



*Celebrating 25 years*

# The PRMS – An Australian Perspective

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*decisions with confidence*



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We'll focus on Gas, as it dominates the Australian hydrocarbons landscape and is the most visible with respect to challenges in resource estimation, disclosure and regulatory intervention

## Scene -1, Gas in Australia

- Key Thought of Presentation
- A Tale of two Countries
- Feast or Famine
- LNG Import Terminals
- Sovereign Risk & Gas Pricing
- The Attitude towards Unconventionals
- History Repeating Itself

## Scene -2, The Australian Regulatory/Reporting Environment

- ASX and the PRMS
- Comparison with TSX and SEC Reporting
- ASX Observations on Reporting and Disclosure
- ACCC Reporting Framework

## Scene -3, The Challenges in Application of the PRMS

- CSG Reserves Write-Downs
- Under Appraisal, a Common Theme
- PRMS 2018, does the Update address the issues?

# Key Thought of Presentation



The consistency of reserves & resource estimations and disclosure is important in the Australian East Coast, given the apparently different historical understandings of what 2P, 3P and 2C...

The accurate and timely disclosure of Reserves and Resources serves not only capital markets i.e. the ASX but Governments and industry for medium and long term infrastructure planning and ongoing viability of gas intensive industries

Where resource and/or reserves estimates suffer material downgrades and/or regulatory disclosure is obfuscated the market struggles to work efficiently potentially resulting in regulatory intervention

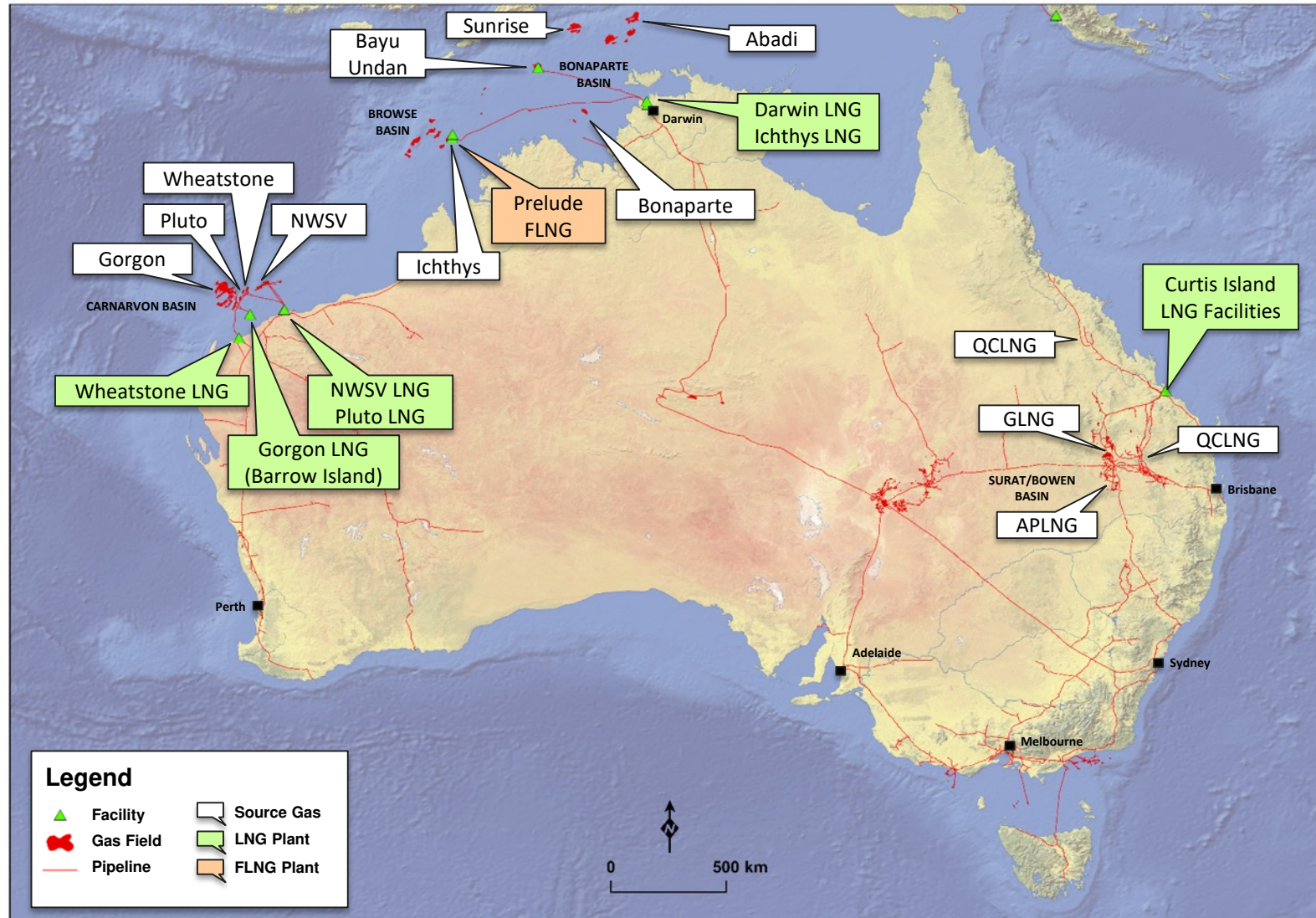
If we don't get it right the regulators may intervene.



## **Scene 1 – Oil and Gas in Australia**



# A Tale of Two Countries with Respect to LNG

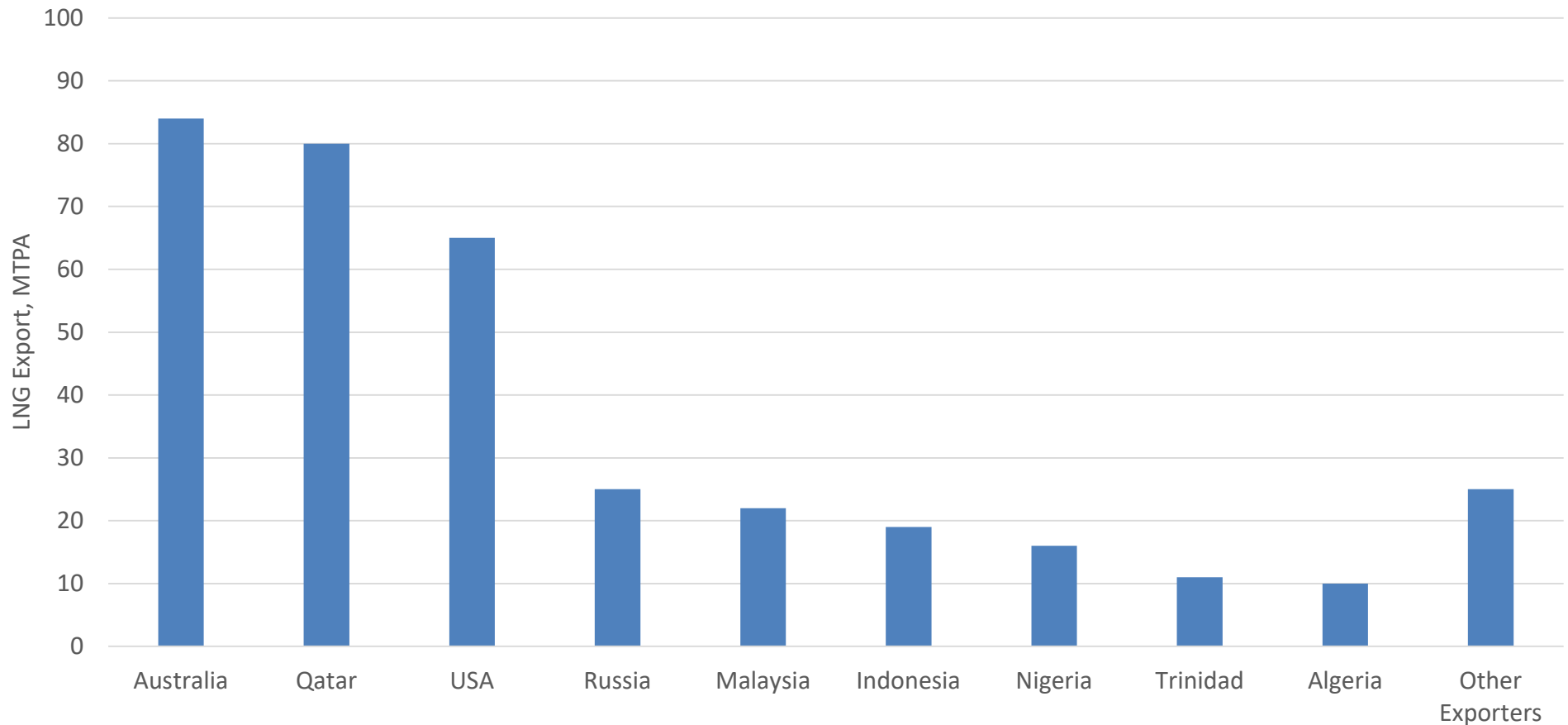


# Australia, the Worlds Largest Island and Largest LNG Exporter



Approximately  $\frac{1}{3}$  of Australian LNG Exports sourced from unconventional resources such as CSG  
Will US unconventional lead to the US overtaking Qatar and Australia?

Major LNG Export Countries 2020 \*Source RISC Analysis



However, it was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness – *Dickens, A Tale of Two Cities*

## The Domestic Gas Market Reality:

- The West Coast is in a feast the East Coast is in a famine

## Unconventional and Conventional Onshore Gas Bans:

- All states apart from Queensland and Northern Territory

## The Reality in the East Coast:

- Domestic gas pricing surging above LNG import pricing
- Domestic gas shortages forecasted from 2020/22 onwards
- LNG import terminals are being proposed
- LNG import terminal pricing may commence at near export parity
- Federal Gas LNG Export trigger legislation for East Coast LNG exporters to protect domestic market





# LNG Import Terminals on the East Coast



LNG imports are likely to be required into the east coast market from as early as 2020 to meet peak demand requirements potentially resulting in further upward pressure on gas pricing

Based on a Floating Storage Regassification Unit (FSRU).

There are currently five (5) proposals to build LNG import terminals on the East Coast\*

Potentially exposes East Coast domestic market (industry) to LNG import Spot pricing rather than LNG export Netback pricing.

Not a long term solution from gas intensive industry perspective



\*Source EnergyQuest 2019

Export triggers for East Coast LNG exporters, potentially another Australian first but an awkward first  
Spot Gas Market on the East Coast > \$AUD12/Mscf during 2017, whilst ~ AUD\$3.5/Mscf on the West Coast

Australia enacted a federal law to potentially control East Coast LNG exports in reaction to surging domestic natural gas prices on the East Coast

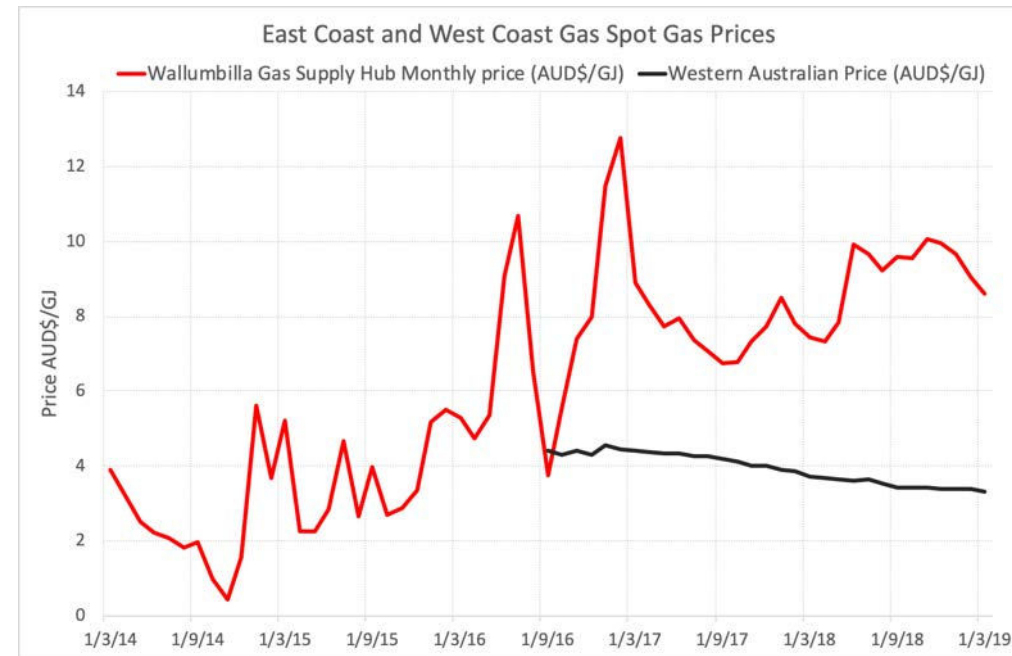
Rising natural gas prices became a highly visible political issues in East Coast Australia as households and manufacturers complained of the higher costs,.

So far LNG export trigger have not been enforced, but they exist, or to paraphrase President Teddy Roosevelt, the Federal Government is *“speaking softly but carrying a big stick”*

\*Source [REUTERS COMMODITIES](#) OCTOBER 24, 2018 / 4:57 PM / 7 MONTHS AGO

\*1GJ ~ 0.95 MSCF

Ironic that without an LNG export market CSG would have remained a minor resource based on the East Coast, and is now being pursued for domestic shortfalls  
Potentially sizeable CSG resources may just not be commercial to develop at “low prices” the domestic market wants



# Australian Domestic Gas Security Mechanism



LNG Export controls buy time, the only long term solution is add supply to the market by developing unconventional gas proximal to existing gas infrastructure, but at what price?

Under the terms of this agreement, the LNG producers committed to offer sufficient gas on reasonable terms to the domestic market.

In the short term, following the government's intervention, domestic prices stabilised in the AUD\$8–11/Mscf range and converged with East Coast LNG export parity prices.

The reality is that CSG is economic at higher gas price and other unconventional gas are also likely to require high prices PLUS a successful technology under development process, that always has risk of failing

In the long term, investment to mature Contingent and Prospective resources into reserves is critical for the domestic market

**Australian gas  
in Australia = \$14/GJ**

**Australian gas  
overseas = \$8.50/GJ**

**DOESN'T. MAKE. SENSE.**

SOURCE: INSTITUTE FOR ENERGY ECONOMICS AND FINANCIAL ANALYSIS, AUSTRALIA VS JAPAN

\*Source The Australian 2019

# The Attitude towards Unconventionals

Blanket Moratoria in the Southern States prevents development of gas proximal to existing gas infrastructure  
As we noted before unconventional gas is unlikely to return domestic gas pricing to historical lows

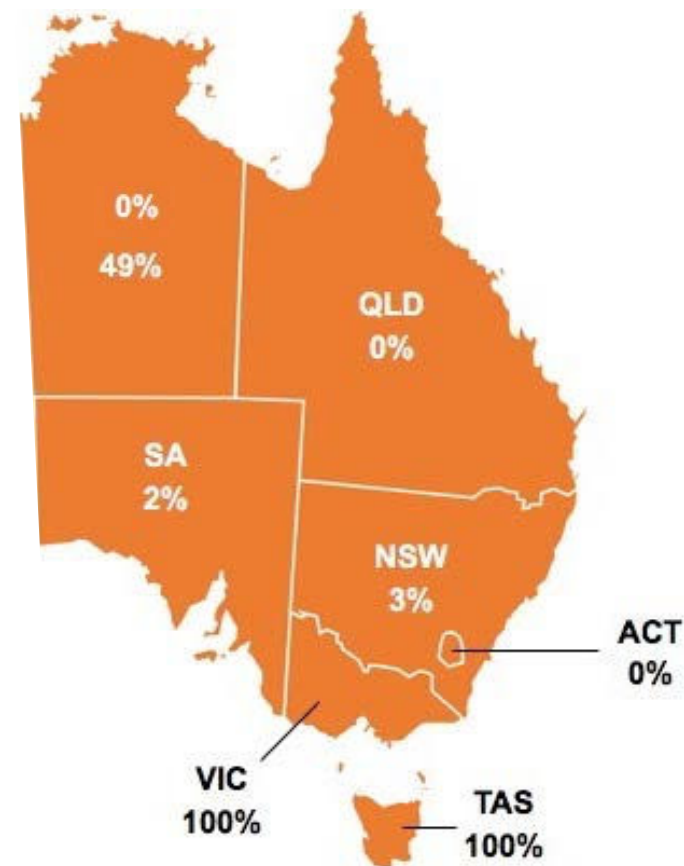
Four states have undertaken scientific inquiries to fracking:

- Risk to people and the environment is low and
- it can be undertaken safely, and
- No evidence it has contaminated aquifers to date

But....

In March 2017 Victoria became the first state in Australia to permanently ban all onshore unconventional and conventional gas exploration and development

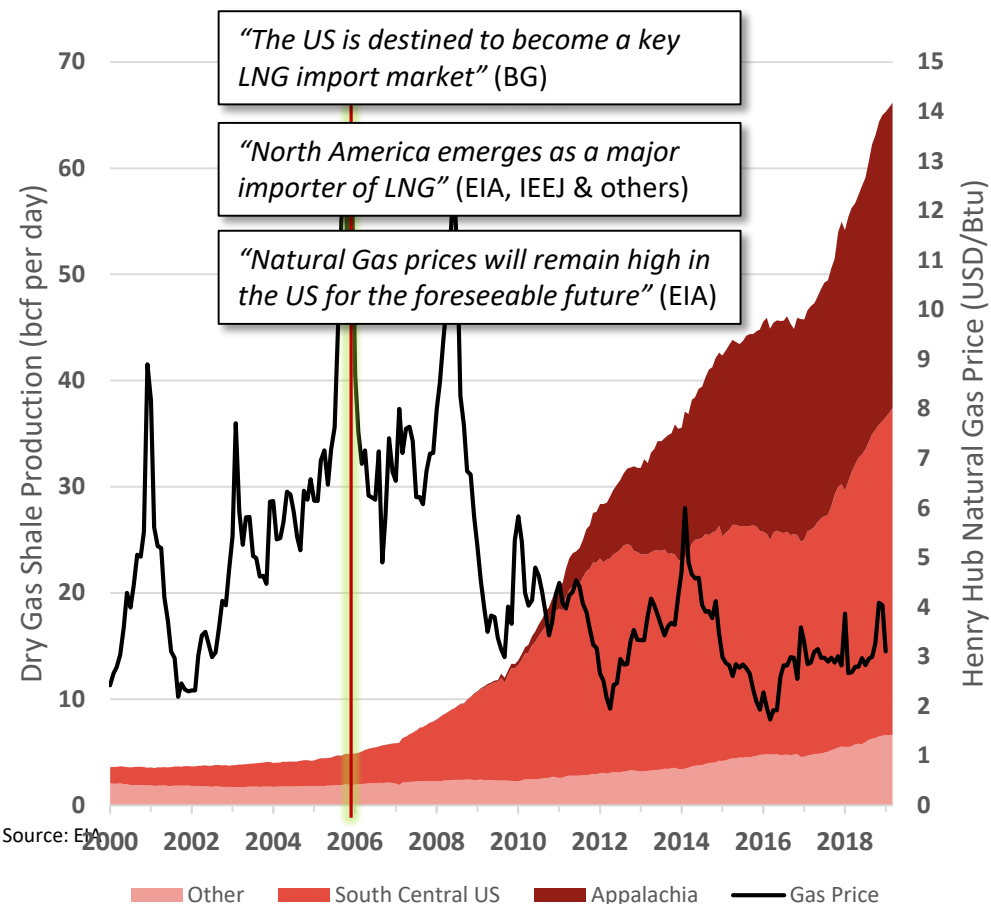
A single CSG development in NSW “Narrabri” would support NSW gas needs and mean less reliance on importing gas



# History Repeating Itself on Australia's East Coast

Interestingly the East Coast of Australia finds itself in the same position the USA was in 10 years ago before the Shale Gas

US dry shale gas production



NATURAL GAS — 27 Feb 2019 | 07:44 UTC — Sydney

## Australia's east coast needs to urgently start importing LNG: EnergyQuest

Sydney — Australia's gas-strapped east coast needs to urgently start importing LNG in order to mitigate a range of risk factors stretching from supply issues to regulatory uncertainties, energy consultancy EnergyQuest said Wednesday.

## When insanity makes sense: Australia's best option is LNG imports

By Clyde Russell  
March 7, 2019 — 12:06pm

Australia has painted itself into a corner with its natural gas industry and faces the stark reality that there are no easy choices to alleviate the dual problem of a looming supply crunch and the associated higher prices.

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## LNG import terminal approval — an Australian first — a sign of hope for NSW manufacturing

ABC Illawarra By Kelly Fuller and Gavin Coote

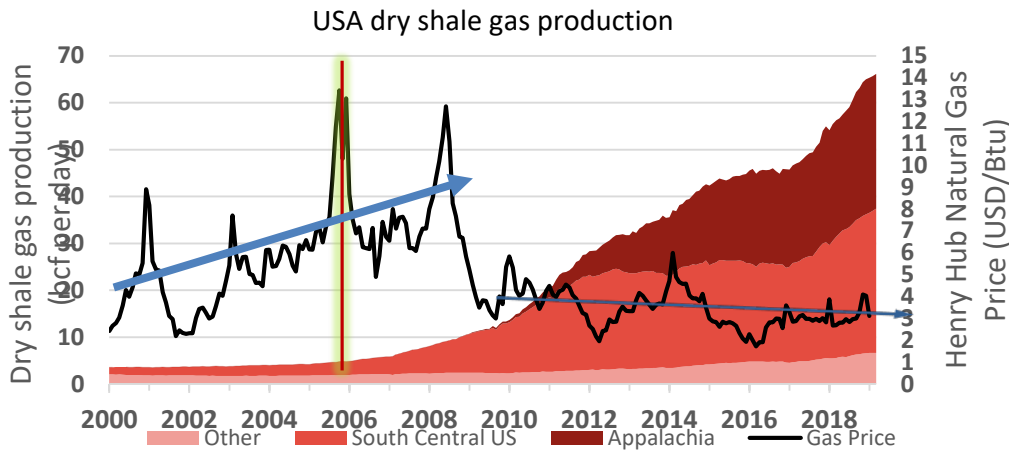
FROM ABC ILLAWARRA

- Why Tania Daykin is putting old chickens before the eggs
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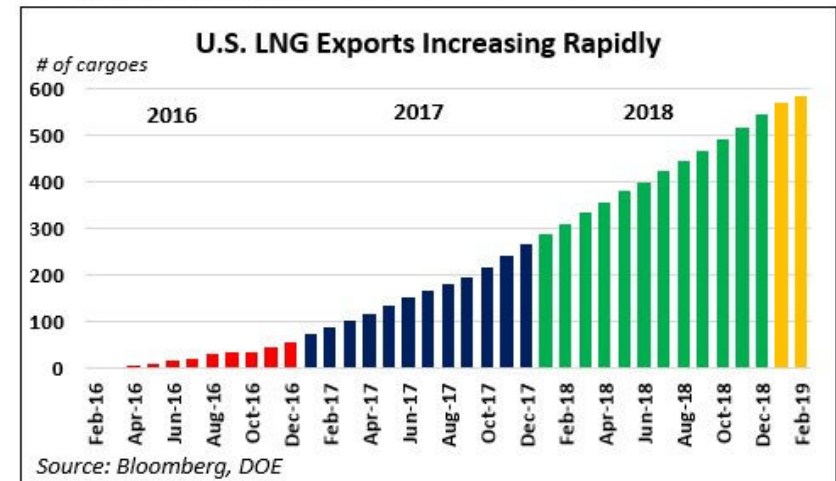
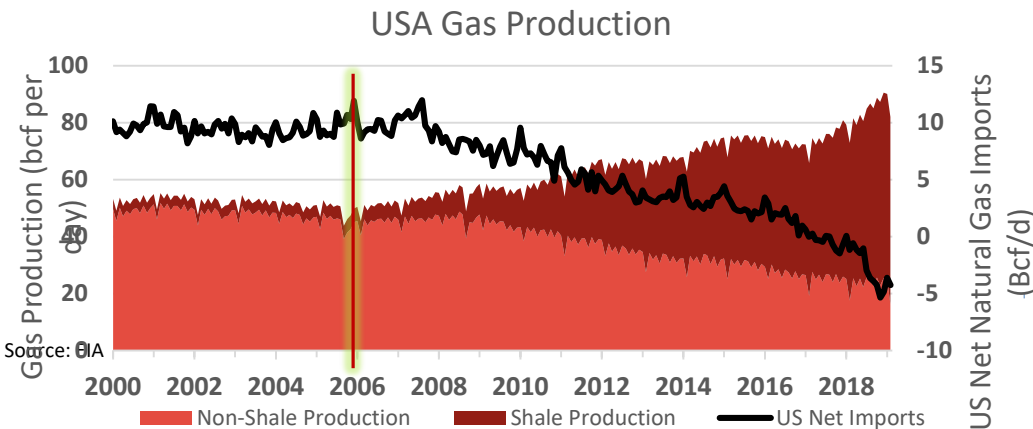
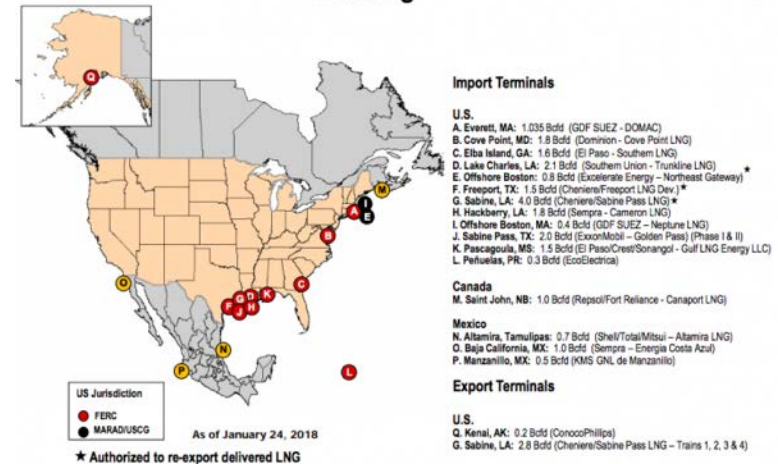


# Have We Seen This Shale Gas Story Before?

Rising gas prices in the Eastern Australian gas market are driving speculation about LNG import requirements  
The same speculation occurred in the US in the mid 2000's. US managed to respond with unconventional



## North American LNG Import/Export Terminals Existing



# Key Takeaways from Scene-1



With the looming gas shortage, eyes are focused on whether booked Reserves and Contingent Resources are actually Reserves and Contingent Resources

There is severe gas supply shortfall looming in Eastern Australia

Potentially sizeable CSG resources may just not be commercial to develop at “low prices” the domestic market wants

Existing infrastructure proximal shale plays may provide additional supply, provided development strategies can quickly drive towards optimal cost effective drilling and completion strategies

In the long term, investment to mature Contingent and Prospective resources into reserves is critical for the domestic market



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