# Elixir Energy

# Essential Energy Presentation

18 September 2024

\* See ASX release dated 29 April 2024

ASX:EXR

# Gas - Macro Overview



# The energy transition is very hard

- A wide variety of challenges physical, economic and political – to the desired energy transition
- Now recognised by Governments of all stripes
- Gas is not optional demand will in fact grow



# LNG demand forecast to rise

- Multiple industry and Government parties forecast growing LNG demand
- Asian demand particularly strong
- Australian security of supply valued by geopolitical allies



### East Coast Australia gas supply crisis

- Elixir Energy
- The long recognised supply crunch is now upon us
- Current prices of >A\$12/GJ expected to be a long term floor
- LNG imports inevitable even stronger pricing signals
- Govts will need to act

# The East Coast Gas Crisis is Upon Us

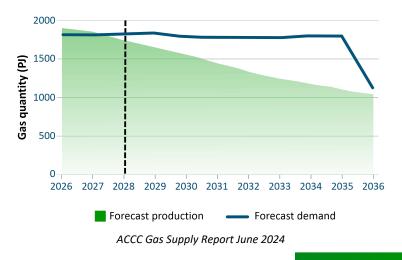
#### The Taroom Trough has the location and scale to make a difference

- For many years industry observers have noted the East Coast gas market faces a rapidly growing gap between demand and supply
- A crunch is now imminent only the intervention of milder weather saved Victoria this winter
- Solutions are sparse and will require time and significant capital expenditure
- LNG imports will almost certainly be required from Port Kembla and also possibly Victoria and/or South Australia
- Imported LNG will cost ~A\$20/GJ and will become a key marginal price setter
- The Taroom Trough's favoured location and vast gas resources – when de-risked – can provide a material contribution to addressing the supply squeeze

### Long-term supply outlook

#### Gas shortfalls possible from 2027

The east coast gas market may experience gas supply shortfalls as early as 2027 unless new sources of supply are made available. The potential emergence of supply shortages is one year earlier than previously reported.



### The Elixir Team

### **Board of Directors**



#### **Richard Cottee**

#### Non-Executive Chairman

Former Managing Director of CSG focused Queensland Gas Corporation (QGC), taking it from market cap of \$20M to \$5.7B

Other former CEO positions include CS Energy, NRG Europe & Central Petroleum



#### **Neil Young**

#### Managing Director

Former Business Development Manager at Santos, where he helped build Santos' CSG business

Multi-country experience in Australia, Mongolia, US, etc



#### **Stephen Kelemen**

#### Non-Executive Director

Extensive technical and commercial career at Santos, including managing its CSG business Current Non Executive Director at Galilee Energy (GLL)



#### Anna Sloboda

Non-Executive Director

Previous employers include Lehman Bros, Clough, Curtin University & Trans-Tasman Resources Current Chair of Lykos Metals (LYK)

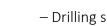
### **Quality Partners and Suppliers**

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- Information Sharing Agreement

Santos

– Data Sharing Agreement



– Drilling services

Stimulation services

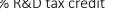


– Drilling management services



- 48.5% R&D tax credit

#### Australian Government

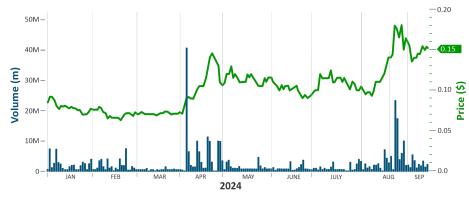


### Corporate

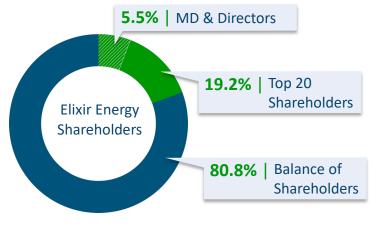
#### **Capital Structure**

Capital Structure	Current
Number of Shares	1,196 million
Options & Perf Rights	132 million
Market Capitalisation (at A\$0.15)	A\$180 million
Cash (30/6/24 – inclusive of R&D)	A\$10 million
Enterprise Value	A\$170 million

#### **Share Price Performance**



#### **Shareholder Information**

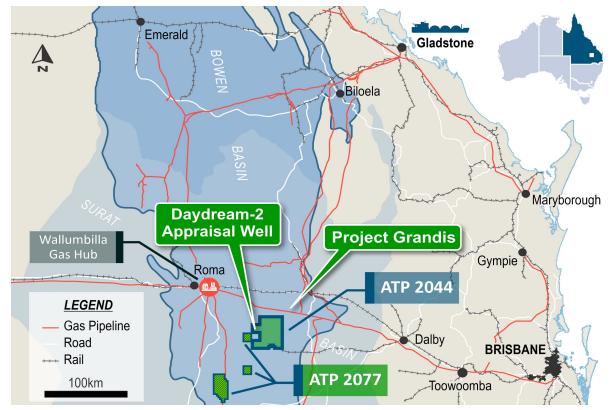


#### **Company Liquidity**



### The Taroom Trough – An Advantaged Location

### The prolific Bowen Basin is now set to deliver another energy source



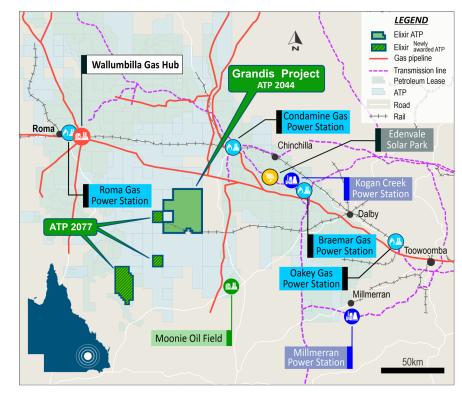
- The Grandis Gas Project is very well located in the Taroom Trough in the Southern Bowen Basin
- Australia's premier physical and commercial gas hub – Wallumbilla – is immediately adjacent
- Market factors are now driving new rounds of drilling in the Taroom Trough - including by Majors
- Pipeline costs minimal material savings per GJ – as well as avoidance of financing concerns over new transmission pipelines
- Long term community acceptance of oil and gas locally
- Australia's onshore oilfield service sector is centred in the region

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# Material and Growing Energy Infrastructure

### The Taroom Trough is adjacent to substantial and growing energy infrastructure

- New energy sources always benefit from adjacency to existing energy infrastructure – brownfields economics apply
- The region has a substantial existing gas fired generation fleet – and plans for more (and potentially much more as Queensland's energy mix evolves)
- Complementary gas storage assets are already in the area - with an arguable need for much more – cheaper and less politically challenged than greenfields pumped storage hydro
- The existing gas transmission network, centred around the Wallumbilla Hub, provides ready market access to both LNG and domestic gas markets
- Greenfields gas transmission developments are likely challenged by ESG concerns from investors (and lawfare) – not relevant in brownfields location



## Daydream-2 makes multiple breakthroughs Over-pressured Basin Centred Gas (BCG) play now proven



Game-changing mechanical earth model validated



Coal desorption via cuttings identifies very high gas content



Free-flowing gas reservoir below 4,200m



Successful pinpoint stimulation using micro-proppant



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Stimulated deep coal zone flows gas for first time

Low CO2 – pipeline spec - confirmed



## **Commercial Flow Rate Achieved**

### Elixir's Daydream-2 well has a low commercially viable flow rate

- Economic Modelling shows a breakeven flowrate of ~2.5 MMCFPD<sup>1</sup>
- Stabilized rates of 2.5 MMCFPD<sup>2</sup> achieved from Lorelle sandstone only
- Fully "cleaned-up" rate from all zones to come shortly
- 1. See ASX release 20/04/2024
- 2. See ASX release 16/08/2024

### **Key Assumptions**

Breakeven Flowrate:	2.5 MMCFPD
Recoverable Gas:	3 BCF
Initial Development:	100 deviated wells Gas sold at field gate First production 2029
Project Life:	40 Years
Gas Price:	A\$10/GJ at the field gate
CO2 Content:	~1%

A A\$2/GJ increase in gas price would result in the breakeven flow rate lowering by ~0.5 MMCFPD

## Cracking The Taroom's Code

### The vast gas resources of the Taroom Trough are starting to be unlocked



In ATP 2044, the primary current play-type is BCG - which is an unconventional accumulation with no structural trap required - the gas is present permit wide. Often called a "permeability jail"



Elixir sees Grandis as a "stack" play – appraise vertically, develop high angle deviated and utilise horizontals for sweet-spots



Deeply buried permeable sands can provide sweet-spots such as observed in the Lorelle sandstone

Three Operators actively drilling with more to drill in 2025. Cooperative culture being developed

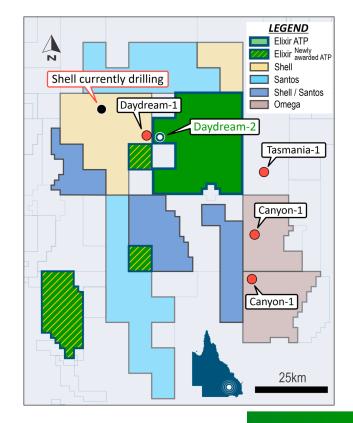
"This is not the end. It is not even the beginning of the end.... But it is, perhaps, the end of the beginning. " (W S Churchill)

# Multiple Operator Activity

### The Taroom Trough is currently the host of the largest onshore appraisal investment on the East Coast

"An apparent gas strike by energy giant Shell deep underground in onshore Queensland has fuelled industry hopes of a potential major new source of energy that could ease the threat of shortages in the tight east coast market". (Australian Financial Review 9/9/24)

- **Shell:** Towards end of large capex 3-well appraisal program. *"The estimate of recoverable hydrocarbons....is 3.0 Tcf sales gas<sup>1</sup>."*
- Santos: Executed Data Sharing Agreement with Elixir. *"If the play works then we believe there is multi-Tcf potential"* (Kevin Gallagher Santos CEO AFR 14/11/18
- Elixir: 2C contingent resources of 1,470 Bcf and 2U prospective resources of 3,603 Bcf to be upgraded post imminent end of Daydream-2 program
- **Omega:** 2C contingent resources of 1.7 Tcf. Stimulated horizontal well to be spud imminently



### Attractive to Large Sources of Capital

Securing material capital for gas development needs to pass through multiple gates



 The best source of capital for new gas developments is arguably existing large oil and gas companies – they provide not only money, but multiple technical, commercial and political skill sets

- The Taroom Trough is a favourable location for such large companies:
  - Brownfields many majors,

01

03

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large LNG buyers, etc, are already in Queensland – and even for those who are not, the existence of the incumbents reduces risk perceptions

Materiality – the resource size is multi-Tcf (with possibly 100Ms of bbls of liquids) and could accept billions of dollars of investment

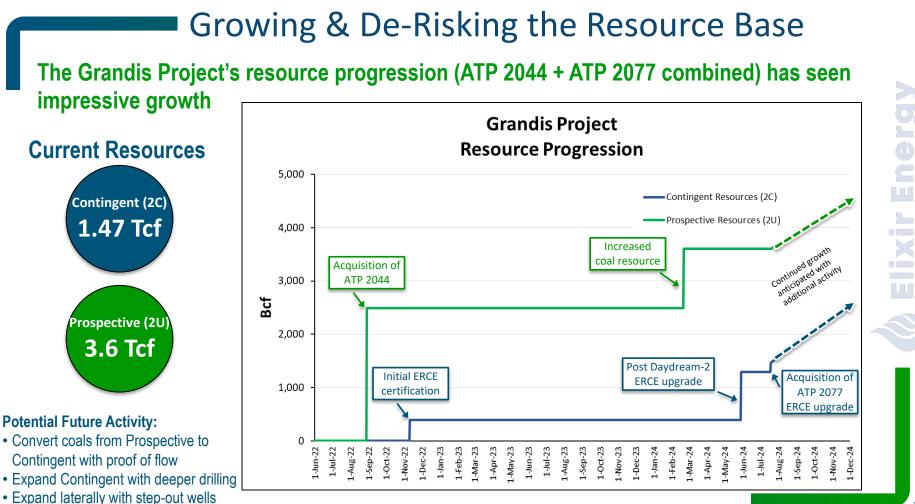
Investments in the future can be varied in response to market conditions – a key feature of an onshore unconventional play close to existing infrastructure

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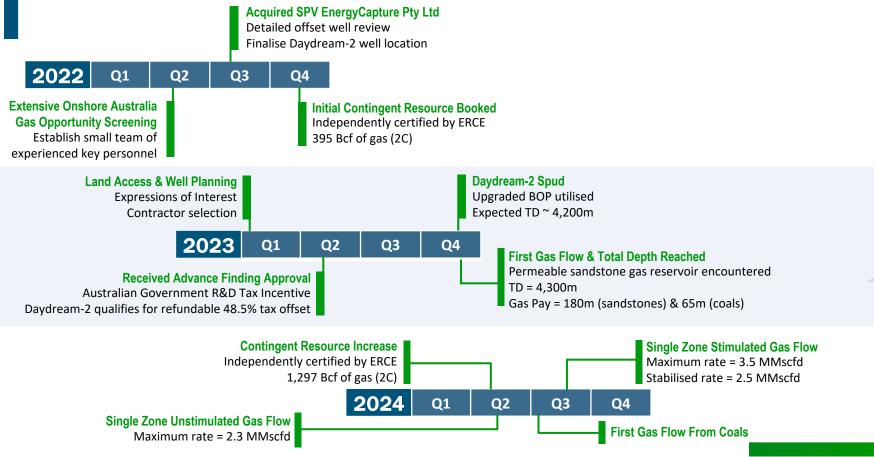
Low emissions profile – the Taroom is low in CO2 (pipeline spec) and has a long term pathway to reducing scope 1 & 2 emissions from electrification, etc

Low sovereign risk – Queensland is a favourable location within Australia for resource investments – and despite some recent sins at Federal level, Australia itself is still much better than most of the world



Refer to Appendix 1 for full disclosure of resource numbers & methodologies

# **Grandis Project - Timeline**



## Mongolian CBM Asset Overview

Elixir was the pioneer in another gas play opener – CBM in Mongolia

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Elixir's foundation asset – the 100% owned Nomgon IX Coal Bed Methane (CBM\*) Production Sharing Contract (PSC) project in the South Gobi region of Mongolia

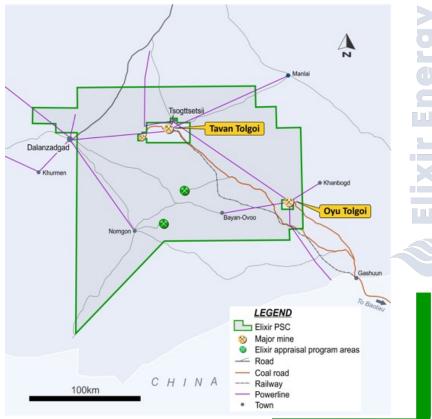
02

 Highly experienced CSG team – first mover in taking Australia's industry leading skills to Mongolia

- 03 | Located on Mongolian/Chinese border with excellent infrastructure, mines and planned pipelines
  - This location provides many market options –<br/>domestic and export
  - 6 Exploration commenced in 2019 and first CBM discovery made in 2020

07 Production Pilot Project will be ongoing though 2024

\* Coal Seam Gas – CSG – is usually referred to as CBM outside Australia



## **Extended Pilot Production Test**

The Nomgon project is getting ever closer to a key inflection point – a commercial flow rate

#### **Progress to date**

- Mongolia's first CBM pilot commenced in late 2022
- Early gas flows likely due to dual porosity/perm
- Meaningful gas production from coal desorption requires de-pressurisation from longer term water production from what are now 3 pilot wells
- Applying careful monitoring of water production rates to minimise formation damage and wellbore "skin" and ultimately improve gas rates

#### Goals for 2024

- Continue to produce water and lower reservoir pressure
- Predicting gas breakthrough as early as end of 2024
- Additional investment to get to gas breakthrough assessed currently as not being required

#### Nomgon-9 flare



## Multiple Short Term Work Streams

Short term activity and newsflow in Queensland and Mongolia

#### Grandis

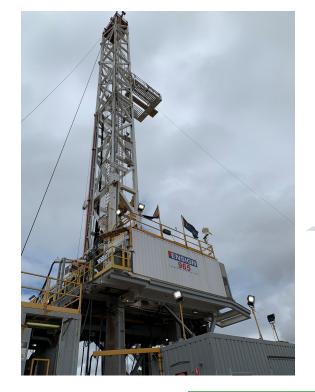
- 1. Daydream-2 clean-up and testing of all zones continues through September/early October
- 2. Completion and formal production testing under consideration
- 3. Planning for Daydream-3
- 4. Contingent Resource upgrades underway
- 5. Partnering discussions

#### Diona

- 1. Recently acquired ATP-2077 (Project Diona) conventional oil & gas prospectivity assessment completed
- 2. Prospects maturing for drilling considering SW block farm-out

#### Mongolia

1. Nomgon pilot plant continuing towards gas breakthrough



### Summary



The World needs more gas for longer – now explicitly recognised by Govt policy

The Taroom is currently

hosting multiple operator

programs under which

\$100Ms are being spent



The East Coast has very strong pricing, a growing supply gap & LNG plant ullage





The massive Taroom unconventional gas play is starting to be unlocked with multiple achievements to date



The Taroom Trough has multiple locational advantages to serve these markets



Testing program to be finalised imminently – which will catalyse the next activity stages

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## Appendix 1A – Contingent Resources

Based on the work undertaken by Elixir in ATP 2044, the Company sought an independently certified contingent resource estimate (from international firm ERC Equipoise Pty Ltd – "ERCE") for ATP 2077 Sub-block A – see table below. The subclass of Contingent Resources (as defined under the PRMS) is "Development Unclarified", as of 16th August 2024.

ERCE Contingent Resource Certification <sup>1</sup>								
	10		2C		3C			
Kianga & Back Creek	Gas	Condensate	Gas	Condensate	Gas	Condensate		
Reservoirs Only	BCF	MMbbls	BCF	MMbbls	BCF	MMbbls		
ATP 2077	68	0.6	173	1.8	439	5.3		
ATP 2044	405	3.0	1,297	10.8	4,290	36.1		
TOTAL PROJECT GRANDIS <sup>2</sup>	473	3.6	1,470	12.6	4,729	41.4		

Notes:

- 1. These are un-risked contingent resources that have not been risked for the chance of development and there is no certainty that it will be economically viable to produce any portion of the contingent resources. These contingent resources are classified as "Development Unclarified".
- 2. Totals added arithmetically

Detailed notes on the background to the preparation of the contingent resources report are set out in Appendix 1.

### Appendix 1B – Prospective Resources

The prospective resources of gas in the Permian coals in ATP 2044 includes both an adsorbed and fractured component, and is estimated as follows:

Total Unrisked Prospective Resources <sup>1</sup>						
Recoverable Gas	1U <sup>2</sup>	2U <sup>3</sup>	Mean⁴	3U⁵		
associated with coal seams	(BCF)	(BCF)	(BCF)	(BCF)		
Adsorbed Coal	755	2,316	3,702	8,497		
Fractured Coal	401	1,287	1,841	4,135		
Total Prospective Resources in Coal*	1,156	3,603	5,543	12,632		

\*added arithmetically

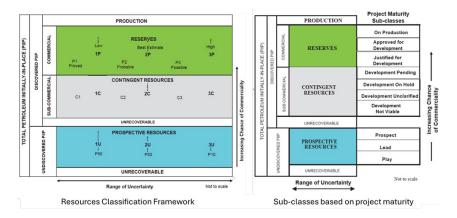
Notes:

- 1. Each reservoir target was evaluated probabilistically, and the reservoirs were added together arithmetically.
- 2. At least a 90% probability that the quantities actually recovered will equal or exceed the estimate (low estimate).
- 3. At least a 50% probability that the quantities actually recovered will equal or exceed the estimate (mid estimate).
- 4. The arithmetic average of the probability distribution.
- 5. At least a 10% probability that the quantities actually recovered will equal or exceed the estimate (high estimate).
- 6. Prospective Resources have been assessed on the basis that they are unconventional in nature.
- 7. BCF means billion standard cubic feet of gas.
- 8. MMbbl means million barrels of oil or condensate.

Detailed notes on the background to the preparation of the prospective resources report are set out in Appendix 1.

### Appendix 1C – Notes to Resource Statements

- 1. The evaluation date of the ERCE Contingent Resources is 27<sup>th</sup> May 2024 and 16<sup>th</sup> August 2024 for ATP 2044 and ATP 2077 respectively.
- 2. Elixir's working interest share of ATP 2044 and ATP 2077 is 100%.
- 3. The Contingent Resources are considered to be in the "development unclarified" category as defined by the 2018 PRMS SPE-PRMS standards.



- 4. Per Listing Rule 5.33.5, the land area and the number of wells for which the estimates of contingent resources are provided are 1,000 km<sup>2</sup> and ~300 wells and 76 km<sup>2</sup> and ~20 wells respectively for ATP 2044 and ATP 2077 (for the 2C case).
- 5. BCF means Billions of Standard Cubic Feet.
- 6. MMbbls means Millions of Stock Tank Barrels.
- 7. The totals are based on probabilistic aggregation of reservoir estimates.
- 8. Contingent resource assessments in this release were estimated using probabilistic methods in accordance with 2018 PRMS SPE-PRMS standards.
- 9. The data used to compile the independent contingent resources report includes detailed geological interpretation of seismic, well, core and test data within the region.

- 10. ERCE has used standard petroleum evaluation techniques in the preparation of this report. These techniques combine geophysical and geological knowledge with assessments of porosity and permeability distributions, fluid characteristics and reservoir pressure. There is uncertainty in the measurement and interpretation of basic data. ERCE has estimated the degree of this uncertainty and determined the range of petroleum initially in place and recoverable hydrocarbons. The accuracy of estimates of volumes of gas is a function of the quality and quantity of available data and of interpretation and judgment. While the estimates of contingent resources presented herein are considered reasonable, these estimates should be accepted with the understanding that reservoir performance subsequent to the date of the estimate may justify revision, either upward or downward. There is no certainty that it will be economically viable to produce any portion of the contingent resources.
- 11. This document contains forward looking statements that are subject to risk factors associated with the oil and gas industry. It is believed that the expectations reflected in these statements are reasonable, but they and or their timing may be affected by many variables which could cause actual results or trends to differ materially. The technical information provided has been reviewed by Mr Gregory Channon, Chief Geoscientist of Elixir Energy Limited. Mr Channon is a qualified geologist with over 35 years technical, commercial and management experience in exploration for, appraisal and development of, oil and gas. He is qualified as a competent person in accordance with ASX listing rule 5.41. Mr Channon is a member of the American Association of Petroleum Geologists and consents to the inclusion of the information in the form and context in which it appears.
- 12. Prospective Resources are those estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s) related 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. The estimate of Prospective Resource was compiled by Elixir's Chief Geoscientist, Mr Greg Channon, who has completed a detailed and formal report on the prospective resources of the adsorbed coal in ATP 2044 dated 20 February 2024. The work was undertaken in accordance with the Society of Petroleum Engineers internationally recognised Petroleum Resources Management System 2018 (PRMS). Mr Channon's methodology was to compile and review all available data and make interpretations of (amongst other things) the adsorption and proximate analysis, wireline logs, seismic data and historical well records relevant to the permit area. An estimate of the gross and net rock volume was determined, and from that, a probabilistic distribution of the prospective resource was compiled. A site visit to the area was conducted.

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