

# Horizon Petroleum Ltd.

October 2019



**Building a European Conventional  
Natural Gas Development Company**

# Corporate Introduction

*Please read important legal, risk and resource advisories in Appendix C to this presentation*

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Early stage E&P company focusing on **conventional natural gas assets** in Europe

## Strategy

- Acquire conventional natural gas development and production assets
- Targeting growing, liberalised natural gas markets with high prices (US\$8.00-9.00/Mcfe)
- Low entry cost opportunities, high operating netback (>US\$6.00/Mcfe)

## The acquisition<sup>1</sup>

- 100% interest in a natural gas development asset in Poland
  - 2P reserves:<sup>2,3</sup> 36 Bcfe, US\$98 MM NPV<sub>10</sub>
  - Risked 2C resources:<sup>2,3</sup> 171 Bcfe, US\$398 MM NPV<sub>10</sub>
  - Targeting production of 30+ MMscf/d, operating cash flow of US\$80 MM/year by end 2022
  - Significant upside: 354 Bcfe unrisked 3C resources, 704 Bcfe high estimate unrisked prospective resources<sup>1,2</sup>
  - 2,000 km<sup>2</sup> acreage
  - Acquisition cost: US\$1 MM, C\$1 MM in Horizon shares, 6% Net Profit Interest

1. See “Forward-Looking Information” at the end of this presentation

2. See important risk advisory and resource advisory at the end of this presentation

3. Reserve report prepared by APEX Global Energy Inc. effective January 31, 2018 in accordance with NI51-101 and COGEH

## International experience in developing oil and conventional natural gas fields

### Proven technical and operating track record

- Extensive, diverse international experience, including Europe (Poland, Holland, France, UK)<sup>1</sup>
- Production and reserves growth through the drill bit and mergers and acquisitions

### Targeted approach

- Acquire and develop low-risk assets, at a low cost per Mcfe/Boe, convert contingent resources to producing reserves
- Focus on operated assets
- Access to infrastructure and low minimum economic thresholds
- Farm down partial interests to mitigate risk for promoted value while maintain operatorship and control

### Accomplished first step with the Poland acquisition of the pre-development Lachowice gas field

- Executed an LOI with a private company to farmout 50% in the Lachowice gas development in return for a full carry of capital expenditures to Horizon through to first production and initial cash flow. Mitigates exposure to project and financing risk

<sup>1</sup> See bios in Appendix A

## Key corporate information

Listing	TSX-V: HPL FRA: HPM1
Common Shares	59.9 MM (basic) 63.4 MM (fully diluted)
Share price (October 8, 2019)	C\$0.04
Market cap	C\$3.0 MM
Cash (as at September 30, 2019)	~C\$200k
Debt	-
Management & Board Ownership	12.8% (fully diluted)
Key shareholders	<sup>1</sup> CruzSur Energy (20.5%)

<sup>1</sup> CruzSur Energy (formerly PentaNova Energy) invested C\$1.5 MM into Horizon in 2017 as part of the transfer of its French licenses to Horizon

# The European Natural Gas Market

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## Domestic natural gas production continues to decline

- Legacy UK and Dutch natural gas fields are mature
- Unconventional natural gas development in past 10 years has been largely unsuccessful
- 86% of supply from 3 countries: Russia (42%), Norway (34%), Algeria (10%)
- LNG imports currently meet approximately 13% of demand

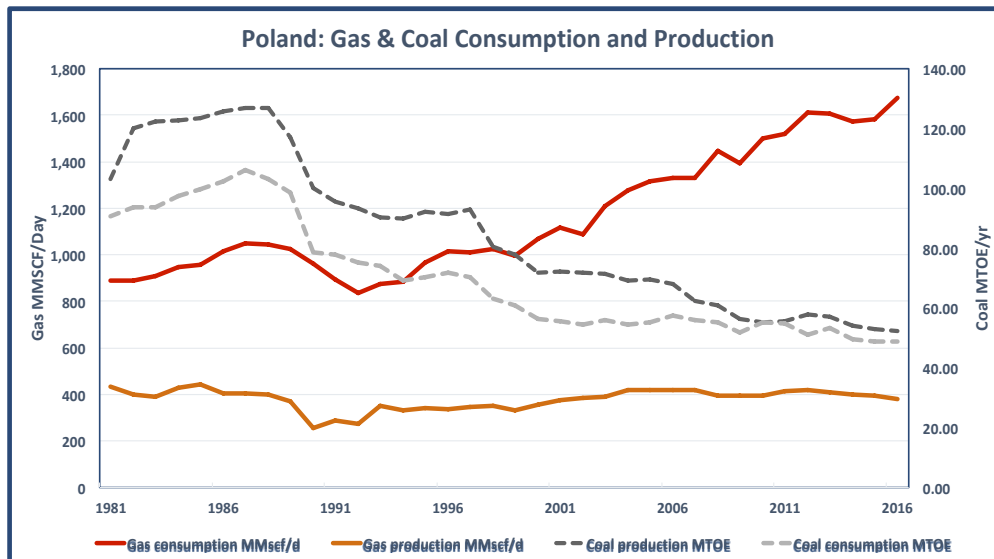
## Demand continues to grow

- Natural gas comprises 24% of European energy matrix
- Large consumer base and infrastructure expected to absorb incremental LNG
- >50 GW of coal, oil and nuclear capacity closures by 2020 will require an equivalent of >10 Bcf/d of natural gas to offset
  - Natural gas can provide the “reliable” base load
- Coal-to-gas switching provides price support at >US\$4.00/MMBtu
- The ability for Russia to bypass Eastern Europe via planned Nordstream 2 pipeline to Germany, emphasizes the need to increase domestic gas supplies
- Political will to boost domestic production, particularly in Eastern Europe, to reduce dependence on Russian natural gas imports

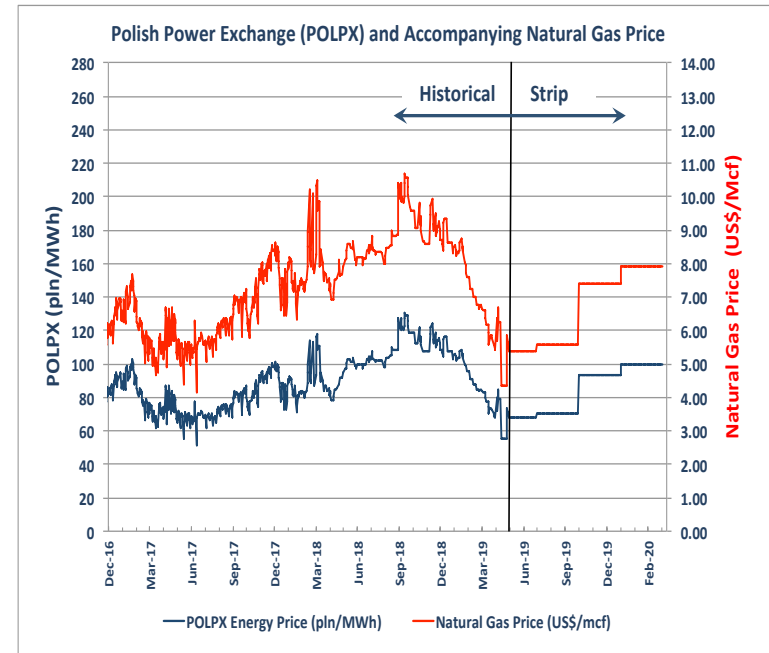
*Sources: International Energy Agency (IEA): Energy Supply Security 2014, IEA Energy Policies: European Union 2014  
European Commission: Quarterly Report on European Gas Markets, fourth quarter 2016, Various industry sources*

## Conventional natural gas fundamentals

- Rising demand with increasing imports and flat domestic production
- Strong political push to reduce reliance on Russian natural gas imports (55% of natural gas consumption)
- Nordstream 2 pipeline threatens to bypass Poland and threaten gas supply from Russia
- Low royalties (6-8%) - stable political, regulatory & fiscal regime
- Under-developed conventional natural gas resources
- Unconventional players exited the country reducing the competition for sizeable conventional opportunities
- Extensive, under-utilized and accessible natural gas infrastructure



Sources: BP 2017 Statistical Review of World Energy, IEA Country Energy Policies: Poland 2016 Review



- Polish natural gas prices are linked to the Natural Gas Energy Index on the Polish Power Exchange (POLPX)
- The Index provides the spot energy price as well as a 3-year forward strip, published daily on the Polish Power Exchange website ([www.tge.pl/en](http://www.tge.pl/en))
- The conversion to US\$/Mcf is directly related to the heating value of the natural gas, which varies per field throughout Poland



# The Acquisition

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## Acquired a proven, but undeveloped field and a large acreage position

Agreements executed to acquire 100% interests in four concessions from San Leon Energy plc

- Closed August 21, 2019<sup>1</sup>
- US\$1 MM in cash, C\$1 MM in Horizon common shares and a 6% Net Profit Interest (NPI) payable on completion of concession transformation process
- 1,130 km<sup>2</sup> (279,323 acres) in two licenses (Bielsko-Biala, Cieszyn) in the Carpathian foldbelt
  - Lachowice natural gas development<sup>2,3</sup>:
    - 2P reserves: 36 Bcfe (NPV<sub>10</sub> : US\$98 MM)
    - Risked 2C resources: 171 Bcfe (NPV<sub>10</sub>: US\$398 MM)
    - Risked prospective resources: 123 Bcfe
- 971 km<sup>2</sup> (239,934 acres) in two licences (Kotlarka and Prusice) in the prolific Permian aged Rotliegendes natural gas basin
  - Kotlarka and Prusice awaiting final award.

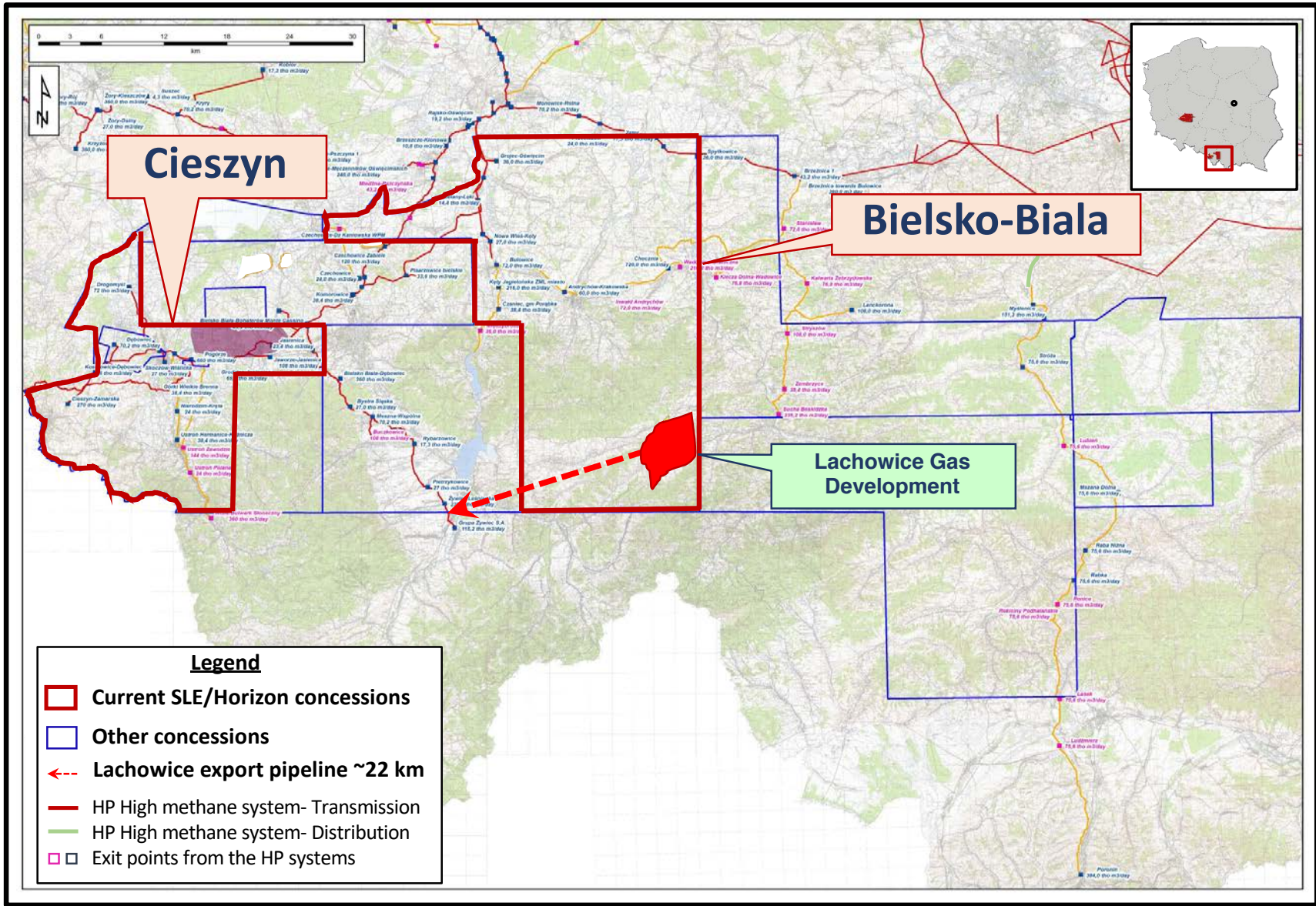


1. See Forward-Looking Information at the end of this presentation

2. See important risk advisory and resource advisory at the end of this presentation

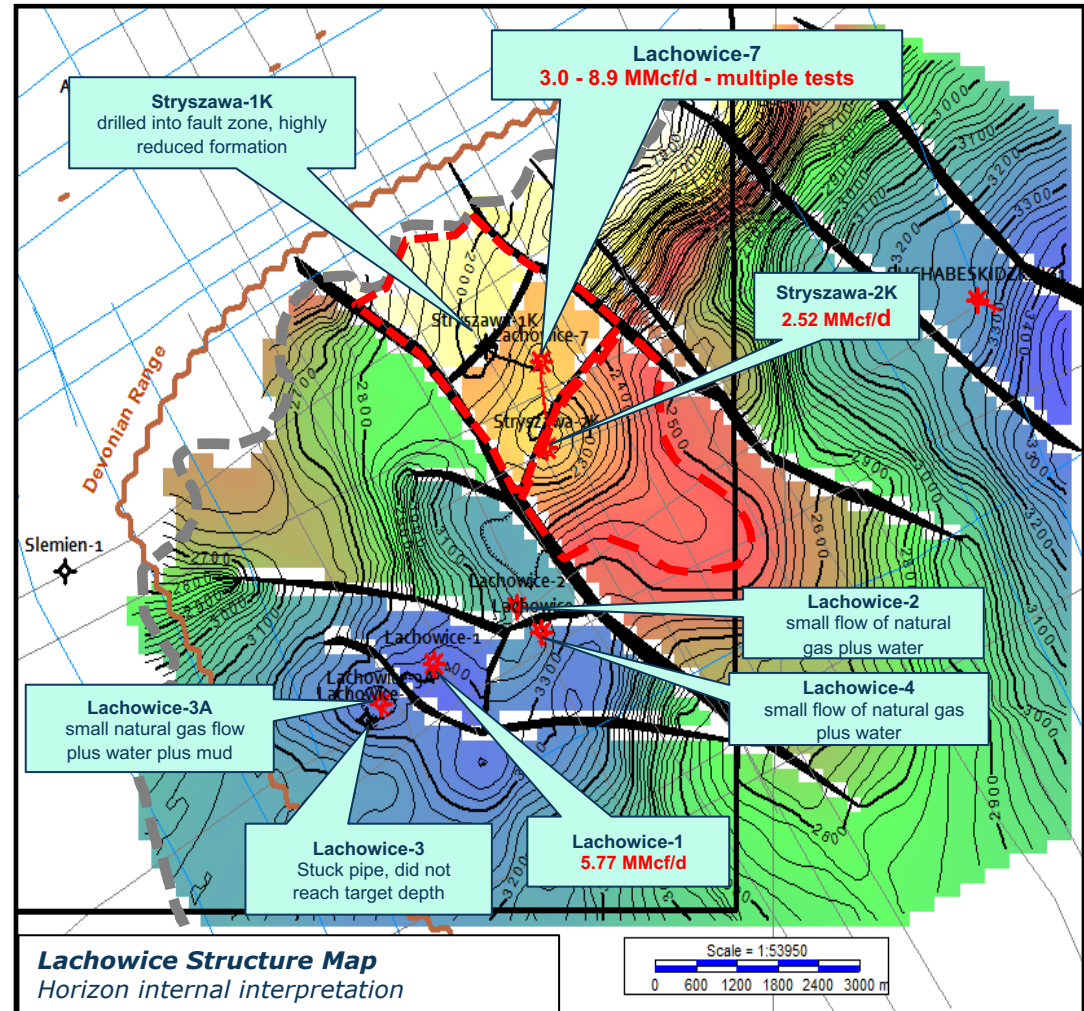
3. Reserve report prepared by APEX Global Energy Inc. effective January 31, 2018 in accordance with NI51-101 and COGEGH

# Bielsko-Biala & Cieszyn Concessions: Location





- Located in the Carpathian foothills 50 km south of the city of Krakow
- 950 km of legacy 2D seismic
- Discovered with Lachowice-1 in 1986
- Seven wells drilled 1986 – 1996:
  - 7 wells confirmed 130m - >300m gas columns
  - 3 wells tested gas at commercial rates up to 8.9 MMscf/d (see map)
  - Wellbores' integrity compromised by poor drilling and operating practices
  - No confirmed Gas-Water Contact penetrated by the wells
- Devonian aged naturally fractured carbonate reservoirs. Development through horizontal wells to optimize access to fracture systems



- 2P reserves assigned to the Lachowice-1, Lachowice-7 and Stryzawa-2K wells
  - Initial development drilling converts a portion to Proven Developed Producing category
- Contingent resources in the fractures and matrix tight natural gas reservoirs in Lachowice-1, 2, 3a, 4, 7 and Stryzawa-2K
  - APEX NI51-101 assigned a 69% chance of development
  - A portion will convert to 2P reserves with initial development drilling

Reserves / Resources	Unrisked	Risking	Risked	Risked NPV <sub>10</sub>
2P reserves	36 Bcfe	100%	36 Bcfe	US\$98 MM
2C contingent resources	249 Bcfe	69%	171 Bcfe	US\$398 MM
Best estimate prospective resources	487 Bcfe	Various	123 Bcfe	Not reviewed in 51-101

1. Reserve report prepared by APEX Global Energy Inc. effective January 31, 2018 in accordance with NI51-101 and COGEH

2. See important risk advisory and resource advisory at the end of this presentation

3. Full table of Reserves and Resources is provided in Appendix A

4. Contingent Resources further sub-classified as Development Unclassified

# Horizon Lachowice Development Plan<sup>1,2,3</sup>



C\$20-26 MM (combined with free cash flow) required to increase production to 30+ MMscfe/d  
Appraisal and development beyond that is expected to be fully funded from cash flow

Engineering/Geoscience/Planning		Government Approval/Land Negotiations				Op. Execution				On Production				
Projects	Capital (MMUSD)	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Drill and Test Vertical Well	6.0	■	■	■	■	■	■	■	■	■	■	■	■	■
Install Portable Dehy and Micro LNG Unit	1.5	■	■	■	■	■	■	■	■	■	■	■	■	■
Drill, Complete and Tie-in 1 Horizontal Re-entry and 1 New Horizontal Well	8.5	■	■	■	■	■	■	■	■	■	■	■	■	■
Acquire, Process and Interpret 3D Seismic	2.5	■	■	■	■	■	■	■	■	■	■	■	■	■
Install New Facility and Sales Pipeline	7.8	■	■	■	■	■	■	■	■	■	■	■	■	■
Drill, Complete and Tie-in 2 Horizontal Wells	10.0	■	■	■	■	■	■	■	■	■	■	■	■	■
Install New Compression Facility	3.0	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Total</b>	<b>39.30</b>													

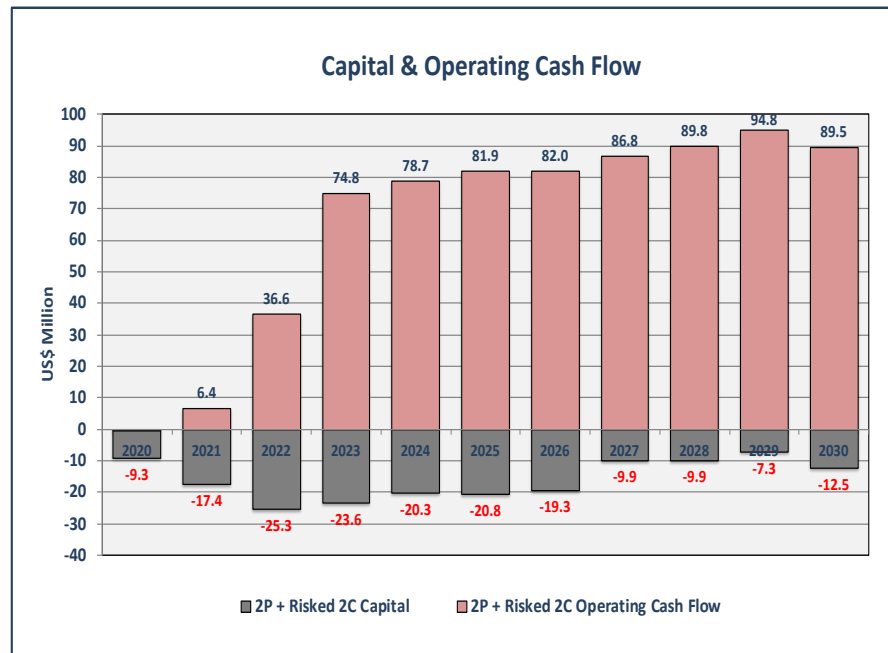
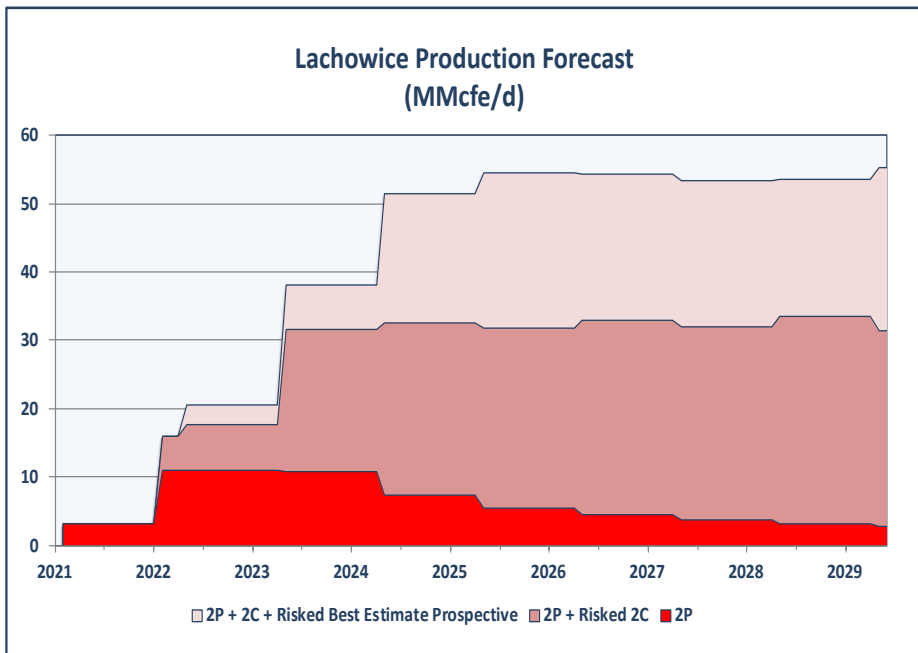
- Drill new vertical well, test and produce to skid-mounted Micro-Liquified Natural Gas (LNG) plant
  - Natural gas sales in Q1-2021 at 3.0 MMcfe/d (initially facilities constrained)
- Re-enter vertical well to drill a horizontal leg and drill a second horizontal well in mid-2021 to directly access 21 Bcfe of 2P reserves, 72 Bcfe of risked contingent resources
  - Single well cost US\$5.0-US\$6.8 MM with expected IPs of 8-10 MMcfe/d and recoveries up to 10 Bcfe/well
  - Pipeline and main facilities targeted to be fully operational by Q1-2022
  - Increase production to 17.5 MMcfe/d (2,900 Boe/d) by Q1-2022
  - Increase production to 30+ MMcfe/d (5,000 Boe/d) by late 2022

1. See important risk advisory and resource advisory at the end of this presentation

2. See Forward-Looking Information at the end of this presentation

3. Reserve report prepared by APEX Global Energy Inc. effective January 31, 2018 with internal management updates - Development Plan Assumptions in Appendix B

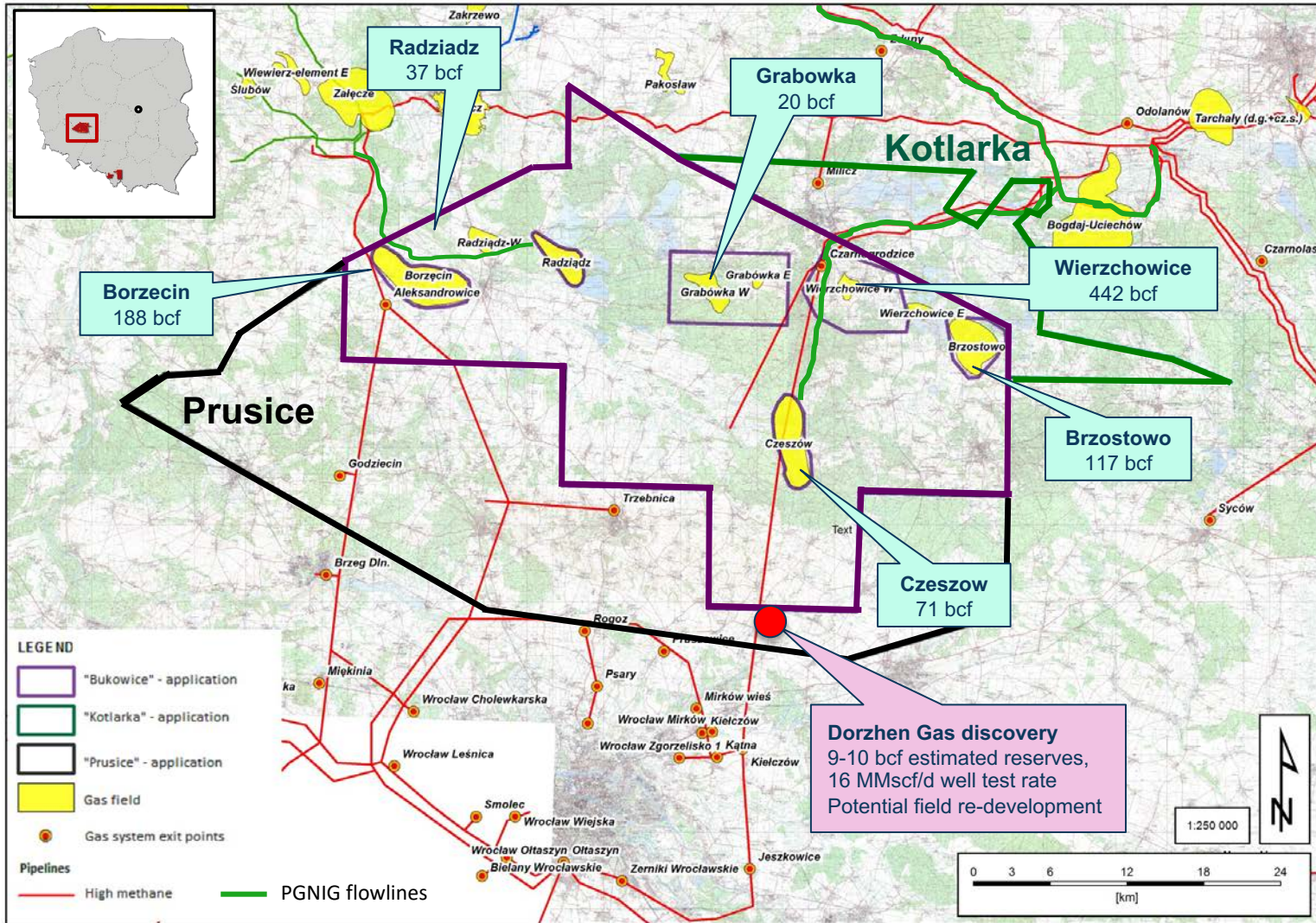
- Follow up development drilling to convert remaining 100 Bcfe of risked Contingent Resources and 123 Bcfe of risked Prospective Resources to proven and probable reserves intended to be fully funded from cash flow



- 2P full cycle economics generate >80% IRR
- F&D US\$1.25 per Mcfe
- Operating netbacks ~US\$6.80 per Mcfe
- Recycle ratios (ratio of operating netback to F&D cost) >5x
- RLI 9.8 years based on 2P reserves

**Targeting sustained operating cash flow US\$70 - 80 MM per year generated from 30+ MMcfe/d from end 2022**

- See important risk advisory and resource advisory FOPI and Other Financial Matters at the end of this presentation
- Reserve report prepared by APEX Global Energy Inc. effective January 31, 2018 with internal management updates – Development Plan Assumptions in Appendix B
- See Forward-Looking Information at the end of this presentation



- Incremental reserve addition opportunities to increase natural gas resource inventory
- Limited use of 3D seismic & horizontal well technologies outside of PGNiG legacy producing fields



# Growth Strategy

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- Established near-term operated natural gas reserve and production platform
  - Targeting first natural gas sales of up to 3.0 MMscfe/d in Q1-2021 from the Lachowice natural gas field at estimated capex of US\$8 million
  - Initiate full-field development drilling program in Late 2021
  
- Acquire similar, undervalued assets in Europe
  - Build natural gas reserve development inventory
  - Several low cost natural gas development and production opportunities identified by management in Poland and Europe

1. See Forward-Looking Information at the end of this presentation

- Compelling entry valuation to access 36 Bcfe 2P reserves with US\$98 MM NPV<sub>10</sub>
  - US\$1 MM, C\$1 MM in Horizon shares, 6% Net Profit Interest
- Near-term work program to initiate early production and cash flow
  - Executed a LOI with a private company to farmout 50% in the Lachowice gas development in return for a full carry of Horizon through to first natural gas production and initial cash flow mitigating exposure to project and financing risk
- Second phase work program to develop large upside natural gas production and reserve potential will be fully funded from future cash flow
- Long-term growth strategy targeting significant reserve and acreage position in proven basins with high demand, high natural gas price market
- Management team with track record of corporate growth
  - Operating expertise in Europe through Vermillion, BNK Petroleum, BP
  - Corporate growth:
    - From start-ups: Canacol, Excelsior, Legacy, Bow Valley
    - Large corporate experience: Alberta Energy International, Nexen, Occidental, BP

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CANADA

## Corporate Website

[www.horizon-petroleum.com](http://www.horizon-petroleum.com)

# Appendix A: Additional Information

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**David Winter**  
*President & Chief Executive Officer, Director*



**Yogeshwar Sharma**  
*Non-Executive Chairman*



**Matt Janisch**  
*Interim Chief Financial Officer, Director*



**Dr. Charle Gamba**  
*Non-Executive Director*



**Martin Robert**  
*Chief Operating Officer*



**Harry Wilson**  
*Non-Executive Director*



# Reserve and Resource Summary<sup>1,2</sup>

Probable Reserves	PIIP <sup>3</sup>	Recoverable Sales	Before Income Taxes (US\$MM), Discounted at				
			0%	5%	10%	15%	20%
Conventional Natural Gas (Bcf)	49	34					
Condensate (MBbl)	344	262					
<b>Total Bcfe</b>	<b>51.2</b>	<b>36.0</b>	<b>263</b>	<b>153</b>	<b>98</b>	<b>67</b>	<b>48</b>
<i>Total MMBoe</i>	<i>8.5</i>	<i>6.0</i>					

Contingent Resources - Development Unclarified	Discovered PIIP <sup>3</sup>			Unrisked Contingent Resources - Dev. Unclarified			Chance of Dev. (%)	Risky Contingent Resource (2C) - Dev. Unclarified	Before Income Taxes (US\$MM), Discounted at				
	1C	2C	3C	1C	2C	3C			0%	5%	10%	15%	20%
Conventional Natural Gas (Bcf)	309	422	583	169	238	339	68.6%	163.5					
Condensate (MBbl)	2,276	3,110	4,298	1,248	1,756	2,499	68.6%	1,206.2					
<b>Total Bcfe</b>	<b>323</b>	<b>441</b>	<b>609</b>	<b>177</b>	<b>249</b>	<b>354</b>	<b>68.6%</b>	<b>170.7</b>	<b>1,341</b>	<b>688</b>	<b>398</b>	<b>249</b>	<b>165</b>
<i>Total MMBoe</i>	<i>53.8</i>	<i>73.5</i>	<i>101.5</i>	<i>29.5</i>	<i>41.5</i>	<i>59.0</i>	<i>68.6%</i>	<i>28.5</i>					

Prospective Resources	Undiscovered PIIP <sup>3</sup>			Unrisked Prospective Resources			Chance of Dev. (%)	Average Chance of Disc. (%)	Risky Prospective Resources - Best Estimate
	Low	Best	High	Low	Best	High			
Conventional Natural Gas (Bcf)	544	778	1133	329	466	673	69%	37%	118
Condensate (MBbl)	4,007	5,448	7,933	2,501	3,547	5,121	69%	37%	898
<b>Total Bcfe</b>	<b>568</b>	<b>811</b>	<b>1181</b>	<b>344</b>	<b>487</b>	<b>704</b>	<b>69%</b>	<b>37%</b>	<b>123</b>
<i>Total MMBoe</i>	<i>94.6</i>	<i>135.2</i>	<i>196.8</i>	<i>57.3</i>	<i>81.2</i>	<i>117.3</i>	<i>69%</i>	<i>37%</i>	<i>20.6</i>

1. Prepared by APEX Global Energy Inc. effective January 31, 2018 in accordance with NI51-101 and COGEM

2. See important risk advisory and resource advisory at the end of this presentation

3. PIIP: Petroleum-Initially-in-Place – for definitions see disclosure at end of this presentation

# Lachowice-7 Cross Section

## Lachowice Development:

- Targeting naturally fractured carbonates of Devonian age
- Thick natural gas columns between 130 to >300 m
- Porosity range 2 - 7% enhanced by natural fractures
- Reservoir pressures:
  - L7: ~3,830 psi (26.4 MPa) (Normally pressured)
  - L1: ~7,375 psi (50.8 MPa) (Moderately overpressured)
- Lachowice-7 tested up to 8.9 MMcf/d from one of the Devonian targets (D4)

Devonian Black Shale – 36 m (gross thickness)

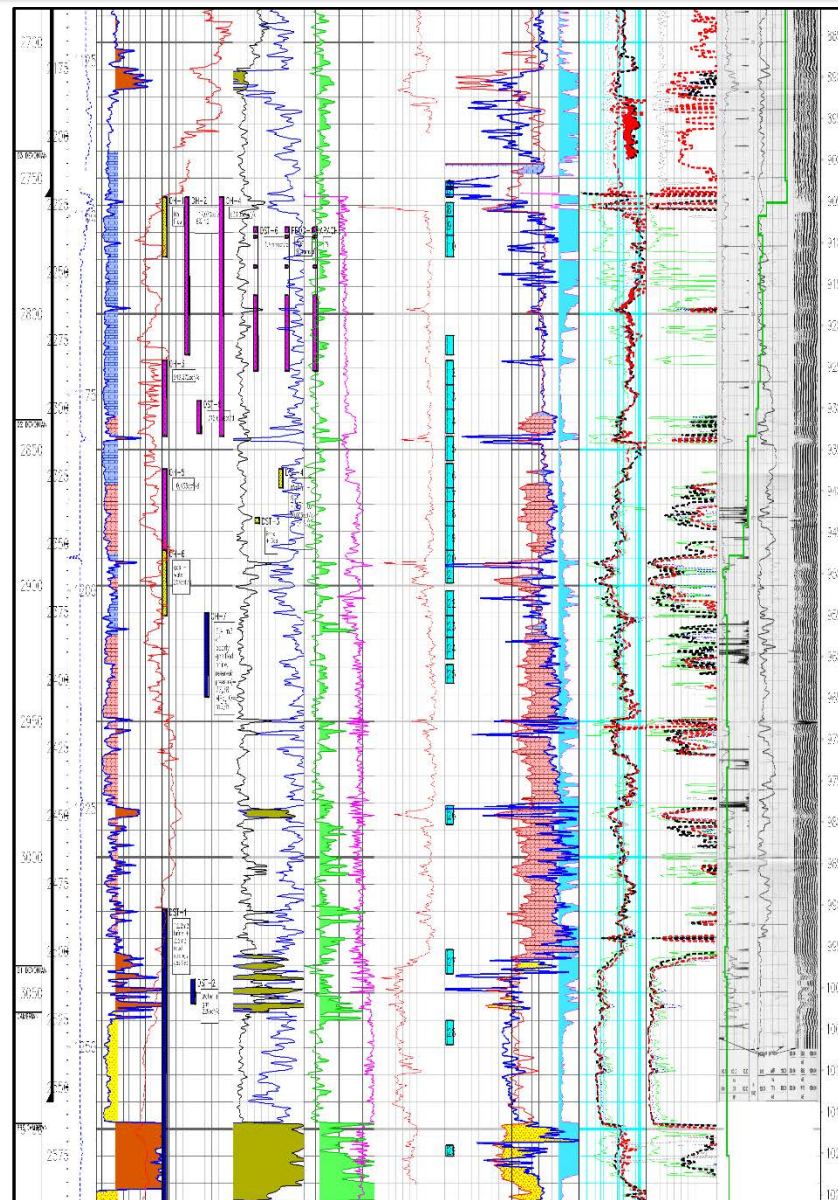
D4 Devonian Unit (fracture and matrix porosity) – 84 m

D3b Devonian Unit (fracture and matrix porosity) – 74 m

D3a Devonian Unit (fracture and matrix porosity) – 70 m

D2 Devonian Unit (fracture and matrix porosity) – 56 m

D1 Clastic Unit (fracture and matrix porosity) – 19 m



Source: Lachowice 7 Well Reports



# Appendix B: Horizon Development Plan Assumptions

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- HPL maintained the reserves and resources estimated by APEX in the Reserves Report
- HPL updated the Reserves Report with the following:
  - CAPEX: Based on updated 3<sup>rd</sup> party cost estimates for drilling, completion and processing equipment
  - Production forecasts: Each well's natural gas production rates were based on the number of naturally fractured Devonian units expected to be encountered
  - Replaced higher risked re-entry of abandoned wells with new horizontal wells
  - Modified drilling development program based on well productivity to recover i) 2P, ii) 2P + Risked 2C and iii) 2P + Risked 2C + Risked Prospective Resources
  - Replaced future temporary CNG facility with leased Micro-LNG plant
  - Included Government approval timing

Assumptions for Economics	Shallow (3000 m)	Deep (4000 m)	Timing
Vertical Pilot (first well)	US\$ 5.5 MM	N/A	Q2 2020
Re-entry of Vertical Pilot	US\$ 3.25 MM	N/A	Q2 2021
Vertical Pilot + HZ (1000 m)	US\$ 6.0 MM	US\$ 6.25 MM	Variable
Horizontal Well (1000 m)	US\$ 4.5 MM	US\$ 4.75 MM	Variable
Completion Costs	US\$ 0.5 MM	US\$ 0.5 MM	
OPEX (US\$/well/mth & US\$/Mcf)	6,000 and 0.50		
Main Facility Costs	US\$ 2.8 MM		Mid 2021
Pipeline Cost (8")	US\$ 5.0 MM		Mid 2021
Compression Costs (split between two installations)	US\$ 6.0 MM		2022 & 2024
Facility Upgrade Costs	US\$ 2.8 MM		Late 2023
Well Abandonment	US\$ 0.3 MM		well end of life
Plant Abandonment	US\$ 1.0 MM		field end of life
Initial Production Rate (MMcf/d)	7.5 - 10.5		Variable
Recoverable Reserves per Well (Bcfe)	7.5 - 10.5		Variable
Condensate Production	7.0 bbl/MMcf		
Shrinkage	5%		

Year	Natural Gas Price	Condensate Price
	(US\$/Mcf)	(US\$/Bbl)
2019	6.79	70.00
2020	7.97	72.00
2021	8.31	73.00
2022	8.31	74.46
2023	8.31	75.95
2024	8.31	77.47
2025	8.48	79.02
2026	8.65	80.60
2027	8.82	82.21
2028	9.00	83.85
2029	9.18	85.53
2030	9.36	87.24
	2% thereafter	

# **Appendix C: Legal Notices, Risk and Resources Advisories**

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## *Forward-Looking Information*

This information contained in this corporate presentation and the accompanying verbal presentation (the “Presentation”) contains forward-looking statements and forward-looking information (collectively, “forward-looking information”) within the meaning of applicable securities laws relating to the plans of Horizon Petroleum Inc. (the “Company”) and other aspects of its anticipated future operations, management focus, strategies, financial, operating and production results, industry conditions, commodity prices and business opportunities. All statements in this Presentation, other than statements of historical fact, that address events or developments that the Company expects to occur, are forward-looking information. In addition, and without limiting the generality of the foregoing, this Presentation contains forward-looking information regarding anticipated netbacks, anticipated potential of the acquisition, the closing and timing of closing of any potential offering, the use of proceeds of any potential offering, decisions regarding additional listings, production guidance, capital program and allocation thereof, future production, development and drilling plans, well economics, future cost reductions, potential growth, the current operating plans with respect to the Company’s assets in France, and the source of funding the Company’s capital spending. **Any and all future operating activities as well as the ability of the Company to continue as a going concern will require an infusion of capital into the Company in the immediate future and the Company makes no representations as to the likelihood of this occurring.** Forward-looking information typically uses words such as “anticipate”, “believe”, “project”, “expect”, “goal”, “plan”, “intend” or similar words suggesting future outcomes, statements that actions, events or conditions “may”, “would”, “could” or “will” be taken or occur in the future. Such statements are not guarantees of future performance and actual results may differ materially from those in forward looking statements. Factors that could cause the actual results to differ materially from those in forward-looking statements include, but are not limited to, market prices, exploration and drilling success, continued availability of capital and financing and general economic, market or business conditions.

The forward-looking information is based on certain key expectations and assumptions made by the Company’s management, including expectations and assumptions concerning prevailing commodity prices and differentials, exchange rates, interest rates, applicable royalty rates and tax laws; future production rates and estimates of operating costs; performance of future wells; reserve and resource volumes; anticipated timing and results of capital expenditures; the success obtained in drilling new wells; the sufficiency of budgeted capital expenditures in carrying out planned activities; the timing, location and extent of future drilling operations; the state of the economy and the exploration and production business; results of operations; performance; business prospects and opportunities; the availability and cost of financing, labour and services; the impact of increasing competition; the ability to efficiently integrate assets and employees acquired through acquisitions, including the acquisition, the ability to market natural gas successfully and the Company’s ability to access capital.

Since forward-looking information addresses future events and conditions, by its very nature they involve inherent risks and uncertainties. The Company’s actual results, performance or achievement could differ materially from those expressed in, or implied by, the forward-looking information and, accordingly, no assurance can be given that any of the events anticipated by the forward-looking information will transpire or occur, or if any of them do so, what benefits that we will derive therefrom. Management has included the above summary of assumptions and risks related to forward-looking information provided in this presentation in order to provide securityholders with a more complete perspective on future operations and such information may not be appropriate for other purposes.

Readers are cautioned that the foregoing lists of factors are not exhaustive. These forward-looking statements are made as of the date of this press release and we disclaim any intent or obligation to update publicly any forward-looking information, whether as a result of new information, future events or results or otherwise, other than as required by applicable securities laws.

## *FOFI and other Financial Matters*

This Presentation contains future-oriented financial information and financial outlook information (collectively, "FOFI") about the Company's prospective results of operations, operating netbacks and components thereof, all of which are subject to the same assumptions, risk factors, limitations and qualifications as set forth in the above paragraphs. FOFI contained in this Presentation was made as of the date of this press release and was provided for the purpose of providing further information about the Corporation's anticipated future business operations. Readers are cautioned that the FOFI contained in this Presentation should not be used for purposes other than for which it is disclosed herein.

## Non-GAAP Measures

**Operating netbacks** are determined by deducting royalties, net profit interest, production expenses and selling expenses from oil and gas revenue. Operating netbacks are per mcf measures used in operational and capital allocation decisions.

The assumptions used to generate the netback (US\$/Mcf) in this presentation are as follows:

Daily Production	20.64 MMcfe/d
Commodity Revenue <sup>(1)</sup>	US\$4.991 MM
Royalties and 6% NPI	US\$ 0.59 MM
Operating Cost	US\$ 0.315 MM
Operating Netbacks	US\$6.39/Mcfe

(1) Based on Lachowice Natural Gas Price = US\$8.29/mcf, Condensate Price = US\$74.46/Bbl, CAD/USD= 0.743

## *Cautionary Statements*

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## *Cautionary Statements (cont.)*

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The reserve and resource estimates of natural gas and natural gas liquids reserves provided in this presentation are estimates only, and there is no guarantee that the estimated reserves and/or resources will be recovered. Actual reserves and resources may eventually prove to be greater than, or less than, the estimates provided herein. It should not be assumed that the estimates of future net revenues presented herein represent the fair market value of the reserves and/or resources. There are numerous uncertainties inherent in estimating quantities of natural gas and natural gas liquids reserves and/or resources and the future cash flows attributed to such reserves and/or resources.

These risks and uncertainties include but are not limited to:

- 1) the fact that there is no certainty that the zones of interest will exist to the extent estimated or that the zones will be found to have natural gas with characteristics that meet or exceed the minimum criteria in terms of net pay thickness and/or porosity, or that the natural gas will be commercially recoverable to the extent estimated;
- 2) the fact that there is no certainty that any portion of the probable reserves and contingent and prospective resources will be commercially viable to produce;
- 3) the fact that the Company must hire an operations team and executive in both Calgary, Poland and France in order to execute on each country's development plan, and there are no guarantees that suitably qualified technical and professional staff and/or consultants will be available;
- 4) the lack of additional financing to fund the Company's development activities and continued operations;
- 5) the risks associated with obtaining approvals to access land to drill wells or install infrastructure and facilities in a reasonable time frame; the Polish and French regulatory regimes are relatively stable but are marked with long approval processes relative to North American jurisdictions;
- 6) the risks in acquiring or constructing adequate natural gas infrastructure to produce and sell natural gas, and whether capacity will be available in the existing main pipeline system at reasonable costs;
- 7) the risk that there may not be a drilling rig available to drill the required wells, and the risk that if a rig mobilization is required from outside of Poland and/or France that the costs may be prohibitive;
- 8) risks inherent in the international oil and natural gas industry;
- 9) fluctuations in foreign exchange and interest rates;
- 10) the number of competitors in the oil and gas industry with greater technical, financial and operations resources and staff;
- 11) fluctuations in world prices and markets for oil and natural gas due to domestic, international, political, social, economic and environmental factors beyond the Company's control;
- 12) changes in government regulations affecting oil and natural gas operations;
- 13) potential liabilities for pollution or hazards against which the Company cannot adequately insure or which the Company may elect not to insure;
- 14) contingencies affecting the classification as reserves versus resources which relate to the following issues as detailed in the COGE Handbook: ownership considerations, drilling requirements, testing requirements, regulatory considerations, infrastructure and market considerations, timing of production and development, and economic requirements;
- 15) the fact that there is no certainty that any portion of the prospective resources will be discovered and if discovered, there is no certainty that it will be commercially viable to produce any portion of the resources; and
- 16) other factors beyond the Company's control. Any reference in this press release to DPIIP, contingent resources and prospective resources are not, and should not be confused with oil and natural gas reserves.

Any reference in the presentation to PIIP, contingent resources and/or prospective resources are not and should not be confused with oil and natural gas reserves.

Estimates of resources always involve uncertainty, and the degree of uncertainty can vary widely between accumulations/projects and over the life of a project. Consequently, estimates of resources should generally be quoted as a range according to the level of confidence associated with the estimates. An understanding of statistical concepts and terminology is essential to understanding the confidence associated with resources definitions and categories. These concepts, which apply to all categories of resources, are outlined below. The range of uncertainty of estimated recoverable volumes may be represented by either deterministic scenarios or by a probability distribution. Resources should be provided as low, best, and high estimates as follows:

- **Low Estimate and/or 1C in the case of Contingent Resources:** This is considered to be a conservative estimate of the quantity that will actually be recovered. It is likely that the actual remaining quantities recovered will exceed the low estimate. If probabilistic methods are used, there should be at least a 90 percent probability (P90) that the quantities actually recovered will equal or exceed the low estimate.
- **Best Estimate and/or 2C in the case of Contingent Resources:** This is considered to be the best estimate of the quantity that will actually be recovered. It is equally likely that the actual remaining quantities recovered will be greater or less than the best estimate. If probabilistic methods are used, there should be at least a 50 percent probability (P50) that the quantities actually recovered will equal or exceed the best estimate.
- **High Estimate and/or 3C in the case of Contingent Resources:** This is considered to be an optimistic estimate of the quantity that will actually be recovered. It is unlikely that the actual remaining quantities recovered will exceed the high estimate. If probabilistic methods are used, there should be at least a 10 percent probability (P10) that the quantities actually recovered will equal or exceed the high estimate.

This approach to describing uncertainty may be applied to reserves, contingent resources, and prospective resources. There may be significant risk that sub commercial and undiscovered accumulations will not achieve commercial production, however, it is useful to consider and identify the range of potentially recoverable quantities independently of such risk.

The main contingencies identified in the Lachowice Reserves Report are the successful recompletion of existing abandoned wells, the expected decline rates and the approval and completion of new development and new re-entries. The table below outlines the positive and negative factors which may be relevant to the Resource Report assumptions and estimates.

**Unrecoverable Petroleum Quantity** is that portion of the Discovered or Undiscovered PIIP which is estimated at the effective date not to be recoverable by future development. It is that portion of the PIIP remaining after the recoverable Contingent or Prospective Resource is removed. A portion of this petroleum quantity may become recoverable in the future as commercial circumstances or technological improvements occur, but are given no value at the Effective Date. The remaining portion may never be recovered due to physical and chemical restraints in petroleum reservoirs.

**Boe** means a barrel of oil equivalent on the basis of 6 Mcf of natural gas to 1 barrel of oil equivalent. **Mcf** means one thousand cubic feet of natural gas equivalent on the basis of 6 Mcfe : 1 barrel of oil. A Boe conversion ratio of 6 Mcf : 1 Boe and 6 Mcfe : 1 Bbl are based on an energy equivalency conversion method primarily applicable at the burner tip and does not represent a value equivalency at the wellhead. Given the value ratio based on the price of crude compared to the price of natural gas at various times can be significantly different from the energy equivalence of 6 Mcf : 1 boe or 6 Mcfe : 1 Bbl, using Boe's and Mcfe's may be misleading as an indication of value.



## Definitions

**Total Petroleum Initially in Place (“PIIP”)** refers to the total quantity of petroleum that is estimated to exist originally in naturally occurring accumulations. It includes the petroleum that exists in known accumulations prior to production and the estimated quantities yet to be discovered in the various leads and prospects identified by seismic and inferred by geology. A portion of the PIIP will be recoverable as determined by ultimate recovery factors and the estimated recoverable portion is further classified as Reserves, Contingent Resources or Prospective Resources.

**Discovered Petroleum Initially in Place (“Discovered PIIP” or “DPIIP”)** is the total quantity of Petroleum that is estimated as of the effective date of the Report to be contained in known accumulations prior to production.

**Past Production** is the cumulative quantity of Petroleum that has been recovered as of the effective date of the Report. It is the sum of all raw production which includes sales and non-sales product quantities as measured and reported by the operators. It is not included in any values given the reserves, contingent resources or prospective resources, having already been produced and sold.

**Future Production** is sub-classified as reserves, contingent resources or prospective resources.

Multiple development projects may be applied to each known accumulation which may be separated vertically into different formations or by area in different pools; each project will recover a portion of the PIIP according to its unique reservoir characteristics. The projects will be subdivided into Commercial and Sub-Commercial at the effective date with the estimated recoverable petroleum quantities being classified as Reserves and Contingent Resources.

**Reserves** are those quantities of petroleum anticipated to be commercially recoverable by application of development projects to known accumulations from the effective date under defined conditions. Reserves must be discovered, recoverable, commercial, and remaining as of the effective date based on the development projects applied. Reserves are further categorized into Proven, Probable and Possible according to the level of certainty associated with the estimates, and may be sub-classified based upon production status and project maturity.

Reserves are classified according to the degree of certainty associated with the estimates. Reserves are estimated remaining quantities of oil and natural gas and related substances anticipated to be commercially recoverable from known accumulations, from a given date forward, based on:

- ☒ analysis of drilling, geological, geophysical, and engineering data;
- ☒ the use of established technology; and
- ☒ economic conditions, which are generally accepted as being reasonable, and shall be disclosed.

**Proved Reserves** are those reserves that can be estimated with a high degree of certainty to be recoverable. It is likely that the actual remaining quantities recovered will exceed the estimated proved reserves (1P).

**Probable Reserves** are those additional reserves that are less certain to be recovered than proved reserves. It is equally likely that the actual remaining quantities recovered will be greater or less than the sum of the estimated proved + probable reserves (2P)

**Possible Reserves** are those additional reserves that are less certain to be recovered than probable reserves. It is unlikely that the actual remaining quantities recovered will exceed the sum of the estimated proved + probable + possible reserves (3P)

**Company Gross Reserves** are the Company’s working interest (operating or non-operating) share before deducting royalties and without including any royalty interests of the Company.

**Resources** are defined in the Canadian Oil and Gas Evaluation Handbook (COGEH) Volume 1, section 5 as follows:

**Contingent Resources** are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations, but the applied projects are not yet considered mature enough for commercial development due to one or more contingencies. Contingent Resources may include, for example, projects for which there are currently no viable markets, or where commercial recovery is dependent on technology under development, or where evaluation of the accumulation is insufficient to clearly assess commerciality.

Contingencies may include factors such as economic, legal, environmental, political, and regulatory matters, or a lack of markets. It is also appropriate to classify as contingent resources, the estimated discovered recoverable quantities associated with a project in the early evaluation stage. Contingent Resources are further classified in accordance with the level of certainty associated with the estimates and may be sub classified based on project maturity and/or characterized by their economic status.

Not all technically feasible development plans will be commercial. The commercial viability of a development project is dependent on the forecast of fiscal conditions over the life of the project. For Contingent Resources, the risk component relating to the likelihood that an accumulation will be commercially developed is referred to as the “chance of development.” For contingent resources, the chance of commerciality is equal to the chance of development.

**Development Pending** are contingencies that are being actively pursued; expect resolution in a reasonable time period; are directly influenced by the developer with both, internal approvals and commitment and development timing and; have a high chance of development (>80%).

**Development on Hold** are contingencies with major non-technical contingencies identified; have a reasonable chance of development (>50%); have contingencies that are beyond the control of the developer including but not limited to: external approvals, economic factors, market access, political factors and social license.

**Development Unclassified** are contingencies that have not been clearly defined; the project is currently under active evaluation; significant further appraisal may be required; progress is expected in a reasonable time period; chance of development is difficult to assess and could be a big range (20%-80%).

**Development Not Viable** are contingencies that have been identified; the project was evaluated and considered not viable or significant further appraisal may be required; progress is not expected in a reasonable time period and; has a low chance of development (<50%).

**Contingent Resources –Development Pending and –Development On Hold** are considered economic, **Contingent Resources –Development Unclassified** have economics that are undetermined, and **Contingent Resources –Development Not Viable** are considered sub-economic.

**Prospective Resources** are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects. Prospective resources have both an associated chance of discovery and a chance of development. Prospective Resources are further subdivided in accordance with the level of certainty associated with recoverable estimates assuming their discovery and development and may be sub classified based on project maturity.

Not all exploration projects will result in discoveries. The chance that an exploration project will result in the discovery of petroleum is referred to as the “chance of discovery.” Thus, for an undiscovered accumulation, the chance of commerciality is the product of two risk components — the chance of discovery and the chance of development.