



# Otway Basin update

25 October 2021

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EBITDAX (earnings before interest, tax, depreciation, depletion, exploration, evaluation and impairment), EBITDA (earnings before interest, tax, depreciation, depletion and impairment), EBIT (earnings before interest and tax), underlying profit and free cash flow (operating cash flows less investing cash flows net of acquisitions and disposals and major growth capex less lease liability payments) are non-IFRS measures that are presented to provide an understanding of the performance of the Company's operations. Underlying profit excludes the impacts of asset acquisitions and disposals, impairments, hedging, as well as items that are subject to significant variability from one period to the next. The non-IFRS financial information is unaudited however the numbers have been extracted from the financial statements which have been subject to review by the auditor.

This Presentation contains information on petroleum reserves and resources which is based on and fairly represents information and supporting documentation reviewed by Mr Andrew Thomas who is a full time employee of Cooper Energy 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. P50 as it relates to costs is best estimate; P90 as it relates to costs is high estimate.

The estimates of petroleum reserves and contingent resources contained in this presentation are as at 30 June 2021. Cooper Energy is not aware of any new information or data that materially affects the estimates of reserves and contingent resources and the material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed. Cooper Energy prepares its petroleum reserves and contingent resources estimates in accordance with the 2018 Petroleum Resources Management System (PRMS) sponsored by the Society of Petroleum Engineers (SPE). Unless otherwise stated, all references to petroleum reserves and contingent resources quantities in this presentation are Cooper Energy's net share. Reference points for Cooper Energy's petroleum reserves and production are defined points within Cooper Energy's operations where normal exploration and production business ceases, and quantities of produced product are measured under defined conditions prior to custody transfer. Fuel, flare and vent consumed to the reference points are excluded.

Petroleum reserves are aggregated by arithmetic summation by category and as a result, proved reserves may be a very conservative estimate due to the portfolio effects of arithmetic summation. Petroleum reserves are typically prepared by deterministic methods with support from probabilistic methods. Petroleum reserves replacement ratio is the ratio of the change in petroleum reserves (excluding production) divided by production. Organic reserves replacement ratio excludes net acquisitions and divestments. Conversion factors used to evaluate oil equivalent quantities are sales gas and ethane: 1PJ of sales gas and ethane equals 171,937 boe; 1 tonne of LPG equals 8.458 boe; 1 barrel of condensate equals 0.935 boe; 1 barrel of crude oil equals 1 boe.

Numbers in this report have been rounded. As a result, some figures may differ insignificantly due to rounding and totals reported may differ insignificantly from arithmetic addition of the rounded numbers.

Approved and authorised for release by David Maxwell, Managing Director, Cooper Energy Limited.

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# Otway Basin Gas Hub

An integrated operation enabling growing gas supply and free cash flow



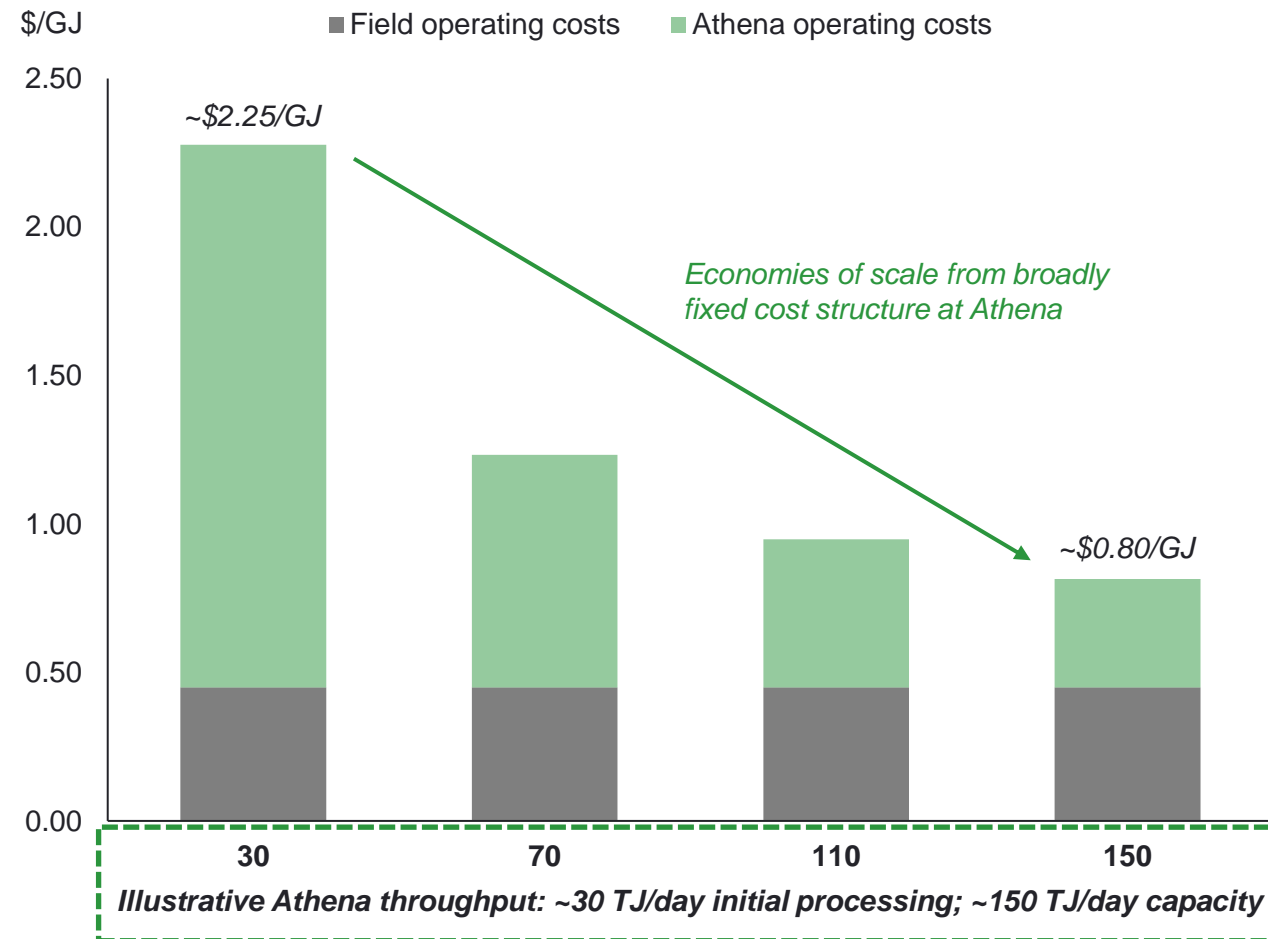
- ✓ Proven cost competitive hydrocarbon basin connected to south-eastern markets
- ✓ Athena Gas Plant commissioned; returning to service in Q2 FY22
  - Low-cost, owned and operated gas processing infrastructure<sup>1</sup>
  - ~150 TJ/day gas processing capacity
  - Significant economies of scale from increasing gas throughput
- ✓ Otway Phase 3 Development (OP3D) preparing for FEED<sup>2</sup>
- ✓ New reprocessed 3D seismic data completed in Q1 FY22
  - Seismic amplitude supported (low-risk) exploration prospects adjacent to existing production infrastructure
  - Targeting updated prospective resource estimates in Q3 FY22

1. Cooper Energy: 50% operated ownership interest; Mitsui E&P Australia: 50%

2. FEED: Front End Engineering and Design

# Athena Gas Plant

Declining cost profile as gas throughput increases



### Athena Gas Plant Metrics<sup>1</sup>

**Processing capacity:** ~150 TJ/day (~55 PJ/year)

**Expected initial processing rate<sup>2</sup>:** ~30 TJ/day

- Existing Casino, Henry and Netherby (CHN) gas production

**Expected Athena operating cost:** ~\$20 million per annum

- ~\$1.80/GJ at 30 TJ/day
- Broadly fixed cost structure provides significant economies of scale from increasing gas throughput

**Current field operating costs:** ~\$5 million per annum

- ~\$0.45/GJ at 30 TJ/day

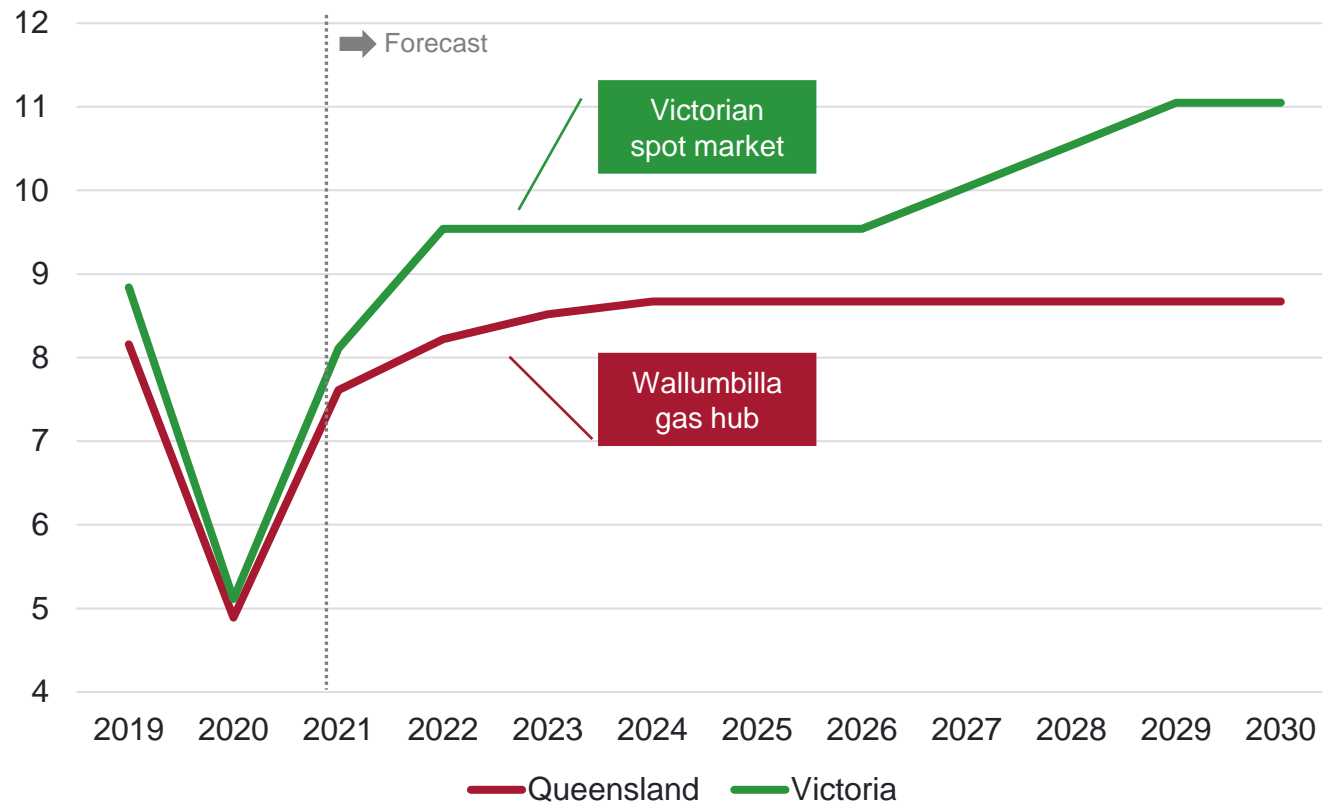
**Current stay-in-business capital expenditure:** Up to \$1 million per annum

1. Figures presented on a gross (100%) basis; current field operating costs assumed constant on a per GJ basis for future gas developments  
 2. Processing of Casino, Henry and Netherby gas expected to commence in Q2 FY22

# Gas price outlook supports new developments

Forecast southern gas supply shortages reflected in price outlook

Forecast gas prices (\$/GJ)<sup>1</sup>



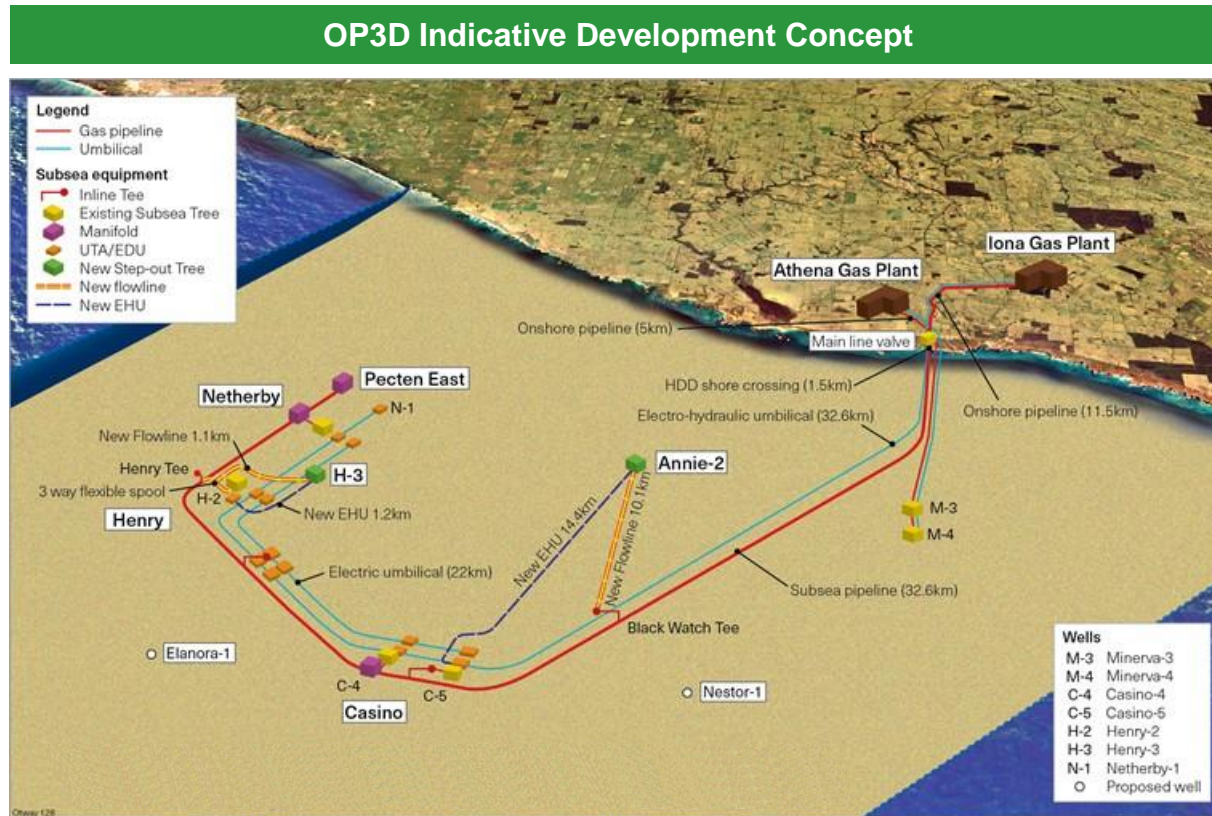
- LNG netback an emerging benchmark for domestic price ex-Wallumbilla
- Transport to Victoria adds \$2.00/GJ - \$2.50/GJ to delivered cost
- Long-term domestic gas prices expected to be \$8/GJ – \$11/GJ
- Average 2022 ACCC forecast LNG netback price of \$24.16/GJ<sup>2</sup>

1. Source: EnergyQuest

2. Source: ACCC; LNG netback price is ACCC's measure of an export parity price that a gas supplier can expect to receive for exporting its gas

# Near-term growth: Otway Phase 3 Development

Commercialising > 120 PJ of gas from the Henry and Annie fields via the Athena Gas Plant

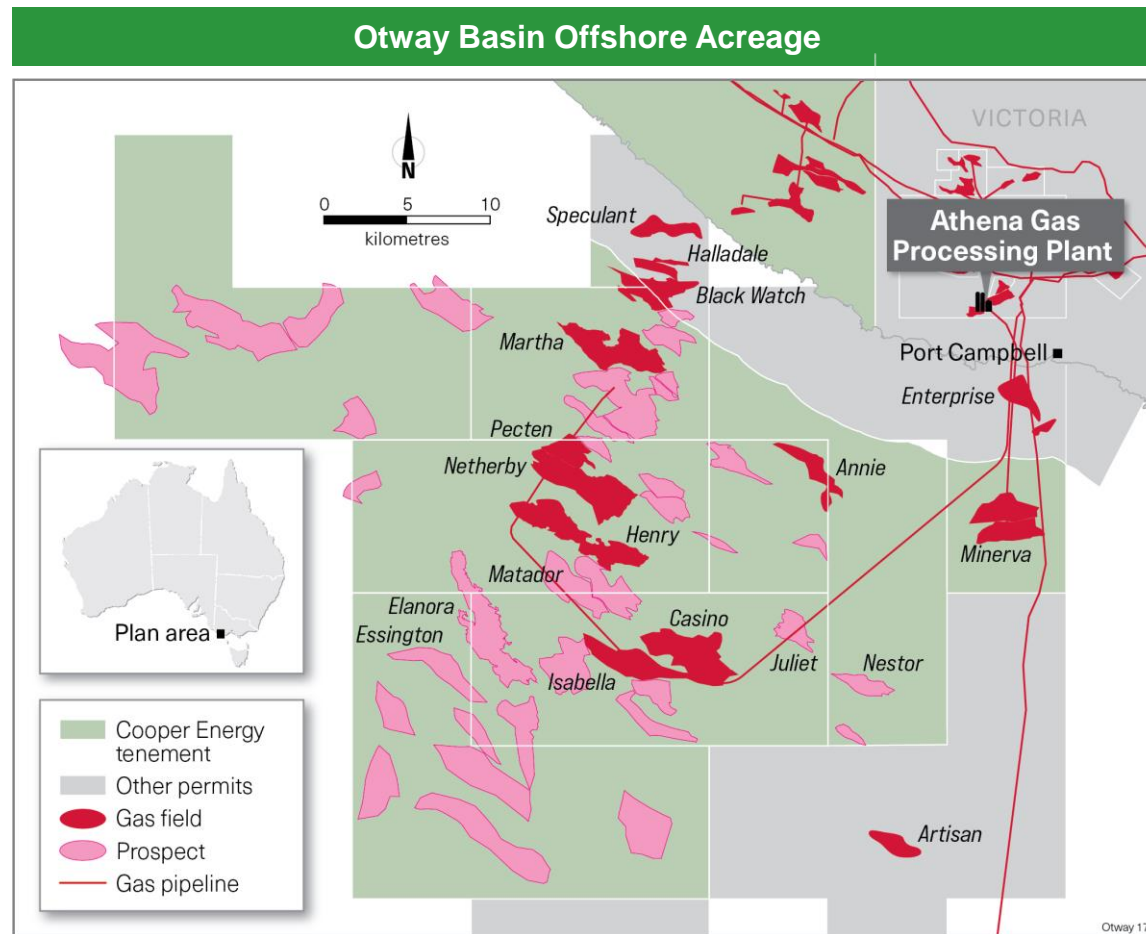


- Two-well drilling campaign
  - Henry-3
  - Annie-2
- Tie-back of wells to the Athena Gas Plant
- Currently preparing to enter FEED
- Potential to add exploration wells to drilling campaign



# Medium-term growth: Otway Basin exploration

Reprocessed 3D seismic data under review to refine prospect seriatim

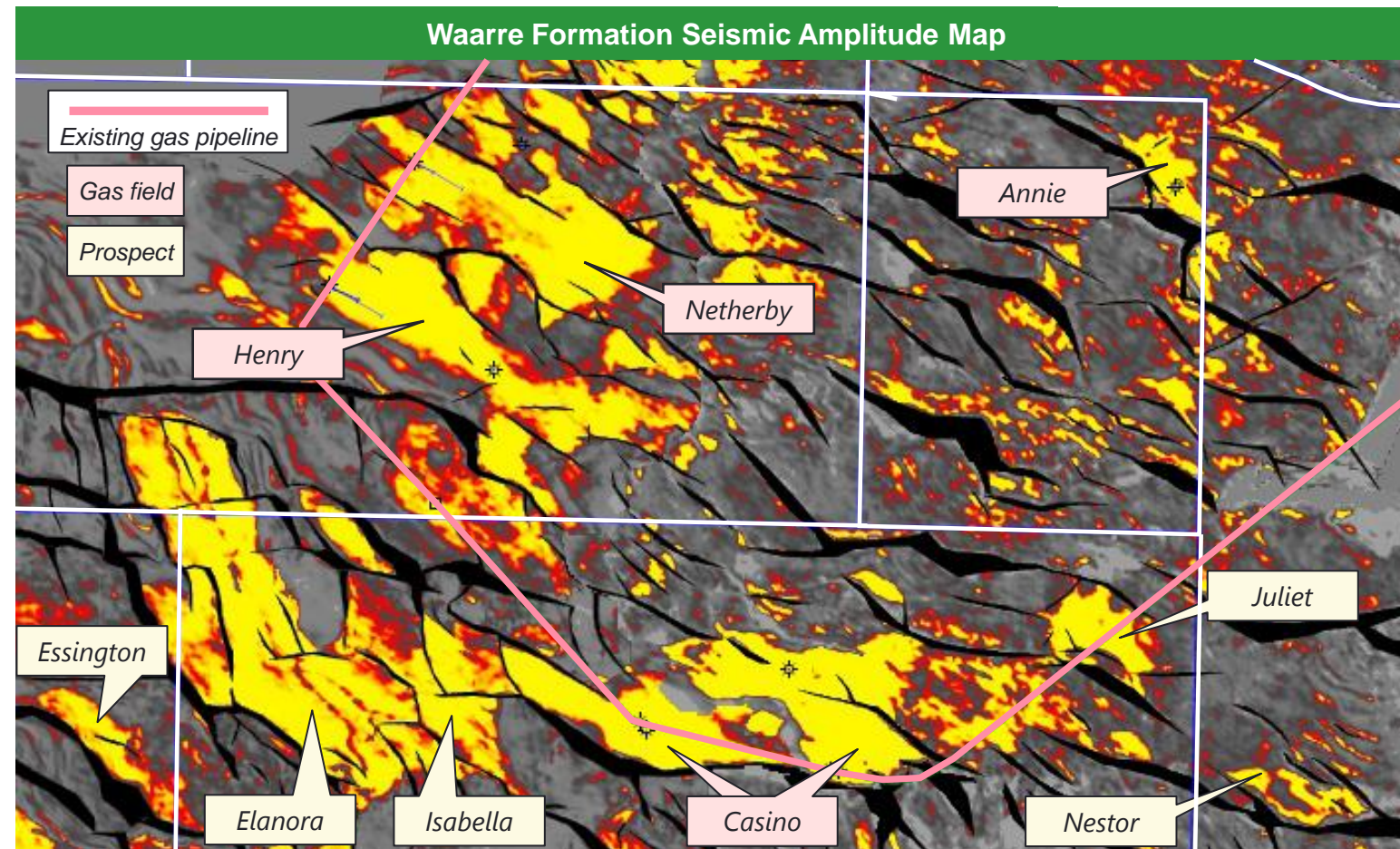


- Reprocessing of 3D seismic data completed in Q1 FY22
- Initial observations confirm seismic amplitude support for key prospects in the Waarre Formation
  - Presence of seismic amplitude is a direct indicator of gas presence<sup>1</sup>
- 100% success rate from drilling seismic amplitude supported prospects in Cooper Energy permits since 2002 (8 wells)
- Recent Beach Energy gas discoveries at Artisan-1 and Enterprise-1 validate seismic amplitude success rates
- Targeting updated prospective resource estimates in Q3 FY22

1. Seismic amplitude is a measure of the contrast in the physical properties between two rock layers. Localised high seismic amplitude anomalies, commonly called bright spots, may indicate the presence of gas within a hydrocarbon trap

# Exploration prospectivity adjacent to fields and infrastructure

Reprocessed 3D seismic data confirms amplitude support for low-risk exploration



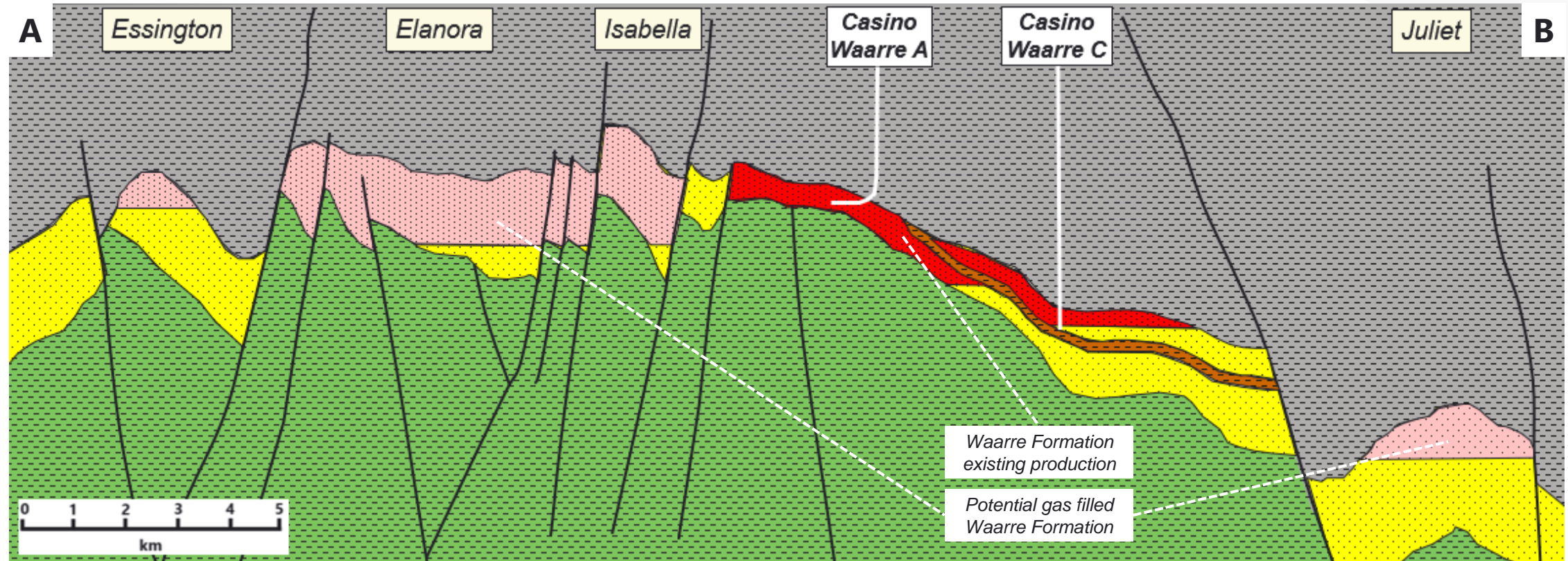
- Existing Casino, Henry and Netherby gas fields clearly identified by seismic amplitudes
  - Cumulative gross production to date of 385 PJ
- Adjacent Essington, Elanora, Isabella, Juliet and Nestor prospects show analogous seismic amplitudes
- Elanora gross prospective resource estimate (P50) of 100 Bcf<sup>1</sup>
- Potential for exploration wells to be retained for production

1. As announced to the ASX on 8 November 2018; there have been no material changes to the information or assumptions contained in this announcement



# Near-field exploration potential

Seismic amplitude supported exploration prospects adjacent to producing gas fields and pipelines

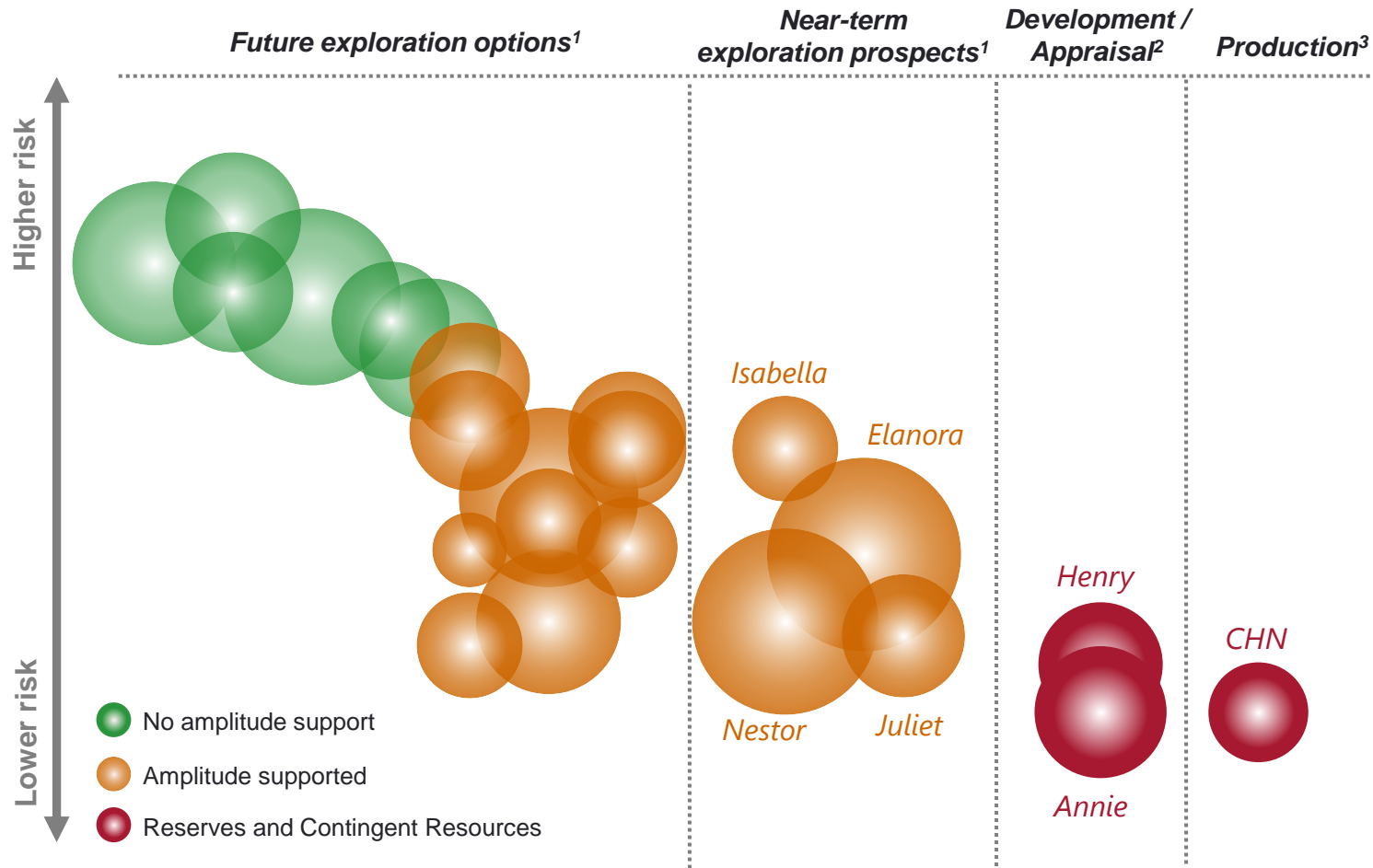


Legend			
	Potential gas filled Waarre Formation		Eumeralla Formation
	Waarre Formation sands		Other formations
	Waarre Formation existing production		Fault line
	Waarre Formation shale		Existing well

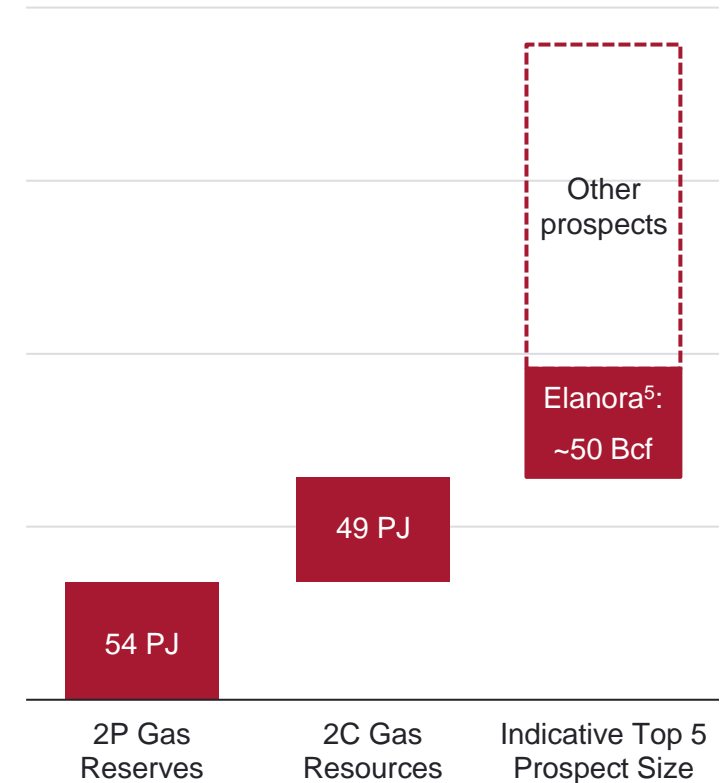


# A broad portfolio of opportunities to pursue

Production, development and exploration opportunities to feed the Athena Gas Plant



Otway Basin Reserves and Resources at 30-Jun-21 (net to Cooper Energy)<sup>4</sup>



1. Bubble size of exploration prospects is based on Best Estimate (P50) unrisks recoverable resource assessment (Cooper Energy net share) 2. Bubble size of Henry is based on 2P Undeveloped Reserves estimate and Annie bubble size is based on 2C Contingent Resources estimate (Cooper Energy net share) 3. Bubble size of CHN is based on 2P Reserves estimate (Cooper Energy net share) 4. As announced to the ASX on 23 August 2021; there have been no material changes to the information or assumptions contained in this announcement 5. As announced to the ASX on 8 November 2018; there have been no material changes to the information or assumptions contained in this announcement

# Key takeaways

## Otway Basin Gas Hub

- ✓ An integrated, low-cost operated gas hub in a proven cost competitive hydrocarbon basin
- ✓ Significant economies of scale from increasing throughput at the Athena Gas Plant
- ✓ OP3D preparing for FEED; >120 PJ of gas to be developed at the Henry and Annie fields
- ✓ New reprocessed 3D seismic data under review to refine prospect seriatim
- ✓ Initial observations confirm seismic amplitude support; greatly improves chances of exploration success
- ✓ Core objective to develop new gas supply and increase throughput at the Athena Gas Plant