

# 2014 Investor Seminar

26 November 2014

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## Disclaimer and important notice

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This presentation contains forward looking statements that are subject to risk factors associated with the oil and gas industry. It is believed that the expectations reflected in these statements are reasonable, but they may be affected by a range of variables which could cause actual results or trends to differ materially, including but not limited to: price fluctuations, actual demand, currency fluctuations, geotechnical factors, drilling and production results, gas commercialisation, development progress, operating results, engineering estimates, reserve estimates, loss of market, industry competition, environmental risks, physical risks, legislative, fiscal and regulatory developments, economic and financial markets conditions in various countries, approvals and cost estimates.

All references to dollars, cents or \$ in this document are to Australian currency, unless otherwise stated. All references to project completion percentages are on a value of work done basis, unless otherwise stated.

Cover image: GLNG plant site, October 2014

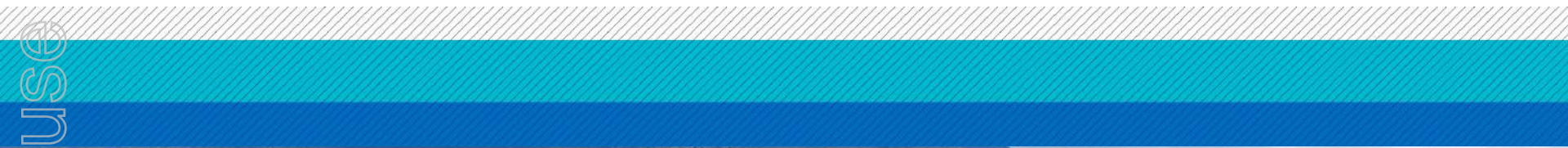
# Welcome and introduction

David Knox  
Managing Director and Chief Executive Officer

Hides Gas Conditioning Plant, PNG LNG

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7.2

BILLION  
PEOPLE

World population in 2014  
(United Nations)

8.3

BILLION  
PEOPLE

World population in 2030  
(US National Intelligence Council)

1.3

BILLION  
PEOPLE

have no access to electricity  
(International Energy Agency)

50%

MORE  
ENERGY

required by 2030  
(US National Intelligence Council)

## Vision and strategy

Our vision is to be a leading energy company in Australia and Asia



- › Driving value and performance in base business and unlocking resources to meet gas demand



- › Leveraging existing LNG infrastructure and capabilities



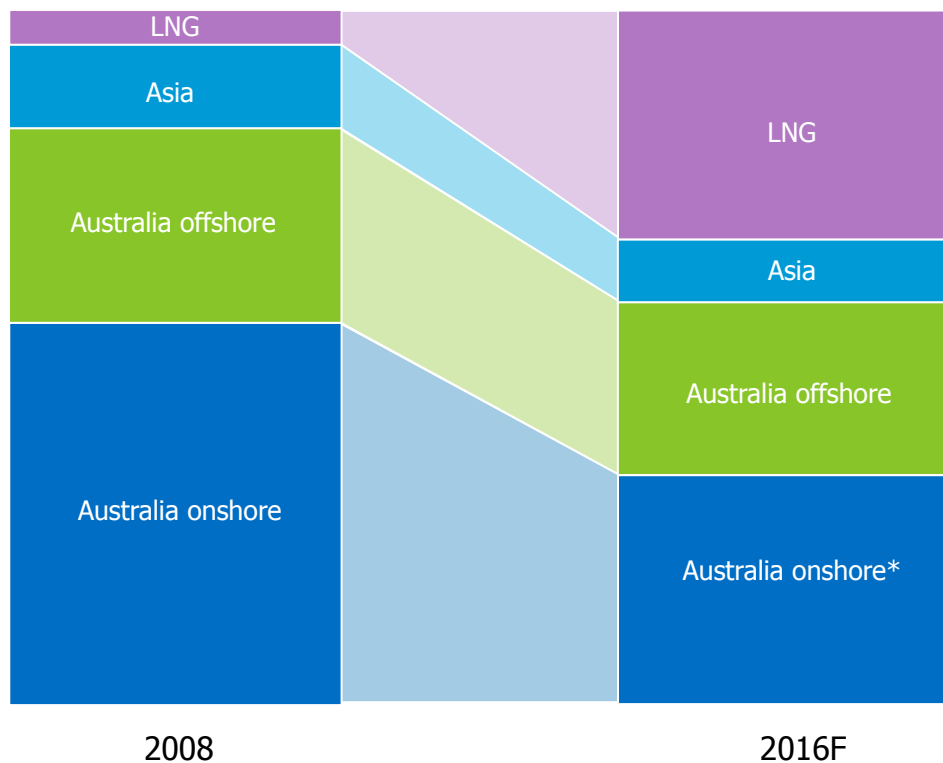
- › Building a material position in South-East Asia

## Strategy has transformed Santos

- Significant exposure to rising gas prices
- 50% of production sold to Asian markets by 2016
- Portfolio leveraged to Asian energy demand
- Revenue leveraged to Asian energy prices

Portfolio transformed from domestic gas producer to leading Australian and Asian E&P, and regional LNG player

**Transformation of Santos' portfolio**  
% of production



\* Includes Santos portfolio to GLNG

## Growing shareholder returns



## Strong project delivery positions Santos for growth and higher shareholder returns

- › Strong technical capabilities drive successful project delivery:
  - GLNG 90% complete
  - PNG LNG
  - Fletcher Finucane
  - Cooper gas growth
  - Peluang
  - Reindeer / Devil Creek
  - Cooper unconventional
  - Chim Sáo / Dua
  - Spar
  
- › Targeting 80 to 90 mmbob production by 2020
- › Growing margins and sustainable cash flow
- › Building a portfolio of high quality assets across Australia and South-East Asia
  
- › Commitment to maintain or increase each dividend as earnings and cash flows increase, balanced by debt repayment and ongoing investment for growth
  
- › Capital discipline focus

## Strong GLNG project delivery in 2014



### Over 600 wells drilled since FID

- Fairview gross field well capacity ~500 TJ/day by the end of 2014
- Roma wells supporting individual well capacity of 0.5 TJ/day

### Hub construction complete

Santos portfolio & third party gas provides 410-570 TJ/day in 2016

Underground storage delivery rate 75 TJ/day

## GLNG is 90% complete

On track for first LNG in the second half of 2015, within US\$18.5 billion budget



- > Pipeline complete and gassed-up to Curtis Island
- > Surface reinstatement work complete
- > QGC interconnects complete and pre-commissioned



- > All T1 and T2 modules set
- > Piping hook-up and cable pulling underway
- > Both LNG tanks hydrotested
- > Jetty substantially complete
- > First commissioning gas to LNG plant expected December 2014
- > 13 commissioning cargos sold



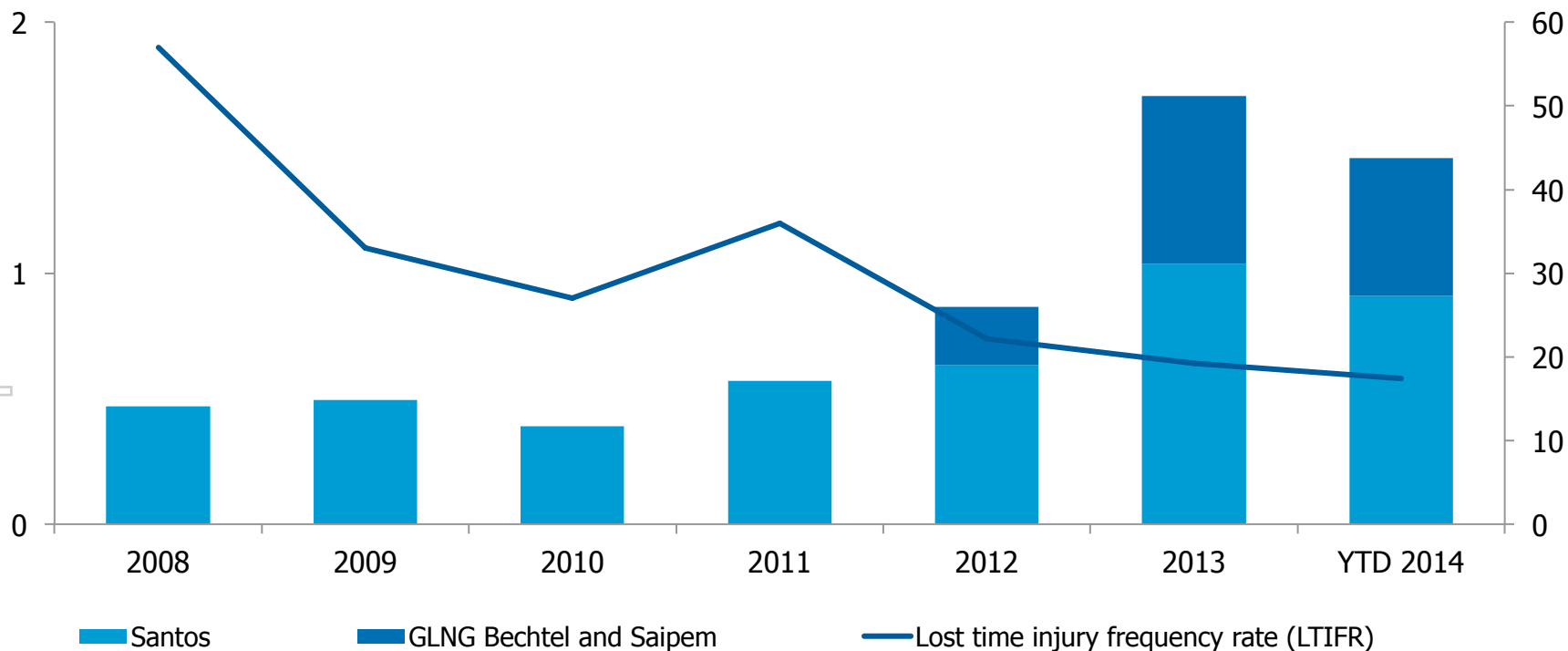
## Safety performance

Lost time injury frequency rate of 0.6 per million hours worked

### Safety performance (employees and contractors)

Rate per million hours worked

Work hours (million)



## 2014 Investor Seminar

## Today's agenda



Welcome and introduction	David Knox
LNG markets	Peter Cleary
Business outlook	Andrew Seaton
GLNG upstream	Trevor Brown
GLNG downstream	Rod Duke
Q&A followed by morning tea	
Exploration	Bill Ovenden
Technology and Innovation	Diana Hoff
Eastern Australia	James Baulderstone
Asia Pacific	John Anderson
WA & NT	Brett Woods
Wrap-up	David Knox
Q&A followed by lunch	

# LNG markets

Peter Cleary

Vice President LNG Markets and Eastern Australia Commercial

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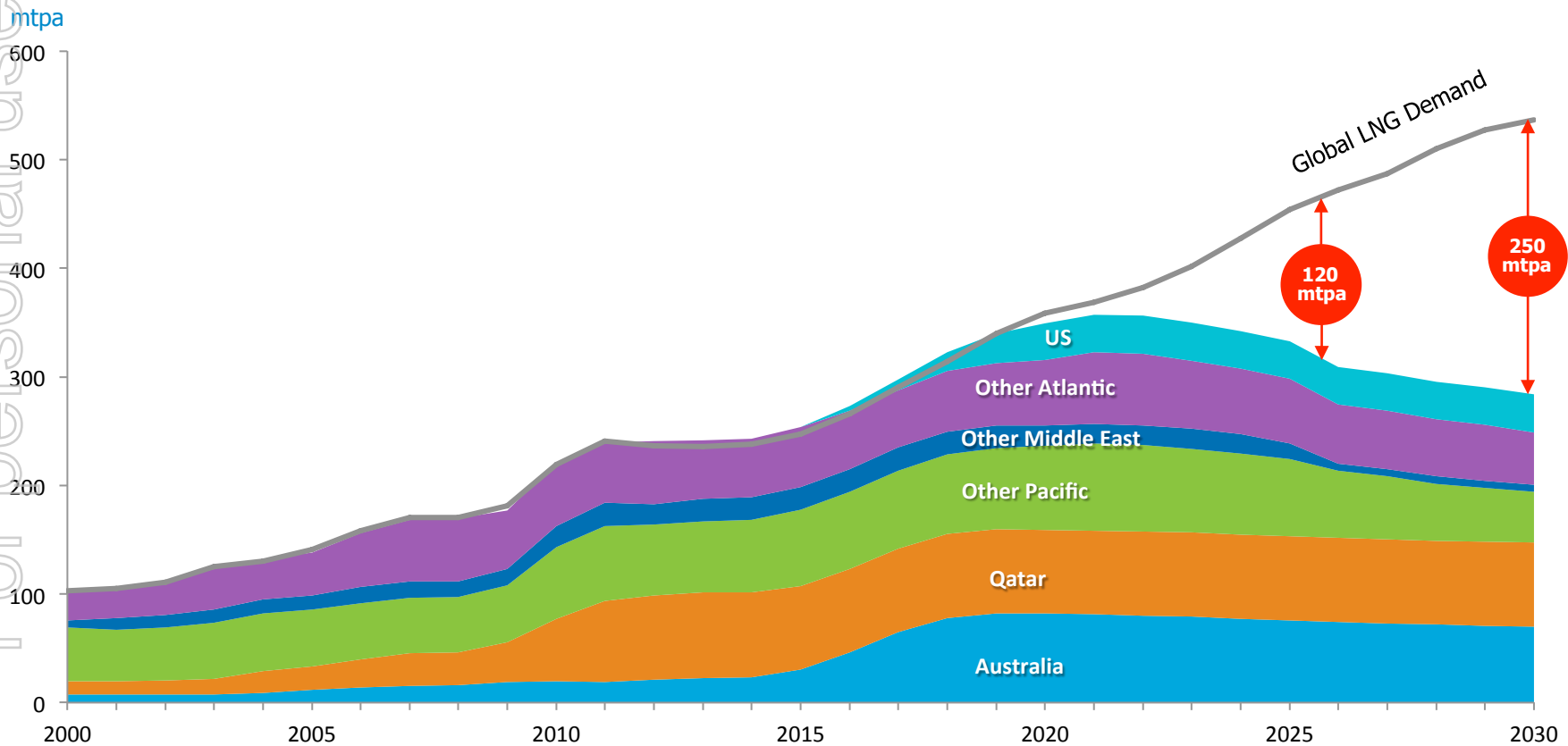
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## Global LNG demand and supply outlook

A gap between LNG supply and demand continues to widen into the next decade

Global LNG demand vs. LNG supply by region



Source: Wood Mackenzie LNG Tool 2014 Q3 data, LNG supply effective capacity (contracted and uncontracted) from operational and under construction plants. Data includes Cove Point, reported to have taken FID by Wood Mackenzie 6/11/2014.

## Impact of US LNG

US LNG is not expected to overwhelm the market

Global LNG demand vs. US LNG supply in 2025



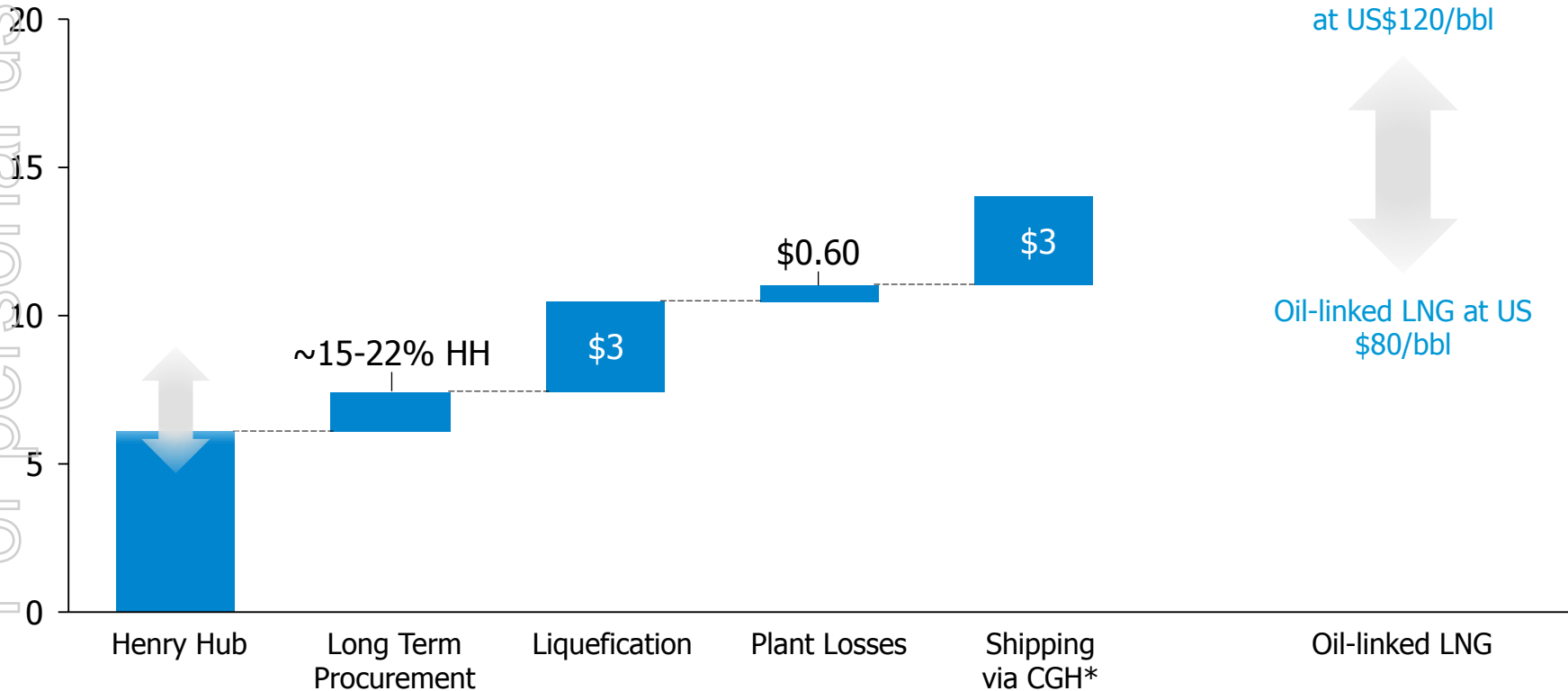
Source: Wood Mackenzie. \*Effective capacity of operational and under construction plants. US LNG supply includes under construction, probable and possible projects. Data includes Cove Point as under construction, reported to have taken FID by Wood Mackenzie 6/11/2014.

## LNG pricing

Different indexation offers buyers options in terms of risk, not delivered price

### Henry Hub-linked vs Oil-linked LNG pricing

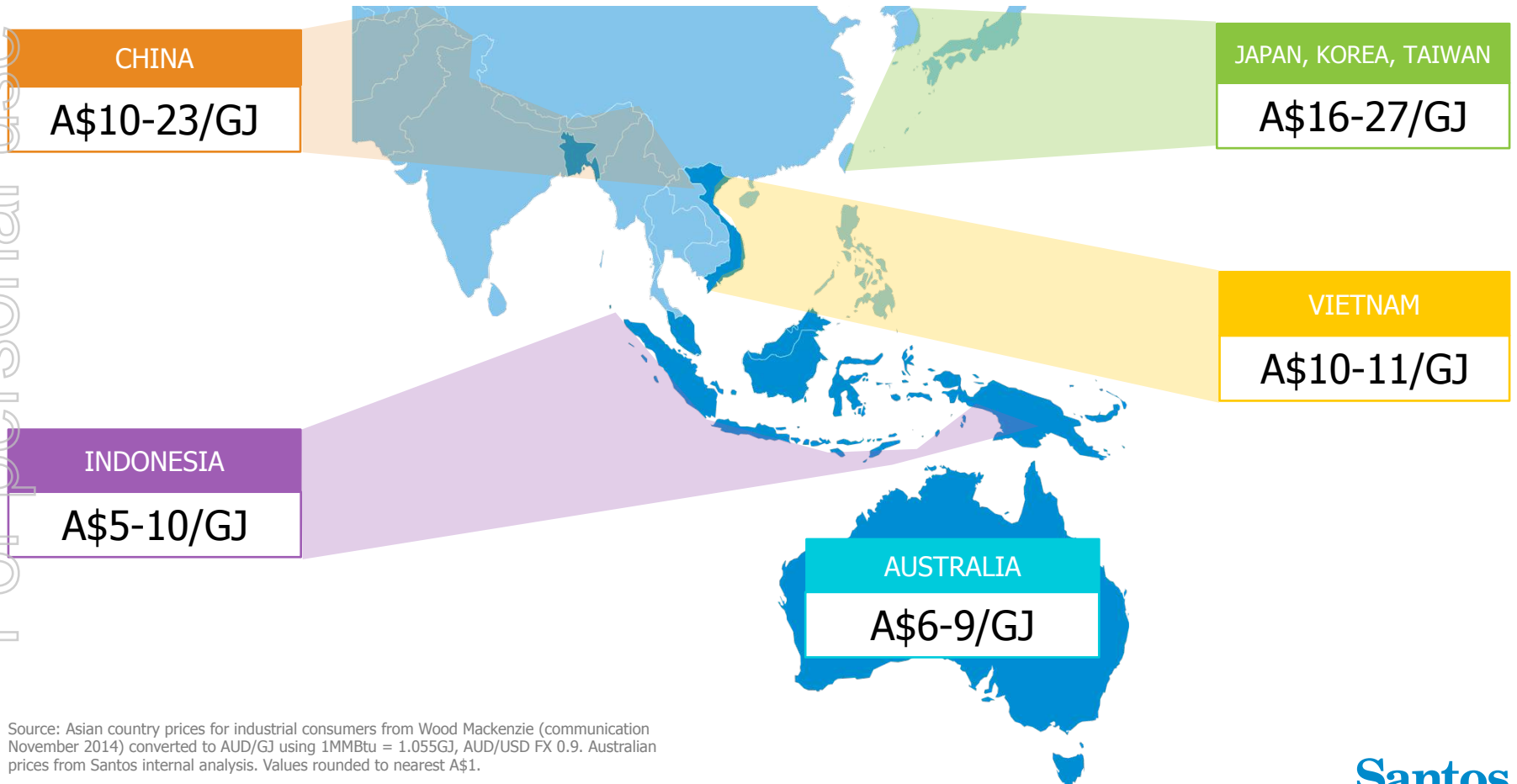
US\$/mmbtu



Source: Henry Hub forecast for 2020 from Facts Global Energy. Liquefaction, losses and shipping costs\* via Cape of Good Hope from Wood Mackenzie 2014 data for US LNG to Tokyo Bay.

## Domestic gas prices for industrial users

End user gas pricing increasing across the Asian region supporting further LNG imports



Source: Asian country prices for industrial consumers from Wood Mackenzie (communication November 2014) converted to AUD/GJ using 1MMBtu = 1.055GJ, AUD/USD FX 0.9. Australian prices from Santos internal analysis. Values rounded to nearest A\$1.

# Business outlook

Andrew Seaton  
Chief Financial Officer



Unloading the first PNG LNG cargo at TEPCO Futtsu-2 Terminal

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## Business outlook

Project delivery on track

Disciplined approach to future investment

Focus on operating efficiencies in volatile oil price environment

Clear production growth outlook

Operating cash flow increases by:

~100% by 2016 at US\$100/bbl

~65% at US\$90/bbl (consensus)

Significant reduction in capex as LNG projects are completed

Focus on operating efficiency

Maintain or increase each dividend as earnings and cash flow increase

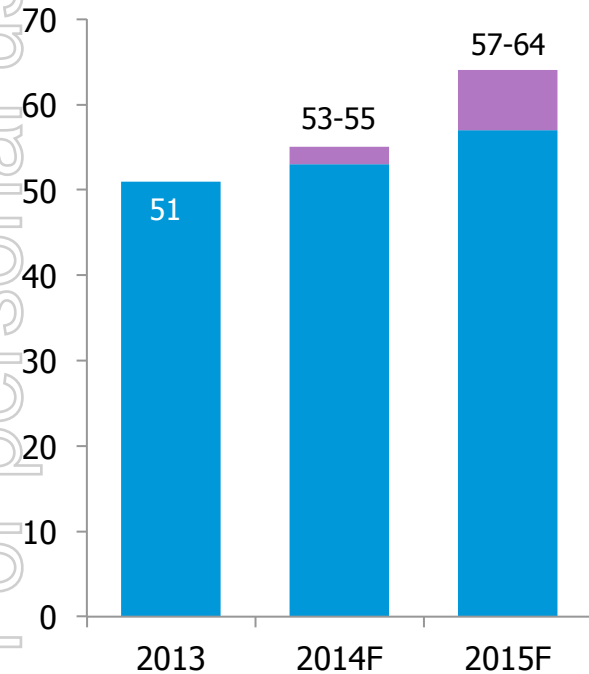
Robust balance sheet and funding position



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## Production guidance

Production  
mmboe



2014 production guidance narrowed to 53-55 mmboe

2015 production guidance 57-64 mmboe, growth driven by PNG LNG at plateau and GLNG start-up

### 2014 production guidance narrowed to 53-55 mmboe

- › YTD September 2014: 39 mmboe
- › Q4 2014: 14-16 mmboe

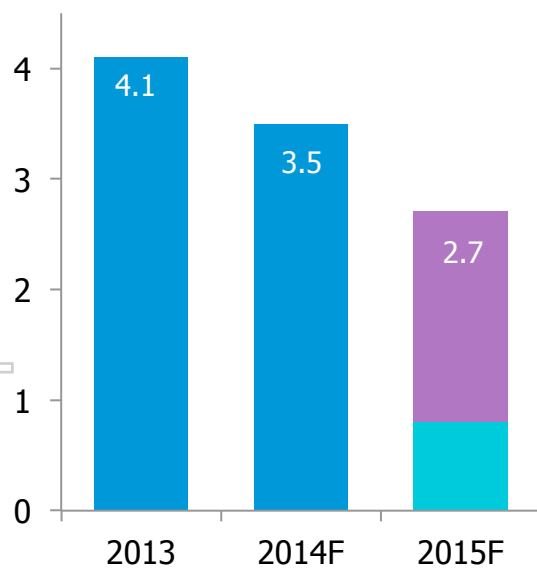
### 2015 guidance 57-64 mmboe

- › Growth projects on line
  - PNG LNG at plateau production
  - GLNG start-up 2H 2015
- › East coast gas market in transition ahead of LNG demand
  - Timing and ramp-up of LNG trains a major driver of Cooper Basin gas production in 2015
- › Major scheduled maintenance
  - Moomba gas plant planned maintenance in Q1 2015
  - 45-day shutdown of Fletcher-Finucane/Mutineer Exeter for FPSO dry-dock planned for Q1 2015

## Capex guidance

### Capital expenditure (excludes capitalised interest)

\$billion



Capex decreasing as LNG projects are completed

2015 guidance \$2.7 billion

2014 guidance unchanged at \$3.5 billion

#### > 2015 guidance (excluding capitalised interest)

##### ■ Growth ~\$1.9 billion

- GLNG \$750 million
- Cooper gas growth (including CIEP and unconventional) \$450 million
- Exploration \$350 million
- Other (including PNG LNG, Combabula, AAL, Narrabri, WA&NT) \$400 million

##### ■ Sustaining ~\$800 million

- Cooper gas, oil and plant \$500 million
- WA&NT \$160 million
- Other (including EA ex-Cooper, Asia, corporate) \$100 million

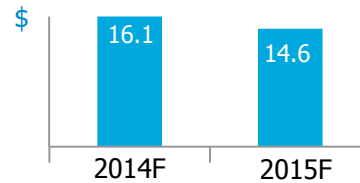
#### > 2015 capitalised interest forecast ~\$140 million

## Focus on operating efficiency

### Reducing unit production costs

## Managing the business for a volatile oil price environment

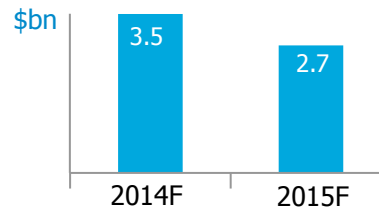
### Production cost per boe



- › Targeting 9% reduction in unit production costs in 2015 compared to 2014
- › Fixed costs businesses (i.e. Cooper) beneficiaries of higher production volumes

### Reducing capital expenditure

### Capital expenditure



- › Over 20% reduction in capex in 2015 compared to 2014
- › Focused execution leading to lower project costs
- › Flexibility to reduce discretionary capex

### Focus on cost out

- › Focus on procurement, logistics and construction strategies
- › Challenging suppliers to reduce costs
- › GLNG incremental projects tracking under budget cost
- › Cooper Basin rig optimisation, frac efficiencies and contract reviews

## Balance sheet and funding

Strong liquidity position and minimal debt maturities in the near term

Continued proactive approach to capital management

### Debt maturity profile

A\$million

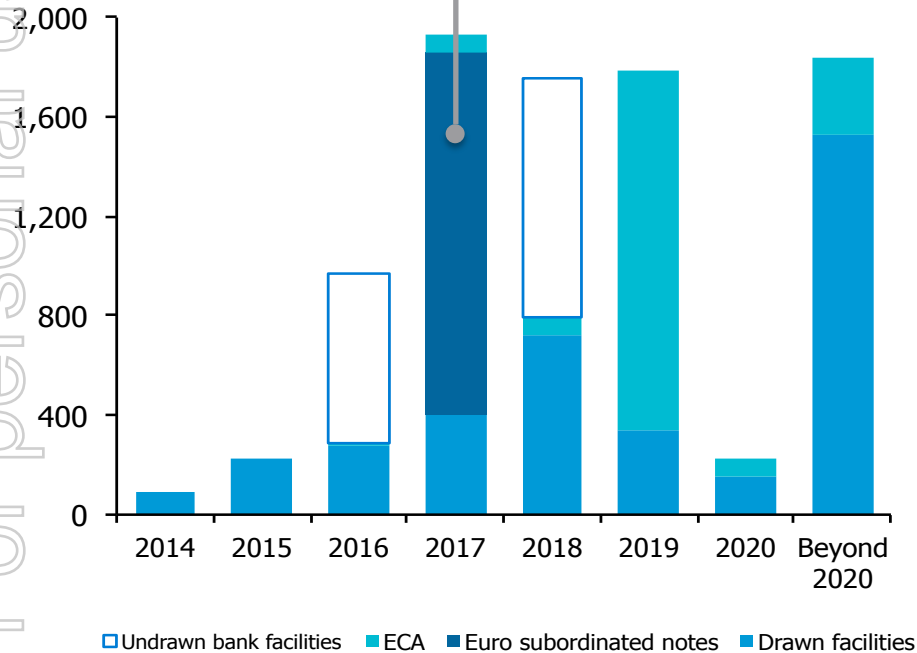


Chart as at 30 September 2014

- \$2.1 billion in cash and undrawn debt facilities as at 30 September 2014
- Peak gearing of ~40% ND/(ND+E) expected in 2015
- Considering potential 50% equity credit European hybrid issue, subject to acceptable market conditions
  - Refinance existing debt
  - Enhance liquidity position
  - Prudent capital management given oil price volatility

# GLNG upstream

Trevor Brown  
Vice President Queensland

Fairview Hub 5

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## Project overview

GLNG is 90% complete  
On track for first LNG in the second half of 2015,  
within US\$18.5 billion budget



LNG tanks, October 2014

<sup>1</sup>Based on foreign exchange rates which are consistent with the assumptions used at FID (A\$/US\$ 0.87 average over 2011-15).

### Project scope

Drilling ~800 CSG wells over 2011-15, in addition to existing pre-FID wellstock  
Existing and sanctioned gross upstream compression capacity 725 TJ/day, additional capacity under design  
Incremental gas supply and infrastructure projects  
420 kilometre gas transmission pipeline  
2 train LNG plant and associated infrastructure

### LNG plant capacity

7.8 mtpa of LNG; 7.2 mtpa has been sold to PETRONAS and KOGAS

### Gross capital cost estimate

US\$18.5 billion<sup>1</sup> from FID to the end of 2015 when the second train is expected to be ready for start-up

### Gross sustaining capex

~A\$1 billion average per annum over 2016-20  
~A\$500 million average per annum post 2020

### LNG train ramp-up

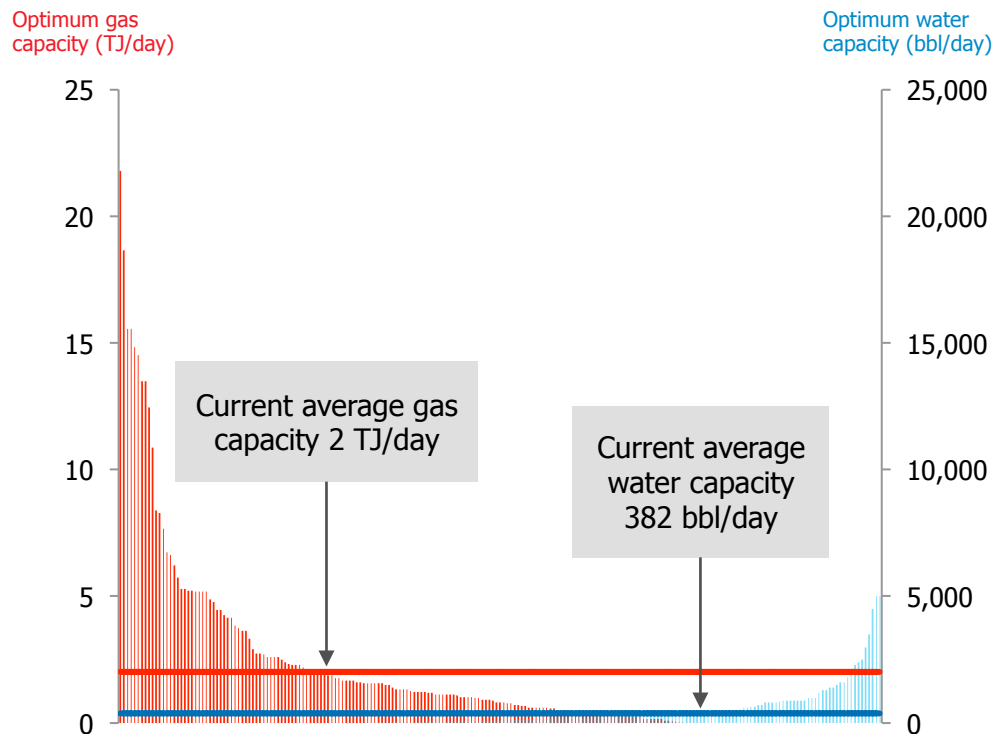
Train 1 first LNG expected in second half of 2015  
LNG production expected to ramp-up over 3-6 months  
Train 2 ready for start-up expected by end-2015  
LNG production expected to ramp-up over 2-3 years

## Fairview well performance

- Reservoir performance continues to exceed expectations
- High turn-down capacity
- Fairview infill
  - All 23 wells drilled
  - Excellent gas rates up to 17 TJ/day
- Fairview Eastern Flank
  - 71 new wells, drilling 75% complete
  - Initial rates above expectations

Performance continues to exceed expectations – gross field well capacity expected to be ~500 TJ/day by the end of 2014

**Fairview well performance as at October 2014**  
213 wells connected





## Roma well performance

76 development wells online and dewatering

4 wells are flowing >0.5 TJ/d, highest of these 1.6 TJ/d

Average gas capacity growing month-on-month as wells progressively connected and dewatered

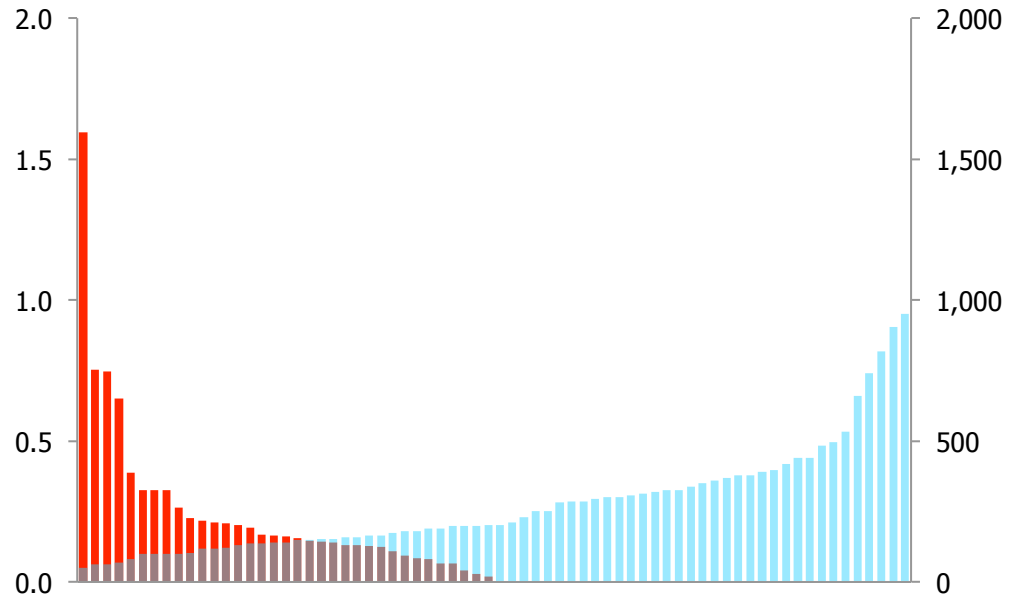
Online and dewatering, supporting average individual well capacity of 0.5 TJ/day

### Roma well performance as at October 2014

76 wells connected

Optimum gas capacity (TJ/day)

Optimum water capacity (bbl/day)



## Upstream gas processing



Gas hub construction is complete and commissioning is well advanced

### Existing

- › 170 TJ/day existing gross gas capacity at Fairview and Scotia

### Fairview Hub 5

- › 160 TJ/day gross gas capacity
- › 4 ML/day water handling facilities
- › Construction and commissioning complete

### Fairview Hub 4

- › 250 TJ/day gross gas capacity
- › 20 ML/day water handling facilities
- › Construction complete and commissioning underway

### Roma Hub 2

- › 145 TJ/day gross gas capacity
- › 10 ML/day water handling facilities
- › Construction complete

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Fairview Hub 5 160 TJ/day capacity - construction and commissioning complete

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Fairview Hub 4 250 TJ/day capacity - construction complete and commissioning underway

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Roma Hub 2 145 TJ/day capacity - construction complete and ready for commissioning

## Incremental gas supply and infrastructure projects

## Incremental infrastructure and field development projects tracking on or ahead of schedule and on or under budget



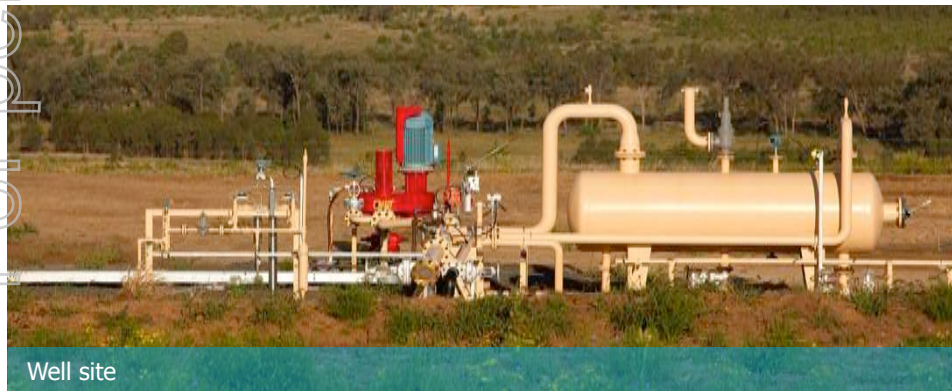
- › Comet Ridge to Wallumbilla pipeline loop mechanically complete
  - On schedule and under budget, increases capacity of the existing pipeline to 910 TJ/day
- › Fairview Eastern Flank: 71 new wells
  - First gas expected in December 2014, 4 months ahead of schedule and on budget
- › Fairview Infill: 23 new wells
  - First gas expected by end-November 2014, 2 months ahead of schedule and on budget
- › Roma West Phase 2A: 85 new wells and additional nodal compression at Hub 2
  - Sanctioned in June 2014, first gas expected August 2015
- › In detailed design on incremental brownfield compression capacity additions of up to 150 TJ/day
  - Additional capacity under study for Fairview, Roma and Scotia

## Ready for operations

Significant progress in 2014 and preparing for the operations phase of our project



Brisbane control room



Well site



Fairview Hub 5

# GLNG downstream

Rod Duke  
Vice President Downstream GLNG

GLNG plant site, Curtis Island

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## Gas transmission pipeline

420-kilometre pipeline is complete and gassed-up to Curtis Island

42-inch diameter  
420-kilometre pipeline

Gassing-up commenced in October and gas has reached Curtis Island

Pipeline control from Brisbane Operations Centre

Surface reinstatement work completed along entire pipeline length

QGC interconnects complete and pre-commissioned



Pipeline compressor station, Fairview

October 2014

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LNG plant site - Significant construction progress over the past 12 months  
First commissioning gas expected in December 2014

October 2014



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LNG train 1 - All 82 modules are set on their foundations  
Piping installation and cable pulling are well advanced

October 2014



LNG train 2 - All 29 modules are set on their foundations  
Piping installation and cable pulling are under way

October 2014



LNG tanks - Hydrostatic testing of both tanks complete  
Insulation and piping installation underway

October 2014

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LNG jetty - LNG loading jetty substantially complete and subcontractor demobilised from site

## Commissioning and operations

- 78 Santos GLNG staff embedded in integrated Bechtel/GLNG commissioning and start-up team
- LNG plant commissioning team includes GLNG operators
- Experienced GLNG partner secondees working in key commissioning and start-up coordination roles
- First commissioning gas to LNG plant expected in December 2014
- 13 commissioning cargos sold

Integrated commissioning and operations team in place



GLNG plant control room, Curtis Island

## GLNG downstream

Significant milestones achieved in 2014

On track for first LNG in the second half of 2015, within US\$18.5 billion budget

Milestone		Date
Marine crossing tunnelling completed	✓	February 2014
Last Train 1 module installed	✓	June 2014
First LNG tank hydrotest	✓	July 2014
Pipeline commissioning commenced	✓	August 2014
Second LNG tank hydrotest	✓	September 2014
Last Train 2 module installed	✓	November 2014
Pipeline commissioned and gassed-up to Curtis Island	✓	November 2014
First commissioning gas to LNG plant		December 2014
First LNG Train 1		2H 2015
Train 2 ready for start-up		End-2015



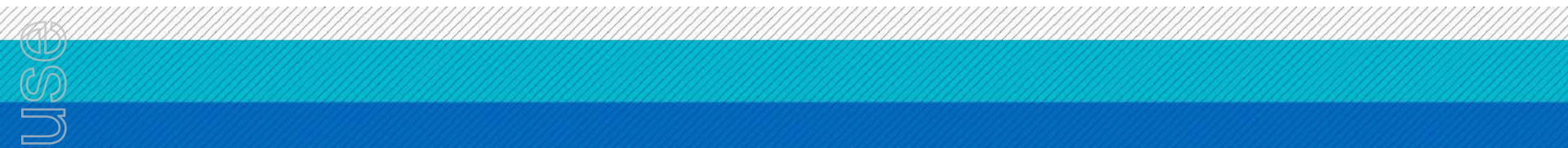
# Exploration

Bill Ovenden  
Head of Exploration

Tanumbirini-1 side wall core

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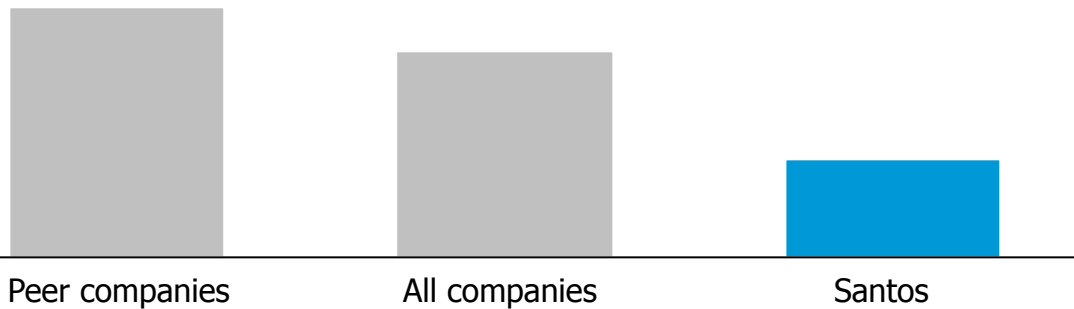


## Exploration performance

Exploration is a competitive advantage for Santos

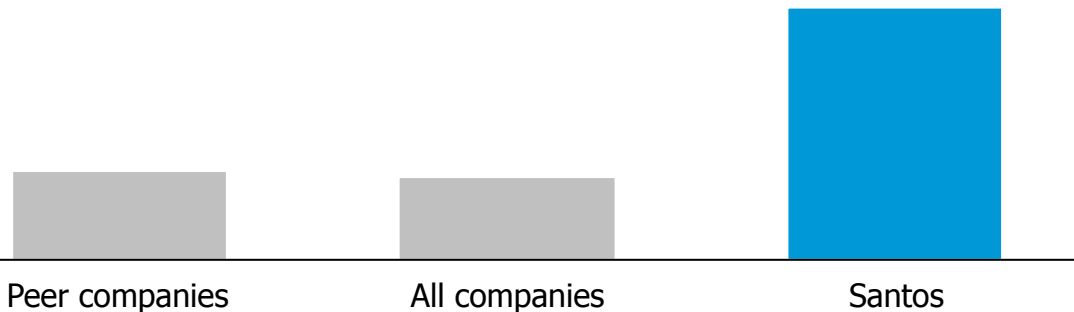
2P+2C finding costs (2009-2013)

US\$/boe



2P+2C Resource Replacement Ratio (2009-2013)

%

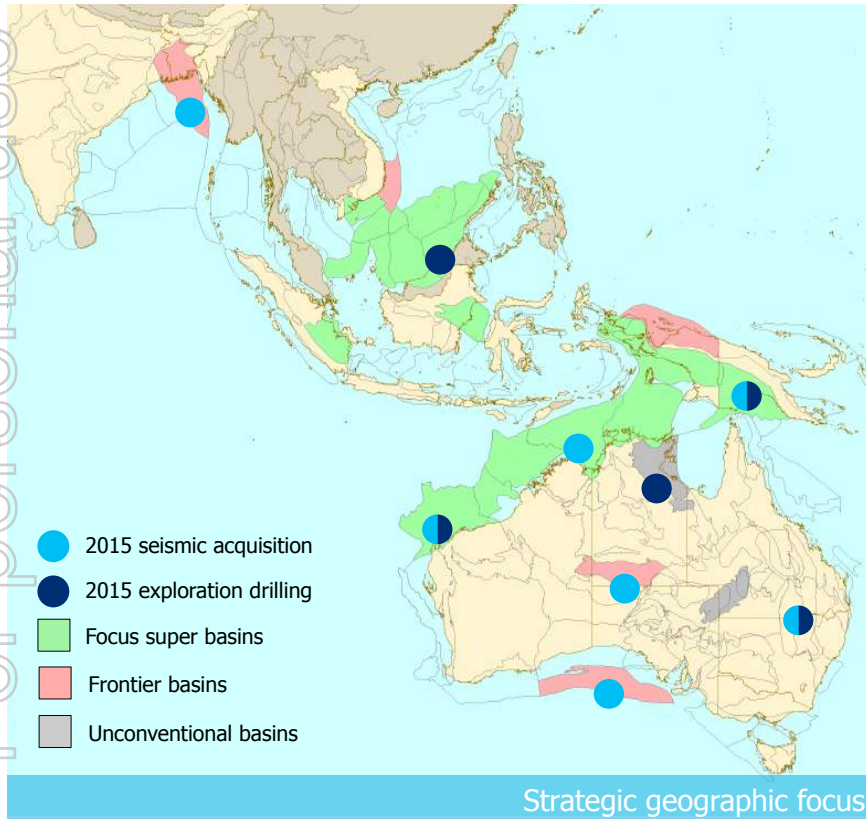


- › Santos is a leading low cost explorer
- › Conventional only finding cost better than average for peers
- › Leading resource replacement ratio
- › Lassetter and Tanumbirini world class wildcat outcomes
- › Strong technical capability delivered PNG oil and Amadeus play openers

Source: Wood Mackenzie

## Exploration strategy

Pursuing the best rocks and leveraging our infrastructure positions



Strengthen position in focus super basins

Targeted entry to frontier basins

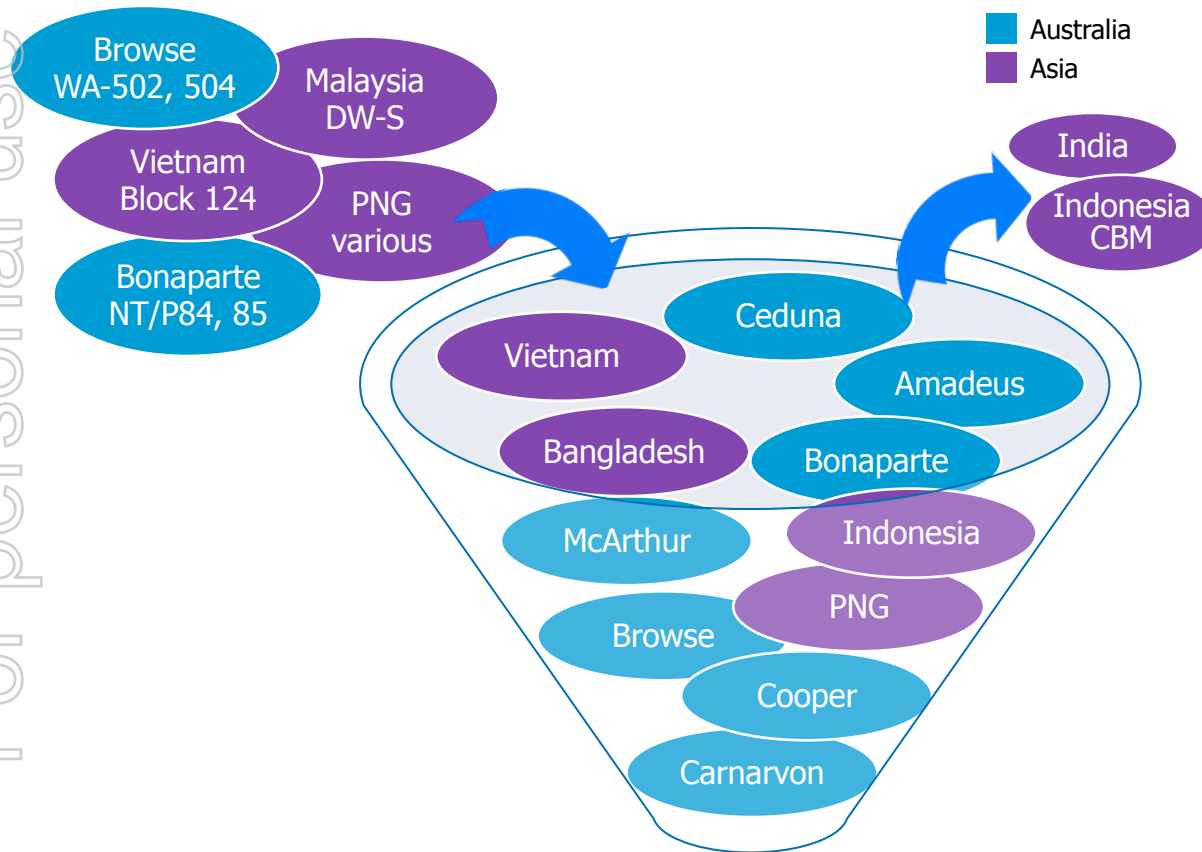
Develop leading Australian unconventional position

Work with right partners at right equity

Play-based and entrepreneurial culture

## Exploration portfolio

Significant acreage capture is reloading the exploration portfolio with attractive opportunities

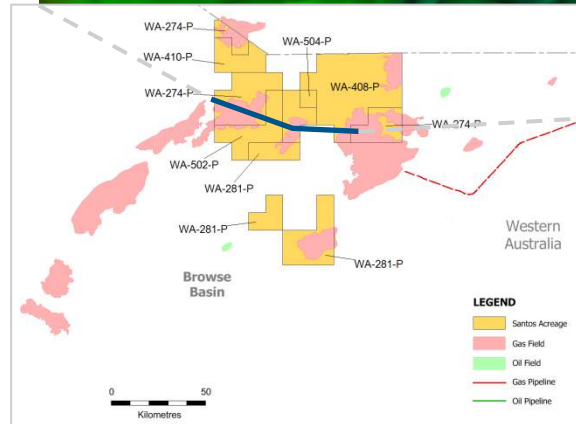
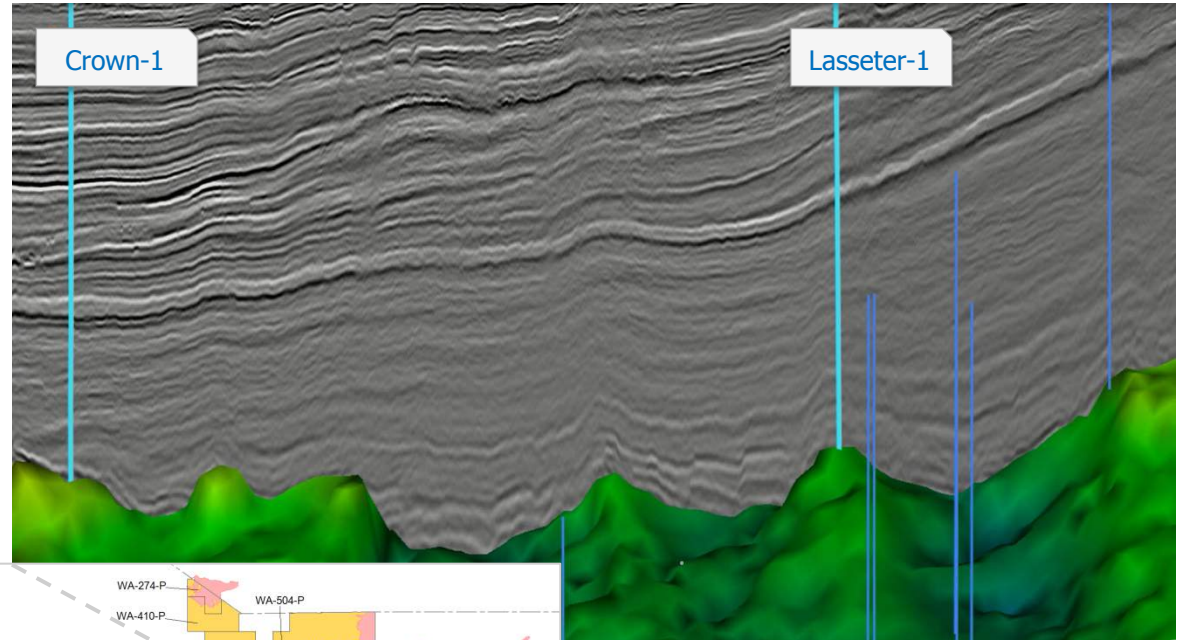


- > Material deepwater Malaysian oil prospects
- > Consolidate Phu Khanh acreage position with Block 124
- > Gazettal awards in Bonaparte to test new plays near brownfield LNG infrastructure
- > Building material inventory in PNG for LNG expansion
- > South-West Queensland Cooper oil gazettal blocks
- > Continually targeting new gazettal and farm-in opportunities, especially in Asia
- > Large 3D seismic data sets across the board

## Browse Basin Lasseter-1

Lasseter and Crown are Santos' largest operated discoveries; they have materially increased our Browse resource position

- ▶ Lasseter-1 and Crown-1 are Santos' two largest operated discoveries
- ▶ Discovered gas with liquids at both reservoir target levels, over 400 metre gross hydrocarbon-bearing interval
- ▶ Confirms regional extent of high quality lower Vulcan reservoir play
- ▶ Strong outcome cements materiality of Santos Browse resource position



## McArthur Basin Tanumbirini-1

~25,000km<sup>2</sup> acreage footprint

Adjacent to existing pipeline infrastructure / access to regional road and rail links

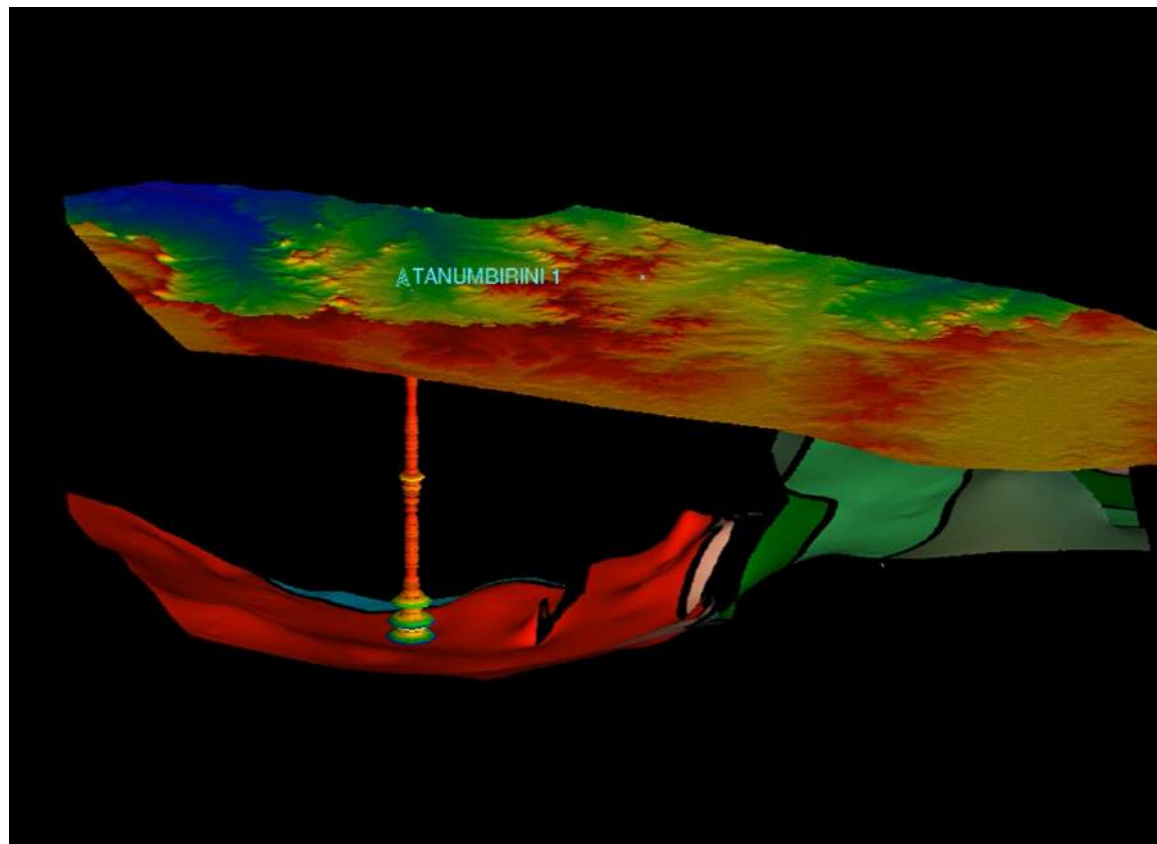
Well drilled to calibrate the rocks and interpretation models in central basin location

Extensive coring and evaluation program conducted over targets

Attributes evaluated to date match it with best in the US

Well stimulation and testing program scheduled for 2015-16

McArthur Basin shale play opener shows great promise



## Hides deep

Drilling ahead, seeking gas to support PNG LNG T3

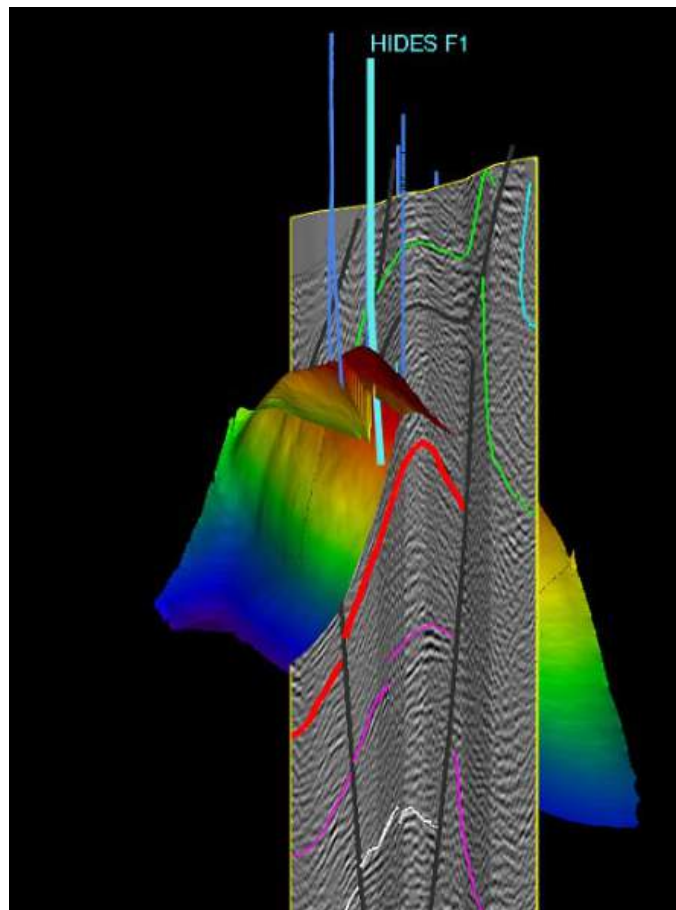
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Exploration target below the existing Hides field and gas processing plant

Large well-constrained anticline with a primary objective approximately 700 metres beneath the proven Toro reservoir

Ideally located to underpin PNG LNG expansion

Well has spudded, currently drilling ahead



## Malaysia

Two well program targeting material oil in a proven prolific play fairway offshore deepwater Malaysia

Farmed into a 25% equity position in Deepwater Block-S

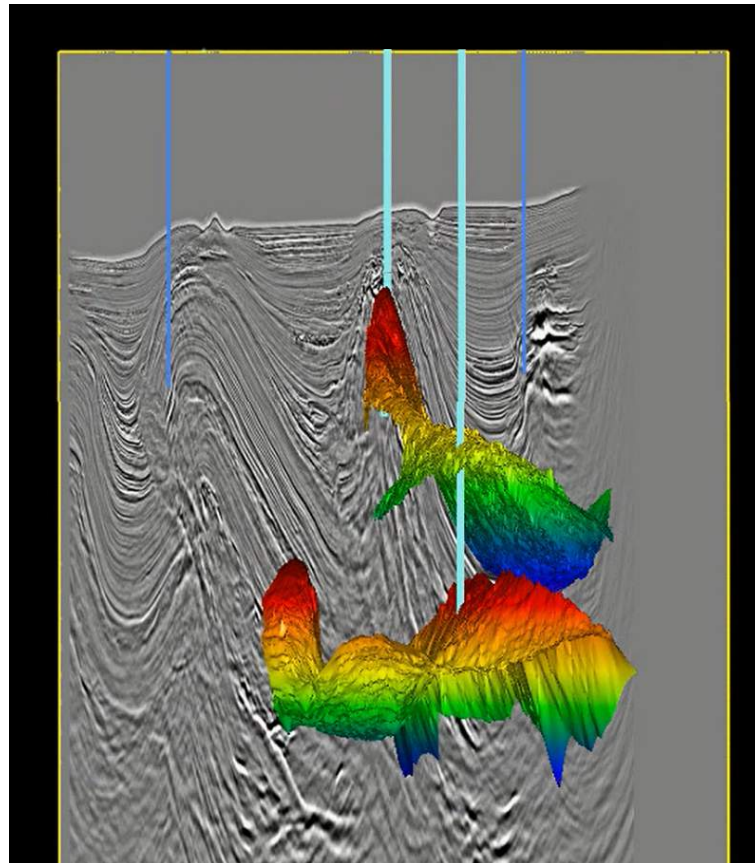
Partners: INPEX (operator) and PETRONAS

High quality deepwater sandstone reservoirs in large structural traps, along trend from proven high value oil production

Block adjacent to existing oil and gas infrastructure

First wildcat spudded in November 2014 and currently drilling

Actively working to expand our footprint in this play





## 2015 exploration schedule

Delivers on our exploration strategy across super basins, frontier basins and unconventional basins

Well Name	Basin / Area	Target	Santos Interest %	Timing
Hides Deep	Papuan, PNG	Gas	24	Drilling
Prospect-1	Offshore Malaysia	Oil	25	Drilling
Prospect-2	Offshore Malaysia	Oil / gas	25	Q1 2015
Davis-1	Carnarvon, Australia	Gas	45	Q2 2015
Westgrove-9	Denison, Australia	Gas	50	Q4 2015
2 x stratigraphic wells	McArthur, Australia	Oil / gas	45	Q3 2015

The exploration portfolio is continuously being optimised, therefore the above program may vary as a result of farmout, rig availability, drilling outcomes and maturation of new prospects

# Technology driving performance and delivery

Diana Hoff  
Vice President Technical, Engineering and Innovation



Saxon 185 drilling Fairview multi-well pads

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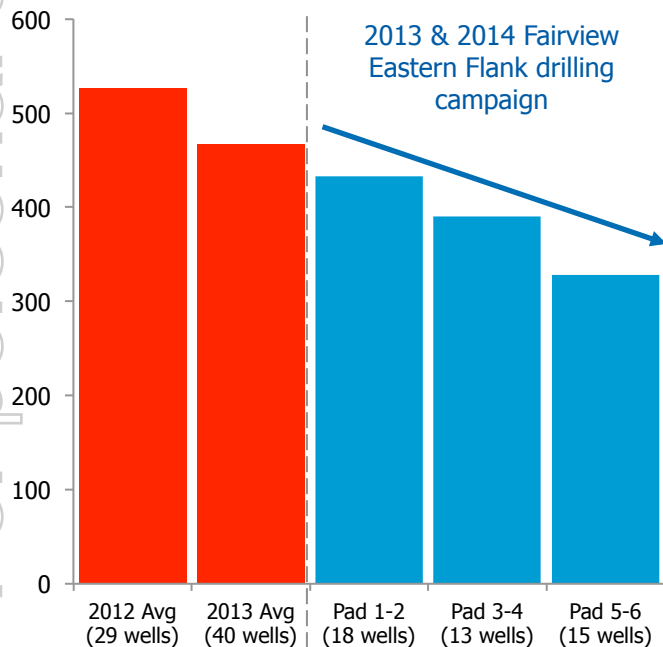


## GLNG drilling and completions

Multi-well pads continue to drive greater efficiency, lower costs and a smaller environmental footprint

### Fairview deviated well drilling cost performance

\$ / ft drilled



> Current Saxon rig fleet designed for multi-well pad drilling:

- Skid forwards and backwards, reducing time between wells
- Improves safety by minimising rig up/down processes

> Fairview Eastern Flank pad drilling skidding efficiencies:

- Reduced time between wells from over 36 hours to 8-12 hours
- Factory drilling approach continues to drive lower well costs (\$/ft)
- Site footprint ~3 times smaller per well than a single vertical well

## Eastern Australia drilling and completions

## Next generation rigs in the Cooper Basin

- › Cooper Basin Ensign rigs 970 and 971:
  - 1500hp diesel-electric rigs
  - Capable of drilling to 20,000 ft / 6100 m
  - Mast Height: 136 ft / 41 m with a static hook load of 750,000 lbs (12 lines)
  - Gardner Denver PZ11 triplex pumps capable of pumping up to 545 gal/min
  - Tesco 400EXI600 top drive systems rated to 800,000 lbs
- › This rig model has drilled up to 15 wells on a pad in shale or tight sandstone plays in North America
- › Self Raising-Walk System
  - Rigs can move forwards & backwards as well as side-to-side



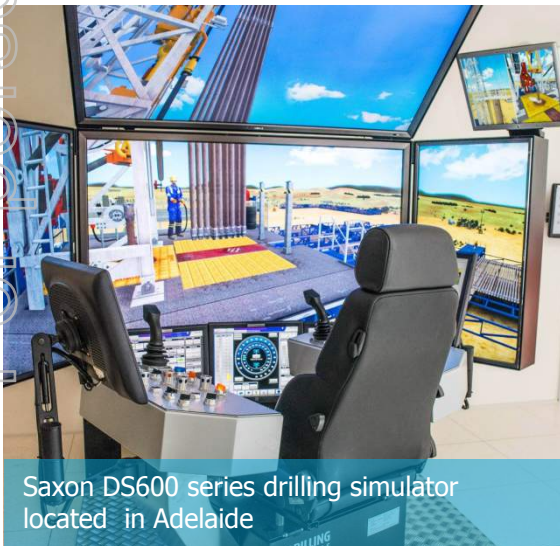
Ensign 971 drilling Big Lake multi-well pad

## Advanced drilling technology

## Simulated drilling environments

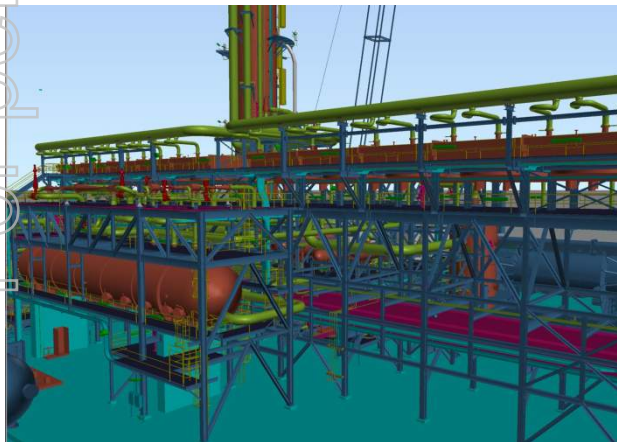
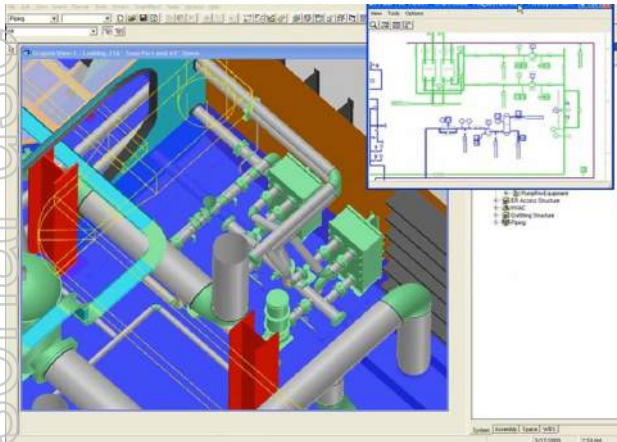
Rig contractor simulators optimise training and safety by verifying personnel skills prior to arriving on well site.

- › Highly realistic training environment with no risk to personnel or assets
- › Recreate rig specific models, scenarios and well conditions
- › Reduce the learning curve and reliance on 'on the job training' and 'on rig mentors'
- › Decrease non-productive time and maximise drilling rates



## Surface Engineering

Virtual Plant engineering technology driving information availability and minimising operational downtime



- System based on Intergraph's industry leading 'SmartPlant' suite of engineering software
  - Engineering information fully aligned with physical assets
  - Easily accessible during execution of projects, operation of facilities through to decommissioning
  - Software allows engineers to 'see' the plant without travelling to location, providing safety and cost benefits
- System has been introduced across all major onshore assets

# Eastern Australia

James Baulderstone  
Vice President Eastern Australia

Moomba processing plant, Cooper Basin

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## Eastern Australia market opportunity

Gas  
demand  
driving  
growth



Unconventional  
gas the next  
frontier



Narrabri  
Gas  
Project



## Leveraging value from portfolio of resources and infrastructure

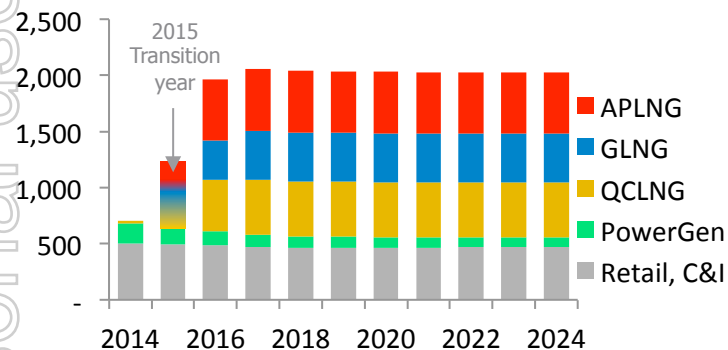
- › Tripling of east coast gas demand and associated higher prices
  - › Cooper Basin capacity build on track to meet 2015+ contracts
  - › Moomba infrastructure critical to meet forecast east coast demand
- 
- › Large opportunity given resource potential and market demand
  - › Proven flow from all Cooper Basin plays (Tight Sand, Deep Coal and Shale)
  - › Targeting sweet spots and testing well designs to improve flow rates and lower unit costs
- 
- › Focus on reserve sweet spot for initial 100-140 TJ/d development
  - › Key enablers of land access, community and Government support well progressed



## Eastern Australia gas market portfolio

Positioned to capitalise on the changing market dynamics with Cooper playing central role

Eastern Australia gas demand (PJ)



Integrated value proposition

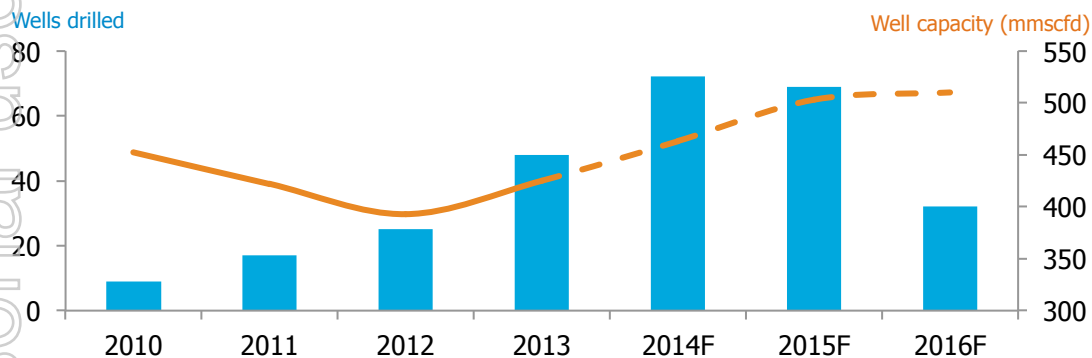


- Gas prices likely to remain robust at >A\$8/GJ
- Transformation of gas market re-rates Santos' portfolio:
  - New sources of gas required pre-2020 to meet demand
  - Uncontracted gas reserves more valuable (Cooper, Kipper)
  - Opportunity to unlock Australia's largest unconventional gas resource
  - Evaluation of new supply, Narrabri Gas Project, offshore Vic supply (Sole, VIC/P44)
- Moomba is open for business, 3<sup>rd</sup> Party processing
- Gas storage in Cooper, 70PJ existing, greenfield opportunities
- Increasing ability to trade and transport gas

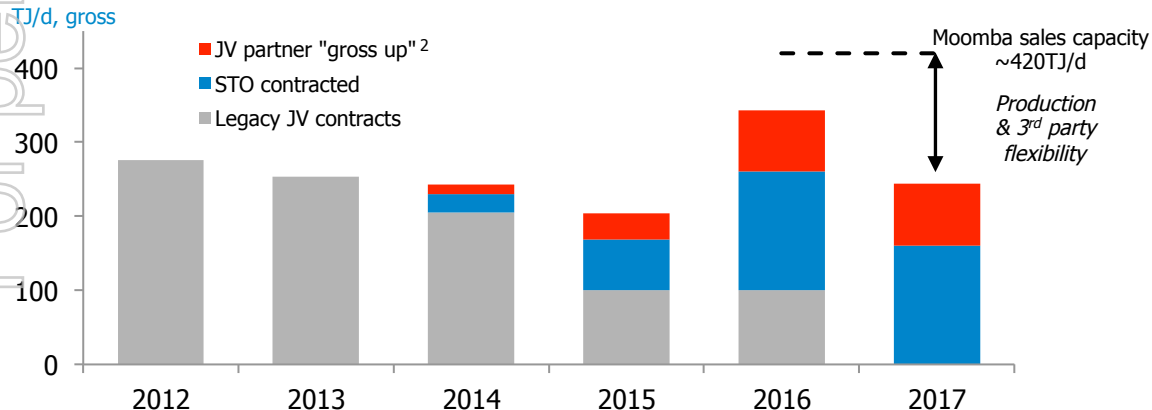
## Cooper Basin well placed to meet growing demand

Legacy infrastructure and existing resource base provides great competitive advantages

### Cooper gas drilling & well capacity<sup>1</sup> build



### Cooper gas contracts



1: Well capacity is a raw gas capacity including CO<sub>2</sub>, fuel, flare & vent and in gross terms.  
2: JV partner gross up represents the ORG/BPT share of gas required for Santos to meet its contractual obligations

- Cooper Basin gas production capacity growing after a decade of decline
- Capacity growth 30% to meet new LNG & domestic contracts
- 2015 will represent peak capex
- Margins to increase as legacy gas contracts expire
- Uncontracted gas volumes post 2016
- Cooper 2015 production dependent on timing of LNG ramp-ups

## Cooper infrastructure expansion (CIEP)

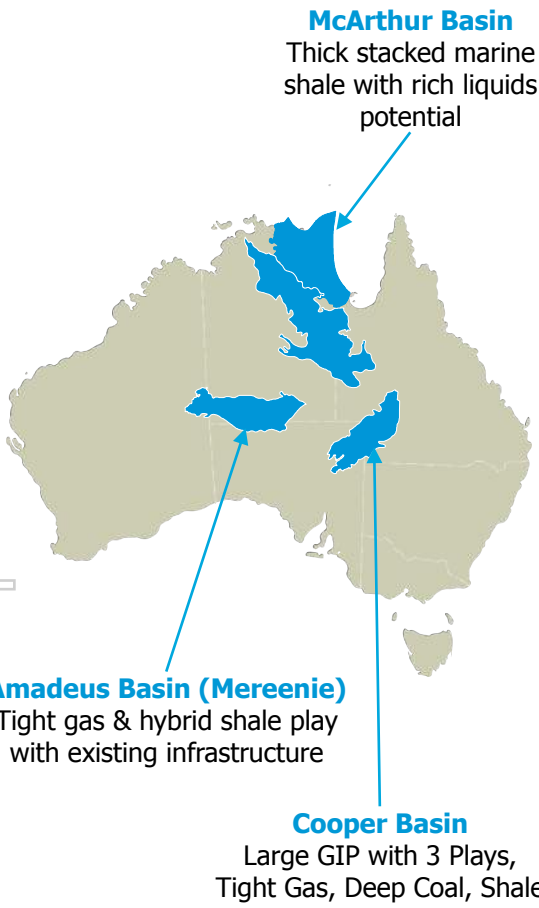


Stage 1 on track, taking Moomba average processing capacity to ~420 TJ/day sales gas

- › CIEP approved scope is on schedule and on budget
  - › Peak CIEP capex in 2015, significant reduction thereafter
  - › Moomba facilities provide long-term optionality
- 
- › Big Lake Satellite completion due end CY14, under budget and within schedule
  - › Big Lake fuel gas line completed 3Q14, on budget and within schedule
- 
- › New A\$320m (gross cost) CO<sub>2</sub> Train 8 on budget, on schedule, commissioning mid-2016
  - › New Moomba APA-owned export compression complete

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## World scale unconventional resource potential



Work program: understanding geology, targeting sweet spots, testing well designs to lower costs and increase flow rate

Pre-discovery	Exploration	Exploration Appraisal	Development / Appraisal	Development
Prove hydrocarbon volume & content	Confirm resource potential with flow to surface	"Crack the Code" Optimise region, target & technology	Defining rate & reserve variability over development area	Execution
~12 months	~2 years	~2 - 3 years	>3 years	Decades of Production
Seismic, studies & exploration well	Vertical wells, frac tests	Vertical vs horizontal wells	Pilot wells	Multiple wells

### McArthur

- Drilled Tanumbirini-1, confirms potential

### Mereenie

- Analysing gas composition from recent fracs

### Cooper (3 Plays – Tight Gas, Deep Coal, Shale)

- ✓ Proven gas accumulation, over 3,000 ft of continuous gas column
- ✓ Four proven unconventional targets with demonstrated gas flows from all zones
- ✓ Large resource potential with booked contingent resources
- ✓ Unconventional targets are thick, over-pressured, extensive and fraccable

**Future work program**

## Unconventional Resources

## Encouraging results across all play types

Nappamerri Trough

Multiple Targets

- > Langmuir-1 flowed at **peak rate of 1.5 mmscfd**
- > Moomba-194 five stage frac achieved **peak rate of 3.5 mmscfd**
- > 3D seismic acquired in Gaschnitz area for sweet spot identification

Moomba Big Lake

Shale & Deep Dry Gas Coal

- > Moomba-191 flowed at commercial rates **>3.0 mmscfd**
- > Roswell-2H, 5 frac, 1500ft horizontal, flowed stable rate of **0.75 mmscfd**
- > Moomba-193H, 10 frac, 3000ft horizontal; flowed stable rate of **1.5 mmscfd**
- > Roswell-1: Deep dry gas coal frac test: one stage flowed **~0.35 mmscfd**

Patchawarra Trough

Condensate Rich Deep Coal

- > Tirrawarra Sth-1: Improved stimulation approach leading to flow rate of **~0.3 mmscfd** per frac at **100+ bbbls/mmscf**.
- > Goorani-6 contributing **~0.8 mmscfd & 10bbbls/mmscf**
- > Brolga-5 contributing **~0.47 mmscfd & 70bbbls/mmscf**

Mereenie

Tight Sand, Shale

- > Cores acquired in Mereenie development wells.
- > Characterising early stage liquids rich play

McArthur

Shale

- > 2D Seismic acquired, successfully drilled Tanumbirini-1, play opener, thick stacked marine shale with liquids potential

- ✓ Vast opportunity across 5 unconventional plays
- ✓ Systematically identifying sweet spots & testing well designs
- ✓ Results encouraging
- ✓ 3 unconventional wells on production (M-191, 193H, 194)

## Narrabri Gas Project Progress

Legacy rehabilitation complete, new world class facilities now constructed



- › Legacy rehabilitation complete
- › World class centralised water handling constructed
- › Well positioned for commercial development

## Narrabri Gas Project Progress

Pilots drilled, flow lines laid, gas flowing



## Narrabri Gas Project Progress



Land Access

Over 95% of land access secured for initial phase 1 development

Native Title Claimant negotiations proceeding with good cooperation

## Strong support from the Government and Narrabri community



Community Support

- › Growing support from local groups
- › 44 people locally employed in Narrabri and Gunnedah
- › Over \$35 million on goods, services and contracts awarded in Narrabri and Gunnedah



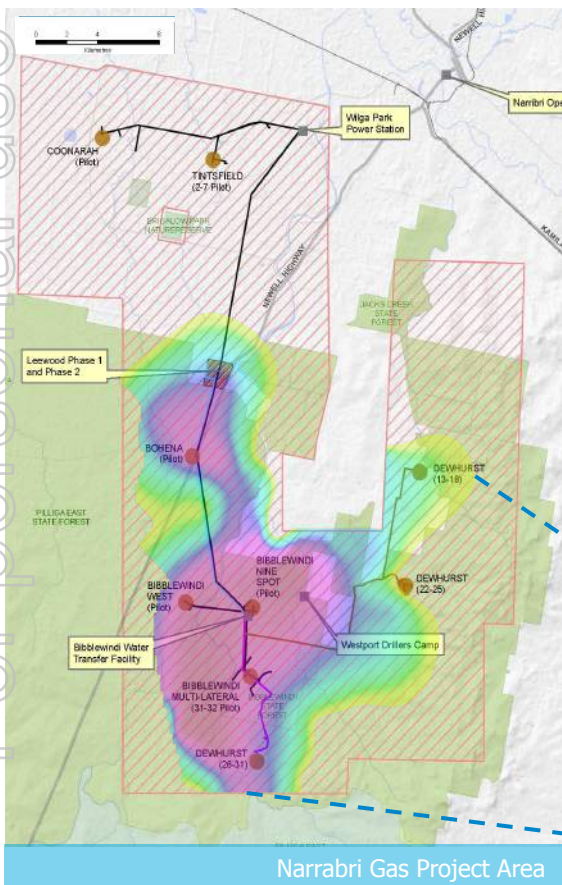
Government & Regulatory Support

- › Chief Scientist Report confirms industry can operate safely and sustainably
- › NSW Gas Plan promotes certainty for industry and community
- › Government endorsed NGP as a Strategic Energy Project



## Narrabri Gas Project Phased Development

Initial appraisal is concentrating on a material reserve sweet spot



Drilling

- › Successfully demonstrated triple-stack drilling ability, staying in seam >85% of the time

EIS

- › 200 TJ/day with up to 425 well sets
- › 1,000Ha footprint across a project area of 95,000Ha

Next Steps

- › Drill a further 7 wells in core area
- › Commercial pathways include smaller regional supply and dedicated pipeline into NSW market

Phase 1  
Core Area

- › Initial 100-140 TJ/day
- › Approval pathway allowing first gas by 2018
- › Approximately 70-100 well sets to plateau

# Narrabri Gas Project Appraisal Update

Drilled 9 of 16 planned wells targeting project technical risks

Likely 30% reduction in 2P reserves in 2014 to match phased development

Pilot Activity



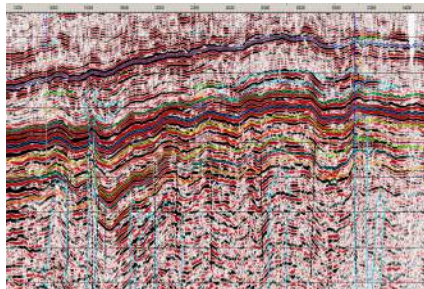
- › Operating 5 pilot production facilities
- › Developing detailed sub-surface models to finalise future development plan
- › New water storage facilities, compression and flow lines in place

Gas Composition & Deliverability



- › Methane sweet spot with excellent permeability, mostly in excess of 10 md's
- › Interference testing show potential for larger drainage area
- › Higher inert gas results affecting outer perimeter of the core project area reserves/resources

PRMS & Re-Mapping



- › Current expectation is that 2P reserves in PEL238/PAL2 are likely to be approximately 30% lower than year-end 2013 estimates
- › Planned anchor wells not drilled as required for contingent resource booking also likely to result in significant reduction in 2C contingent resource
- › Expect to build reserve and resource with further appraisal

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## Acreage with potential to underpin NSW Energy Supply

Santos acreage covers seven sub-basins across the Gunnedah Basin

### Prospective Basins

Taroom

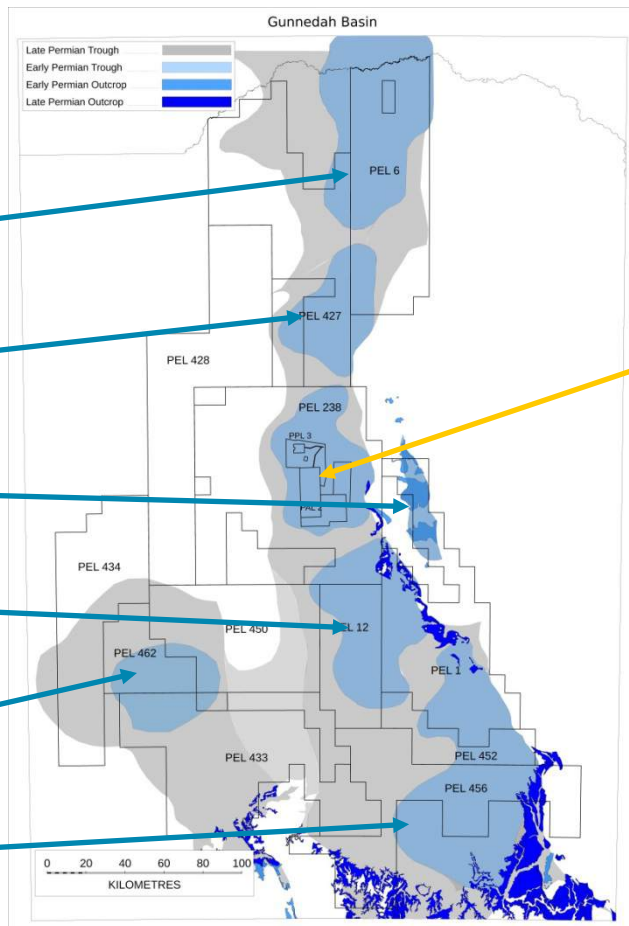
Bellata

Maules Creek

Bando

Tooraweena

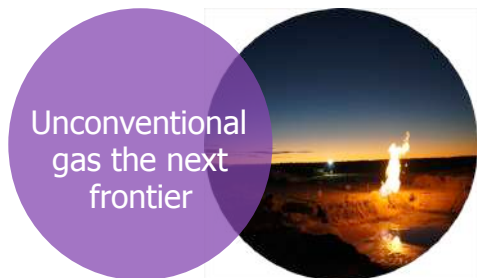
Murrurundi



**Bohena Trough**

Including initial methane sweet spot phase 1 development

## Eastern Australia market opportunity



## Leveraging value from portfolio of resources and infrastructure

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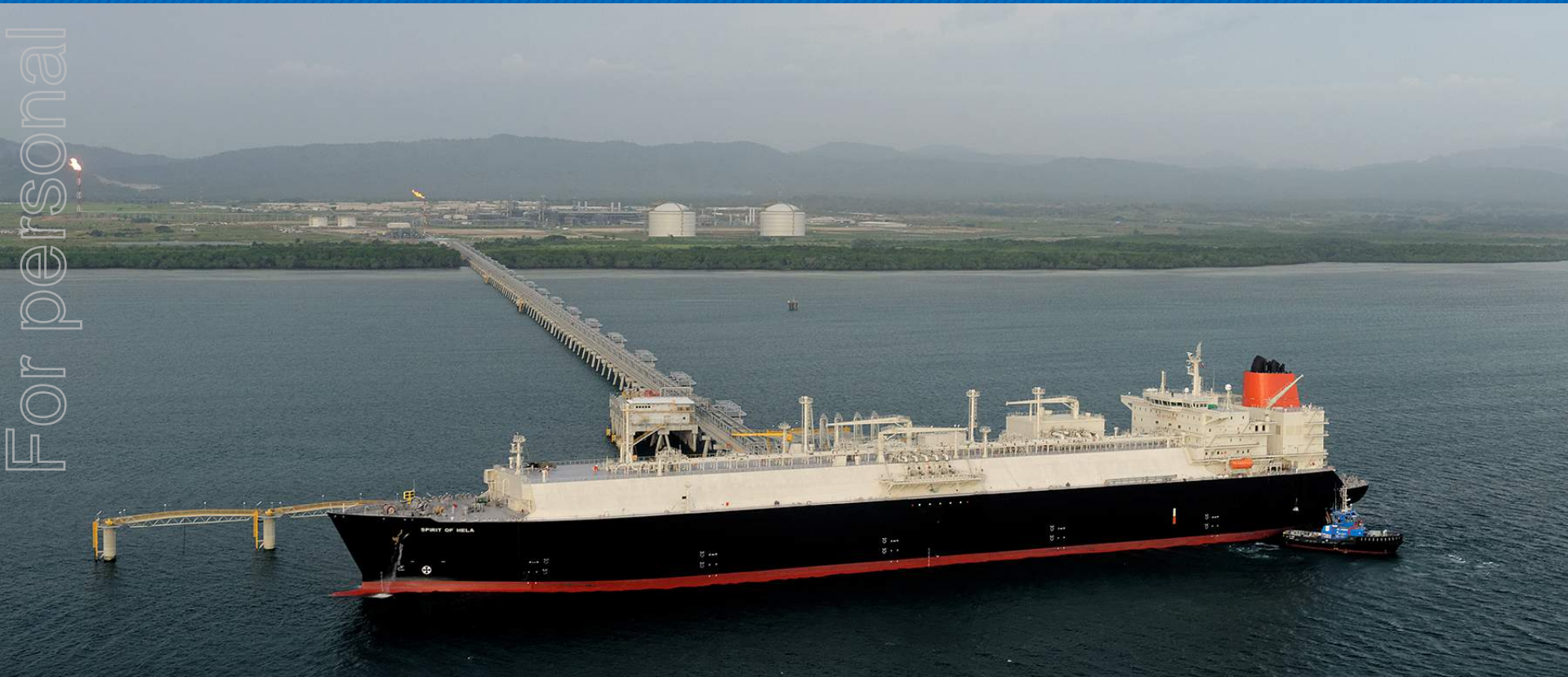
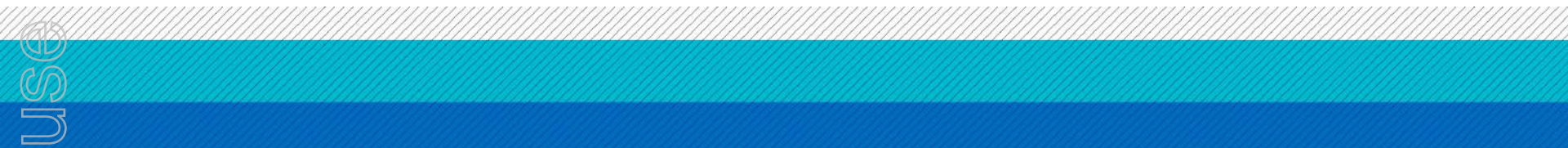
# Asia Pacific

John Anderson  
Vice President Asia Pacific, WA & NT



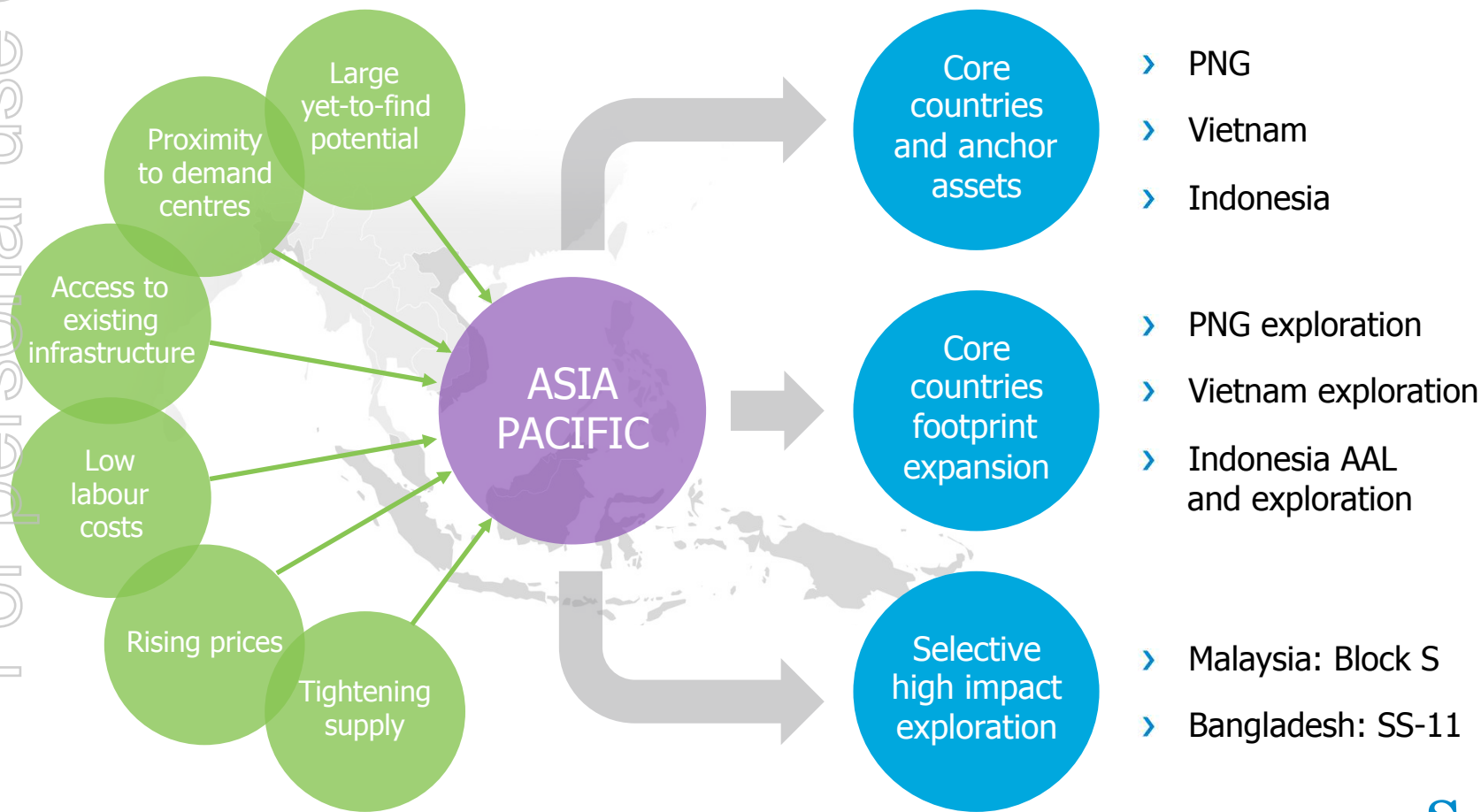
PNG LNG, near Port Moresby and Spirit of Hela LNG vessel

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## Asia Pacific Strategy

Focused Asia Pacific portfolio underpinned by high margin, long-life projects

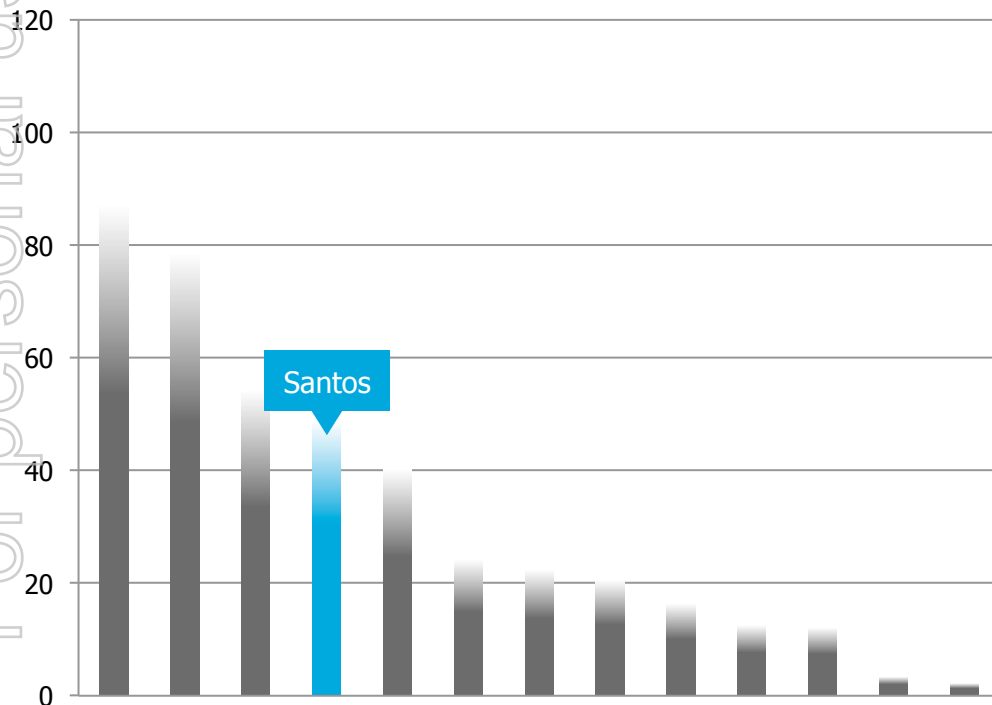


## Positioning and outlook

## Long life production assets and material prospect inventory

### Santos is the fourth largest independent E&P company in Asia

2014 Entitlement production (mboe/d)



Source: Wood Mackenzie 2014 full year production in mboe/d for all companies except Santos  
Santos average Q3 2014 production  
Peer group includes Anadarko, Hess, Husky, Kris Energy, Mubadala, Murhpy, Niko, Noble, Oil Search, Premier, Soco, Talisman

#### > Papua New Guinea

- Anchor equity in world-class, long-life LNG project
- Positioning for LNG growth

#### > Indonesia

- Strong base business in East Java underpinned by rising gas prices
- High margin satellite additions like Wortel and Peluang with further potential under review
- AAL development adds medium-term oil production

#### > Vietnam

- Chim Sáo base asset is a high return oil development
- Dua addition leverages off existing infrastructure
- Material frontier exploration footprint in the Phu Khanh basin

#### > Bangladesh

- Positioning to take advantage of material Myanmar play extension in Bangladesh and supplying gas to gas-short market

#### > Malaysia

- Material oil exploration in proven basin

## PNG LNG – anchor asset

PNG LNG delivered April 2014, ahead of schedule  
44 cargoes delivered thus far

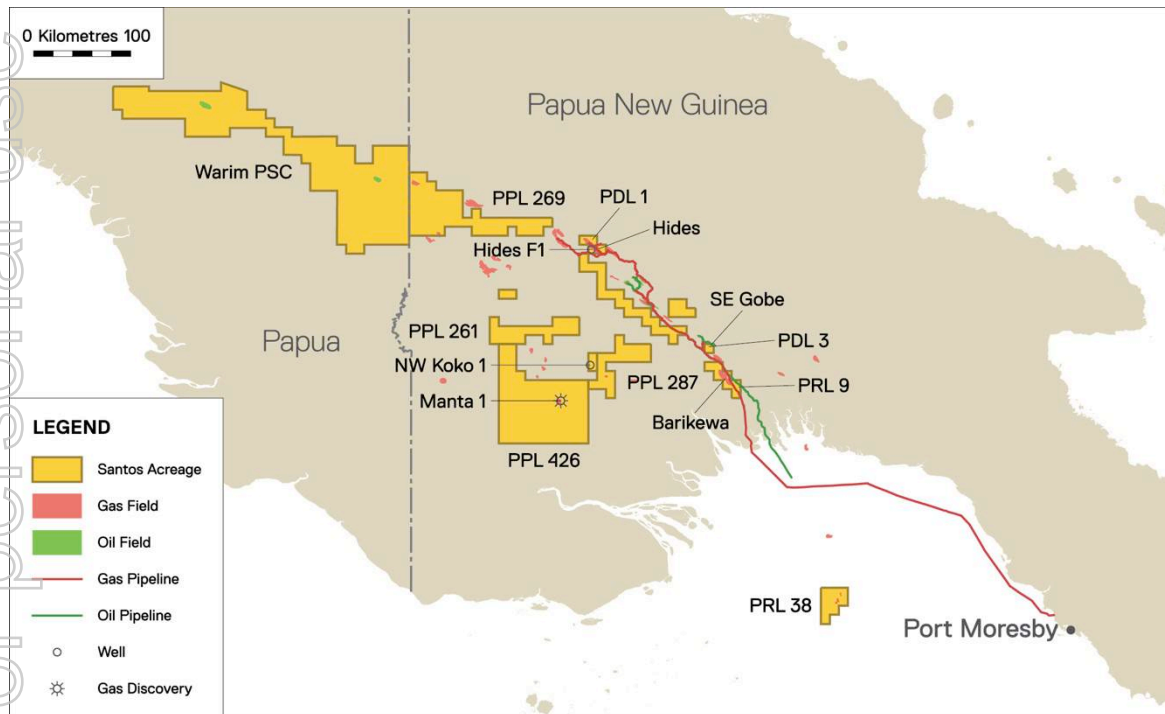


- › PNG LNG Project Delivery and Development Drilling
  - All 8 initial development wells successfully completed
  - First of two Angore development wells spud in October 2014
- › Opportunities to add value through participation in foundation project
  - Project debottlenecking
  - Existing infrastructure supports potential future expansion



## PNG – footprint expansion

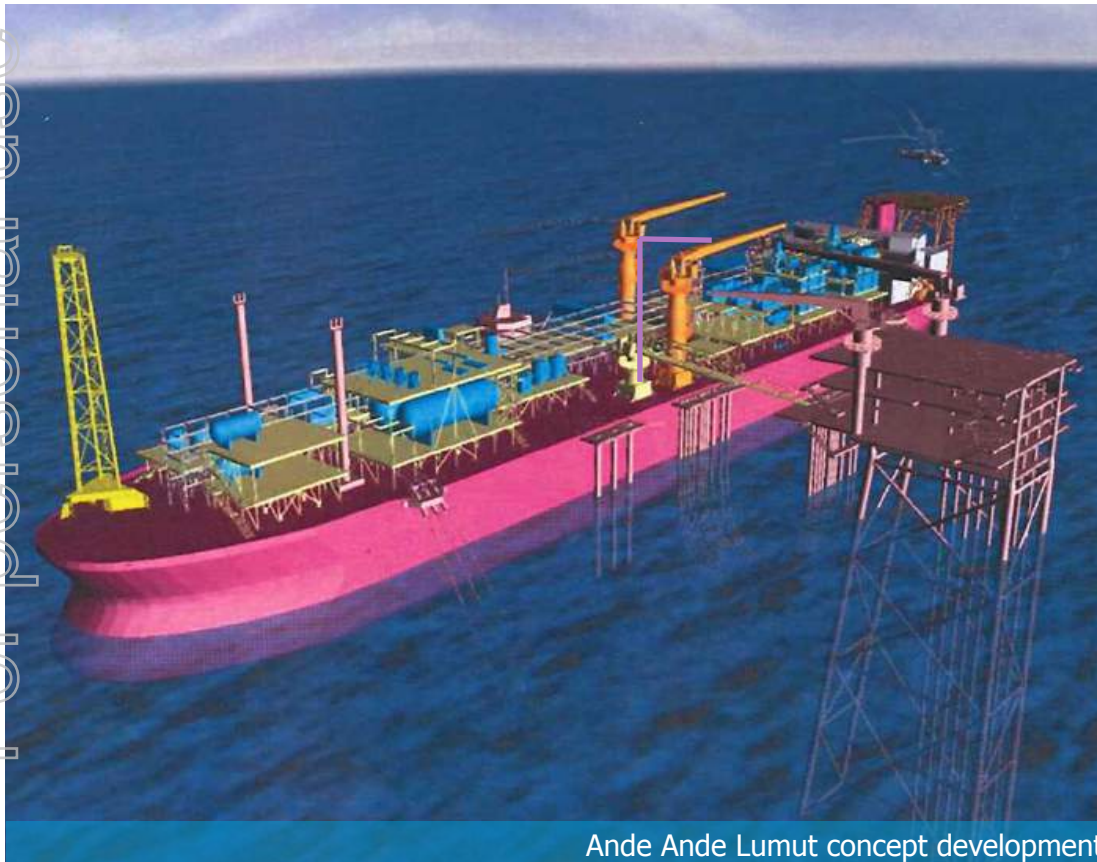
Santos continues to position itself in discovered resources and prospective exploration acreage that could play an important role in LNG expansion



- PNG LNG remains the preferred commercialisation route, but Santos' broad acreage position sets up strategic optionality
- Exploration Drilling
  - Hides F1 (Hides Deep, Santos 24%) spudded October 2014
  - Potential to support PNG LNG expansion
- PNG Forelands gas discoveries:
  - Manta-1 (tested at 42 mmscf/d) in PPL 426
  - NW Koko-1 (tested at 48 mmscf/d) in PPL 261
- PPL 269 & PPL 287
  - Seismic acquisition underway to be followed by drilling in 2016

## Indonesia – footprint expansion

Ande Ande Lumut leverages our Indonesian operating expertise in offshore, shallow water developments



Ande Ande Lumut concept development

**Project participants** Santos (50%, operator) and AWE (50%)

**Project scope**

- › Long-life oil project
- › Installation of a wellhead platform and a permanently moored FPSO
- › Drilling of horizontal development wells

**FID** Likely late 2015 / early 2016

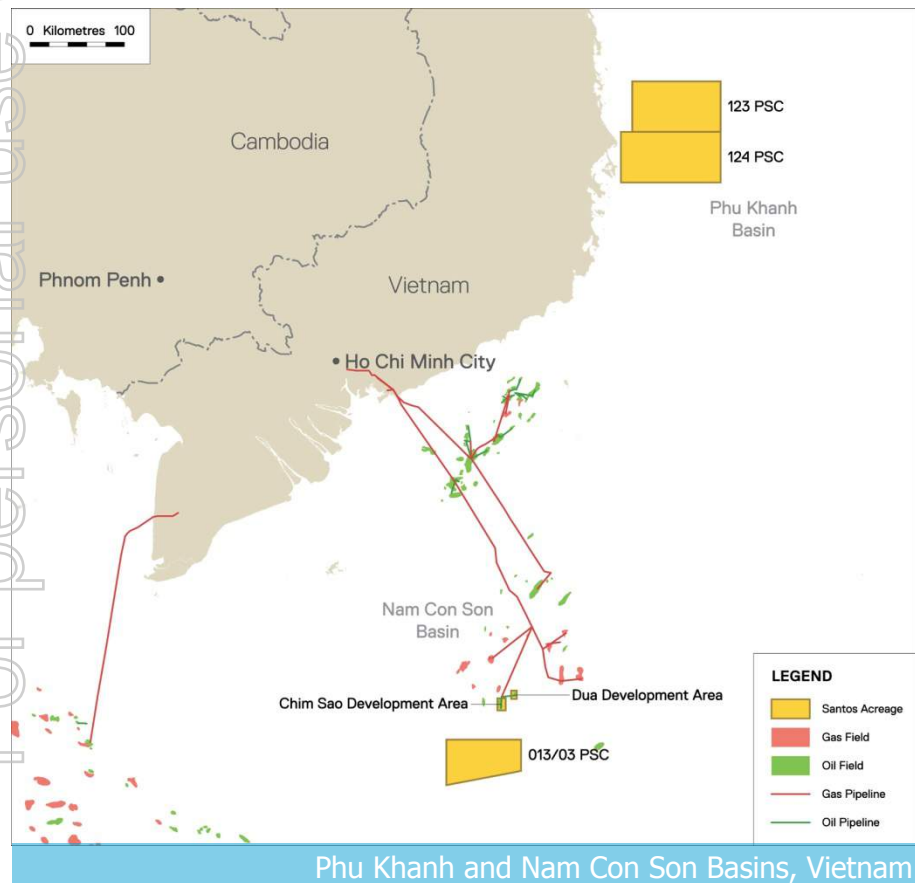
**Project update**

- › Appraisal drilling in 2015 with focus on G sand resource delineation
- › Good progress on Government approvals
- › Platform FEED complete and FPSO FEED 64% complete
- › 60-strong project team in place since Feb 2014
- › Tendering has commenced for the FPSO and Wellhead Platform

## Vietnam – footprint expansion

Chim Sáo and Dua performing strongly

Recently acquired Block 124 PSC bolsters position in the frontier Phu Khanh basin



### > Chim Sáo and Dua

- Strong oil production currently averaging >30 kbb/d
- Dua field successfully tied-back to Chim Sáo with first production in July 2014

### > Block 123

- Santos (50%, operator), SK Innovation (20%) and PVEP (30%, carried during minimum commitment)
- 3D acquisition over Xuan Dai oil prospect completed in May 2014; processing underway
- Drilling of 2 operated wells planned for 2016

### > Block 124

- PSC signed in October 2014
- Eni (60%, operator) and Santos (40%)
- Block contains the White Shark oil discovery demonstrating a working petroleum system
- Seismic acquisition planned in 2015; 1 commitment well

Asia Pacific is core to Santos

Santos' Asia Pacific business unit has successfully delivered key projects and grown through focused additions of high impact exploration acreage



# Western Australia and Northern Territory

Brett Woods  
General Manager, WA & NT

Jack Bates, Lasseter, Browse Basin

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## Western Australia and Northern Territory

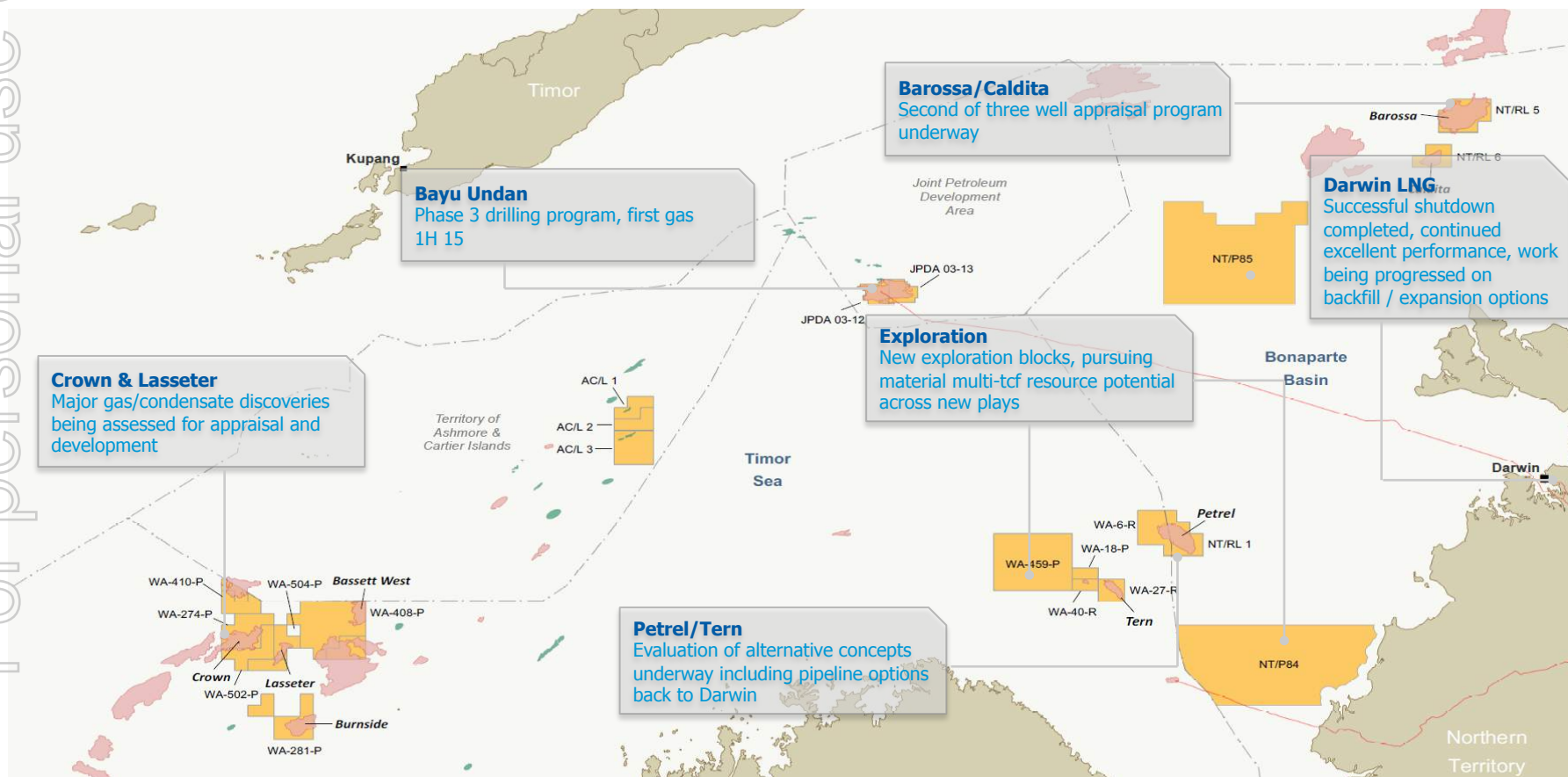


## Three business themes delivering high margins with significant growth options

- › Strong reservoir performance
  - › Work-over campaign delivered under budget
  - › FPSO dry-docking in Q1 2015
- 
- › Continued strong performance and high margins
  - › Discovered resource base well positioned for development through partnerships and collaboration
- 
- › Opportunity around legacy contract roll-offs and delays to third party supply
  - › Established operations with growth potential

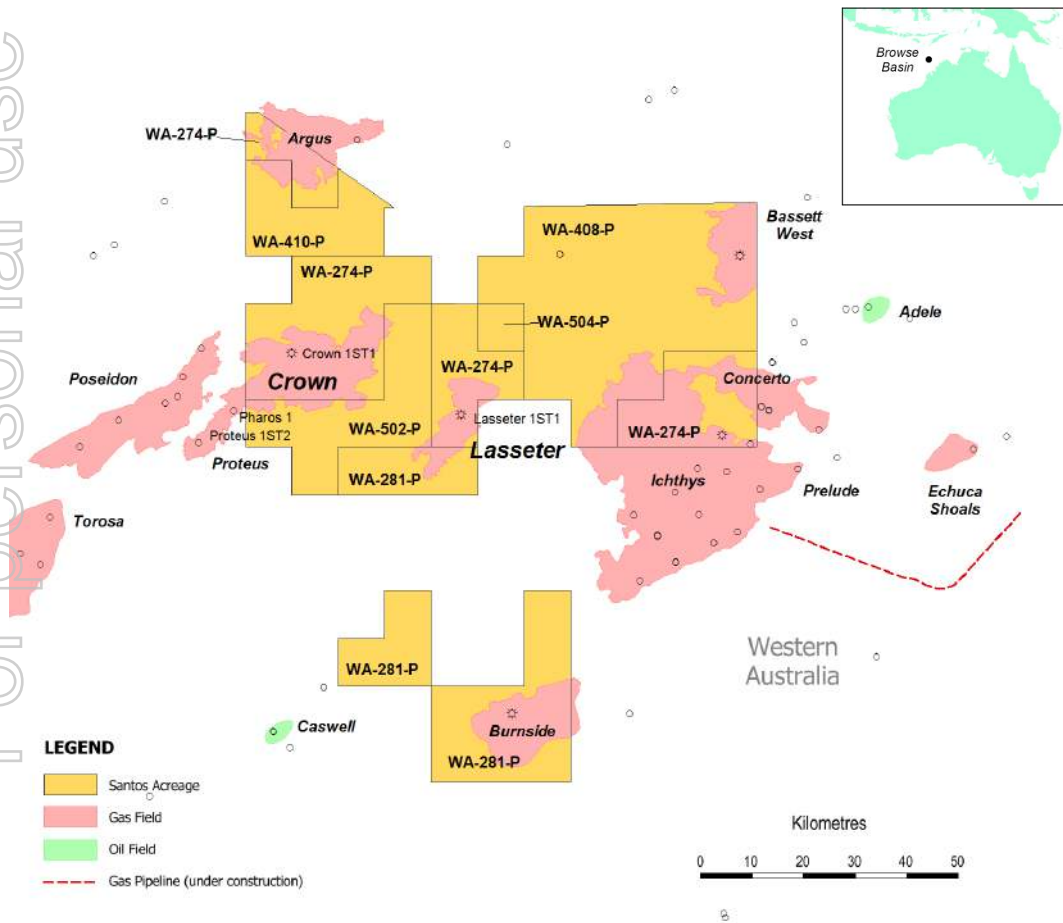
# Browse and Bonaparte Basins

Opportunities being progressed to deliver next phase of growth



## Browse Basin Greater Crown and Lasseter

Major discoveries have provided momentum to drive appraisal planning and evaluation of development concepts

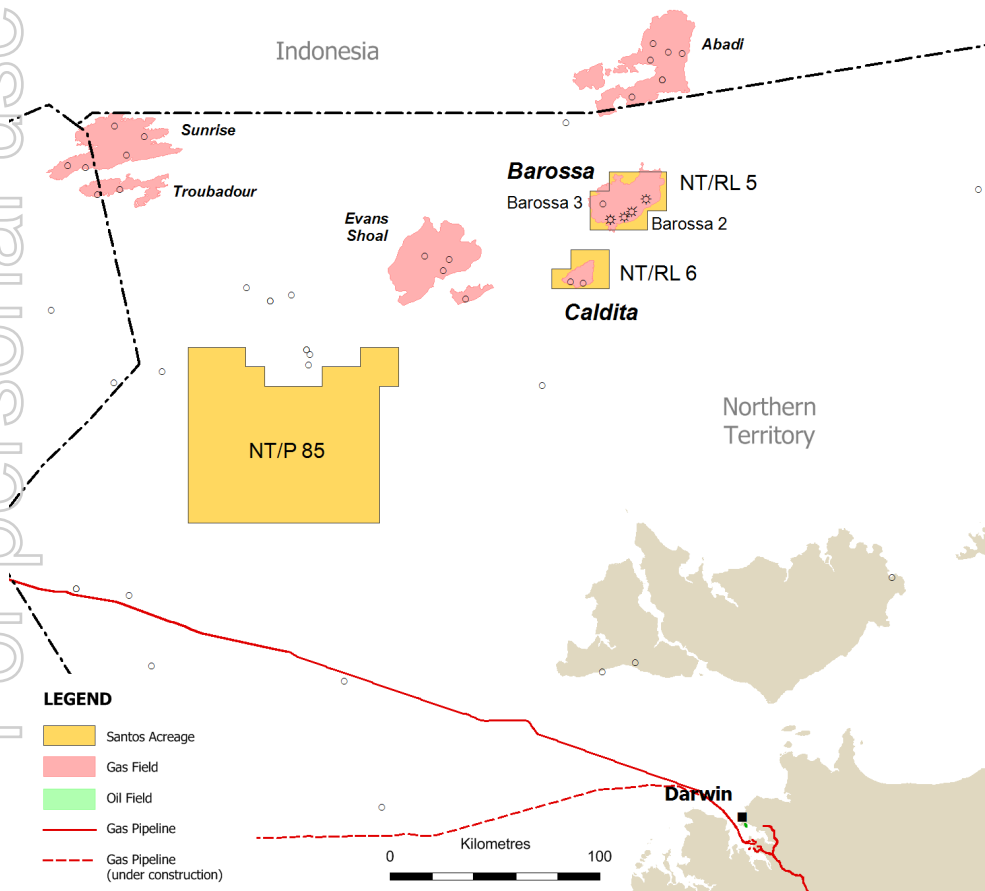


- Multi-tcf resource position underpinned by Crown and Lasseter discoveries
- Significant upside with material multi-tcf prospects de-risked by recent discoveries
- Appraisal planning and concept evaluation underway to position resource for standalone or aggregated developments
  - back to Darwin
  - floating LNG
- Opportunity for synergies with adjacent discoveries that are being progressed for development



## Bonaparte Basin Barossa Caldita

Three well appraisal drilling programme underway,  
supported by concept evaluation and pre-FEED studies



- Drilling second of three well appraisal programme:
  - Barossa-2 successful well, intersecting comparable reservoir quality to Barossa-1ST1 (ca 10km apart) on a common gas gradient
  - Barossa-3 appraising material resource upside to the north currently in progress
- Concept evaluation and pre-FEED engineering studies underway to support development options

## WA domestic gas opportunity, capacity and growth

WA domestic gas assets supports volume growth with higher margins



### > Market opportunities

- Near term capacity and reserves in the event of third party project delays
- Capturing market pricing of \$7-9/GJ for legacy contract roll-off will increase average portfolio price
- Medium term - unmet domestic demand will support development of our discovered resource base and prospectivity

### > Established facilities

- Well positioned hubs (Varanus Island and Devil Creek) support future low cost development

# 2014 Investor Seminar

26 November 2014

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## Appendix

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Santos prepares an Annual Reserves Statement for each calendar year which is published at or around the same time as its full year audited accounts. Accordingly, the 2014 Annual Reserves Statement is still in the process of preparation and finalisation and will not be published until 2015. However, as Santos has referred to a likely change to its published YE2013 2P reserves and 2C contingent resources in the Gunnedah Basin (see slide 66), it has included the following information:

In 2013 and 2014, Santos conducted an exploration and appraisal program within the Narrabri Gas Project which provided additional geological and reservoir data. The incorporation of this new data led to a detailed geological and engineering re-evaluation over the past 6 months, including the remapping of CO<sub>2</sub> content, gas content, net pay, and the revision of expected recoverable volumes.

This revaluation has better informed the assumptions used to calculate reserves and resources and has reduced the amount of methane in place volumes. This coupled with revised recovery factors has led to a projected reduction in reserves and contingent resources. Further, the contingent resource estimates are being adjusted to incorporate guidance in the 2011 'Guidelines for the Application of the Petroleum Resource Management System' relating to the discovery test criteria and the extent of any such discovery.

Project development is planned to be from multilateral wells with vertical intersects. Each well is equipped with a pump to extract water to allow gas production. Infield processing has been accounted to remove CO<sub>2</sub> and dehydration yields sales gas for field export.

The forecast changes referred to in slide 66 are as at 26 November 2014 with final estimates to be reported at the conclusion of the Santos reserve process for year-end 2014. They are based on, and fairly represent, information and supporting documentation prepared by, or under the supervision of, Mr Edward Klettke who is a full time employee of Santos and a member of the Society of Petroleum Engineers and the Association of Professional Engineers and Geoscientists of Alberta.

Reference points for Santos' petroleum reserves and contingent resources and production are defined points within Santos' operations where normal exploration and production business ceases, and quantities of produced product are measured under defined conditions prior to custody transfer. Fuel, flare and vent consumed to the reference points are excluded.

Santos petroleum reserves and contingent resources are typically prepared by deterministic methods with support from probabilistic methods.

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