Green Gas: The Economic Regulation Challenge

Can we change Regulatory Culture to Remove Barriers to Green Gas?

James Turnley
APGA Conference and Convention, October 2023

Agenda

1. Green gas is underrated. Betting it all on electrification is risky.
2. Regulation is a form of contract renegotiation.
3. Regulatory culture needs to evolve to focus on consumer value, rather than just price.

The electrification zeitgeist

Dominate view

1. Need to reduce/stop gas use to hit net-zero goals
2. Renewable electricity is the cheapest form of energy
3. Households can electrify now and save money
4. Green gas not yet available with:
    - Hydrogen being too expensive
    - Insufficient amounts of biomethane
5. Green gas should be reserved for hard to abate sectors

CSIRO

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

VICTORIA
State Government

ENERGY CONSUMERS AUSTRALIA

GRATTAN Institute

ACT Government

agl

Electrification: a *fragile* pathway to net-zero

Given forecasting error and large down-side consequences, we need to at least hedge against electrification

Forecasts

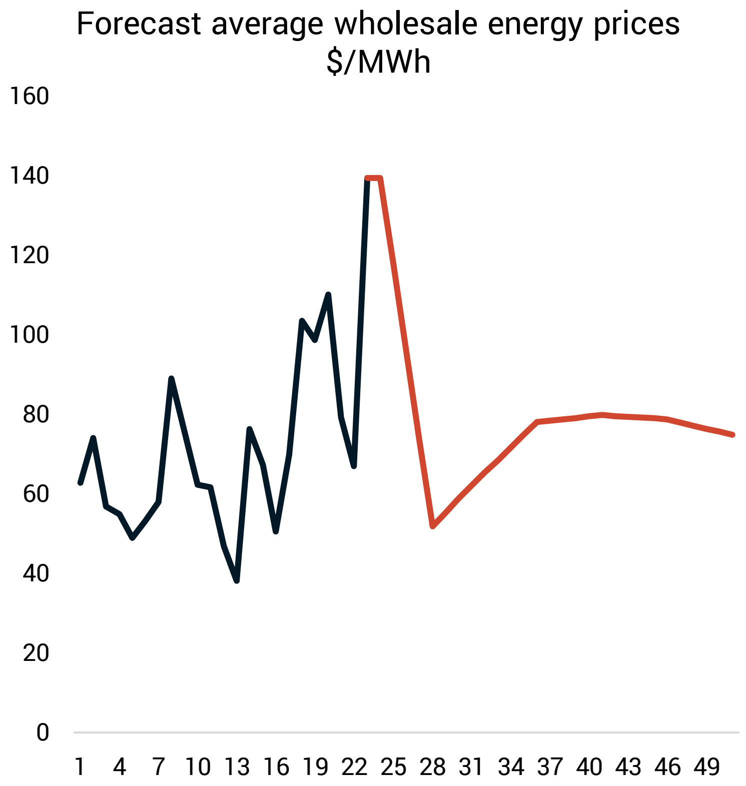
- Apply reasonable assumptions
- All wrong
- Longer horizons, higher risks
- Knightian uncertainty / black swans

Electrification risks

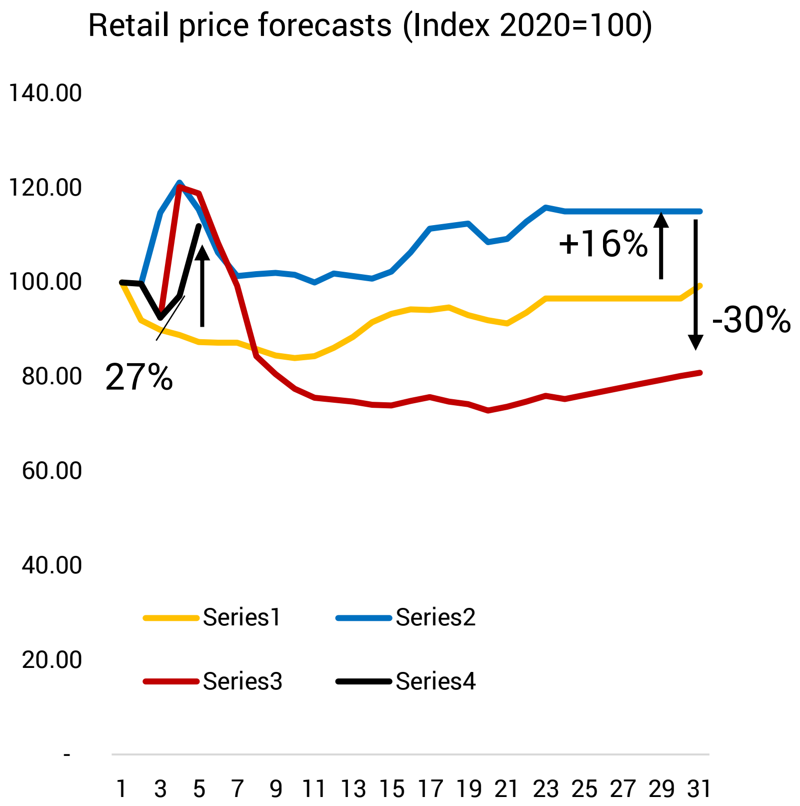
- Social licence for transmission and generation (off-shore wind etc.)
- Tech lag risks (stalled batter/storage advancements)

Consequences

- System unreliability
- Higher costs



Source: CSIRO

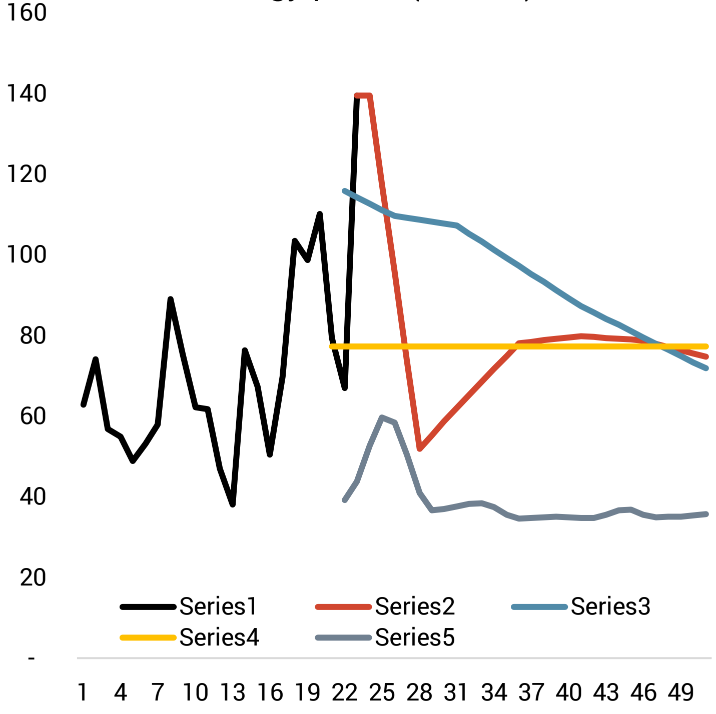


Source: AEMO, AER

Value of green gas

Forecast electricity and gas costs are highly uncertain..

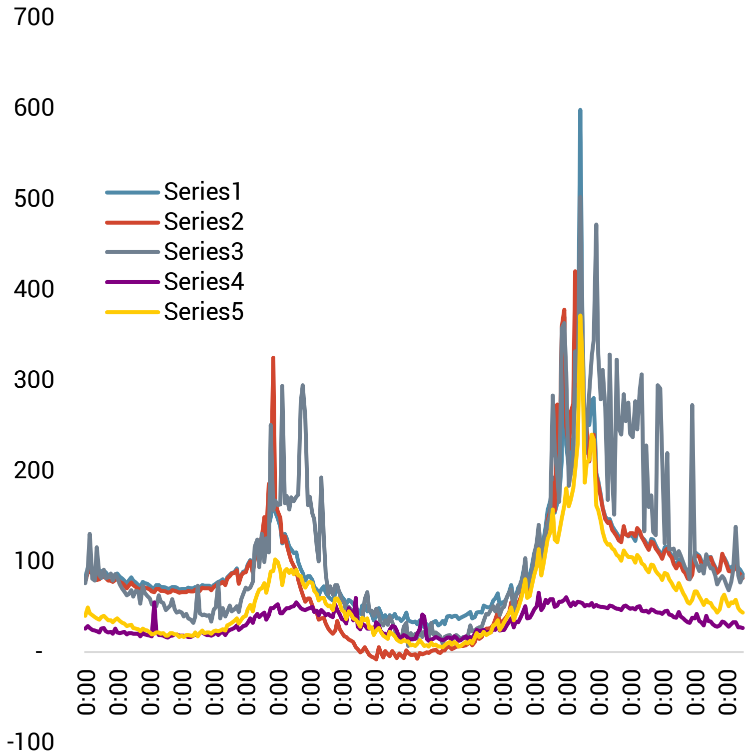
Comparison of forecast average wholesale energy prices ($/MWh)



Source: JT Economics analysis of data from CSIRO, Grattan Institute, Oakley Greenwood.

..green gas competes with peak not average electricity prices..

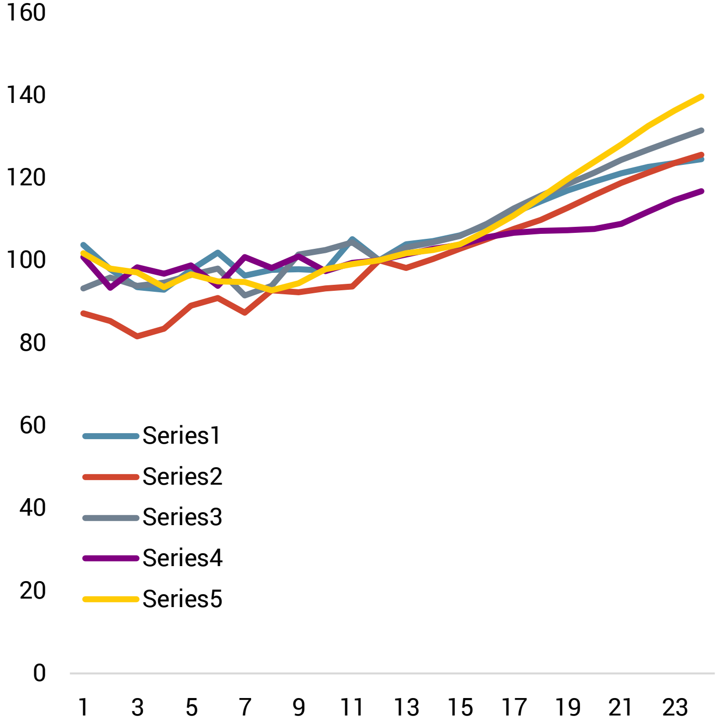
2023 winter wholesale electricity prices ($/MWh)



Source: AEMO

...avoids pressure on the reliability and build-out required for the electricity grid...

Actual and forecast maximum demand (Index 2022=100)



Source: AEMO

Why regulate pipelines?

A solution to the ‘hold-up’ problem

Sunk consumer investments

Sunk pipeline investments

Regulatory process

In substance a form of long-term contracting:

1. Investment certainty for relationship-specific investments
2. Flexibility to adjust over time

Current regulatory practice

A product of history

Steady history

- Mature technology
  - Town gas distributed since late 1800s
  - Shift to natural gas in 1960s/70s
- Static industry structure
  - Retail contestability in early 2000s
- Constant demand growth
- Static investment drivers
- Long history of data, accepted good industry practice etc.

Regulatory focus on cost/price

- Concerns on pipeline market power
- Regime centred on identifying efficient costs:
  - Cost of capital
  - Capital/operating expenditure
  - Incentive rewards / penalties
- Cost / risk allocation
- Asymmetric information
- Potential for pipelines to use monopoly power to distort contestable markets

Regulator/ consumer advocate / policy maker tool-box

- Splitting industry into contestable and non-contestable sectors
- Ring-fencing
- Cost focussed incentive regulation
- Reliance on “revealed” costs to forecast future
- Mindset: “Not one dollar more not one day earlier”
- Onus on pipelines via propose / respond approach
- Business-led consumer engagement
- Focus on *maintaining* safety, integrity etc.
- Economic value justification rarely used

Regulatory culture is stilting investment

Need to shift focus on consumer value

All ingredients in place

- System level need, attractive/complementary economics
- High-levels of consumer support – they have skin in the game
- Limited regulatory / policy barriers

But poor outcomes

- Failure to differentiate between mature and infant technology
- Unreasonably high regulatory hurdle
- Discouraging investment/innovation
- Misalignment of benefits, cost and risk
- Onus on pipelines
- **No or limited (?) commercial green gas injection –> lack of consumer access and optionality**

Cost focus

Is expenditure required to transport natural gas at the lowest possible price?

Australia's best-selling car in 2002

Value focus

Is this the best deal possible for consumers?

Australia's best-selling car in 2023

What kind of change in regulatory culture?

All stakeholders to refocus on consumer value

- Embrace uncertainty
- Give primacy to consumer **not stakeholder** views: it's their money and investments
- Encourage regulators to 'zoom-out' and focus on value not cost
- Set KPIs for both regulators and pipelines: proportion of consumers who can access green gas, carbon intensity of delivered gas, amount of green gas injected etc.
- Challenge pipelines to deliver greater value
- If necessary, introduce mechanisms to address historic cost concerns: use it or lose it, payment on outcomes, volume payments etc.