



Seven Oceans pipelay vessel at Crib Point, September 2018

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**P50** as it relates to costs is best estimate; **P90** as it relates to costs is high estimate

# Recent events

## October 2018

### FY18 1<sup>st</sup> Quarter results

- Sales revenue up 7% on June quarter
- Gas production up 12% on June quarter
- Net cash of \$50.6 million at 30 September
- 182 day offshore campaign concluded LTI free

### Sole Gas Project

- 74% complete at 30 September, within budget
- Drilling workstream completed, well performance in excess of design, gas composition within spec
- Cost to date within budget, with fixed price lump sum contracts till conclusion

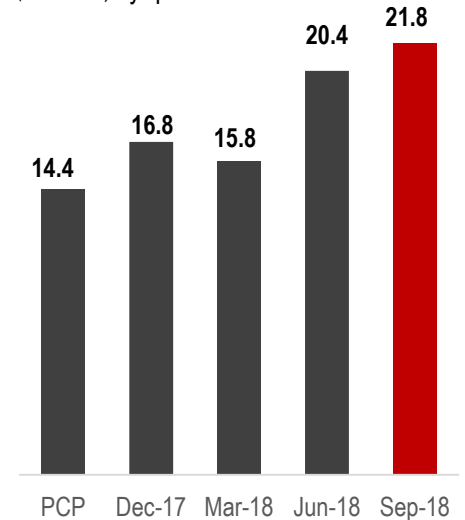
### Gas contracts

- Competitive tender for CY19 Casino Henry gas
- New contract with Origin Energy for CY19 for Casino Henry
- Additional contract with O-I Australia for CY19
- Casino Henry fully contracted for CY19

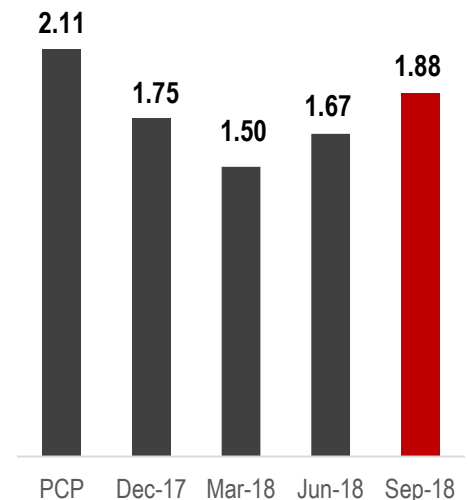
### Drilling & development

- Henry-2 (Otway) proceeding to pre-FID assurance
- VIC/P44 (Otway) evaluating exploration targets for 19/20 drilling
- Manta (Gippsland) planning for inclusion in campaign with Henry-2 subject to rig availability
- Rig contractor engagement to firm rig and timetable in progress

**Sales revenue**  
\$ million, by quarter



**Gas production**  
PJ by quarter



# Cooper Energy key features

## Gas for south-east Australia:

- Existing supplier & customer base
- 309 PJ 2P gas reserves at 30 June 2018, all local to S E Australia
- 119 PJ uncontracted 2P reserves
- Portfolio of gas contracts being built across utility and industrial buyers

## Transformational growth in 12 months:

- Gas production to increase from 6 PJ to 30 PJ over FY19 to FY20
- Sole Gas Project due to commence supply July 2019

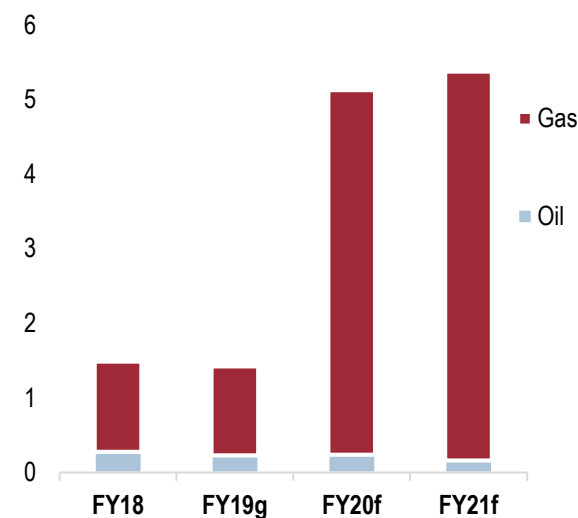
## Portfolio quality enabled by prescient strategy

- Strategy initiated in 2012 on recognition of gas business opportunity
- Disciplined screening and early mover advantage enabled accumulation of resources, operations and acreage all well located and cost competitive
- Exploration opportunities close to infrastructure and markets to support further growth

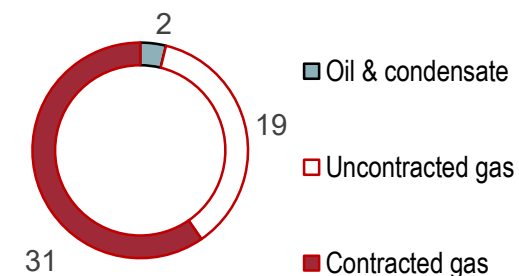
## Finance, register & proven management

- Senior bank facilities conservatively fund Sole Gas Project: ANZ, Natixis, NAB, ING, ABN AMRO
- Stable register, long term support with institutions holding 73%
- Long serving management, proven international oil and gas experience, incentivised for shareholder return

Indicative<sup>1</sup> production outlook MMboe



Proved & Probable Reserves 52 MMboe



# Cooper Energy portfolio: focussed on south-east Australia

309 PJ 2P and 125 PJ 2C gas and exploration acreage located close to market and infrastructure

## Cooper Basin: oil production

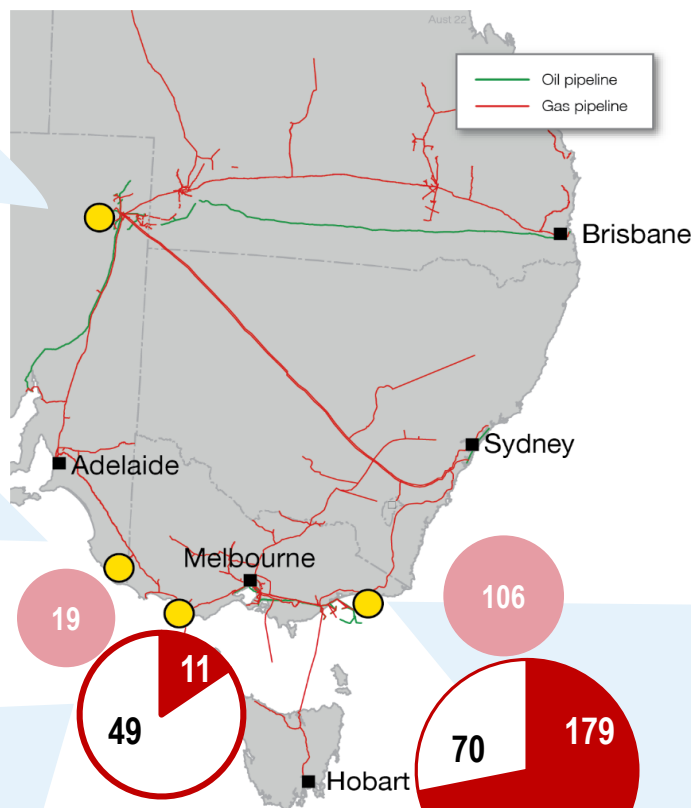
- historical production source
- production of ~230 kbbl oil pa
- low cost operations

## Otway Basin onshore: gas exploration

- gas exploration acreage
- extends over Sawpit sandstone fairway and surrounds Haselgrove discovery

## Otway Basin offshore: gas production and exploration

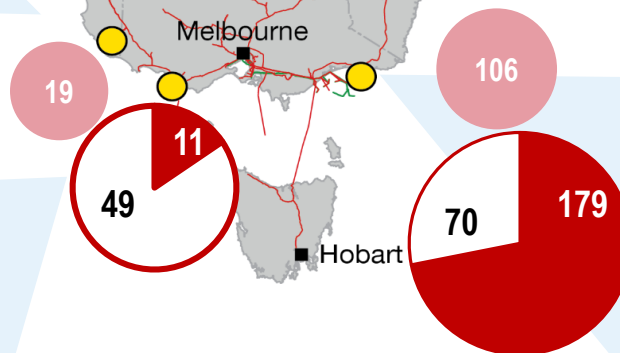
- CY18 & 19 production fully contracted
- 49 PJ uncontracted to supply from 2019-on
- Minerva Gas Plant
- Prime gas exploration acreage with favourable economics



EnergyAustralia



plus other customers to come



## Gippsland Basin: gas development

- Sole Gas Project 249 PJ 2P gas being developed for mid-2019 start up
- Marketing of 70 PJ 2P uncontracted commencing FY19
- Manta gas and liquid resource ready for drilling and development decision FY20

● 2P Reserves contracted    ○ 2P Reserves uncontracted    ● 2C Contingent Resources uncontracted



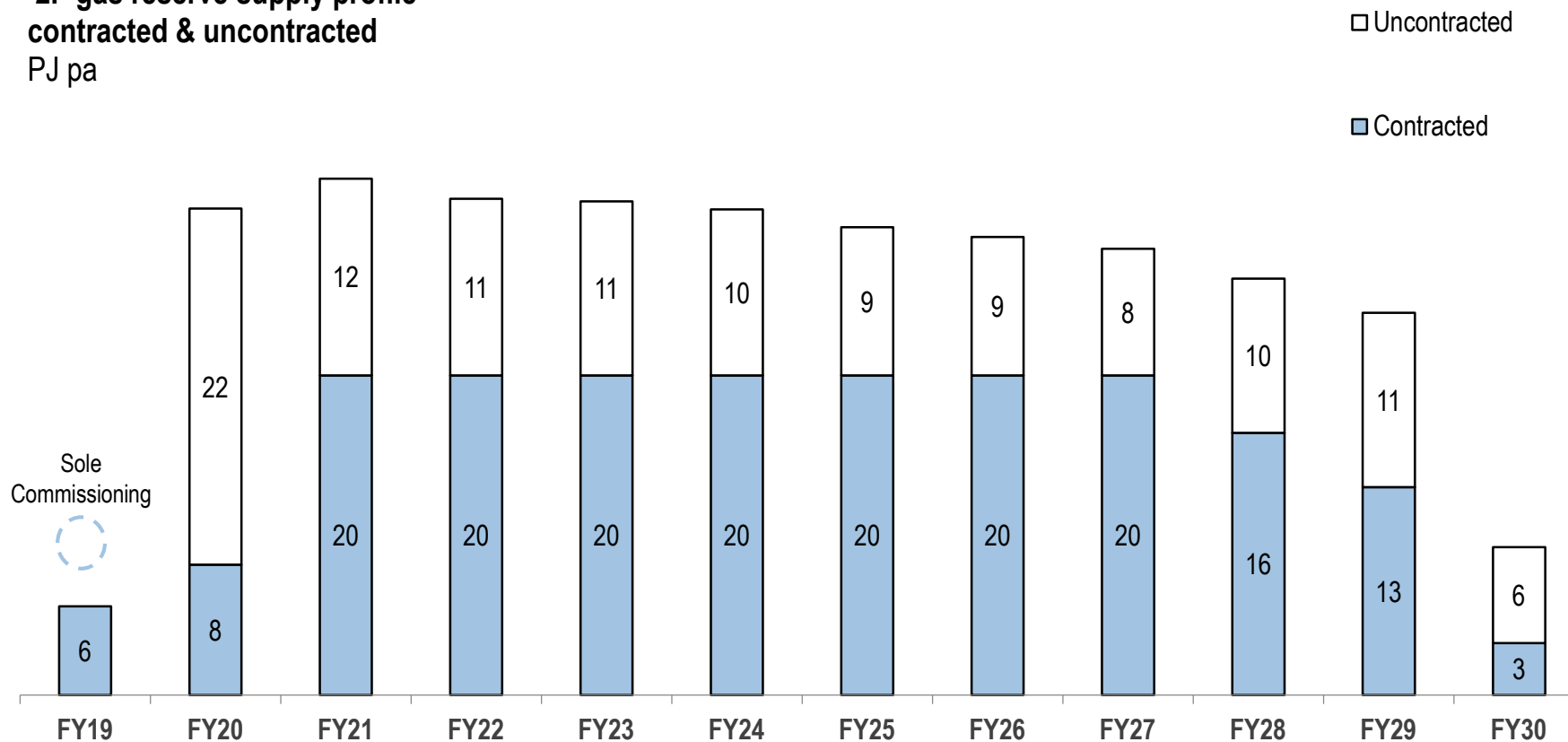
<sup>1</sup> Reserves and Contingent Resources at 30 June 2018 were announced to the ASX on 13 August 2018. The resources information displayed should be read in conjunction with the information provided on the calculation of Reserves and Contingent Resources provided in the appendices to this document. The announcement included recognition of Proved and Probable Reserves for the Sole gas field, the Contingent Resources for which were previously announced 27 February 2017. The Contingent Resources estimate for Manta was announced to the ASX on 16 July 2015.

# Gas marketing

CY19 gas contracting completed at current market prices after competitive tender.

119 PJ of uncontracted 2P reserves still available to market

2P gas reserve supply profile  
contracted & uncontracted  
PJ pa



Note

1. Assumes:

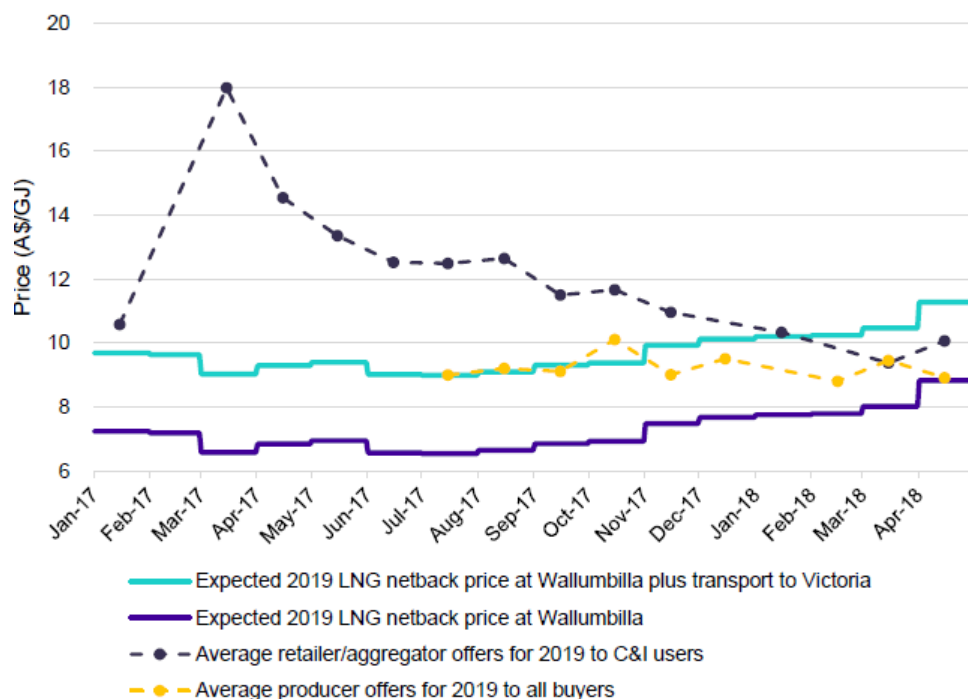
- Sole sales from July 2019
- Henry development well FY20 H1, subject to rig availability & JV approval
- No exploration success

2. All numbers rounded and Cooper Energy equity share

# Southern states gas markets: ACCC view

## Prices aligning with LNG netback

Average monthly commodity prices offered for 2019 supply against contemporaneous expectations of 2019 LNG netback prices (Southern States)



Source: ACCC Gas Inquiry 2017 – 2020 Interim Report July 2018 (page 16)  
Based on contract information provided to ACCC

## 2019 expected prices

Expected 2019 wholesale gas commodity prices in the East Coast Gas Market (under GSAs executed between 1 January 2017 and 24 April 2018)

Expected 2019 wholesale gas commodity prices*	Avg price \$/GJ	Price range \$/GJ
<b>Producers (Vic &amp; SA)</b>	<b>9.40</b>	<b>8.75 – 11.03</b>
Producers (Qld)	8.35	7.63 – 8.52
<b>Retailer/agggregator (Vic, SA &amp; NSW)</b>	<b>10.41</b>	<b>9.00 - 12.57</b>

\* excludes transport

Source: ACCC Gas Inquiry 2017 – 2020 Interim Report July 2018 p44  
Based on contract information provided to ACCC

- FY19 supply balance tight but improved due to Sole start up, Gippsland Basin JV and lower gas powered generation
- ACCC & Vic gas futures indicating producer prices \$8.75 - \$11.03/GJ in 2019
- ACCC observes some commercial and industrial reluctance to commit to term contracts
- Cooper Energy observes marketing by LNG proponents appears to have encouraged willingness to consider longer term contracts

# Offshore Otway Basin

## Gas production, new gas contracts commenced and further contracts under negotiation

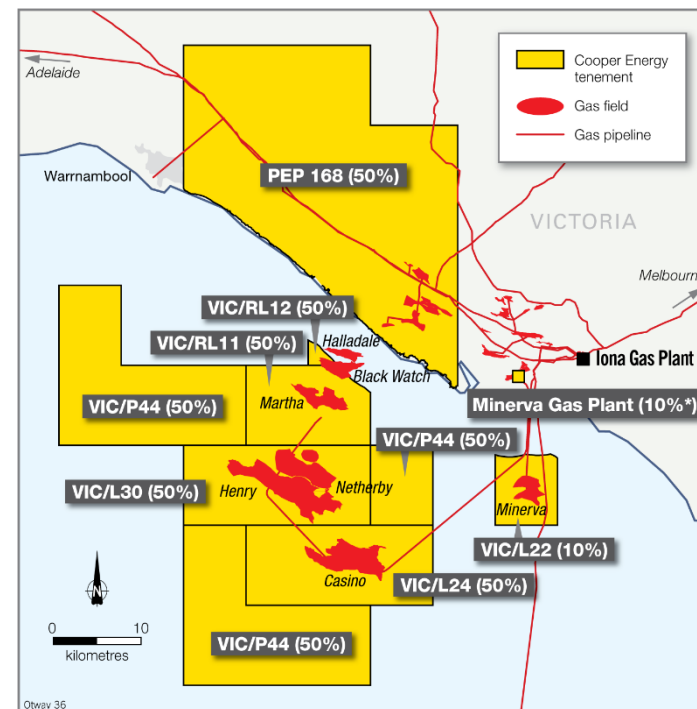
- Successful workover lifted Casino production from April
- Rolling new gas contracts at market prices:
  - current contract with Origin expires Dec 18;
  - new contracts with Origin & O-I commence Jan 19
- Agreement for Casino Henry JV to acquire Minerva Gas Plant
- Geotechnical studies identified gas targets for JV consideration
- High success rate/low risk gas exploration acreage
- Joint venture working towards selecting targets and arrangements for gas exploration program in CY 19/20 subject to rig availability

Production	FY18	FY17
Sales gas PJ	7.0	4.0
Condensate kbbl	6.2	3.6
2P Reserves	FY18	FY17
Sales gas PJ	61	57
Condensate kbbl	0.03	0.05
<b>Total MMboe</b>	<b>10.0</b>	<b>9.9</b>

### Key Assets

- Casino Henry gas project (50% interest and Operator)
- Minerva gas field and plant (10% interest)
- VIC/P44 exploration permit (50% interest and Operator)

<sup>1</sup> Reserves and Contingent Resources at 30 June 2018 were announced to the ASX on 13 August 2018. The resources information displayed should be read in conjunction with the information provided on the calculation of Reserves and Contingent Resources provided in the appendices to this document.

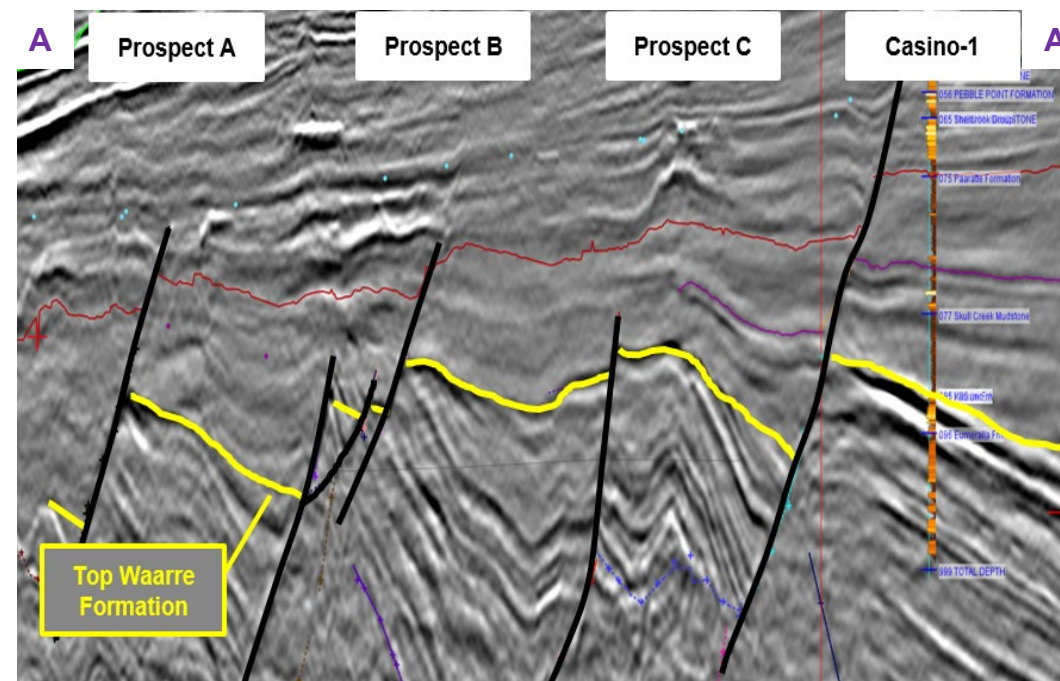
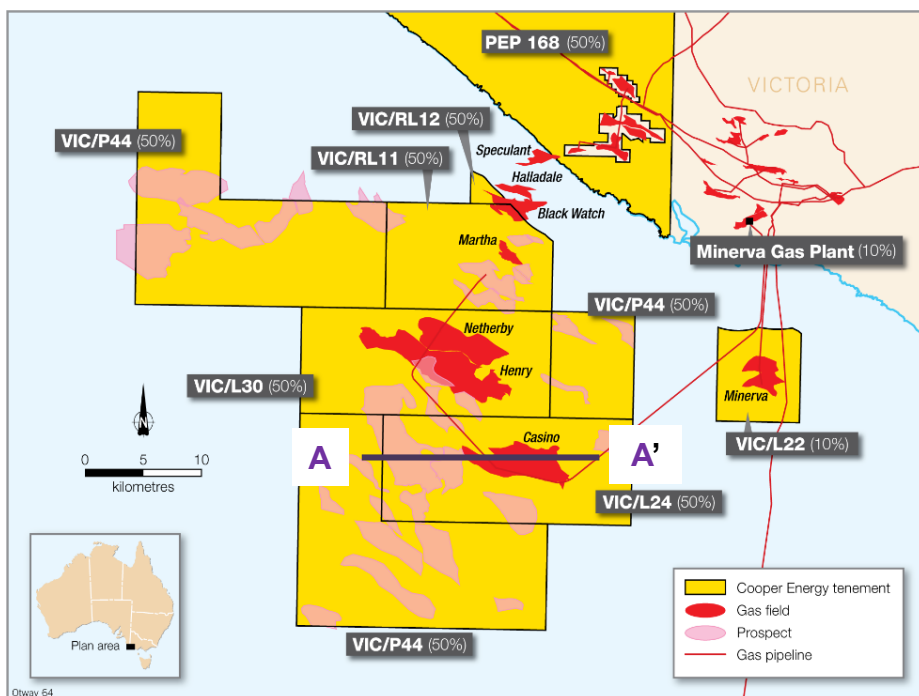


\* Cooper Energy to increase interest in Minerva Gas Plant to 50% on completion of conditional acquisition contract announced to ASX 1 May 2018



# Exploration: Otway Basin offshore

Proven gas province with infrastructure in place and close to markets



- Several prospects on trend with producing fields high graded as potential candidates for next drilling campaign
- Easily defined 3-way structural traps
- Completed 3D seismic inversion study validates Direct Hydrocarbon Indicators (“DHI”) suggesting reduced risk
- Prospects are adjacent to existing infrastructure and tie-in points which facilitates accelerated time to first gas

# Sole Gas Project

## ORBOST GAS PROCESSING FACILITY

Works By - APA Group

Plant Upgrade & Operations

- ✓ Engineering progressing
- ✓ Procurement package being delivered
- ✓ Site works construction progressing



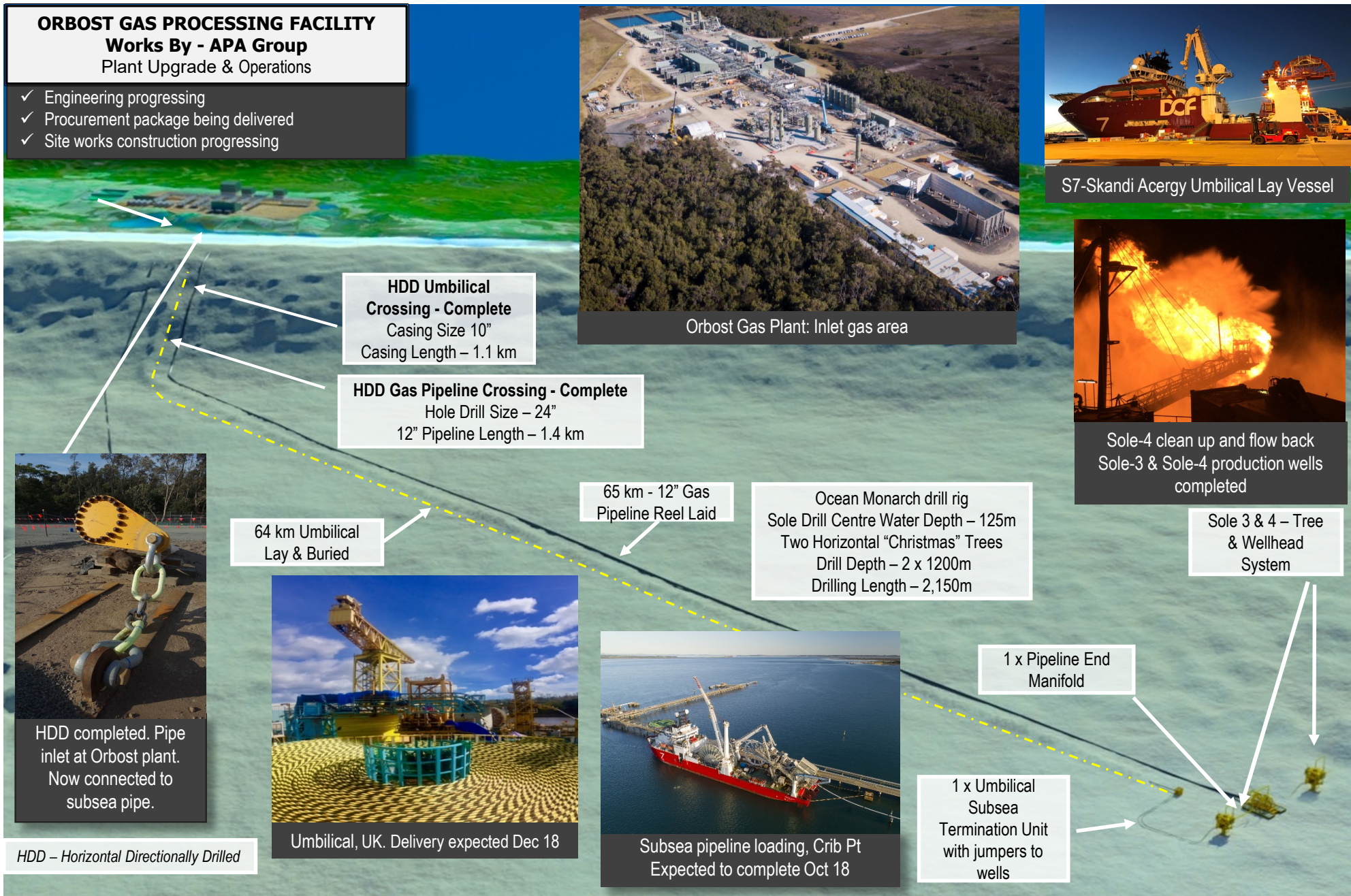
Orbest Gas Plant: Inlet gas area



S7-Skandi Acergy Umbilical Lay Vessel



Sole-4 clean up and flow back  
Sole-3 & Sole-4 production wells  
completed



**HDD Umbilical Crossing - Complete**  
Casing Size 10"  
Casing Length - 1.1 km

**HDD Gas Pipeline Crossing - Complete**  
Hole Drill Size - 24"  
12" Pipeline Length - 1.4 km

64 km Umbilical Lay & Buried

65 km - 12" Gas Pipeline Reel Laid

Ocean Monarch drill rig  
Sole Drill Centre Water Depth - 125m  
Two Horizontal "Christmas" Trees  
Drill Depth - 2 x 1200m  
Drilling Length - 2,150m

Sole 3 & 4 - Tree & Wellhead System

1 x Pipeline End Manifold

1 x Umbilical Subsea Termination Unit with jumpers to wells



HDD completed. Pipe inlet at Orbest plant. Now connected to subsea pipe.



Umbilical, UK. Delivery expected Dec 18



Subsea pipeline loading, Crib Pt  
Expected to complete Oct 18

HDD - Horizontal Directionally Drilled

# Sole Gas Project

74% complete end-September, within schedule and budget

## Drilling & well completion

- Workstream completed, Sole-3 & Sole-4 awaiting connection
- Sole-4 flowback completed successfully on 5 August
- Lab analysis of gas confirmed H<sub>2</sub>S 1,000 ppm, well within plant design, in line with Sole-2
- Sole-2 abandoned

## Pipelay

- Welding of 65 km of pipe completed
- Pipelay commenced October; expect to complete within month

## Umbilical

- Delivery expected December for February installation

## Project progress

- 74% complete end-September
- Capex incurred to date \$250 million
- Offshore project continues to track within P50 budget of \$355 million
- Plant upgrade works continuing with the majority of process equipment now installed.
- First gas production expected to commence in July 2019



Sole-4 flowback



Orbest Gas Plant site works (APA Group)

# Plans for FY19 – FY20

## Shift to completing Sole, realising potential and the additional value from the portfolio

### 1. Gas production

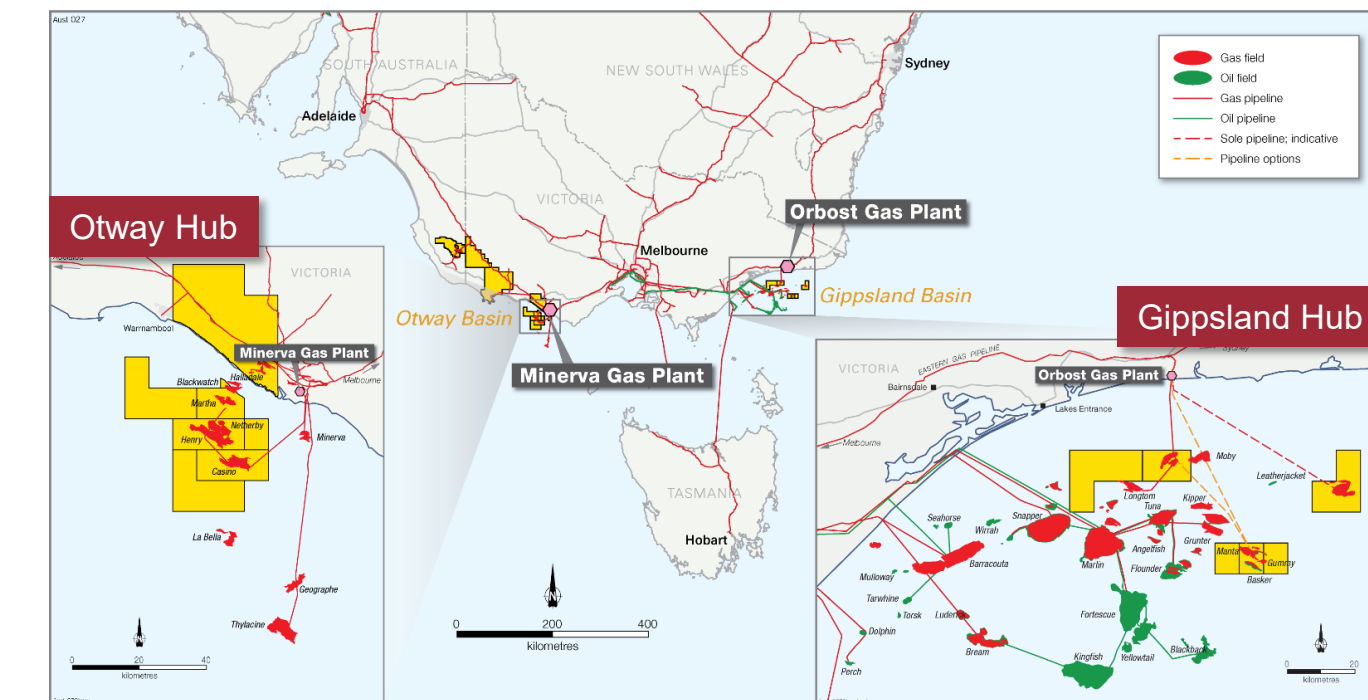
- Increasing from 6 PJ to ~ 30 PJ pa in FY20
- Sole start-up delivers the targeted multi-gas hubs for optimising supply to south-east Australia

### 2. Development projects

- Sole:** to complete in FY19
- Henry development:** to increase production from FY20
- Minerva Gas Plant:** acquisition and connection to deliver improved prices, processing costs, production and recovery rates. Expect from FY20.

### 3. Gas contracting

- 119 PJ uncontracted 2P gas
- Portfolio strategy, mix terms, buyer types
- Dynamic approach which optimises value
- Leverage position on cost curve



### 4. Exploration

Target opportunities close to market and infrastructure:

- Offshore Otway:** low risk, high success rates
- Manta Deep:** high upside
- Onshore Otway:** prospective for gas
- Gippsland:** adjacent to existing assets

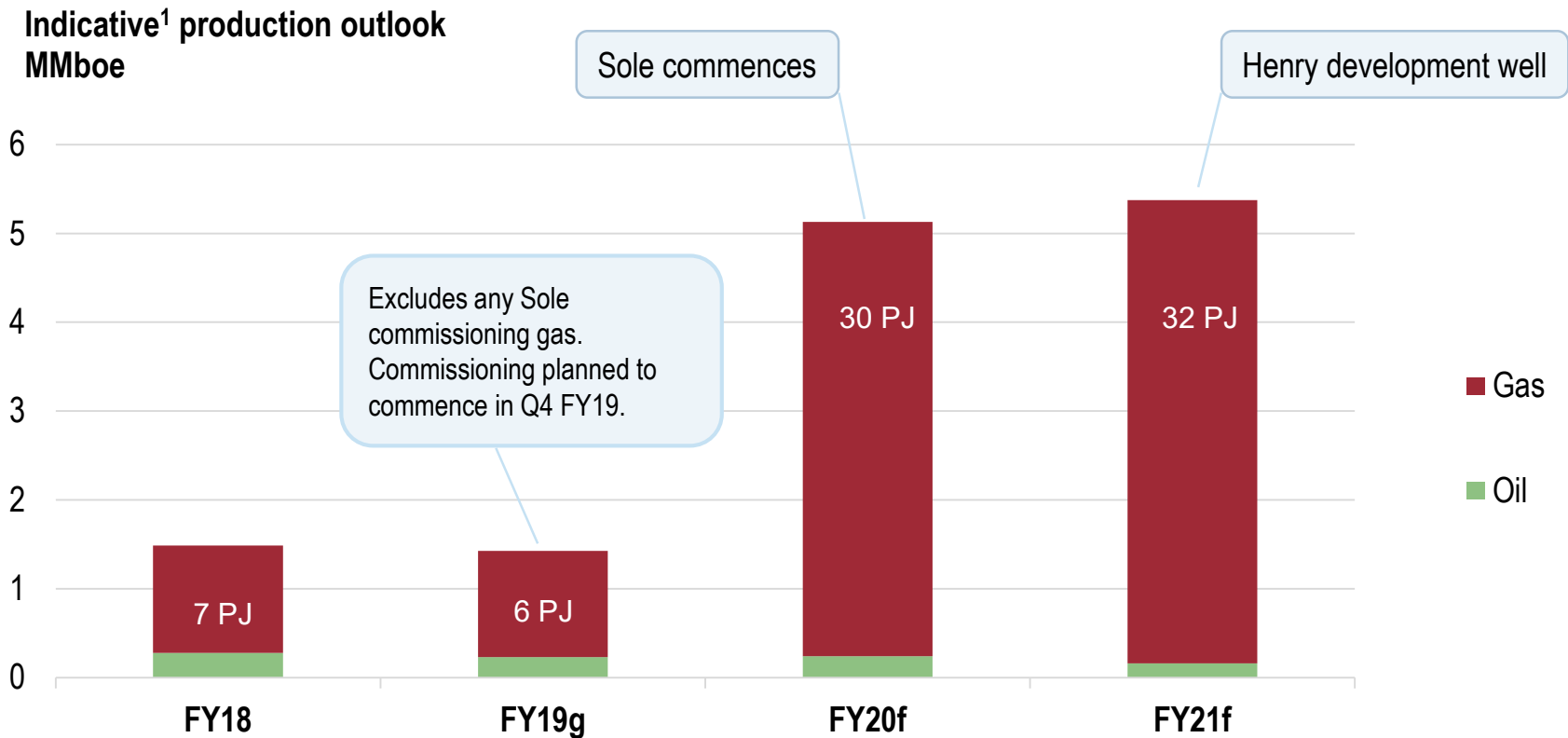
### 5. Pre - development

#### Manta

- 106 PJ gas plus 3.2 MMbbl liquids (2C contingent)
- Synergies from adjacency to Sole
- Appraisal well required for development go ahead
- Larger deep exploration target
- Aiming for drill FY20 and FID within 12 months

# Production outlook

Gas production to increase more than 5 times from existing resources and projects



<sup>1</sup>Indicative and assumes:

- Sole proceeds to schedule for first gas sales July 2019
- Henry-2 development well for Casino Henry in FY20, subject to JV approval and rig availability
- No exploration success

g = guidance  
f = forecast

# Update summary

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- 1. Revenue and cashflow growth is being generated by our gas contract book and high margin oil business**
- 2. Uncontracted gas, in the right locations, with low cost structure, among most competitive gas suppliers to south-east Australia**
  - Cooper Energy is among the lowest cost suppliers to south-east Australia: portfolio purpose-built to optimise cost competitiveness, returns and near term development
  - Unmatched exposure to south-east Australian gas developments
- 3. Sole is on-track, past critical milestones and under budget**
  - Wells completed, proven with performance and composition better than plant design
  - Offshore project three-quarters complete, remaining work under fixed price/lump sum
- 4. 4 times uplift in gas production and transformative cashflows is due within 9 months**
  - Sole to add 24 PJ pa to production, with upside in plant upgrades
- 5. Portfolio offers another wave of growth and value creation after Sole which is being pursued**
  - Contracting of Sole uncontracted gas in H2 FY19
  - Development drilling to lift production at Henry ~ H1 FY 20
  - Manta gas and liquids resource
  - Otway gas exploration: low risk; high success rate acreage with infrastructure in place for low capex and development threshold



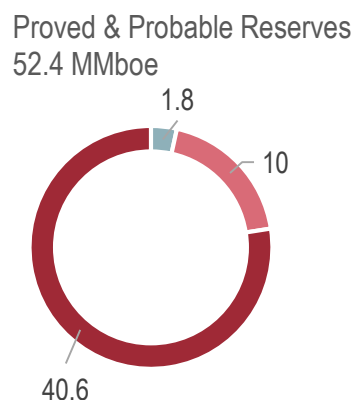
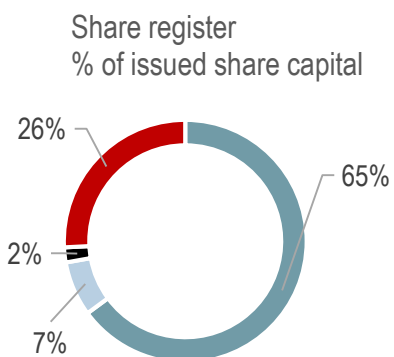
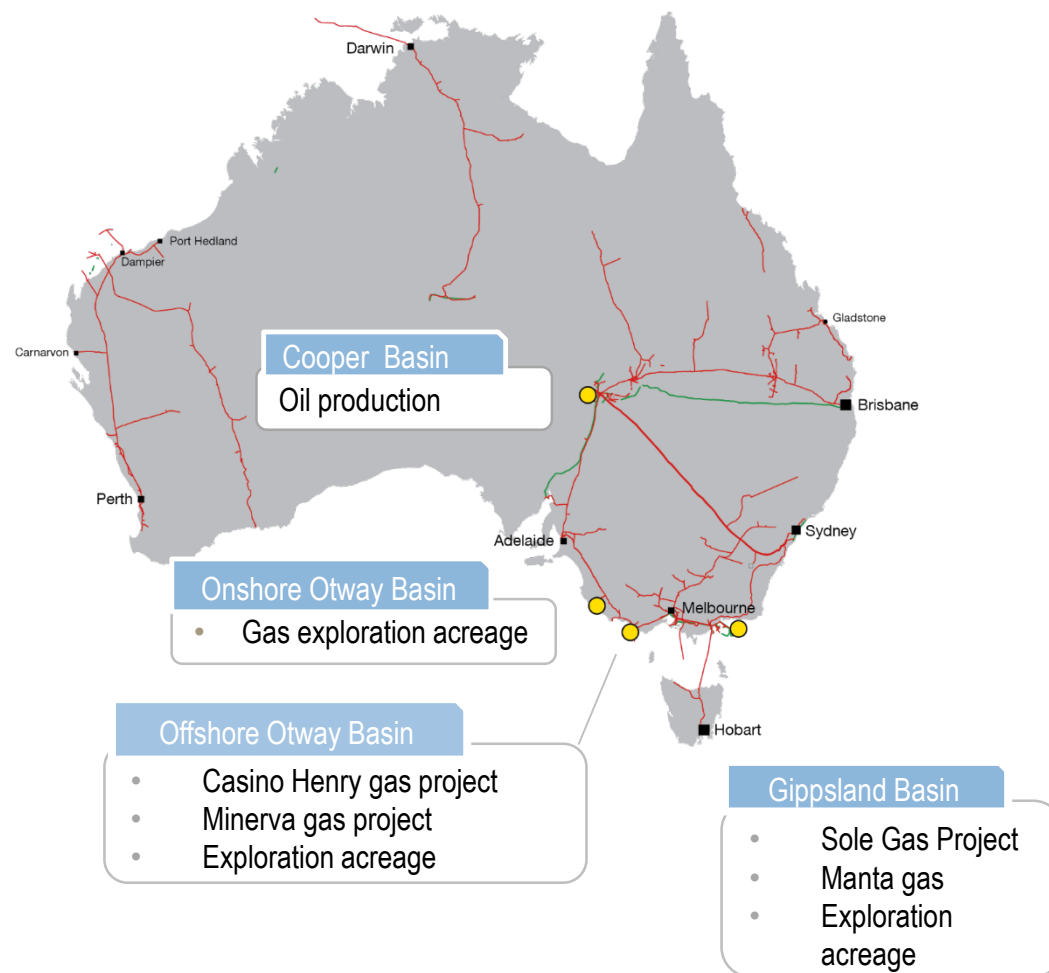
Appendices

# Cooper Energy snapshot

## Portfolio built around winning position on cost curve

### Key statistics\*

Proved & Probable Reserves	52.4 MMboe
Contingent Resources (2C)	34.9 MMboe
Production FY19 guidance	1.4 MMboe
Market capitalisation	\$736 million
Net cash/(debt)	\$50.6 million
Issued share capital (million)	1,601.1



■ Domestic institutional    ■ Foreign institutional  
 ■ Directors & employees    ■ Private

■ Cooper Basin oil  
 ■ Otway Basin gas and gas liquids  
 ■ Gippsland Basin gas

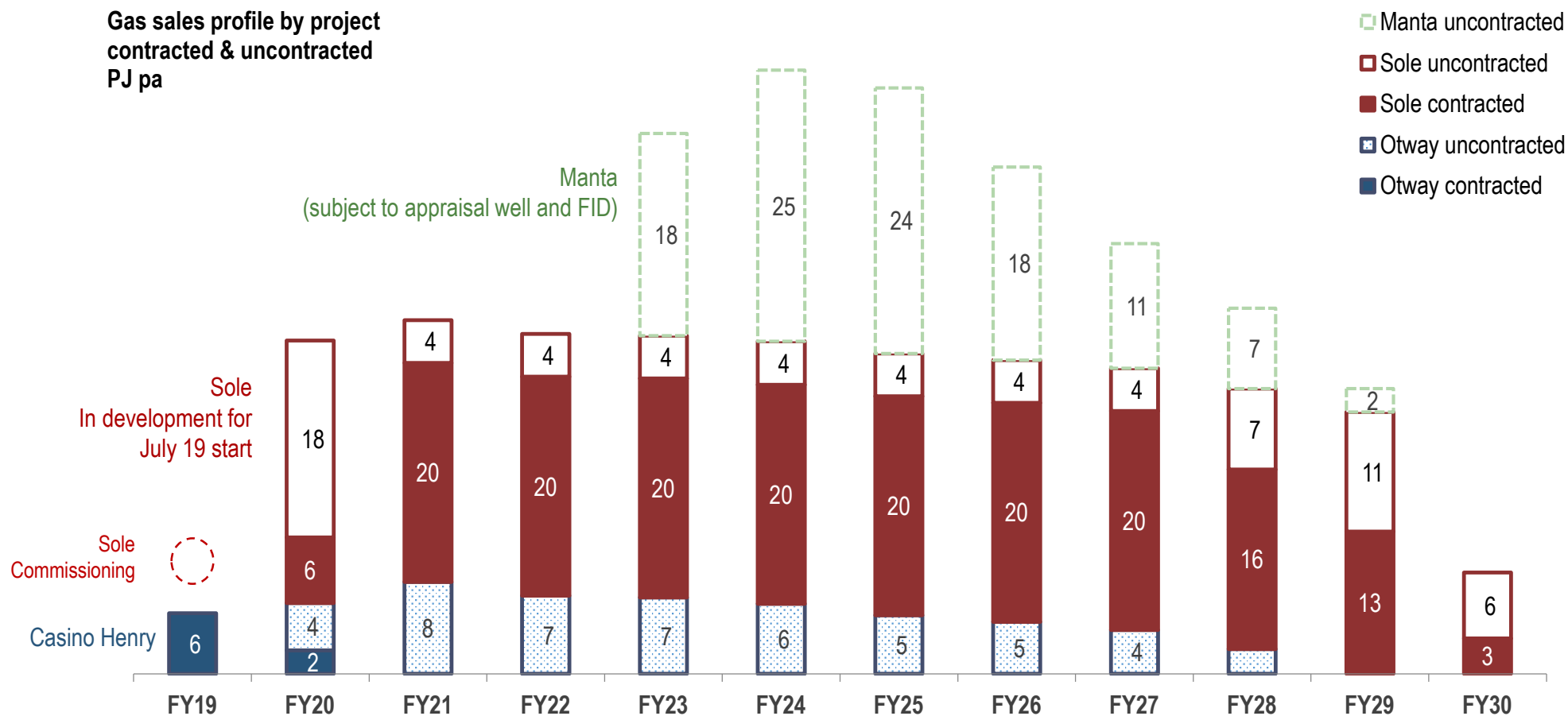


\* As at as at 30 June 2018 except for Net cash/debt (30 Sept 18) market capitalisation and issued share capital (16 October 2018)



# Profile of contracted and uncontracted gas by project

Existing reserves and resources offer growth over 6 years before exploration upside



Assumes:

- March quarter 2019 first Sole gas to plant. Sole gas sales from July 2019
- Manta subject to Manta-3 appraisal well; Manta profile illustrates all Manta gas (106 PJ 2C) as uncontracted (including 4 PJ pa option held by AGL)
- Henry development well required for Casino Henry, expect to drill Dec qtr 2019
- No exploration success

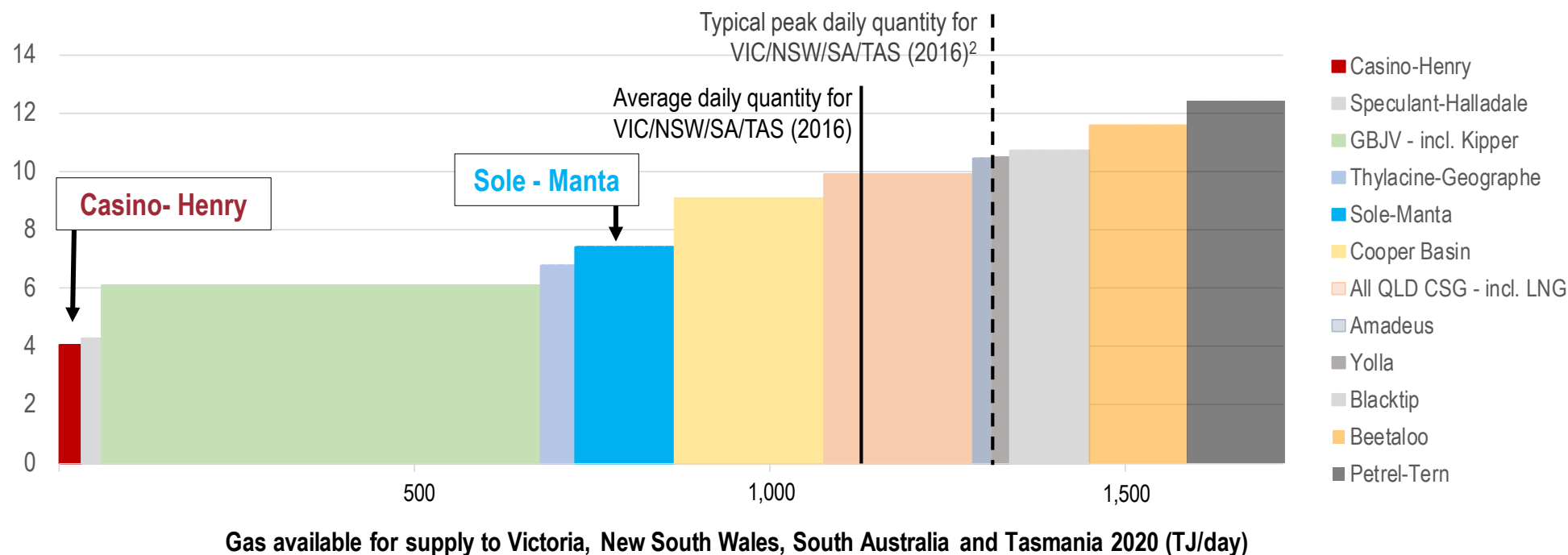
Note: all numbers rounded

# South-east Australia<sup>1</sup> gas supply costs in 2020\*

## Cooper Energy projects are cost competitive for south-east Australia

### Delivered Melbourne city gate cost for gas from eastern Australia available for delivery to domestic market in 2020\*

AUD / GJ



\* Note: all estimates are as calculated by EnergyQuest and based on known capital expenditure to date, which may exceed cost to the current project owner(s).

Source: EnergyQuest

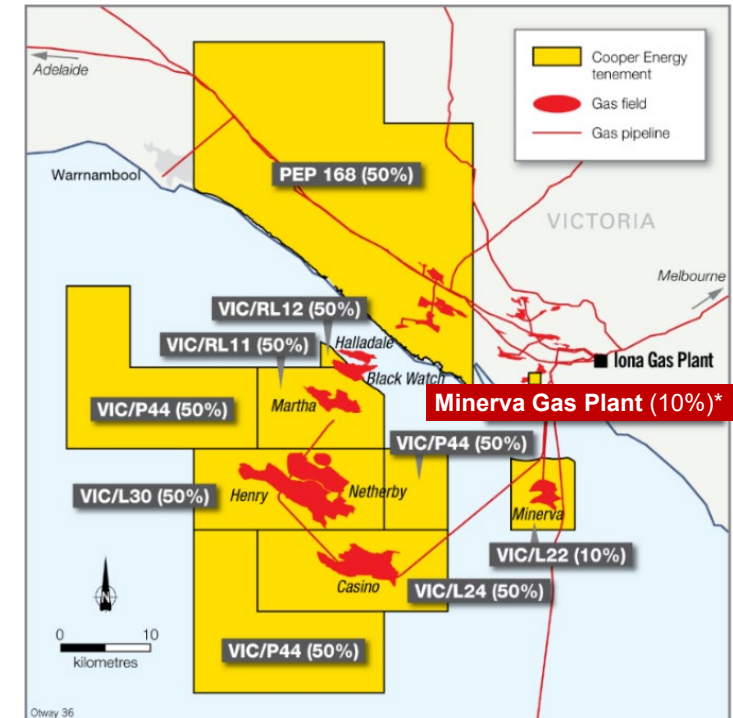
- Delivered Melbourne city gate gas cost in 2017 AUD based on economic upstream cost (including acceptable return) and pipeline charge
- Average daily volume determined by upstream reservoir & facilities capacity and taking account of pipeline capacities, from known gas reserves and resources with access to infrastructure and anticipated to be available in 2020/21
- Excludes gas that may be available from storage

<sup>1</sup> South-east Australia comprises New South Wales, Victoria, South Australia and Tasmania

<sup>2</sup> Cooper Energy estimate. Represents 75% percentile of 2016 daily gas flows

# Minerva Gas Plant

Strategically located offering gains in gas price, processing, recovery rates & production



\* Equity to increase to 50% on completion of acquisition by Casino Henry Joint Venture as announced 1 May 2018

## Minerva Gas Plant acquisition

- Casino Henry Joint Venture agreed acquisition of Minerva Gas Plant from BHP
- 150 TJ/day capacity, plus liquids handling capability
- Transaction subject to cessation of processing gas from Minerva Gas Field, regulatory approvals and assignments
- Minerva Cutback Project: engineering design advanced for connection of Casino Henry to Minerva Gas Plant
  - 250m pipeline connection
  - well control
- Offers reduced processing costs; productivity and developed reserves increase on lower inlet pressure and processing for future developments

# FY19 production and capex guidance

## Production

by product	Gas PJ	Crude oil & condensate bbl	Total MMboe	Notes
<b>Total</b>	~ 6	~238,000	<b>1.4</b>	<ul style="list-style-type: none"> <li>Does not include gas production from Sole which is due to commence supplying gas to plant for commissioning in Q4 FY19</li> </ul>

## Indicative incurred\* capital expenditure

by region \$ million	Exploration	Development	Total	Notes
<b>Otway Basin</b>	7	22	<b>29</b>	<ul style="list-style-type: none"> <li>Casino Henry subsea umbilical repair and expansion readiness</li> <li>Henry-2 sidetrack preparation</li> <li>Scheduled 5 year offshore pipeline and wellhead survey</li> <li>Onshore Otway exploration: Dombey-1</li> </ul>
<b>Gippsland Basin</b>	3	144	<b>147</b>	<ul style="list-style-type: none"> <li>Sole development project</li> </ul>
<b>Cooper Basin</b>	3	2	<b>5</b>	<ul style="list-style-type: none"> <li>Production optimisation projects including workovers</li> <li>3D seismic PEL 93</li> </ul>
<b>Other non-classified</b>			<b>2</b>	<ul style="list-style-type: none"> <li>Hardware, software and other</li> </ul>
<b>Total</b>	13	168	<b>183</b>	

**G & A** ~ \$14 million (or approximately \$11 million excluding share based payments) anticipated

# Gippsland Basin

## Cost competitive resource, existing plant and Sole production planned for FY19

### Sole Gas Project

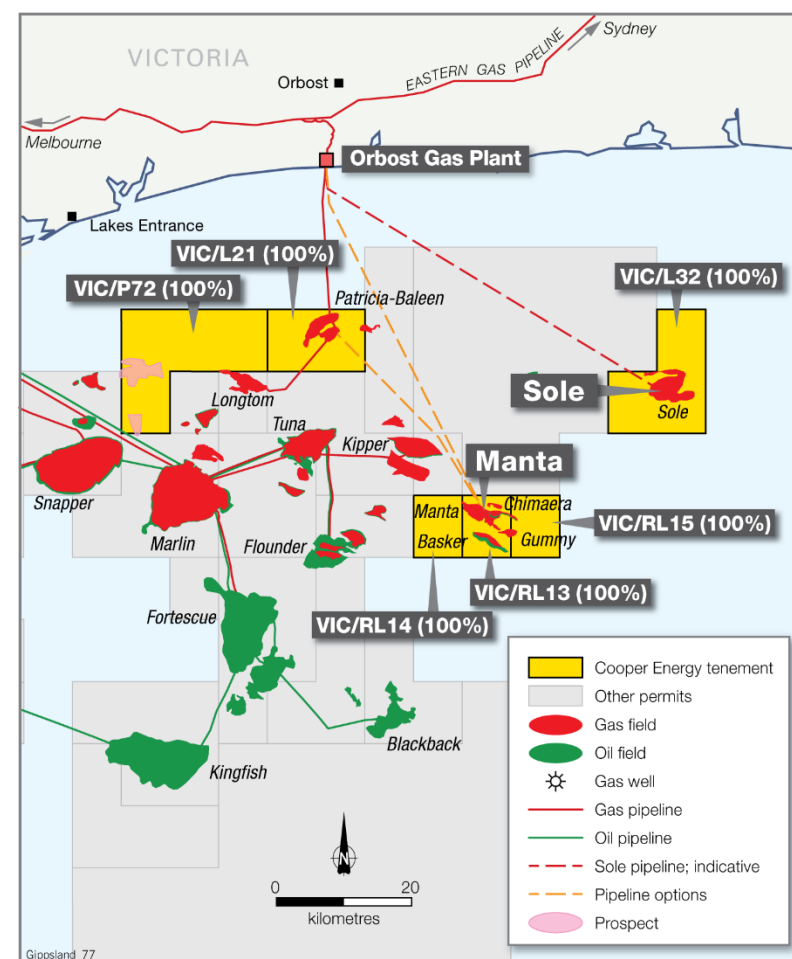
- FID 29 August 2017
- Sole Gas Project proceeding to first gas sales mid-2019

### Manta

- Secured provision for processing at Orbost Gas Processing Facility under agreement with APA
- Detailed planning to commence
- Economics enhanced by cost discovery from Sole FEED and gas price and demand expectations

### Key assets (all 100% equity and Operator)

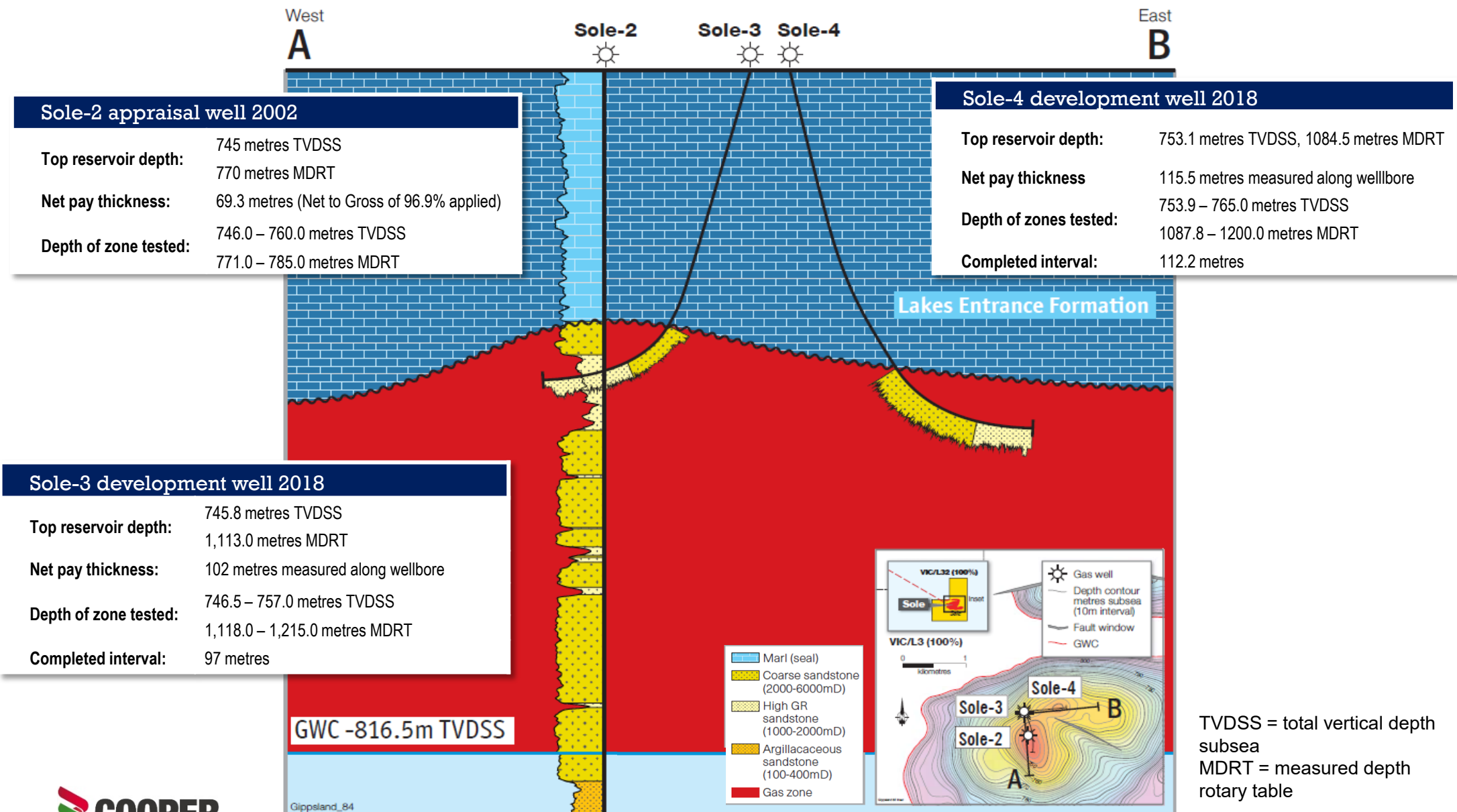
- Sole Gas Project (VIC/L32)
- Manta gas resource (VIC/RL13,14,15)
- Patricia Baleen gas field and associated infrastructure (VIC/L21)



Reserves & Resources <sup>1</sup>		
	Sole 2P Reserves	Manta 2C Resource
Sales gas PJ	249	106
Condensate MMbbl	-	3.2

<sup>1</sup> Reserves and Contingent Resources at 25 August 2017 were announced to the ASX on 29 August 2017. The resources information displayed should be read in conjunction with the information provided on the calculation of Reserves and Contingent Resources provided in the appendices to this document. The announcement included recognition of Proved and Probable Reserves for the Sole gas field, the Contingent Resources for which were previously announced 27 February 2017. The Contingent Resources estimate for Manta was announced to the ASX on 16 July 2015.

# Schematic of Sole-2, 3 and 4



TVDSS = total vertical depth subsea  
MDRT = measured depth rotary table

# Manta gas field

## Contingent Resources plus significant deeper exploration potential

### Geological setting

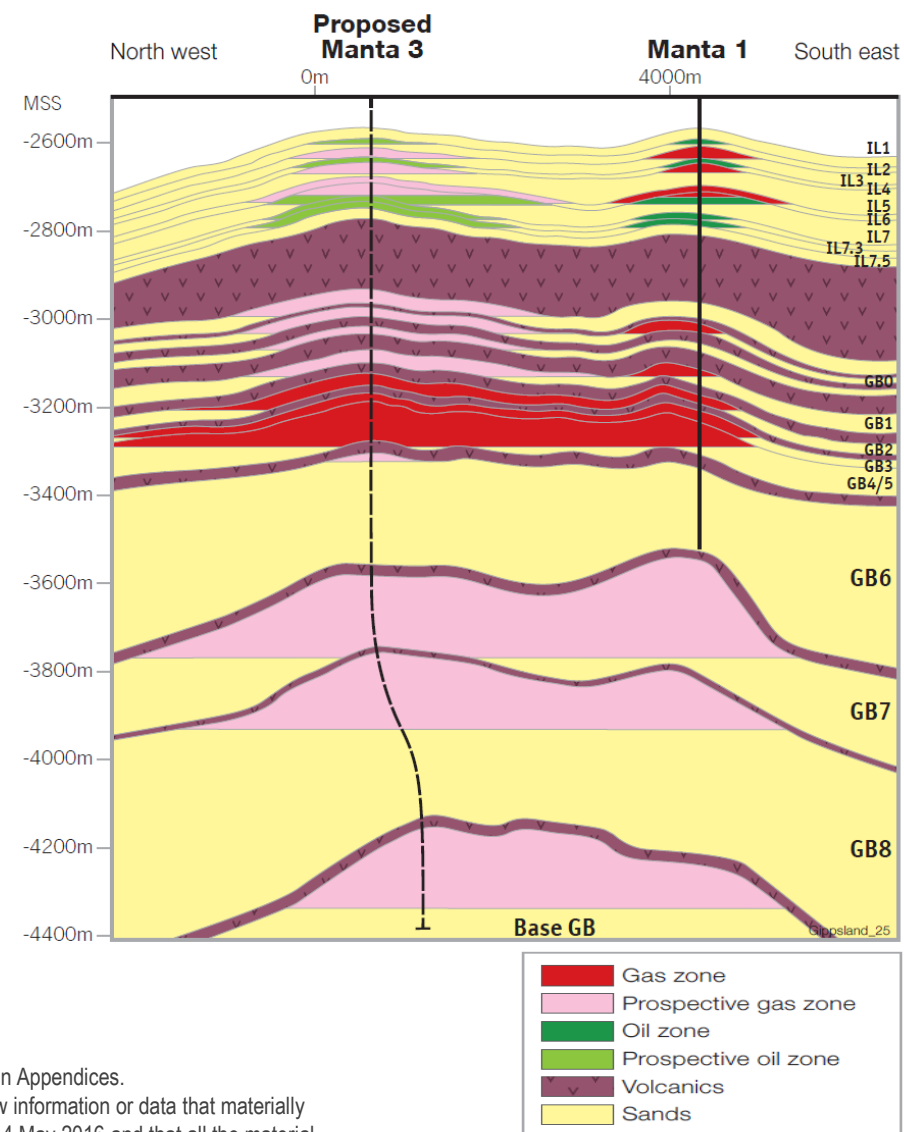
- a structural three-way dip, one-way fault closure against a NE-SW trending fault
- Manta-1, exploration well drilled in 1984, and Manta-2A, production well drilled in 2006
- Gas, condensate and oil within sands of the top Intra-Latrobe Group and the deeper Golden Beach Subgroup

### Exploration upside

- Potential for discovery of gas-bearing reservoirs in the Golden Beach formation below the proven gas reservoirs at Manta-1. Untested structures are mapped below the maximum depth of the Manta-1 discovery well.
- By drilling c. 1,000 metres deeper than Manta-1, several additional targets can be tested whilst appraising the proven gas & oil in the Intra-Latrobe and Golden Beach formations
- Evaluation of the Manta Field prospectivity is being incorporated into conceptual planning for Manta-3

### Resource

- Gas resource of 106 PJ 2C Contingent and Risked Prospective Resource of 10 PJ<sup>1</sup>
- Re-assessed Best Estimate unrisked Net Prospective Resource<sup>2</sup> in Manta and Chimaera East is 150 MMboe consisting of 756 PJ gas and 20 MMbbls oil and gas liquids (Cooper Energy 100% net share)
- The estimated quantities of petroleum that may be potentially recovered by the application of future development project(s) relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration, appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons.

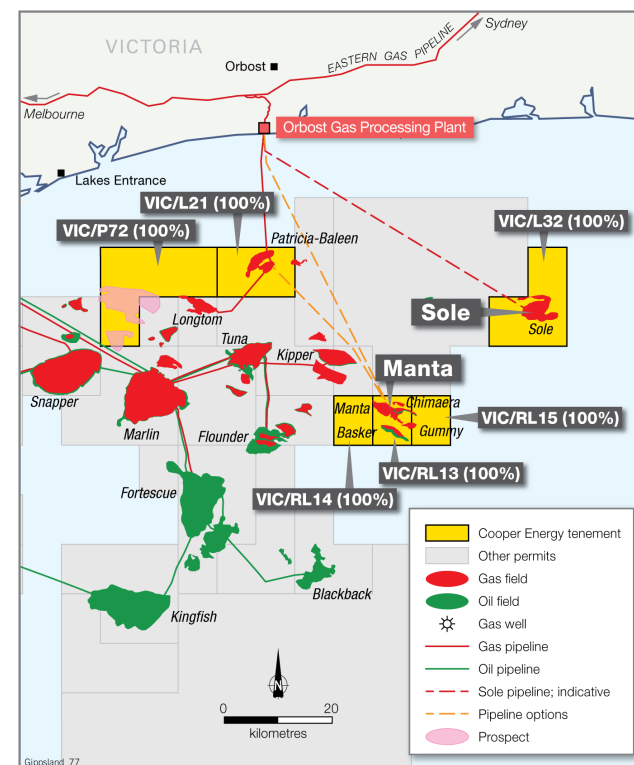
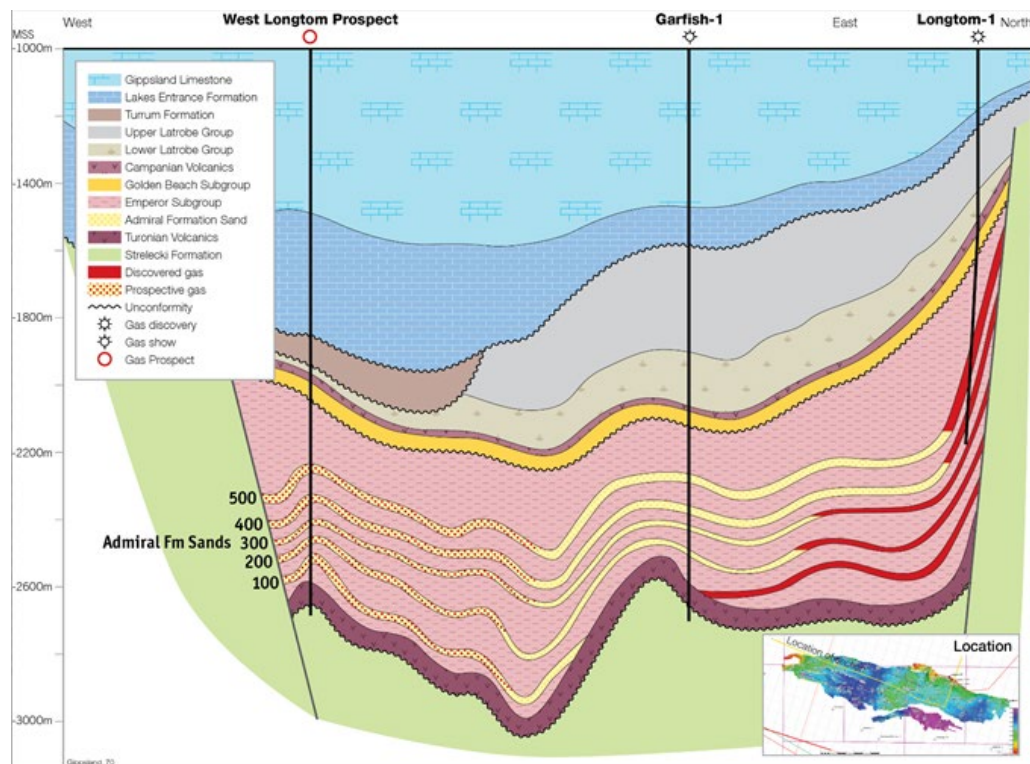


<sup>1</sup> As announced to ASX on 16 July 2015. Refer to notes on Reserve and Resource calculation in Appendices.

<sup>2</sup> As announced to ASX on 4 May 2016. Cooper Energy confirms that it is not aware of any new information or data that materially affects the resource estimate information included in the announcements of 16 July 2015 and 4 May 2016 and that all the material assumptions and technical parameters underpinning the estimates in the announcements continue to apply and have not materially changed.

# Exploration: Gippsland Basin

## New prospectivity adjacent to existing Patricia Baleen infrastructure



- VIC/P72 adjoins VIC/L21 (Cooper Energy 100%) which holds the depleted Patricia Baleen gas field and its associated subsea production infrastructure connected to the Orbost Gas Plant
- Close proximity to several Esso-operated gas and oil fields including Snapper, Marlin, Sunfish and Sweetlips and the Longtom gas field operated by SGH Energy

### VIC/P72

Equity: 100%

Term: 6 years

Work program: 3 years guaranteed

- 260 km<sup>2</sup> 3D seismic reprocessing studies
- 1 well



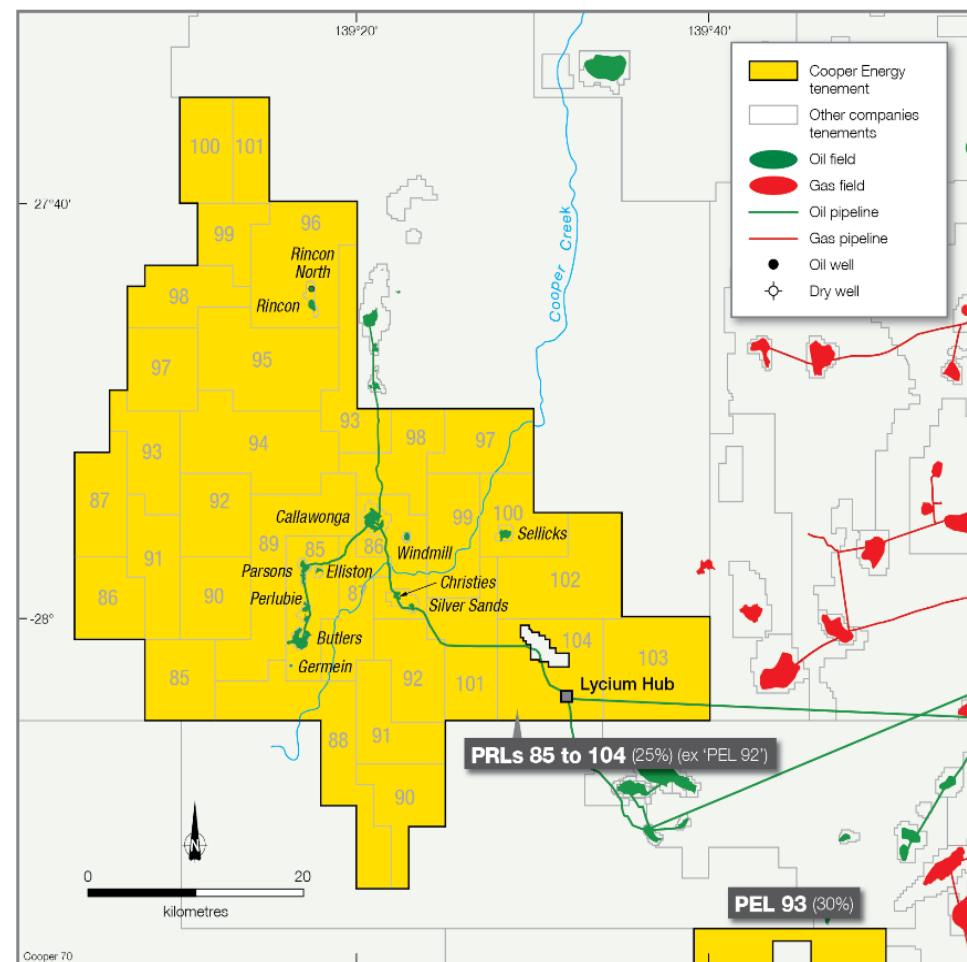
# Cooper Basin FY18

Production up 8%, high and increased cash margin of \$52.47/bbl, Reserves maintained

Key figures	FY18	FY17
<b>Production</b> Crude oil kbbl	<b>0.27</b>	0.25
Average oil price A\$/bbl	<b>85.55</b>	63.54
Direct operating cost A\$/bbl	<b>33.08</b>	29.77
<b>2P Reserves<sup>1</sup></b> MMbbl oil		
Developed	<b>1.4</b>	1.1
Undeveloped	<b>0.4</b>	0.6
<b>Total<sup>1</sup></b>	<b>1.8</b>	1.8

<sup>1</sup> The reserves exclude Cooper Energy's share of future fuel usage. Totals may not reflect arithmetic addition due to rounding.

- Production increased due to FY17 development drilling at Callawonga
- Facilities upgrade at Callawonga
- 2P Reserves replacement ratio 100% as a result of revisions made to reflect PEL 92 field performance. Worrior Feld reserves downgraded.



# Otway Basin, Penola Trough onshore

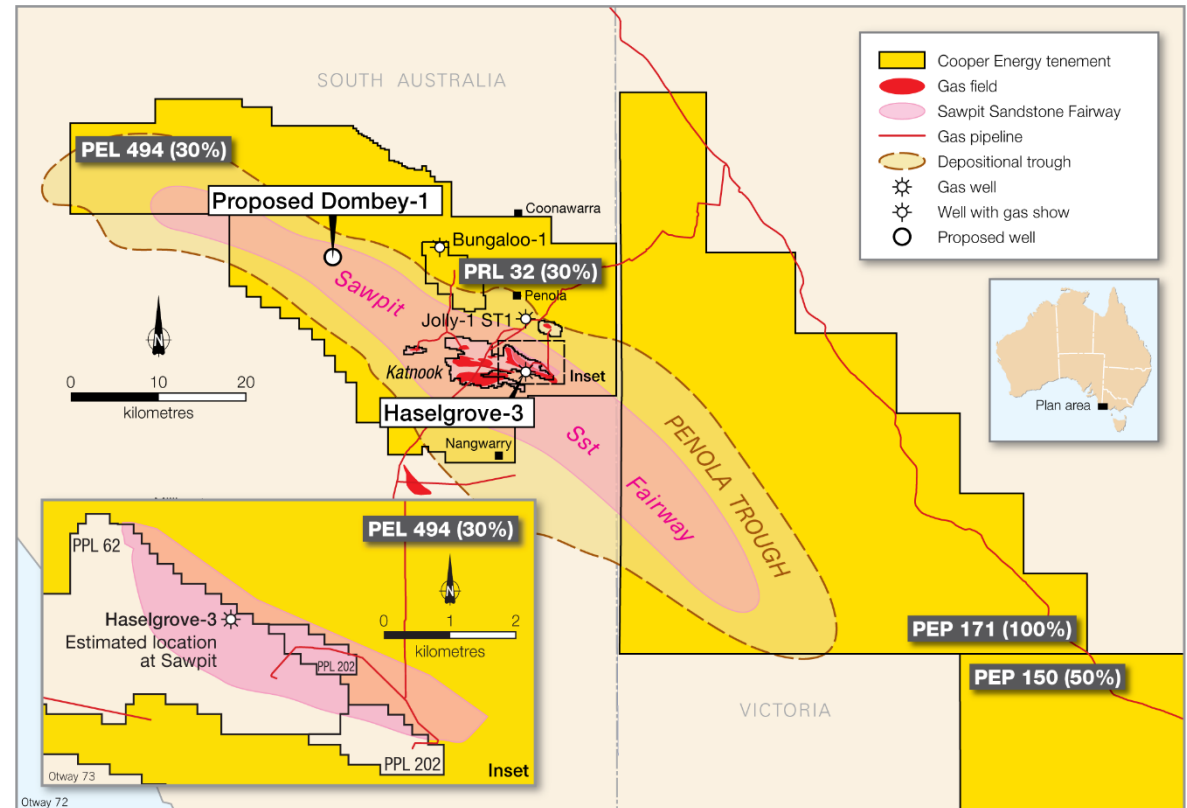
## Haselgrove drilling results confirm prospectivity for deep conventional gas

### South Australia

- Haselgrove-3 discovery in adjoining PPL 62 has confirmed conventional gas prospectivity of the Sawpit Sandstone at depths below previous producing levels
- SA government grant to PEL 494 JV (Cooper Energy 30% interest) of \$6.9 million awarded to drill Dombey-1 gas exploration well expected to start in early 2019

### Victoria

- Prospectivity of Penola Trough acreage upgraded by Haselgrove-3 discovery
- Exploration permits in Victoria subject of application to suspend and extend due to state government moratorium on onshore gas production



# Reserves and Contingent Resources at 30 June 2018

Reserves	Unit	1P (Proved)				2P (Proved + Probable)				3P (Proved + Probable + Possible)			
		Cooper	Otway	Gippsland	Total <sup>1</sup>	Cooper	Otway	Gippsland	Total <sup>1</sup>	Cooper	Otway	Gippsland	Total <sup>1</sup>
<b>Developed</b>													
Sales Gas	PJ	0	15	0.0	15.2	0	26	0	26.4	0	36	0	36
Oil + Cond	MMbbl	1.1	0.0	0.0	1.1	1.4	0.0	0.0	1.1	1.9	0.0	0.0	1.9
<b>Sub-total</b>	<b>MMboe</b>	<b>1.1</b>	<b>2.5</b>	<b>0.0</b>	<b>3.6</b>	<b>1.4</b>	<b>4.3</b>	<b>0.0</b>	<b>5.7</b>	<b>1.9</b>	<b>6.0</b>	<b>0.0</b>	<b>7.8</b>
<b>Undeveloped</b>													
Sales Gas	PJ	0	26	209.4	235.3	0	35	248.5	283.1	0	57	292.8	350
Oil + Cond	MMbbl	0.1	0.0	0.0	0.1	0.4	0.0	0.0	0.7	1.4	0.0	0.0	1.4
<b>Sub-total</b>	<b>MMboe</b>	<b>0.1</b>	<b>4.2</b>	<b>34.2</b>	<b>38.5</b>	<b>0.4</b>	<b>5.7</b>	<b>40.6</b>	<b>46.7</b>	<b>1.4</b>	<b>9.3</b>	<b>47.8</b>	<b>58.6</b>
<b>Total<sup>1</sup></b>	<b>MMboe</b>	<b>1.2</b>	<b>6.7</b>	<b>34.2</b>	<b>42.1</b>	<b>1.8</b>	<b>10.0</b>	<b>40.6</b>	<b>52.4</b>	<b>3.3</b>	<b>15.3</b>	<b>47.8</b>	<b>66.4</b>

<sup>1</sup> Totals may not reflect arithmetic addition due to rounding. The method of aggregation is by arithmetic sum by category. As a result, the 1P estimates may be conservative and the 3P estimates may be optimistic due to the effects of arithmetic summation. The Reserves exclude Cooper Energy's share of future fuel usage. See comment on conversion factor change in 'Notes on calculation of Reserves and Resources'.

Contingent Resources	1C			2C			3C		
	Gas	Oil	Total <sup>1</sup>	Gas	Oil	Total	Gas	Oil	Total
	PJ	MMbbl	MMboe	PJ	MMbbl	MMboe	PJ	MMbbl	MMboe
Gippsland	68	1.7	12.7	106	3.2	20.4	165	5.3	32.0
Otway	12	0.0	2.0	19	0.0	3.1	28	0.0	4.6
Cooper	0	0.1	0.1	0	0.1	0.1	0	0.2	0.2
<b>Total<sup>1</sup></b>	<b>80</b>	<b>1.8</b>	<b>14.8</b>	<b>125</b>	<b>3.4</b>	<b>23.6</b>	<b>193</b>	<b>5.5</b>	<b>36.8</b>

<sup>1</sup> Totals may not reflect arithmetic addition due to rounding. The method of aggregation is by arithmetic sum by category. As a result, the 1C estimate may be conservative and the 3C estimate may be optimistic due to the effects of arithmetic summation. See comment on conversion factor change in 'Notes on calculation of Reserves and Resources'.



Reserves and Contingent Resources at 30 June 2018 were announced to the ASX on 13 August 2018. The reserves and resources information displayed should be read in conjunction with the information provided on the calculation of Reserves and Contingent Resources provided in the appendices to this document.

# Notes on calculation of Reserves and Resources

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## Notes on calculation of Reserves and Contingent Resources

Cooper Energy has completed its own estimation of Reserves and Contingent Resources for its fully-operated Gippsland Basin assets, and elsewhere based on information provided by the permit Operators (Beach Energy Ltd for PEL 92, Senex Ltd for Worrior Field, and BHP Billiton Petroleum (Vic) P/L for Minerva Field — in accordance with the definitions and guidelines in the Society of Petroleum Engineers (SPE) 2018 Petroleum Resources Management System (PRMS).

All Reserves and Contingent Resources figures in this document are net to Cooper Energy.

Petroleum Reserves and Contingent Resources are prepared using deterministic and probabilistic methods. The resources estimate methodologies incorporate a range of uncertainty relating to each of the key reservoir input parameters to predict the likely range of outcomes. Project and field totals are aggregated by arithmetic summation by category. Aggregated 1P and 1C estimates may be conservative, and aggregated 3P and 3C estimates may be optimistic due to the effects of arithmetic summation. Totals may not exactly reflect arithmetic addition due to rounding.

The Company has changed the FY18 energy conversion factor consistent with Society of Petroleum Engineers (SPE) conversions and PRMS guidance. The previous conversion factor of 1 PJ = 0.172 MMboe was adopted when the Company was predominantly a Cooper Basin oil producer. With the change to a predominantly offshore gas-producing Company, a conversion factor of 1 PJ = 0.163 MMboe (5.8 MMBtu/bbl) is more consistent with industry and SPE standard energy conversions. The new conversion factor has no impact on gas reserves expressed in PJ.

The information contained in this report regarding the Cooper Energy Reserves and Contingent Resources is based on, and fairly represents, information and supporting documentation reviewed by Mr Andrew Thomas who is a full-time employee of Cooper Energy Limited holding the position of General Manager Exploration & Subsurface, holds a Bachelor of Science (Hons), is a member of the American Association of Petroleum Geologists and the Society of Petroleum Engineers, is qualified in accordance with ASX listing rule 5.41, and has consented to the inclusion of this information in the form and context in which it appears.

## Reserves

Under the SPE PRMS 2018, “Reserves are those quantities of petroleum anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions”.

The Otway Basin totals comprise the arithmetically aggregated project fields (Casino-Henry-Netherby and Minerva) and exclude reserves used for field fuel.

The Cooper Basin totals comprise the arithmetically aggregated PEL 92 project fields and the arithmetic summation of the Worrior project reserves, and exclude reserves used for field fuel.

The Gippsland Basin total comprises Sole Field only, where the Contingent Resources assessment at 30 June 2017 as announced to the ASX on 29 August 2017 has been reclassified to Reserves.

## Contingent Resources

Under the SPE PRMS 2018, “Contingent Resources are “those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations by application of development projects, but which are not currently considered to be commercially recoverable owing to one or more contingencies”.

The Contingent Resources assessment includes resources in the Gippsland, Otway and Cooper basins. The following material Contingent Resources assessment was released to the ASX:

- Manta Field on 16 July 2015

Cooper Energy is not aware of any new information or data about Manta Field that materially affects the information provided in that release, and all material assumptions and technical parameters underpinning the Manta estimates provided in the release continue to apply.

Basker Field Contingent Resources reported on 18 August 2014 and carried unchanged through FY17 have been reclassified as Discovered Unrecoverable in FY18 due to approval of field abandonment.

# Senior Management Team

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**Company Secretary &  
Legal Counsel**  
Alison Evans

**General Manager,  
Operations**  
Iain MacDougall

**General Manager,  
Development**  
Duncan Clegg

**General Manager,  
Commercial & Business  
Development**  
Eddy Glavas

**General Manager,  
Projects**  
Michael Jacobsen

**General Manager,  
Exploration &  
Subsurface**  
Andrew Thomas

**Managing Director**  
David Maxwell

**Chief Financial Officer**  
Virginia Suttell

# Senior management

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## **Managing Director David Maxwell**

David Maxwell has over 30 years' experience as a senior executive with companies such as BG Group, Woodside and Santos. As Senior Vice President at QGC, a BG Group business, he led BG's entry into Australia, its alliance with and subsequent takeover of QGC. Roles at Woodside included director of gas and marketing and membership of Woodside's executive committee.

## **General Manager, Development Duncan Clegg**

Duncan Clegg has over 35 years' experience in upstream and midstream oil and gas development, including management positions at Shell and Woodside, leading oil and gas developments including FPSO, subsea and fixed platforms developments. At Woodside Duncan held several senior executive positions including Director of the Australian Business Unit, Director of the African Business Unit and CEO of the North West Shelf Venture.

## **Company Secretary & Legal Counsel Alison Evans**

Alison Evans is an experienced company secretary and corporate legal counsel with extensive knowledge of corporate and commercial law in the resources and energy sectors. Alison has held Company Secretary and Legal Counsel roles at a number of minerals and energy companies including Centrex Metals, GTL Energy and AGL. Ms Evans' public company experience is supported by work at leading corporate law firms.

## **General Manager, Commercial & Business Development Eddy Glavas**

Eddy Glavas has more than 20 years' experience in business development, finance, commercial, portfolio management and strategy, including 16 years in oil & gas. Prior to joining Cooper Energy, he was employed by Santos as Manager Corporate Development with responsibility for managing multi-disciplinary teams tasked with mergers, acquisitions, partnerships and divestitures.

## **General Manager, Projects Michael Jacobsen**

Michael Jacobsen has over 25 years' experience in upstream oil and gas specialising in major capital works projects and field developments. He has worked more than 10 years with engineering and construction contractors and then progressed to managing multi discipline teams on major capital projects for E&P companies.

## **General Manager, Operations Iain MacDougall**

Iain MacDougall has more than 28 years experience in the upstream petroleum exploration and production sector. His experience includes senior management positions with independent operators and wide ranging international experience with Schlumberger. In Australia, Iain's previous roles include Production and Engineering Manager and then acting CEO at Stuart Petroleum prior to the takeover by Senex Energy.

## **Chief Financial Officer Virginia Suttell**

Virginia Suttell is a chartered accountant with more than 20 years' experience, including 16 years in publicly listed entities, principally in group finance and secretarial roles in the resources and media sectors. This has included the role of Chief Financial Officer and Company Secretary for Monax Mining Limited and Marmota Energy Limited. Other previous appointments include Group Financial Controller at Austereo Group Limited.

## **General Manager, Exploration & Subsurface Andrew Thomas**

Andrew Thomas is a successful geoscientist with over 28 years' experience in oil and gas exploration and development in companies including Geoscience Australia, Santos, Gulf Canada and Newfield Exploration. At Newfield he was SE Asia New Ventures Manager and Exploration Manager for offshore Sarawak.

# Abbreviations

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<b>\$, A\$</b>	Australian dollars unless specified otherwise
<b>Bbl</b>	barrels of oil
<b>Boe</b>	barrel of oil equivalent
<b>EBITDA</b>	earnings before interest, tax, depreciation and amortisation
<b>FEED</b>	Front end engineering and design
<b>kbbbl</b>	thousand barrels
<b>m</b>	metres
<b>MMbbl</b>	million barrels of oil
<b>MMboe</b>	million barrels of oil equivalent
<b>NPAT</b>	net profit after tax
<b>PEL 92</b>	Joint Venture conducting operations in Western Flank Cooper Basin Petroleum Retention Licences 85–104 previously encompassed by the PEL 92 exploration licence
<b>PEL 93</b>	Joint Venture conducting operations in Cooper Basin Petroleum Retention Licences PRL 231-233 and PRL 237 previously encompassed by the PEL 93 exploration licence
<b>TRCFR</b>	Total Recordable Case Frequency Rate. Recordable cases per million hours worked
<b>1P Reserves</b>	Proved Reserves
<b>2P Reserves</b>	Proved and Probable Reserves
<b>3P Reserves</b>	Proved, Probable and Possible Reserves
<b>1C, 2C, 3C</b>	high, medium and low estimates of Contingent Resources