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What's happening in Australia's energy markets?

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Our panel



Professor Michael Brear
Director
*Melbourne Energy Institute,
The University of Melbourne*



Ms Lynne Gallagher
Chief Executive Officer
Energy Consumers Australia



Mr Matthew Warren
Principal
Boardroom Energy



**Dr Sangeetha
Chandrashekeran
(moderator)**
Senior Research Fellow
*The University of Melbourne and
the ARC Life Course Centre*



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Professor Michael Brear

*Director, Melbourne Energy Institute,
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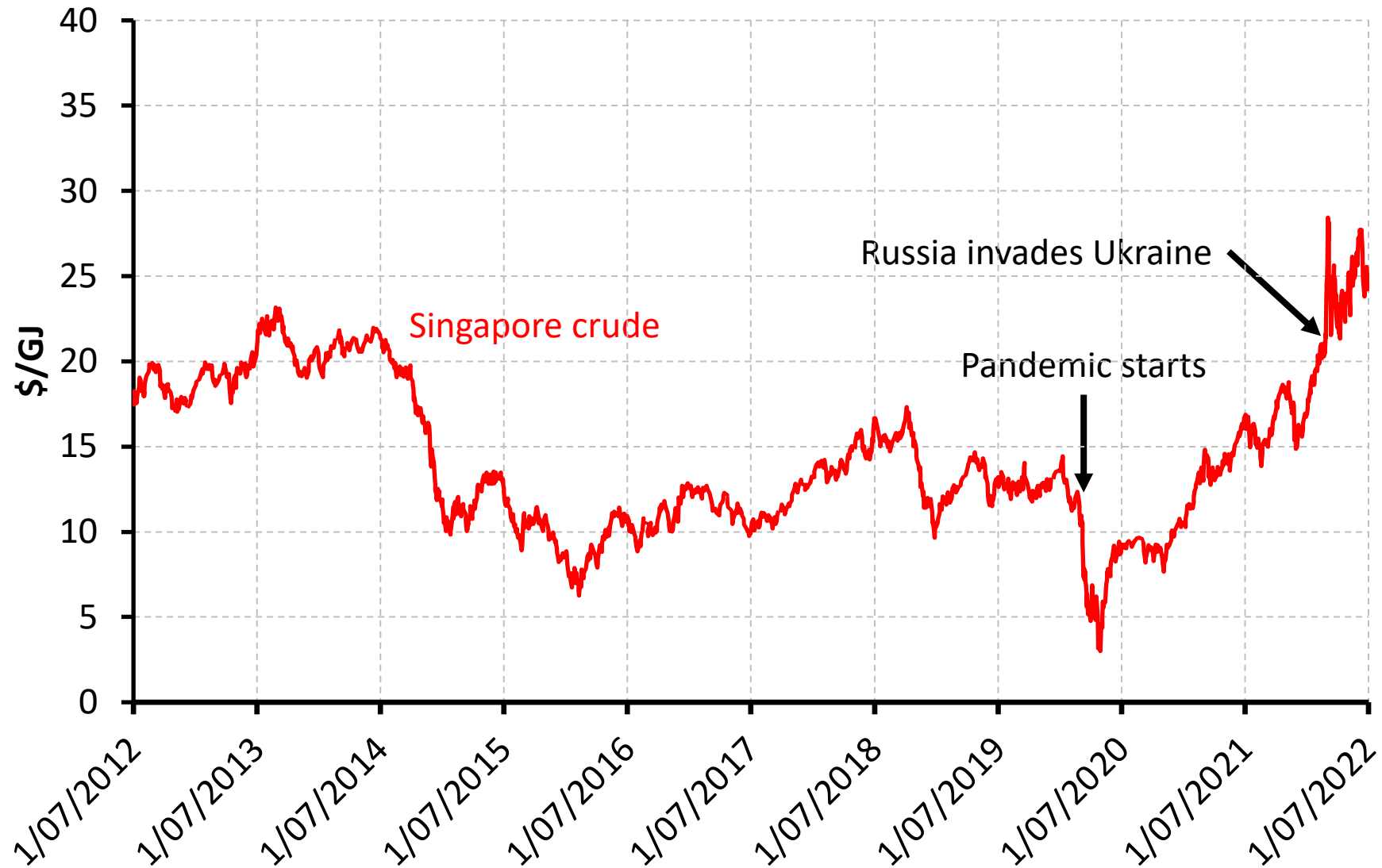
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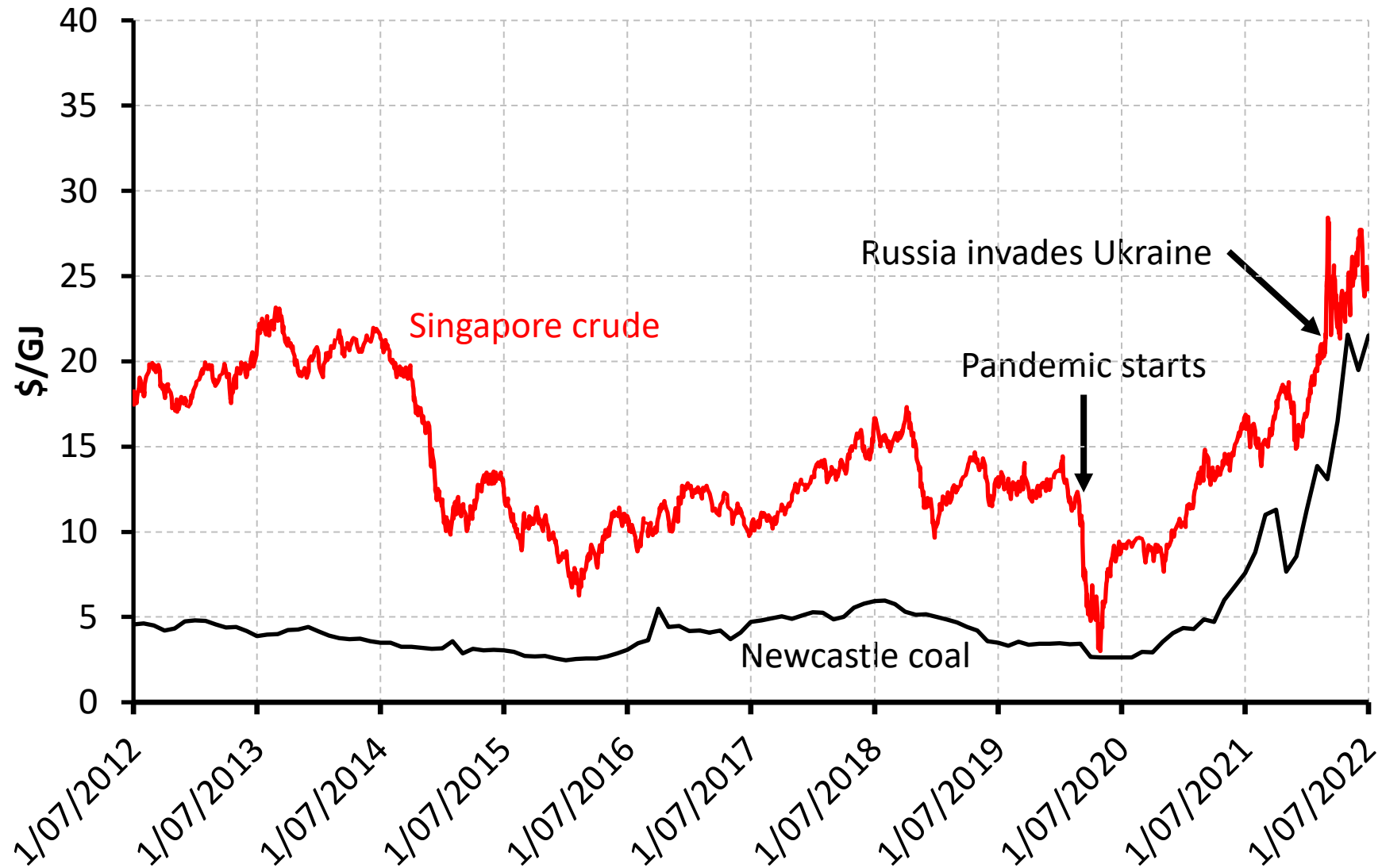


How did we get here?

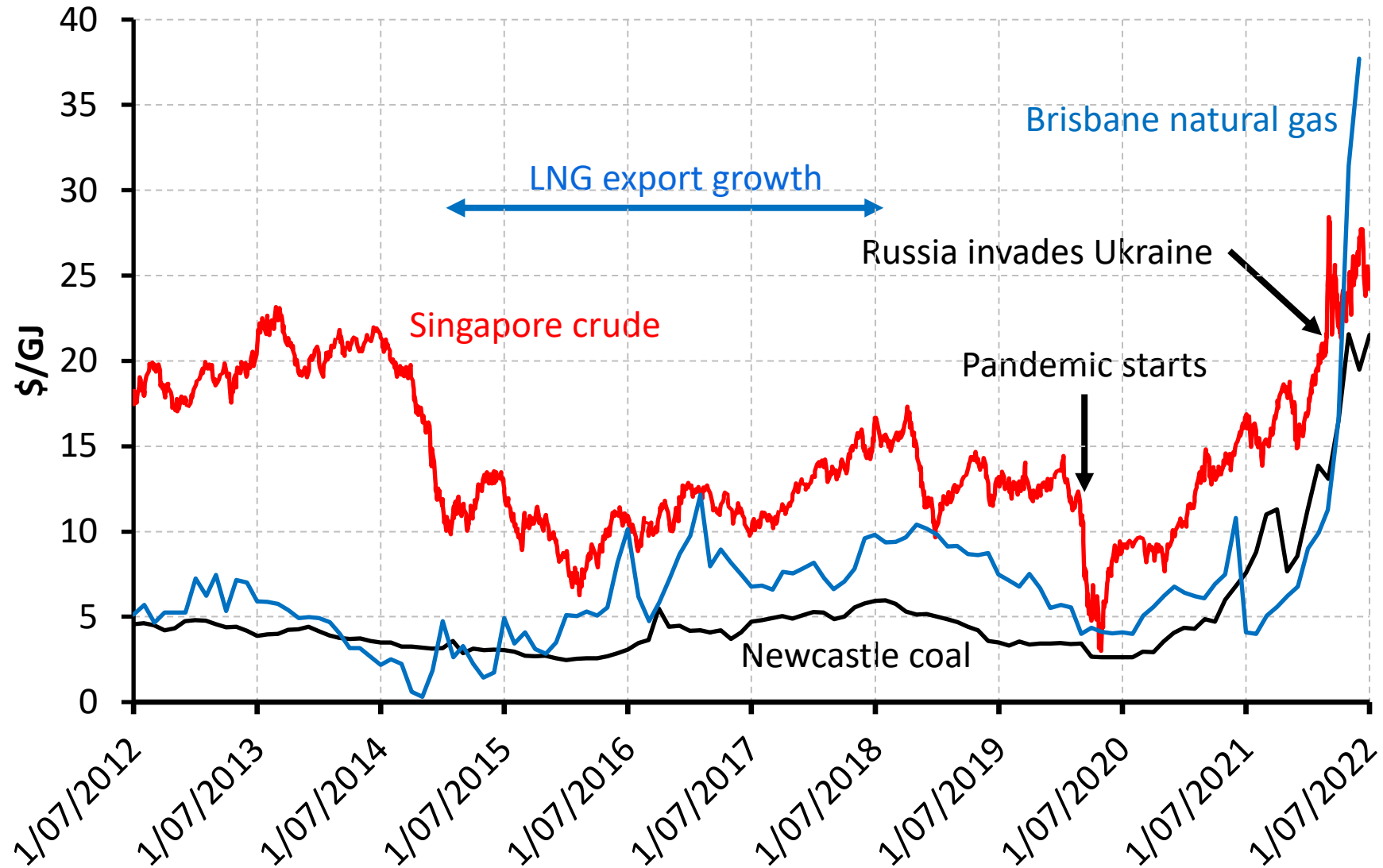
International and domestic energy commodities



International and domestic energy commodities

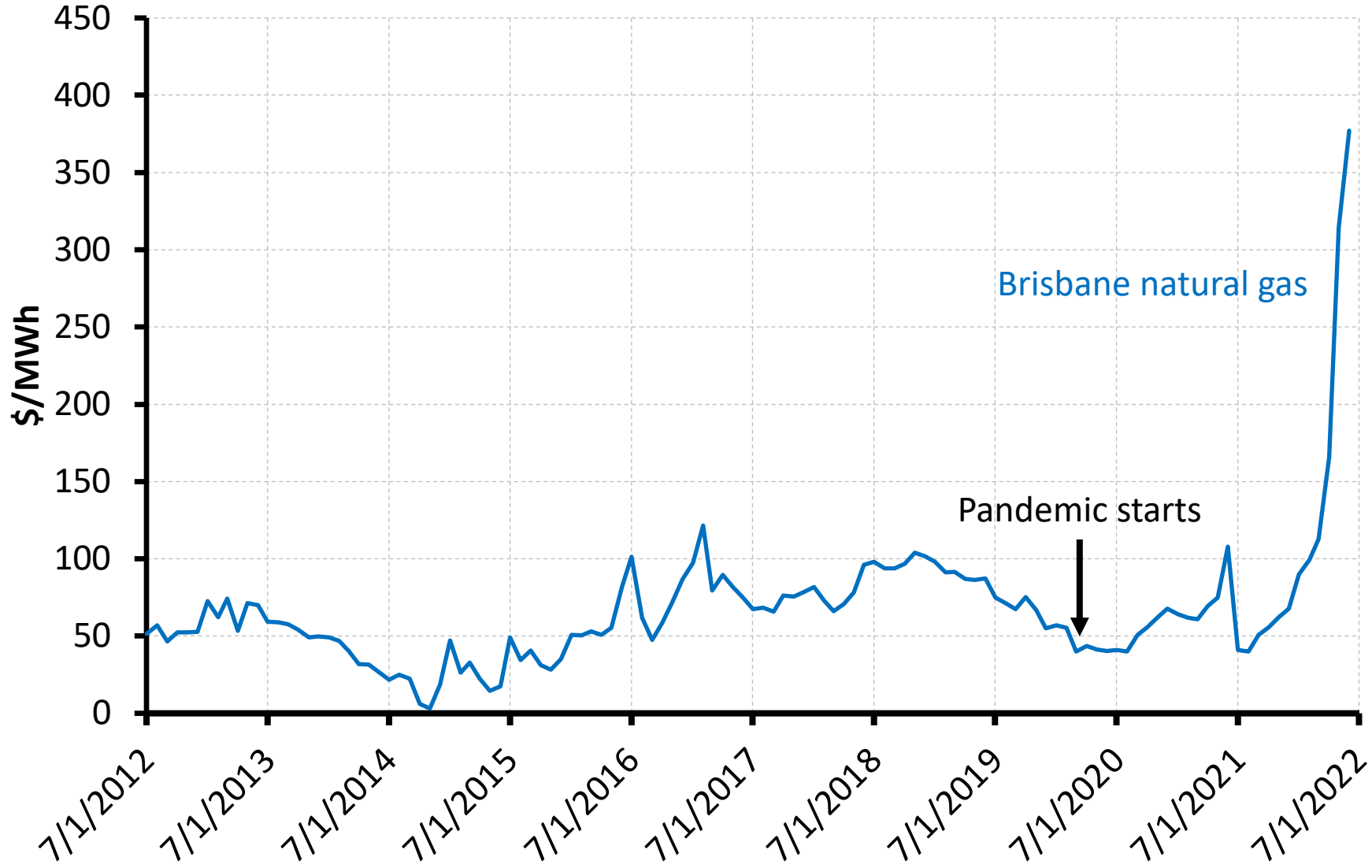


International and domestic energy commodities



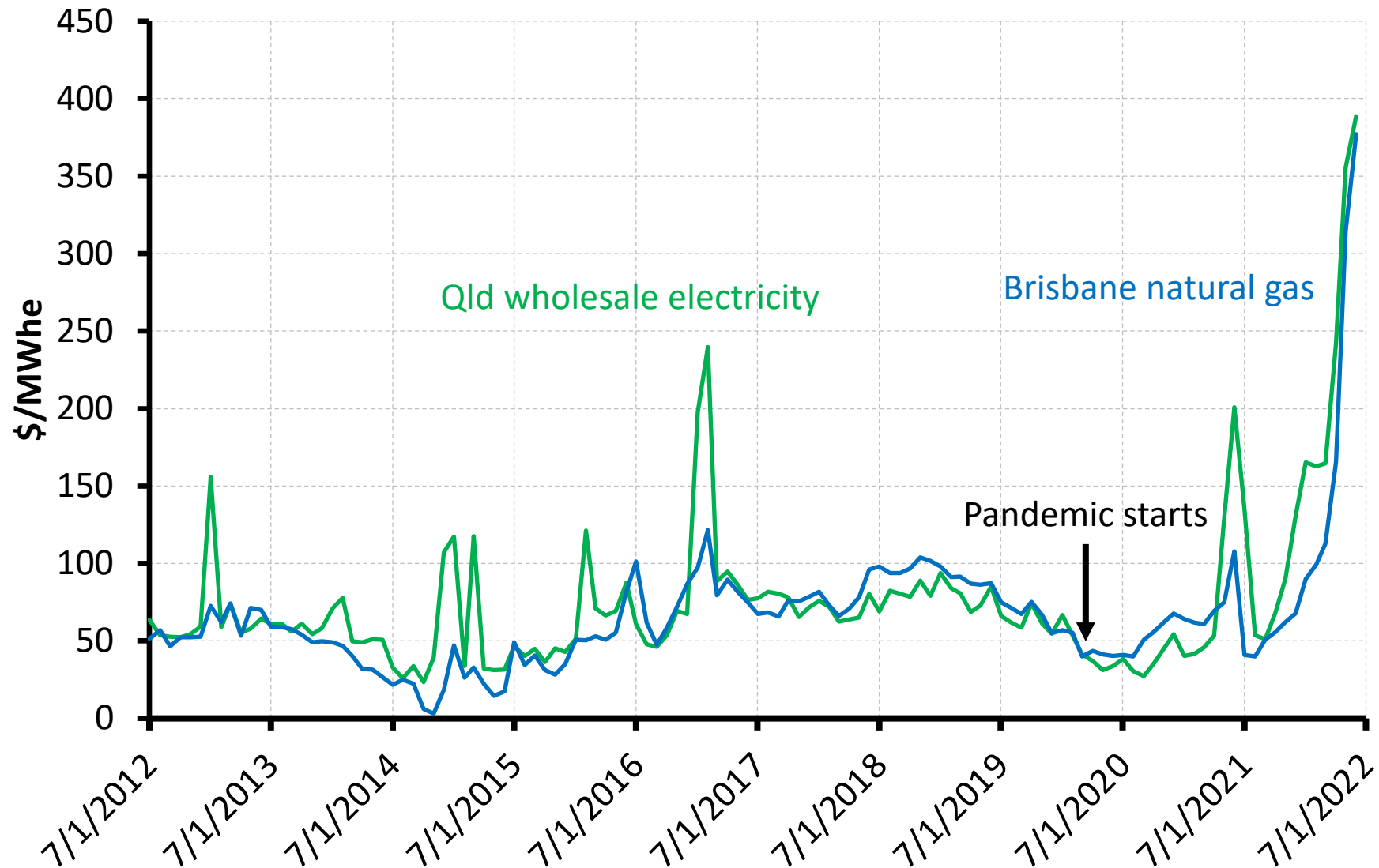


Queensland natural gas and electricity prices



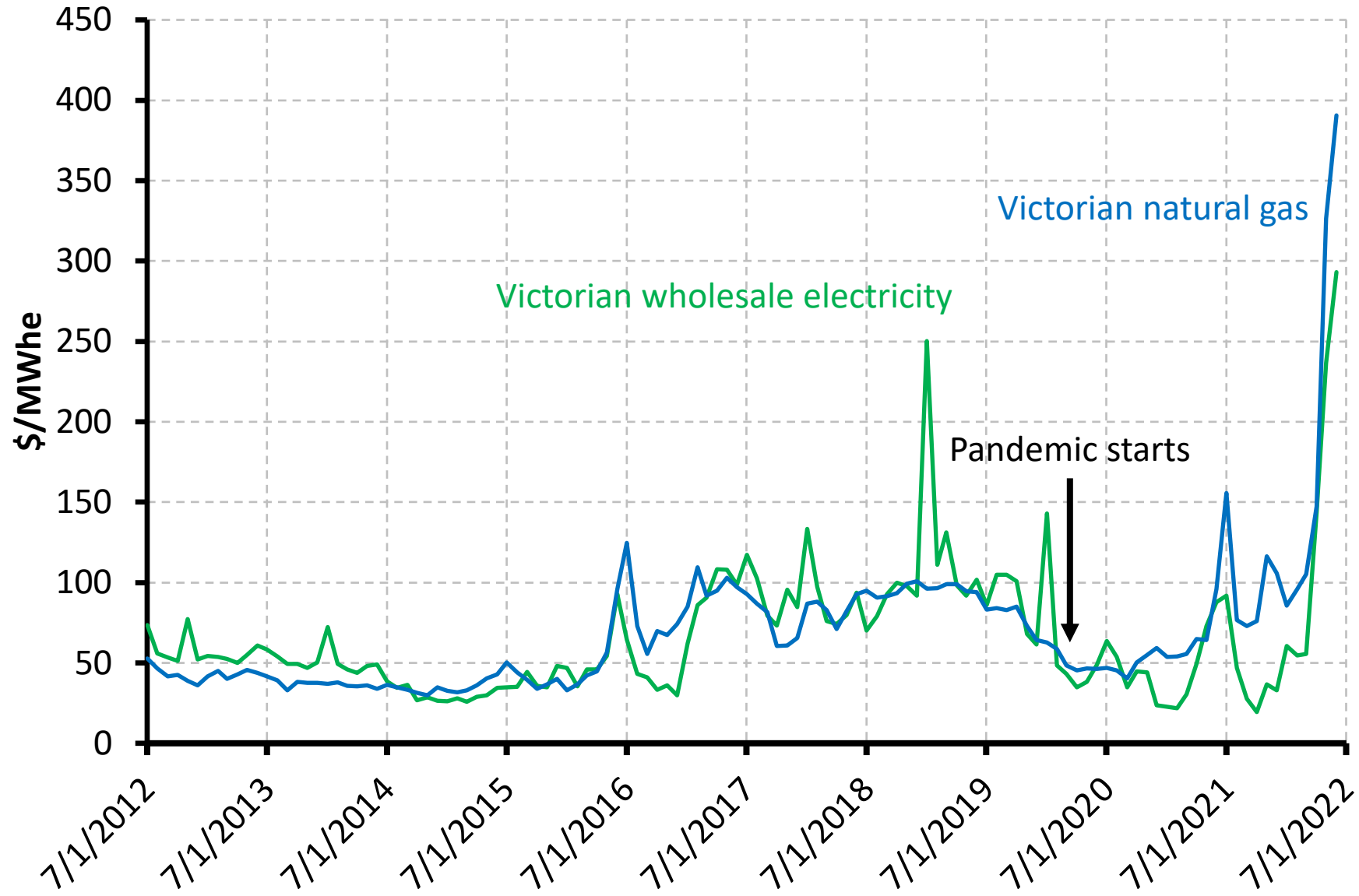
- Gas price $\$/GJ_f$ expressed as 'electricity equivalent' $\$/MWh_e$ for the fuel only via a 36% efficient generator.

Queensland natural gas and electricity prices



- Gas price $\$/GJ_f$ expressed as 'electricity equivalent' $\$/MWh_e$ for the fuel only via a 36% efficient generator.
- Correlation between this gas price and electricity shows that gas turbine peakers are still often the marginal generator.

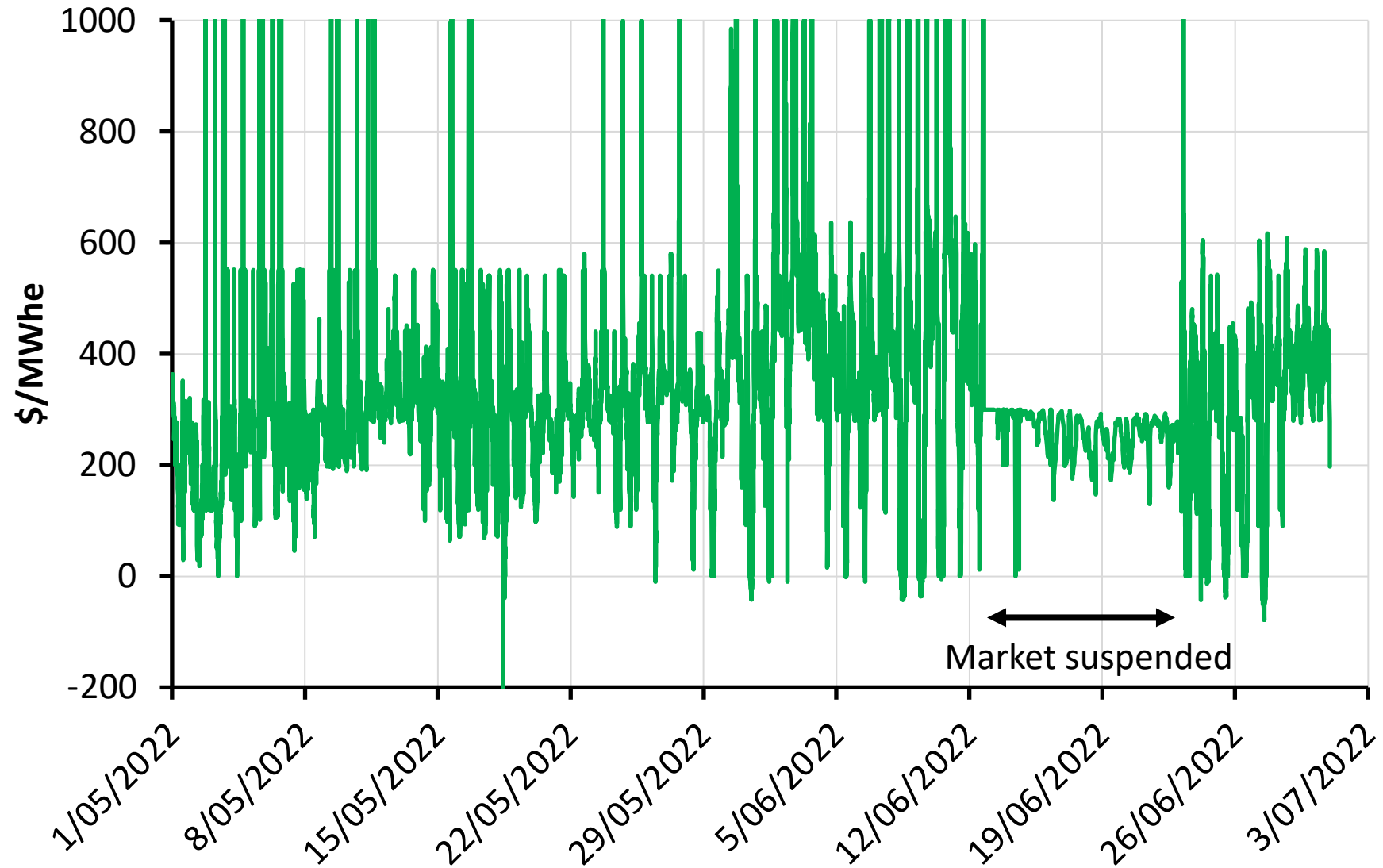
Victorian natural gas and electricity prices



- Correlation happens in Victoria too, but last ~2 years show harder times for gas peakers in this state.

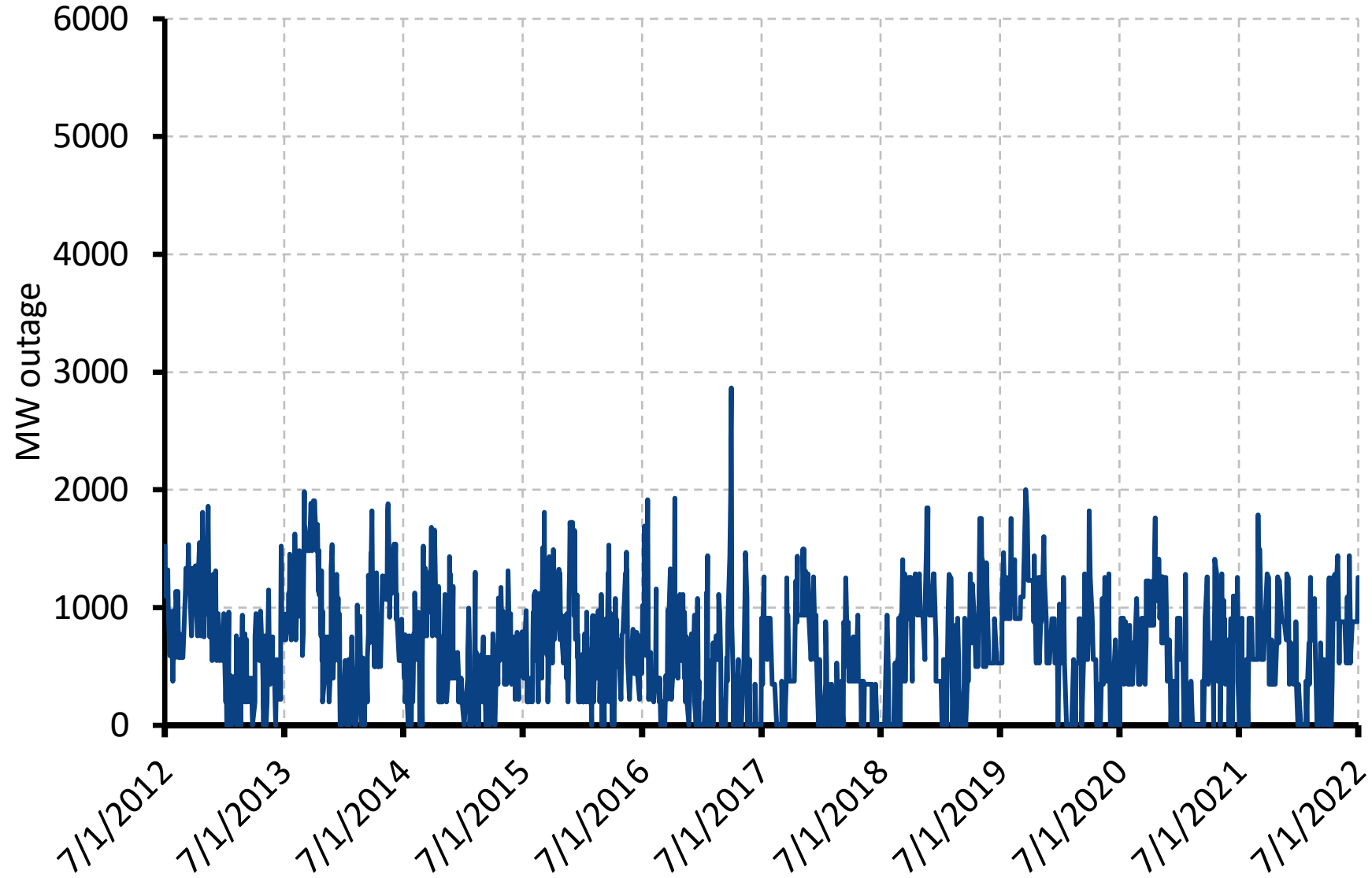


Queensland electricity prices in May and June



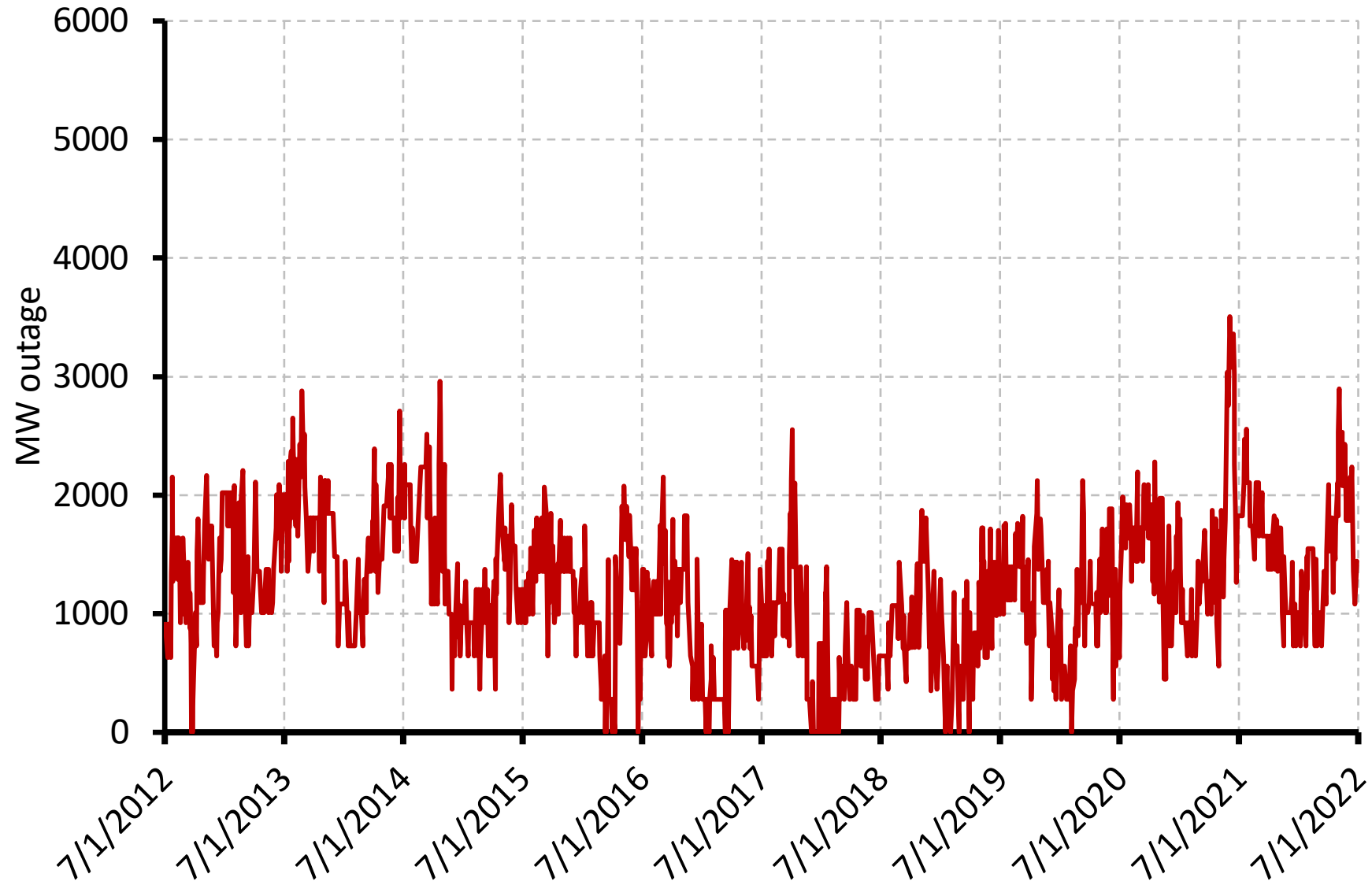


Capacity of Victorian coal plant outages



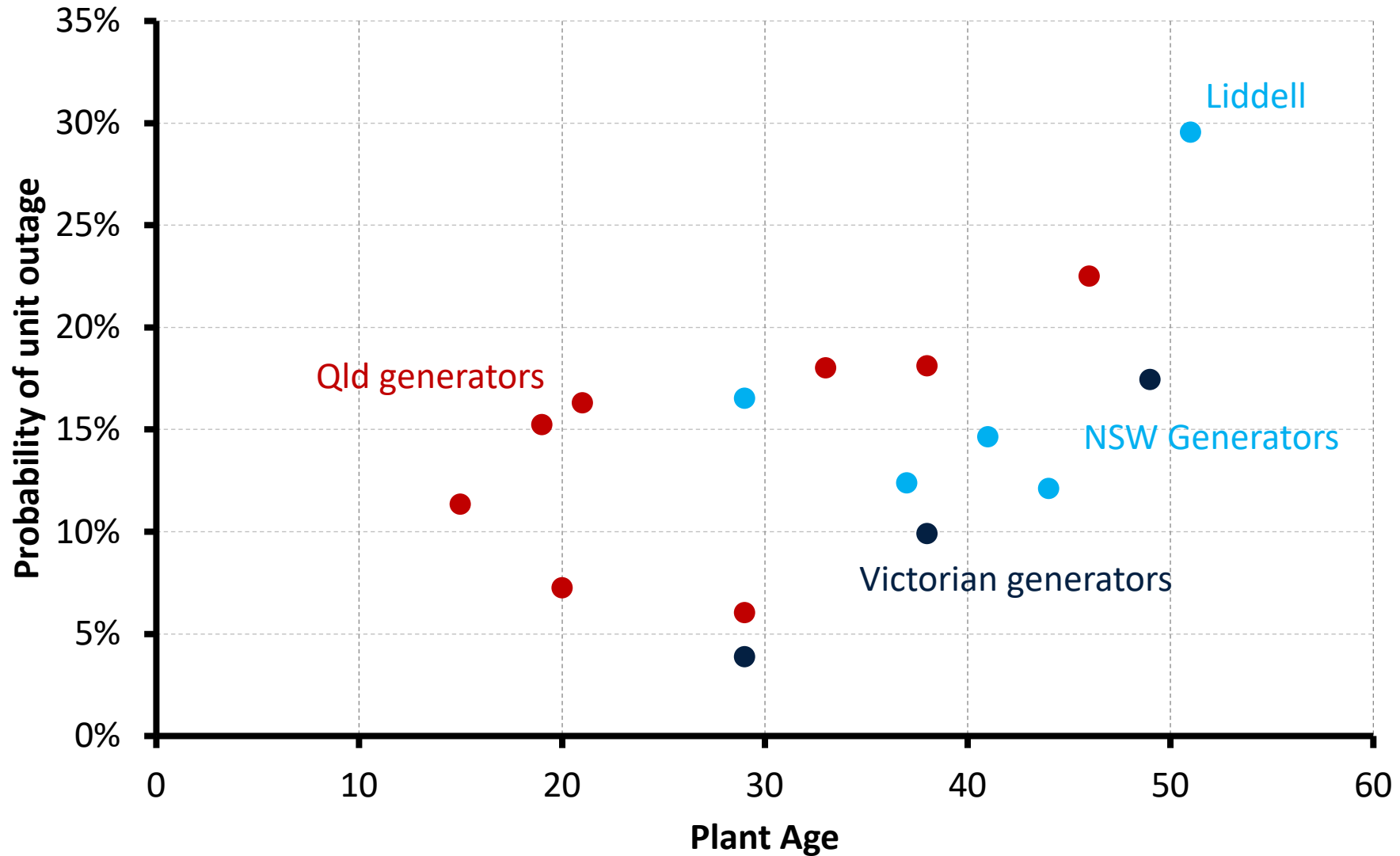


Capacity of Qld coal plant outages





Probability of coal unit outage vs plant age





So how *did* we get here?

Business As Usual

- International prices for crude oil, coal and natural gas continue to be linked.
- Eastern state natural gas prices remain linked to export prices.
- Eastern state electricity prices continue to depend on domestic natural gas prices.

Business Unusual

- Crude oil, coal and gas prices have risen dramatically since the start of the pandemic and particularly since the war in Ukraine commenced.

Business Increasingly Usual

- Some evidence of increasing outage rates in NSW and Qld coal plants since about the start of the pandemic.
- (Not shown this evening) Flooding of coal mines and excess water have compromised the availability of some domestically priced coal and some hydropower.
- Several of these causes have been discussed in the press.



And how do we get out of here?

How long will this situation last?

What might happen?

- to generators and system security
- to retailers of electricity, gas and gasoline/diesel
- to consumers of electricity, gas and gasoline/diesel
- to greenhouse gas emissions

What should we do? e.g.

- reform cost allocations to address inequity
- gas reservation
- more renewables
- bail-outs and/or re-nationalization
- capacity market for electricity
- other?



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Ms Lynne Gallagher

CEO, Energy Consumers Australia





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Mr Matthew Warren

Principal, Boardroom Energy



Melbourne Energy Institute: What's happening with Australia's energy markets?



Matthew Warren July 14 2022

The strategic importance of energy

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Pearl Harbour,
Stalingrad, Suez Crisis,
Gulf Wars, Ukraine

What might happen?

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What goes up, eventually comes down

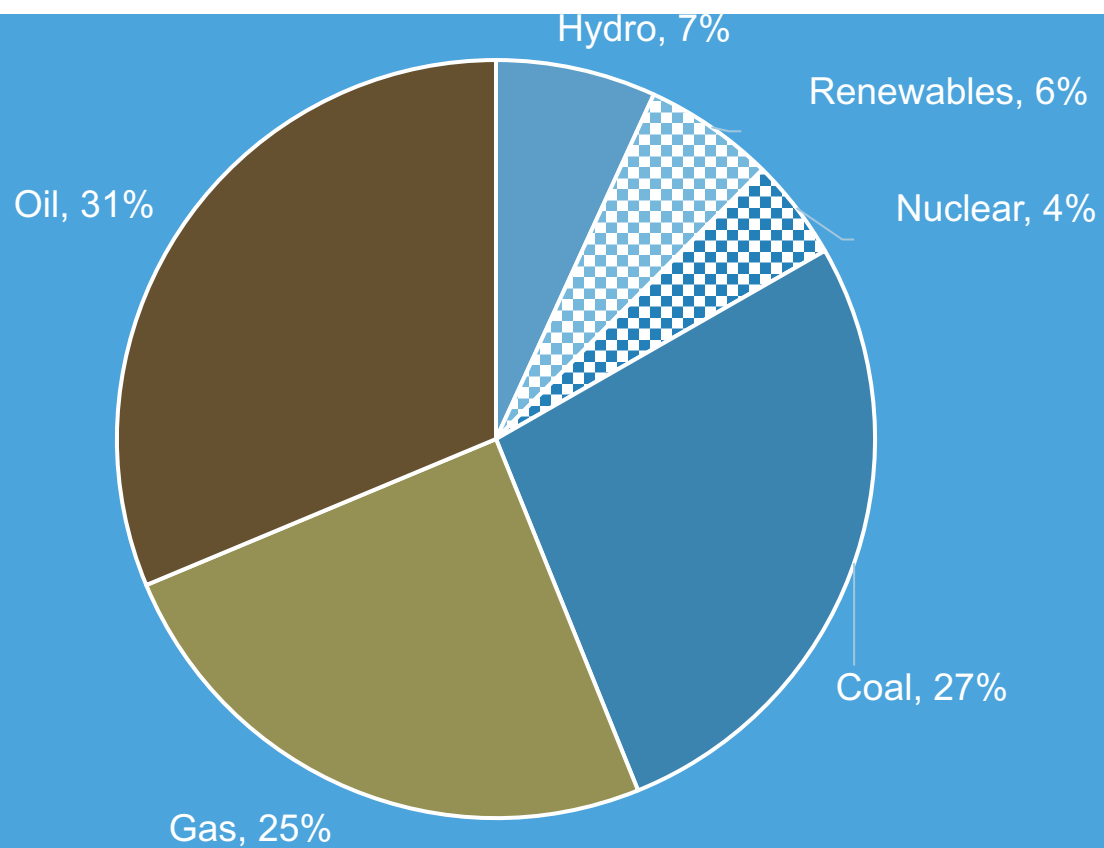
This is a global/domestic energy shortage, not capacity shortage

It's a warning: high prices reflect demand for FF. Climate “success” is when the price of FFs approaches \$0

Small retailers in real trouble – loss of competition

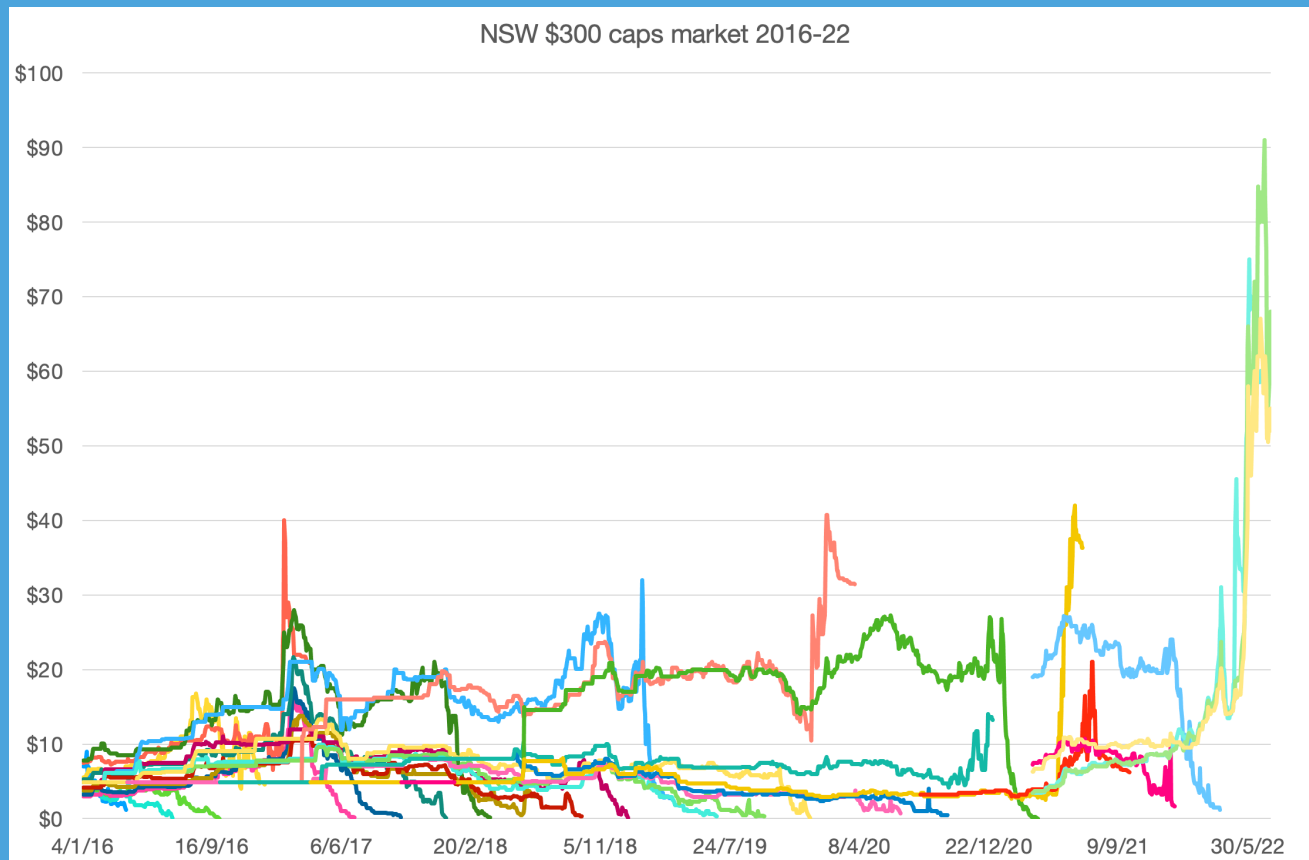
Global emissions: short term go up, long term go down

Global energy consumed by fuel type, 2020



**FF efficiency
input losses
partly offset
by RE system
losses**

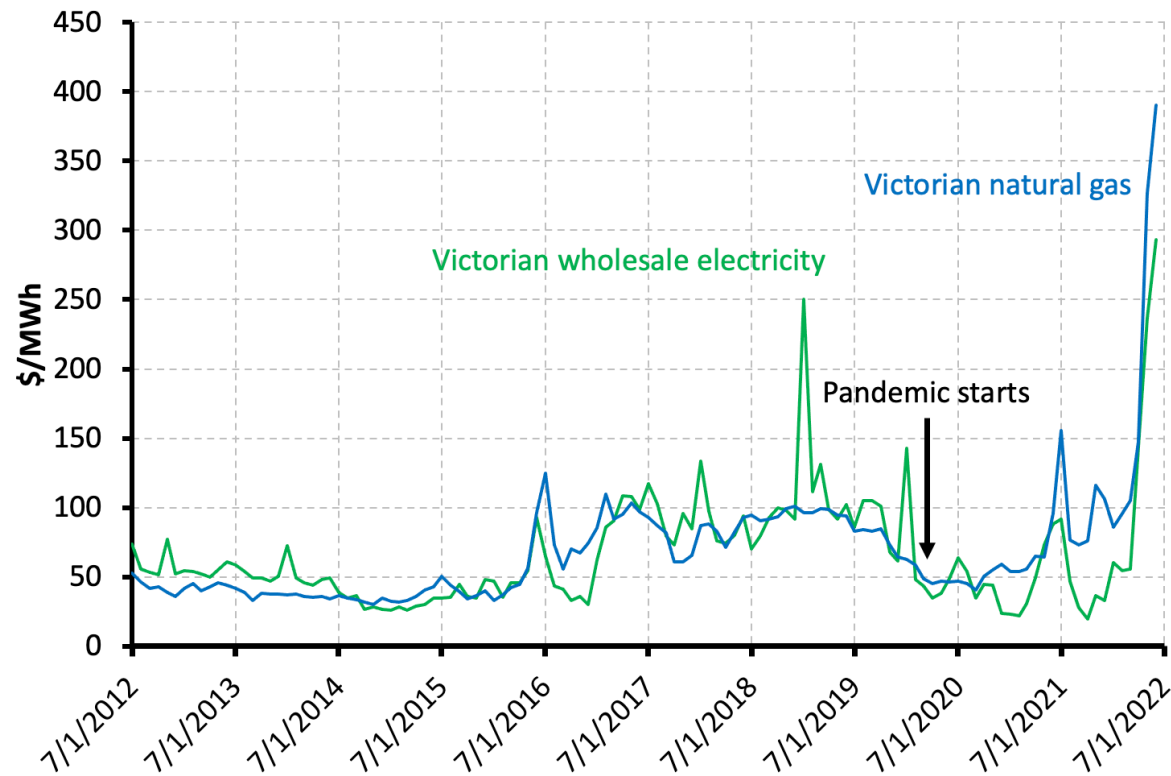
How we value capacity - NEM



**\$300 caps
market a proxy
capacity
payment
scheme**

The best solution to high prices is...

Victorian natural gas and electricity prices



...is high prices

What should we do?

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Gas reservation only can apply on new fields. Wont change price. Ship has sailed

Re-nationalisation not the answer because private ownership not the problem

Capacity: we already have capacity payments, we just have to improve them, particularly if we're going to "double grid"

Storage: is 20 years behind renewable generation. Build what you can till it catches up

Other: help consumers now, organise thinking outside the box, focus on renewables integration, stop demonising fuels



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Panel discussion

Moderator: Dr Sangeetha Chandrashekeran
*Senior Research Fellow, The University of
Melbourne and the ARC Life Course Centre*



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Q&A

**Zoom attendees: please enter your
questions into the Q&A box**

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Coming soon

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Tuesday

9 August 2022

1pm - 2:30pm

AEMO Q2 2022 Quarterly Energy
Dynamics seminar



MEInetwork22 Seminar Series

| | |
|--|-----------|
| Natural gas and hydrogen transmission and distribution | August |
| Green hydrogen as an alternative to natural gas | September |
| Blue hydrogen as an alternative to natural gas | October |
| Options for hydrogen export | November |




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