



*decisions with confidence*

# Australian East Coast Gas Issues

March 2020



# Who we are



- RISC is an independent advisory firm. We provide impartial advice to a broad range of clients in the energy industry, enabling them to make their business decisions with confidence.
- We advise clients on the underlying value of their petroleum assets
- With a full range of capabilities and many years of practical experience, we provide our clients with independent and insightful views on a range of technical, commercial and strategic requirements.



# What we do



In the last 5 years:

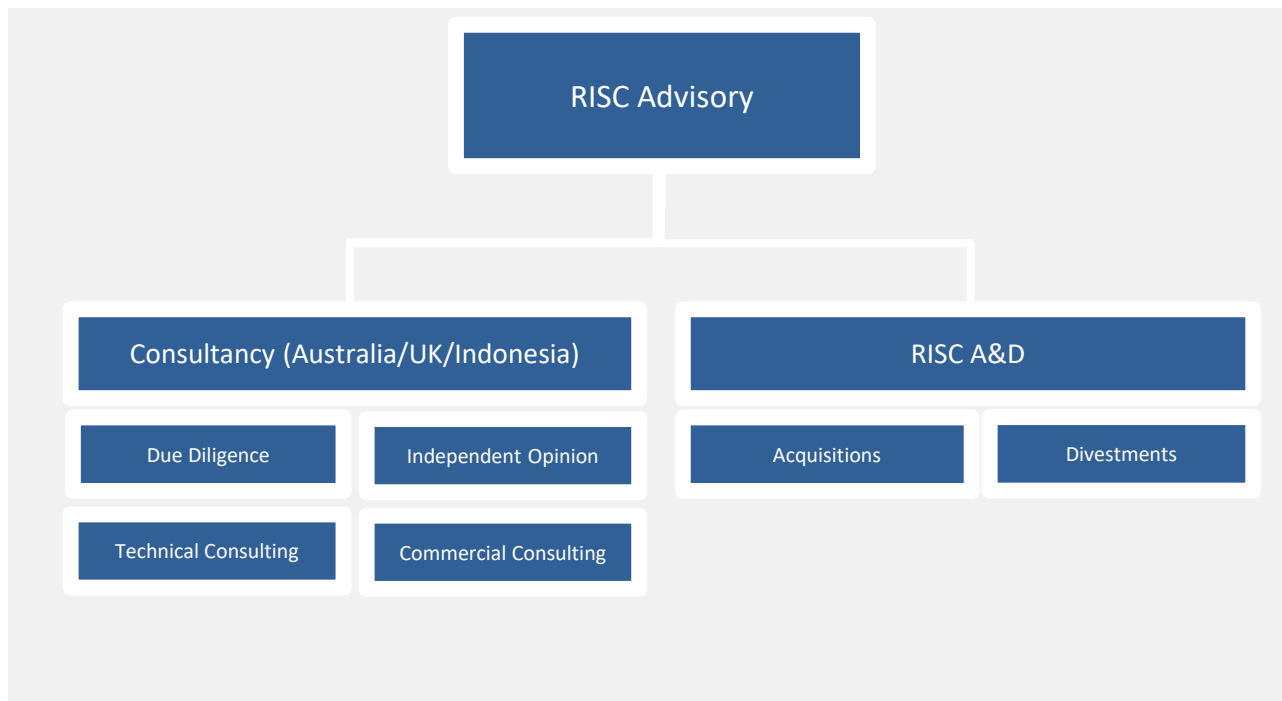
- We have advised on transactions totalling over \$20 Billion
- We have provided independent advice
  - To over 500 clients
  - on over 1500 oil and gas fields
  - With a total value in excess of \$100 Billion
- Including:
  - Over 120 due diligence exercises on assets and portfolios
  - More than 110 Independent Technical Specialist and Expert assignments
  - More than 100 Resources and Reserves reviews and audits
  - Over 140 Technical and Commercial Consulting assignments
- We have covered LNG projects totalling more than 100MTPA or over 35% of the world's current total LNG production.



- RISC has been working with companies for over 25 years, providing impartial technical, commercial and strategic advice to our clients.
- We have completed over 2,000 assignments in more than 90 countries for over 500 clients.
- We pride ourselves on being a full-service firm with many years of practical experience in both conventional and unconventional petroleum resources. Our staff are some of the most experienced and talented in the industry and we quickly identify the key issues and opportunities and provide a qualified perspective that gives real answers and long-term solutions.



- Both Consultancy and A&D skills within the Group allows us to leverage off complementary skill sets.



## ***Independent Opinion***

### ***Independent, comprehensive and impartial advice***

- Reserves Certification
- Competent Persons Report
- Independent Technical Specialist Reports
- Expert Witness
- Asset/portfolio evaluation

## ***Due Diligence***

### ***Identifying critical issues and delivering objective advice***

- Support for debt/equity raising or acquisition
- Vendor due diligence
- Exploration valuation, prospect assessment
- In-place resource estimates
- Development plans, costs and schedules
- Production profiles and recoverable resources
- Economic assessment and evaluation
- Commercial assessment and risk

## ***Strategic and Commercial Advice***

### ***Helping grow value and performance***

- Strategy and corporate planning
- Board and executive workshop facilitation
- Petroleum economics
- Commercial assessment and risk
- Gas market evaluation
- Defence planning and valuation
- Portfolio assessment and management
- Business Plan reviews and assistance
- Post take-over advice

## ***Peer Assistance and Review***

### ***Revealing opportunities and creating value***

- Subsurface modelling and realisations(both conventional and unconventional
- Well design and well proposals
- Pre-FEED/FID, and execution project reviews
- Project scope and capital costs reviews
- Project scheduling
- HSE, ESG and organisational capability

## ***Technical Advice***

### ***Explaining value, ranges and uncertainty***

- Basin studies
- Exploration evaluation
- Structural geology
- Sequence stratigraphy
- Seismic interpretation
- Field development plans
- Static and dynamic reservoir modelling
- Development Concepts and Plans
- LNG Developments
- Abandonment requirements and provisioning
- Training

## ***Acquisitions + Divestments***

### ***Guiding the transaction processes***

- Sell and buy-side A&D advice and support
- Asset divestments
- Farm-outs and Farm-ins
- Mergers, Sales and Acquisitions

## In the last 5 years RISC has advised on transactions in excess of \$20 Billion



Year	Seller	Buyer	Assets	Value, \$ Million	RISC role
2019	Chevron	Udenna	Malampaya gas field	Undisclosed	RISC Advisory, Advisor to Buyer
2019	ConocoPhillips	Santos	Gas Asset Portfolio, North and West Australia	1,400	RISC Advisory, Advisor to Buyer
2019	ADNOC	BlackRock & KKR	Oil Pipelines, Abu Dhabi	4,000	RISC Advisory, Advisor to Buyer
2018	Quadrant Energy	Santos	Oil & Gas Portfolio, W Australia	2,100	RISC Advisory, Advisor to Buyer
2018	Petrobras	Vitol, Delonex, Africa Oil Corp	Oil Portfolio, Nigeria	1,500	RISC UK, Advisor to Buyer
2018	AWE	Mitsui	AWE Portfolio, W Australia	600	RISC Advisory, Independent Technical Specialist
2018	Sino Gas & Energy	Lone Star	Sino Gas & Energy Portfolio, China	530	RISC Advisory, Independent Technical Specialist
2018	KUFPEC	PT Petro	Indonesian Assets, Indonesia	Undisclosed	RISC A&D, Advisor to seller
2018	UIL Energy	Strike Energy	UIL Energy Portfolio, Australia	16	RISC Advisory, Independent Technical Specialist
2018	Toyota Tsusho	Beach Energy	Otway & BassGas Assets, Australia	Undisclosed	RISC A&D, Advisor to seller
2018	Santos	Ophir	Santos Indonesian Assets, Indonesia	250	RISC UK, Competent Persons Report on behalf of Buyer
2017	Shell	OMV	Shell NZ Assets, New Zealand	700	RISC Advisory, Advisor to 3 other interested parties
2017	Ophir	Starborn	Bontang PSC Indonesia	Undisclosed	RISC A&D, Advisor to seller
2017	Contact	First Gas	Ahuroa Gas Storage, New Zealand	200	RISC Advisory, Advisor to Buyer
2017	PTTEP	Jadestone	Montara oil field, Australia	195	RISC Advisory, Advisor to other interested party

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2017	Black Sea Oil & Gas	European Bank of Reconstruction & Development	Aina & Doina Gas fields, Romania	Undisclosed funding	RISC UK, Independent Technical Specialist
2016	Origin Energy	Beach Energy	Lattice Energy, Australia	1,400	RISC Advisory, Independent Technical Specialist
2016	Cue Energy	BP	WA 409 Farm out, W. Australia	Undisclosed	RISC A&D, Advisor to seller
2016	Shell	Hibiscus Petroleum	North Sabah fields, Malaysia	25	RISC Advisory, Advisor to Buyer
2016	Horizon Oil	N/A	Refinancing	Undisclosed	RISC Advisory, Independent Technical Specialist
2015	Santos/Quadrant	Jadestone	Stag oilfield	10	RISC Advisory, Advisor to other interested party
2015	Cue Energy	NZOG	Cue Energy Portfolio	70	RISC Advisory, Independent Technical Specialist
2015	E.On	Premier Oil	UK N.Sea fields and acreage	120	RISC UK, Competent Person's Report (ITS)
2015	JX Nippon/Inpex	Santos	Deepwater Block R, Malaysia	Undisclosed	RISC A&D, Advisor to sellers
2015	Drillsearch	Beach	Drillsearch Portfolio	400	RISC Advisory, Independent Technical Specialist
2015	EMAS	First Reserve	Lewek field, Vietnam	170	RISC Advisory, Independent Technical Specialist
2014	Apache Energy	Macquarie/Brookfield	Quadrant Energy Assets	2,100	RISC Advisory, Advisor to Buyer
2014	Murphy Oil	Pertamina	30% of Murphy Malaysian Assets	2,000	RISC Advisory, Advisor to other interested party
2014	Aurora Oil & Gas	Baytex Energy	Aurora Oil & Gas	1,885	RISC Advisory, Independent Technical Specialist
2014	ROC Oil	Fosun	ROC Oil	475	RISC Advisory, Independent Technical Specialist



# Why can RISC help



We cover the E&P Project Lifecycle



In a typical month we work on	✓	✓	✓	✓	✓	✓
25 Projects/85 Assets	20	10	20	5	30	3
Annually we work on						
100+ Projects/500+ Assets	100+	80+	100+	30+	200+	25+

- The RISC Group has over 25 years' experience in providing advice to the oil and gas industry
  - We have completed over 2,000 assignments in over 90 countries for more than 500 clients

## Our clients

# RISC works with oil and gas clients



- Our expertise is relied upon by many upstream companies

## Majors



## Global Independents



## NOC's



## Japan



## ASX



## LSE/AIM

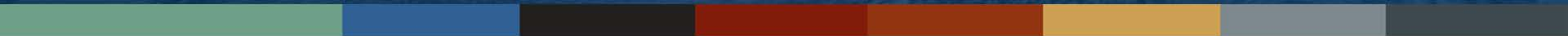


## We also work with financial clients

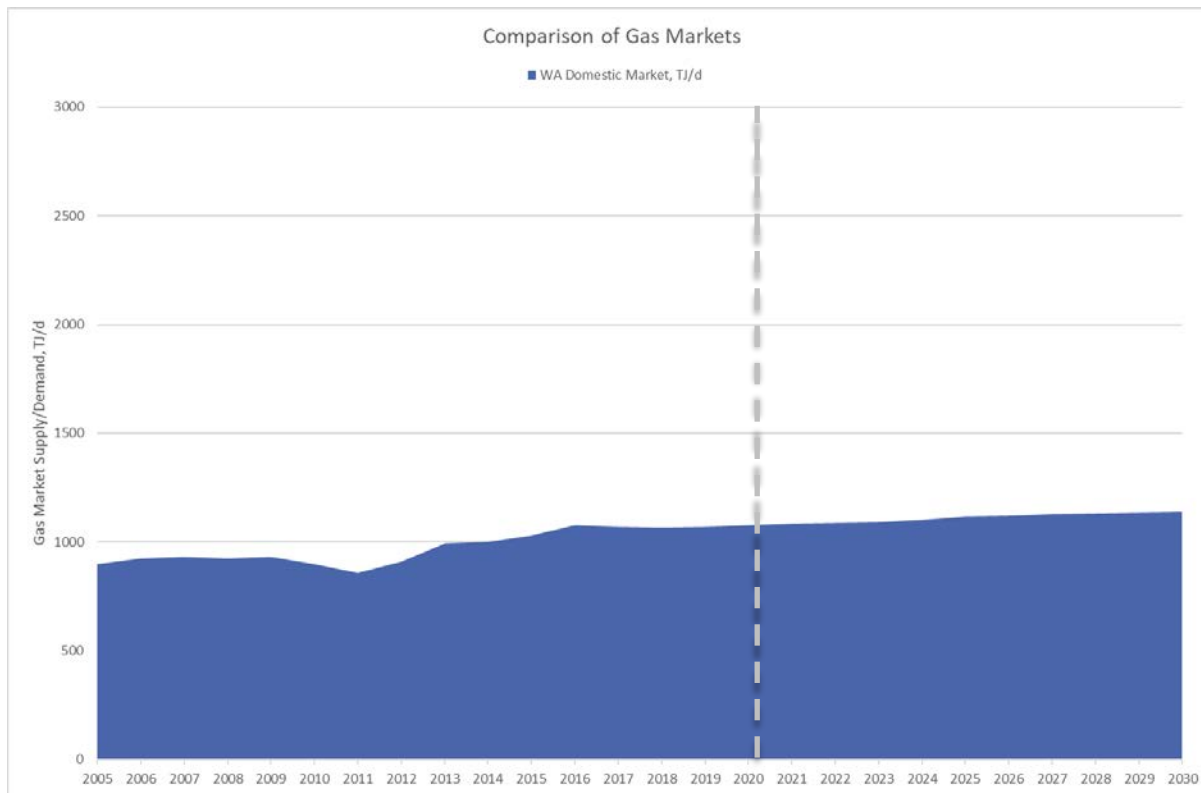
- RISC has carried out due diligence and advisory assignments on behalf of the following major banks



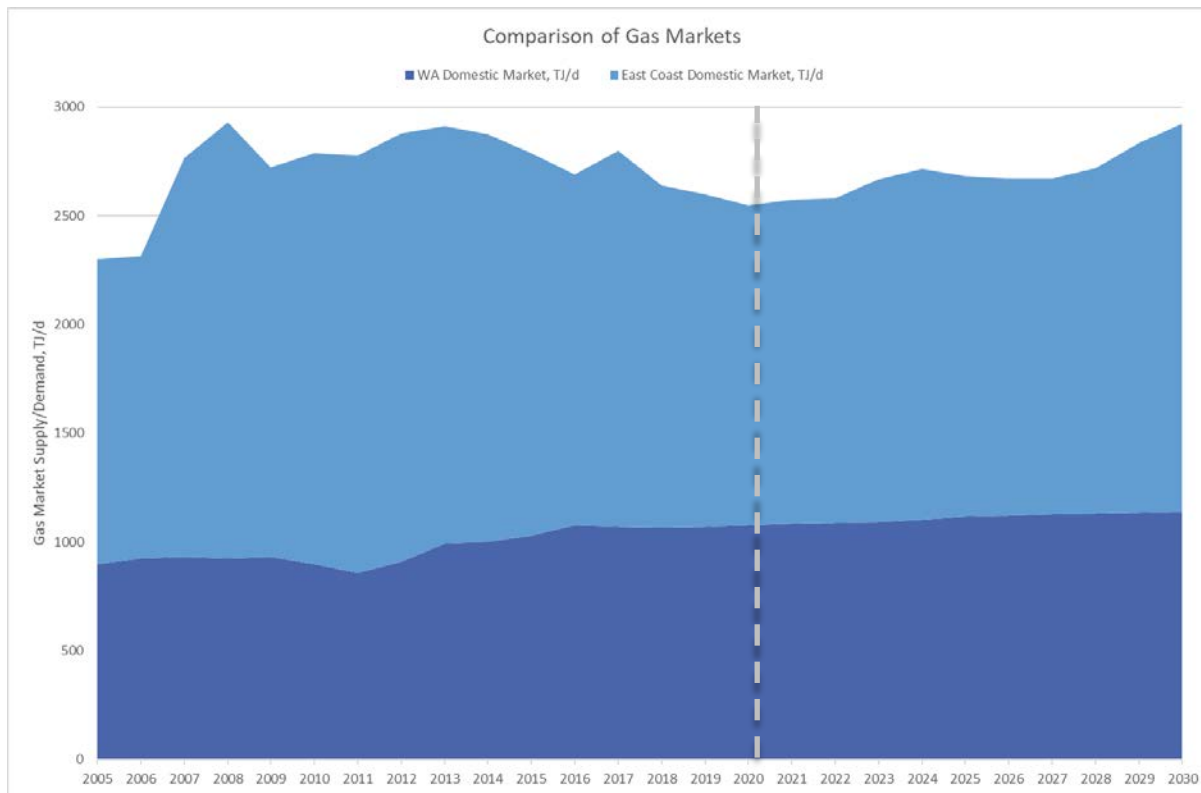
# Australian Gas Markets in context



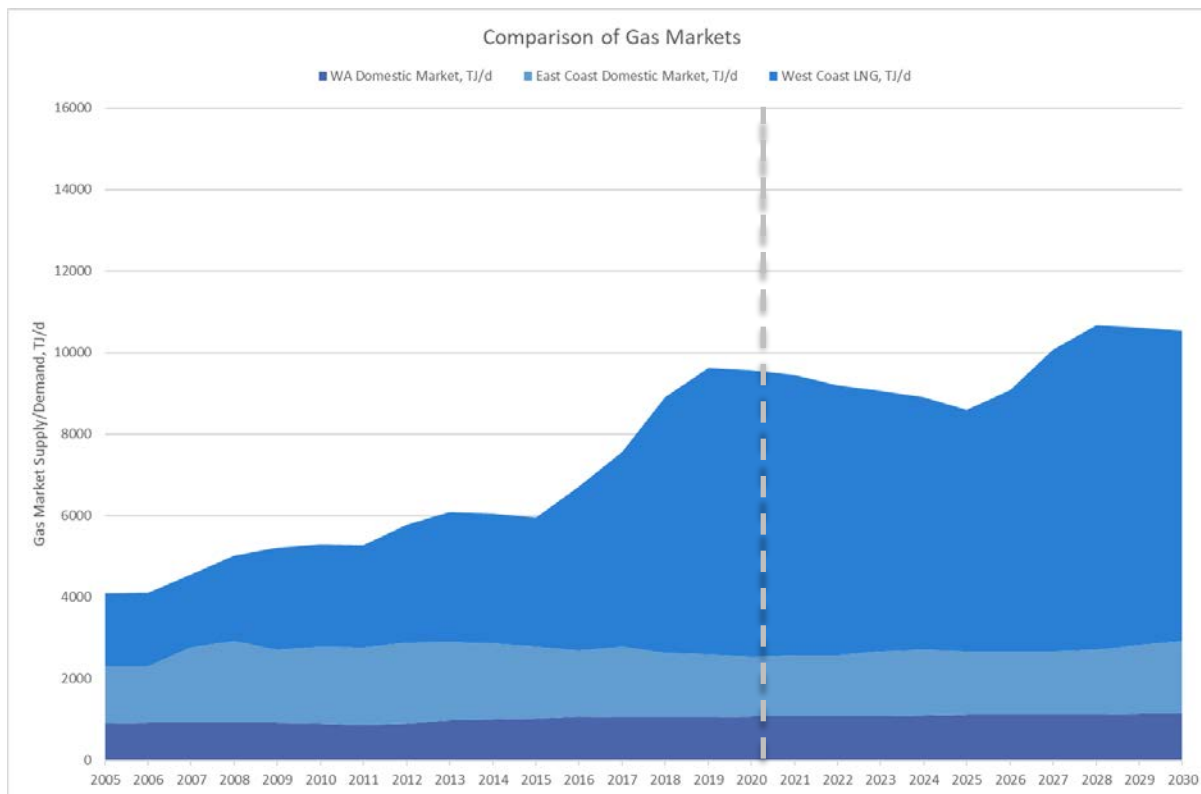
# Australian Gas Markets comparison



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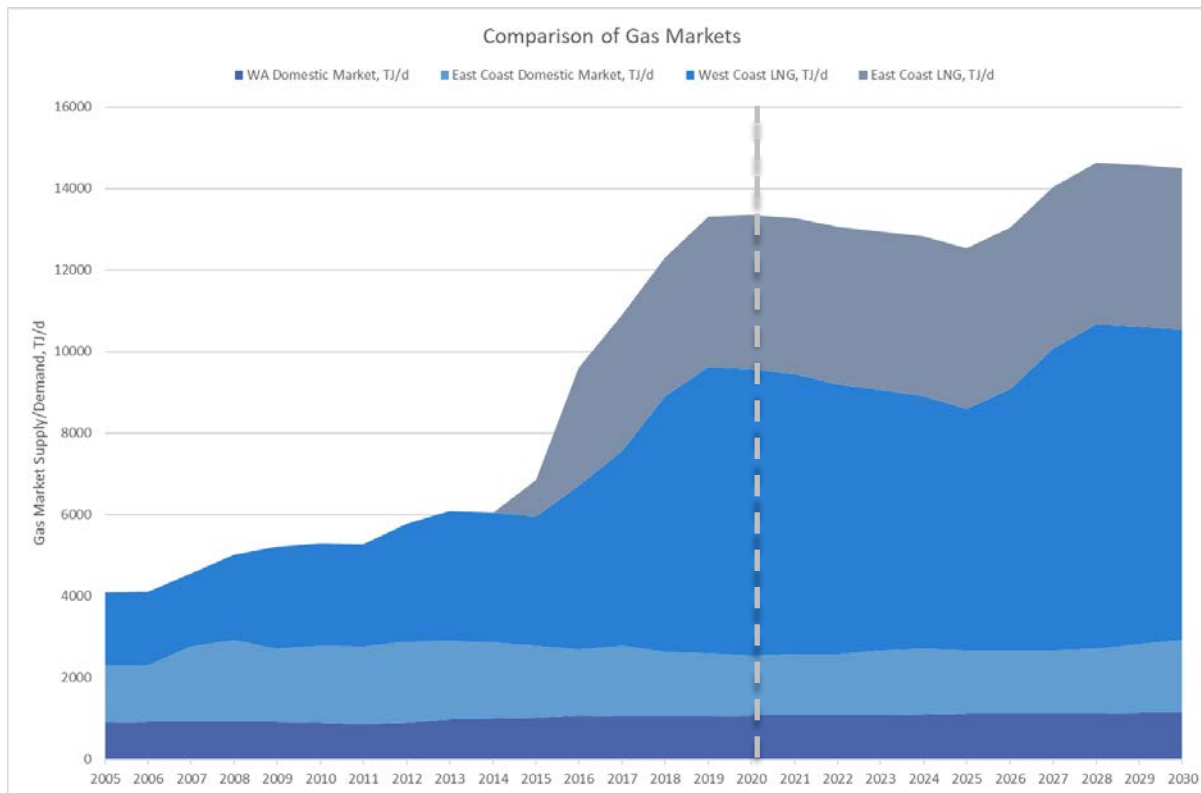


# Australian Gas Markets comparison

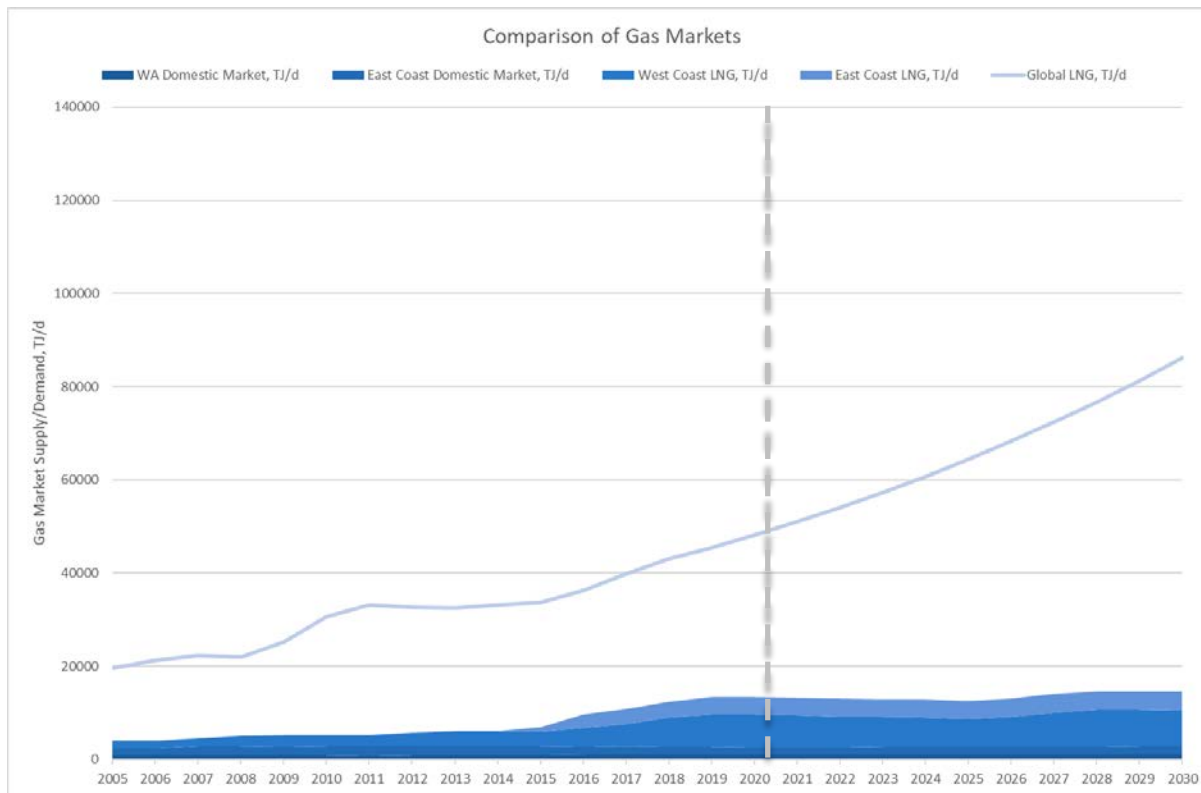


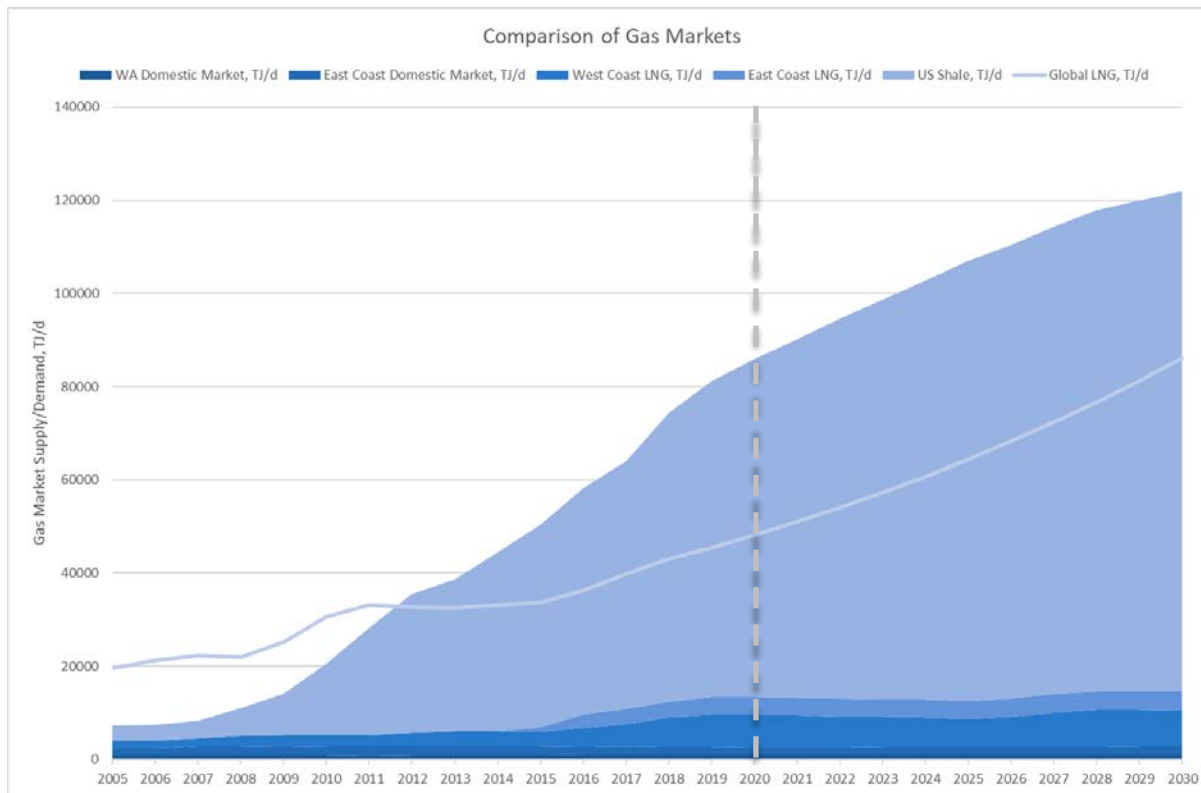


# Australian Gas Markets comparison



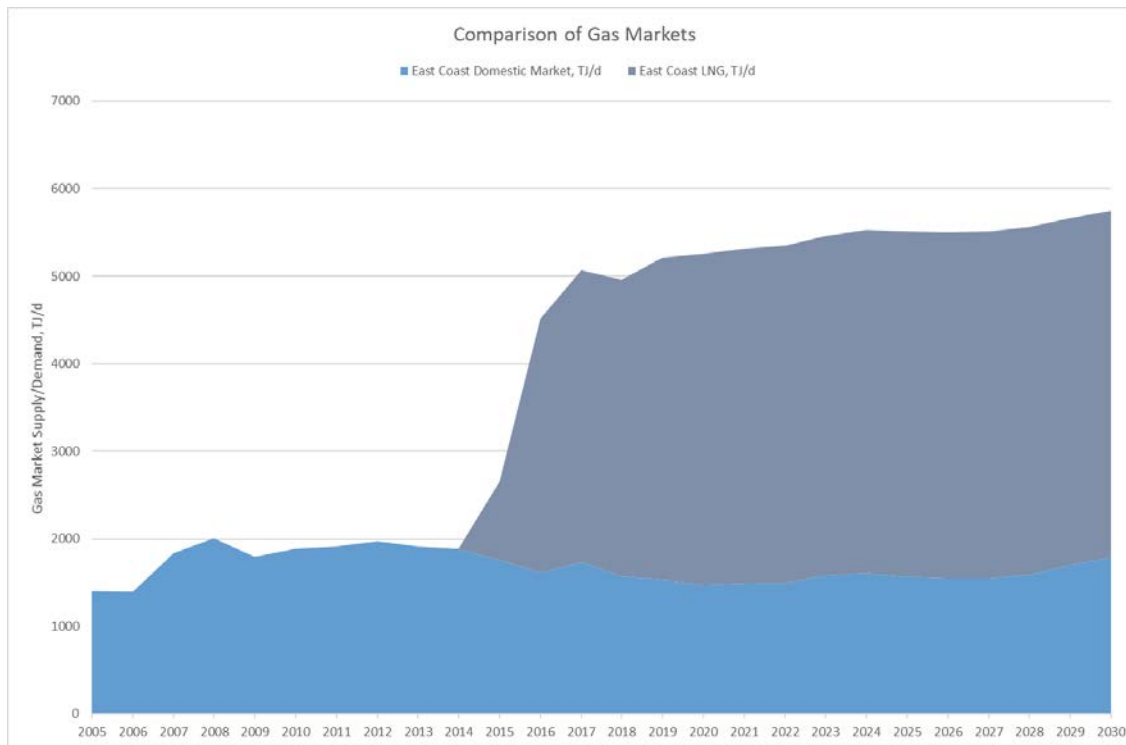
# Australian and Global LNG Markets





# Plenty of gas available....so what's the issue?

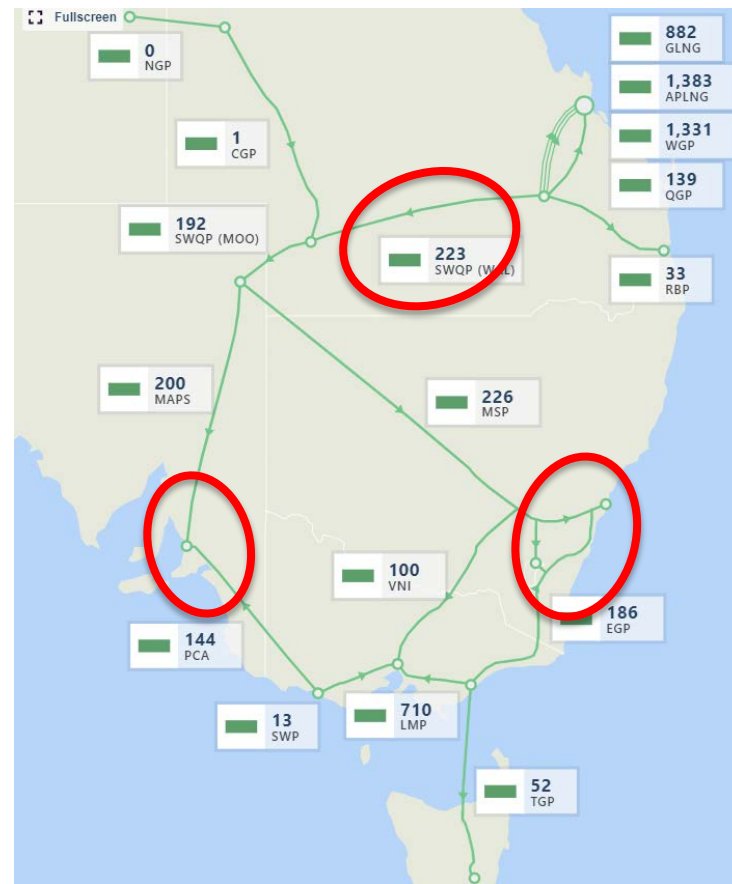
- There is plenty of gas on the East Coast
- A large proportion (60%) of it is contractually obliged to be exported
- There is a “commercial” shortage of gas on the East Coast



# Daily constraints - infrastructure limitations

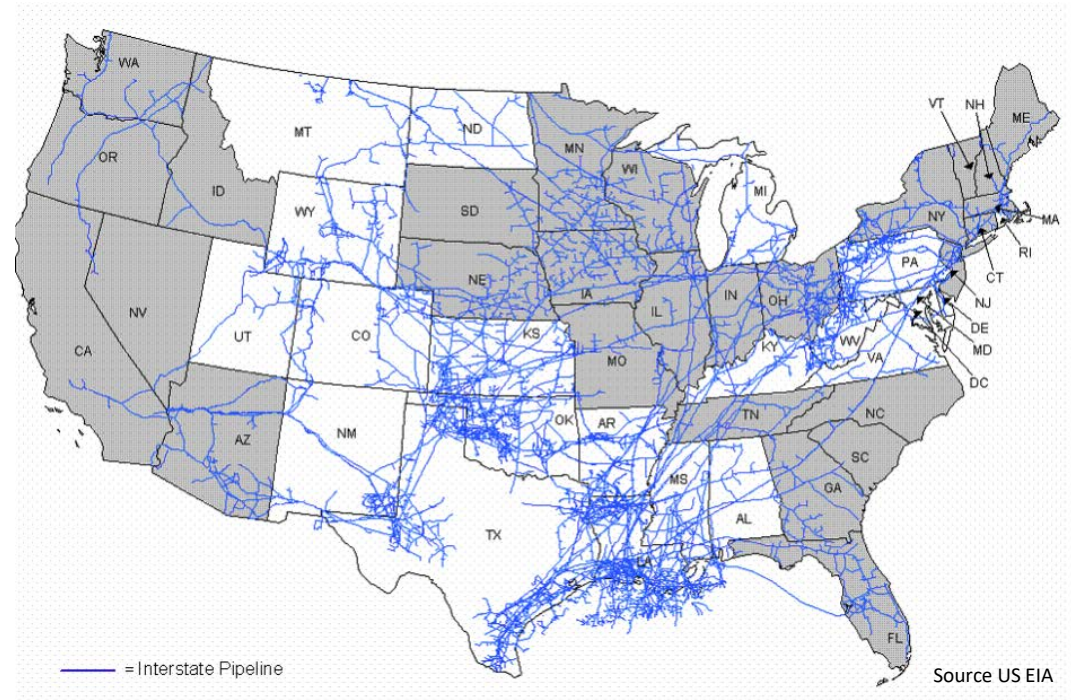
Getting gas to where it is needed when it is needed is an issue:

- QLD SWQP designed to flow West to east, but flows the other way during periods of high demand
- Iona Gas Storage and Longford Gas Plant together struggle to supply Victoria and South Australia.
- There is a limit on how much gas can be brought down from Queensland
- NSW (Sydney) and SA (Adelaide) are most vulnerable parts of the system as they are the furthest sinks from sources, and have already experienced infrastructure limitations.
  - NSW larger population
  - SA larger resource base
- In 2016 following the announcement of the first moratorium in Victoria RISC indicated that this might result in LNG imports into Australia...



## Other examples of import and export

- Indonesia
- Malaysia
- Russia
- The Netherlands
- USA



## 4 LNG Terminals currently in planning stages for Eastern Australia

### NSW

- Newcastle Gas Dock
  - EPIK Energy  
(Energy Projects and Infrastructure Korea)
- Port Kembla Gas Terminal
  - Australian Industrial Energy (AIE)  
(Squadron Energy, Marubeni, JERA)

### VIC

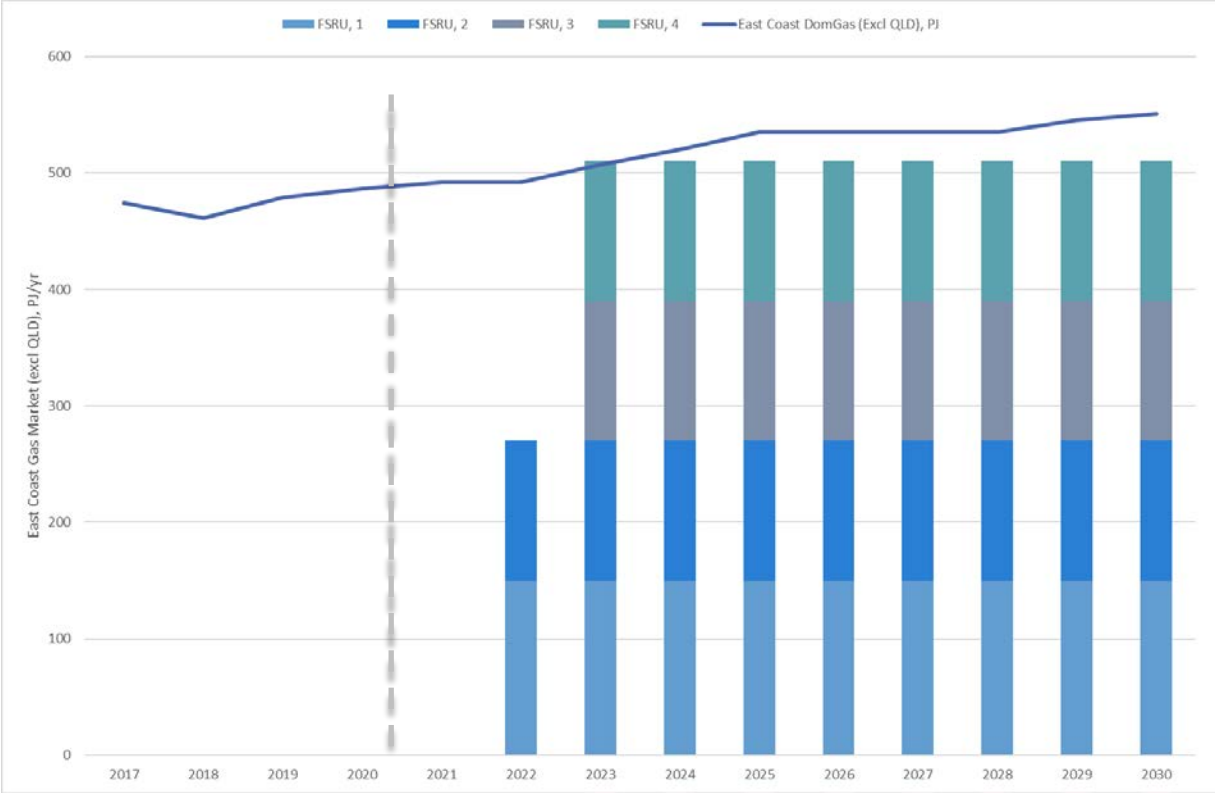
- ~~Longford (Gippsland)~~
  - ~~ExxonMobil~~
- Crib Point (Melbourne)
  - AGL

### SA

- Pelican Point (Adelaide)
  - Venice Energy  
(Mitsubishi)



# Eastern Australia Market





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(Energy Projects and Infrastructure Korea)
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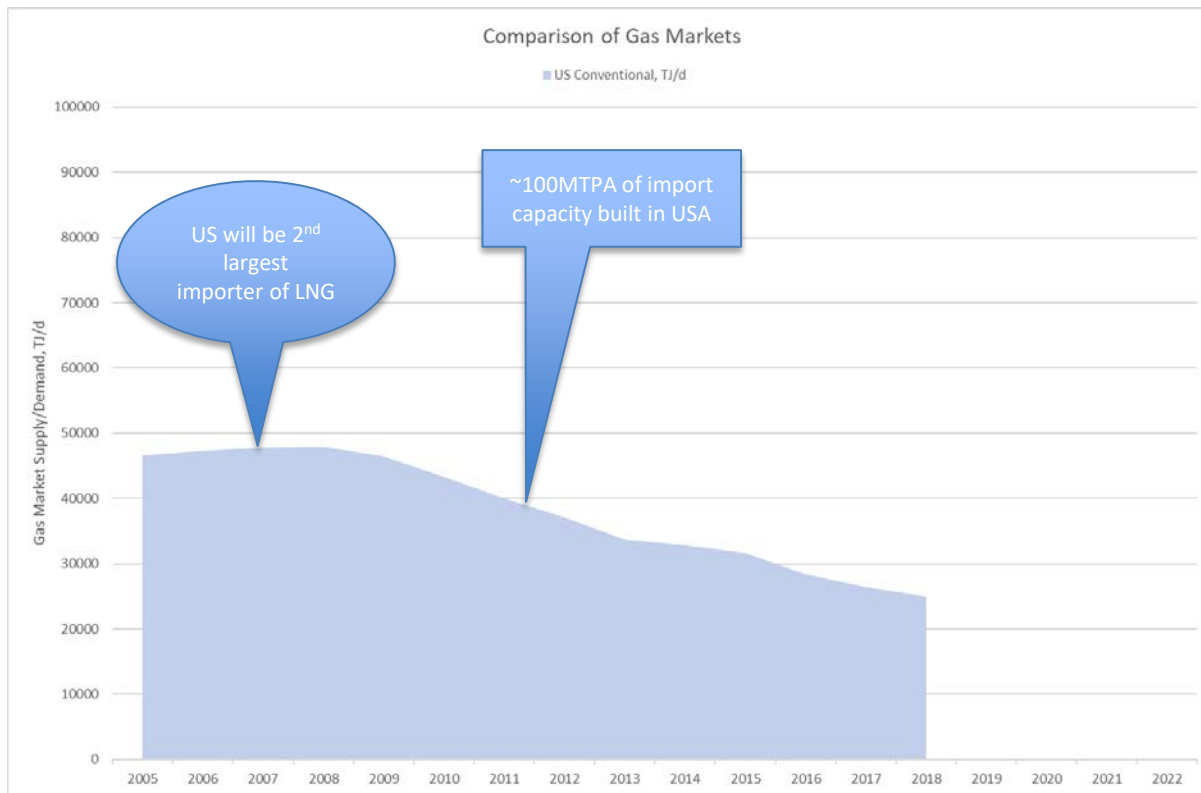
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### SA

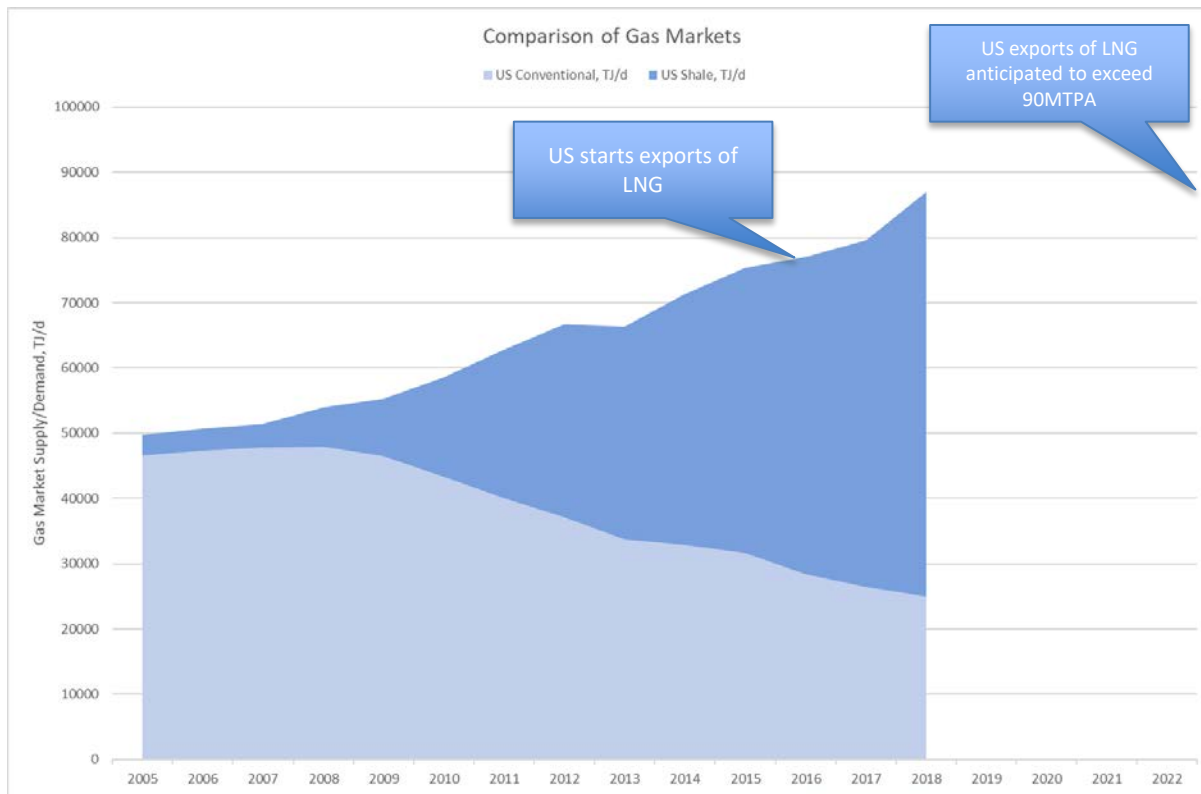
- Pelican Point (Adelaide)
  - Venice Energy  
(Mitsubishi)



# US Gas Market changes



## US Gas Market Changes (II)



# Conclusions

- Shortage of gas is being experienced already – LNG export projects are not running to capacity, and peak domestic gas supply is not being met.
- The current infrastructure and commercial arrangements do not support domestic development that would supply sufficient gas where it is needed.
- LNG imports are likely the only source of gas in the short term given the current moratoria in place on exploration and development.
- Given current LNG pricing signals the longer term impact of importing LNG into the market is not clear
  - Low LNG prices may enable LNG to be delivered at competitive price to domestic gas (A\$7-9/GJ), and may provide a cap on local market pricing
  - High LNG prices may result in higher domestic gas pricing, which may result in demand destruction in the longer term
- In the longer term, with the right support and development, unconventional plays could radically alter the current views of the East Coast market





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