



# ***Crystallising Lessons Learned from Major Infrastructure Upgrades***

**Dr Carol Bond & Dr Angus Veitch**

Future Fuels CRC Webinar, 21 July 2020

# Project RP2.1-01

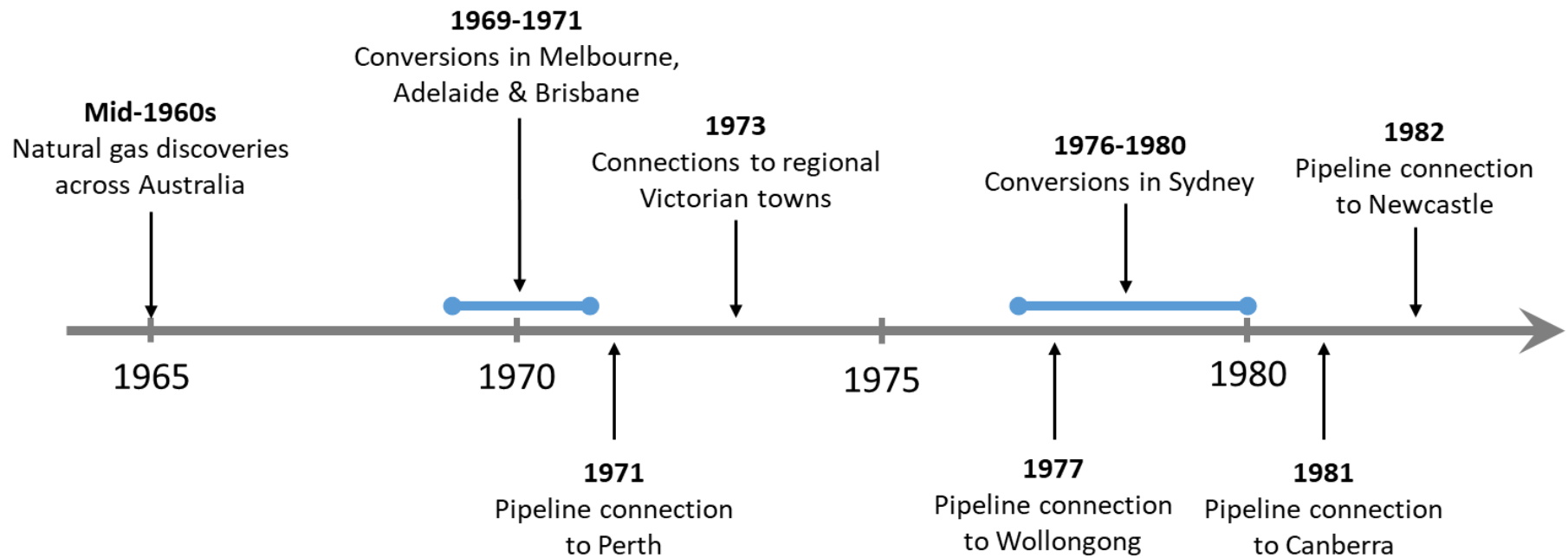
- **Objective:** To identify lessons from previous infrastructure upgrades and fuel transitions that can help to ensure a smooth transition to new fuels.
- **Timeline:** Finalise 31 January 2020
- **Benefit to industry:** develop a knowledge base + a preferred suite of engagement strategies for use by industry to manage proposed infrastructure upgrades in the energy sector
- **Case Studies:**
  - Town gas → natural gas conversion: 1960s-1970s
  - E10 and LPG motor fuels: 1980s-2000s
  - CSG industry expansion: 2000s

# Guiding Research Questions

- How have communication and engagement activities in previous infrastructure upgrades and fuel transitions contributed to positive and negative outcomes?
- Consequently, what communication and engagement strategies might be effective in managing risks and promoting positive outcomes in the deployment of flow-carbon fuels in Australia?
- Focus was communication, but also considered policy, strategic and logistical issues.

# Research approach

- Review **historical newspaper articles** to assemble detailed chronological accounts of events, and to gauge how they were discussed at the time (town gas and motor fuel case studies)
- Review **academic literature** on social acceptance, community engagement and CSG development
- Review policy-oriented **reports** from government agencies and other organisations
- Obtain first-hand accounts and anecdotal evidence from people with direct knowledge / involvement in the case studies



Town Gas → Natural Gas

Timeline

# Town Gas → Natural Gas

Was natural gas an 'easy sell'?

## CHEAPER GAS FOR MELBOURNE?

# Another big flow from Esso well

MELBOURNE, Tuesday.—Esso Exploration (Aust.) Inc. announced today that gas flowed at a rate of 10.5 million cubic feet a day from a new test yesterday on its Esso Gippsland Shelf Number One well, 28 miles from the Gippsland coast.

*Canberra Times, April 1965*

## Natural gas much cheaper

MELBOURNE, Friday.  
— Price cuts for natural gas compared with coal gas could be expected to range from 25 to 50 per cent, the chairman of the Victorian Gas and Fuel Corporation, Mr A. E. Chadwick, said today.

Conversion of the corporation's Melbourne area and Gippsland towns is expected in 19 months from next March.

Mr Chadwick said, "We will be competing with other fuels. Price reductions will have to be made if we hope to sell the volume of gas we have agreed to buy from BHP and Esso".

Mr Chadwick said the corporation believed it should not be prevented from selling natural gas anywhere in Victoria outside the areas supplied by other gas utilities.

*April 1968*

# Town Gas → Natural Gas

Was natural gas an 'easy sell'?

- Rumours swirled about bad experiences in Britain
- Victorian Gas & Fuel Commission enlisted Margaret Fulton to reassure housewives about cooking with the lazy blue flame
- South Australian Gas Company spent \$ on a customer survey and publicity campaign to address anxieties and misinformation about natural gas



# Town Gas → Natural Gas

Times have changed



*The Age, January 1969*



*The Age, April 1969*



# Town Gas → Natural Gas

Expect the unexpected

## Faults delay natural gas conversion

MELBOURNE, Friday. — A report by the Victorian Gas and Fuel Corporation has revealed that one out of every two consumers connected to natural gas has had to call the conversion teams back to make adjustments.

It had now been arranged that in addition to normal checks by conversion crew leaders, experienced conversion adjusters would make periodic checks of the work completed.

The report revealed that the original schedule for the programme planned for 2,000 homes to be converted in the first week, 4,500 the second week, 2,500 the third week, 5,500 the fourth week, and 6,000 a week after that.

To achieve this the conversion contractor had engaged a work force of nearly 450 men.

Three weeks after the beginning of the programme the contractor had asked for an increase of 100 men and 20 vehicles. This request had been approved by the corporation.

## IT'S NOT PLUMBERS WHO ARE TO BLAME

By our Victorian correspondent

MELBOURNE: Plumbers and gasfitters are angry at allegations that "shoddy workmanship" is the cause of difficulty in converting household appliances to natural gas.

## Heater let out deadly carbon gas

— Coroner's Court told

A newly converted natural gas heater in a room where a young couple were found unconscious gave out deadly carbon monoxide gas, the Coroner's Court was told yesterday.

Procedures for conversion of the heater from town to natural gas had since been altered, a witness told the court.

## Gas fires without flues to be banned

The State Government will almost certainly ban sales of domestic gas heaters which are not fitted with flues.

## Gas men will fix explosive ovens in 3 weeks

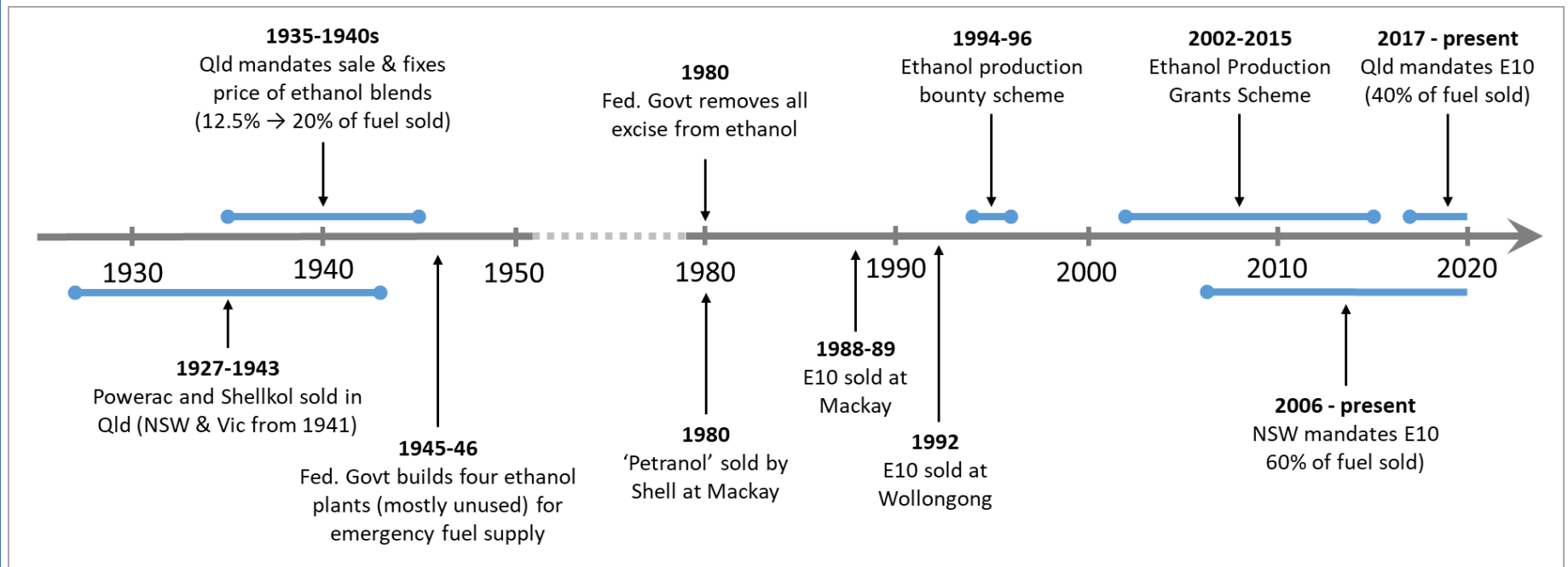
The Gas and Fuel Corporation expects to start converting troublesome wall ovens to natural gas within three weeks.

However, the corporation's ability to do this will depend on the outcome of tests which should be finished tomorrow.

The corporation's conversion engineer (Mr. N. W. Armstrong) said yesterday that it would take two or three weeks, from the conclusion of the tests, to manufacture parts and establish conversion techniques.

The engineers were looking for the cheapest and easiest solution.

"But if the answer is expensive, then we'll just have to accept it," Mr. Armstrong said.



# Ethanol in motor fuel

## Timeline

# Ethanol in motor fuel



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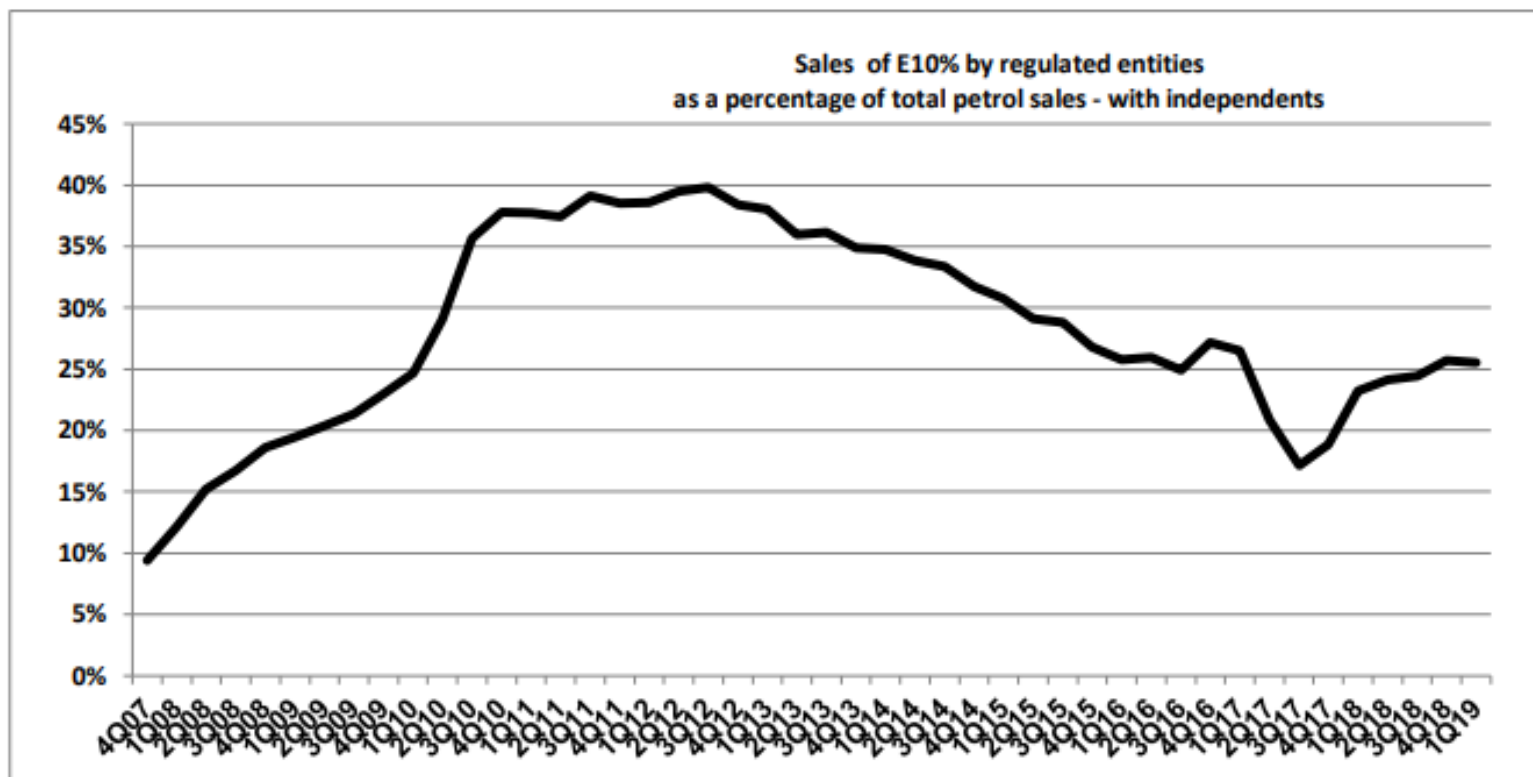
*The Telegraph, 1930*



*Western Sydney, 2012*

# Ethanol in motor fuel

Mandates are not magic

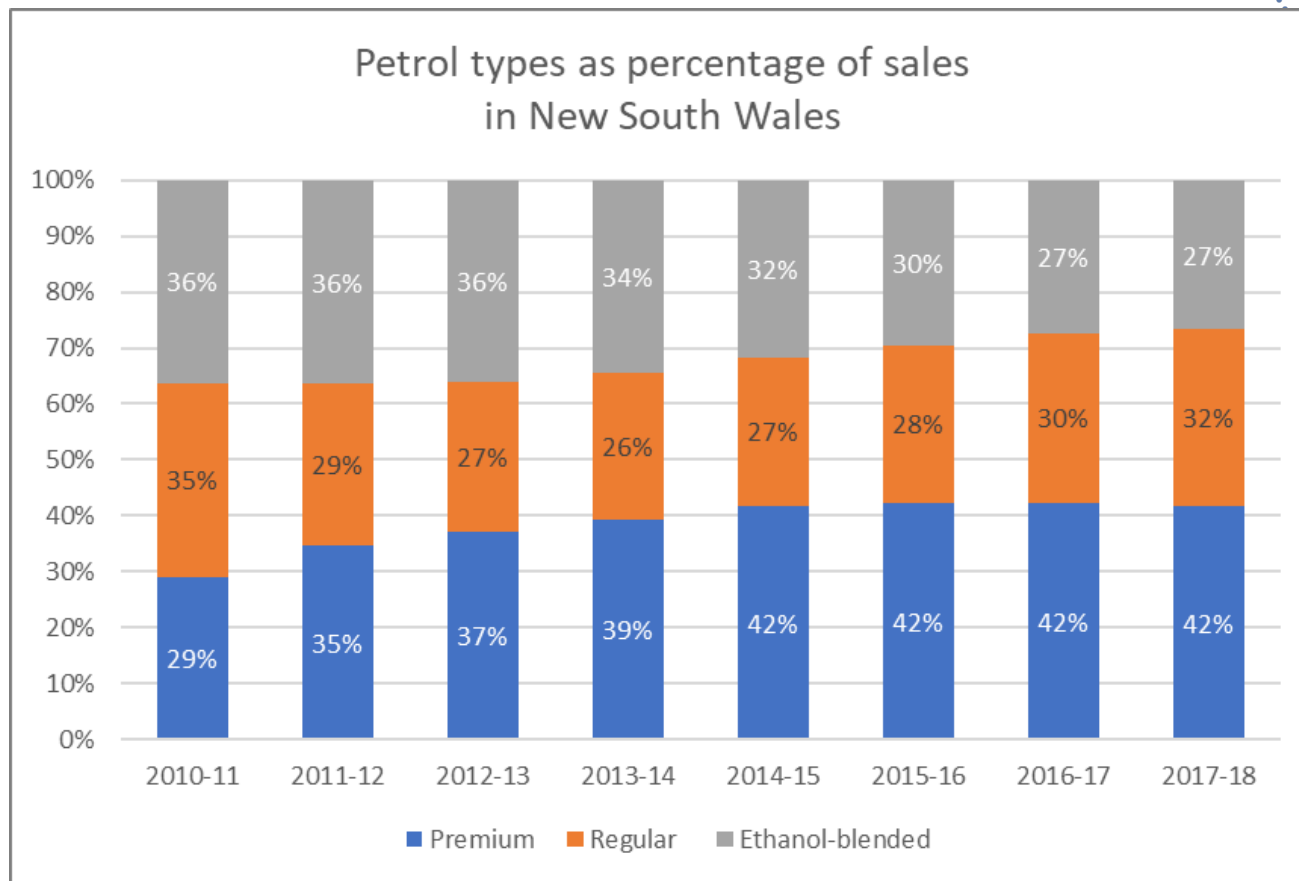


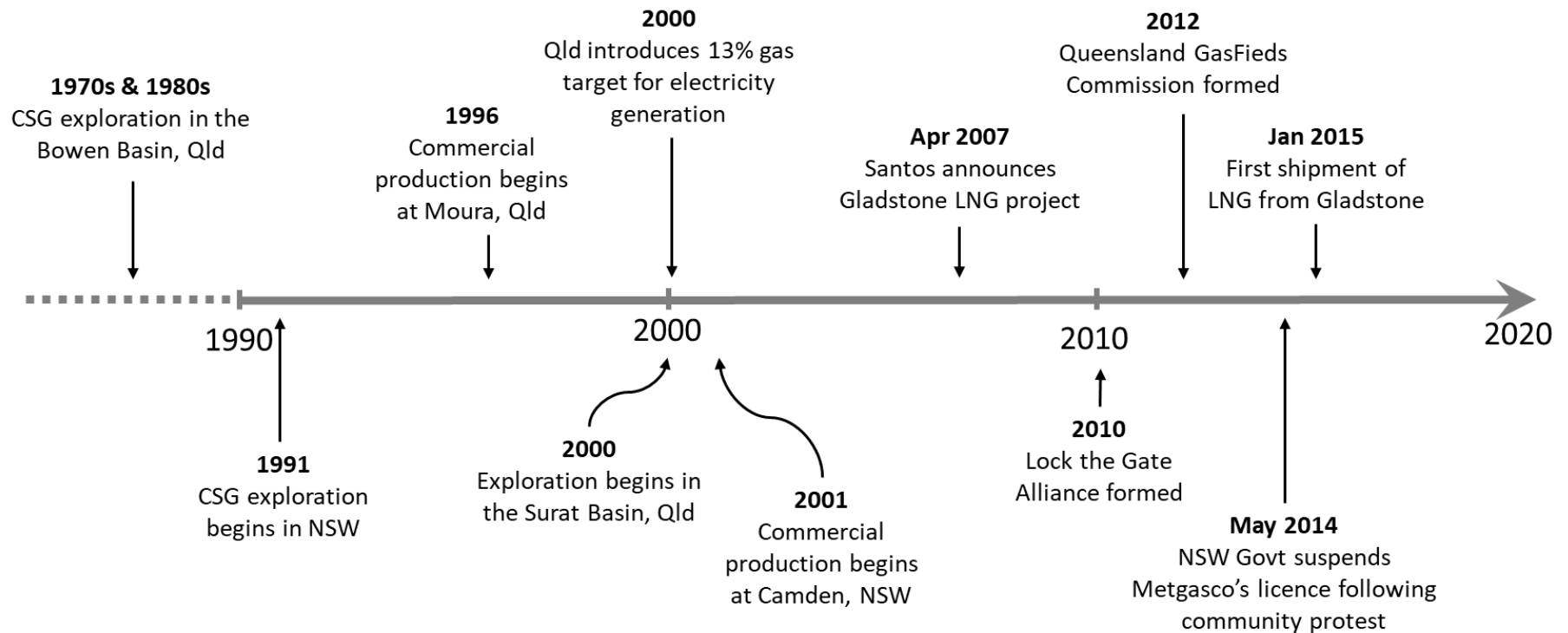
Sales of E10 fuel as a percentage of total petrol sales in New South Wales.

(Source: <https://www.fairtrading.nsw.gov.au/trades-and-businesses/business-essentials/service-stations/biofuels-marketplace-data>)

# Ethanol in motor fuel

Trust can trump price



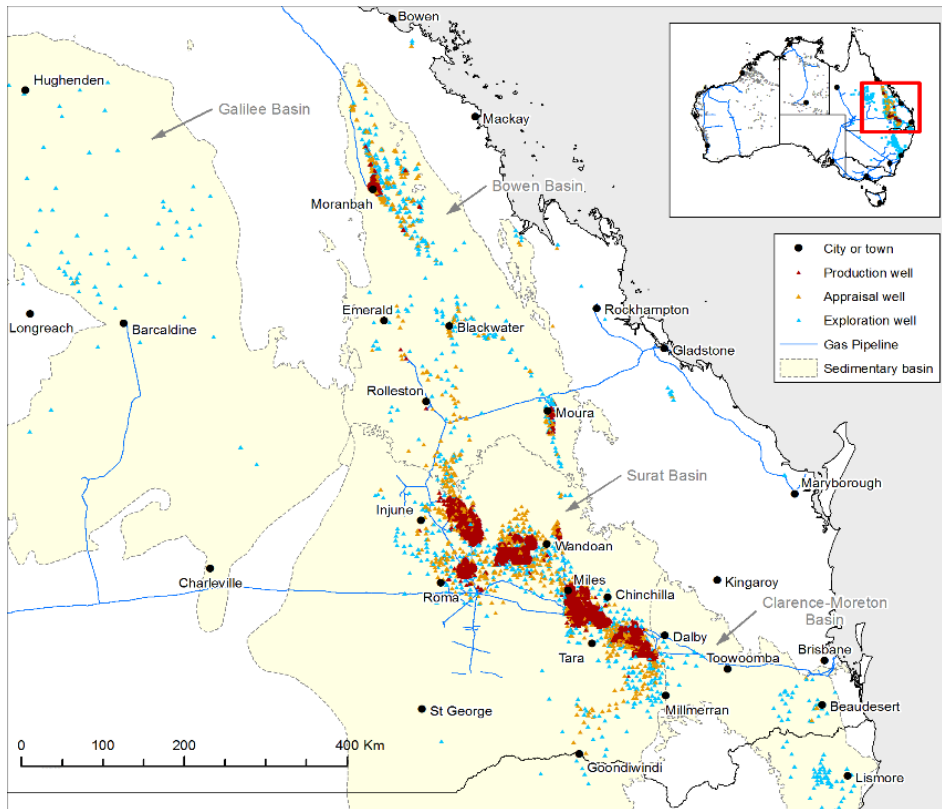


# CSG Expansion

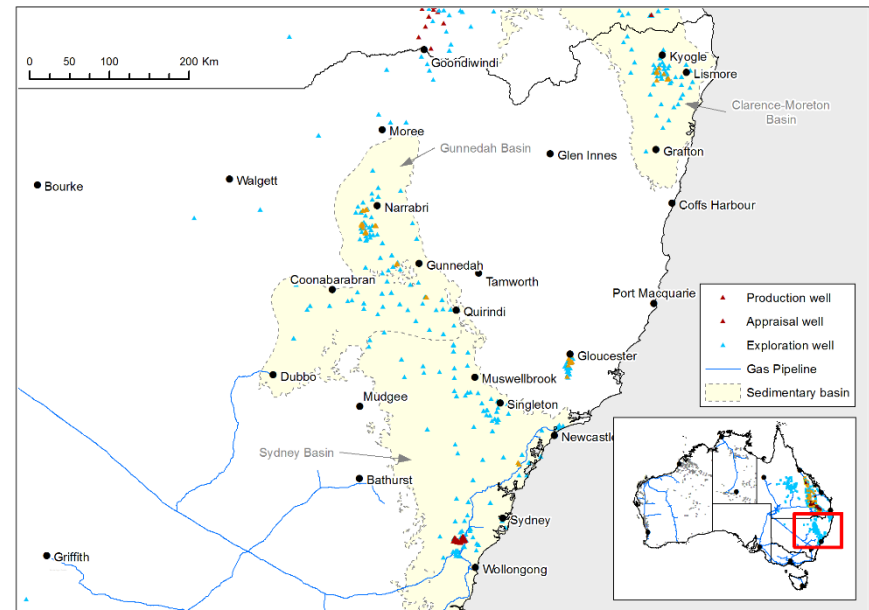
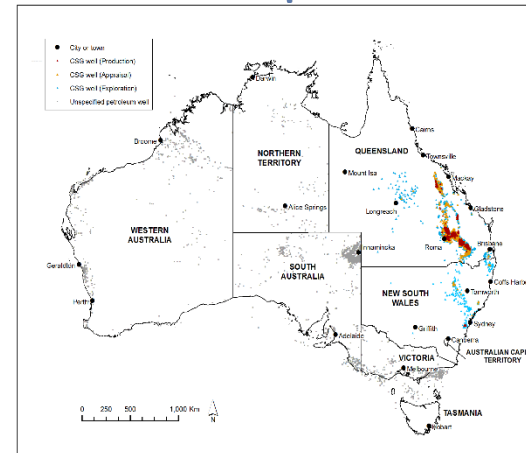
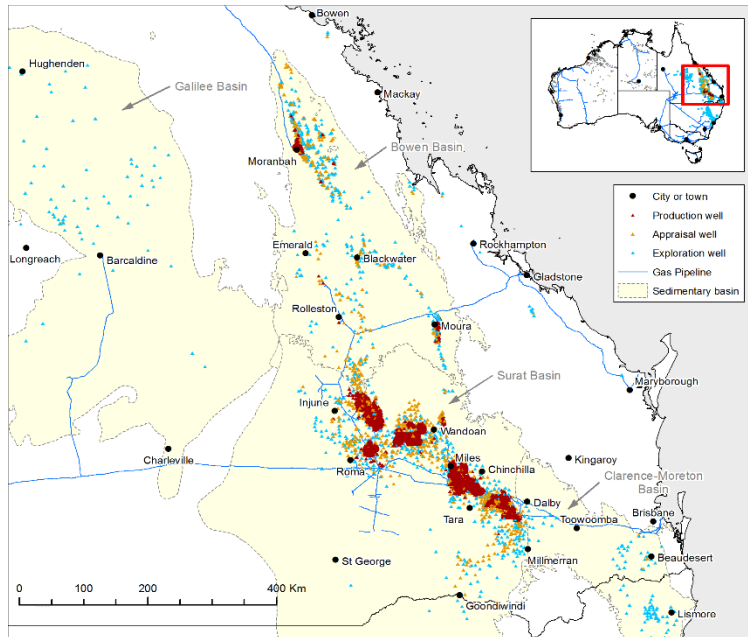
Timeline



# CSG Expansion



# CSG Expansion



# CSG Expansion

## Lessons learned from CSG development

- Social licence can affect legal licence
- Pursue long-term relationships as well as short-term opportunities
- Trust in industry is tied to trust in government
- Be cautious of international investment
- Every community is different

# Keep in mind ....

- ✓ Trying to move too fast can be costly
- ✓ Trust requires more than just good behaviour
- ✓ Coordination is critical
- ✓ Government policies can make or break new fuels
- ✓ Large-scale fuel transitions are challenging but possible

*“Either you can do the engagement up front where you have proactive control over the process, or you can wait for engagement to be sprung upon you when a group of stakeholders is tired of feeling that their concerns have been ignored.” - Interviewee*

# Toolkit – Opportunity



✓ Plan

✓ Engage

✓ Communicate

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# Enabling the decarbonisation of Australia's energy networks

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