



# 2019 ANNUAL MEETING

*Rising to the challenge*

**10 MAY, 2019 | Hilton Hotel, Port Moresby, PNG**

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

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# PRESENTATION BY THE MANAGING DIRECTOR

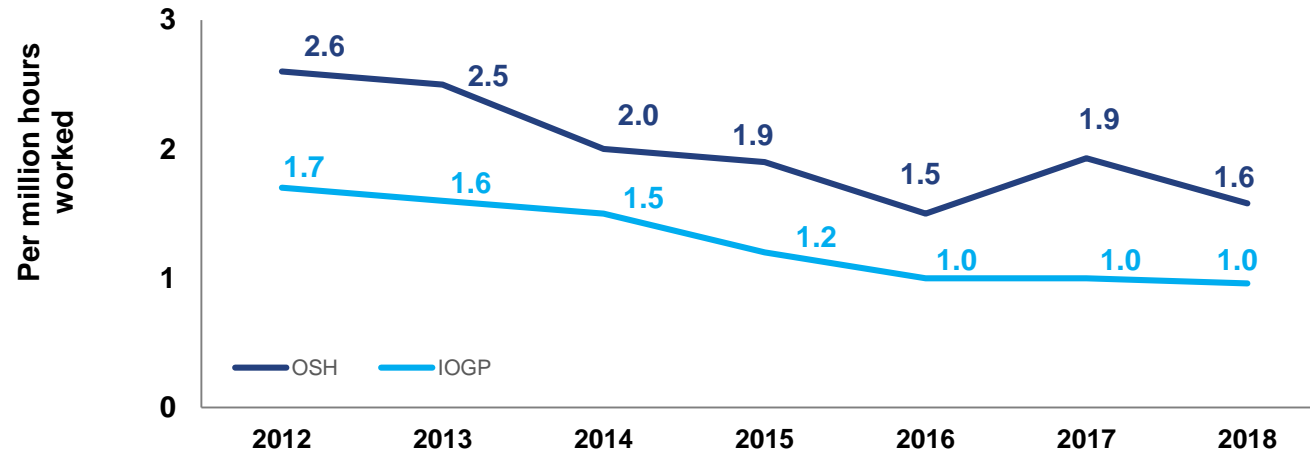


*Peter Botten*

# IMPROVED SAFETY AND ENVIRONMENTAL PERFORMANCE DESPITE HIGHLANDS EARTHQUAKE



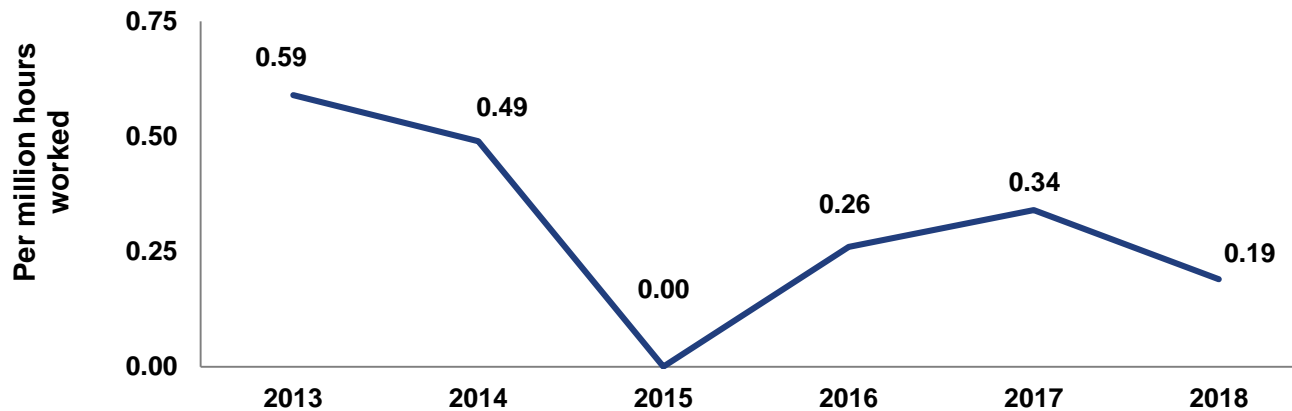
## TOTAL RECORDABLE INCIDENT RATE (TRIR)



**NO INJURIES, NO LOSS OF HYDROCARBON CONTAINMENT DUE TO EARTHQUAKE**

**PNG OPERATIONS CELEBRATED YEAR WITH NO TRI'S IN NOV 2018**

## LOST TIME INJURY FREQUENCY

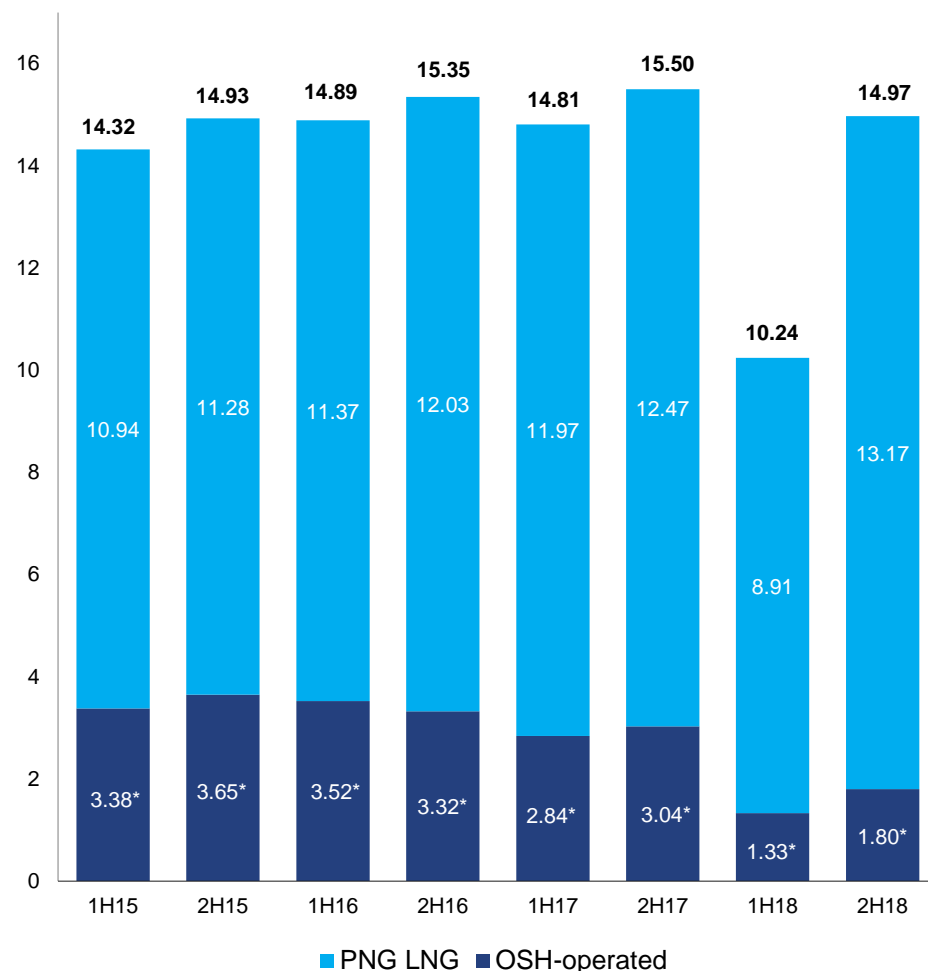


**NO MAJOR ENVIRONMENTAL INCIDENTS**



# 2018 PRODUCTION – A TALE OF TWO HALVES

## NET PRODUCTION (MMBOE)



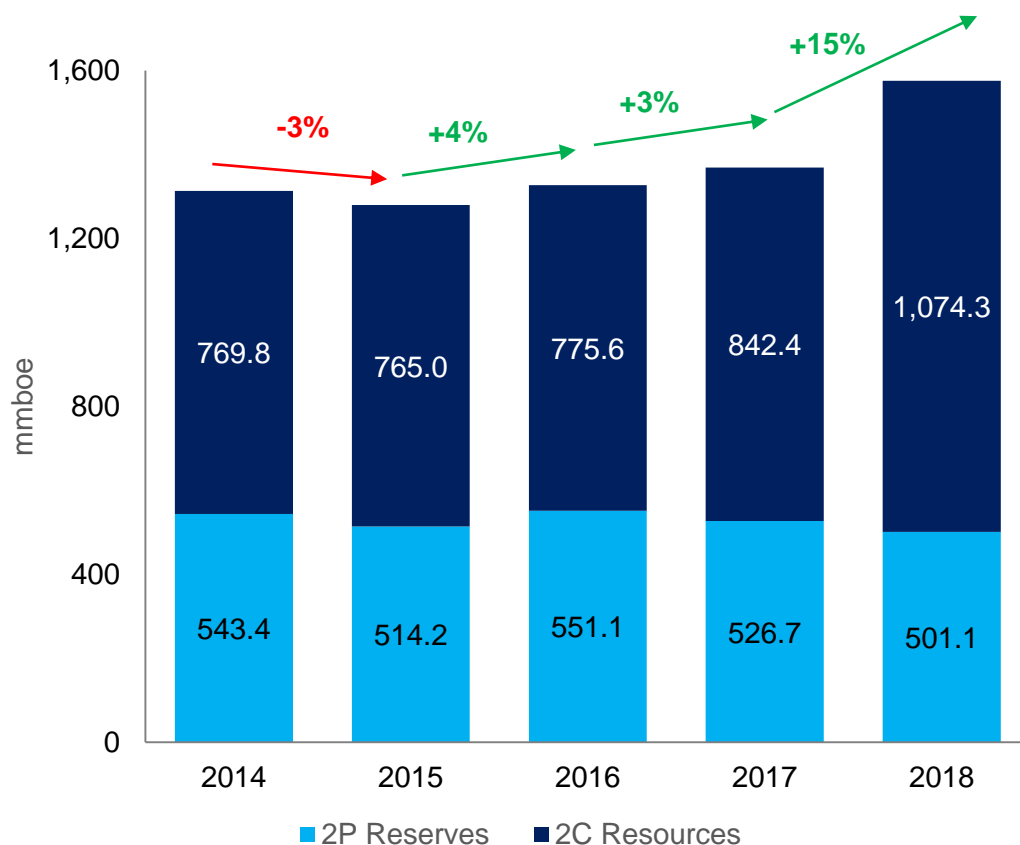
\* Includes SE Gobe gas sales

- ◆ 2018 full year production of 25.2 mmboe, 17% lower than 2017, reflecting temporary shutdown of operations following Feb 2018 earthquake
- ◆ PNG LNG Project achieved annualised production rate of 8.8 MTPA in 2H18 (8.8 MTPA in 1Q19):
  - ◇ Highest half-year rate achieved since Project start-up in 2014 (28% above nameplate capacity)
- ◆ OSH-operated production being progressively restored:
  - ◇ Improvements expected through 2019 reflecting completion of remaining earthquake-related repairs and oil field optimisation work

# END 2018 STRONG RESERVES AND RESOURCES POSITION SUPPORTS GROWTH PROJECTS



## OIL SEARCH 2P + 2C GROWTH



	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

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

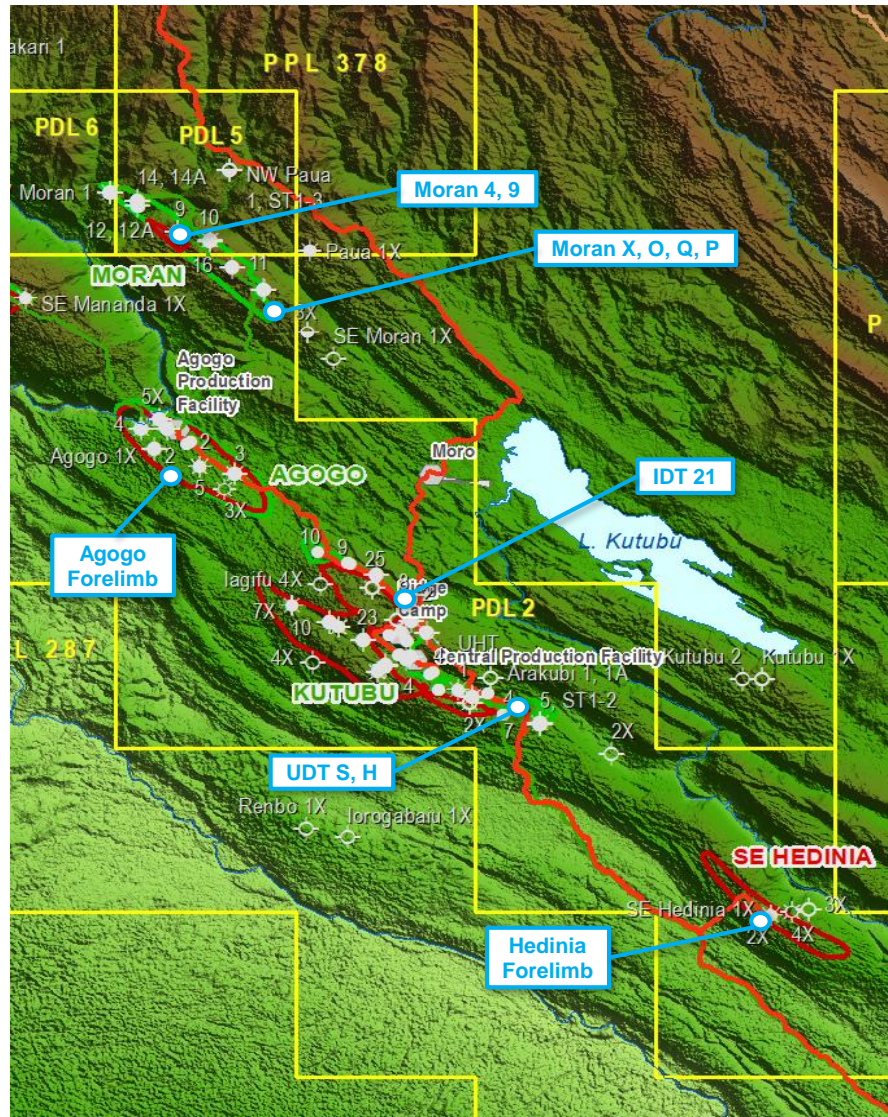
# SOLID DEMAND FOR PNG LNG PROJECT GAS



- ◆ PNG LNG has established reputation as reliable exporter of high heating value LNG since commencing exports in 2014
- ◆ During 2018/19, three new mid-term contracts signed with PetroChina, BP and Unipecc, taking total PNG LNG contracted volumes to ~7.9 MTPA, ~90% of total production:
  - ◇ 6.6 MTPA under 20-year contracts with JERA, Osaka Gas, Sinopec and CPC
  - ◇ ~1.3 MTPA under mid-term (3-5 year) contracts with PetroChina, BP and Unipecc
- ◆ Remaining ~10% of LNG sold on spot market
- ◆ Market exposure now spread over long-term, mid-term contracts and spot LNG market



# PNG OIL FIELD OPTIMISATION



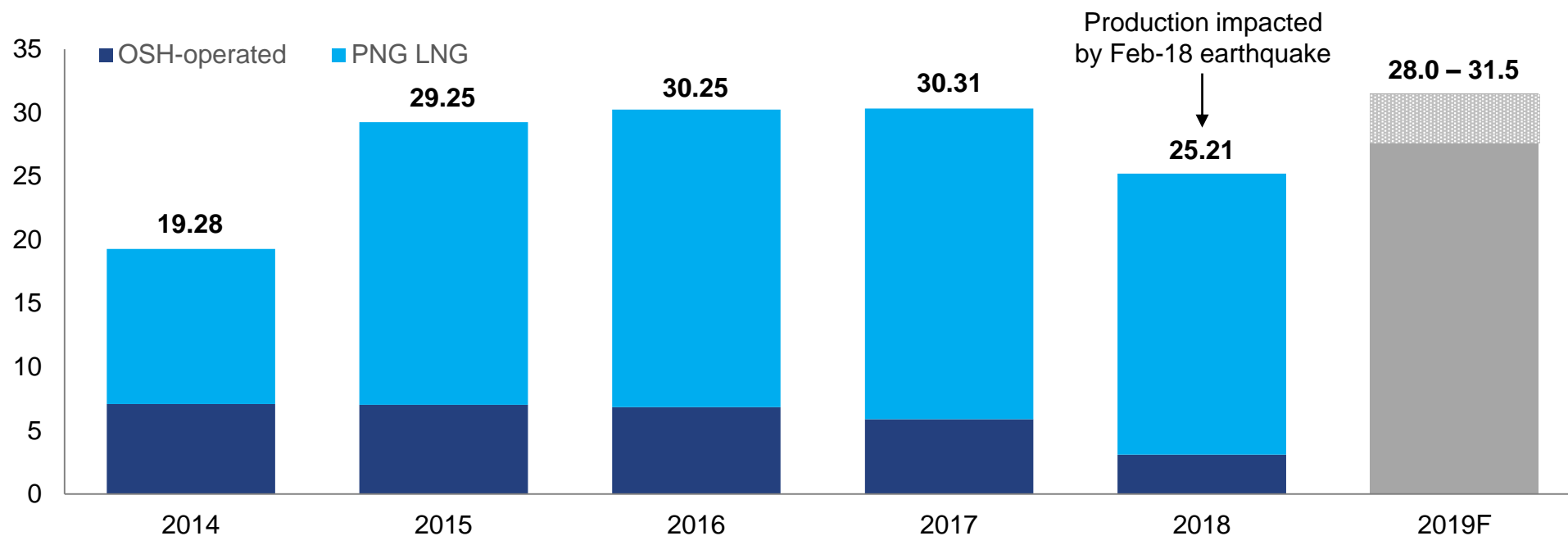
- ◆ Significant value remaining in operated oil fields:
  - ◇ Extensive programme over next five years to extend plateau oil production until 2023-24
  - ◇ Potential to add ~30 mmbbl (net) to reserves
- ◆ Associated Gas Expansion Project critical for PNG LNG expansion. Expected to enter FEED in 2H19
- ◆ Many workover and new drilling opportunities at Kutubu and Moran
- ◆ New exploration well planned at Gobe, which, if successful, would extend field life





# 2019 PRODUCTION FORECAST

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



1. Numbers may not add due to rounding
2. 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.
3. Includes SE Gobe gas sales.

2019 Production Guidance (mmboe) <sup>1</sup>	
OSH-operated PNG oil and gas <sup>2,3</sup>	4.0 – 5.5
PNG LNG Project	24 – 26
Total production	28.0 – 31.5



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# THREE MAJOR PROJECTS DRIVE HIGH VALUE PRODUCTION GROWTH

1. Development of Papua LNG:
  - ◆ Based on Elk-Antelope field
2. Expansion of PNG LNG:
  - ◆ Third train using gas initially from PNG LNG fields and then P'nyang
3. Development of Pikka Unit Nanushuk field in Alaska

**Projects able to more than double production by 2024/25**

**All three projects to make Front-End Engineering and Design (FEED) decisions in 2H19, with Final Investment Decisions (FIDs) in 2020**



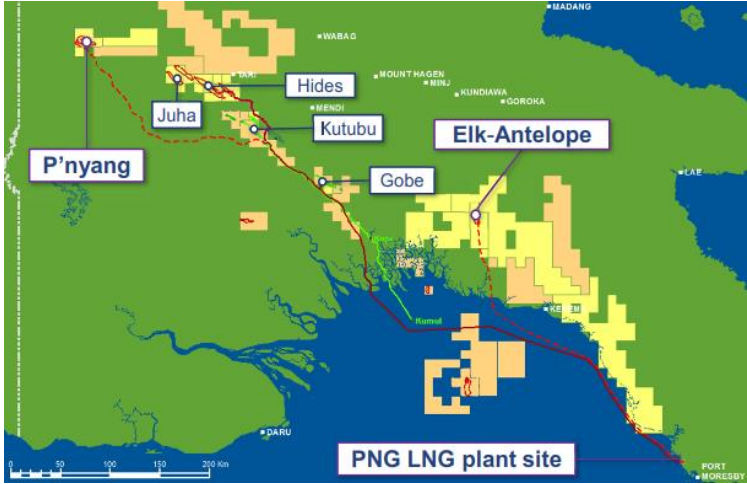
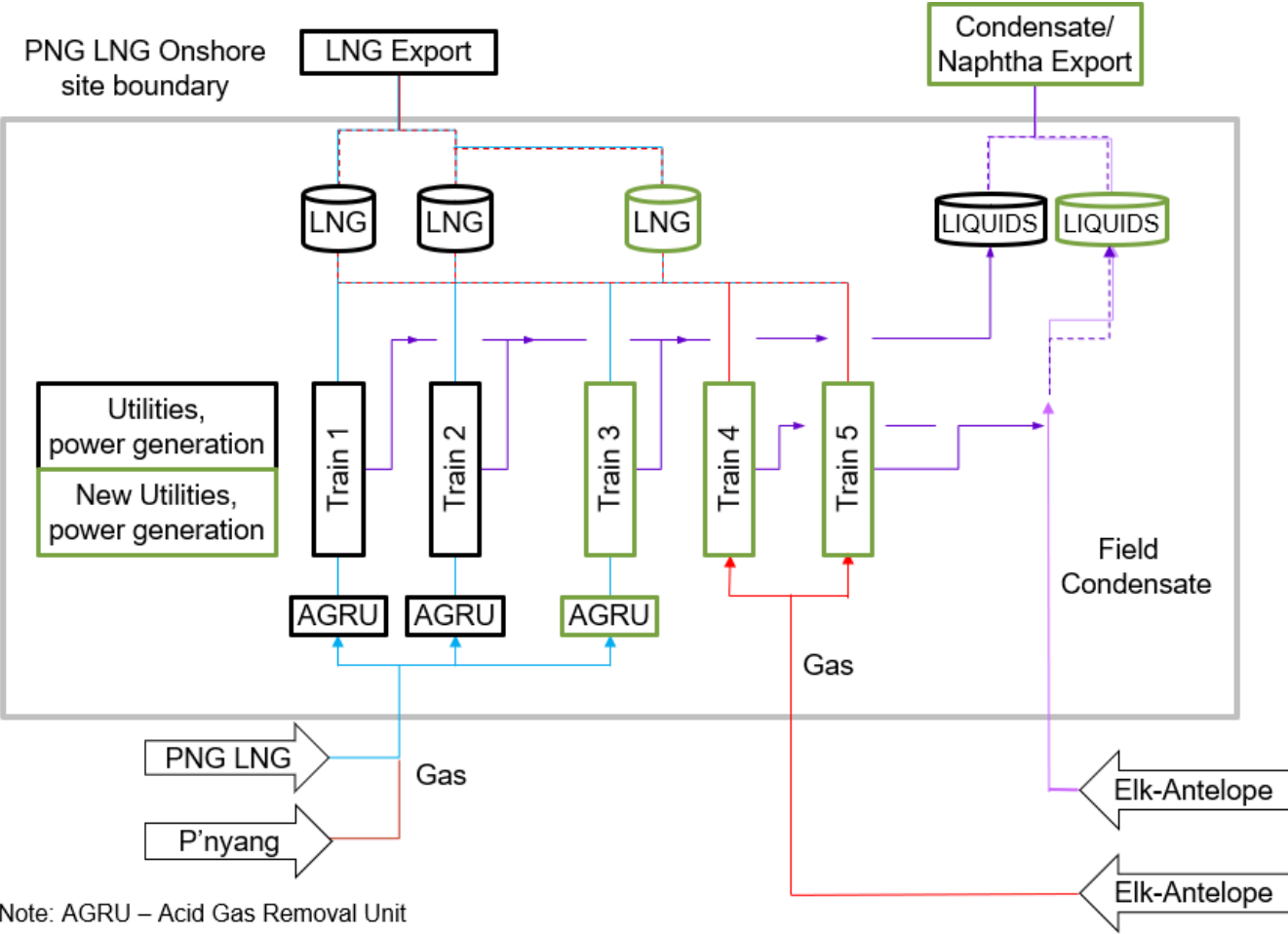
# MATERIAL PROGRESS ON NEW LNG FOLLOWING LANDMARK PAPUA LNG GAS AGREEMENT



- ◆ Significant step forward for Papua LNG Project, following Nov 2018 Memorandum of Understanding
- ◆ Fair split of expected Project returns between State, Project participants and other stakeholders:
  - ◇ 5% Domestic Market Obligation
  - ◇ New production levy
  - ◇ Deferred mechanism for State's payment of past costs
  - ◇ National Content plan to support local workforce development
- ◆ Upstream FEED-related activities on Papua LNG have commenced
- ◆ Commercial agreements governing integration of Papua LNG and PNG LNG nearing completion
- ◆ P'nyang Gas Agreement expected to be finalised 2Q19, enabling downstream FEED entry in 2H19



# PROPOSED CONFIGURATION AT PNG LNG PLANT SITE



Sources of gas for LNG expansion (tcf)	1C	2C
Elk-Antelope (OSH 2017)	5.2	6.7
P'nyang (NSAI 2018)	3.5	4.4
<b>Total</b>	<b>&gt;8</b>	<b>~11</b>

- Existing PNG LNG facilities
- Proposed new infrastructure



# FIRST SHIPMENTS FROM NEW LNG CAPACITY TARGETED 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	<b>Construction:</b> - 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		Early Works: - Clearing, early camps, roads			
Complete Pre-FEED		Complete FEED: - Final cost and schedule - Construction tendering		Ready for Start-up Introduction of hydrocarbons	
LNG Offtake negotiations		Project financing activities			
		LNG SPAs		P'nyang FID	

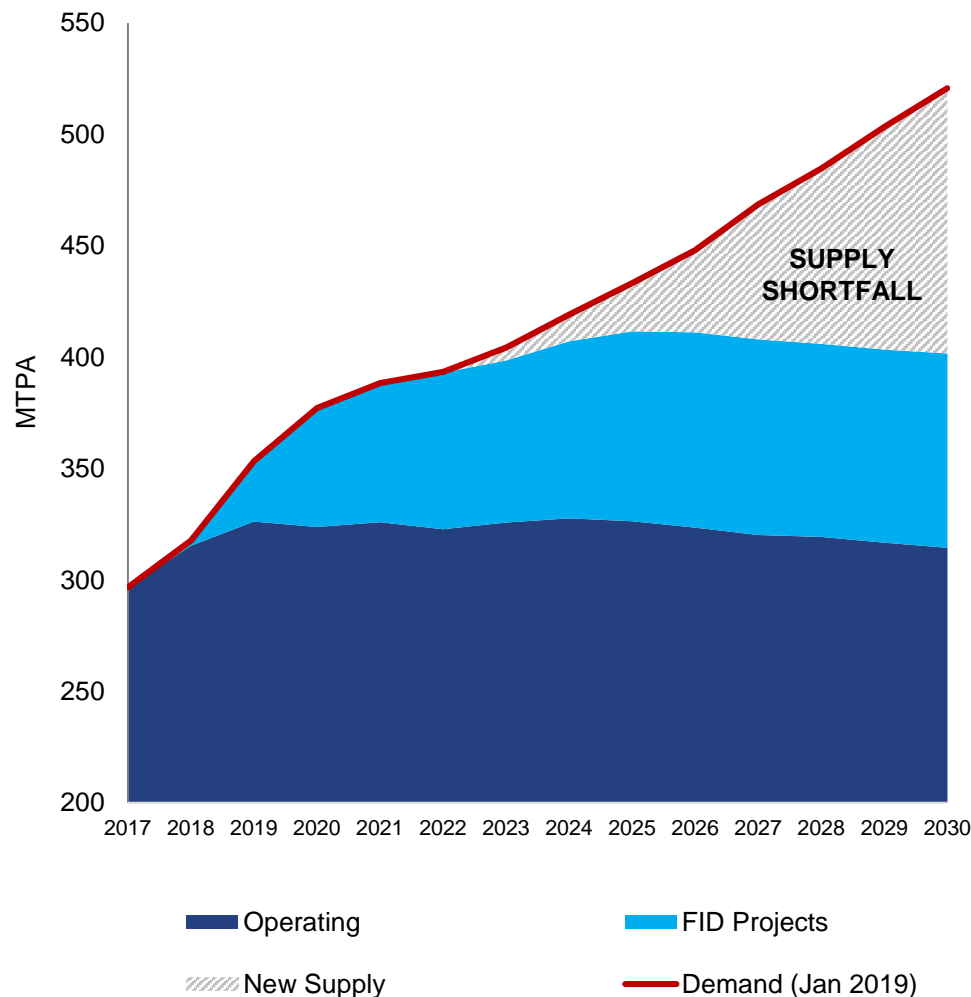
**Final Investment Decision targeted for 2020, first gas in 2024**

**Will nearly double Papua New Guinea's LNG production by mid-2020s**



# LNG EXPANSION WELL POSITIONED FOR GROWTH IN GLOBAL LNG DEMAND

## GLOBAL SUPPLY AND DEMAND



- ◆ Global LNG demand grew 6% in 2018 to 320 MT and expected to grow at 4.5% p.a. to 2030:
- ◇ Driven by government policies, NE Asia markets increasingly prioritising gas over coal and nuclear
- ◆ ~ 90 MTPA of uncontracted demand expected in 2025 (includes demand growth and expiring contracts), with ~120 MTPA of new supply required by 2030
- ◆ Renewed global interest from buyers for long term supply contracts to fill supply-demand gap
- ◆ 2018 saw first large-scale sanctions of global LNG projects since 2015, with further FIDs expected in 2019



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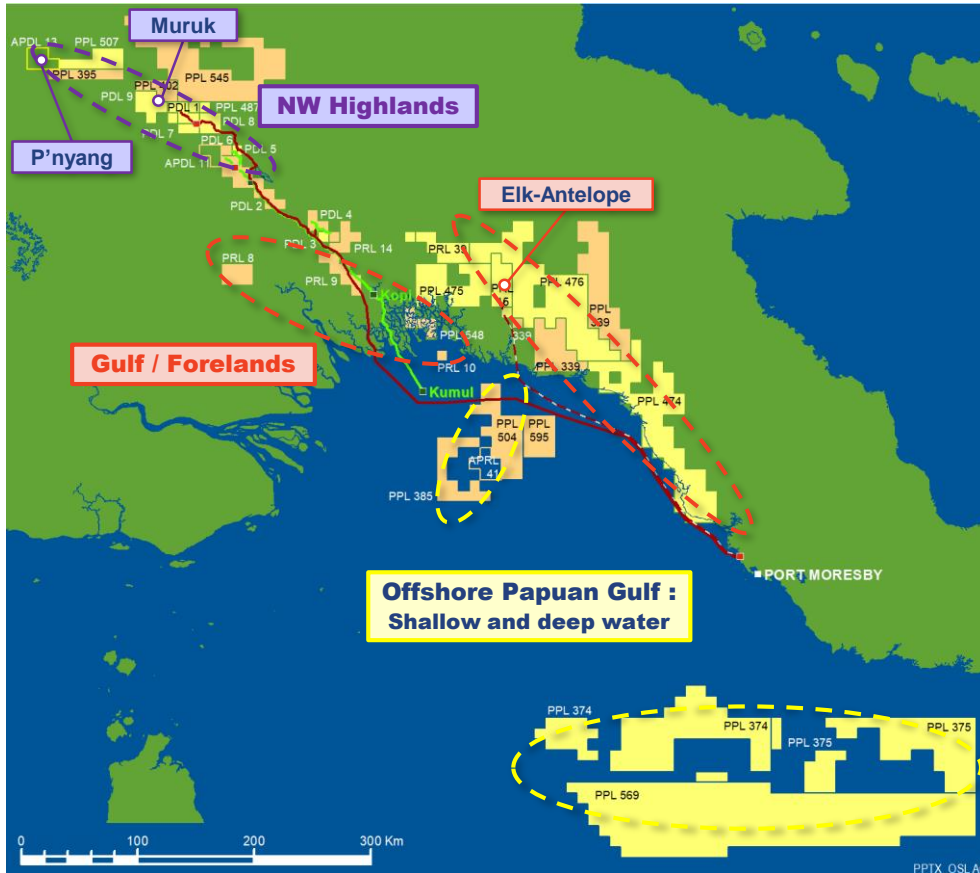
## **COMPETITIVE ADVANTAGES OF PAPUA LNG AND PNG LNG/ P'NYANG**



- ◆ Strong partners, with LNG a corporate focus and strong commitment by all parties in progressing to FEED and reaching FID
- ◆ Existing infrastructure in proven project minimises capital costs, with savings as expected
- ◆ Globally competitive production costs
- ◆ Strong financing base, with two majors and sensible compromise for Government's past cost obligations
- ◆ Majors' portfolio approach to LNG marketing helps underwrite market position
- ◆ Good source of diversification for LNG buyers with shipping advantage due to proximity to key Asian markets
- ◆ **HOWEVER, increasingly competitive marketplace**



# OIL SEARCH PNG'S MOST ACTIVE EXPLORER IN 2018



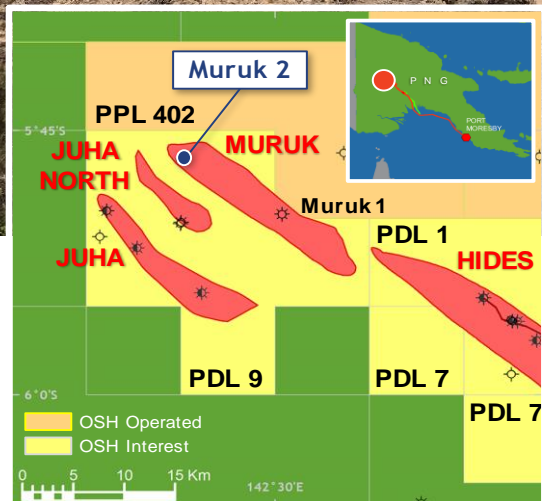
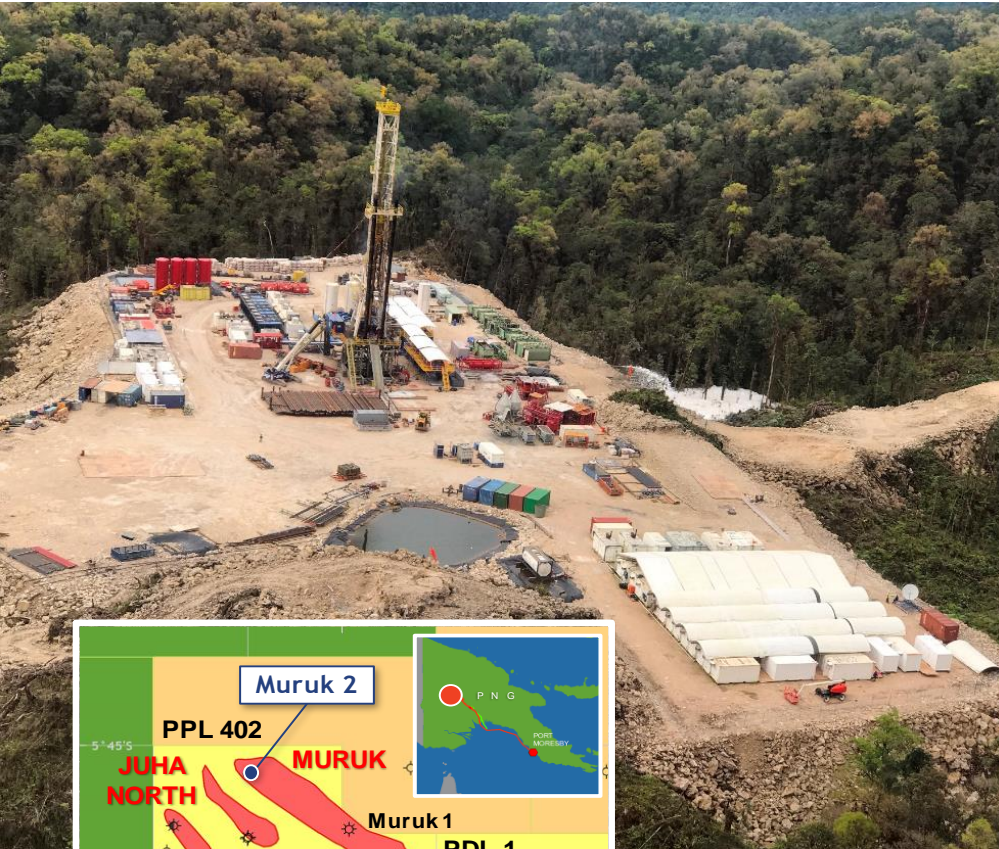
- Exploration focused on four key areas:**
- ◆ NW Highlands
  - ◆ Onshore Gulf/Forelands
  - ◆ Shallow Water Offshore Gulf
  - ◆ Deepwater Offshore Gulf

- ◆ OSH drilled four successful gas appraisal wells in PNG in 2018:
  - ◇ P'nyang South 2 ST1, Kimu 2, Barikewa 3, and Muruk 2
- ◆ Farmed into four highly prospective licences in Onshore Gulf
- ◆ 2018 seismic survey identified multi-tcf leads and prospects in close proximity to planned Papua LNG infrastructure identified in onshore Gulf. Follow-up seismic commencing 4Q19
- ◆ Seismic interpretation has highlighted multi-tcf potential in Offshore Gulf
- ◆ Strategic studies completed on prioritising exploration/appraisal activities to ensure optimal use of capital





# SIGNIFICANT GAS DISCOVERY AT MURUK 2, NW HIGHLANDS



- ◆ Muruk 2 confirmed gas in pressure communication with Muruk 1, located 12 kilometres away, indicating reservoir continuity
- ◆ Extended well shut-in and pressure build-up phase underway. Will help to assess potential resource size
- ◆ Muruk provides valuable gas source for field phasing optionality given location (20 kilometres from existing infrastructure at Hides)
- ◆ Further seismic acquisition planned over Karoma prospect and adjacent acreage in 4Q19, to derisk future drilling prospects along Hides-P'nyang trend

## WHY ALASKA?

- ◆ OSH has two world class LNG projects in PNG and substantial uncommitted gas resources to underpin growth
- ◆ When developed, will provide significant cash flow for many years
- ◆ Also recognise:
  - ◇ Complex projects, requiring alignment of stakeholders
  - ◇ Require resource availability, commercial and market alignment
  - ◇ Can take many years to come to reality
- ◆ Alaska acquisition made after years of review:
  - ◇ Oil assets, less complicated and quicker to market
  - ◇ Existing de-risked discovery
  - ◇ Significant growth potential with materiality

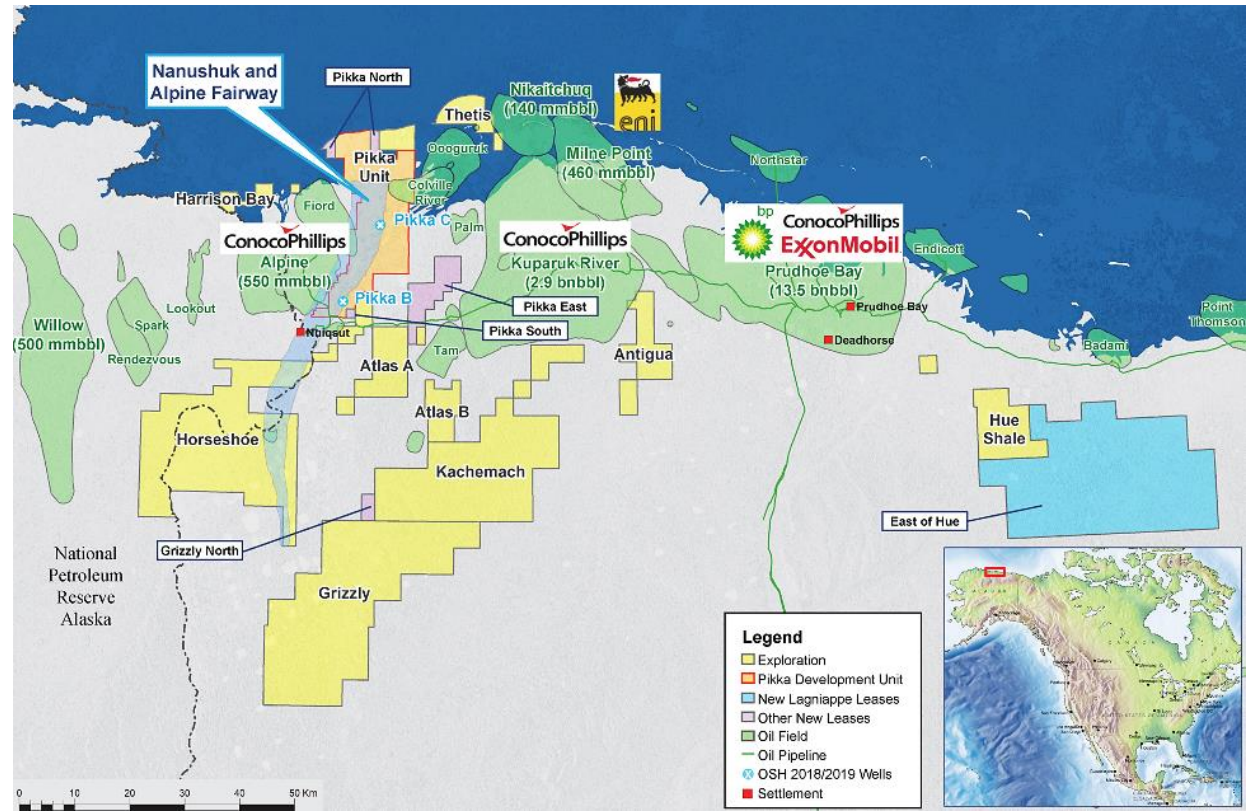


# OIL SEARCH ALASKA – NOW FULLY ESTABLISHED AND OPERATIONAL

- ◆ Alaska acquisition completed Feb 2018, highly experienced team recruited with extensive operating capability
- ◆ Successful first drilling campaign recently completed:

- ◇ Pikka B/ST1 reservoir and flow rates above expectations, materially upgrading prospectivity in south of Pikka Unit and Horseshoe Block
- ◇ Pikka C reservoir characteristics in line with forecast but flow rates restricted by mechanical issues/downhole blockages

- ◆ Material oil resource upgrade expected above current 500 mmbbl (gross) 2C estimate
- ◆ Sufficient data gathered on reservoir deliverability to support plans to move into FEED in 2019



## ALASKA – FORWARD PLAN



- ◆ Integration of well and test results into development plan
- ◆ Evaluating opportunities to optimise development:
  - ◇ Sharing of production facilities, especially in the north
  - ◇ Early production opportunities being progressed
- ◆ Evaluation leading to decision on Armstrong US\$450 million Option and optimising value of planned equity sell down
- ◆ Planning underway for follow-up drilling in 2019/20 season, some road supported:
  - ◇ 2-3 exploration/appraisal wells will focus on southern field area
  - ◇ Further testing programme possible with other JVs
  - ◇ Commencement of early works, road construction etc
  - ◇ Seismic “mega-merge” reprocessing project underway plus new seismic acquisition planned for 2019/20



# PIKKA UNIT BASE CASE TIMELINE, WITH OPPORTUNITIES TO OPTIMISE

2019 - 2023

Two-rig appraisal programme – Pikka B & C complete	<b>FEED</b>	Contracting strategy	<b>FID</b>	<b>Construction:</b> ~15 producers/injector pairs drilled from two drill sites by production start up (50 well pairs in total over project life) - ~60 km pipelines - ~42 km roads - Central processing facility or cooperative development with adjacent operators	<b>First production</b> ~120,000 bbl/d plateau Initial permitted development based on up to 750 mmbbl recoverable oil resource Appraisal drilling and permit applications for expansion
Update reservoir model and full data base		Permitting & approvals			
Stakeholder engagement and implementation plan		Financing activities			
Early works		Early works cont			
Record of Decision		Final cost estimates and schedule			

**Targeting FEED in 2019, Final Investment Decision in 2020, first oil in 2023**  
**Potential to bring forward first production through cooperation with other operators**

# FACILITATING SOCIO-ECONOMIC DEVELOPMENT – KEY TO SUSTAINABLE OPERATIONS

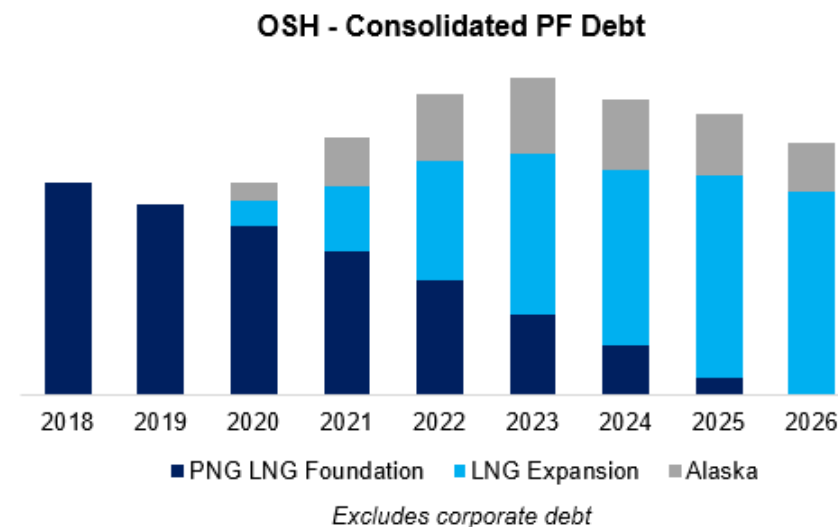


- ◆ Ongoing social programmes directly and through Oil Search Foundation, including earthquake recovery (public health, infrastructure and support of Hela Provincial Hospital and Health Authority)
- ◆ Support for Government on PNG LNG benefits distribution
- ◆ Delivery of critical infrastructure through Government's Infrastructure Tax Credit Scheme (e.g. APEC Haus, Erave to Samberigi Road Project, rehabilitation of hospitals, schools and libraries)
- ◆ Construction and operation of 58 MW power station in Port Moresby
- ◆ Partnerships focused on women's empowerment and gender based violence (e.g. Bel isi PNG), youth engagement, education and training
- ◆ Engagement with indigenous communities in Alaska



# FUNDING FOR LNG AND ALASKAN DEVELOPMENTS

- ◆ OSH share of LNG expansion and Alaskan oil development costs from 2019 until first production (including capitalised interest and financing fees) estimated at ~US\$4.5bn, subject to FEED outcome
- ◆ To be funded 60-70% debt, 30-40% equity
- ◆ OSH equity contributions ~US\$1.5bn, funded from existing cash balances, existing/new corporate facilities plus operating cashflows (~US\$1bn pa, depending on oil prices)
- ◆ 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 lift from 2026 when PNG LNG project finance debt is fully repaid
- ◆ Armstrong Option exercise being reviewed together with divestment value and timing, with initial exercise funded from cash and cashflow



## SUMMARY



- ◆ Major milestone reached on LNG expansion in PNG:
  - ◇ P'nyang Gas Agreement targeted for 2Q19
  - ◇ FEED entry for downstream development expected mid-year, FID targeted for 2020 and first gas in 2024
- ◆ Positive results from drilling campaign in Alaska:
  - ◇ Potential for material resource additions
  - ◇ Targeting FEED for Pikka Unit development in 2019
  - ◇ Substantial potential value from Armstrong Oil Option
- ◆ Oil field optimisation underway, including FEED preparations for AGX
- ◆ 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





# THANK YOU

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