assets
- ✓ Truck & shovel operations
- ✓ Low unit operating costs
- ✓ Resource quality & scale
- ✓ Stable jurisdiction





## Our Energy Strategy Teck as a partner of choice



### Focus on maximizing value of Fort Hills

• Safe and efficient ramp-up, increase production volumes, lower costs



### **De-risk Frontier & Lease 421**

• Frontier regulatory hearing scheduled for September 25, 2018



### Drive business results through technology & innovation

• Safe & reliable production, cost and footprint



# Fort Hills



## Fort Hills is a Premier Asset Long-life of >45 years with a very low decline rate

• Commissioning has exceeded our expectations, and full production expected by Q4 2018

• We won't rest on our laurels; focus on unit costs & low capital intensity debottlenecking opportunities

• Executing our comprehensive sales & logistics strategy



## Lower Carbon Intensity Product at Fort Hills

Comparable to the average barrel refined in the U.S.





Source: IHS Energy Special Report "Comparing GHG Intensity of the Oil Sands and the Average US Crude Oil", May 2014.

- Paraffinic Froth Treatment (PFT) removes asphaltenes
- Best in-class Canadian oil sands carbon intensity, including in-situ
- Pushing technology for continuous improvement

## A Modern Mine Built for Low Cost Operations Provides the foundation for our Energy business



### Safe & efficient operations:

- Using leading-edge technology
- Learnings from other facilities

### **Operating costs:**

- Life of mine cash operating costs: C\$22-23/bbl<sup>1</sup>
- Target below C\$20 per barrel

### **Capital efficiency:**

- Life of mine sustaining capital: C\$3-5/bbl<sup>2</sup>
- Higher in 2019 due to tailings and equipment ramp-up spending

## Significant Debottlenecking Potential at Fort Hills

Opportunities identified during commissioning and start-up



Reliability and Availability Modeling (RAM) will quantify the potential uplift

ec

## Debottlenecking and Expansion Opportunities With significant incremental cash flow potential

## Potential capacity increase of 20-40 kbpd on a 100% basis

- Teck's 21.3% share of annual production could increase from 14.0 Mbpa to 15.5-17.0 Mbpa
- Near term opportunities to achieve some of the increase with minimal capital
- Longer term opportunities may require modest capital



## Free Cash Flow for Decades

Providing Teck with steady and reliable cash flow

Assumptions	
WTI price	US\$75/bbl
WTI-WCS differential	US\$14.75
C\$/US\$ exchange rate	1.25
Operating costs	C\$20/bbl

- Energy EBITDA potential of ~C\$530M at full production of 14 Mbpa<sup>1</sup>
- Significant upside with debottlenecking

# **Energy Marketing & Logistics**



## Significant Market Presence Developing a reputation as a preferred counterparty



### Teck's Commercial Activities<sup>1</sup>

=Bitumen blend sales	49.5 kbpd
+Diluent acquisition	11.2 kbpd
Bitumen production	38.3 kbpd

First sales in March 2018

Excellent acceptance of Fort Hills' product (FRB) in our core markets

Active purchaser of diluent

## Executing Our Comprehensive Sales & Logistics Strategy Seeing early returns from diverse market access

### Our sales mix provides diverse market access<sup>1</sup>

- 10 kbpd shipped to US Gulf Coast via Keystone pipeline
- 39.5 kbpd at Hardisty, a key Canadian market hub

# Well positioned for future opportunities, including:

- Rail loading capacity at Hardisty
- Export pipeline expansions



## US Midwest and US Gulf Coast are Key Markets

Excess capacity for heavy in North America

Blended Bitumen Pipelines Teck has contracted capacity on the existing Keystone pipeline and the proposed TransMountain pipeline



#### Key Markets:

- US Midwest is the largest market, but future growth is constrained
- US Gulf Coast has exceptional growth potential



#### **US Gulf Coast Heavy Blend Processing**

Additional Capacity Available for Canadian Heavy

Canadian Heavy Usage

Source: CAPP, Lee and Doma

## Long Term Alberta Logistics Capability in Place Contracted capacity will accommodate production upside



# **Frontier Update**



## Frontier is Another Major Resource

100% Teck

Nameplate capacity of 260,000 bpd

Resource of 3.2 billion barrels<sup>1</sup>

>40 year mine life





### Frontier Hearing Commences September 25, 2018 Strong community support





## We are Ready for the Next Phase Regulatory permitting process continues



### We are leading:

- One of most comprehensive environmental assessments to date
- Developing strong relationships with Indigenous communities and other stakeholders
- Recognized permitting and progressive mining experience

### What is next:

- Final preparations ahead for the public hearing this fall
- Panel then produces report; Federal Decision Statement anticipated by mid-2019

# Next Generation Oil Sands Development



## **Driving Business Results**

Technology/innovation sustains competitiveness and license to operate

### **Business Drivers:**

- Operational excellence
- Unit cost savings
- Capital efficiency
- Environmental performance
- Safety

### Technology/Innovation:

- Autonomous haul trucks
- Solvent extraction
- Debottlenecking
- Partial upgrading
- Leveraging existing assets



## Collaborating with the Industry as Part of COSIA Technology is king



#### Canada's Oil Sands Innovation Alliance (COSIA)



## Teck's Technology Pipeline Levering our know-how & innovation



## Technology & Innovation at Teck We put ideas to work



#### **Smart Shovels**

- Sensors used to separate ore from waste
- Currently employed at Highland Valley (HVC)
- Assessing Red Dog deployment in 2018



#### **Autonomous Haul Trucks**

- Improved productivity & safety
- Fort Hills is autonomous ready
- Six-truck deployment at HVC by end of 2018



#### **Operator Augmentation**

- Empowers shovel operators to increase efficiency
- Currently being piloted by Teck
- First prototype in the mining industry





## **Excellent Assets & People**

Teck Energy - a partner of choice; levering our mining leadership



Energy is consistent with all our strategic criteria and provides growth options

Energy moves from significant cash outflow to cash inflow by the end of 2018

#1 priority for Energy is to maximize value from Fort Hills

Fort Hills is the foundation of a premier Canadian oil sands portfolio

## Notes

#### Slide 5: Quality Barrels in a Progressive Jurisdiction

- 1. Proved and probable reserves as at December 31, 2017. See Teck's annual information form dated February 26, 2018 for further information regarding Fort Hills reserves.
- Best estimate of unrisked contingent resources as at December 31, 2017, prepared by an independent qualified resources evaluator. See Teck's management discussion and analysis dated February 14, 2018 for further information regarding the Frontier resource. There is uncertainty that it will be commercially viable to produce any portion of the resources.

#### Slide 10: Lower Carbon Intensity Product at Fort Hills

1. Source: IHS Energy Special Report "Comparing GHG Intensity of the Oil Sands and the Average US Crude Oil" May 2014. SCO stands for Synthetic Crude Oil.

#### Slide 11: A Modern Mine Built for Low Cost Operations

- 1. Operating cost estimate represents the Operator's estimate of costs for the Fort Hills mining and processing operations and do not include the cost of diluent, transportation, storage and blending. Estimates of Fort Hills operating costs could be negatively affected by delays in or unexpected events involving the ramp up of production. Steady state operations assumes full production of ~90% of nameplate capacity of 194,000 barrels per day.
- 2. Sustaining cost estimates represent the Operator's estimate of sustaining costs for the Fort Hills mining and processing operations. Estimates of Fort Hills sustaining costs could be negatively affected by delays in or unexpected events involving the ramp up of production. Fort Hills has a >40 year mine life.

#### Slide 14: Free Cash Flow for Decades

1. Fort Hills' full production is ~90% of nameplate capacity of 194,000 barrels per day. Includes Crown royalties assuming pre-payout phase. EBITDA is a non-GAAP financial measure. See "Non-GAAP Financial Measures" slides.

#### Slide 16: Significant Market Presence

1. Annualized average at full production. Reflects 21.3% Fort Hills partnership interest.

#### Slide 17: Executing Our Comprehensive Sales & Logistics Strategy

1. Annualized average at full production. Reflects 21.3% Fort Hills partnership interest.

#### Slide 18: US Midwest and US Gulf Coast are Key Markets

1. Canadian Association of Petroleum Producers, Lee and Doma.

#### Slide 21: Frontier is Another Major Resource

1. Best estimate of unrisked contingent resources as at December 31, 2017, prepared by an independent qualified resources evaluator. See Teck's management discussion and analysis dated February 14, 2018 for further information regarding the Frontier resource. There is uncertainty that it will be commercially viable to produce any portion of the resources.

# Appendix - Energy Business Unit Modelling



## Operating Netback – Q2 2018 (June)

- Operating netback is a non-GAAP measure, **presented on a product and sales barrel basis** on page 22 of the Q2 2018 news release.
- Derived from the Energy segmented information (P&L), after adjusting for items not directly attributable to the revenues and costs associated with production and delivery.
- Excludes depreciation, taxes and other costs not directly attributable to production and delivery of Fort Hills product.



## Operating Netback – Q2 2018 (June)



## Operating Netback Reconciliation – Q2 2018 (June) Non-GAAP Financial Measure on page 49 of Q2 2018 news release

	One month ended		One month ended
(C\$ in millions, except where noted)	June 30, 2018	(C\$ in millions, except where noted)	June 30, 2018
Revenue as reported	\$ 78	Per barrel amounts (C\$/barrel)	
Less:		Bitumen price realized (A/B)	\$64.59
Cost of diluent for blending	(22)	Transportation (C/B)	(8.90)
Add back: Crown royalties <sup>1</sup> (D)	3	Crown royalties (D/B)	(3.59)
Adjusted revenue (A)	\$ 59	Operating costs (E/B)	(38.25)
		Operating netback (C\$/barrel)	\$ 13.85
Cost of sales as reported	\$ 77		
Less:		Blended Bitumen Price Realized Reconciliation	
Cost of diluent for blending	(22)	Revenue as reported	\$ 78
Transportation (C)	(8)	Add back: crown royalties <sup>1</sup>	3
Depreciation and amortization	(12)	Blended bitumen revenue (F)	\$81
Adjusted cash cost of sales (E)	\$ 35		
		Blended bitumen barrels sold (000s of barrels) (G)	1,162
Blended bitumen barrels sold (000s of barrels)	1,162	Blended bitumen price realized — (CAD\$/barrel) (F/G) = H	\$ 70.00
Less: diluent barrels included in blended bitumen (000s of barrels)	(244)	Average exchange rate (I)	1.31
Bitumen barrels sold (000s of barrels (B)	918	Blended bitumen price realized — (US\$/barrel) (H/I)	\$ 53.32

## Energy Gross Profit - Q2 2018 (June)

### From Revenue and Gross Profit Table Q2 2018 news release; page 35

CAD\$ in millions	June 1-30, 2018
Revenue (A)	\$78
Gross profit (loss) (B)	\$1

### From Cost of Sales Summary Table Q2 2018 news release; pages 36-37

CAD\$ in millions	June 1-30, 2018
Operating costs (C)	\$35
Transportation costs (D)	\$8
Concentrate and diluent purchases (E)	\$22
Depreciation and amortization (F)	\$12

#### **Blended Bitumen Revenue Calculation**

CAD\$ in millions	June 1-30, 2018
Revenue, as reported (A)	\$78
Add back: crown royalty (G) – from Q2 2018 news release; page 49	3
Blended bitumen revenue, calculated (H)	\$81
Energy Business Unit Operating Stateme	ent
CAD\$ in millions	June 1-30, 2018
Revenue:	
Blend sales (H)	\$81
Less: crown royalty (G)	(3)
Revenue (A)	\$78
Less: Cost of sales:	
Cost of diluent for blending (E)	\$22
Operating expenses (C)	35
Transportation (D)	8
Depreciation and amortization (F)	12
Cost of sales, calculated	\$77
Gross profit (B)	\$1
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## Modelling Bitumen Price Realized – Q2 2018 (June) Non-GAAP Financial Measure

Bitumen price realized = (blend sales<sup>A</sup> – diluent expense<sup>B</sup>) / bitumen bbls sold<sup>C</sup>

A. Blend sales = blend sales @ Hardisty + blend sales @ U.S. Gulf Coast (USGC)

- = \$81 per "Blended Bitumen Price Realized Reconciliation" and "Reconciliation of Energy Gross Profit"
- Blend sales @ Hardisty = [(WTI WTI/WCS differential @ Hardisty negotiated differential) x F/X rate] x # of barrels sold at Hardisty
- Blend sales @ USGC = [(WTI WTI/WCS differential @ USGC negotiated differential) x F/X rate] x # of barrels sold at USGC

\*\*\*WTI/WCS differentials are not the same at Hardisty vs. USGC

- B. Cost of diluent for blending:
  - = Cost of diluent product + diluent transportation/storage + blending cost
  - = \$22 per "Cost of Sales Summary Table" and "Reconciliation of Energy Gross Profit"
  - Cost of diluent product = [(WTI +/- condensate premium/discount) x # of diluent barrels sold in blend] x F/X rate

\*\*\*Diluent contained in a barrel of blend ranges from approximately 20% to 25% depending on the quality of blend and season (temperature)

- Diluent transportation and blending cost includes tolls on the Norlite pipeline, East Tank Farm blending facility and diluent storage at Fort Saskatchewan
- C. Bitumen barrels sold as provided on the "Operating Netback Reconciliation"

## **Energy EBITDA Simplified Model**

Illustrative EBITDA Calculation - Teck Attributable @ 21.3% (14 Mbpd) <sup>1</sup>		
	Assumption Per Barrel	Total
WTI price	US\$75.00	
Less: Weighted average WTI-WCS differential	(US\$13.50)	
Multiplied by: C\$/US\$ exchange rate @ \$1.25		
WCS price (WTI price less WTI-WCS differential x C\$/US\$ exchange rate @ \$1.25)	~C\$77	
Less: Operating costs	C\$20	
Diluent cost (includes product, diluent transportation and blending costs)	C\$10	
Transportation (pipelines & terminalling downstream of ETF)	C\$7	
Crown royalties	C\$3	
Total cost	C\$40	
EBITDA	~C\$37	
EBITDA potential (14 Mbpd x cash margin)		~C\$520M

## Notes: Appendix – Energy Business Unit Modelling

#### Slide 38: Energy EBITDA Simplified Model

1. EBITDA is a non-GAAP financial measure. This model is being provided to illustrate how Teck calculates EBITDA for its Energy business unit. The figures included are not forecasts of projected figures of Teck's Energy EBITDA. See "Non-GAAP Financial Measures" slides.

# Non-GAAP Financial Measures



## **Non-GAAP Financial Measures**

EBITDA is profit attributable to shareholders before net finance expense, income and resource taxes, and depreciation and amortization. We believe that disclosing this measure assists readers in understanding the ongoing cash generating potential of our business in order to provide liquidity to fund working capital needs, service outstanding debt, fund future capital expenditures and investment opportunities, and pay dividends.

#### **Reconciliation of Teck's EBITDA and Adjusted EBITDA**

	Six months ended
(C\$ in millions)	June 30, 2018
Profit attributable to shareholders	\$ 1,393
Finance expense net of finance income	87
Provision for income taxes	775
Depreciation and amortization	703
EBITDA	\$ 2,958
Add (deduct):	
Debt repurchase (gains) losses	-
Debt prepayment option (gains) losses	32
Asset sales and provisions	4
Foreign exchange (gains) losses	(8)
Collective agreement charges	-
Other items	(15)
Adjusted EBITDA	\$ 2,971