



Investor update September 2018

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



# Cooper Energy key features

Gas for south-east Australia:

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

Transformational growth in 12 months:

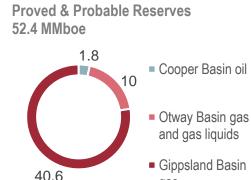
- Gas production to increase from 6 PJ to 30 PJ over FY19 to FY20
- Sole Gas Project due to commence supply July 2019

Portfolio quality enabled by prescient strategy

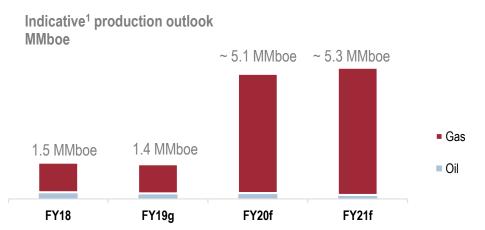
- Strategy initiated upon recognition of gas business opportunity in 2012
- Disciplined screening and early mover advantage enabled accumulation of portfolio of resources, operations and acreage all well located and cost competitive
- Exploration opportunities close to infrastructure and markets to support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









# Gas strategy review: six years on

## 2012: opportunity identified, analysis conducted, strategy initiated

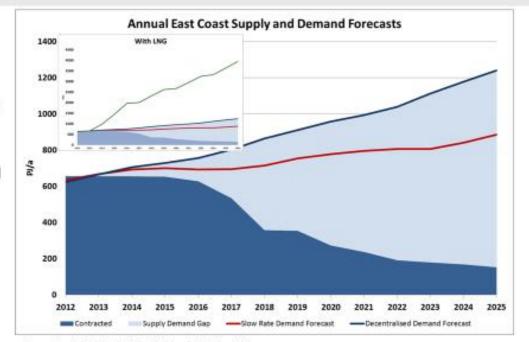
Cooper Energy 2012 Opportunity outlined and strategy presented

Presentation to Good Oil Conference Sept 2012



# Eastern Australia gas opportunities

- Multiple contract opportunities
- Increasing prices
- Resource supply opportunities
  - Cooper, Otway and Gippsland
  - conventional and unconventional
- Committed LNG projects
  - very significant impact
- Gas commercialisation key
  - a Cooper Energy strength



Sources: Contracted Supply - Wood Mackenzie GEM May 2012 Demand - AEMO 2012Gas Statement Of Opportunities





# 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**

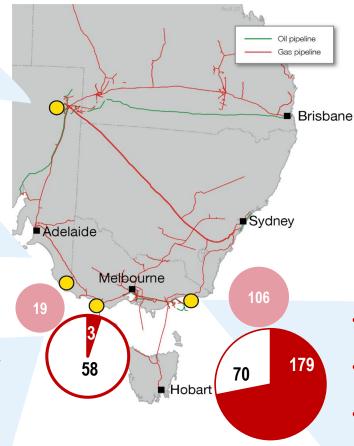
- historical production source
- production of ~230 kbbl oil pa
- low cost operations

## **Otway Basin onshore:** gas exploration

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

# Otway Basin offshore: gas production and exploration

- 2018 production fully contracted to Origin Energy
- 58 PJ uncontracted to supply from 2019-on
- Minerva Gas Plant
- Prime gas exploration acreage with favourable economics













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 to commence FY19
- Manta gas and liquid resource ready for drilling and development decision FY20



2P Reserves contracted



2P Reserves uncontracted



2C Contingent Resources uncontracted



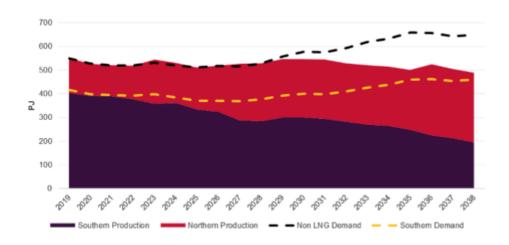
Reserves and Contingent Resources at 30 June 2018 were announced to the ASX on 13 August 2018. The resources information displayed should be read in conjunction with the information provided on the calculation of Reserves and Contingent Resources provided in the appendices to this document. The announcement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

# Supply and demand outlook: south-east Australia

AEMO forecast insufficient southern production and new development required

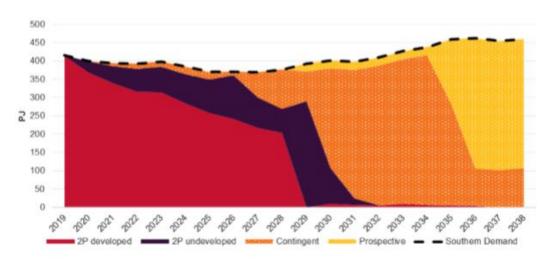
# Southern gas production is forecast to shortfall local demand

Production split between north and south, neutral – low southern resource case



# Commercialisation of undeveloped reserves & contingent resources is needed

Status of southern reserves & resources to meet southern demand 2019-38



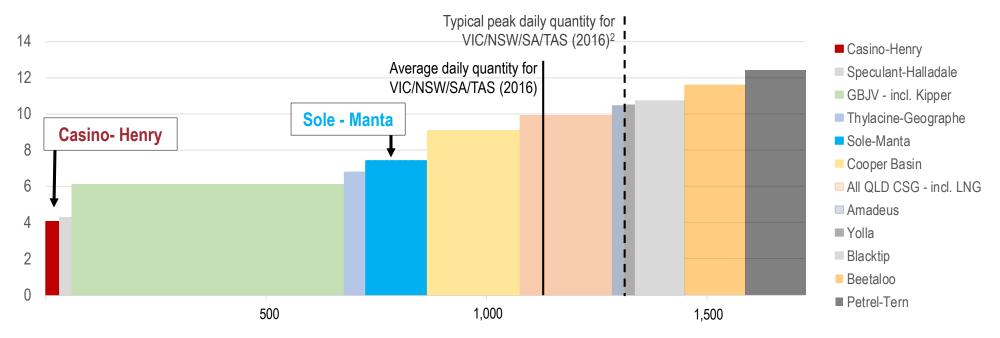
Source: AEMO 2018 Gas Statement of Opportunities pg.'s 29 & 30



# 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



Gas available for supply to Victoria, New South Wales, South Australia and Tasmania 2020 (TJ/day)

\* 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



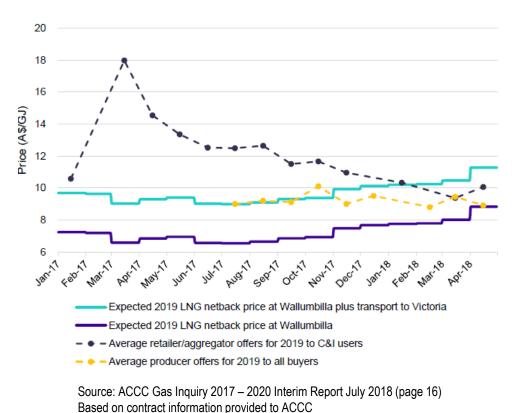
<sup>&</sup>lt;sup>1</sup> South-east Australia comprises New South Wales, Victoria, South Australia and Tasmania

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

# 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)



## 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
Producers (Vic & SA)	9.40	8.75 <b>–</b> 11.03
Producers (Qld)	8.35	7.63 – 8.52
Retailer/aggregator (Vic, SA & NSW)	10.41	9.00- 12.57

<sup>\*</sup> excludes transport

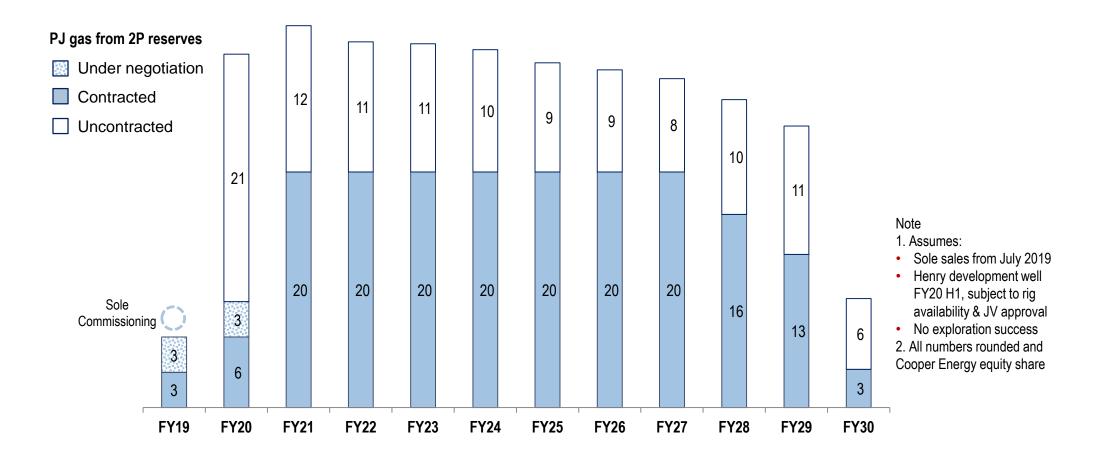
Source: ACCC Gas Inquiry 2017 – 2020 Interim Report July 2018 p44 Based on contract information provided to ACCC

- FY19 supply balance tight but improved due to Sole start up, Gippsland Basin JV and lower gas powered generation
- ACCC & Vic gas futures indicating prices \$8.75 \$11.03/GJ in FY19
- 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



# Gas marketing

## Indicative production profile from 2P gas reserves



- Currently negotiating CY19 supply from Casino Henry
- Soon to commence marketing of uncontracted Sole gas and Casino Henry FY20-22
- Increased interest in longer term supply from industrial buyers
- Marketing strategy employs portfolio approach across term, buyer type and demand spectrum



# Recent events

## **Sole Gas Project**

- 70% complete end-August, tracking within schedule, within budget
- Production wells completed, well performance beyond plant design throughput, gas and reservoir in line with expectations

## **Gas contracting**

- Supplying new contract from Casino Henry till Dec 18;
- Tendered new supply for CY19 from Casino Henry
- Commencing tender of uncontracted gas from Sole from FY19

## **Operations**

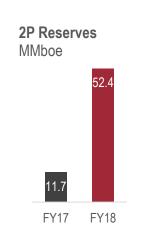
Production up after successful workover of Casino-5

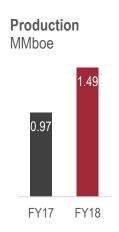
## **Portfolio**

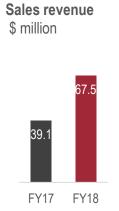
- Agreement to acquire Minerva Gas Plant
- VIC/P72 exploration acreage acquired offshore Gippsland Basin

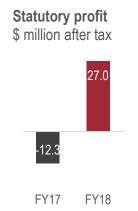
## Financing & reporting

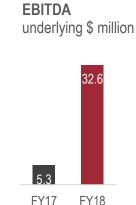
- FY18 accounts released with strong growth in reserves, cash flow, EBITDA & profit
- Operating under senior bank funding facility completed October 2017













# Offshore Otway Basin FY18

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

## **FY18 outcomes**

- Successful workover lifted Casino production from April
- Minerva continued to exceed expectations
- 2P gas reserves<sup>1</sup> increased 1%; field performance
- Negotiated and commenced supply of first new gas contract for Casino Henry since 2006: supplying Origin Energy from 1 March to 31 December 2018
- Agreement for Casino Henry JV to acquire Minerva Gas Plant
- Geotechnical studies identified gas targets for JV consideration
- Tendered gas supply from 1 January 2019 to 31 December 2019

## **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)

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.



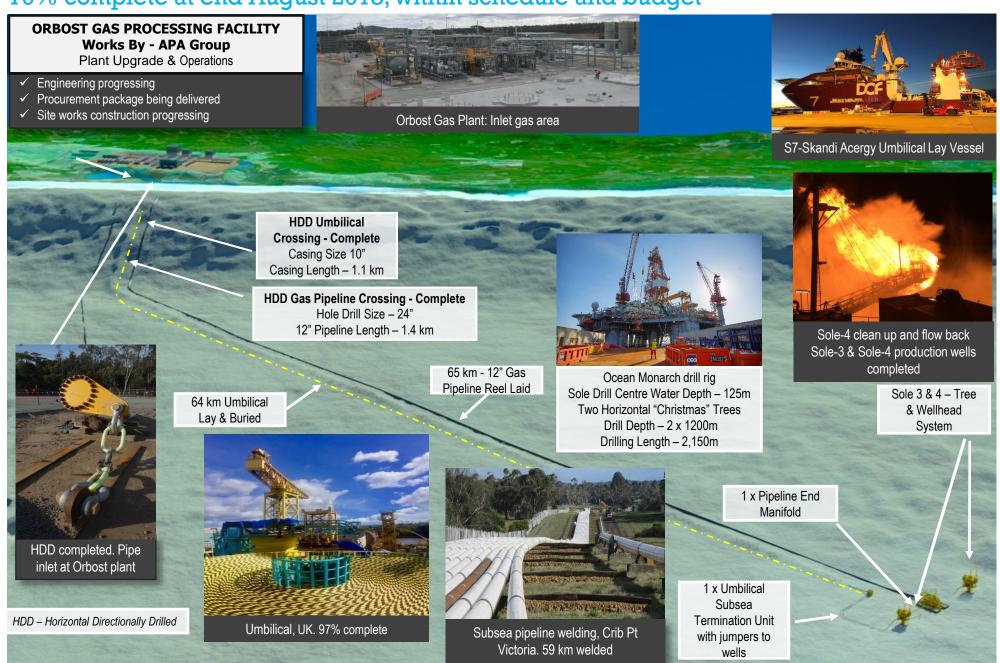
Production	FY18	FY17
Sales gas PJ	7.0	4.0
Condensate kbbl	6.2	3.6
2P Reserves	FY18	FY17
Sales gas PJ	61	57
Condensate kbbl	0.03	0.05
Total MMboe	10.0	9.9



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

# Sole Gas Project

## 70% complete at end August 2018, within schedule and budget



# Sole drilling program

Completed, reservoir performance & gas composition in line with pre-drill expectations. Production capability exceeds plant design rate.

- Sole-3 and Sole-4 suspended for future connection following flow-back operations
- Reservoir performance in line with expectations
- Gas composition: 1,000 ppm H<sub>2</sub>S is well below design ceiling of 3,000 ppm
- Development concept provides multi-layer redundancy:
  - 2 wells; each with sandscreens and Sole-4 with gravel pack
  - near-horizontal reservoir completions of circa 100 m
  - combined maximum production rate in excess of plant design rate
- Pipelay to connect wells to commence October 2018
- Commissioning in final quarter FY19



Diamond Offshore Ocean Monarch flowback of Sole-3, 5 July 2018



# Plans for FY19 – FY20

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

## 1. Gas production

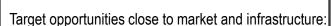
- Increasing from 6 PJ to ~ 30 PJ pa in FY20
- Sole start-up delivers the targeted multi-gas hubs for optimising supply to south-east Australia

## 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 4. Exploration

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



Offshore Otway: low risk, high success rates

- Olishore Otway. low risk, riight success ta
- Manta Deep: high upside
- Onshore Otway: prospective for gas
- Gippsland: adjacent to existing assets

# Otway Hub Orbost Gas Plant O

## 5. Pre - development

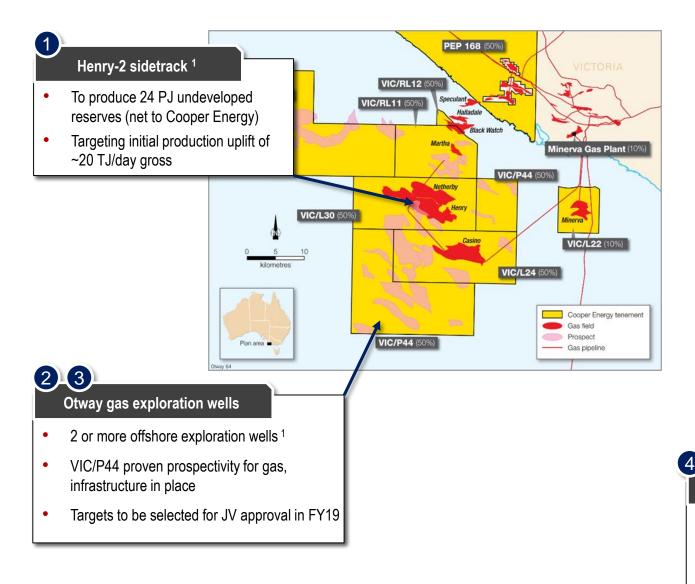
## Manta

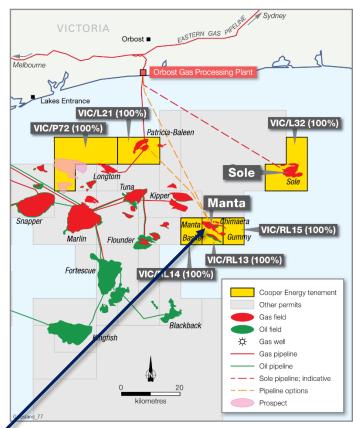
- 106 PJ gas plus 3.2 MMbbl liquids (2C contingent)
- Synergies from adjacency to Sole
- Appraisal well required for development go ahead
- Larger deep exploration target
- Aiming for drill FY20 and FID within 12 months



# FY20 offshore campaign for growth after Sole

# Preparation for a 4-well campaign<sup>1</sup> from Dec quarter 2019 - a key workstream in FY19





## Manta-3 appraisal & deep exploration

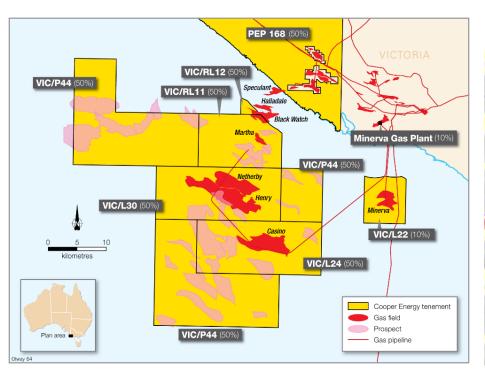
- Appraisal of Manta gas and liquids resources for development decision
- Exploration to test potential identified in underlying formation

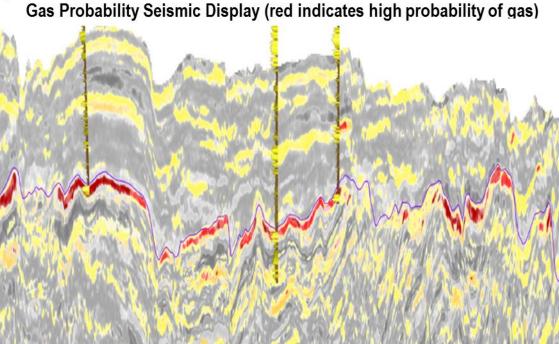


<sup>&</sup>lt;sup>1</sup> Subject to Joint Venture approval and rig availability.

# **Exploration: Otway Basin offshore**

## Planning for drilling of two exploration wells in 2020<sup>1</sup>





- Several prospects on trend with producing fields high-graded as potential candidates for 2020 drilling campaign
- Easily defined 3-way structural traps
- Completed 3D seismic inversion study validates Direct Hydrocarbon Indicators ("DHI") suggesting lower risk of finding gas
- Prospects are adjacent to existing infrastructure and tie-in points which facilitates accelerated time to first gas

<sup>&</sup>lt;sup>1</sup> Future drilling plans are subject to Joint Venture approval and rig availability



# Minerva Gas Plant

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



## 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



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

# Manta gas field

## Contingent Resources plus significant deeper exploration potential

## **Geological setting**

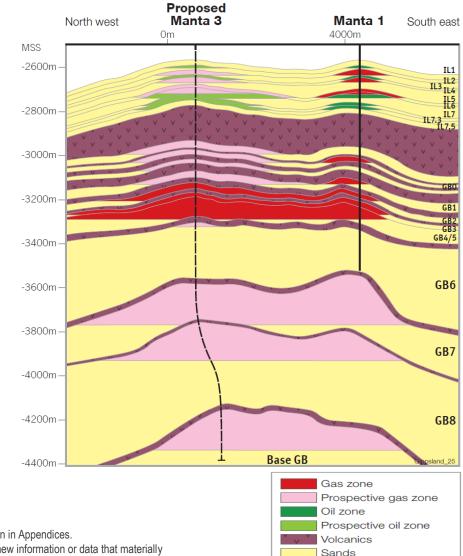
- a structural three-way dip, one-way fault closure against a NE-SW trending fault
- Manta-1, exploration well drilled in 1984, and Manta-2A, production well drilled in 2006
- Gas, condensate and oil within sands of the top Intra-Latrobe Group and the deeper Golden Beach Subgroup

## **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.



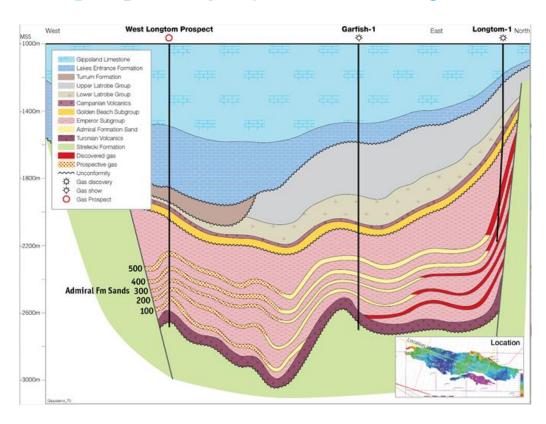


<sup>1</sup> As announced to ASX on 16 July 2015. Refer to notes on Reserve and Resource calculation in Appendices.

<sup>&</sup>lt;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.

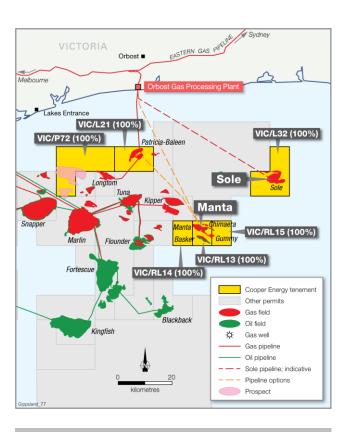
# **Exploration: Gippsland Basin**

## 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

# Event pipeline; expected significant activities

# Drilling, development and commercial program to December 2019

## FY19 H1

## FY19 H2

## FY20

# Drilling & developing



- ✓ Sole-4 production well
- ✓ Sole-2 abandonment
- Sole pipelay
- Dombey-1 (or early H2)

- Sole gas to plant
- Sole commissioning
- FY20 offshore drilling preparations and JV commitments
- BMG abandonment

- Henry development well<sup>1</sup>
- 2 x Otway gas exploration wells<sup>1</sup>
- Manta-3 drilled and clarity on development pathway<sup>1</sup>

# Contracting & commercial



- Otway Basin CY19+ gas supply contracts
- Marketing Sole uncommitted gas on a short term & medium term basis
- Contracts for uncontracted Sole gas supply from FY20+
- Marketing Otway CY20+ gas supply
- Sole gas supply scheduled commencement
- Otway gas sales up on Henry development completion
- Minerva Gas Plant to Casino Henry JV<sup>2</sup>

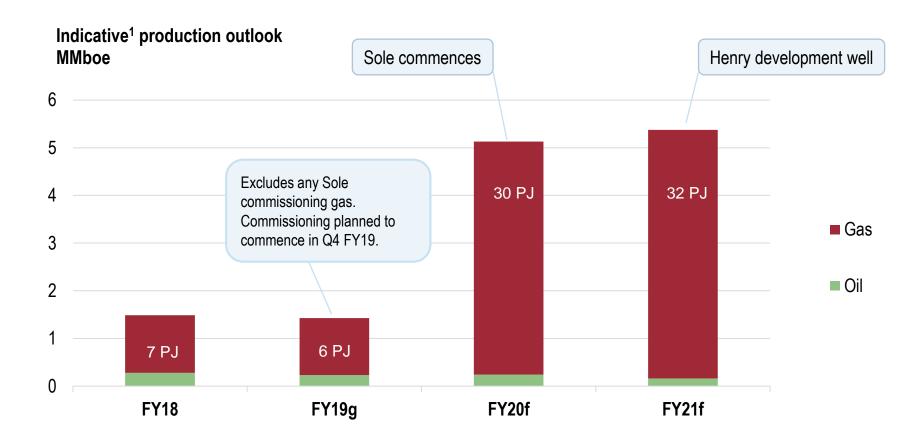


<sup>&</sup>lt;sup>1</sup> Subject to joint venture agreement and/or rig availability

<sup>&</sup>lt;sup>2</sup> Subject to Minerva production timing

# 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





# Position summary

Gas strategy gains flowing through, Sole on track.
Upside emerging in gas contracting and drilling campaign for next growth wave

- 1. Gas strategy delivered growth in FY18. Cooper Energy is positioned to grow further and faster to FY21.
- 2. Sole on track; major cost and technical milestones achieved; within budget and schedule.
- Gas market is favourable and Cooper Energy is increasing its contracting activity and its portfolio of contracts to supply from multiple supply sources.
- 4. Pursuing further value creation from the portfolio that has been built with multiple levers to be applied from FY19 on:
  - Sole Gas Project completion;
  - gas contracting at current (higher) market prices; and
  - drilling development, appraisal and exploration wells to bring more gas to market.





**Appendices** 

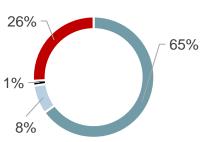
# Cooper Energy snapshot

Portfolio built around winning position on cost curve

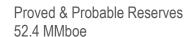
## **Key statistics\***

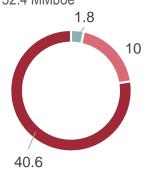
Proved & Probable Reserves	52.4 MMboe
Contingent Resources (2C)	34.9 MMboe
Production FY19 guidance	1.4 MMboe
Market capitalisation	\$712 million
Net cash/(debt)	\$111.0 million
Issued share capital (million)	1,601.1



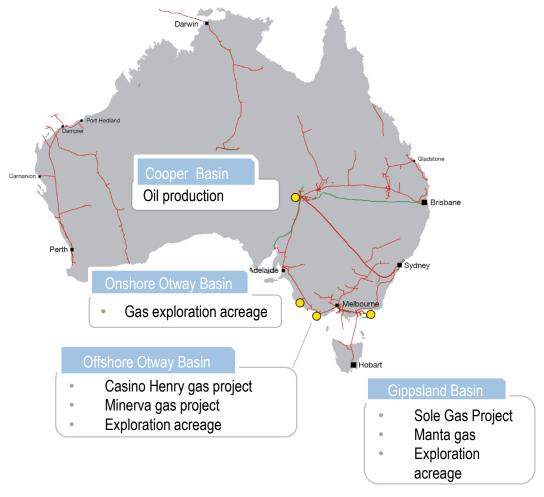


- Domestic institutional
- Foreign institutional
- Directors & employees





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

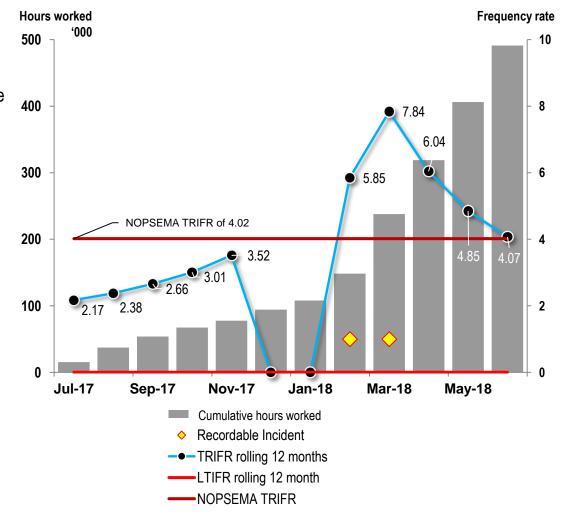




# Safety

No lost time injuries or environmental incidents. Ongoing enhancement of management systems and improvement program driven by value of Care.

- TRIFR\* = 4.07 (FY17 = 1.98)
  - zero lost time injuries (LTIs)
- Compliance as a new offshore Operator
  - HSEC Management Systems: enhanced and fit-for-purpose
  - NOPSEMA conducted inspections of regulatory documents (Safety Cases, Environment Plans, Well Operations Management Plans)
- Ongoing improvement initiatives program
  - "Care": a core value
  - audits: regulatory, internal and key contractors
  - awareness and training
  - a "One Team" culture





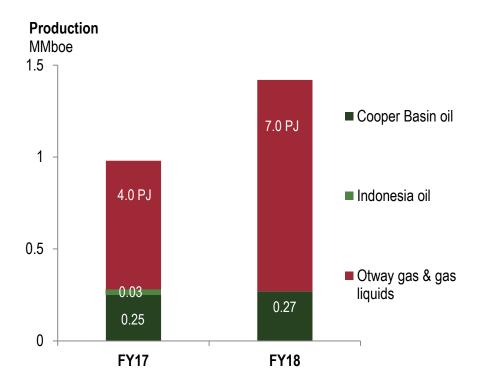
# FY18 Key financial results

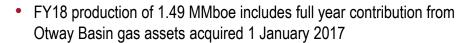
\$ million unless otherwise indicated	FY18	FY17	cha	nge
Sales revenue	67.5	39.1	<b>A</b>	73%
Gross profit	29.0	16.6		75%
Gross profit/Sales revenue %	43.0%	42.5%		1%
Statutory profit before tax	31.0	(9.5)	<b>A</b>	426%
Statutory profit/(loss) after tax	27.0	(12.3)		320%
Underlying EBITDA	32.6	5.3		515%
Underlying profit/(loss) before tax	14.0	(5.8)		341%
Underlying profit/(loss) after tax	9.8	(8.7)		213%
Cash flow from operations	22.2	4.1	<b>A</b>	441%
Drawn debt <sup>1</sup>	125.9	-	<b>A</b>	100%
Cash	236.9	147.5		61%
Cash and other financial assets	259.3	148.2		75%
Net cash (debt)	111.0	147.4	▼	25%



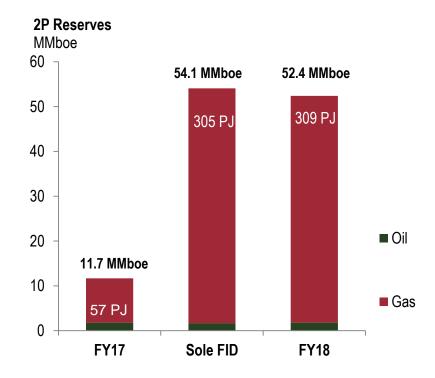
# Production and Reserves at 30 June 2018

Production up 54%. Gas reserves up 350% on Sole FID & field performance. 2P gas up to 309 PJ.





- In line with top end of upgraded guidance
- FY19: expect ~1.4 MMboe (using new PJ to MMboe conversion factor)



All numbers are rounded and as a result totals shown may not equate to arithmetical addition of rounded numbers shown.

- Sole FID resulted in reclassification of Contingent Resources (2C) to 2P Reserves
- Revisions made to recognise:
  - adoption of new PJ to BOE conversion factor (refer appendices) consistent with PRMS and reflecting a predominantly offshore gas-producing company (impact: -2.8 MMboe)
  - production performance of Otway Basin gas fields and PEL 92



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

# FY19 production and capex guidance

## **Production**

by product	Gas PJ	Crude oil & condensate bbl	Total MMboe	Notes
Total	~ 6	~238,000	1.4	<ul> <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
Otway Basin	7	22	29	<ul> <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>
Gippsland Basin	3	144	147	Sole development project
Cooper Basin	3	2	5	<ul><li>Production optimisation projects including workovers</li><li>3D seismic PEL 93</li></ul>
Other non-classified			2	Hardware, software and other
Total	13	168	183	
G & A	~ \$14 million (or app	roximately \$11 million ex	cluding share	pased payments) anticipated



<sup>\*</sup> Cash capital expenditure for the year will include payment for capital expenditure incurred late in FY18 and paid in FY19 and is expected to total \$234 million.

# Cash and expenditure in lead up to Sole cash flow

## Optimising for cash and business momentum in a favourable market

Cash and undrawn facilities \$ million at 30 June 2018:	\$ million
Current	
Cash	236.9
Escrow proceeds receivable <sup>1</sup> : current	20.2
Non-current	
Escrow proceeds receivable <sup>2</sup> non-current	20.1
Term deposits and equity instruments	2
Total cash and financial assets at 30 June 2018	279.2
Debt facilities	
Undrawn facilities <sup>3</sup>	75-100
Total cash and undrawn facilities at 30 June 2018	354 - 374

## Capital requirements anticipated

- Complete Sole Gas Project
- Other expenditure including:
  - Sole-2 abandonment
  - BMG abandonment
- Funding required for FY20 drilling program including the securing of rig

## Options available to maintain liquidity and momentum

- Gippsland JV sell-down, subject to value
- Cooper Basin assets, post Sole commencement
- Debt options considered as supplement prior to Sole commencement



<sup>&</sup>lt;sup>1</sup> Funds required to be held in escrow for FY18 offshore drilling program

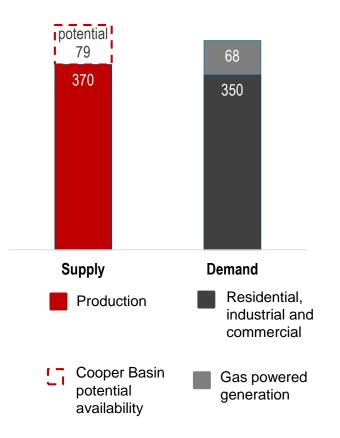
<sup>&</sup>lt;sup>2</sup> Funds held in escrow pursuant to processing agreement with APA

<sup>&</sup>lt;sup>3</sup> Debt available for Sole project completion; \$100m available for completion of project at P90 \$395m to \$75 million available for P50 completion

# From the ACCC Gas inquiry July interim report

## Supply tightly balanced

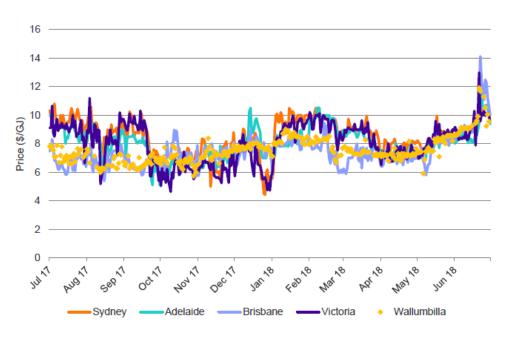
# ACCC forecast 2019 southern states gas supply / demand balance PJ



Source: ACCC Gas Inquiry 2017 – 2020 Interim Report July 2018 p 28

# Prices paid in short term trading markets

## Daily prices paid in domestic short-term markets, July 2017 to June 2018



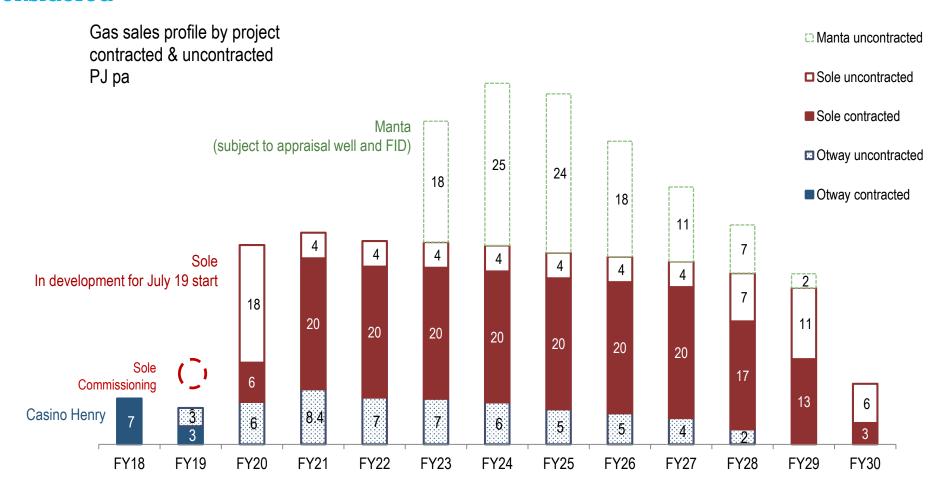
Source: Australian Energy Market Operator

Source: ACCC Gas Inquiry 2017 – 2020 Interim Report July 2018 p 47



# Profile of contracted and uncontracted gas by project (PJ)

Existing assets & projects offer growth over 6 years before exploration opportunities considered



#### Assumes:

- March guarter 2019 first Sole gas to plant
- 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



# 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

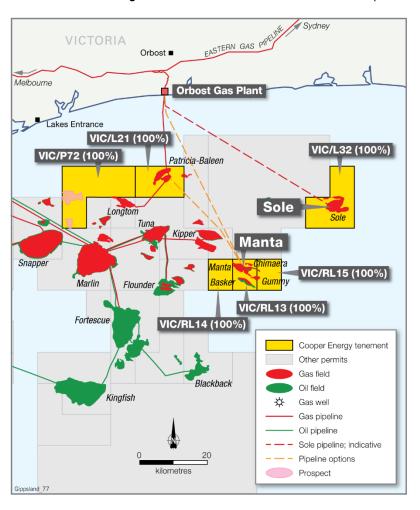
Reserves & Resources <sup>1</sup>		
	Sole 2P Reserves	Manta 2C Resource
Sales gas PJ	249	106
Condensate MMbbl	-	3.2

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.

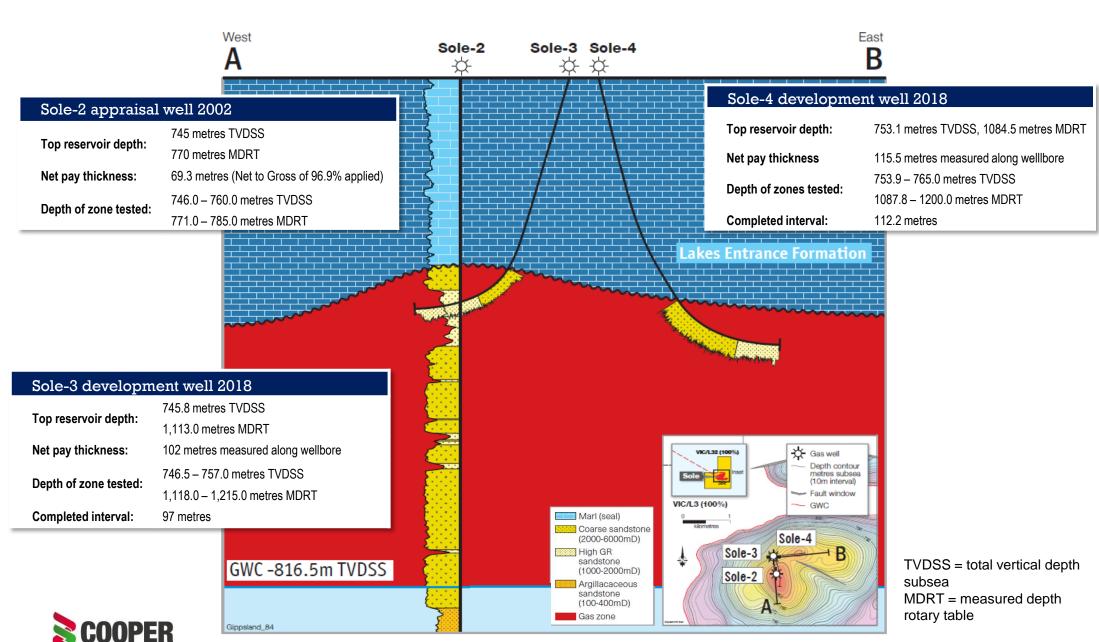


## Key assets (all 100% equity and Operator)

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



# Schematic of Sole-2, 3 and 4



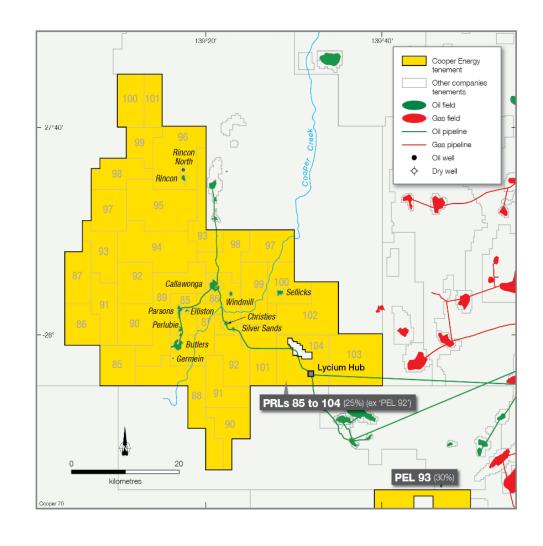
# Cooper Basin FY18

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

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

<sup>&</sup>lt;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.





<sup>&</sup>lt;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.

# Otway Basin, Penola Trough onshore

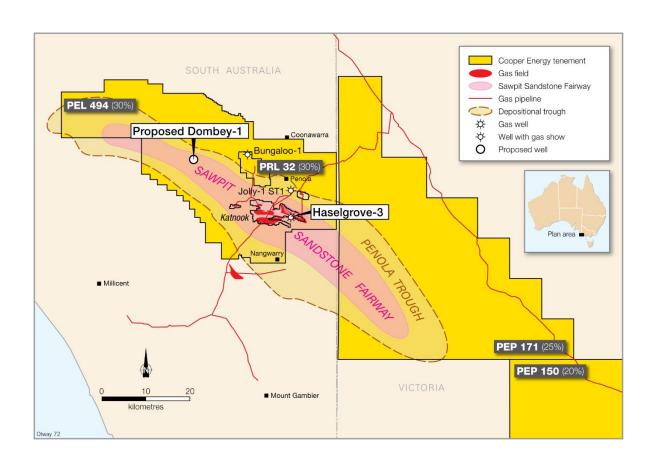
# Haselgrove drilling results confirm prospectivity for deep conventional gas

## **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
- Cooper Energy to assume 100% of PEP 171 on government ratification
- 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	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>
Developed		•				·	•						
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
Sub-total	MMboe	1.1	2.5	0.0	3.6	1.4	4.3	0.0	5.7	1.9	6.0	0.0	7.8
Undeveloped													
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
Sub-total	MMboe	0.1	4.2	34.2	38.5	0.4	5.7	40.6	46.7	1.4	9.3	47.8	58.6
Total <sup>1</sup>	MMboe	1.2	6.7	34.2	42.1	1.8	10.0	40.6	52.4	3.3	15.3	47.8	66.4

<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'.

		1C			2C		3C		
Contingent Resources	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
Total <sup>1</sup>	80	1.8	14.8	125	3.4	23.6	193	5.5	36.8

<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'.



## Notes on calculation of Reserves and Resources

## 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



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

## 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, 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, 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.

# General Manager, Operations Iain MacDougall

lain 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, lain's previous roles include Production and Engineering Manager and then acting CEO at Stuart Petroleum prior to the takeover by Senex Energy.

## 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.

## 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, 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, 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**

**\$, A\$** Australian dollars unless specified otherwise

**Bbl** barrels of oil

Boe barrel of oil equivalent

**EBITDA** earnings before interest, tax, depreciation and amortisation

**FEED** Front end engineering and design

**kbbl** thousand barrels

**m** metres

MMbbl million barrels of oil

MMboe million barrels of oil equivalent

**NPAT** net profit after tax

PEL 92 Joint Venture conducting operations in Western Flank Cooper Basin Petroleum Retention Licences 85–104 previously encompassed by the

PEL 92 exploration licence

PEL 93 Joint Venture conducting operations in Cooper Basin Petroleum Retention Licences PRL 231-233 and PRL 237 previously encompassed by

the PEL 93 exploration licence

TRCFR Total Recordable Case Frequency Rate. Recordable cases per million hours worked

**1P Reserves** Proved Reserves

**2P Reserves** Proved and Probable Reserves

**3P Reserves** Proved, Probable and Possible Reserves

**1C, 2C, 3C** high, medium and low estimates of Contingent Resources

