CALIMA ENERGY

INVESTOR PRESENTATION MAY 2019

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The petroleum resources information in presentation is based on, and fairly represents, information and supporting documentation in a report compiled by technical employees of McDaniel and Associates Ltd, a leading independent Canadian petroleum consulting firm registered with the Association of Professional Engineers and Geoscientists of Alberta, and was subsequently reviewed by Mr Mark Sofield, a consultant to the Company. Mr Sofield holds a BSc. Geology (Hons), is a Geologist with over 20 years of experience in petroleum geology, geophysics, prospect generation and evaluations, prospect and project level resource and risk estimation and is a member of the American Association of Petroleum Geologists. Mr Sofield has consented to the inclusion of the petroleum resources information in this announcement in the form and context in which it appears.

Prospective resources are the estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s) related to undiscovered accumulations. These estimates have both an associated risk of discover and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons. The prospective resources have also been classified using a deterministic method of petroleum reserves estimation having an evaluation date of December 31st, 2017.

Print date 30-05-19

Introduction

Listed on the ASX (CE1 AU), Calima Energy is a Canadian energy junior with 72,000 acres of Montney drilling rights in NE British Columbia.



CALIMA ENERGY

CAPITAL STRUCTURE

- Ordinary Shares 1,444 M
 Management Perf. Equity⁽¹⁾ 55.5 M
 Market Capitalisation⁽²⁾ \$40 M
- Cash & Securities⁽³⁾ \$9.0 M

SHAREHOLDERS

- Institutions 21%
- Board/Management/Founders⁽⁴⁾ 20%
- Tribeca Inv. Partners 10%

BOARD⁽⁵⁾

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- Mr Glenn WhiddonChairmanDr Alan SteinManaging DirectorMr Jonathon TaylorTechnical DirectorMr Neil HackettDirector
- (1) Includes performance shares, performance rights (\$0.15) and options (\$0.09 and \$0.12). For details see prospectus dated June 30th 2017
- (2) Based on the closing price on May 7th 2019
- (3) As at March 31st 2019 but before adjustments for invoices from the drilling campaign not yet due.
- (4) Founders includes former major shareholders of TSV Montney Limited and TMK Montney Limited who entered into voluntary escrow agreements until April 2019
- (5) Appendix Four



Company Snapshot

Predicted a northern extension to the liquids rich Montney fairway in NE BC in 2014

Built a 72,000-acre land position and drilled three wells in 2019 to validate the prediction \checkmark

Assembling the building blocks for future development while minimising dilution In progress

Deliver optimal pathway to value creation via a strategic process In progress





REGION	SECTIONS	AREA (acres)
CENTRAL	88	60,363
POCKETKNIFE NW	13	8,903
POCKETKNIFE SE	4	2,748
TOTAL	105	72,014

Western Canada

POISED FOR GROWTH THROUGH LNG

- Strong demand for condensate in Western Canada pricing close to WTI
- International Energy Agency predicts global natural gas consumption to grow by 45% over the next 25 years
- Montney gas reserves equivalent to half total reserves of Qatar
- Oil sands industry gas demand to grow 45% to 8 bcf/d by 2023
- Canadian Government has approved five significant LNG projects
- Shell, Petronas and partners have commenced construction of the 28 mtpa LNG Canada project at Kitimat in BC;
 - At C\$40 billion, Canada's biggest ever infrastructure project
 - Phase 1 will consume 30% of all the gas produced in Western Canada
 - LNG Canada partners have only half the gas reserves required to fill Phases 1 and 2⁽¹⁾
- Woodside and Chevron have applied to double the size of their Kitimat LNG project to 18 mtpa
- LNG from Western Canada has a unit cost 50% lower than equivalent Australian projects
- Calima can access⁽²⁾ the NorthRiver (Brookfield) pipeline and processing network which is strategically positioned to support Montney growth and LNG development
- NorthRiver offers access to multiple egress options; NGTL, Alliance and Westcoast





Calima BUILDING BLOCKS TO VALUE



Assembling the building blocks of a world-class development project with minimal dilution to create value and deliver a pathway for growth for shareholders through a strategic process.



- On going discussions to connect to nearby infrastructure in an existing field via a 20 km pipeline.
- The existing field infrastructure has capacity to handle up to 50 mmcf/d and 2,500 bbl/d of condensate and NGL with scope for further expansion.
- Field is in late stage of life so the pipeline facilities can be accessed efficiently.
- The field is connected to NorthRiver's Jedney processing plant which offers multiple options to link to the US and to new LNG terminals.
- Pipeline can be partially debt funded (C\$15m) via revenue from Calima's existing wells minimal dilution to shareholders.
- Pipeline delivers strategic building blocks:
 - Secures access to key infrastructure and egress
 - Establishes production profile and liquids ratio
 - Allows reserve booking and access to reserve-based lending
 - Creates platform to grow to 50,000 mmcfd and 2,500 bbl/d
- Significantly enhances the appeal of the Calima Lands to investors, partners and potential acquirers
- Calima has earned the right to convert c. 50% of its current land position to 10-year production leases

Well Performance

ADJACENT OPERATOR PROVIDES ANALOGUE FOR CALIMA

- Saguaro Resources has drilled more than 60 wells in the acreage immediately adjacent to Calima ^{(1) (2)}
- Saguaro results provide a direct analogue for Calima ⁽³⁾
- Saguaro top tier Montney producer ⁽²⁾
- 114,000 acres
- C\$600 M invested
- 16,485 boe/d ave. production 2018
- 50 bbls/mmcf liquids yield (CGR)
- 70% of liquids are high value condensate (C5+)
- 60% of revenue from liquids (50% from condensate)
- 2018 \$14.90 per boe netback

Calima's target - Match the Saguaro 8 bcf type curve

- (1) Location on Slide 6
- (2) Saguaro Corporate Presentation February 2019. Half cycle IRR's based on AECO \$1.50 GJ and WTI US\$60 bbl. IRR upside case in parentheses based on AECO C\$2.00 GJ and WTI US\$65.00 bbl.
- (3) Appendix One
- (4) Cormark Securities, May 2018 Individual well IRR (half-cycle) based on WTI at US\$60 and AECO at C\$2.50 mcf





Saguaro Type Curves^{(2) (3)}

SAGUARO TYPE CURVES	7 bcf	8 bcf
Generation	2 nd	3 rd
Hz Length m	2,000	2,500
IP 30 Raw mmcf/d	6.1	7.4
IP 30 Sales mboe/d	1.2	1.5
EUR Raw bcf	7.3	8.3
Eur Sales mmboe	1.4	1.6
Half Cycle IRR %	34 (46)	46 (75)

Montney Producers Ranked by IRR per Well⁽²⁾

Saguaro's recent 8 bcf type curve wells deliver top tier performance.

Montney Producers Ranked by IRR per Well⁽⁴⁾



Drilling Operations

Calima-1 - Vertical pilot hole, logged and cored (230m entire Montney)

Calima-2 - 2,500 m horizontal future producer

Calima-3 – 2,500 m horizontal future producer

92 stage frac, 30m spacing, 1.5t/m proppant

Drilled	9,353 m of rock
Pumped	55,000 m ³ of water
Injected	7,830 tonnes of frac sand
Camp	7,000 nights
Managed	500 truck heavy movements





- No significant health, safety or environmental incidents
- 10% overspend against budget (c.C\$2.6 million)

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- Extensive one off costs to drill the area for the first time (construction, water management, transportation)
- No benefit from economies of scale
- Expect typical costs to drill, complete and equip each future well to be C\$6.8 million which compares against adjacent Operator drilling similar wells for C\$5.8 million

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Drilling Results

PROVED EXTENSION OF THE LIQUIDS RICH MONTNEY

Compiled for Calima Energy (March 2019) by; NUTECH		LOCATION A	LOCATION B	CALIMA-1	LOCATION C	LOCATION D
	Porosity (%)	3.8	4.5	5.3	4.1	4.1
	Hydrocarbon Sat. (1-Sw) %	67.8	87.7	87.5	68.7	82.6
UPPER TARGET	Thickness (m)	48	49	46	38	35
(tested with Calima-5)	Clay (%)	18.6	16.6	14.3	18.2	16.1
	TOC (%)	1.48	2.13	1.7	1.36	2.0
	Porosity (%)	3.7	4.1	4.5	3.8	3.4
MIDDLE TARGET (tested with Calima-2)	Hydrocarbon Sat. (1-Sw) %	67.7	82.0	75.2	65.9	48.5
	Thickness (m)	73	70	73	65	64
	Clay (%)	23.7	23.3	20.6	20.8	18.8
	TOC (%)	1.05	1.33	1.3	0.92	0.93
	Porosity (%)	4.3	5.1	4.9	4.7	4.5
	Hydrocarbon Sat. (1-Sw) %	70.3	72.5	62.0	63.1	62.7
(upside potential)	Thickness (m)	146	132	136	158	136
	Clay (%)	30.0	27.4	27.0	30.2	28.4
	TOC (%)	0.87	0.87	1.1	0.65	0.59

Log Analysis – Peer Group Comparison⁽⁴⁾

Log analysis of peer group wells highlights the superior reservoir parameters encountered at Calima-1 at all Montney intervals – specifically Porosity and Hydrocarbon Saturation.



Objective	
1. Stratigraphy	~
2. Reservoir Quality	$\checkmark \checkmark$
3. Condensate	 ✓
4. Hydrocarbon Sat.	$\checkmark\checkmark$
5. Illus. Gas-In-Place	$\checkmark \checkmark$
6. Production Rate ⁽¹⁾	$\checkmark\checkmark$
7. Cond/Gas Ratio ⁽²⁾	~
8. Type Curve ⁽³⁾	\checkmark



- Calima's 2019 drilling (1 x vertical, 2x horizontal) demonstrated that the prospectivity encountered by Saguaro extends into the Calima Lands
- Saguaro are a top tier Montney producer based on IRR per well
- Calima drilling campaign met or exceeded all objectives
- Further details in Appendix One

(1) The initial 48 hour gas production rate of Calima-2 appears to plot within the top quartile of the peer group (Appendix One, Slide 21). (2) Based on a total liquids yield assuming that liquids recovered from processing equals liquids recovered from the well-head (Appendix One, Slide 25). (3) Based on initial production rate (Appendix One, Slide 21-26) and an assumed IP 30 Management expects type curves to be comparable with latest type curves reported by Saguaro. (4) ASX Announcement 8th April 2019, Appendix One, Slide 22

Reserves Report

UPDATE AND UPGRADES DUE JUNE 2019

- McDaniel & Associates have been commissioned to update ٠ the March 2018 reserves report⁽²⁾
- Expected June 2019 ٠
- Drilling results suggest there will be a significant uplift ٠
- Estimate Ultimate Recovery (EUR) Expecting an increase ٠ closer to the 7-8 bcf per well performance of adjacent Operator (2018; 5.6-6.8 bcf) 🗸
- Condensate Gas Ratio⁽³⁾ (CGR) Confirm 2018 expectation of • 50 bbl/mmcf
- Well Locations 2018 report considered only 400 well ٠ locations, at Upper and Middle Target. Update report can consider additional locations based on analysis of core data over the Lower Target 🗸 🗸
- **Well Spacing** Higher than expected hydrocarbon saturations • can justify tighter well spacing of 300-350m (2018; 400m)
- **Category** Significant proportion of the prospective resources can be converted to the contingent category and upon completion of commercial arrangements some of the contingent resources can be converted to reserves



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Significant upgrade

2018 McDANIEL & ASSOCIATES BEST ESTIMATE GROSS UNRISKED PROSPECTIVE RESOURCES ⁽¹⁾

March 2018	Calima Lands Gross	Calima Lands Net
Natural Gas (Tcf)	2.16	1.69
Condensate (Mmbbl)	54.20	45.30
Natural Gas Liquids (Mmbbl)	60.22	48.88
Total Liquids (Mmbbl)	114.42	95.20
TOTAL (Mmboe)	475.79	376.76

(1) Appendix Two

- (2) Prepared in accordance with the standards set out in the Canadian Oil and Gas Evaluation Handbook (COGEH) and National Instrument (NI 51-101) and classified in accordance with the Society of Petroleum Engineers Petroleum Resources Management System (SPE-PRMS).
- Condensate Gas Ratio. The sum of all the liquids expected to be recovered (3) per million cubic feet of gas. These liquids are recovered at the wellhead and from further processing and are comprised of condensate (C5+) and other Natural Gas Liquids such as propane (C3) and butane (C4).

Economics

SINGLE WELL KEY ASSUMPTIONS

Estimated Ultimate Recovery ⁽¹⁾ (per well)		
Natural Gas	7.19 bcf	
Condensate	280,000 bbl	
Natural Gas Liquids	120,000 bbl	
TOTAL	1,598,400 boe	

Well Cost ⁽²⁾ CAD \$	
Drilling	2,000,000
Completion	3,000,000
Facilities	800,000
TOTAL	5,800,000

Operating Expenditure (per well) CAD \$		
Fixed ⁽³⁾	\$7,000 pcm	
Variable ⁽⁴⁾	\$9-12 per boe	

Economic Interest		
Gross Interest	100%	
Net Interest ⁽⁵⁾	80%	



AECO C\$ GJ/ WTI US\$ bbl ⁽⁶⁾	NPV 0 C\$ million	NPV10 C\$ million	IRR %	Netback C\$boe
1.50/60	8.4	3.4	33.2	5.4
2.00/65	12.1	5.6	52	7.6
McDaniel Apr 2019	14.2	5.5	38	8.9

All outputs after allowance for tax using current schedules

(1) Test results (Appendix One Slides 25-26) suggest that Saguaro's 8 bcf type curve (Slide 8) is an appropriate analogue to use for the Calima wells. (2) Drilling and completion costs for the existing Calima wells were in the region of C\$9 m for each of the horizontals. These were the first wells drilled in the area. In future it is assumed that certain efficiencies can be achieved through optimisation of completion design and infrastructure efficiency. Saguaro report an average drilling, completion and equipping cost for 2,500 m horizontals of \$5.8m. (3) Based on assumptions made by McDaniel in the March 2018 reserve report. (4) Based on an estimate of the operating cost of the Tommy Lakes infrastructure and market rates for tolls and processing of \$1.10 mcf (5) Net entitlement interest after deduction of royalties as determined by McDaniel in the 2018 reserve report. (6) Before tax, Condensate (liquids + C5) 100% WTI, other NGL's Butane (C4) & Ethane (C3) average \$17/bbl. McDaniel Apr 2019 refers to the price deck as at April 1st 2019 published on the McDaniel & Associates web page.

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Conceptual Development

A tie-in pipeline to adjacent field infrastructure could create a project with the capacity to produce up to 50 mmcf/d without significant additional investment.

A conceptual 20-year development model ⁽¹⁾ assuming an 8Bcf type-curve, an average CGR of 50 bbl/mmcf and constrained to 50 mmcf/d and 2,500 bbl/d of liquids delivers attractive economics which uses less than 30% of the total un-risked prospective resource ⁽²⁾

Debt funding of C\$50m generates more than C\$70m of annual operating income from year 4 onwards.

The conceptual model demonstrates the potential strategic attractiveness of the Calima Lands with access to egress and processing facilities linked to all the regional markets including proposed LNG facilities.

(1) Appendix Three, (2) Appendix Two

Development concept



ΓΑΙΙΛ

10 Year Net Operating Income & Cumulative Production



Full Cycle Economics 77 wells (2020-2041)

AECO C\$ GJ/ WTI US\$ bbl	NPV 0 C\$ million	NPV10 C\$ million	IRR %	Cum Prod mmboe	Op Cost CS/boe	Cap Cost C\$/boe	Netback C\$/boe
McDaniel Jan 2019	1,645	297	45	122.6	12.97	4.74	13.50

Create

Built a 72,000 acre Montney land position in NE BC

Drilled 3 wells to prove extension of liquids rich Montney fairway

Well performance matches or exceeds adjacent Operators – Initial rate >1,600 boepd

Build

Well results will lead to a significantly upgraded reserves report - expected June

Secure access to existing pipelines and infrastructure to support reserves bookings and increase strategic value

Use existing wells to finance tie-in pipeline and minimise dilution

Realise

Implement a structured process to advance investment interest and/or partnerships to create a pathway to create optimum shareholder value





ROADMAP FOR OUR BUSINESS

STICKING TO THE PLAN

Conclusion

- Drilling programme met or exceeded expectation and will result in an updated reserve report June 2019.
- The building blocks for an 10,000 boepd development plan can be put in place with limited additional investment utilising existing wells and a debt facility.
- Implementing a structured process to evaluate and progress investment interest and/or partnerships to create a pathway to shareholder value.

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INVESTOR PRESENTATION APPENDICES MAY 2019

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APPENDIX ONE - DRILLING RESULTS

1 2

2019 Drilling





- Drilled 1 x vertical well and 2 x horizontal well
- Collected core and wireline logs over the whole Montney section
- Production testing of the horizontal wells successful. Suspended as future producers

Calima-1 Vertical Well



 Demonstrated that the Montney geology across the Calima Lands is very similar to Saguaro's

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- Presence of gas and condensate confirmed by laboratory analysis of core samples
- Porosity and hydrocarbon saturation higher than comparable Saguaro wells based on log analysis
- Targets for horizontal wells (Upper and Middle) match the same target intervals favoured by Saguaro



Enerplus B002E Older well located within the Calima Lands. Drilled to test deeper target before the unconventional, potential of the Montney was understood. **Calima -1** Calima-1 vertical pilot hole Saguaro C81G Saguaro vertical pilot hole on one of their early multi-well producing pads

18 km to the SE

8 km to the NW

Drilling Performance



Time vs Depth



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- CWL has experience with • most other Operators in the region
- Permitting
- Stakeholder relationships.
- Site construction
- Accommodation and support logistics
- Top quartile drilling • performance
- No major HSE reports





Production Testing – Calima - 2





Results

- Maximum gas rate 10.2 mmcf/d
- Maximum liquid rate 151 bbl/d at gas rate of 8.4 mmcf/d

In analysing the results Michael Morgan, Director of Analytics at GLJ Petroleum Consultants in Calgary commented;

"In reviewing the test results, it looks like the Calima-2 well is going to meet its primary objective in matching or exceeding the performance of adjacent wells. Gas and light oil or condensate flow rates compare very favourably with the peer group at this early stage of testing.

The condensate recovery rates are typical for wells in the liquids rich zone of the Montney and the liquid chromatography results are also typical for condensates recovered from wells adjacent to the Calima Lands".

Test rate (mmcf/d) after 48 hours vs rig release date. The Calima-2 maximum gas rate during clean-up at 10.2 mmcf/d plots within the top quartile of the peer group.

- (1) The numbers of barrels recovered at the well-head is not indicative of the total number of barrels typically won from production. Based on expected deep cut recoveries through standard processing facilities in the area the liquids recoveries would be expected to more than double after treatment. For this analysis the Company has determined that plant recoveries are equal to well head recoveries. The liquid rate and condensate to gas ratio is therefore based on the sum of the total liquids recovered at the well head plus the total liquids assumed to be recoverable after gas processing.
- (2) GLJ Petroleum Consultants have been retained by the company to provide analysis of the production test results. <u>https://qlipc.com/</u>

Log Analysis – Peer Group Comparison

Compiled for Calima Energy (M	arch 2019) by; NUTECH	LOCATION A	LOCATION B	CALIMA-1	LOCATION C	LOCATION D
	Porosity (%)	3.8	4.5	5.3	4.1	4.1
	Hydrocarbon Sat. (1-Sw) %	67.8	87.7	87.5	68.7	82.6
UPPER TARGET	Thickness (m)	48	49	46	38	35
(tested with Califia-5)	Clay (%)	18.6	16.6	14.3	18.2	16.1
	TOC (%)	1.48	2.13	1.7	1.36	2.0
MIDDLE TARGET (tested with Calima-2)	Porosity (%)	3.7	4.1	4.5	3.8	3.4
	Hydrocarbon Sat. (1-Sw) %	67.7	82.0	75.2	65.9	48.5
	Thickness (m)	73	70	73	65	64
	Clay (%)	23.7	23.3	20.6	20.8	18.8
	TOC (%)	1.05	1.33	1.3	0.92	0.93
	Porosity (%)	4.3	5.1	4.9	4.7	4.5
LOW/ED TADGET	Hydrocarbon Sat. (1-Sw) %	70.3	72.5	62.0	63.1	62.7
(upside potential)	Thickness (m)	146	132	136	158	136
	Clay (%)	30.0	27.4	27.0	30.2	28.4
	TOC (%)	0.87	0.87	1.1	0.65	0.59



 Log analysis of peer group wells highlights the superior reservoir parameters encountered at Calima-1 <u>at all Montney</u> <u>intervals</u> – specifically **Porosity** and **Hydrocarbon Saturation**

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- Porosity is a measure of available pore space and has a direct influence on the volumes of hydrocarbon in place
- Hydrocarbon saturation is the volume of pore space not filled with water
- These log derived results are also validated by the Calima-1 core data
- Calima's favourable production test results can likely be explained by the optimal rock characteristics
- Well B is located in Calima Lands and exhibits favourable rock properties. This well offers itself as a de-risked future well pad location

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(1) CGR shown here is the total yield of condensate (C5+) including other NGL's (C3-4). The CGR is determined based on the sum of total liquids recovered at the well head plus the total liquids recovered after gas processing. Company has assumed that plant yields are equal to well head yields based on analysis of adjacent Operators.

Condensate Gas Ratio – Calima - 2

- After the initial clean out period the condensate gas ratio (CGR) climbed steadily
- This is in-line with other wells in the area where optimum CGR is expected to occur after a period of production and optimisation
- Saguaro achieves an average Facility CGR of 50bbl/mmcf
- Calima-2 had gone beyond 40 bbl/mmcf⁽¹⁾ on the initial test and was still climbing



Calima-2 Variation In Condensate Gas Ratio⁽¹⁾ While Testing



Oil Saturation – Core Analysis Calima-1

- Core analysis shows that the Calima-1 well has higher oil saturations than cores collected from adjacent wells ⁽¹⁾
- Oil saturations of up to 59% (Upper Montney) and 64% (Middle Montney) were determined from core analysis
- This probably explains why the initial CGR results from Calima-2 are so encouraging
- The original 2014 mapping predicted that the Calima Lands would be more liquids rich than the lands being developed by adjacent Operator



(1) Analysis completed by different laboratories



Calima-2: Peer IP 30 and CGR Results





Calima-2



Test Results

- Public domain data from wells within a 50 km radius of Calima show variation in initial production rates (IP30) and in the CGR
- Calima's pre-testing target zone⁽²⁾ outlined in yellow

Calima-2 test results have hit the target.

- CGR shown here is the total yield of condensate (C5+) including other NGL's (C3-4). The CGR is determined based on the sum of total liquids recovered at the well head plus the total liquids recovered after gas processing. Company has assumed that plant yields are equal to well head yields based on analysis of adjacent Operators. IP 30 is estimated to be 60% of initial peak rate based on comparison with adjacent Operators. Provisional results only.
- (2) ASX release 14th March, 2019

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Calima–3: Off To A Strong Start



Cumulative Production

Calima-2 & 3





Test Results

- Calima-3 started flowing at a faster rate than Calima-2
- Sand blockages were cleared using coiled tubing in the normal manner
- Warm weather resulted in the test being terminated early due to deteriorating road conditions
- The early test results combined with core and log data and analogue support from Calima-2 provide the basis of an early analysis of potential performance.
- Calima-3 has the potential to outperform Calima-2

Calima-3 on track to outperform Calima-2

Gas Analysis





- The adjacent Operator report that liquids recovered at the well-head account for approximately half of the total recovered liquids. These well-head liquids are dominated by Condensate/light oil (C5+)
- A comparable amount of liquids, inclusive of Condensate/light oil (C5+) and Natural Gas Liquids (NGLs - C2-C4), are recovered during gas processing
- Calima's gas compositions are very similar to those of the adjacent Operator's wells, where approximately 70% of the total liquids recovered are higher-value condensate or light oil, with the remainder being NGLs
- The condensates or light oils recovered from the Calima gas samples are also similar in terms of their physical and chemical characteristics to those recovered from the adjacent wells
- Calima's predrill resource estimate (released March 14, 2018) was based on an approximately even (50/50) split of light oil or condensate and NGLs. The Company now believes that a 70/30 Light oil/NGL split is a more appropriate estimate
- The gas and liquids analyses will be a key input to the revised McDaniel and Associates reserves audit expected in May 2019
- A significantly larger recovery of higher-value* light oil or condensate from each well will result in substantially improved economics

* Propane (C3) is 35% of Edmonton, Butane (C4) is 60% of Edmonton, Condensate (C5+) is 100% of Edmonton.

Original Mapping



Liquids Yield Regional Mapping (2014)



- Calima's original sweet spot mapping in 2014 predicted liquids potential in the north, beyond the known limits of the Montney play
- Calima built a land position in the north
- Regional and local mapping of EUR per section was calibrated against production data and government well database to ground truth the Calima predictions
- The yield predictions have been validated by Calima's 2018/19 drilling program and condensate and gas analysis that confirmed that Calima Lands are indeed located in a liquids-rich sweet spot
- These results confirm that the liquids-rich belt of the prolific Montney Play extends further into NE British Columbia



A New Way To Map The Montney

Common Recovery Segment Mapping. Example from Inga area NE British Columbia. From, Cockerill & Hughes, CSEG Recorder, March 2016.

Liquids Yield Local Mapping (2014)



Gas Analysis



Calima has opened an extension of the sought after liquids rich zone of the Montney.

Objectives	
1. Stratigraphy	 ✓
2. Reservoir Quality	~
3. Condensate	
4. Hydrocarbon Sat.	~~
5. Illus. Gas-In-Place	~
6. Production Rate (1)	\checkmark
7. Cond/Gas Ratio (2)	 ✓
8. Type Curve ⁽³⁾	✓
Matches offset operator	Exceeds offset operate

- Calima's 2019 drilling (1 x vertical, 2x horizontal) demonstrated that the prospectivity encountered by Saguaro extends into the Calima Lands
- Saguaro are a top tier Montney producer based on IRR per well
- Calima drilling campaign met or exceeded all objectives
- Further details in Appendix One

- (2) Based on a total liquids yield assuming that liquids recovered from processing equals liquids recovered from the well-head (Appendix One, slide 23).
- (3) Based on initial production rate (Appendix One, Slide 21) and an assumed IP 30 (Appendix One, Slide 25) Management expects type curves to be comparable with latest type curves reported by Saguaro.

⁽¹⁾ The initial 48 hour gas production rate of Calima-2 appears to plot within the top quartile of the peer group (Appendix One, Slide 21).

APPENDIX TWO - 2018 RESERVE AUDITORS REPORT

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Resource Audit

BY MCDANIEL & ASSOCIATES⁽¹⁾

	Calima Lands Gross	Calima Lands Net
Natural Gas (Tcf)	2.16	1.69
Condensate (Mmbbl)	54.20	45.30
Natural Gas Liquids ² (Mmbbl)	60.22	48.88
Total Liquids (Mmbbl) ³	114.42	95.20
TOTAL (Mmboe) ⁴	475.79	376.76

BEST ESTIMATE GROSS UNRISKED PROSPECTIVE RESOURCES 1, 5

- (1) ASX announcement dated March 14th 2018 McDaniel & Associates Resource Report
- (2) Natural Gas Liquids (propane and butane) volumes do not include Condensate.
- (3) Sum of Condensate and Natural Gas Liquids. Based on public domain data and the results of wells drilled on adjacent land McDaniel estimate that the average condensate to gas ratio for wells in the Calima Lands would be 23 bbl/MMcf (wellhead condensate/gas ratio). Additional liquids would be stripped from the gas upon processing.

(4) Barrels of Oil Equivalent based on 6:1 for Natural Gas, 1:1 for Condensate and C5+, 1:1 for Ethane, 1:1 for Propane, 1:1 for Butanes. BOE's may be misleading, particularly if used in isolation. A BOE conversion ratio of 6 Mcf:1 bbl is based on an energy equivalency conversion method primarily applicable at the burner tip and does not represent a value equivalency at the wellhead.

(5) Prospective resources are the estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s) related to undiscovered accumulations. These estimates have both an associated risk of discover and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons. The project maturity sub-class is Prospect which means that the project is regarded as sufficiently well defined to represent a viable drilling target. The prospective resources have also been classified using a deterministic method of petroleum reserves estimation having an evaluation date of December 31st, 2017.

- McDaniel estimates based on 400 locations using 70% of available drainage area
- Assumes a two layer development of Upper and Lower Montney whereas Saguaro are developing three layers into the Upper Middle and Lower Montney
- Estimated ultimate recovery (EUR) from individual wells; 6.8 bcf Upper Montney and 5.6 bcf Lower Montney⁽¹⁾
- Saguaro EUR's now trending towards 8 bcf
- Calima Lands are of sufficient scale to warrant standalone development



APPENDIX THREE - CONCEPTUAL DEVELOPMENT MODEL

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Conceptual Development

A tie-in pipeline to adjacent field infrastructure would create a project with the capacity to produce up to 50 mmcf/d without significant additional investment.

This is a conceptual model designed to be illustrative of what a development might look like making reasonable assumptions about well performance, costs, operating conditions, and commodity prices as described herein.

Management makes no representation or warranty as to the accuracy of these assumptions which are subject to the outcome of commercial negotiations and change in the normal course of business.



10 Year Net Operating Income & Cumulative Production



Full Cycle Economics 77 wells (2020-2041)

AECO C\$ GJ/ WTI US\$ bbl	NPV 0 C\$ million	NPV10 C\$ million	IRR %	Cum Prod mmboe	Op Cost CS/boe	Cap Cost C\$/boe	Netback C\$/boe
McDaniel April 2019	1,645	297	45	122.6	12.97	4.74	13.50

Conceptual Development – Assumptions 1



Production Inputs	Operating Inputs ¹	Production Profile
8 BCF curve max flow of 5700 Mcfd per well	T-North Transportation toll \$0.24/GJ	
Condensate ratio 25 bbl/MMcfd	Processing costs to Station 2 \$0.86/GJ	
NGL ratio 25 bbl/MMcfd (C3, C4 and C5+)	NGL/Condensate transport costs \$11.70 /bbl	16 20
Drilling &	Development	14 70 12 60
Completion of initial Pad Facilities \$5mWells 1 & 2 are \$400,0004 x Pads \$10m eachWells 3-5 are \$9.42m D&CPipeline cost to Jedney \$15mWells 6 - 77 are \$5.5m D&CAll weather road \$10mWells 6 - 77 are \$5.5m D&C		Liquids fate mbb//d as bat a mbb//d as bat a mbb//d b as bat a mbb//d b as bat a mbb//d b b b b b b b b b b b b b
 Opex and transportation represents estir dependent on finalising a long term agreeme Revenue inputs are based on the Me <u>https://www.mcdan.com/priceforecast</u> 	nated average go forward costs and is nt with a third party processor. cDaniel's Pricing Deck for April 2019-	4 20 10 10 10 10 10 10 10 10 10 1

3. All amounts are stated in CND\$ unless stated otherwise

Notes:

Type Well Production and Economics. This presentation contains references to type well, or "type curve", production and economics, which are derived, at least in part, from available information respecting the well economics of other companies and, as such, there is no guarantee that Calima will achieve the stated or similar results, capital costs and return costs per well. Any references to peak rates, test rates, IP30 or initial production rates or declines are useful for confirming the presence of hydrocarbons, however, such rates and declines are not determinative of the rates at which such wells will commence production and decline thereafter and are not indicative of long term performance or ultimate recovery. In addition, such rates or declines may also include recovered fluids used in well completion stimulation. Readers are cautioned not to place reliance on such rates in calculating aggregate production for the Company.

No Obligation to Update. The forward looking statements or information contained in this Presentation are made as of the date hereof and the Company undertakes no obligation to update publicly or revise any forward looking statements or information, whether as a result of new information, future events or otherwise unless required by applicable ASX or Corporations Law requirements. The forward looking statements or information contained in this presentation are expressly qualified by this cautionary statement.

Conceptual Development – Assumptions 2



Risks and Uncertainties. Forward looking statements or information are based on current expectations, estimates and projections that involve a number of risks and uncertainties which could cause actual results to differ materially from those anticipated by the Company and described in the forward looking statements or information. These risks and uncertainties which may cause actual results to differ materially from the forward looking statements or information include, among other things: the ability of management to execute its business plan; general economic and business conditions; the risk of instability affecting the jurisdictions in which the Company operates; the risks of the oil and natural gas industry, such as operational risks in exploring for, developing and producing crude oil and natural gas and market demand; the possibility that government policies or laws may change or governmental approvals may be delayed or withheld; risks and uncertainties involving geology of oil and natural gas deposits; the uncertainty of reserves estimates and reserves life; the ability of the Company to add production and reserves through acquisition, development and exploration activities; the company's ability to enter into or renew leases; potential delays or changes in plans with respect to exploration or development projects or capital expenditures; the uncertainty of estimates and interest rates; risks inherent in the Company's marketing operations, including cedit risk; uncertainty in amounts and timing of royalty payments; health, safety and environmental risks; risks associated with potential future lawsuits and regulatory actions against the Company; uncertainties as to the availability of pipelines; that legal actions may have an adverse effect on Calima's financial position or operations; and financial risks affecting the value of the Company's investments. Readers are cautioned that the foregoing list is not exhaustive of all possible risks and regulatory actions against the Company; investments.

Boe Presentation. All boe conversions in the report are derived by converting gas to oil at the ratio of six thousand cubic feet of natural gas to one barrel of oil equivalent. Boe may be misleading, particularly if used in isolation. A Boe conversion rate of 1 Boe: 6 Mcf is based on an energy equivalency conversion method primarily applicable at the burner tip and does not represent a value equivalency at the wellhead. Given that the value ratio of oil compared to natural gas, based on current prevailing prices, is significantly different than the energy equivalency ratio of 1 Boe: 6 Mcf, utilising a conversion ratio may be misleading.

CALI

Conceptual Development – Assumptions 3



Definitions

Certain oil and gas metrics. Finding, development and acquisition costs, finding and development costs, and netbacks do not have standardized meanings or standard methods of calculation and therefore such measures may not be comparable to similar measures used by other companies and should not be used to make comparisons. Such metrics have been included in documents provided by Calima to shareholders to give readers additional measures to evaluate the Calima's performance; however, such measures are not reliable indicators of the future performance of the Calima and future performance may not compare to the performance in previous periods and therefore such metrics should not be unduly relied upon.

Net Present Value (NPV): The anticipated net present value of the future net revenue (before tax) discounted at a rate (NPV0 for undiscounted future net revenue and NPV10 for future net revenue discounted by 10%) associated with the type curves presented.

IRR: Rate of return. IRR is the discount rate required to arrive at a NPV equal to zero. Rates of return set forth in this presentation are for illustrative purposes. There is no guarantee that such rates of return will be achieved in the future.

Netback: Price less royalties, operating expenses and transportation costs.

EUR: Estimated Ultimate Recovery. An approximation of the quantity of oil or gas that is potentially recoverable or has already been recovered from a reserve or well.

APPENDIX FOUR - HISTORY, BOARD & MANAGEMENT

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Calima Board

Alan Stein

Managing Director

Dr Stein has more than 30 years' experience in the international oil and gas industry. He was one of the founding partners of the geoscience consultancy IKODA Limited based in London and Perth and was the founding Managing Director of Fusion Oil & Gas plc and Ophir Energy plc.

Dr Stein is currently the Non-Executive Chairman of Hanno Resources Ltd and Sea Captaur Limited and is a Non-Executive Director of Bahari Holding Company Limited.

Glenn Whiddon

Chairman

Mr Whiddon has an extensive background in equity capital markets, banking and corporate advisory, with a specific focus on natural resources. Glenn holds a degree in Economics and has extensive corporate and management experience. He is currently Director of a number of Australian and international public listed companies in the resources sector.

Mr Whiddon was formerly Executive Chairman, Chief Executive Officer and President of Grove Energy Limited, a European and Mediterranean oil and gas exploration and development company, with operations in Italy, Romania, Slovenia, Tunisia and the UK and Dutch North Seas.

Mr Whiddon is currently a director of Auroch Minerals Limited, Statesman Resources Limited and Fraser Range Metals Group Limited.

Jonathan Taylor Technical Director

Mr Taylor has more than 30 years' experience in the international oil and gas industry. He started his career with Amerada Hess in the UK before moving to Clyde Petroleum plc. He relocated to Perth in 1998 to take up the role of Technical Director at Fusion Oil & Gas plc. Following the sale of Fusion, Mr Taylor, together with Dr Stein, was one of the two founding executive directors of Ophir Energy plc serving initially as its Technical Director.

Mr Taylor is currently a non-executive director of Octant Petroleum, Helium One Limited and Citra Partners Ltd.

Neil Hackett

Non-Executive Director Member of the Audit & Risk Committee & Remuneration Committee

Mr Hackett holds a Bachelor of Economics from the University of Western Australia, Post-graduate qualifications in Applied Finance and Investment, and is a Graduate (Order of Merit) with the Australian Institute of Company Directors.

Mr Hackett is currently Non-executive Chairman of Australian Securities Exchange listed entity Ardiden Ltd (ADV), and previous NED of African Chrome Fields Ltd (ACF), Modun Resources Ltd (MOU) and has held various ASX Company Secretary positions including Sundance Resources Ltd, Ampella Mining Ltd, and ThinkSmart Ltd. Mr Hackett is currently Chairman of WA State Government peak cycling organisation West Cycle Inc and company secretary of industrial footwear manufacturer Steel Blue Pty Ltd.

Calima Management



Mike Dobovich

Country Manager (Canada)

Mr Dobovich has over 20 years of experience in the oil and gas industry in Canada and the US. A graduate of the Land Acquisition and Management program of Olds College, he has been involved in the development and operations of onshore oil and gas plays, SAGD oil sands as well as offshore exploration. Mr. Dobovich has extensive experience in Stakeholder and Aboriginal Engagement as well as Regulatory and Environmental process in multiple jurisdictions. He recently held a position on the Senior Leadership Team of Statoil Canada as the Head of Safety and Sustainability.

Aaron Bauer

Operations Manager (Canada)

Mr Bauer is an engineer with more than 15 years of drilling and completions experience in the Montney and other resource plays in Canada. He has worked for large companies such as Caltex and Burlington Resources as well as West Valley Energy, a private equity funded start-up where he was VP Operations involved in all aspects of business development including commercial modelling and scenario planning.

Ed Mason

Corporate Advisor

Mr. Mason has more than twenty years' experience working for global investment banks such as Bank of America Merrill Lynch, HSBC, Renaissance Capital and, more recently, Royal Bank of Canada in senior leadership roles focused on the natural resources sector and spanning equities, derivatives and capital markets.

Justin Norris

Montney Sub-Surface Project Leader

Mr Norris is a geophysicist with over 20 years of experience in the international oil and gas industry across a wide variety of jurisdictions and geological regions. He entered the industry as a Schlumberger graduate and had several international postings before leaving the service industry. Mr Norris took up the role of chief geophysicist at Fusion Oil & Gas plc and Ophir Energy plc and headed Ophir's New Ventures team in London.

Justin is a member of the Society of Exploration Geophysics (SEG), Petroleum Exploration Society of Great Britain (PESGB), European Association of Geoscientists and Engineers (EAGE) and the American Association of Petroleum Geologists (AAPG).

Mark Freeman

Business Development

Mr Freeman is a Chartered Accountant with more than 20 years' experience in corporate finance and the resources industry. He has considerable experience in strategic planning, business development, mergers, acquisitions and project management. Mr Freeman has worked with a number of successful public resource companies and since 2015 has been providing strategic advice to TSVM.

A graduate of the University of Western Australia with a Bachelor of Commerce, Mr Freeman also holds a Graduate Diploma in Applied Finance from the Securities Institute of Australia. Mr Freeman will take responsibility for merger integration and also business development for the enlarged group.

Calima – Historical Pathway



2014-2016

- Remapping the liquids potential of the Montney by TMK Montney using more than 1,400 wells
- Havoc Partners acquires 11% of TMK Montney
- Build acreage position indirectly through JV between TMK Montney and TSV Montney
- Havoc makes farmin offer to TMK and TSV to build direct equity interest via three stage earn-in deal

2017

- Fold the farmin deal into
 Azonto Petroleum
- Management agreement between Havoc Partners and Azonto
- Completion of farmin deal
- Relisting of Azonto as Calima Energy
- Strengthen balance sheet at the same time as re-listing
- Take over Operatorship of the Montney Project and complete acreage build to 72,000 acres

2018

- Construction of drilling pad
- Reserve auditor report by McDaniel & Associates
- Simultaneous takeover offers to TMK and TSV to lift ownership of the project to 100%
- Raise \$25m through
 oversubscribed placing
- Completion of permitting process for initial drilling

2019 (Q1)

- Drill one vertical and two horizontal wells
- Initial test results deliver top quartile performance on test
- Drilling results prove up an extension of the sought after liquids rich Montney play across the Calima Lands

APPENDIX FIVE - BACKGROUND

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The Montney



PLAY	AREA (km²)	GROSS THICKNESS	COST TO ACQUIRE ACREAGE (US\$/acre)
MONTNEY (CAN)	130,000	Up to 300m	\$5,000
BAKKEN (US/CAN)	520,000	Up to 40m	\$12,500
BARNETT (US)	13,000	25-180m	~\$6,000
EAGLE FORD (US)	52,000	15-85m	\$15,000
HAYNESVILLE (US)	24,000	40-110m	\$6,500
MARCELLUS (US)	247,000	25-90m	\$10,000

Today

- Biggest oil and gas play in Canada which ranks alongside the best of the US plays
- >C\$5 billion per year upstream investment and active M&A market
- Estimated remaining reserves as at 2014 **449 tcf** of gas and **14.4 billion bbls** of condensate
- Montney condensate priced at or above WTI
- More than 8,000 wells drilled with negligible failure rate
- Lack of pipeline capacity has caused Montney gas to trade at a discount to Henry Hub US benchmark

Tomorrow

- **C\$10 billion** of investment in new pipelines and upgrades is opening up access to the US market
- Futures curve predicts a significant decrease in the discount to Henry Hub by 2020
- Shell and partners sanctioned C**\$40 billion** for a 28 mtpa LNG project in October 2018
- LNG on the west coast opens up the Montney to premium priced international markets for the first time

Montney Gas CURRENTLY SOLD IN AMERICA BUT

Spectra Westcoast Con Gas Transmission TransCanada Mainline Current: 3.0 Bcf/d Alliance 4.2 B Current: 1.7 Bcf/c Current Q TransCanada Prince Rupert **Gas Transmission** Canada 2020 Proposed: 2.0 - 3.6 Bcf. TransCanada Coastal Gas Link 2019 Propo d: 2.5 - 5.0 Bct/ **Chevron Pacific Trail** 1.0 Bcf/d TransCanada Foothills British Columbia - Current: Saskatchewan – Current 2.2 Bcf/ Spectra Current: 1.9 Bcf/c United States

AECO – Henry Hub gas price differential



- Montney gas currently sold in North American markets
- Production at >7bcf/d has outgrown pipeline capacity
- Montney gas has been priced at a steep discount to Henry Hub gas prices in the US
- Operators have accepted discount in order to produce high value condensate
- C\$10 bn of investment in new infrastructure is opening up new domestic egress routes
- Futures curves show the discount to Henry Hub narrowing over the near term with pricing remaining linked to North American markets
- Shell, Petronas and partners have recently sanctioned Canada's first LNG project
- Four other projects have been approved by Government

LNG in western Canada will open up the Montney to new markets with better pricing

Source: Cormark Securities, May 2018

(1) Source Internal: Approximate internal rate of return before tax for a single well using data released by adjacent operators in the liquids rich Montney. Illustrates positive impact of decreasing the AECO to Henry Hub discount.



Shell - LNG Canada



LNG Canada, Kitimat BC





"LNG Canada, as the project is called, is stunning in scale. It proposes to eventually ship as much as 28 million tons a year out of Kitimat, the equivalent of 10% of global LNG supply in 2017. It would carve out a new path -- the shortest by days -- between North America and Asia for super-chilled gas. For Canada, whose energy exports are sold almost exclusively to the U.S. at depressed prices for the lack of a coastal facility, **it means unlocking the Montney, a massive formation holding about half the total reserves of Qatar**. It would also mean an investment triple the size of Canada's largest single infrastructure project to date."

LNG Canada Chief Executive Officer Andy Calitz

- C\$40 billion to be invested by LNG Canada, a consortium operated by Shell, in an LNG terminal at Kitimat on the west coast of Canada
- Biggest ever infrastructure project in Canada
- 13 mtpa (approx. 1.7 bcf/d) start-up capacity with option to expand to 28 mtpa (3.4 bcf/d)
- Petronas who operate immediately east of Calima have bought a 25% stake in LNG Canada
- LNG unit cost ~50% less than Australia with similar sailing time to Asia
- By 2025 LNG Canada will consume more than 30% of all the gas produced in Western Canada
- LNG attracts a price premium over Montney gas which usually trades at a discount to Henry Hub



Chevron & Woodside - Kitimat LNG



Kitimat LNG, Canada, BC





Woodside CFO, Sherry Duhe, April 2019 (source: AFR)

"Woodside Petroleum and Chevron are working in an "extremely constructive and positive" manner on their long-term plans for an LNG project in western Canada"

"a recent move by the partners to **enlarge the proposed capacity** of the Kitimat LNG plant in British Columbia was part of an effort to increase the flexibility and competitiveness of the project, which also involves **potentially using third-party gas** from the grid in the first instance rather from the partners' own large gas resource."

"the go-ahead for construction given last October by the Shell-led LNG Canada project, which is also in Kitimat, was "positive" as it showed it was possible for such projects to move forward, while the fiscal environment was "firming up".

- The proposed Kitimat LNG project, is a Chevron operated join venture with Woodside Energy to be constructed at Bish Cove, near the town of Kitimat on Canada's West Coast
- Woodside and Chevron have recently sought to almost double the planned export capacity of the Kitimat LNG facility applying for a 40-year licence to export for 18 mtpa (original license was for 20 years at 10mtpa)
- Chevron says the increase in scope comes after a review that focused on improving the project's "cost of supply competitiveness" relative to other LNG projects around the world
- The new plan for Kitimat LNG envisions initially building two six-million-tonne production "trains" with the option to add a third later, as opposed to the original two-train proposal
- Gas sourced from Northeast BC, via the already approved Pacific Trail Pipeline
- Project start-up is envisaged between 2027-2029 allowing the JV to take advantage of LNG Canada's established infrastructure and workforce capacity

Chevron spokesman Leif Sollid., April 2019 (source: Terrace Standard) *"Since 2015, Chevron and Woodside have made significant progress in enhancing Kitimat LNG competitiveness, reducing LNG unit costs by over 45 per cent and incorporating a new all-electric LNG plant design,"*

"The LNG Canada project should assist in establishing regional infrastructure, building workforce and contractor capacity, and reducing regulatory and project execution risks and uncertainties as the first major LNG project in B.C.," said Sollid.

"Kitimat LNG has the opportunity to take advantage and build on this foundation."

Canadian LNG Projects Summary



LNG Project	Location	Owners	Proposed Start	Nameplate Capacity	Facility Cost	Cost / Mtpa	NEB Export	Environmental Assessment
				(Mtpa)	(C\$/Bn)	(C\$/Tonne)	License	Approval
West Coast Canada								
LNG Canada	Kitimat, BC	Shell, PETRONAS, PetroChina, KOGAS, Mitsubishi	2023	26	\$40.0	\$1,538		4
Woodfibre LNG	Squamish, BC	Woodfibre LNG Ltd.	2020+	2.1	\$1.6	\$762	~	~
Kitimat LNG	Kitimat, BC	Chevron, Woodside	2025+	10	\$15.0	\$1,500	v	×
Steelhead LNG	Sarita Bay, BC	Steelhead LNG/Huu-ay-aht First Nation	TBD	24	\$30.0	\$1,250	~	×
Cedar LNG	Kitimat, BC	Cedar 1 LNG Export Ltd.	TBD	6.4	n/a	n/a	*	×
Orca LNG	Prince Rupert, BC	Orca LNG Ltd.	TBD	24	n/a	n/a	 Image: A second s	×
New Times Energy	Prince Rupert, BC	New Times Energy Ltd.	TBD	12	n/a	n/a	× .	×
Stewart LNG	Stewart, BC	Canada Stewart Energy	TBD	30	n/a	n/a	 Image: A second s	×
WesPac LNG	Delta, BC	WesPac Midstream Vancouver LLC	TBD	3	n/a	n/a	~	×
East Coast Canada		145.5mpta (19bcf/d)						
Pieridae Energy LNG	Goldboro, NS	Pieridae Energy	2023	10.5	\$10.7	\$1,016	~	×
Bear Head	Point Tupper, NS	LNG Ltd.	2025+	12	\$10.7	\$889	~	~
AC LNG	Middle Melford, NS	H-Energy	2023	13.5	n/a	n/a	~	×
Energie Saguenay	Port Saguenay, QC	GNL Quebec	2025	11	\$8.5	\$770	~	×
Stolt LNGaz	Becancour, QC	Stolt-Neilsen Gas/Sun LNG/LNGaz	TBD	0.5	\$0.6	\$1,200	~	×

37.5mpta (4.9bcf/d)

When Shell and Partners announced an FID for their LNG Canada project in October 2018, it was the first greenfield liquefaction project to be sanctioned in over three years. With just eight global LNG projects sanctioned in the last three years, booming demand projections have set the stage for a second wave of new project announcements that could see as many as 14 projects sanctioned in North America alone by the end of 2019. The U.S. holds the majority of these projects, with our neighbor to the south on track to become the second largest exporter of natural gas globally by 2025 at close to 26 Bcf/d, more than doubling current capacity.

Canadian LNG Projects Location





Next Wave Of LNG



- Global natural gas consumption is set to grow by 45% over the next 25 years (CERI, 2019)
- To meet this demand, the Liquified Natural Gas ("LNG") narrative is set to garner significantly more attention through 2019 with what could be a record number of final investment decisions (FIDs), particularly in North America
- Super Majors are making a bigger bet on LNG (Total's US\$700 MM investment in the Driftwood LNG project; Chevron's \$33 Bn acquisition of Anadarko Petroleum)
- Current oversupply flipping to undersupplied market by mid-2020's, just as several Canadian projects are targeting to come on stream
- While global gas markets are expected to be oversupplied for the next few years (Australian, Russian and U.S. supply has stepped up, while Asia is working through a backlog of Q4/18 oversupply following a mild winter), the situation is projected to reverse to a deficit as early as 2023
- Afterwards, demand is estimated to boom while a lack of additional capacity announcements in the last several years will prove insufficient to bridge the looming supply shortfall

The opportunity for Canadian companies, and investors: Canada has projects moving forward, and the gas, to help fill that gap.



The Next LNG Wave is Here; This Time There are Canadian Players Ready to Catch it, April 2019



Canada's LNG Opportunity - Shipping



Copyright of LNG Canada

LNG Value Chain Costs as % of Total Costs (Left) and LNG Value Chain Variance to Base Case Estimates (Right)





LNG Ship Charter Rate



Spot day rates for LNG shipping have proven to be volatile, and high, pointing to similar potential as the demand for shipping intensifies

For serving major import markets in Asia and Europe, Canada enjoys a geographic advantage as the distances to these key markets is materially shorter than that faced by the U.S. Gulf Coast producers (Figure 11 & 12).



Notes

