Developing new gas from offshore south-east Australia





David Maxwell
Managing Director, Cooper Energy
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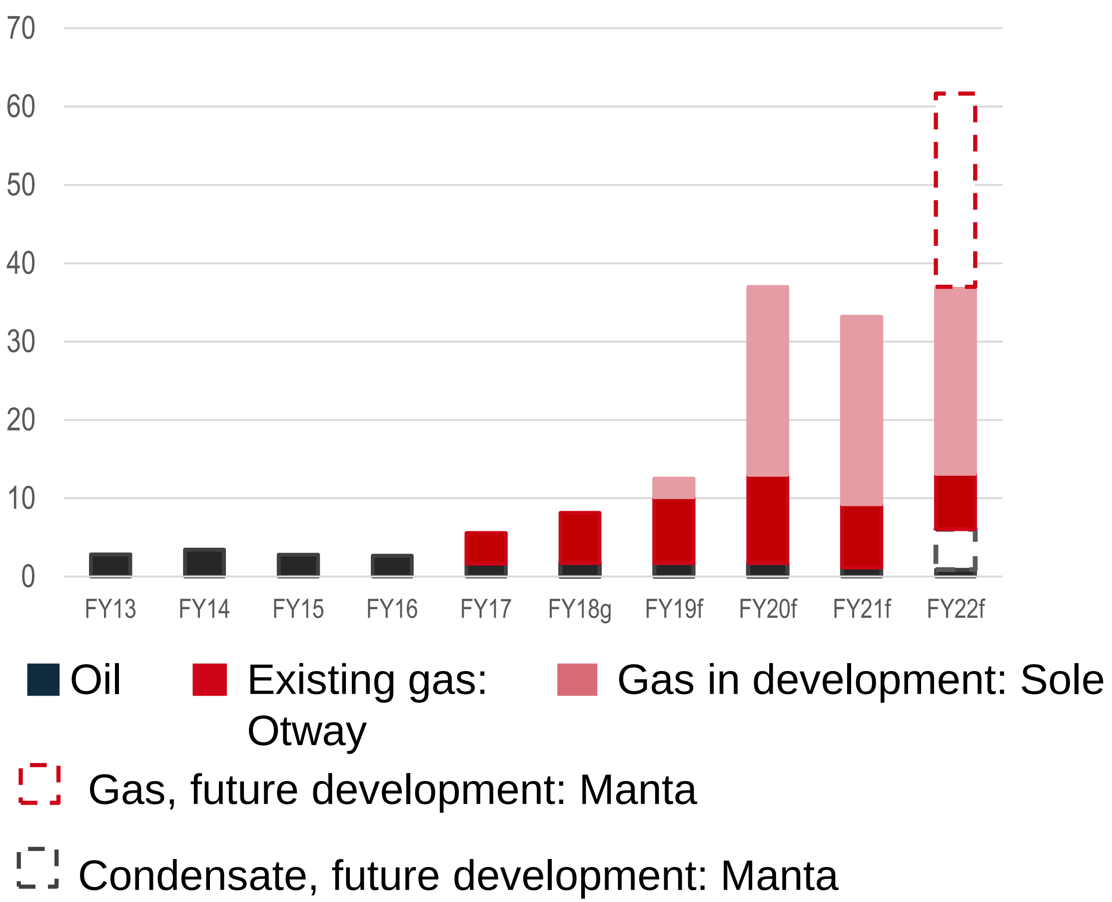
Cooper Energy production and gas reserves and resources

Growing through gas supply to south-east Australia

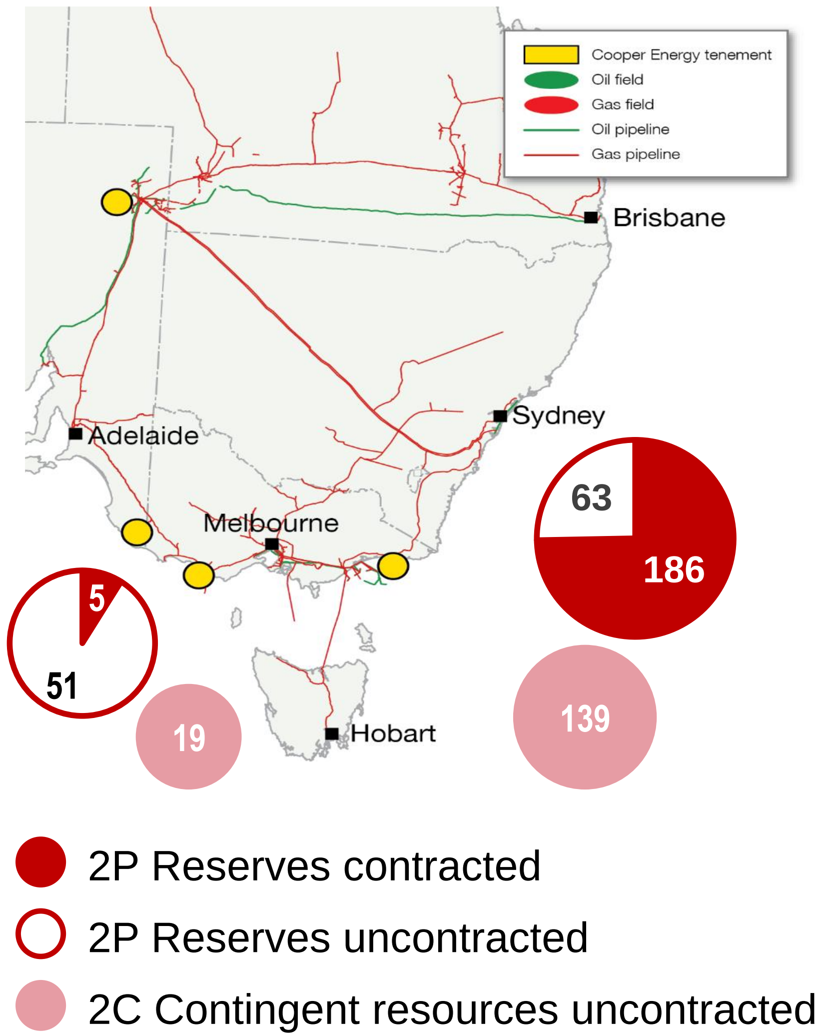
Production

PJ



Gas reserves & resources

PJ



[1] 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.

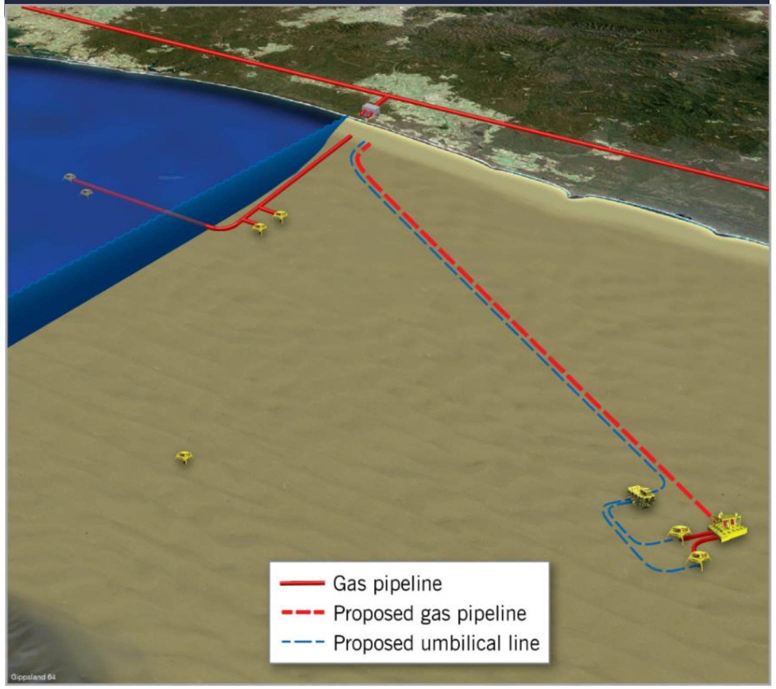
New gas supply for south-east Australia from 2019

Sole gas project - $605 million development, offshore Victoria

Onshore: APA Group

- $250 million upgrade and re-opening of Orbost Gas Plant
- Capability to process gas from other projects
  - including other Cooper Energy gas

Offshore: Cooper Energy



- $355 million subsea development and shore crossing
- Supply 24 PJ pa from mid-2019
- 249 PJ reserves

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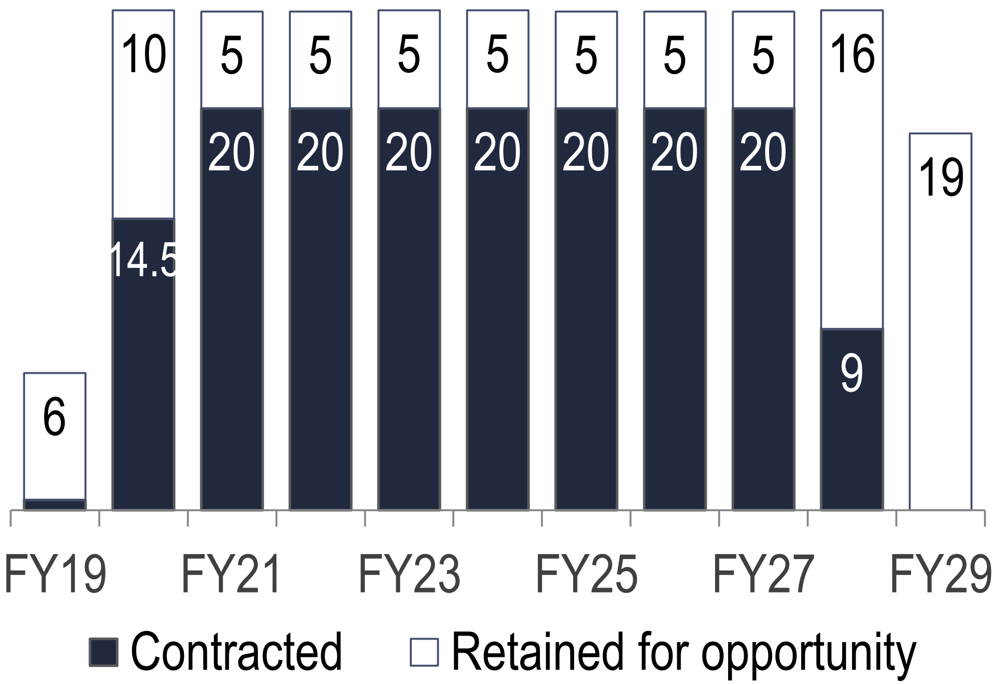
Sole gas 75% contracted for FID & balance available for sale

Gas buyers committed long term off-take at competitive prices

Sole gas supply 75% contracted



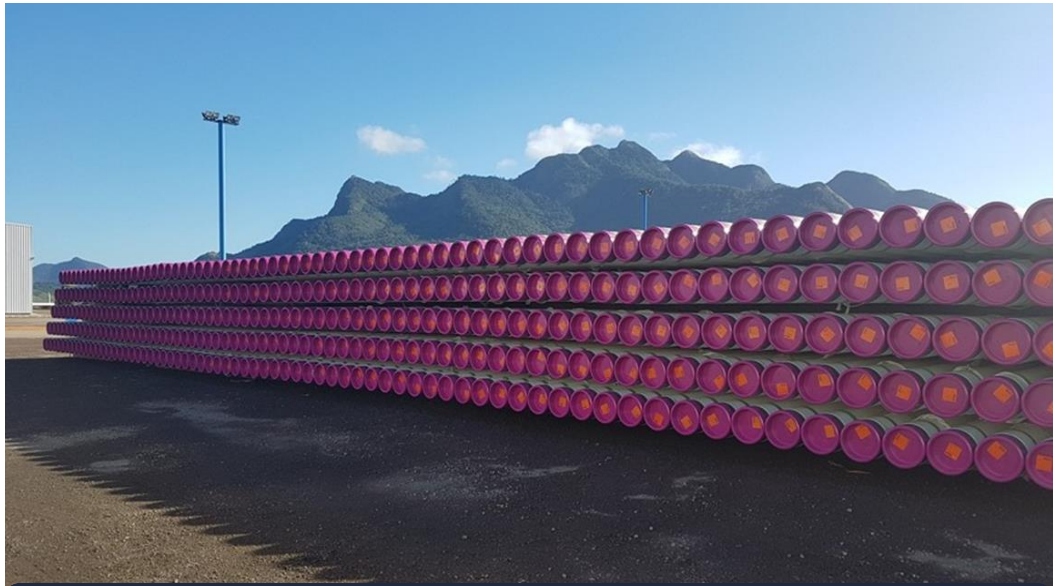
O-I Bottle manufacturing

Sole gas project status

Project on schedule & on budget for first gas to plant March 2019

- 21% complete (offshore project), end-August
- All major equipment and services contracts agreed
  - 15 different countries
- More than 100 government approvals required
  - federal, state and local

Umbilical bell mouth completed & ready



65 km subsea pipeline manufactured

Casing pull-through to HDD

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Sole – timing is important

44 years and 4 owners from discovery to FID

1 **1973**: Sole-1 gas discovery by Shell

2 **2002**: Sole-2 drilled by OMV; flows 20.6 MMcf/d on test

3 **2015**: Cooper Energy buys in, Commence FEED; O-I foundation gas customer,

4 **2016**: Sales agreements (AGL, EnergyAustralia, Alinta); regulator approvals

5 **2017**: APA agrees to acquire & upgrade plant; supply contracts; financing; FID

Sole - why wasn't it developed earlier?

All the key ingredients need to come together at the same time

Sub surface

Low technical risk; excellent reservoir characteristics

- ✓ 249 PJ gas reserves
- ✓ Simple reservoir & subsurface development
- ✓ High deliverability - permeability & porosity
- ? 'Sour' gas (H_2S present), not unusual offshore, treatment options available

Economics

Not economic at prior prices

- ? Gas prices sub $5/GJ till 2015
- ? Cost of >$600 million development plus est $100 million of exploration etc
- ✓ Access to existing infrastructure - Patricia-Baleen gas plant
- ✓ Participation by APA Group from 2017

Market

Waiting for the right time - well supported when its time came

- ? Larger and/or lower cost fields in Gippsland and Otway
- ? Existing Gippsland, Otway and Cooper basin supply sufficient for market
- ✓ Willingness of customers to make the commitment for new supply

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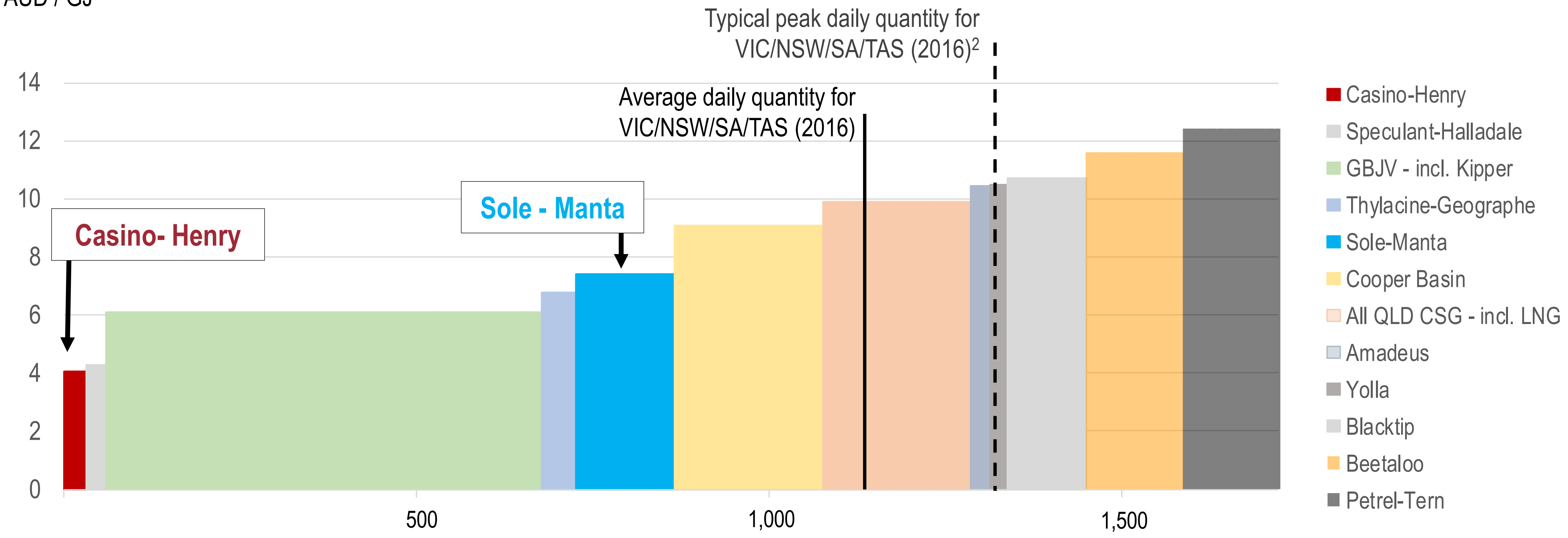
South-east Australia[1] gas supply costs in 2020*

Victorian producers the lowest cost supply option for Victoria.

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

[1] South-east Australia comprises New South Wales, Victoria, South Australia and Tasmania

[2] Cooper Energy estimate. Represents 75% percentile of 2016 daily gas flows

Identifying where to play the "gas to south-east Australia" opportunity

Matching market fundamentals + delivered cost + shareholder value revealed clear winners

South-east Australia: supply v demand

- Many identified tight supply 5 years ago
- Very few took any action - "she'll be right"
- Policy absence
- Crisis – oil price collapse; activism; reserve downgrades

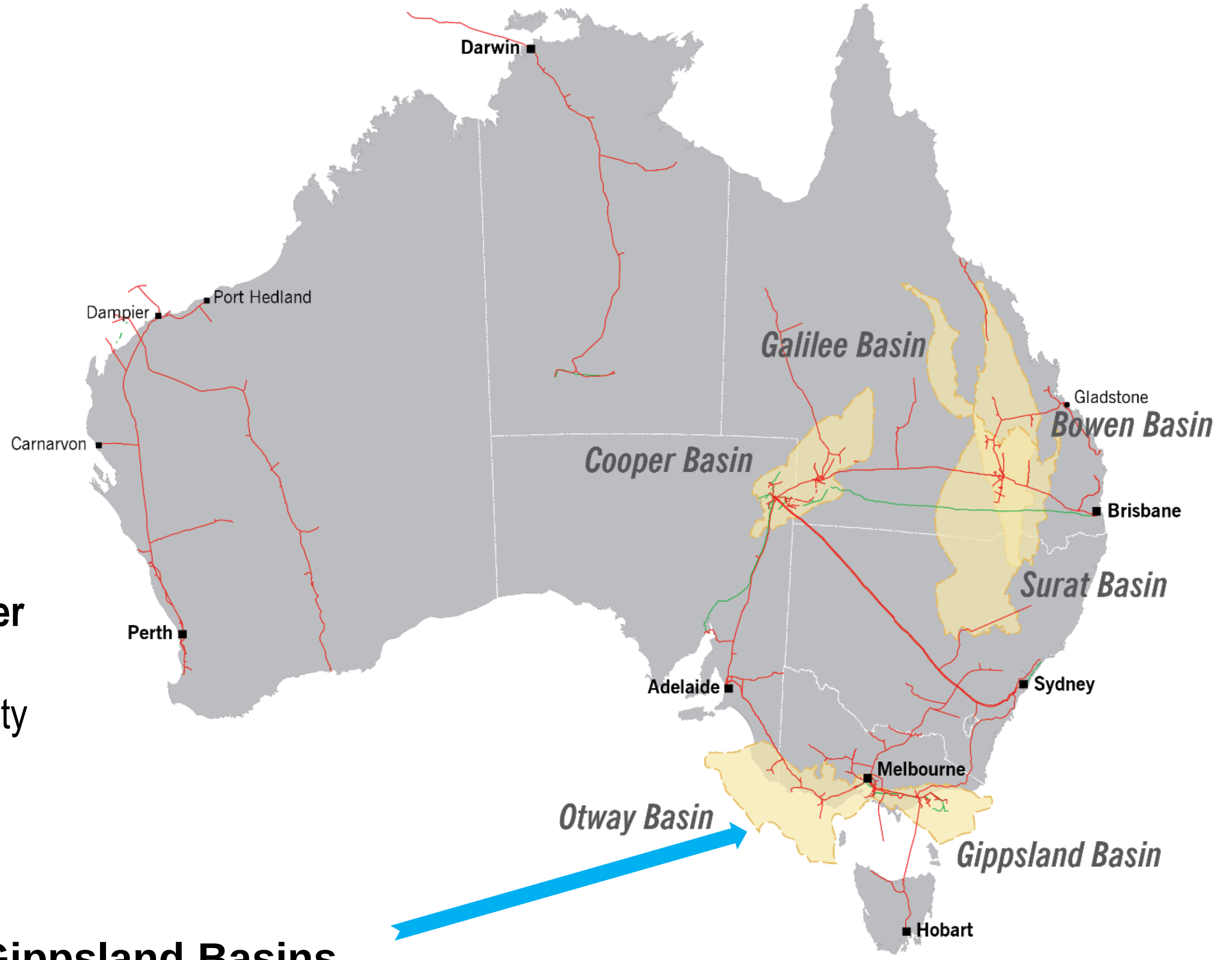
Cooper Energy investment criteria

? Suitable return for risk

? Superior position on delivered cost **to the customer**

? Development foreseeable within 5 years

? Must add value to Cooper Energy and/or opportunity for Cooper Energy to add value



Otway and Gippsland Basins

✓ Conventional gas
✓ Existing infrastructure
✓ Close to market

=

Lowest cost to market
Attractive for equity, debt, counterparties
Front of queue for development
Front of queue for returns

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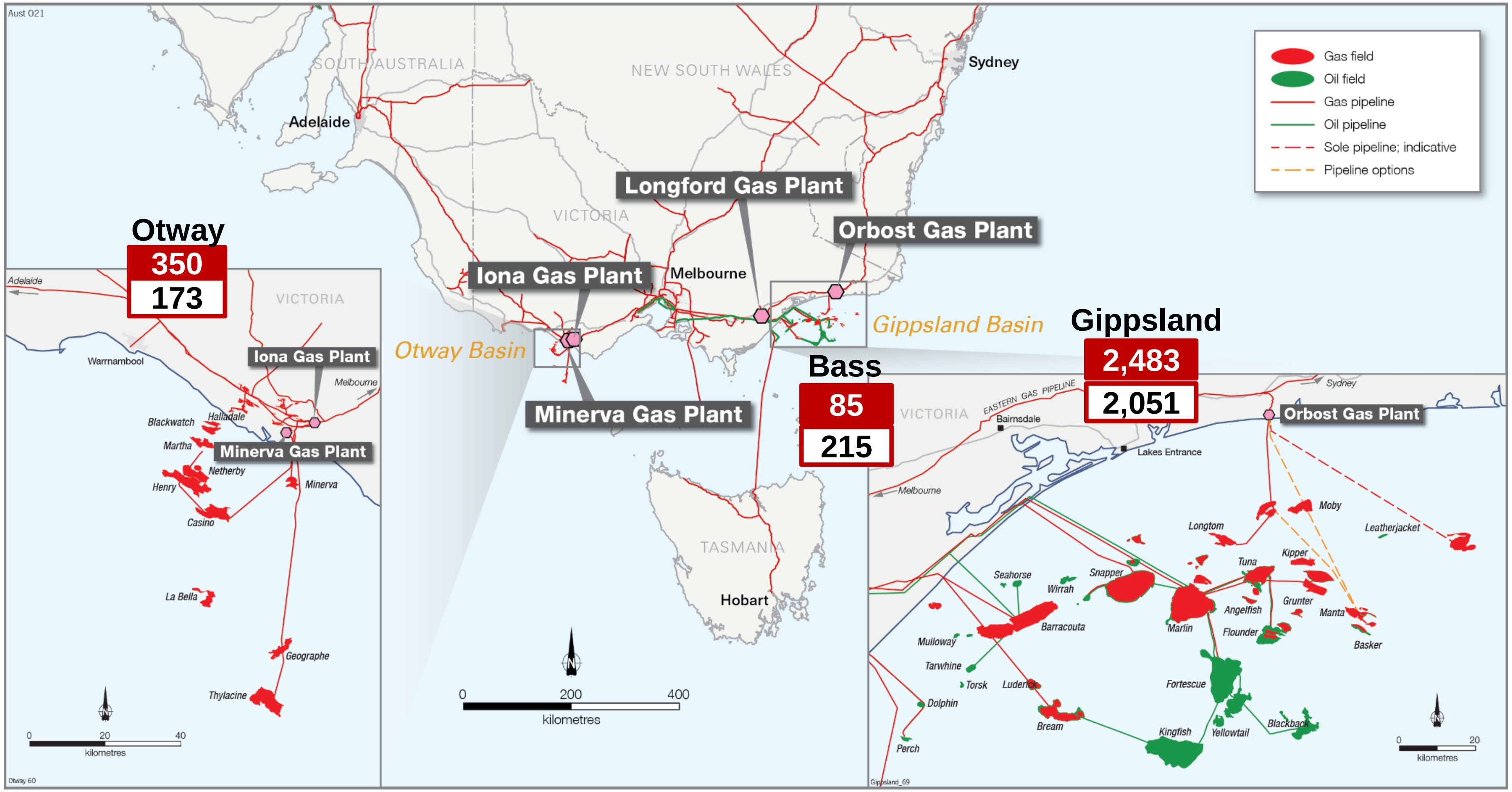
South-east Australia is the best supply source for south-east Australia

Gas supply potential of the Otway and Gippsland Basins is underexploited.



Total

2,918	Natural gas and ethane reserves (PJ)
2,439	Natural gas and ethane Contingent Resources (PJ)

Source: EnergyQuest EnergyQuarterly September 2017

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Drilling activity is responding….. offshore at least

Gas exploration and development drilling is resuming in the Otway and Gippsland Basins

- Cooper Energy is bringing Ocean Monarch to south-east Australia
- Sole (Gippsland) and Casino Henry (Otway)
- Exxon and Lattice also discussing drill slots
- Up to 10 wells including workovers, exploration and production wells
- May assist longer term additional supply

Diamond Ocean Monarch

Bass gas in Exxon's frame due to onshore constraint

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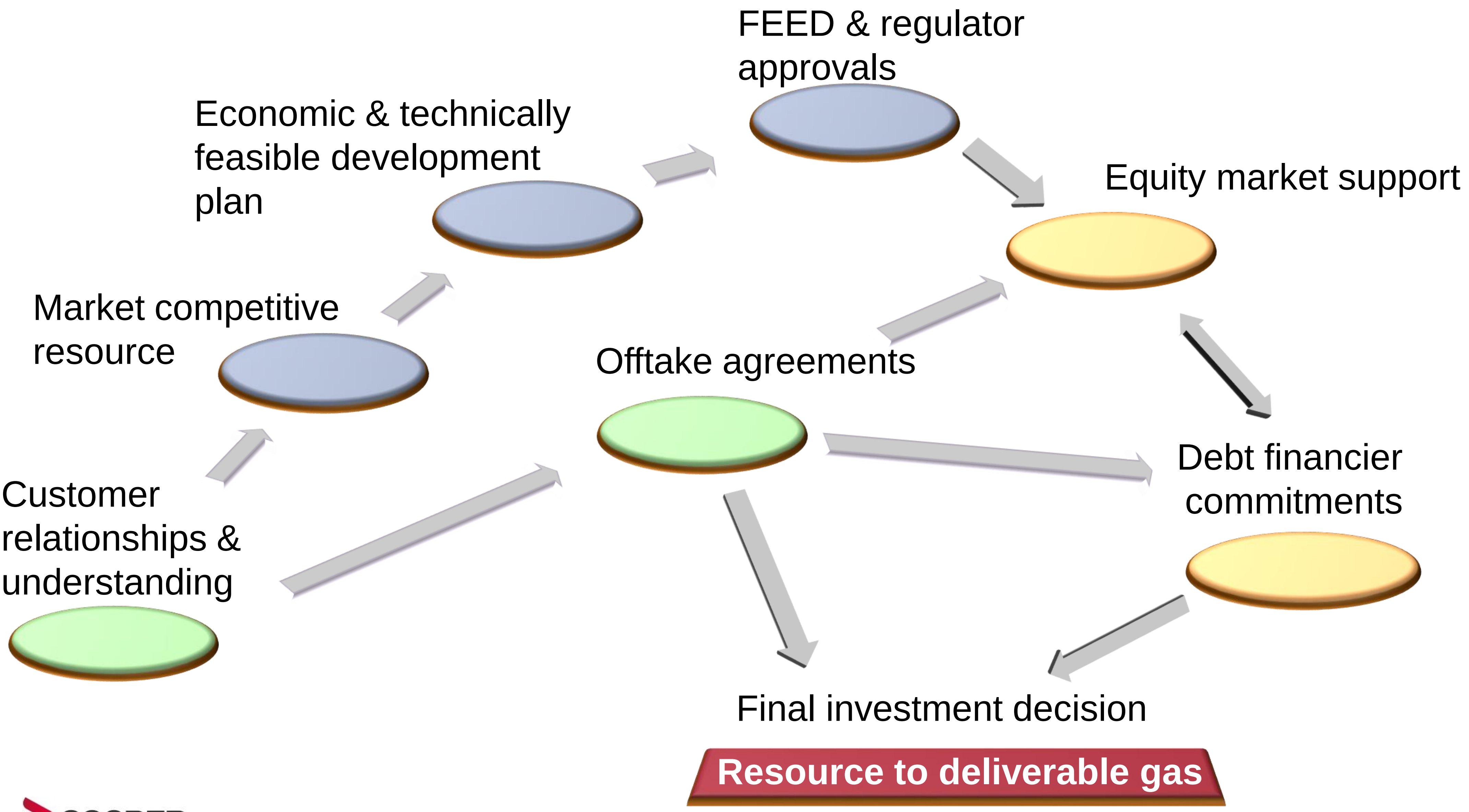
Stepping stones to development

Starts with the right resource and customers and requires clear stable policy



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Wrap-up

Its all about the fundamentals.....

- Business fundamentals determine development and the merit of investment and financing
- Sole gas field is being developed because it is a competitive new source of gas supply. Customers who supported Sole have been rewarded with long term gas supply at competitive prices
- South-east Australia is the most competitive source of gas supply for south-east Australia .....and there are substantial and attractive gas resources and targets to pursue
- The prices that made Sole economic have encouraged a resumption of gas drilling activity … where it can…. offshore Victoria
- Alignment of public and private sectors is still required to fund and enable onshore and offshore gas projects and facilitate a supply side response and better outcomes for gas buyers, users and developers
- Balanced stable energy policy is critical

Appendices

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 resources in accordance with the definitions and guidelines in the Society of Petroleum Engineers (SPE) 2007 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 based on information provided by the permit Operators Beach Energy Ltd, Senex Ltd, Santos Ltd, and BHP Billiton Petroleum (Victoria) P/L. Cooper Energy undertook the following analytical procedures to estimate the Reserves: independent interpretation of 3D seismic data; analysis of historical production data to assess accessed gas volumes and future production forecasts; review of the Operator's reservoir and production simulation models to define raw gas recovery consistent with existing processing facilities; and independent probabilistic Monte Carlo statistical calculations to establish the range of recoverable gas. 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 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, reserves are those petroleum volumes that are 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 comprise Sole field only, where the contingent resource assessment announced to the ASX on 27 February 2017 has been reclassified to reserves. The Gippsland Basin total is net of fuel gas.

Contingent Resources

Under the SPE PRMS, contingent resources are those petroleum volumes that are estimated, as of a given date, to be potentially recoverable from known accumulations but for which the applied projects are not considered mature enough for commercial development due to one or more contingencies.

The contingent resources assessment includes resources in the Gippsland, Otway and Cooper basins. The following material contingent resources assessments have been released to the ASX:

- Manta Field on 16 July 2015; and
- Basker and Manta fields on 18 August 2014.

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

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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
kbbls	thousand barrels
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 Production Licence 207
TRCFR	Total Recordable Case Frequency Rate. Recordable cases per million hours worked
1P reserves	Proved reserves
2P reserves	Proved and Probable reserves
3P	Proved, Probable and Possible reserves
1C, 2C, 3C	high, medium and low estimates of contingent resources

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