

## **Annual General Meeting**

**13<sup>th</sup> November 2018**

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# Legals

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## **Disclaimer**

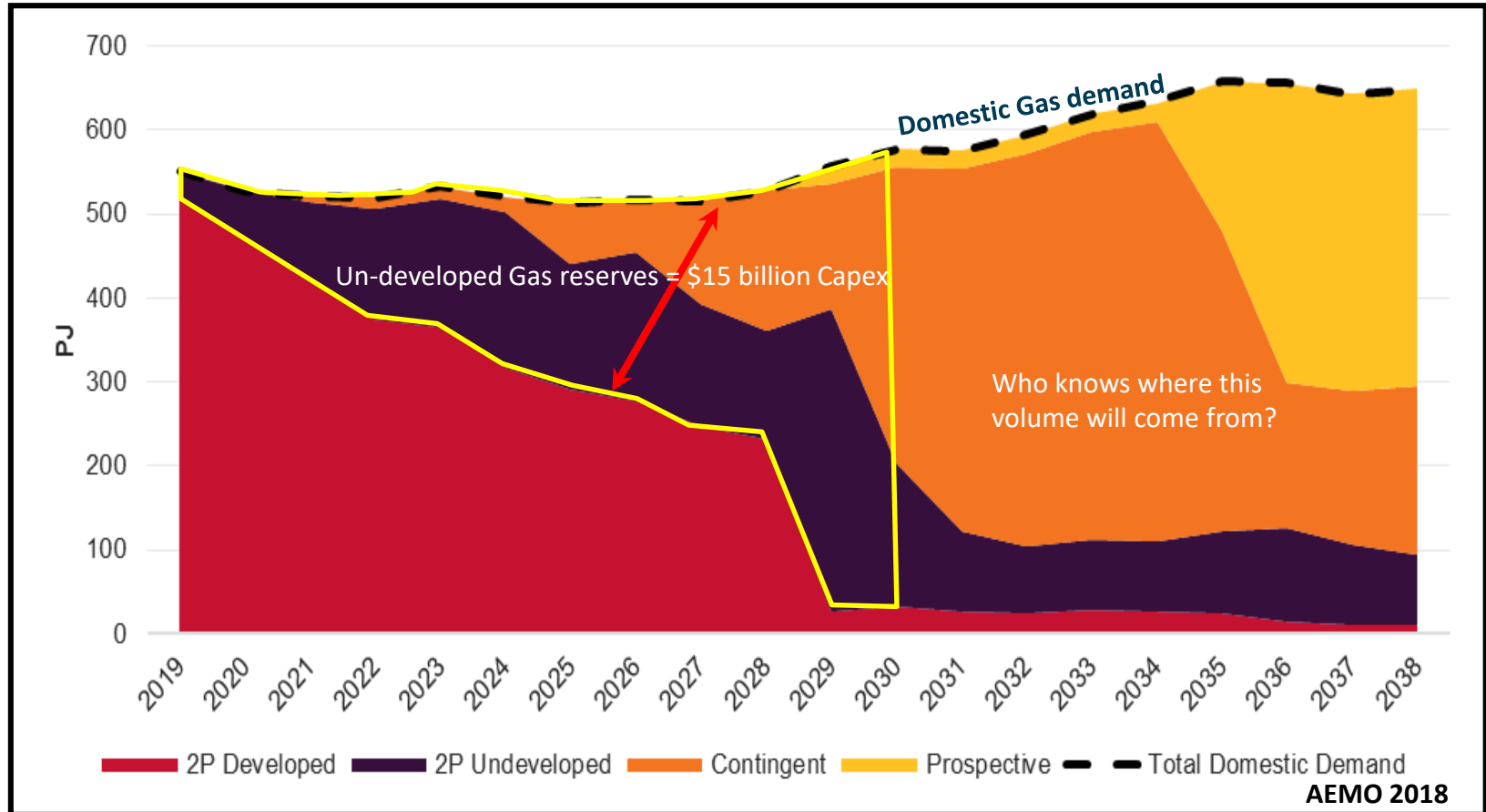
This presentation may contain forward looking statements that are subject to risk factors associated with the gas and energy industry. It is believed that the expectations reflected in the statements contained within are reasonable, but they may be affected by a range of variables which could cause actual results or trends to differ materially, including but not limited to price and currency fluctuations, geotechnical factors, drilling and production results, development progress, operating results, reserve estimates, legislative, fiscal and regulatory developments, economic and financial markets conditions in various countries, approvals and cost estimates.

## **Competent Person Statement**

The estimates of Reserves and Contingent Resources have been provided by Mr John Hattner of Netherland, Sewell and Associates Inc. Mr Hattner is a full time employee of NSAI, has over 30 years of industry experience and 20 years' experience in reserve estimation, is a licensed geologist, and has consented to the use of the information presented herein. The estimates in the report by Mr Hattner have been prepared in accordance with the definitions and guidelines set forth in the 2007 Petroleum and Resource Management System (PRMS) approved by the Society of Petroleum Engineers (SPE), utilising a deterministic methodology.

# The Domestic Gas Crisis worsens

(Domgas alone needs \$1.5 billion pa to drillout reserves to 2030)

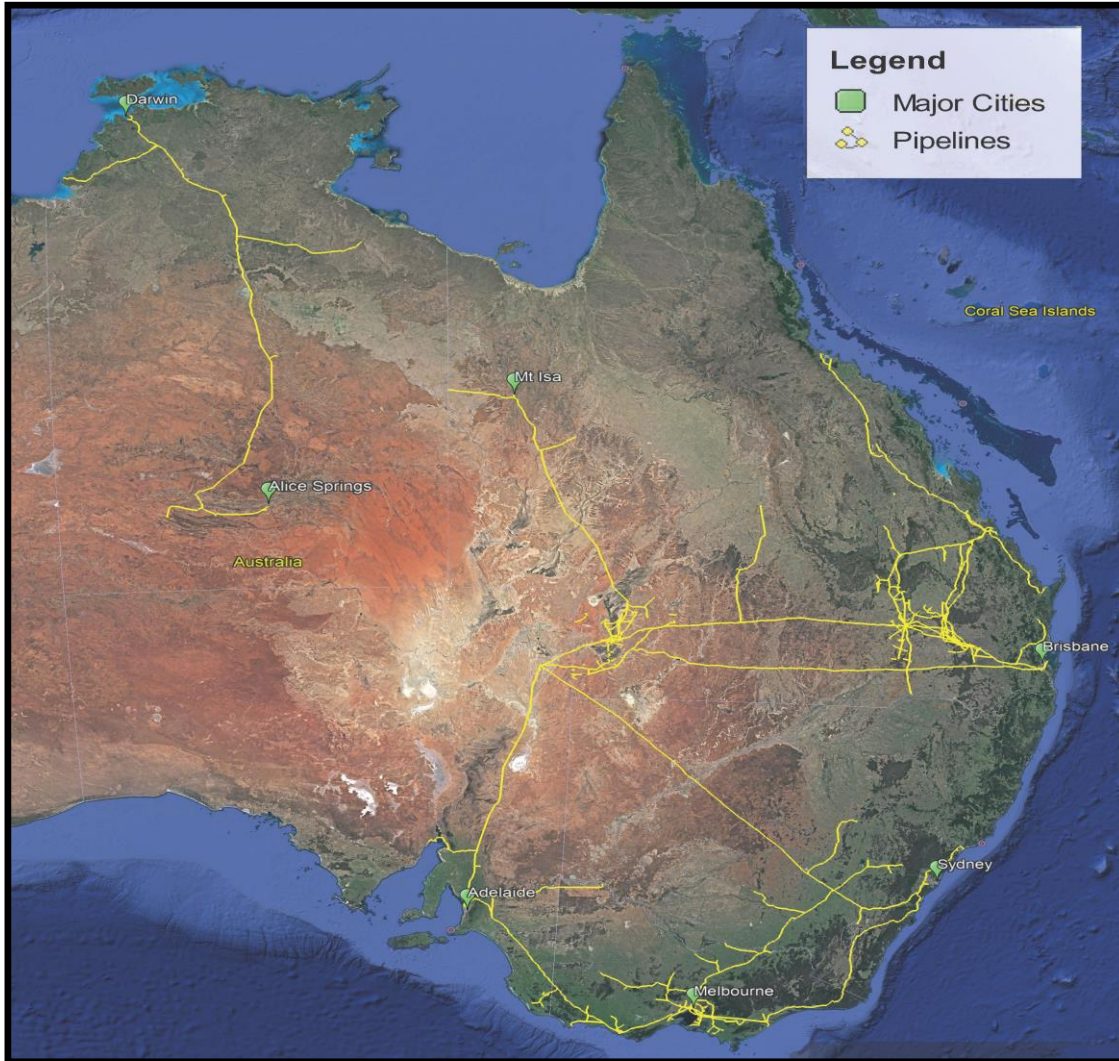


AEMO forecasts predicated on optimistic 2P and 2C estimates

Surat CSG fields not performing to expectations

Contingent Resources are needed sooner – starting 2021

# East Coast Gas Total 2P Reserve Ownership Global Gas Giants dominate 3:1



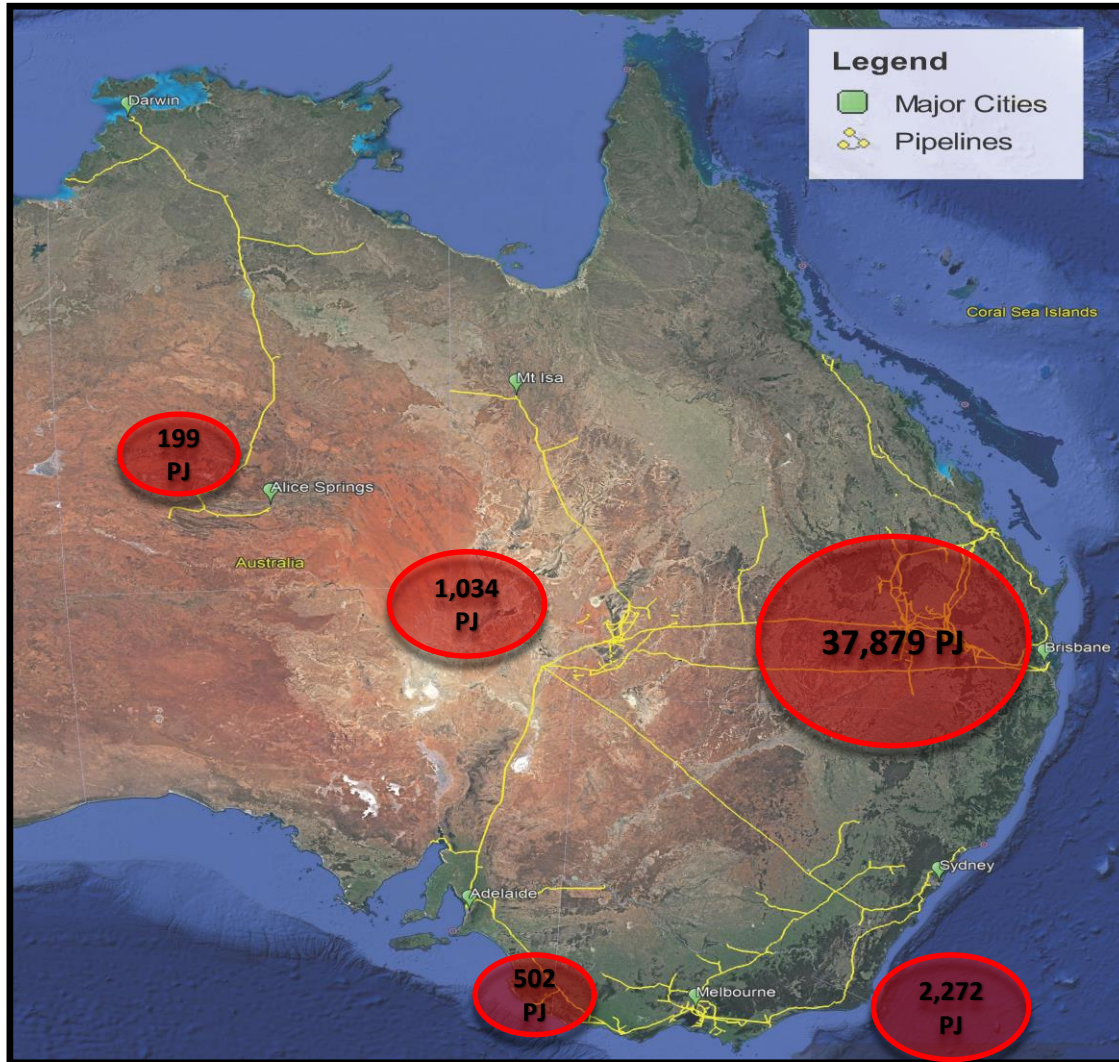
**10,790 PJ**

**31,100 PJ**



# East Coast Gas 2P Reserves by Basin

CSG/LNG dominate long term contracts



10,790 PJ

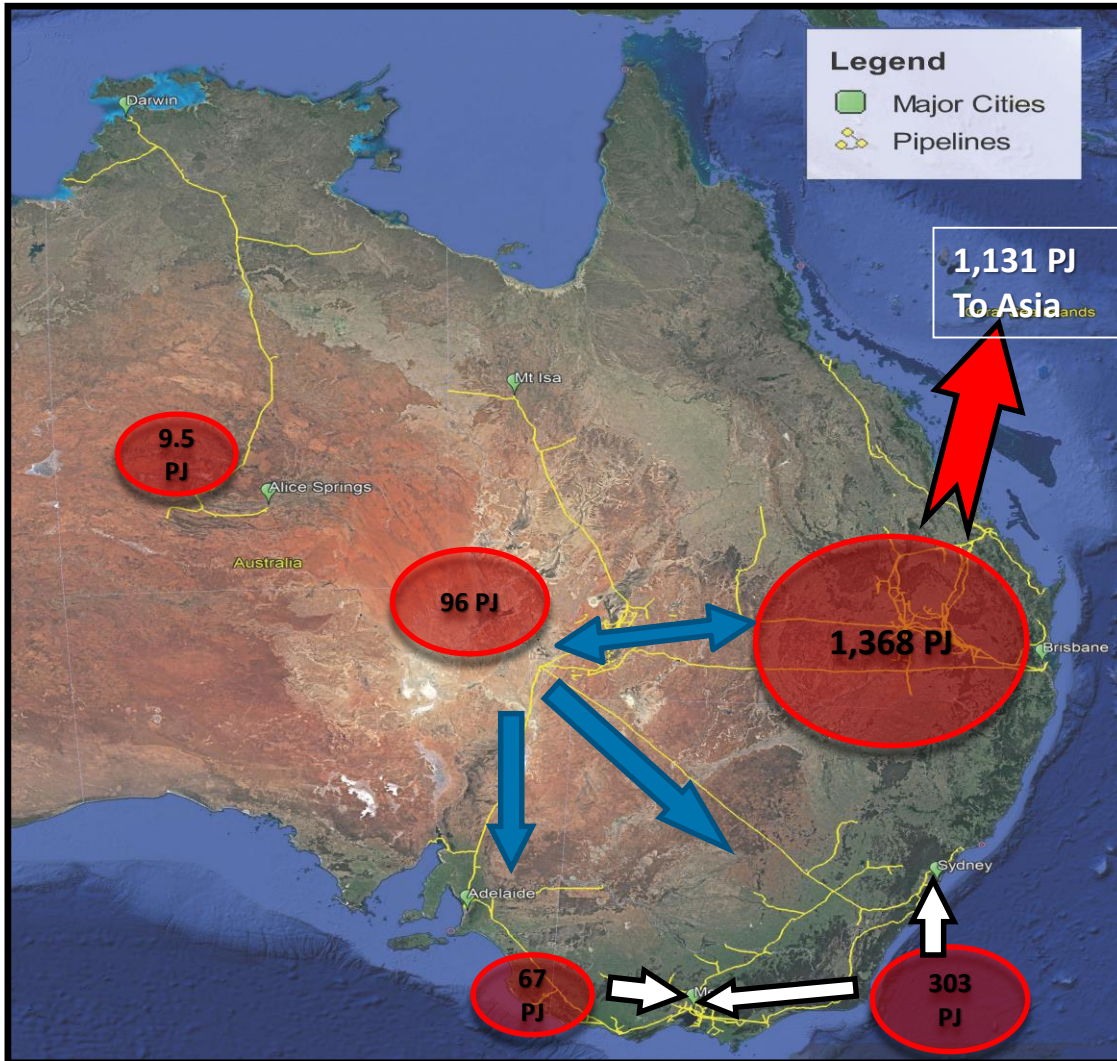
31,100 PJ



Source: EnergyQuest

# East Coast Gas Reserves and Production FY 2017

## Surat/Bowen dominates and drives LNG export



	CSG	Conv	ratio
2P (PJ)	37,879	4,000	9:1
2C (PJ)	21,842	3,126	7:1
Tj/day	3,753	1,274	3:1

Production	Domestic	LNG
TJ/day	1,930	3,097
PJ/a	728	1,131

Gladstone plants running at 75-80% capacity

Source: EnergyQuest

# The East Coast Domgas problem has been evident for years

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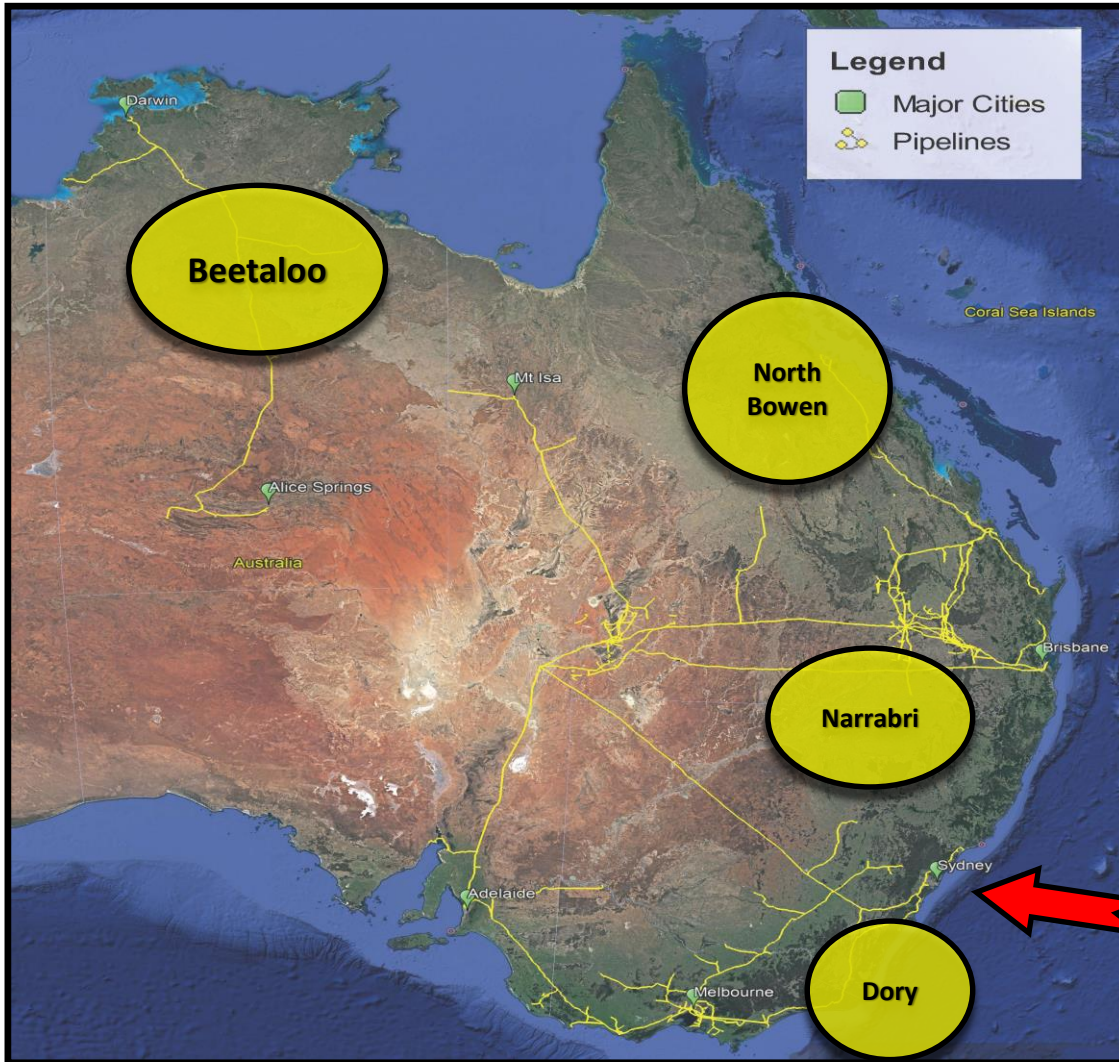
“The triple whammy of the introduction of LNG and with it exposure to international gas pricing, a fall in oil prices leading to a downturn in exploration and new development, and **regulatory uncertainty and exploration moratoria**, has created an increasingly complex environment for many gas market participants.” Rod Sims ACCC

The report makes a number of recommendations that the COAG Energy Council and state and territory governments can consider to alleviate gas market issues, particularly for industrial users. These include:

- **Enabling new gas supply to come to market, in particular in south eastern Australia,**
- Revisiting the regulatory coverage of pipelines, increasing the ability for pipelines with market power to be regulated, and
- The consistency and transparency of the provision of information to the market

**ACCC MR 59/16 22 April 2016**

# So where's the new gas supply coming from?



**Beetaloo – 12,000+ PJ**  
Cost, timing, economics, regulation

**Narrabri – 2,254+ PJ**  
Regulatory risk, Activism, timing

**Dory – ?2,200 PJ**  
Discovery?, Development timing (10+ years) - Exxon

**North Bowen – ~15,000 PJ**  
Shell/Petrochina gas banking ?

**LNG imports ? – price, volume**



# Export Restrictions don't solve the problem

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## The ADGSM

- Doesn't bring any new gas molecules to the market – just re-directs high cost molecules into the smaller domestic market
- Doesn't offer lower gas prices – just LNG netback
- Disincentive for domestic exploration
- Disincentive to Domgas buyers to enter long term contracts
- Gives greater power of supply to the export plants

Only more new molecules will solve the problem – more new gas to market from Beetaloo, offshore Victoria, Narrabri, Bowen Basin

# East Coast Gas Prices escalate

(linked to oil through LNG netback)

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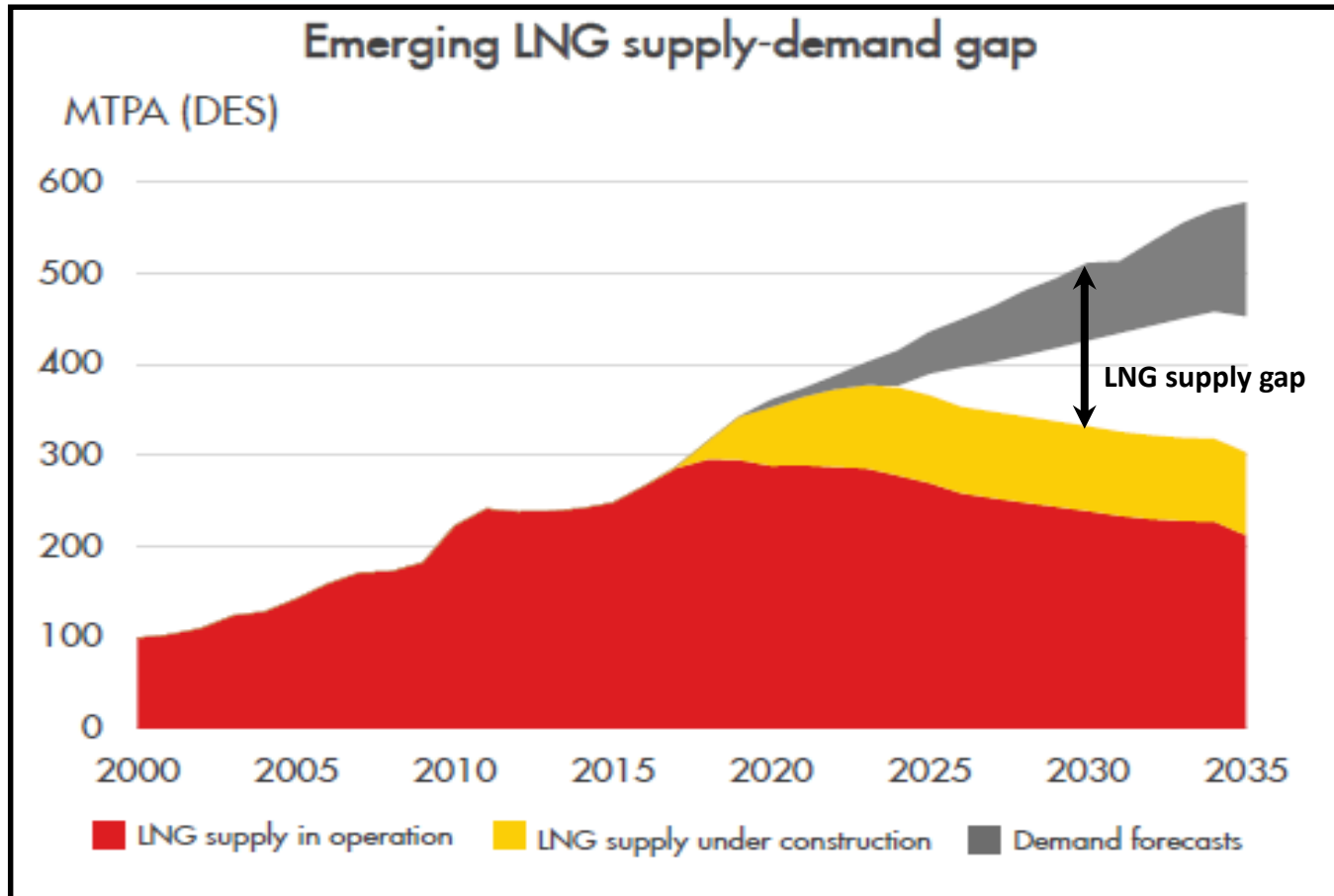
- **Domestic gas price is now based on competition for supply**  
Export vs Domestic; Domestic vs Domestic
- **Cost of supply is increasing; Social Licence (industry is a contractor to State)**  
Govt environmental regulation, Govt fees and charges, delays  
Land access, compensation, activism, labour, services and time
- **Cost of supply needs a market price which allows profitability**  
Av Cost of production of un-developed 2P = \$5.50 (AEMO 2018) + Transport  
Av Cost of production Contingent Resources = \$7.00 (AEMO 2018) + Transport
- **East Coast Domestic industrial users and jobs under threat**  
More gas will safeguard 2 million jobs in gas exposed industries  
Need stable and reasonable gas price

# ACCC LNG Netback Pricing - increasing



Brent price graph - \$US/bbl

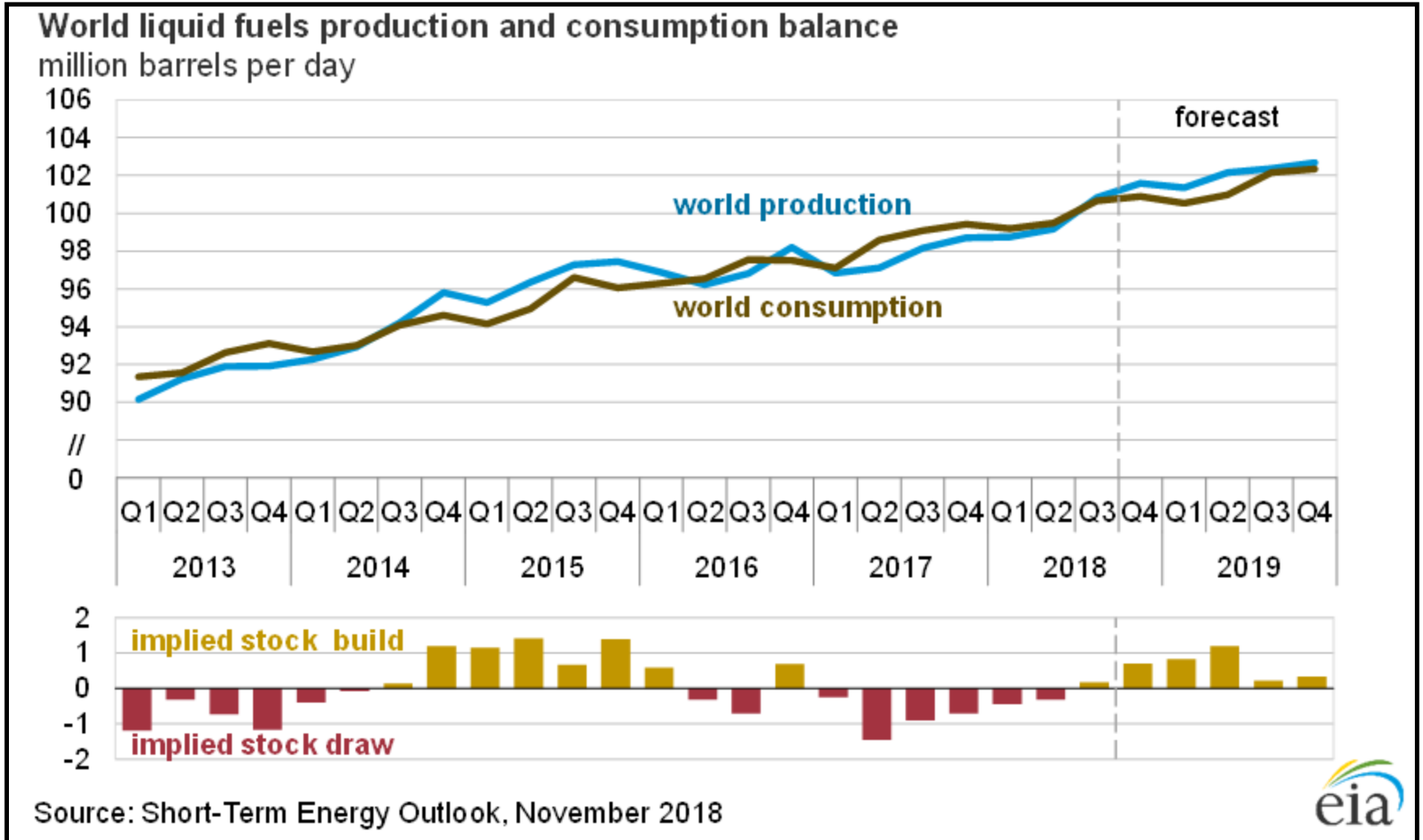
# Global LNG supply gap widens



Shell LNG Outlook 2018

Global gas companies are positioning their supply capacity to meet the gap (and increased price) from their lowest cost plants

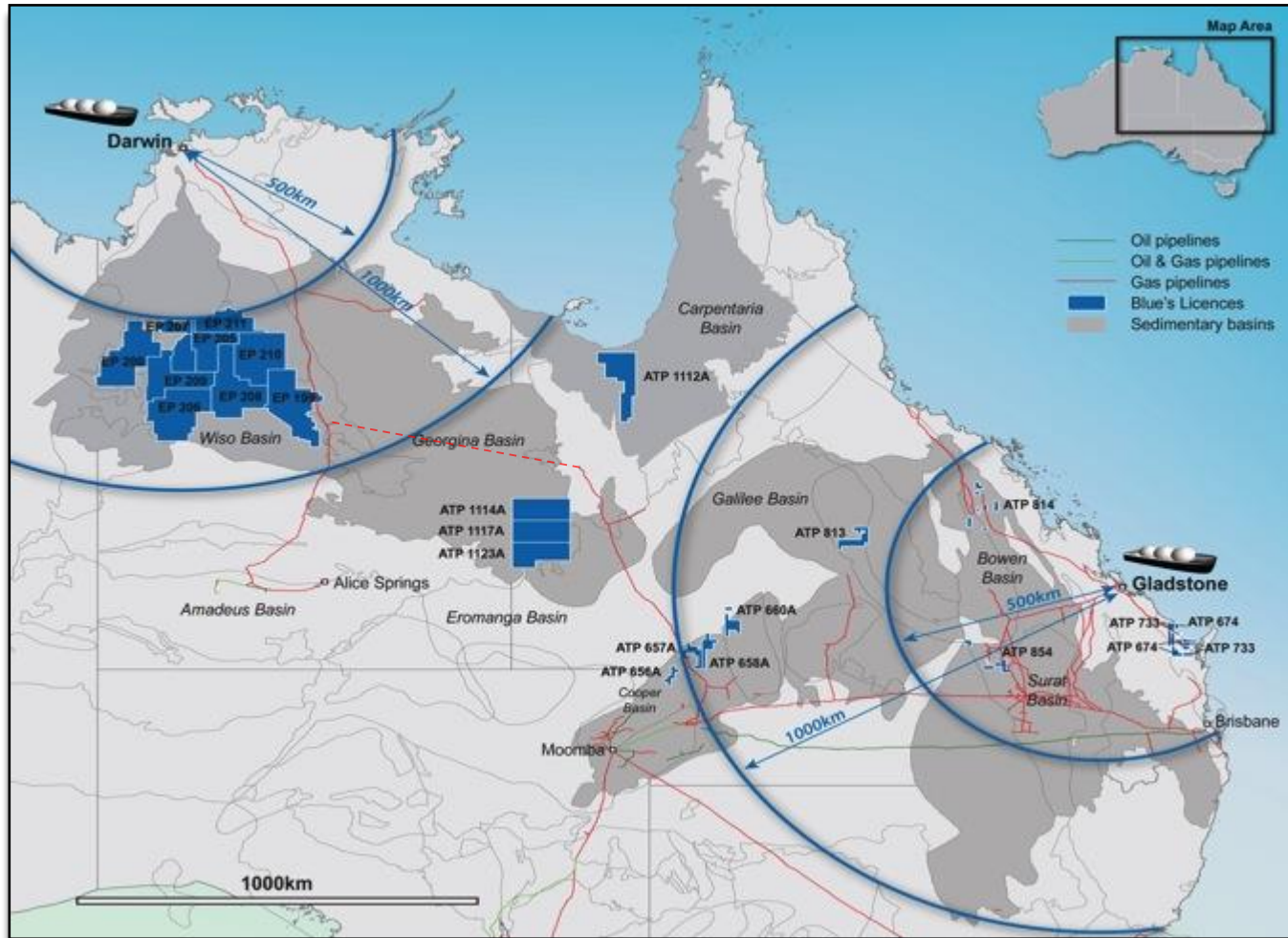
# World consumes 100 million barrels/day (and growing)



Oil Price = Supply/demand + Storage + geopolitics



# Distance to export markets is key



# The North Bowen Basin Dilemma

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- There's enough discovered gas to meet east coast domestic demand for 30 years
- The Northern Bowen was earmarked for LNG Feedgas development by global gas giants
- Govt approvals for pipelines and development are in place (up to to 6,625 wells and a 450 km pipeline )
- The merger between BG and Shell (approved by the ACCC) halted the North Bowen Development
- Large Global gas company cost bases are not compatible with unconventional gas developments (CSG/Shale gas)

# **The Bowen Basin and ATP 814**

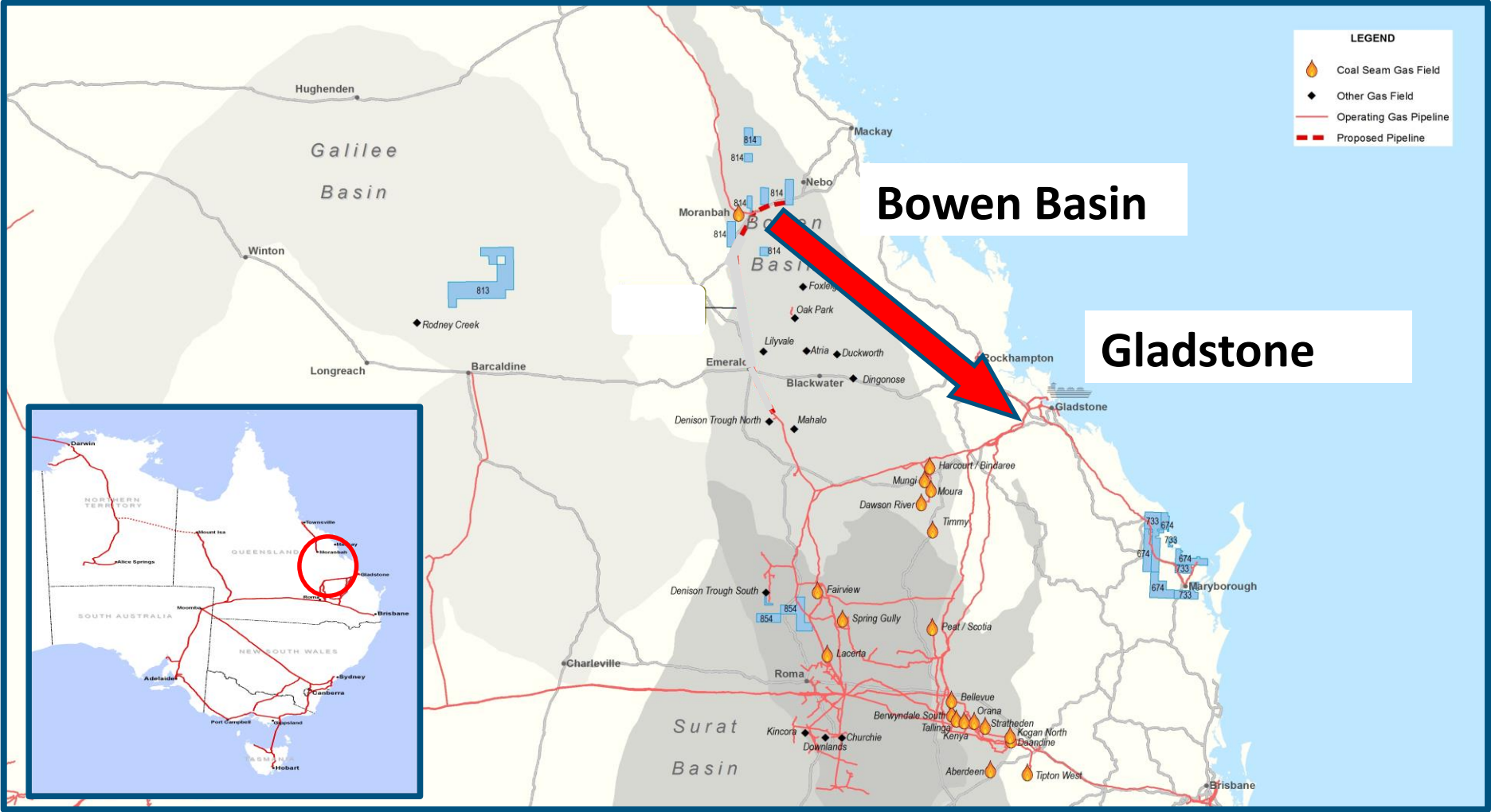
**A Key to long term East Coast gas security**

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- **Huge CSG play – with only a small area currently developed**
- **Needs a pipeline connection – MOU signed with APA – CK takeover playing out**
- **10 year producing basin – 40 Tj/day currently into local market**
- **300 wells drilled in basin - reserves and resources delineated NSAI**
- **Large discovered resource – 10-15,000 PJ - development ready**
- **Potential expansion of Townsville pipeline for Northern Australia Development**



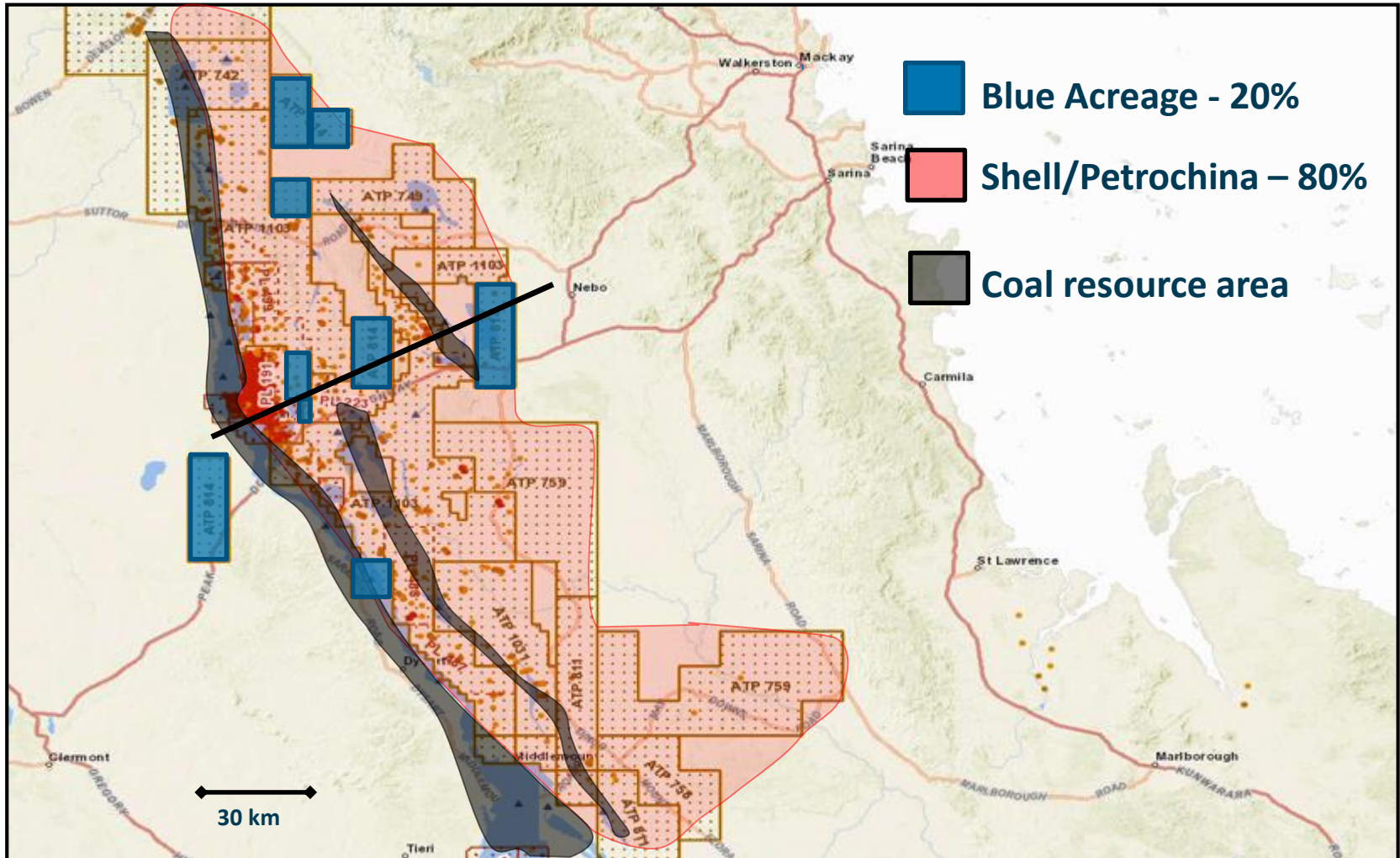
# The Bowen Basin Gas Resource needs a major gas trunkline



# Bowen Gas Province controlled by Gas Giants

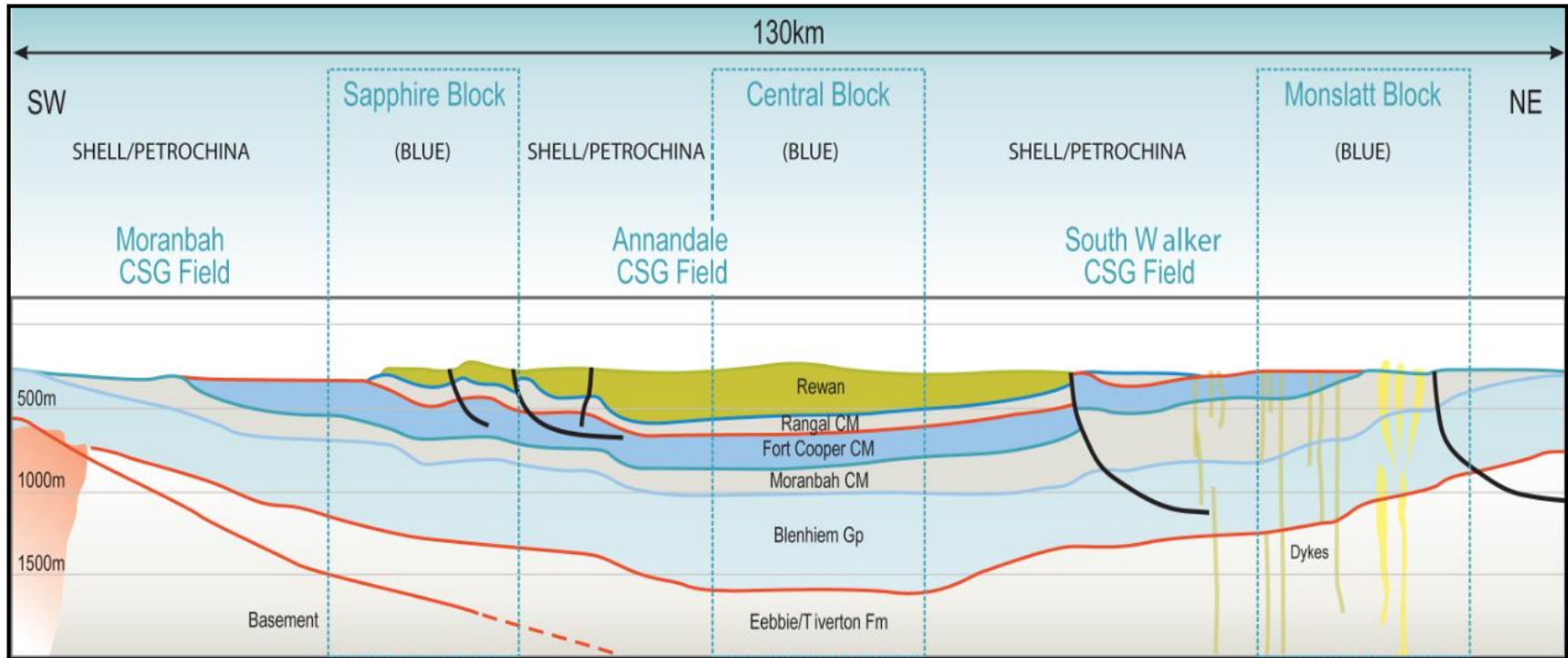
## Running to their global portfolio agenda

(Shell(#2 globally) + Petrochina(#4 globally) = Arrow)



# The Bowen Play is known and in production

## Geological configuration - Moranbah

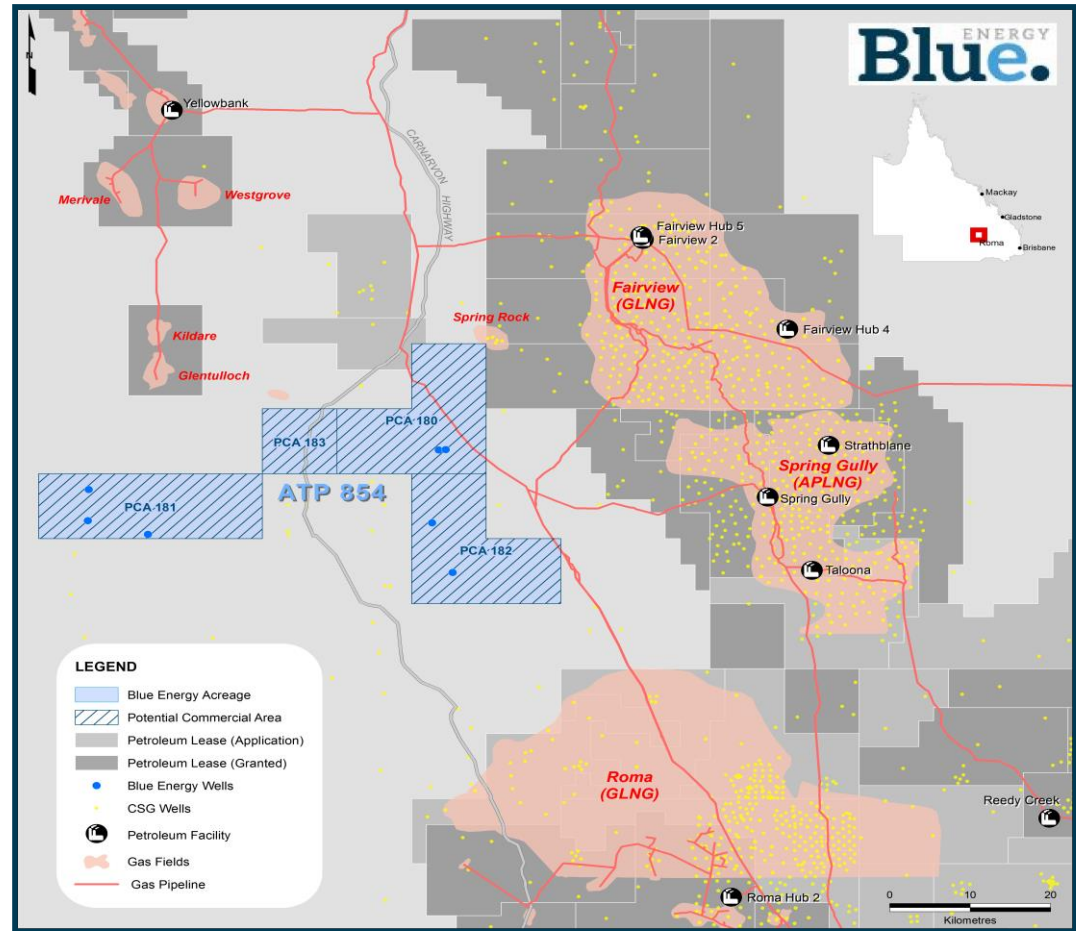


- Production from 3 Coal Measure packages
- Shale upside recognised – resources confirmed by NASI
- Significant CSG upside for Blue - Monslatt and Central - ~ 3,000 PJ 3C

# Additional gas potential – Sth Bowen

## ATP 854P Southern Bowen Basin

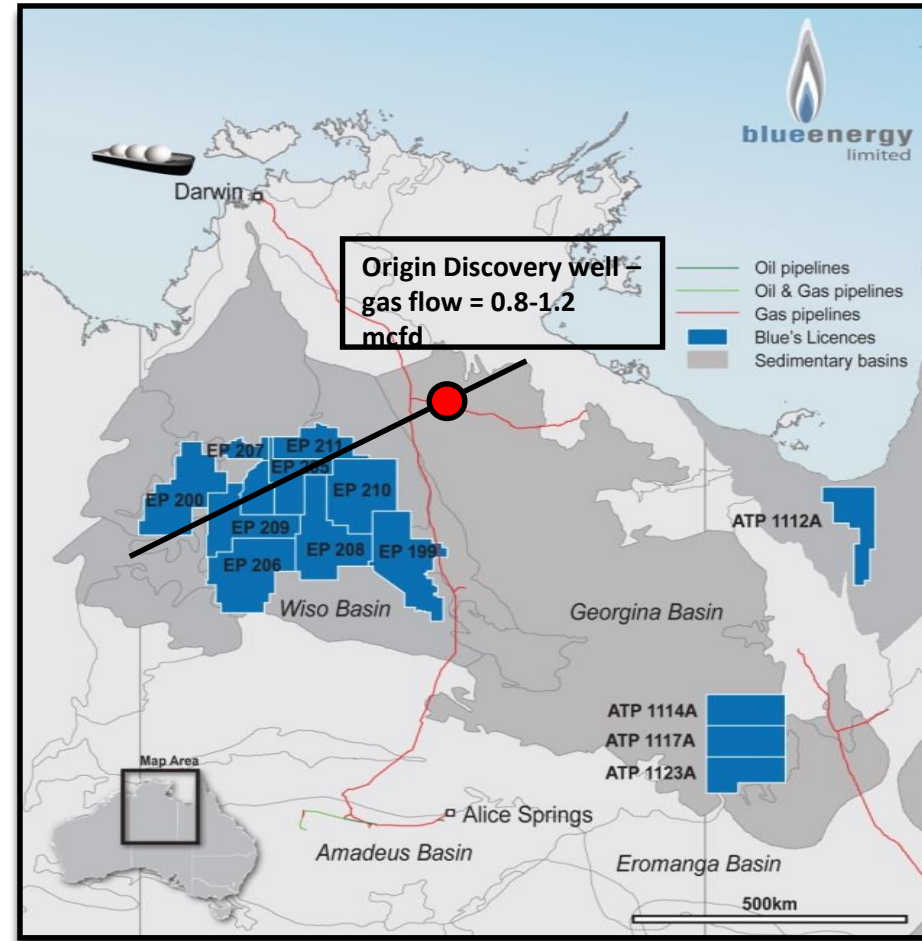
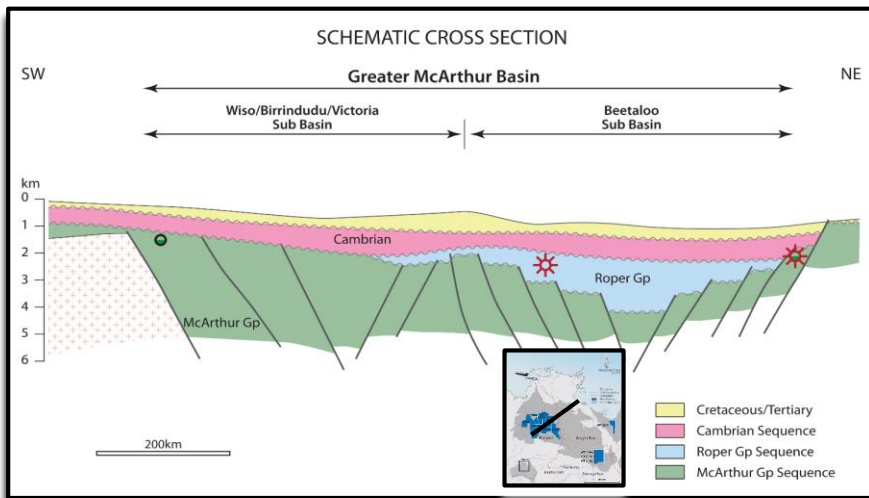
- Uncontracted Gas Resources (~100 PJ)
- Tenure secured by PCA's
- Adjacent to main LNG feed gas supply for GLNG & APLNG
- Exploration upside



# Northern Territory Proterozoic plays

## Next hottest onshore gas play

- Material basin acreage position
- Proven Petroleum System
- World class source rocks – seriously old ones
- Proof of concept with Origin discovery
- Pepper Inquiry Recommendations (135) being legislated – full impact yet to be determined



**Blue.** ENERGY

# **East Coast must have more Gas Supply**

## **Bowen Basin is the solution**

- **Gas for the domestic users is controlled by LNG exporters**  
(fuelling calls for gas reservation and price ceilings)
- **AEMO sees no domestic gas shortfall – this is technically incorrect!**
- **Drilling CAPEX to develop reserves driven by LNG players**  
(except Sole and some small Qld blocks – not a long term solution)
- **The ADGSM is a barrier in many ways**
- **Exploration moratoria/bans are still in place with Regulation now impacting activity; time and money**
- **Bowen Basin gas development held to ransom by two of the biggest gas producers in the world – at a time when east coast industry is struggling to remain economic – 2 million jobs**

# Blue's Strategy

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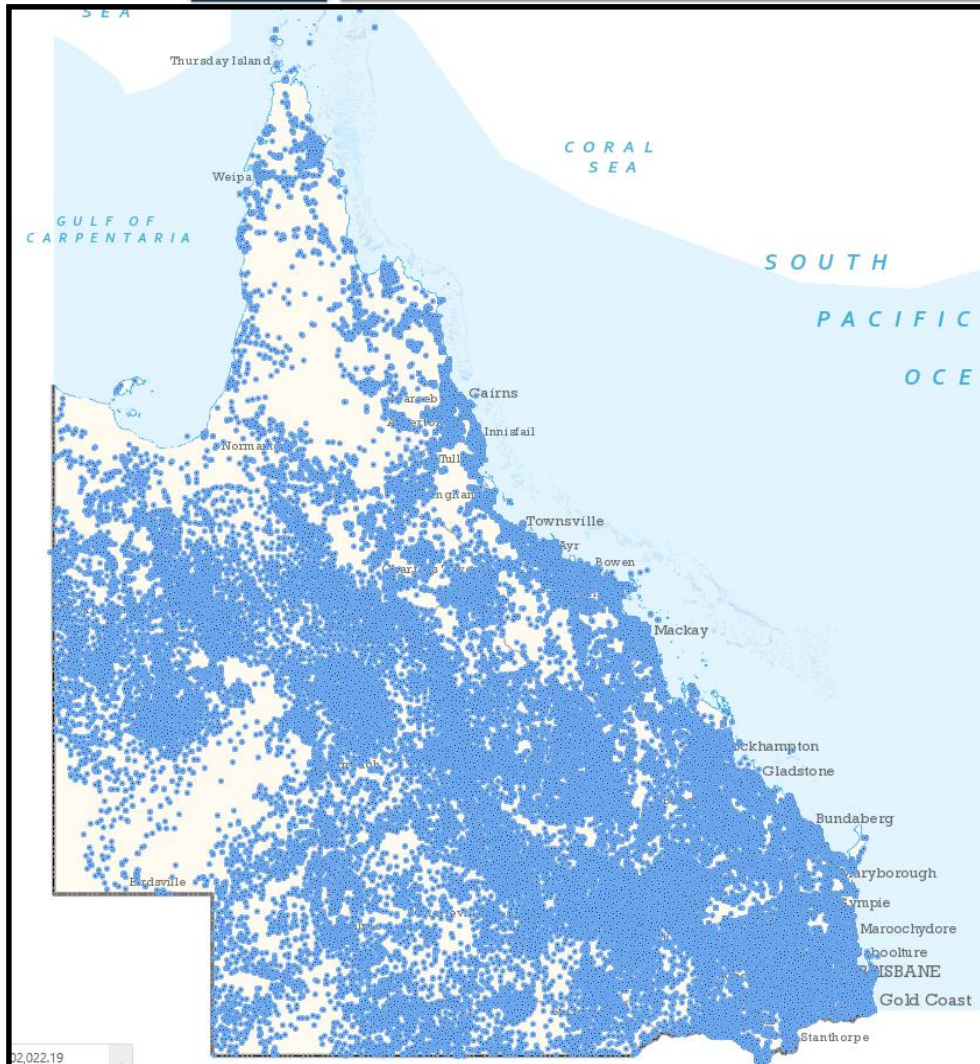
- **Still focussed on monetising Bowen Basin gas**
  - negotiating with buyers and speaking with Regulators
- **Continual focus on cost**
- **Proof of concept testing in the Galilee Basin**
- **Will continue to expand exploration project conveyor**

ENERGY  
**Blue.**





# AGRICULTURAL WATER BORES IN QLD



**Great Artesian Basin  
= 64,900,000 GL**

**Total 2017 Qld Agricultural  
groundwater take  
= 612 GL  
(0.0001%)**

**Total 2017 Surat CSG water  
production  
= 56 GL (most is reused)  
(0.00008%)**