



# OIL SEARCH COMPANY UPDATE

**March 2019**

OIL SEARCH LIMITED | ARBN 055 079 868 | ASX: OSH | POMSx: OSH | US ADR: OISHY

[www.oilsearch.com](http://www.oilsearch.com)



**Oil Search**

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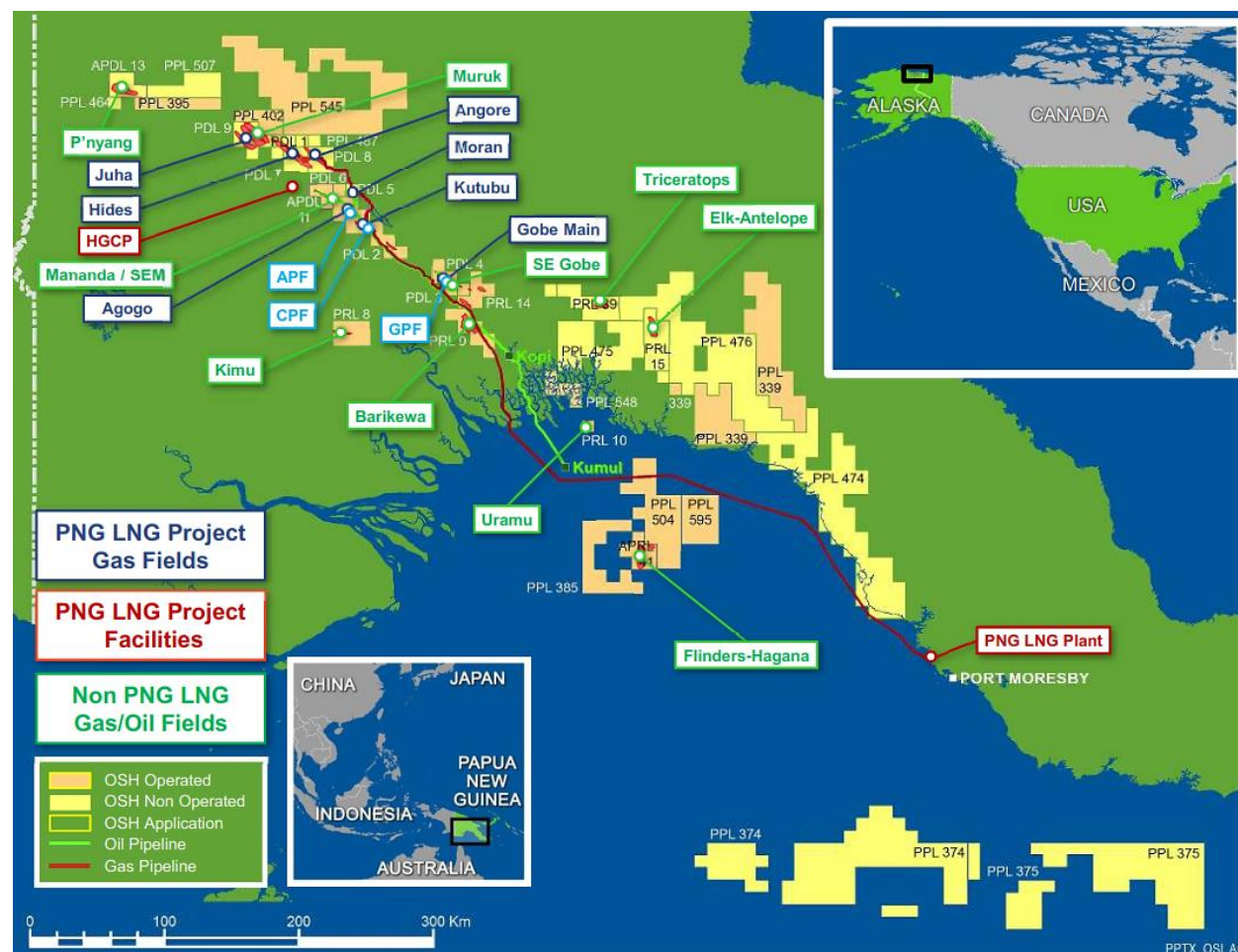




Oil Search

## OIL SEARCH OVERVIEW

- ❖ Established in PNG in 1929
- ❖ 29% interest in PNG LNG Project (operated by ExxonMobil)
- ❖ ~ 60% interest in, and operator of, all PNG's producing oil fields
- ❖ Major LNG growth opportunities in PNG:
  - Proposed development of three new trains, ~8 MTPA of LNG capacity, in partnership with ExxonMobil and Total
- ❖ Material gas exploration upside
- ❖ 25.5% interest in major oil resource in Alaska North Slope, USA, with significant appraisal and exploration potential
- ❖ Market capitalisation ~A\$13bn (~US\$9bn)
- ❖ Listed on ASX (Share Code: OSH) and POMSOX, plus US ADR programme (Share Code: OISHY)

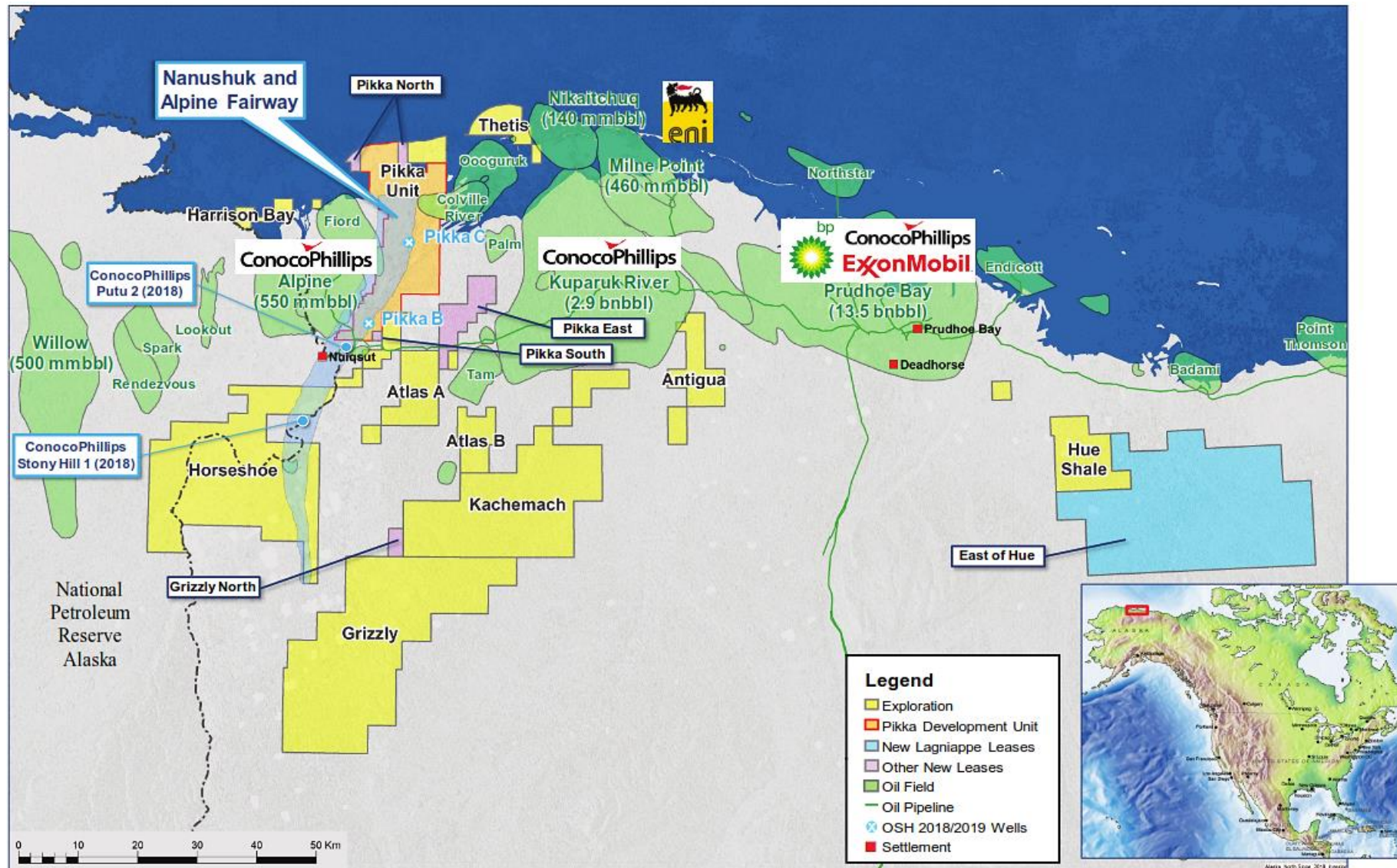








## ALASKA OPERATIONS – KEY FIELDS



## 2018 HIGHLIGHTS

- ❖ Net profit of US\$341 million, 13% higher than 2017 despite lower production due to PNG Highlands earthquake in February 2018
- ❖ Strong recovery in production in 2H18, with PNG LNG achieving record half-year production rate of 8.8 MTPA, ~30% above nameplate capacity
- ❖ Material upside in oil fields identified, with potential to add ~30 mmbbl (net) to reserves
- ❖ Two mid-term SPAs signed with PetroChina and BP, taking total PNG LNG contracted volumes to 7.5 MPTA
- ❖ Significant growth in reserves and resources, underpinning development projects
- ❖ Good progress on LNG expansion in PNG, with pre-FEED downstream studies maturing and Memorandum of Understanding signed between Papua LNG and the PNG Government in November 2018
- ❖ Early results from Muruk 2 encouraging, indicating likely hydrocarbons
- ❖ Significant milestones achieved in Alaska since assuming operatorship in March 2018
- ❖ Robust liquidity position of US\$1.5 billion



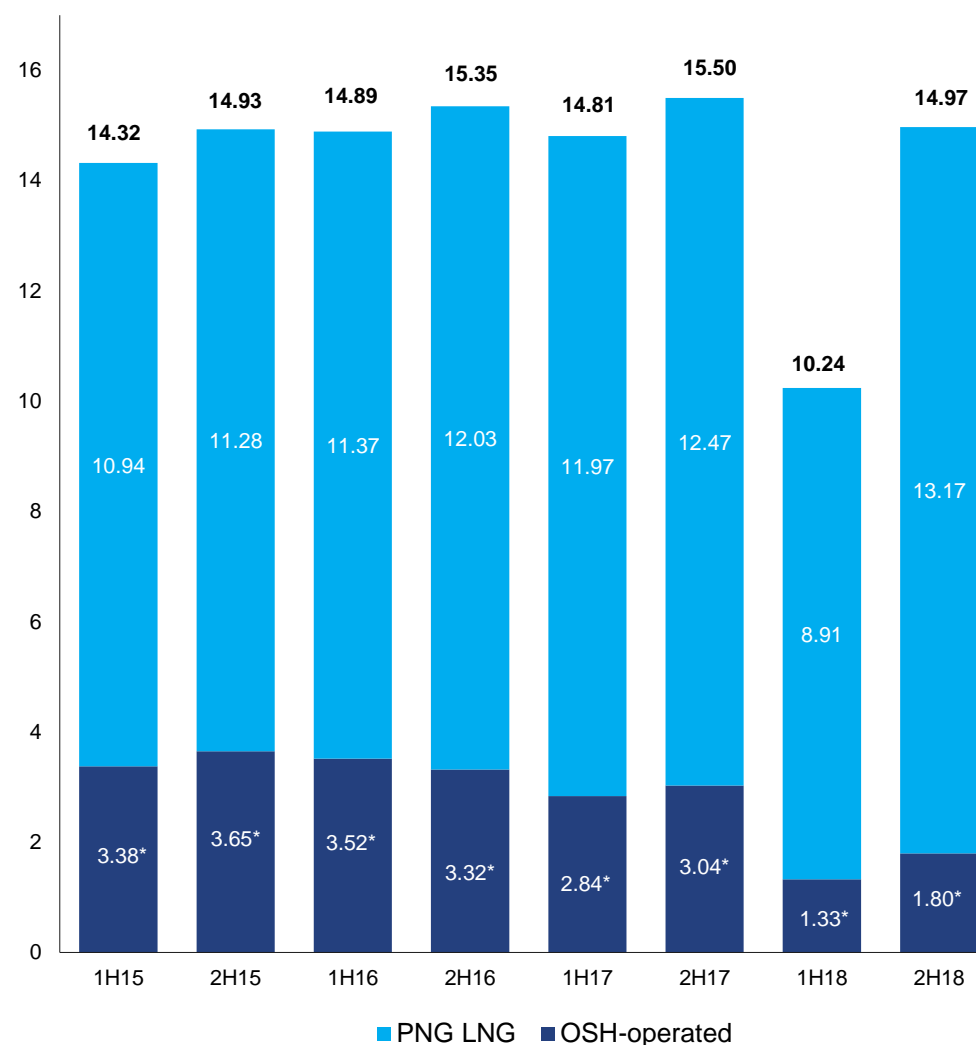
Barikewa 3 well, located in Papua New Guinea's onshore Forelands region

# 2018 PRODUCTION – STRONG RECOVERY IN 2H18



- ❖ 2018 production of 25.2 mmboe, 17% lower than 2017, reflecting temporary shutdown of operations due to February earthquake
- ❖ PNG LNG Project contributed 22.1 mmboe (97.5 bcf LNG, 3.0 mmboe liquids):
  - Operating at / above pre-earthquake levels since production resumed in April, benefitting from modifications to HGCP and maintenance work on LNG trains undertaken during shutdown period
  - 8.8 MTPA generated in 2H18 – almost 30% above nameplate and highest half-year production rate achieved since Project start-up
- ❖ OSH-operated production contributed 3.1 mmboe:
  - All facilities now back online:
    - CPF (March), GPF (April), Hides GTE (May), APF (July)
  - Production expected to be back at pre-EQ levels in 2H19

## NET PRODUCTION (MMBOE)



\* Includes SE Gobe gas sales

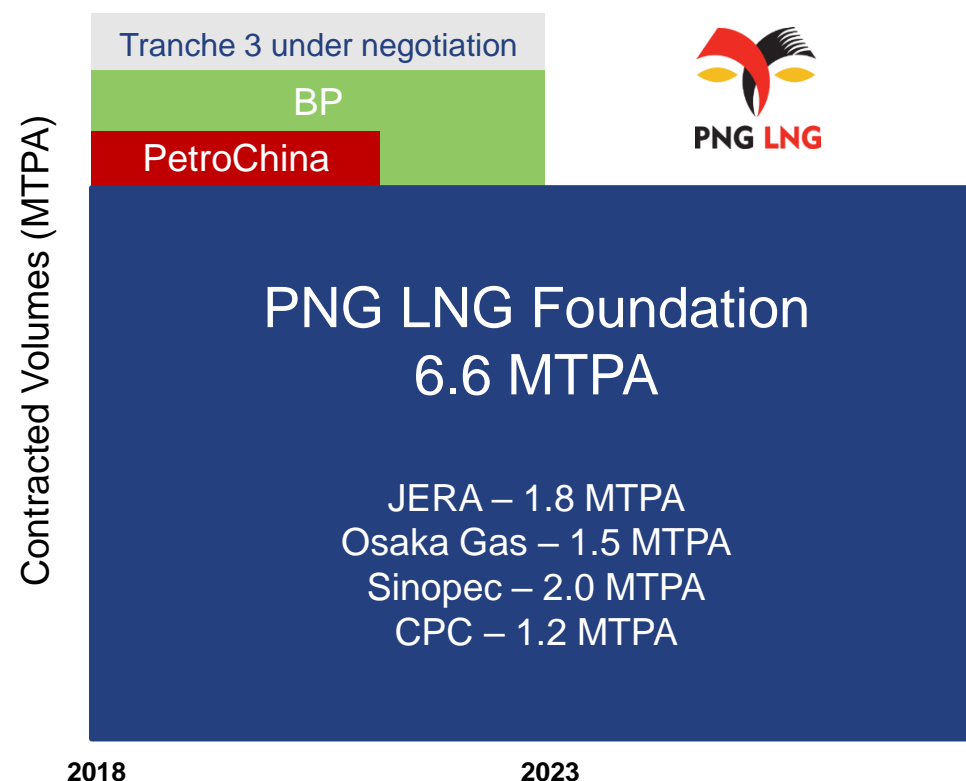


## 7.5 MTPA OF PNG LNG PRODUCTION CONTRACTED



- ❖ 7.5 MTPA of PNG LNG production contracted under long and mid-term agreements:
  - 6.6 MTPA under 20-year contracts with JERA, Osaka Gas, Sinopec and CPC
  - 3-year SPA with PetroChina for ~0.45 MTPA of LNG. Supply commenced July '18
  - 5-year SPA with BP for ~0.45 MTPA of LNG for 3 years, followed by ~0.9 MTPA for 2 years. Supply commenced Aug '18
- ❖ Terms for additional mid-term tranche of ~0.45 MTPA under negotiation
- ❖ Remaining uncommitted volumes sold on spot market
- ❖ Market exposure now spread over long-term, mid-term contracts and spot LNG market

### PNG LNG CONTRACTUAL COMMITMENTS

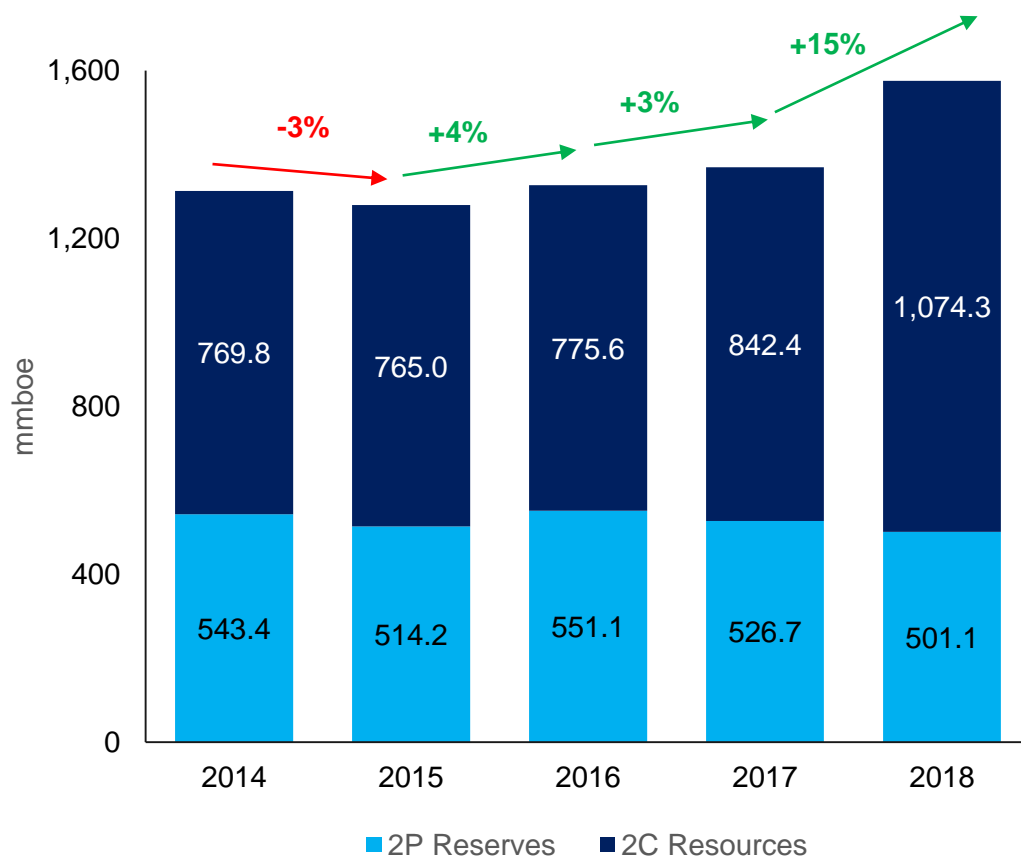




# SIGNIFICANT GROWTH IN RESERVES AND RESOURCES



## OIL SEARCH 2P + 2C GROWTH



\*Gas volumes converted to boe using Oil Search specific conversion factor of 5,100 scf = 1boe

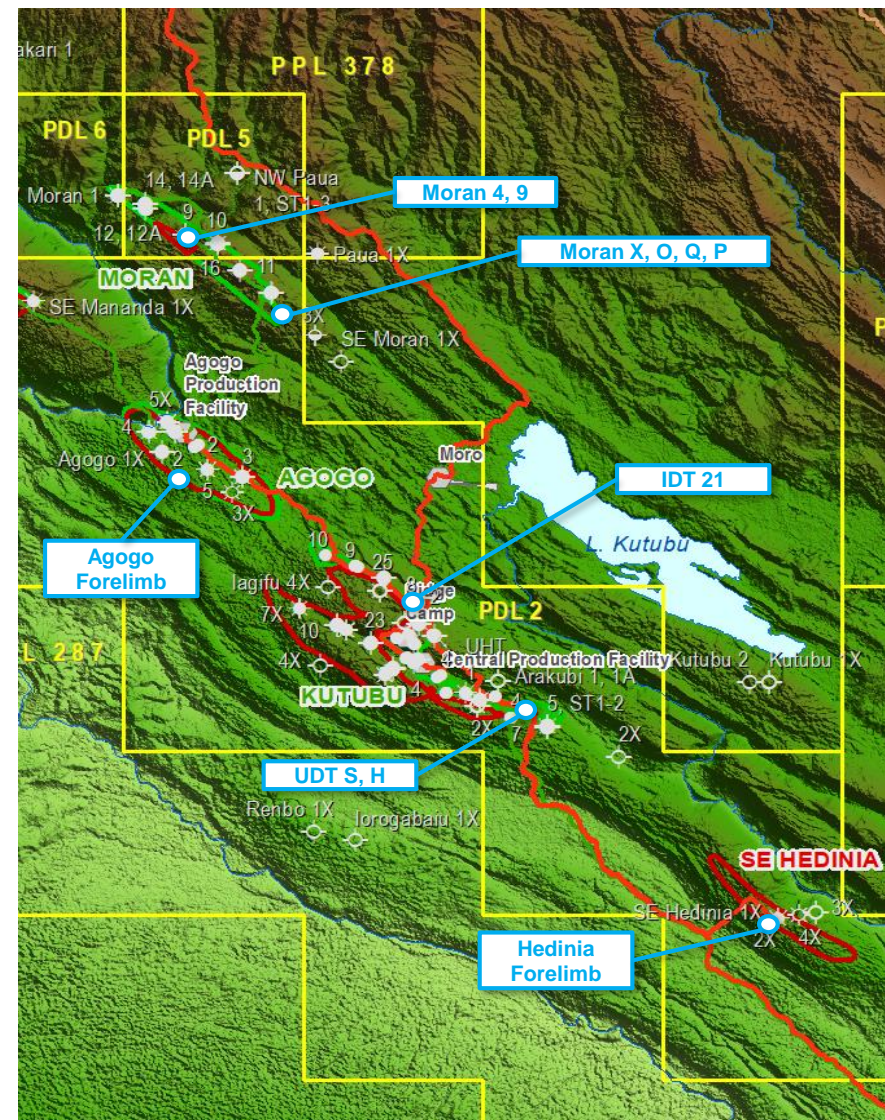
At end Dec 2018	Oil and condensate (mmbbl)	% Change	Gas (bscf)	% change
1P Reserves	54.1	↓ 8%	1,937	↓ 5%
2P Reserves	68.0	↓ 7%	2,209	↓ 5%
2C Resources	185.5	↑ 252%	4,533	↑ 13%
Total 2P & 2C	253.5	↑ 102%	6,742	↑ 6%

- ❖ On 2018 production of 25.2 mmboe:
  - 1P Reserves life: 17 years
  - 2P Reserves life: 20 years
  - 2P Reserves and 2C Resources life: 63 years
- ❖ Reserves and Resources position underpins long term, high-value growth in identified projects which are resilient in most decarbonisation scenarios, including 2°C pathway



## PNG OIL FIELD OPPORTUNITIES

- ❖ Commenced oil field optimisation programme in Jan-19 with workover of IDT 21. To be followed by workovers of M4 and M9 wells
- ❖ Moran X and UDT S wells to be drilled in 2H19
- ❖ First of several low risk opportunities identified to extend plateau oil production until 2023-24
- ❖ In aggregate, could add ~30mmbbl (net) to reserves







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# 2019 PRODUCTION OUTLOOK

Production	2019 Guidance <sup>1</sup>
Oil Search-operated	4.0 – 5.5 mmboe <sup>2,3</sup>
PNG LNG Project	
LNG	106 – 113 bcf
Power	0.7 – 1.4 bcf
Liquids	3.1 – 3.6 mmbbl
Total PNG LNG Project	24.0 – 26.0 mmboe
Total production	28.0 – 31.5 mmboe

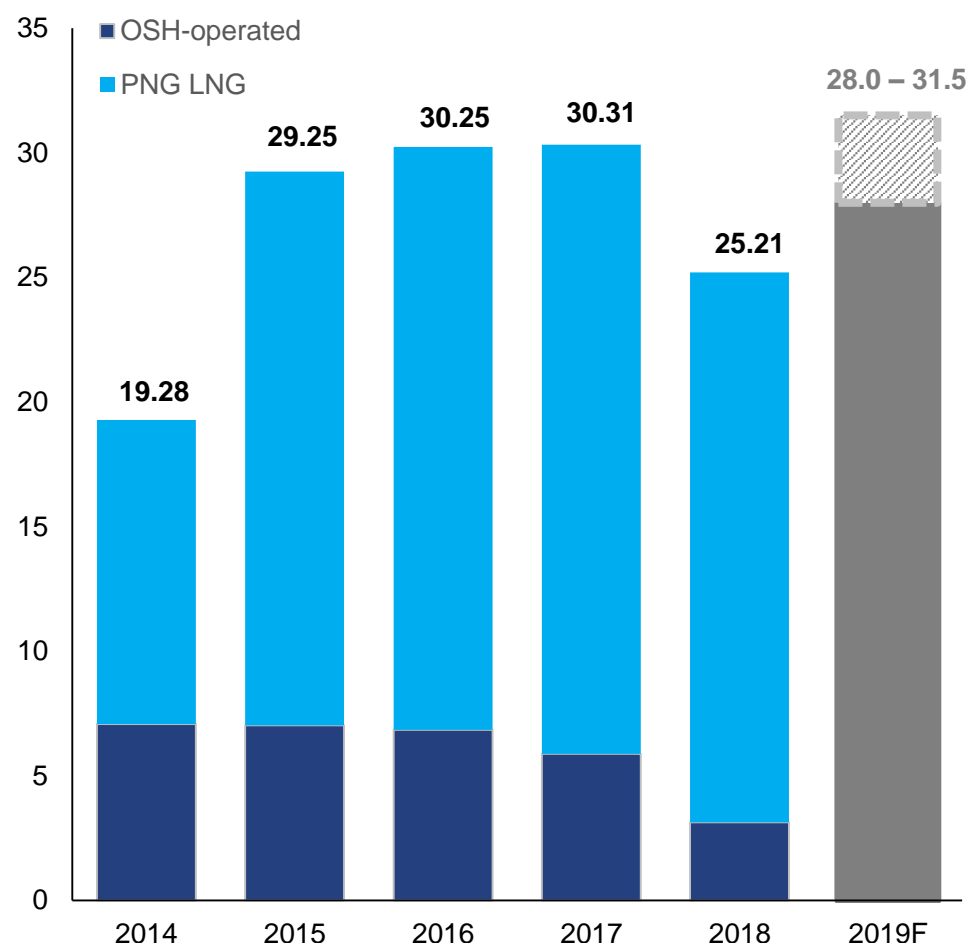
## ❖ PNG LNG:

- Sustainable rates of 8.5 – 9.0 MTPA achievable going forward, before normal levels of downtime
- 2019 forecast assumes production of 8.1 – 8.7 MT (gross), with approximately three weeks of reduced rates due to planned 2019 maintenance

## ❖ Operated Production:

- Impacted by natural decline in oil fields, EQ recovery, offset by oil optimisation activities

## OIL SEARCH NET PRODUCTION (MMBOE)<sup>1,2</sup>



<sup>1</sup> Numbers may not add due to rounding.

<sup>2</sup> Gas volumes have been converted to barrels of oil equivalent using an Oil Search specific conversion factor of 5,100 scf = 1 boe, which represents a weighted average, based on Oil Search's reserves portfolio, using the actual calorific value of each gas volume at its point of sale.

<sup>3</sup> Includes SE Gobe gas sales

1. LNG sales products at outlet of plant, post fuel, flare and shrinkage

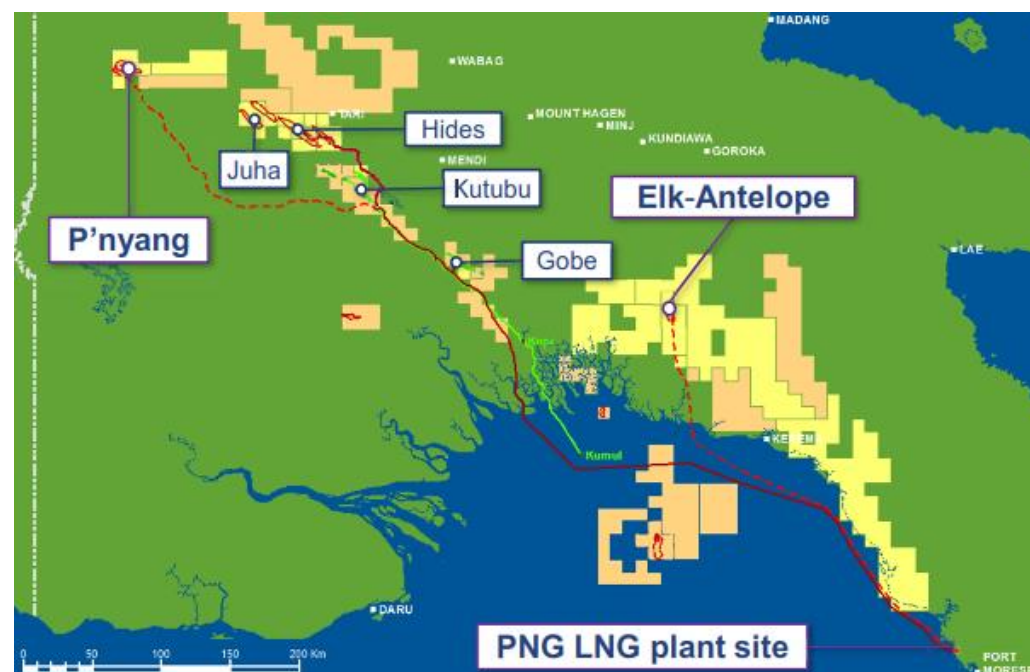
2. Gas:oil conversion rate from 2014 onwards: 5,100 scf = 1 barrel of oil equivalent

\* Oil Search operated production includes SE Gobe gas sales to PNG LNG Project

# DEVELOPMENT OF NEW LNG CAPACITY IN PNG



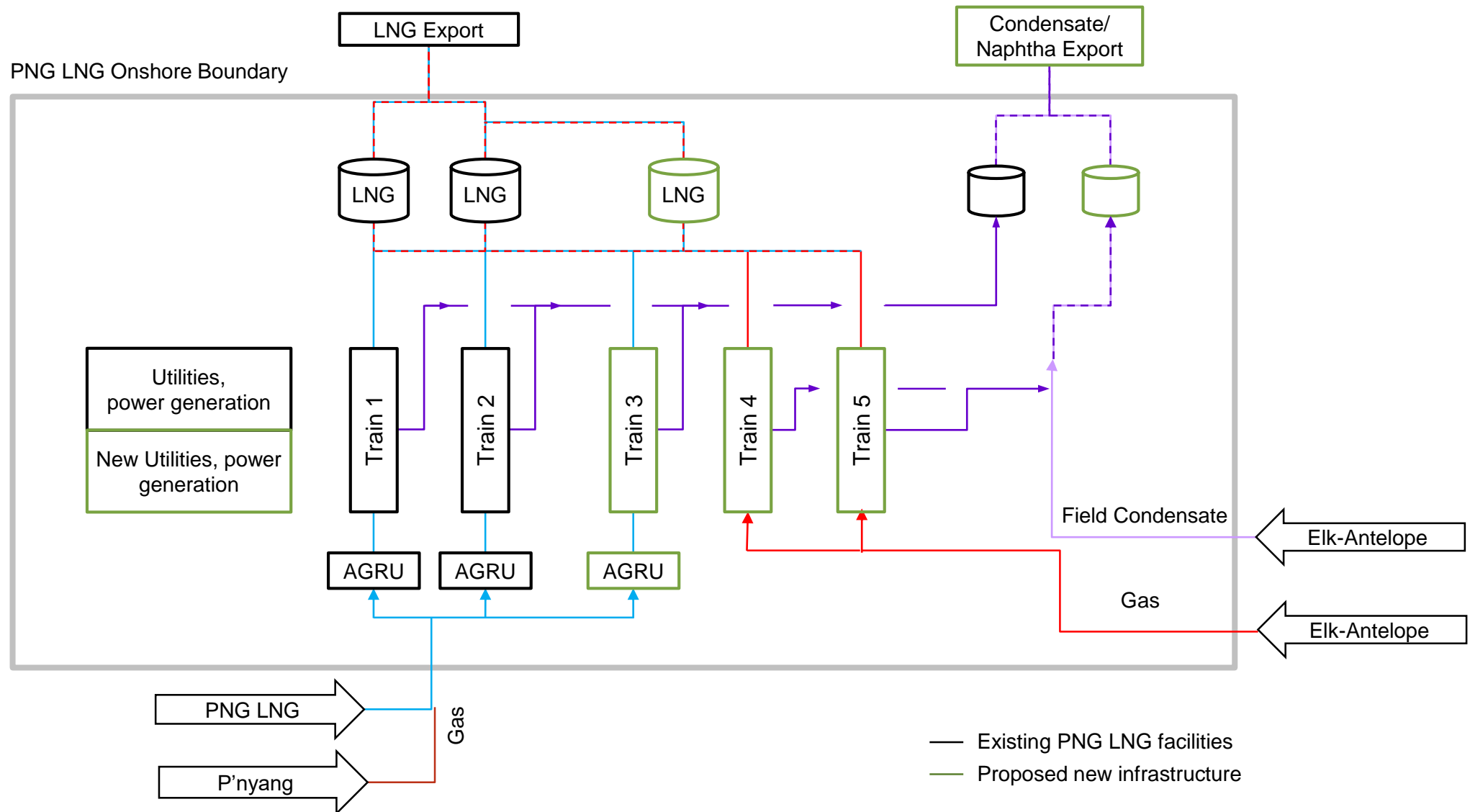
- ❖ Good progress made in 2018 on pre-FEED downstream studies for new LNG capacity (3 x 2.7 MTPA trains):
  - Downstream concept agreed, with two new trains dedicated to, and owned by, Papua LNG and one new train dedicated to PNG LNG/P'nyang
  - Engineering work on design, process and layout optimisation nearing completion:
    - Brownfield tie-ins, compressor driver selection, LNG loading and shipping, condensate treatment and execution planning
- ❖ Upstream pre-FEED on Elk-Antelope (PRL 15) well advanced:
  - One Antelope wellpad (up to 7 wells), one Elk pad (one well), one produced water reinjection well
  - Multiphase gathering system
  - Central Processing Facility and related infrastructure
  - Export Pipelines (gas and condensate):
    - 60km onshore, 260 km offshore



- ❖ Upstream studies supporting PNG LNG/P'nyang train progressing well:
  - Completion of development concept for Associated Gas Expansion (AGX) project planned for 2Q19
  - P'nyang (PRL 3) Project Definition studies ongoing
  - P'nyang field 1C and 2C gas resource upgraded post P'nyang South 2ST1



# PROPOSED CONFIGURATION AT PNG LNG PLANT SITE



Note: AGRU – Acid Gas Removal Unit

## AGREEMENTS BEING FINALISED

- ❖ Memorandum of Understanding signed between Papua LNG and Government in November 2018, setting key terms and conditions for Gas Agreement:
  - Equitable split of value between State and Developers
  - Fiscal arrangements and method for smoothing early tax flows for government, if required
  - Domestic Market Obligation, National Content
  - Deferral of repayment of past costs until first production
- ❖ Fully-termed Papua LNG Gas Agreement on track to be finalised by end March 2019
- ❖ Gas Agreement between State and P'nyang (PRL 3) JV to be finalised shortly afterwards, allowing aligned FEED entry
- ❖ Material progress made between JV partners on commercial agreements supporting integration, including site and facility access
- ❖ Discussions on contract strategy and project finance ongoing



*Papua LNG MoU Signing Ceremony, November 2018*





# LNG DEVELOPMENT TIMELINE – ROAD TO FIRST PRODUCTION IN 2024

2019 - 2024

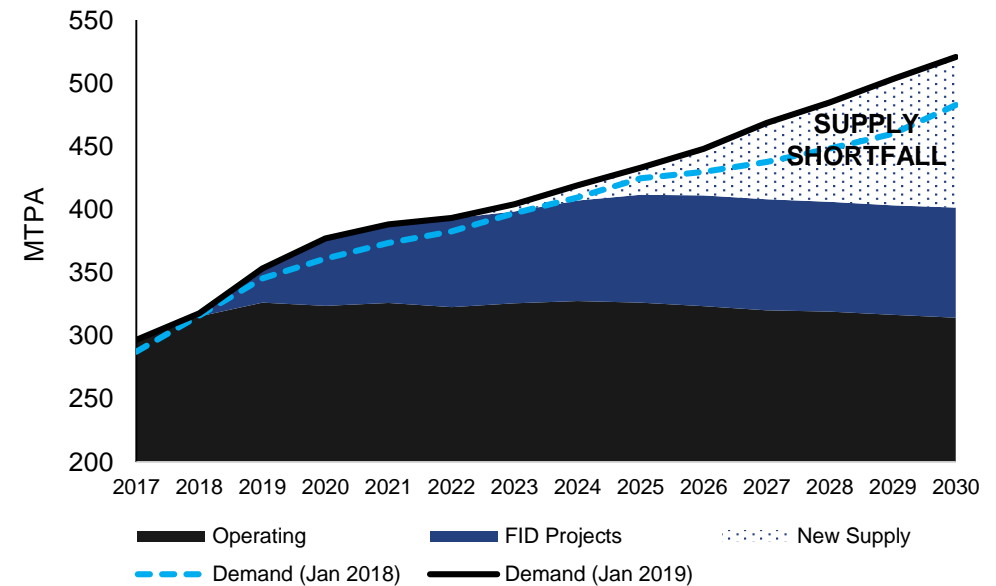
Gas Agreements	<b>Commence FEED:</b>  Papua LNG  Downstream (LNG trains)  Supporting Projects	Licencing and Approvals	<b>FIDs on:</b>  Papua LNG  PNG LNG downstream  AGX	<u>Construction:</u>  - Complete infrastructure - Complete site clearing - Construction camps - Site civils - Plant and pipeline construction - Drilling new wells - Tie-ins and testing - Commissioning	<b>First LNG shipments</b>
PNG LNG Access Agreements		Early Works Tendering			
JV Operating & Integration Agreements		<u>Early Works:</u> - Clearing, early camps, roads			
Complete Pre-FEED		<u>Complete FEED:</u> - Final cost and schedule - Construction tendering			
LNG Offtake negotiations		Project financing activities		Ready for Start-up Introduction of hydrocarbons	
		LNG SPAs		<b>P'nyang FID</b>	

# SUBSTANTIAL GROWTH IN GLOBAL LNG DEMAND

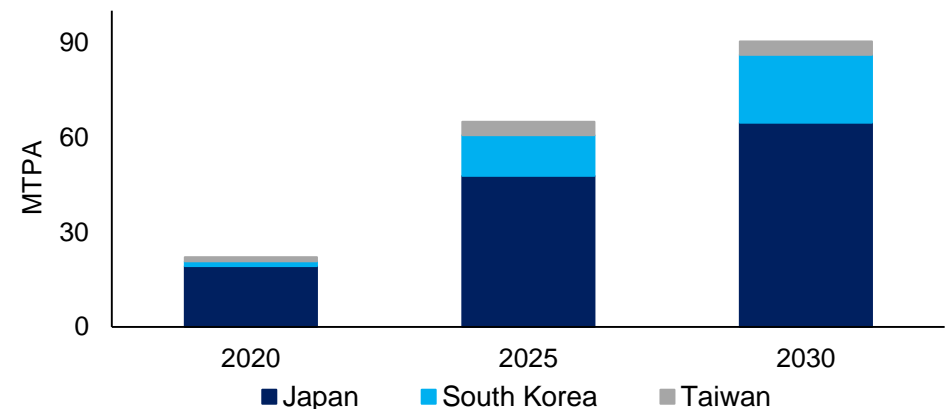


- ❖ Global LNG demand grew 6% in 2018 to 320 MT
- ❖ 4.5% pa global LNG demand growth forecast increased to 2030:
  - Driven by government policies, with NE Asia markets increasingly prioritising gas over coal and nuclear
- ❖ 90 MTPA of uncontracted demand in 2025 (demand growth and expiring contracts):
  - 2018 saw first large-scale capacity sanction since 2015
  - Several new projects need to take FID by 2020
- ❖ By 2030, a further ~120 MTPA of new supply required
- ❖ Renewed global interest from buyers for term supply to fill supply-demand gap from early to mid-2020s
- ❖ Buyers seeking LNG source diversification from new countries and new sellers

GLOBAL SUPPLY AND DEMAND



TOTAL CONTRACT EXPIRATIONS (CUMULATIVE)



Data Interpreted from IHS Markit

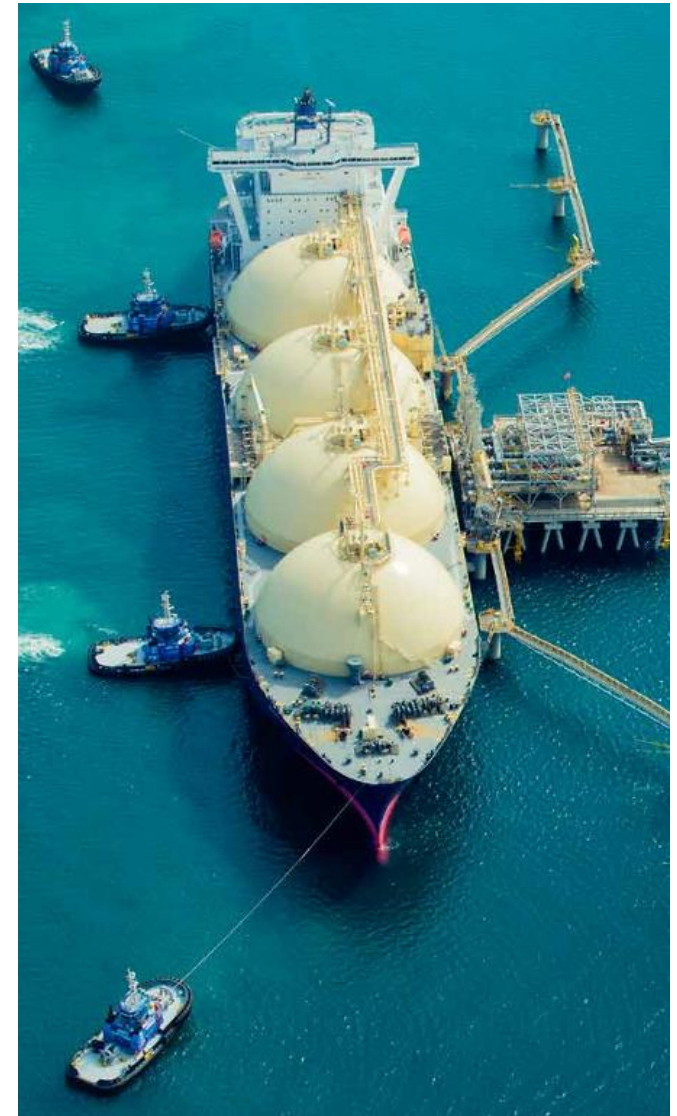


# COMPETITIVE ADVANTAGES OF LNG FROM PNG



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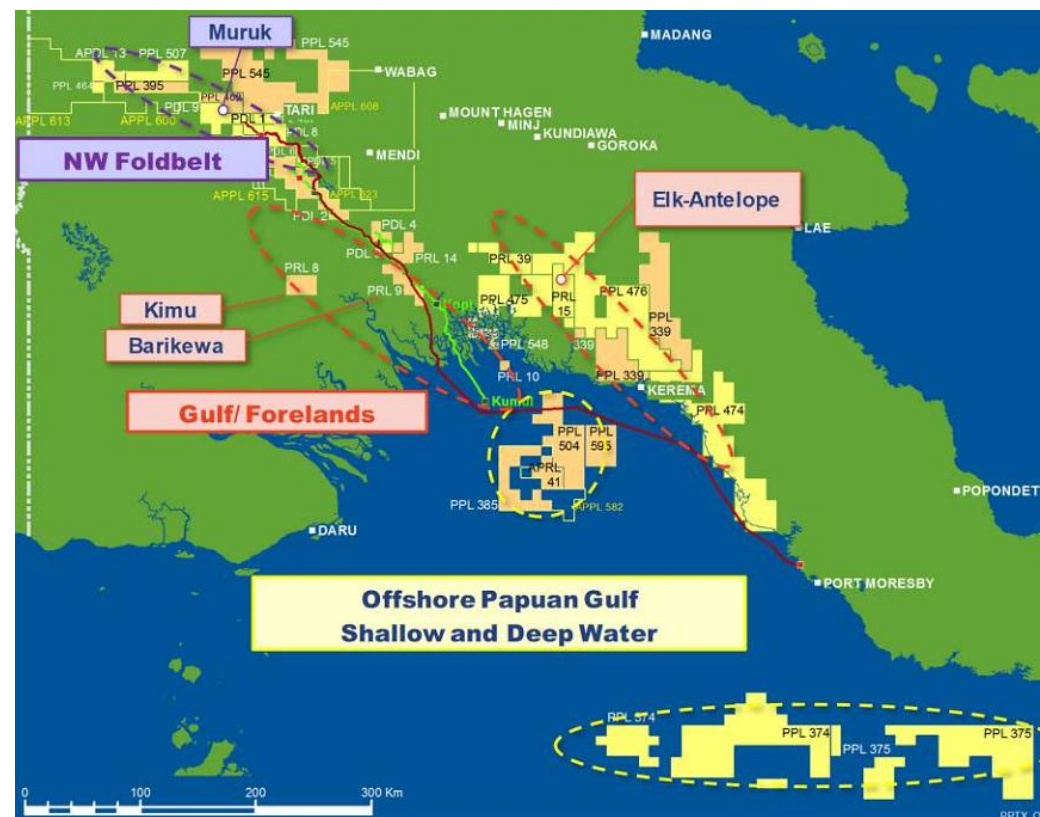
- ❖ Provides buyers with security of supply from proven project, highly reliable technology, with high uptime
- ❖ Globally competitive production costs:
  - Cooperative brownfield expansion with shared common facilities downstream, economies of scale from sequential construction of LNG trains
- ❖ High heating value gas:
  - Suitable for Asian reticulation networks
  - Global average heating value in decline as newer leaner projects come online
- ❖ Geographic proximity to key Asian LNG markets:
  - 50% round trip shipping days to North Asia vs US Gulf Coast LNG
- ❖ Good source of diversification for LNG buyers
- ❖ Top tier operators, ExxonMobil and Total, augmented by OSH's in-country experience
- ❖ OSH has received positive responses from key buyers and markets to equity marketing of new capacity



# PNG PORTFOLIO HAS MULTI-TCF GAS POTENTIAL

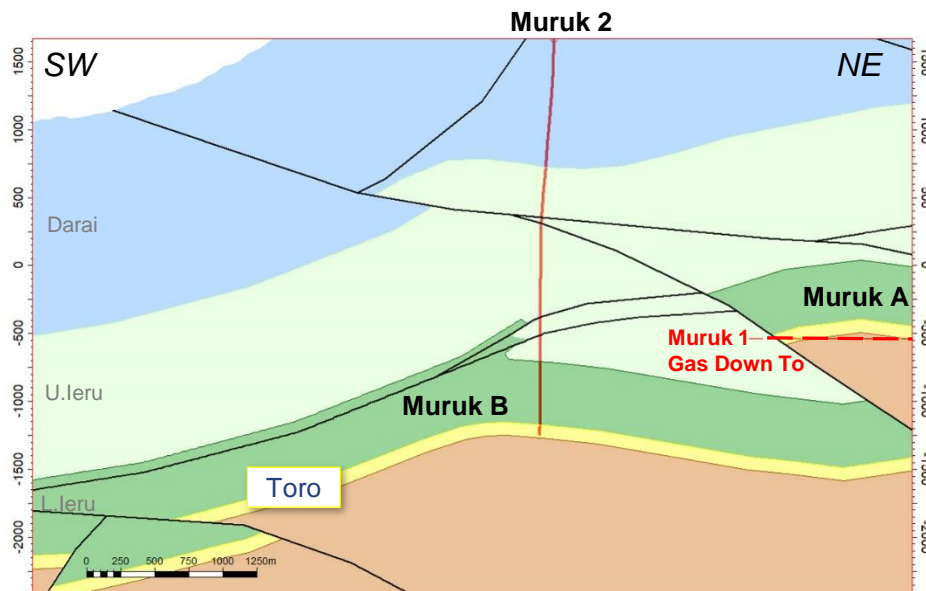


- ❖ Strategic studies completed on prioritising exploration/appraisal activities to ensure optimal use of capital
- ❖ In NW Foldbelt, will continue to pursue opportunities for PNG LNG backfill and optimal gas field phasing to create value
- ❖ In Forelands, studies ongoing to establish optimal commercialisation route for Kimu and Barikewa following appraisal, and Uramu
- ❖ Onshore Gulf attractive, with many multi-tcf structures in close proximity to planned Papua LNG infrastructure:
  - 25% farm-in to PPLs 474, 475, 476, PRL 39, adjacent to Elk-Antelope fields completed
  - Seismic acquired in 2018, second phase to commence early 2019, to identify drilling locations from late 2020
- ❖ Seismic interpretation has highlighted multi-tcf potential in offshore Gulf

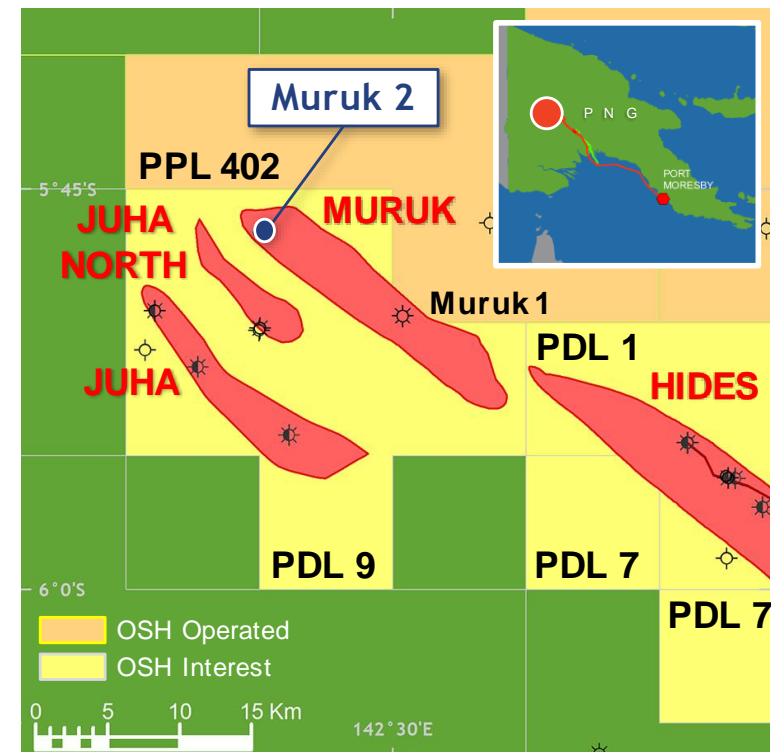


## MURUK 2 UPDATE

- ❖ Muruk 2 appraisal well operations ongoing
- ❖ Provisional results indicate objective Toro reservoir likely to be hydrocarbon bearing
- ❖ Extensive data acquisition programme underway, including coring, wireline logging and pressure testing
- ❖ Forward plan to be determined once data is available



- ❖ Success at Muruk will provide field phasing optionality
- ❖ Further seismic acquisition being planned for late 2019/early 2020 in Muruk area, to further constrain Muruk and nearby prospects

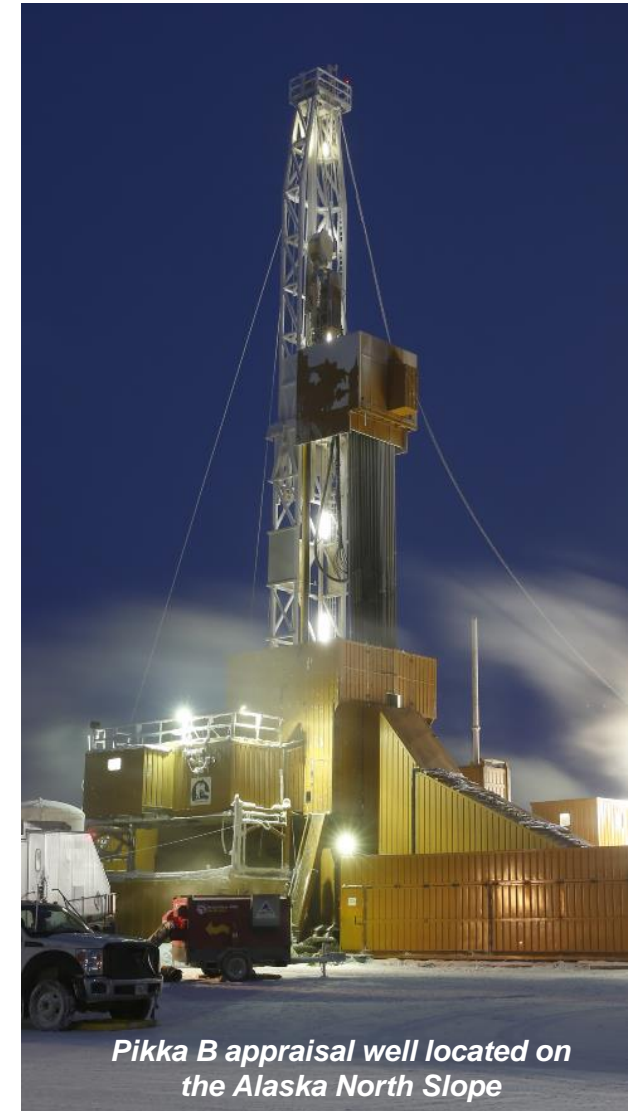




# OIL SEARCH ALASKA - FULLY ESTABLISHED AND OPERATIONAL



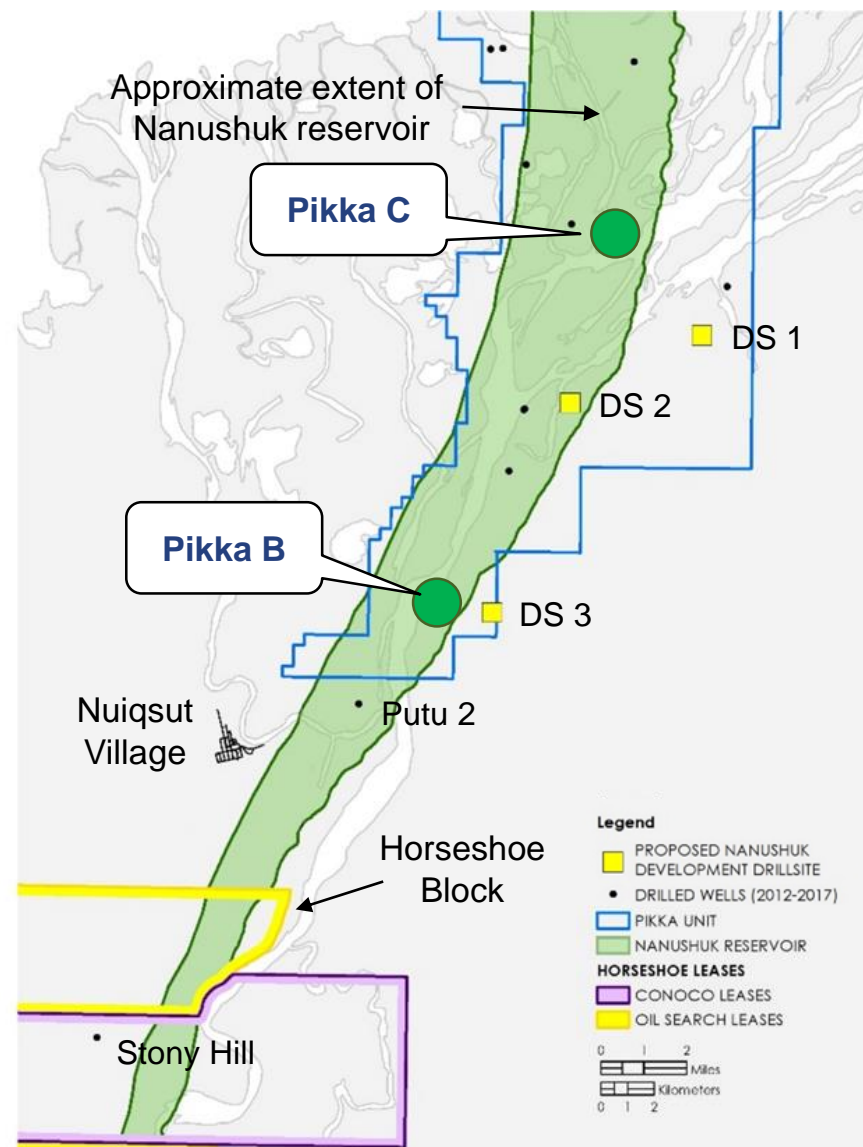
- ❖ Alaska acquisition completed in Feb '18, operatorship assumed in Mar '18
- ❖ Highly experienced team in Anchorage (>300 years of combined North Slope experience), including senior personnel from ConocoPhillips, BP and Exxon, with extensive operating capability
- ❖ Commenced preparations for 2018/19 drilling season:
  - Best rigs secured
  - 25 miles of ice-roads and three bridges completed ahead of schedule
  - Commenced drilling Pikka B in late December, Pikka C in January
- ❖ Major milestone achieved for proposed Pikka Unit development with issue of Final Environmental Impact Statement in Nov '18
- ❖ Discussions ongoing with key stakeholders (State, JV partners, ConocoPhillips and local Native corporations) to optimise cooperation
- ❖ Constructive engagement with several parties on process to capture value from Armstrong US\$450m option



# 2018/19 DRILLING PROGRAMME



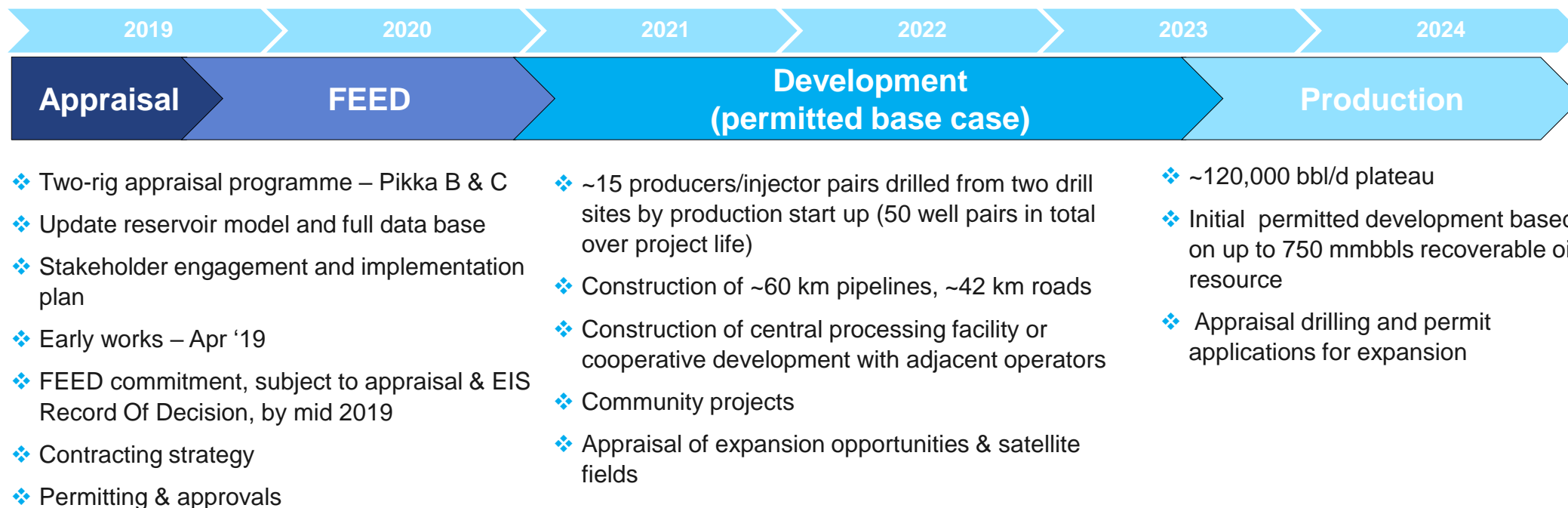
- ❖ Two-well appraisal programme (Pikka B and Pikka C). Objectives include:
  - Pikka B/B ST1: Add 1C resource around DS 3. Flow test planned, to establish reservoir quality and deliverability:
    - Pikka B intersected thickest Nanushuk reservoir to date
    - Total of 237 metres (780 ft) of cores cut
  - Pikka C/C ST1: Penetrate Nanushuk 3 reservoir facies. Drill 'Proof of concept' development-type horizontal hole and flow test
  - Gather formation data, including logs, core, reservoir pressure and fluid samples, from both wells
- ❖ Positive results could add up to 250 mmbbl to current 500 mmbbl 2C gross resource for Pikka Unit development:
  - Revised estimates to be incorporated into FEED analysis





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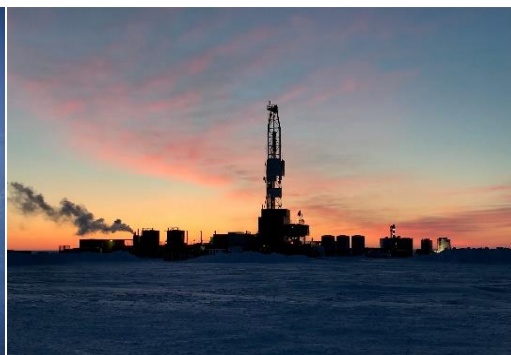
# PIKKA UNIT DEVELOPMENT TIMELINE – PATHWAY TO FIRST OIL IN 2024



**Ice road construction**



**Arctic Fox rig, Pikka B**



**Development planning**



**Supply warehouse**

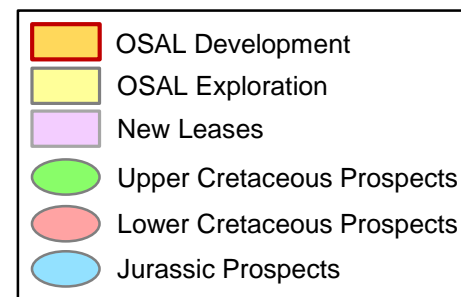
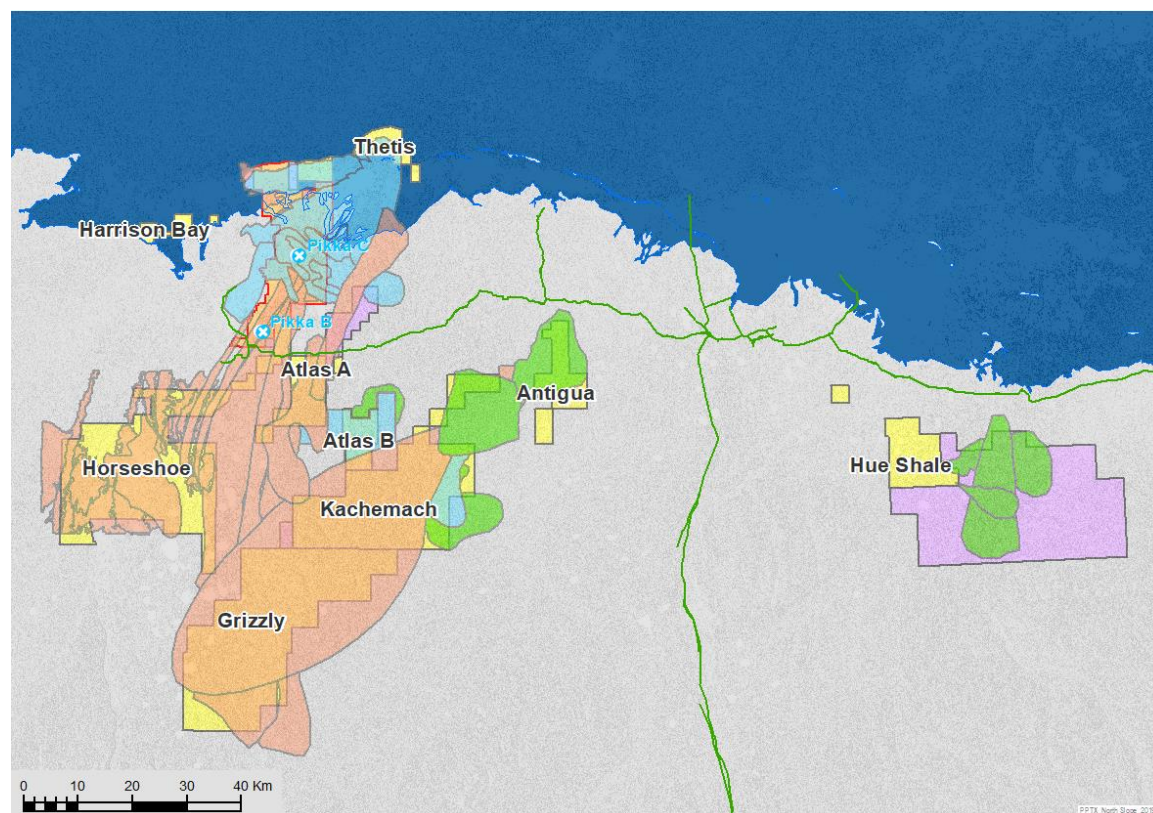




# EXPANDED LEASE POSITION PROVIDES MATERIAL EXPLORATION UPSIDE



- ❖ Expanded portfolio position with recent acquisition of interests in leases covering more than 215,000 acres
- ❖ Material exploration upside:
  - Aiming to drill up to three wells in 2019/20 drilling season
- ❖ Work underway on Horseshoe area Nanushuk reservoir model finalisation and well location selections
- ❖ Reviewing Alpine reservoir targets in Pikka Unit to determine appraisal strategy
- ❖ Grizzly area prospect evaluation
- ❖ Seismic “mega-merge” reprocessing project underway
- ❖ New seismic acquisition planned for 2019/20 season

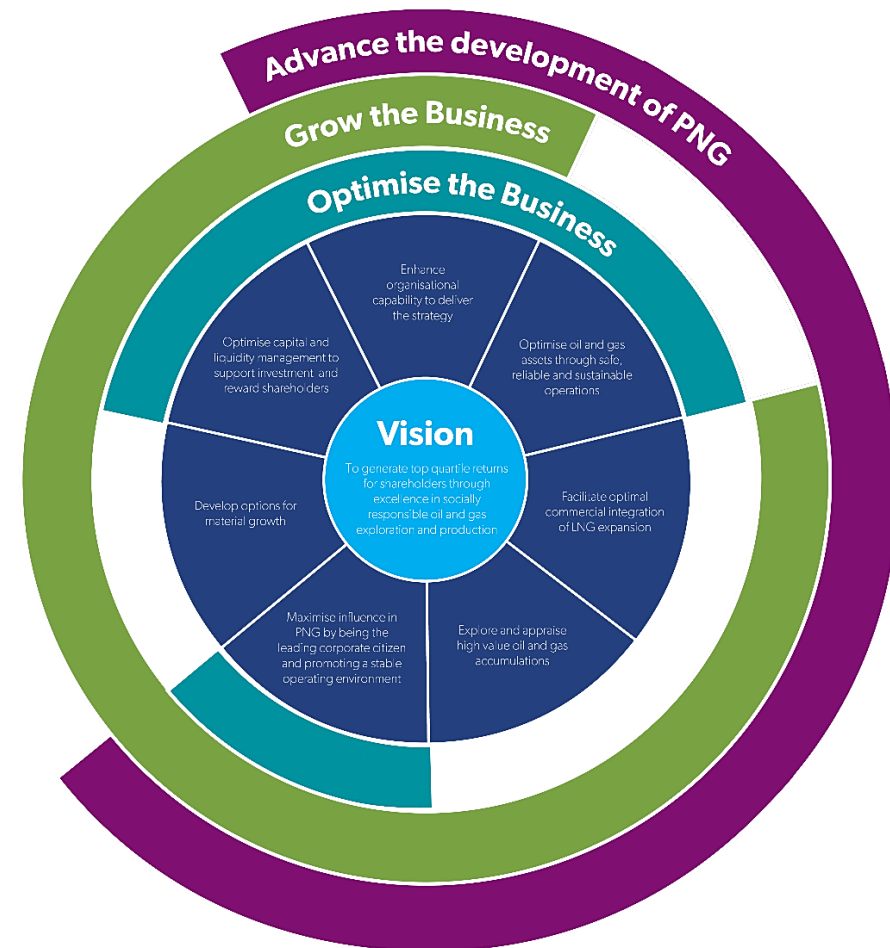




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## STRATEGIC OBJECTIVES FOR 2019

- ❖ Progress high-value projects to FEED:
  - Enter into aligned FEED for Papua LNG and PNG LNG/P'nyang expansion, including FEED for OSH-operated AGX project
  - Enter into FEED on Pikka Unit development in Alaska
- ❖ Implement oil optimisation activities, to mitigate oil production decline rate
- ❖ Undertake prioritised exploration and appraisal activities in PNG, to support further LNG expansion and mid-term monetisation
- ❖ Complete Alaska Option exercise and divestment, to introduce quality partner to JV
- ❖ Continue socially responsible development:
  - Build sustainable social contributions in PNG and Alaska, working with governments and communities
  - Address environmental sustainability in a carbon constrained world

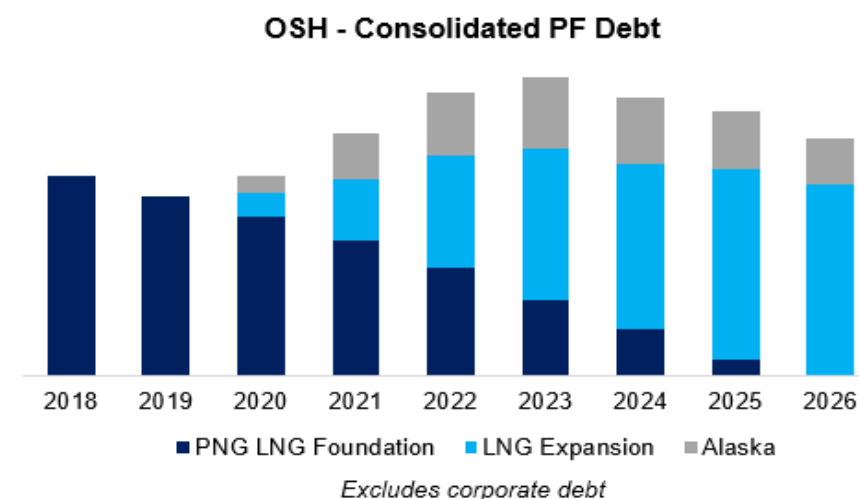
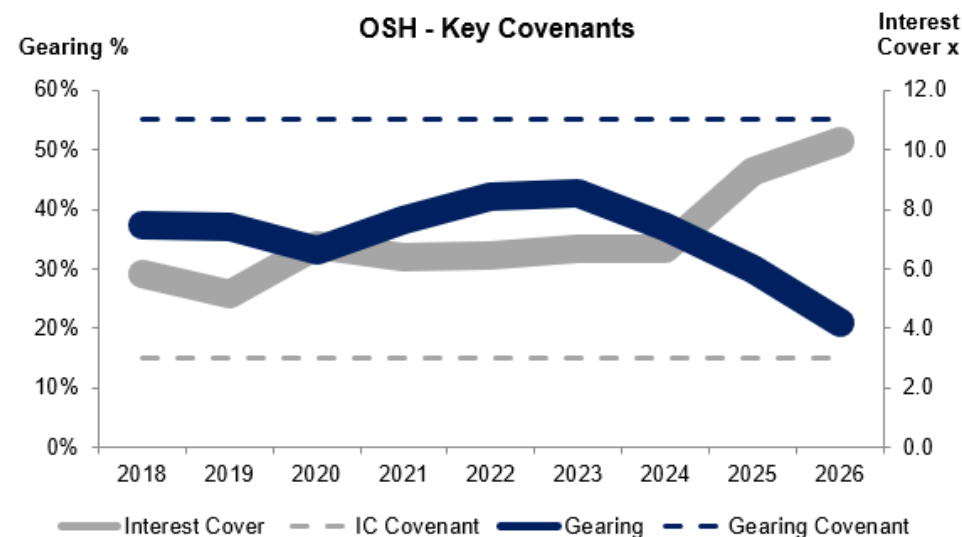


# FUNDING FOR LNG DEVELOPMENTS AND ALASKA



- ❖ Dependent on oil prices, expect to generate annual operating cash flow of ~US\$1bn over 2019–2024
- ❖ OSH total share of development costs from 2019 until first production (including capitalised interest and financing fees) estimated at ~US\$4.5bn (LNG expansion ~US\$3bn, Alaska ~US\$1.5bn, based on 30-35%), subject to FEED outcome
- ❖ OSH total equity contributions ~US\$1.5bn, funded from:
  - Existing cash balances and existing/new corporate facilities (current liquidity US\$1.5bn) plus operating cash flow less other capex (largely discretionary)
- ❖ Debt funding sourced through expansion of PNG LNG project finance facility plus new project finance facilities for Papua LNG and Alaska Pikka Unit development
- ❖ At current oil prices, key financial metrics forecast remain comfortably within corporate facility lender covenants
- ❖ When onstream, PNG LNG, LNG expansion and Alaska will generate free cash flow of US\$2–3bn pa, with large uplift from 2026 when PNG LNG foundation project debt is fully repaid

## INDICATIVE GEARING (%) AND INTEREST COVER (X)





# MAINTAINING OPERATING STABILITY THROUGH SOCIAL INITIATIVES



- ❖ Ongoing social programmes, directly and through Oil Search Foundation, including:
  - Continued earthquake relief (public health, infrastructure)
  - Support of Hela Provincial Hospital and Health Authority
- ❖ Promotion of new partnerships addressing sustainable education and training, focusing on women's empowerment and gender based violence (eg “Bel Isi” project) and youth engagement
- ❖ Power projects, in line with Government development aims:
  - New Port Moresby power station expected to commence operations in March
- ❖ Support for Government on benefits distribution:
  - Major progress, with benefits in Highlands areas expected to flow in April
- ❖ Climate Change Resilience report, prepared under TCFD guidelines, released in 2018, demonstrating LT resilience under range of scenarios, including 2°C pathway
- ❖ Human Rights Plan and VPSHR update in early 2019



*Nearly 2,000 people marched, including Oil Search employees, in peace and solidarity to mark the International Day for the Elimination of Violence Against Women (EVAW)*



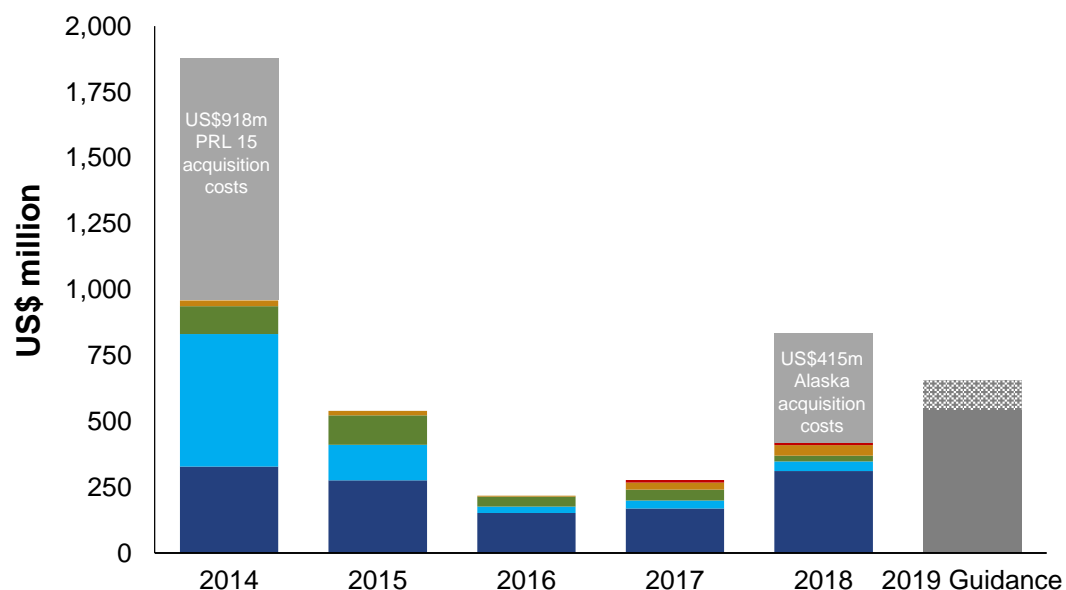
*58MW gas fired power station, located adjacent to PNG LNG plant site January 2019*

# 2019 FULL YEAR GUIDANCE

Capital costs	2019 Guidance
Exploration & Evaluation	US\$235 – 285m
Development	US\$145 – 170m
Production	US\$95 – 115m
Other PP&E	US\$55 – 65m
Power	US\$15 – 20m <sup>4</sup>
<b>Total</b>	<b>US\$545 – 655m</b>

Production	2019 Guidance
Oil Search-operated	4.0 – 5.5 mmboe <sup>1,2</sup>
PNG LNG Project	24.0 – 26.0 mmboe <sup>1</sup>
<b>Total Production</b>	<b>28.0 – 31.5 mmboe<sup>1</sup></b>

Operating Costs	
Production costs	US\$9 – 10 / boe
Other operating costs <sup>3</sup>	US\$150 – 160 million
Amortisation – oil and gas assets <sup>5</sup>	US\$11.50 – 12.50 / boe



1. Gas volumes have been converted to barrels of oil equivalent using an Oil Search specific conversion factor of 5,100 scf = 1 boe, which represents a weighted average, based on Oil Search's reserves portfolio, using the actual calorific value of each gas volume at its point of sale.
2. Includes SE Gobe gas sales.
3. Includes gas purchase costs, royalties and levies, selling and distribution costs, rig operating costs, power expense and corporate administration costs (including business development), other expenses and inventory movements.
4. Excludes prior year POM Power station investment, which will be recognised in 2019 once ownership agreements are finalised.
5. Excludes depreciation of other plant and equipment.

## SUMMARY

- ❖ Strong production outlook for 2019
- ❖ Steady progress on LNG expansion in PNG:
  - On target to sign PRL15 Gas Agreement by end 1Q19
  - Gas Agreement for PNG LNG Expansion (P'nyang) to occur shortly after, allowing contractor bidding and aligned FEED entry
  - First gas targeted for 2024
  - Market appetite remains strong for LNG from PNG
- ❖ Positive results from Alaska appraisal:
  - Potential for resource additions
  - Moving to FEED on Pikka Unit development
  - Advanced discussions on Armstrong Oil Option and equity divestment
- ❖ Optimisation of oil operations underway – infield drilling opportunities being pursued
- ❖ Significant resource upgrade supports growth projects
- ❖ Continued focus on sustainable social development with ongoing social programmes, robust assets in carbon constrained world
- ❖ Strong balance sheet and excellent cash generation from operations to support growth opportunities





# APPENDIX 1: 2018 FINANCIAL PERFORMANCE



US\$m	2018	2017	% Change
Sales volume (mmbob)	<b>25.02</b>	30.04	-17%
Revenue	<b>1,535.8</b>	1,446.0	+6%
Production costs	<b>(290.0)</b>	(262.8)	+10%
Other operating costs	<b>(145.4)</b>	(141.1)	+3%
Other income	<b>9.6</b>	10.0	-4%
EBITDAX <sup>1</sup>	<b>1,110.0</b>	1,052.1	+6%
Depreciation and amortisation	<b>(326.1)</b>	(380.6)	-14%
Exploration costs expensed	<b>(66.7)</b>	(35.9)	+86%
Net finance costs	<b>(209.9)</b>	(194.7)	+8%
Profit before tax	<b>507.4</b>	440.9	+15%
Tax	<b>(166.2)</b>	(138.8)	+20%
Net profit after tax	<b>341.2</b>	302.1	+13%

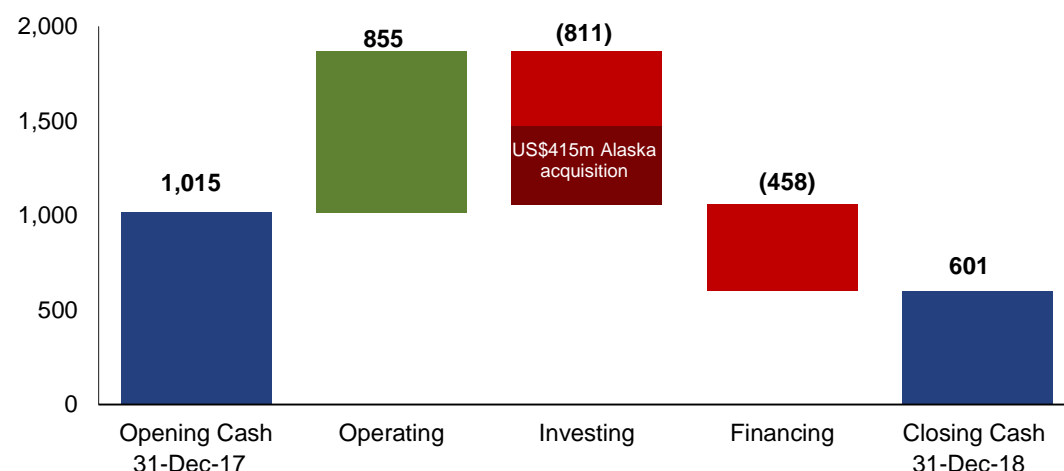
<sup>1</sup> EBITDAX (earnings before interest, tax, depreciation/amortisation, non-core activities, impairment and exploration) is a non-IFRS measures that are presented to provide a more meaningful understanding of the performance of Oil Search's operations. The non-IFRS financial information is derived from the financial statements which have been subject to review by the Group's auditor.



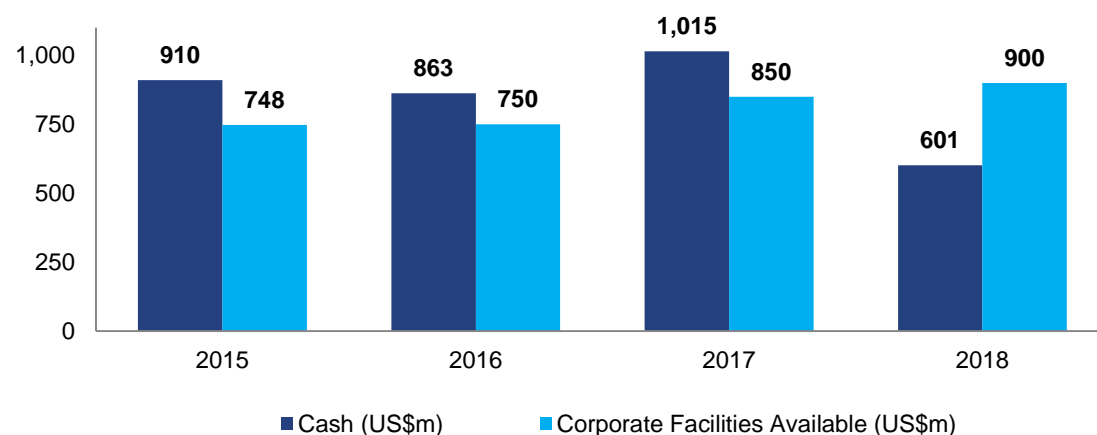
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## APPENDIX 2: POSITIVE OPERATING CASH FLOW DESPITE EARTHQUAKE

### CASH FLOW WATERFALL, 2017 - 2018 (US\$M)



### LIQUIDITY (US\$M)



- ❖ Positive operating cash flow, despite earthquake impact on sales volumes, buoyed by strong oil and gas prices
- ❖ Investing cash outflows included US\$415 million for Alaska North Slope acquisition
- ❖ US\$332 million of PNG LNG project finance debt repaid over 2018
- ❖ US\$114 million in dividends paid in 2018
- ❖ Net debt of US\$2.69 billion at end 2018, with all outstanding debt related to PNG LNG
- ❖ Total liquidity of US\$1.5 billion, comprising US\$900 million undrawn corporate debt facilities and US\$601 million of cash

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