

“...we must be prepared critically to examine the various options”

**Peter Varghese AO**, Chancellor

Context

1. **Technology**
2. **Management**
3. **Governance**
4. **Capabilities**
5. **Society**
6. **Siting**
7. **Economics**
8. **Financing**

Conclusions



energy & resources | economic analysis & strategy | commercial & policy advice



# Why Australia needs power system PLAN B

Stephen Wilson

QCMA

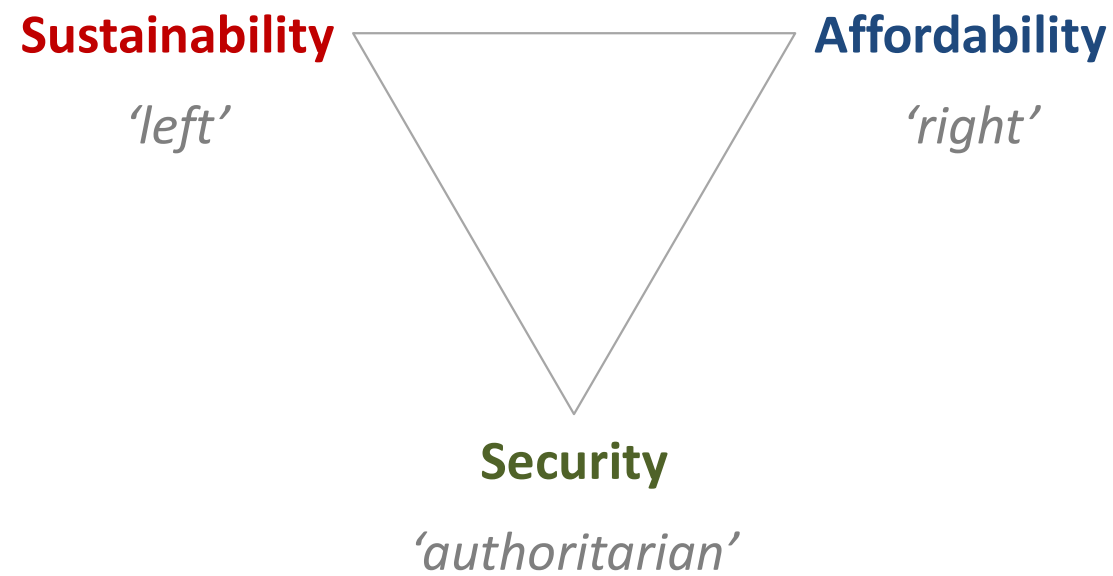
Brisbane networking breakfast | 31<sup>st</sup> May 2023





Sustainability • — • Affordability





**Affordability**

*the poor  
& workers*

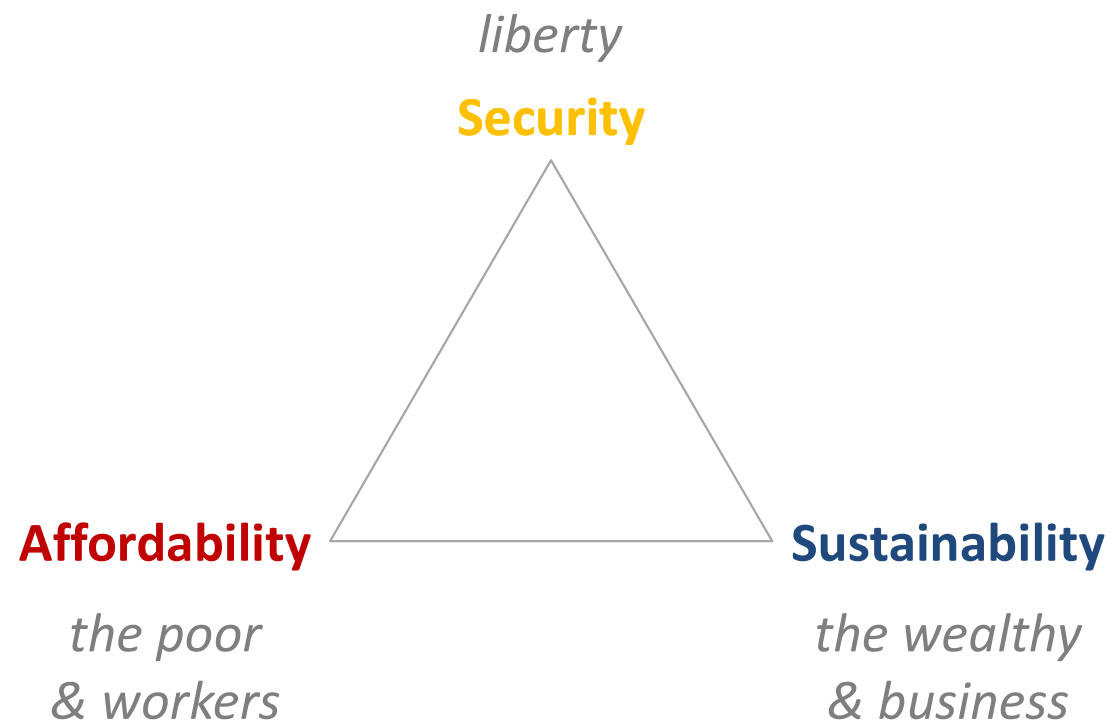
**Sustainability**

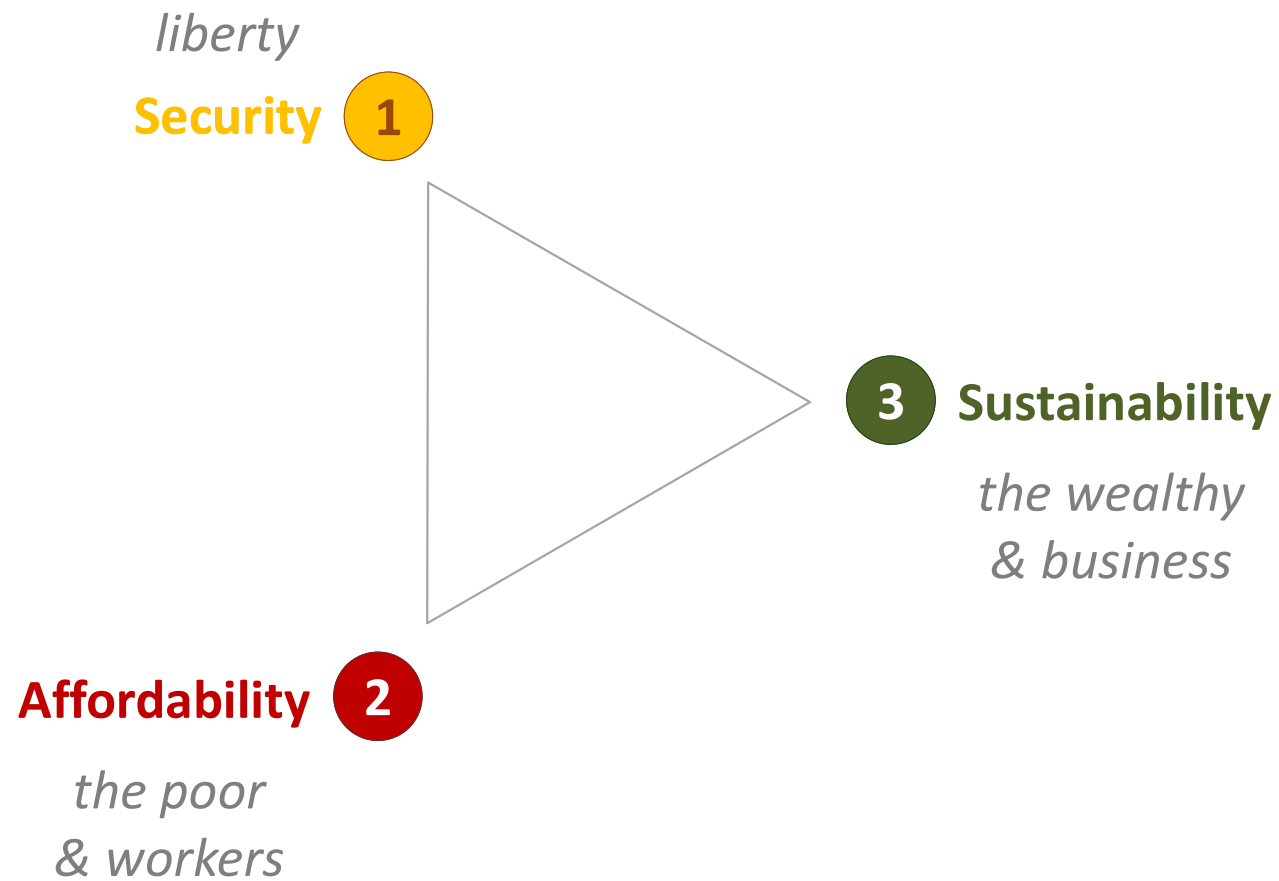
*the wealthy  
& business*



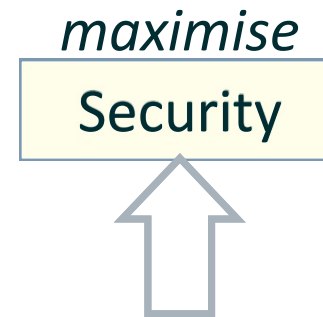
**Security**

*'authoritarian'*



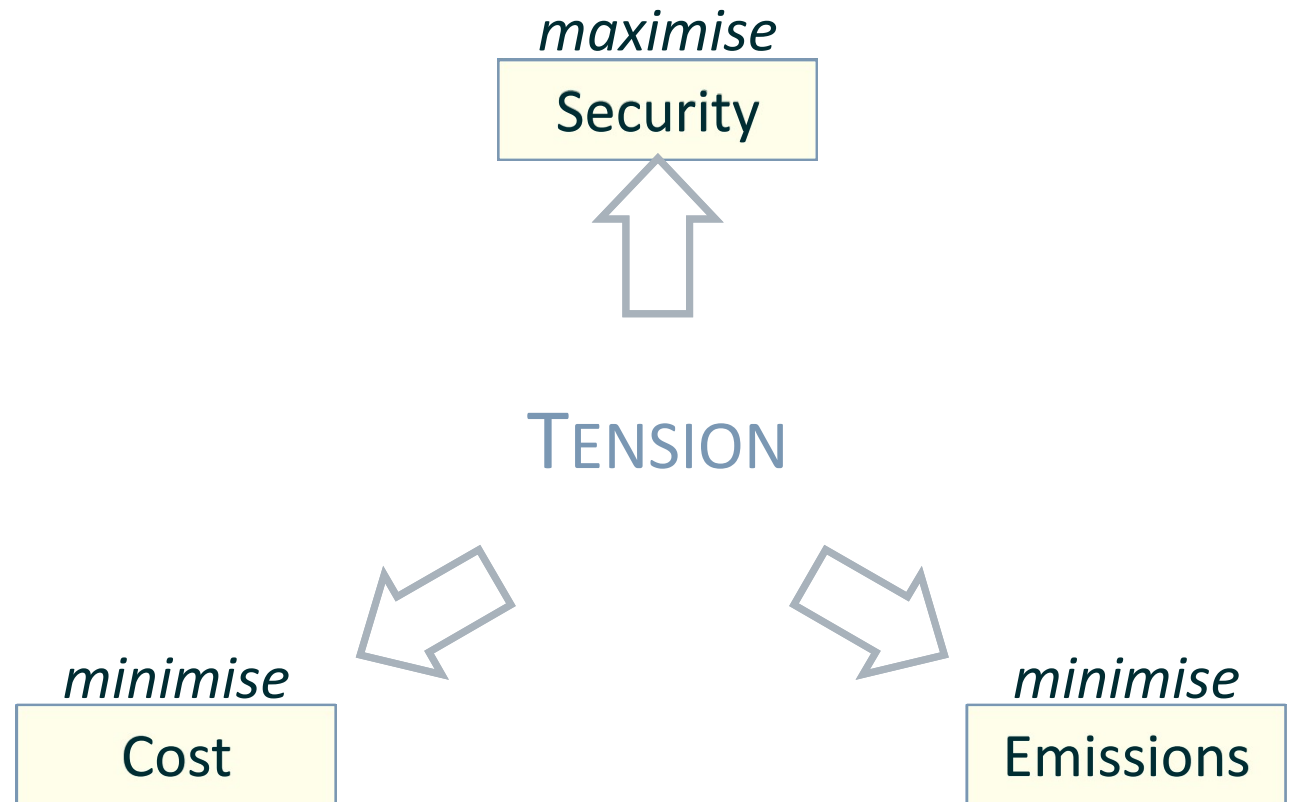


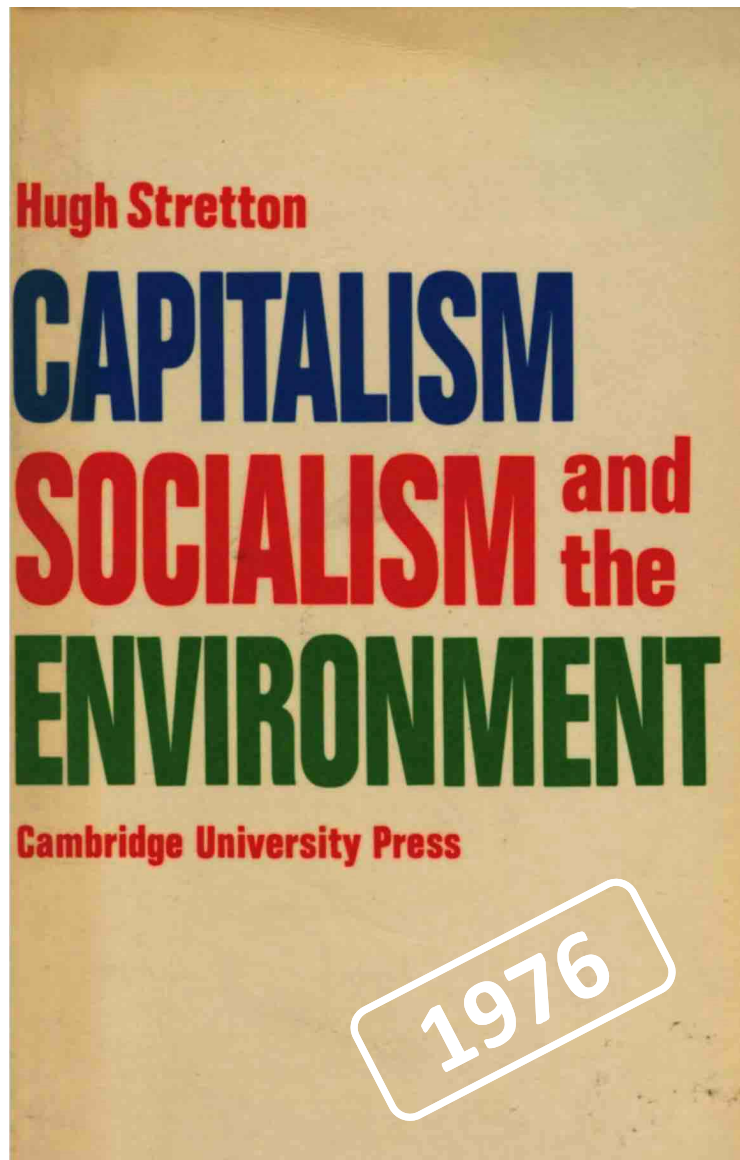




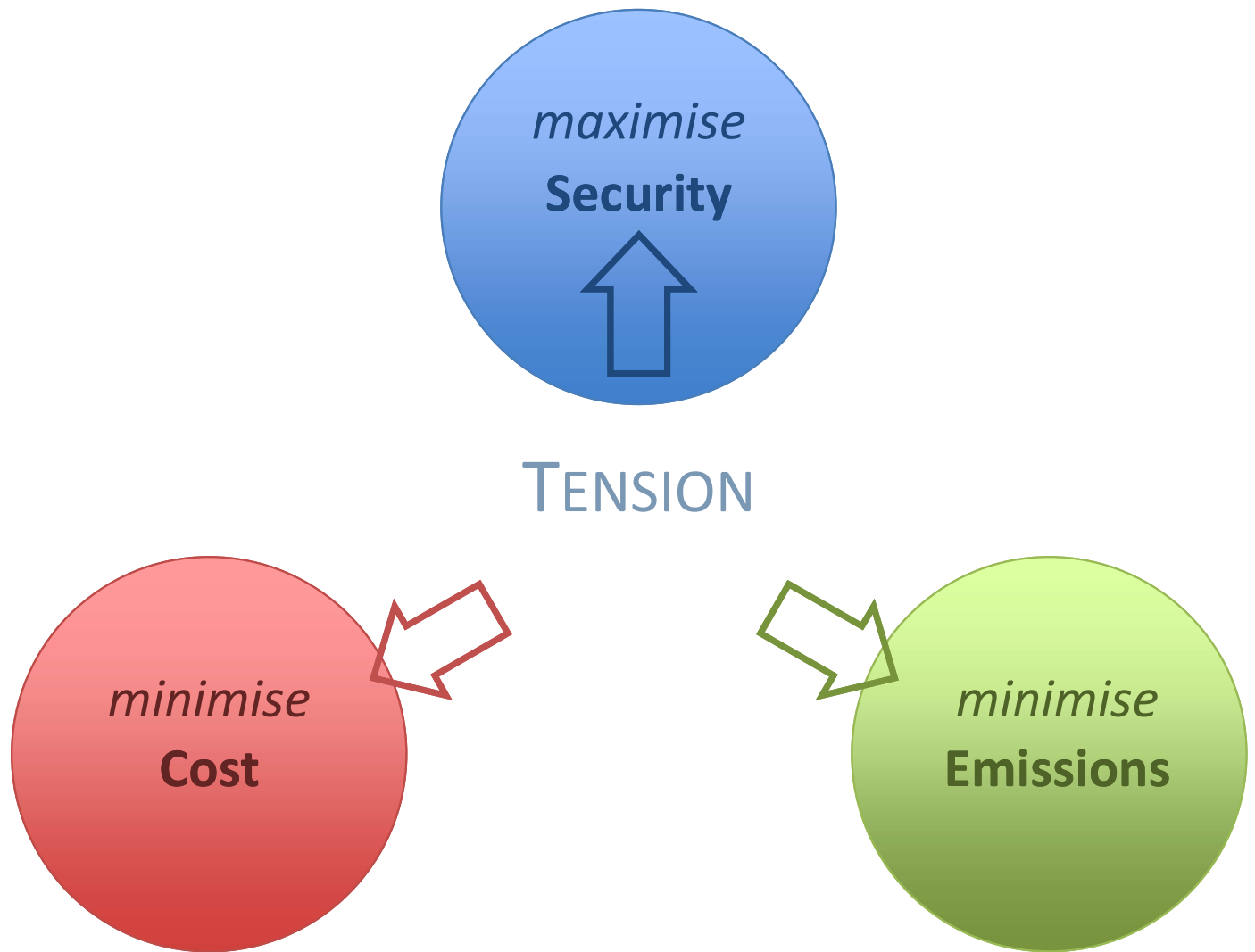
TENSION







April 2023 | QMCA



Breakfast

TECH & SCIENCE

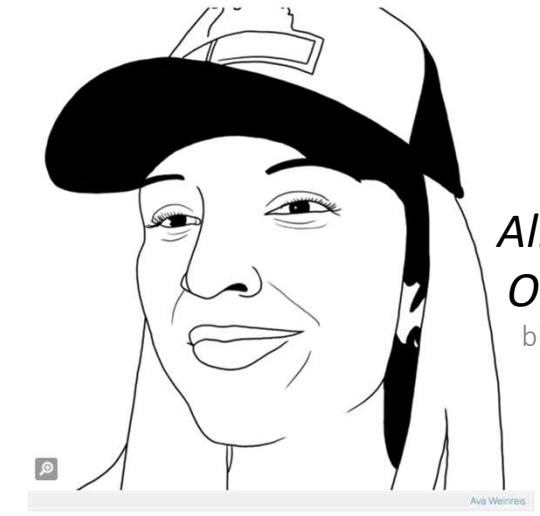
## Nuclear Fusion Is Doing the Impossible—Uniting Politicians

BY JESS THOMSON ON 8/24/22 AT 10:46 AM EDT



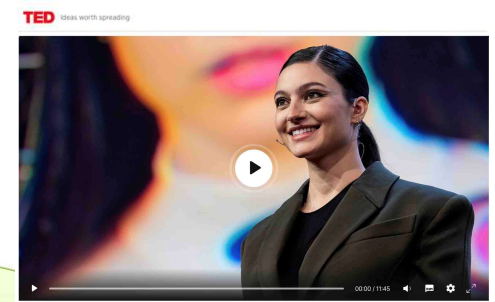
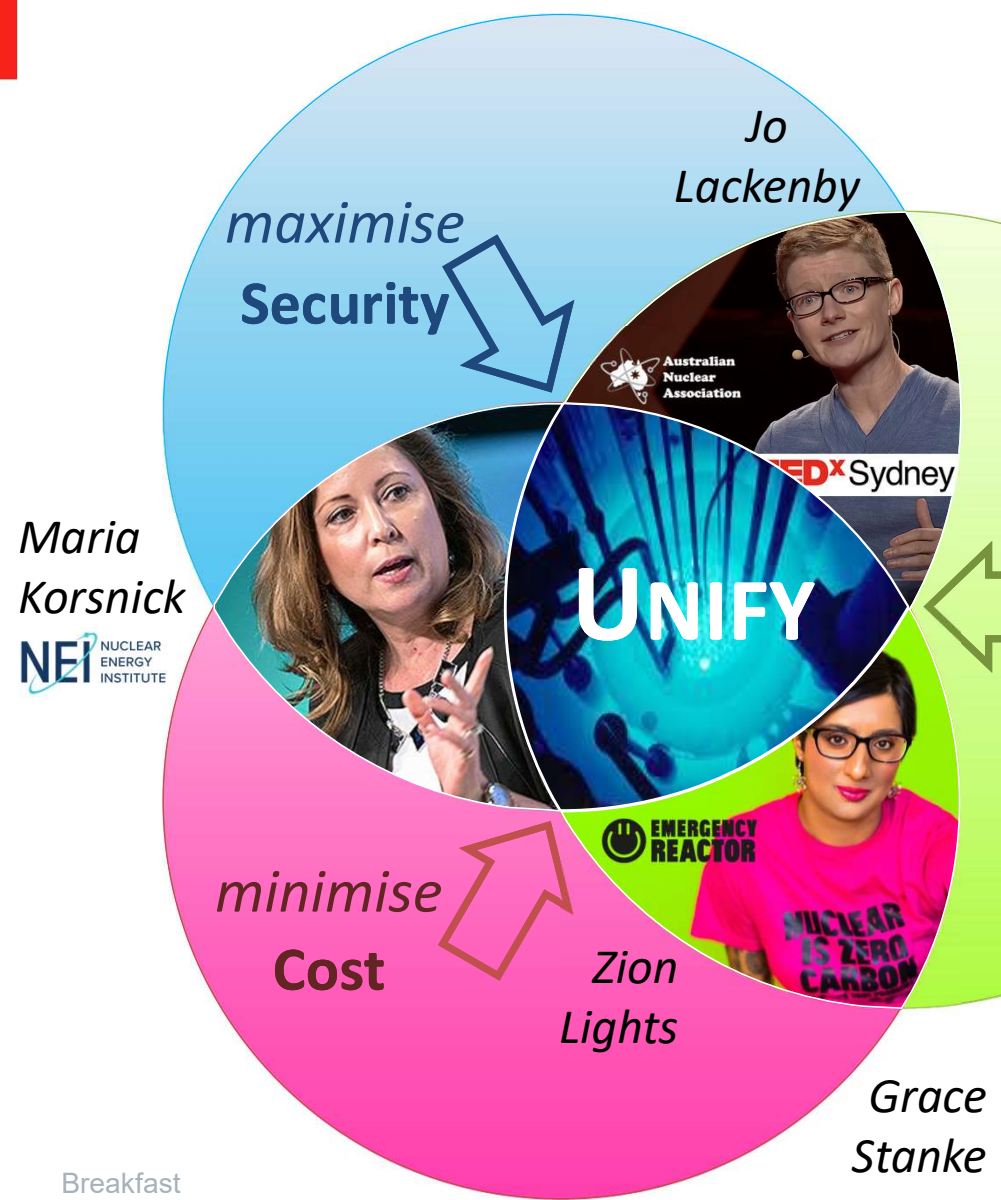
### Ogren: Nuclear energy is more than clean; it's unifying

If you are serious about clean energy development and energy independence, you should be pro-nuclear. These two advocates show you why in different ways.

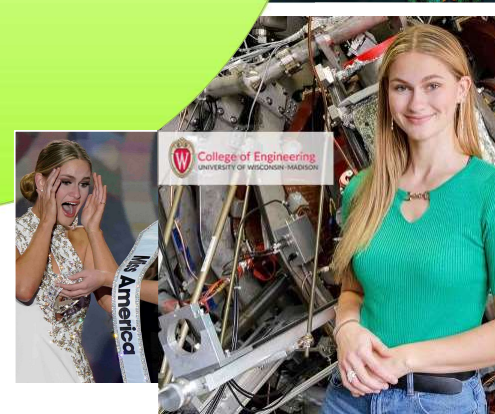


Allison Ogren  
biologist

by Allison Ogren  
Published October 6, 2022



Nuclear power is our best hope to ditch fossil fuels  
1,475,549 views | Isabelle Boemeke • TED2022





Loy Yang A & B

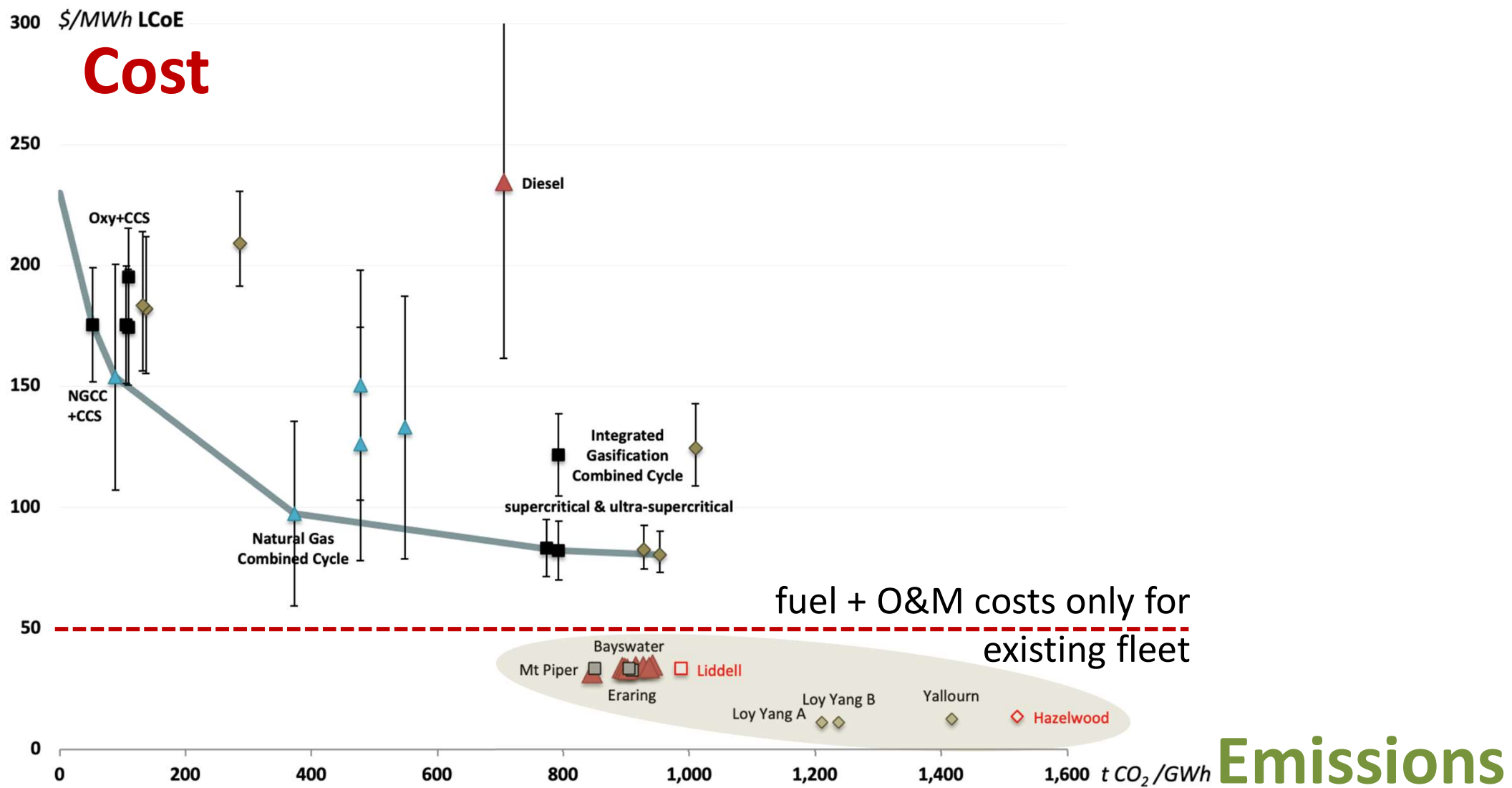
[ Hazelwood ]

Yallourn W

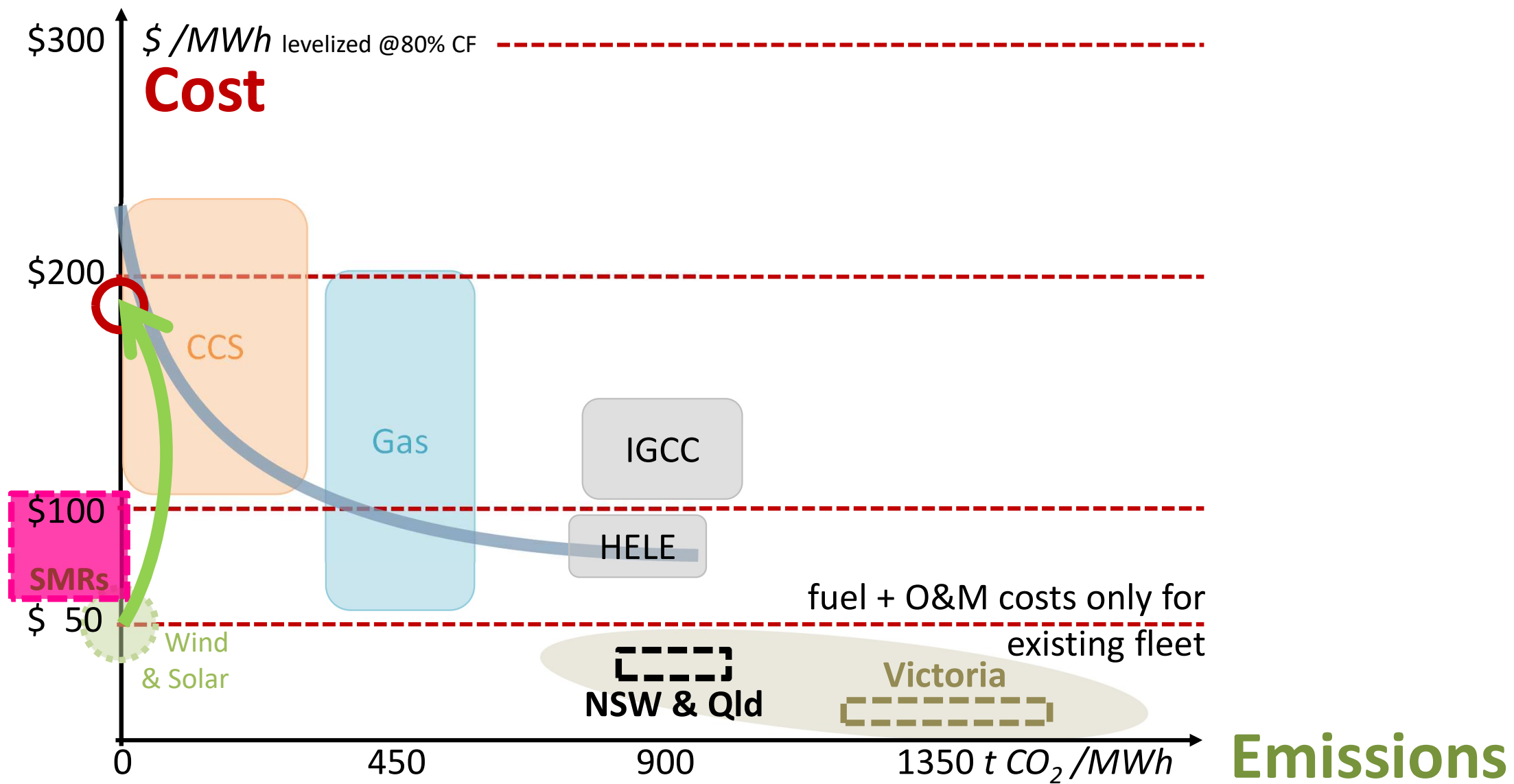
**Latrobe Valley** Victoria

Image: **Brian Yap** 'Latrobe valley—making clouds' from Tyers Lookout 1 May 2008  
creative commons [www.flickr.com/photos/yewenyi/2534899886/in/photostream/](https://www.flickr.com/photos/yewenyi/2534899886/in/photostream/)



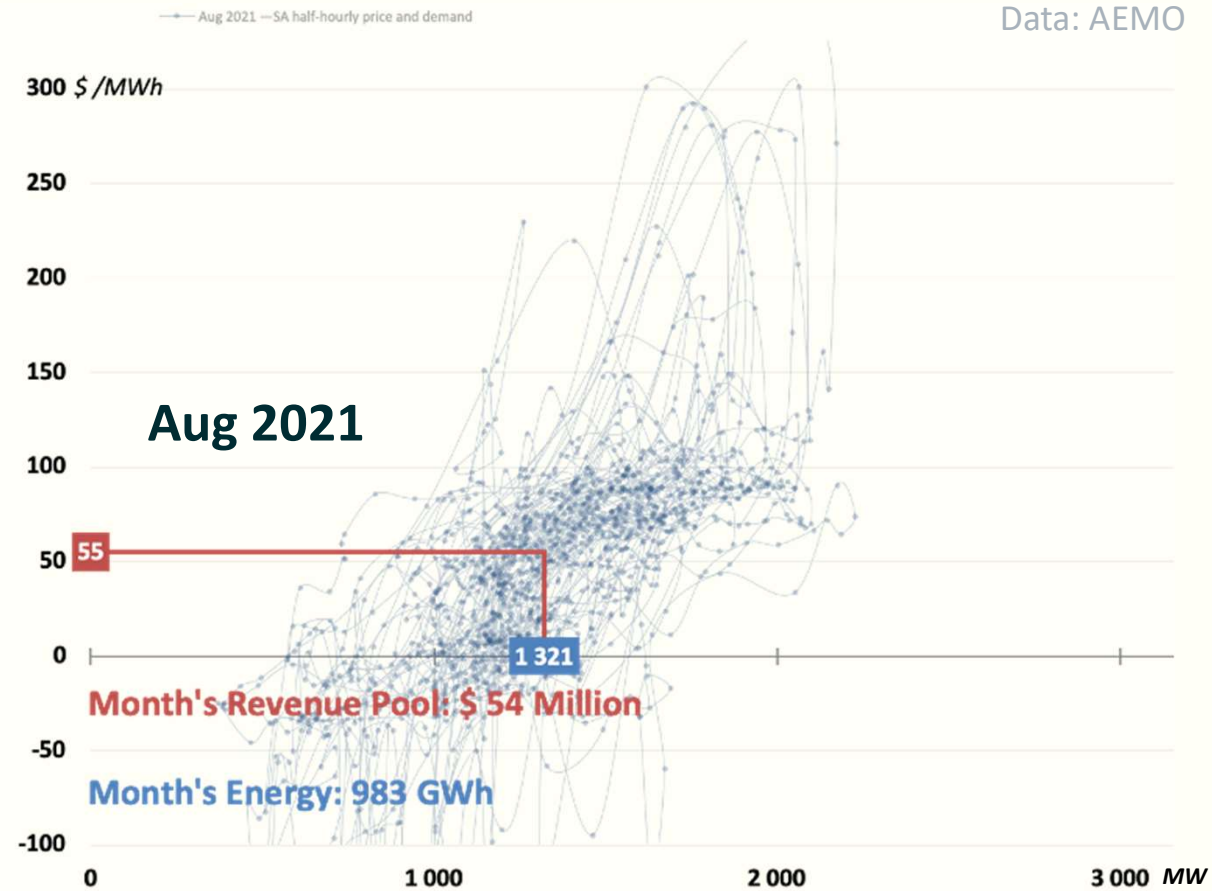
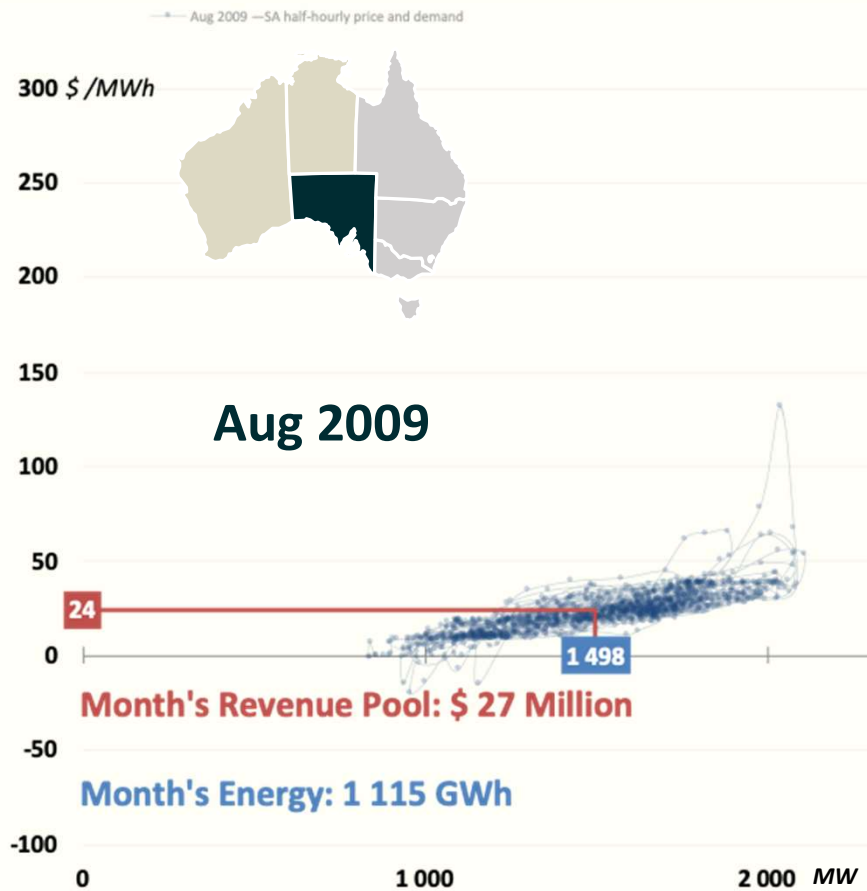






# Here is what has happened to **PRICES**

Data: AEMO



Why we need to prepare  
Plan B



We are walking rapidly towards the  
top of a cliff



...blindfolded

at the same time, the cliff is  
collapsing towards us



... and getting steeper

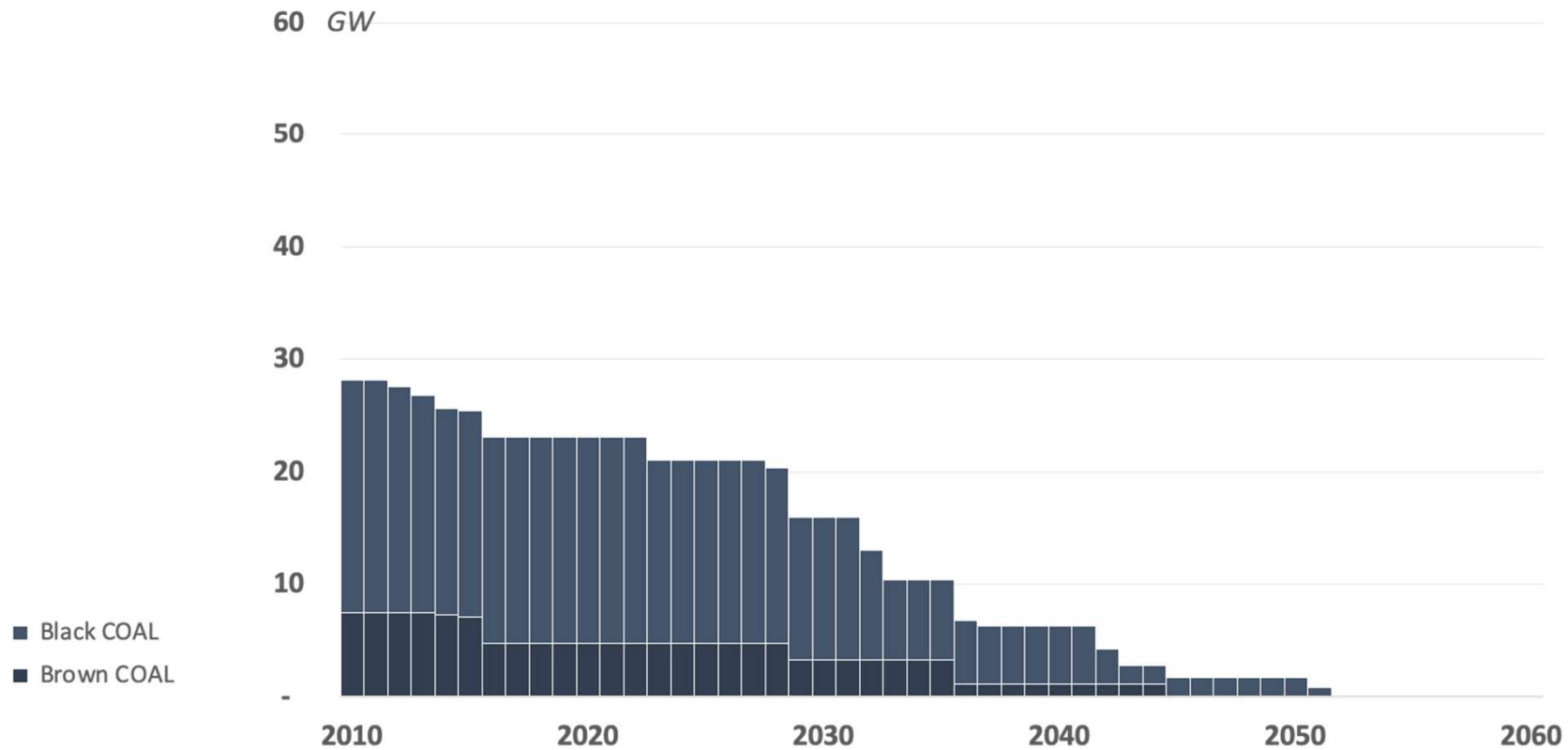
This is stupid, self-destructive and  
a form of national security suicide

The Guardian, North Head, Sydney

Philip Johnson

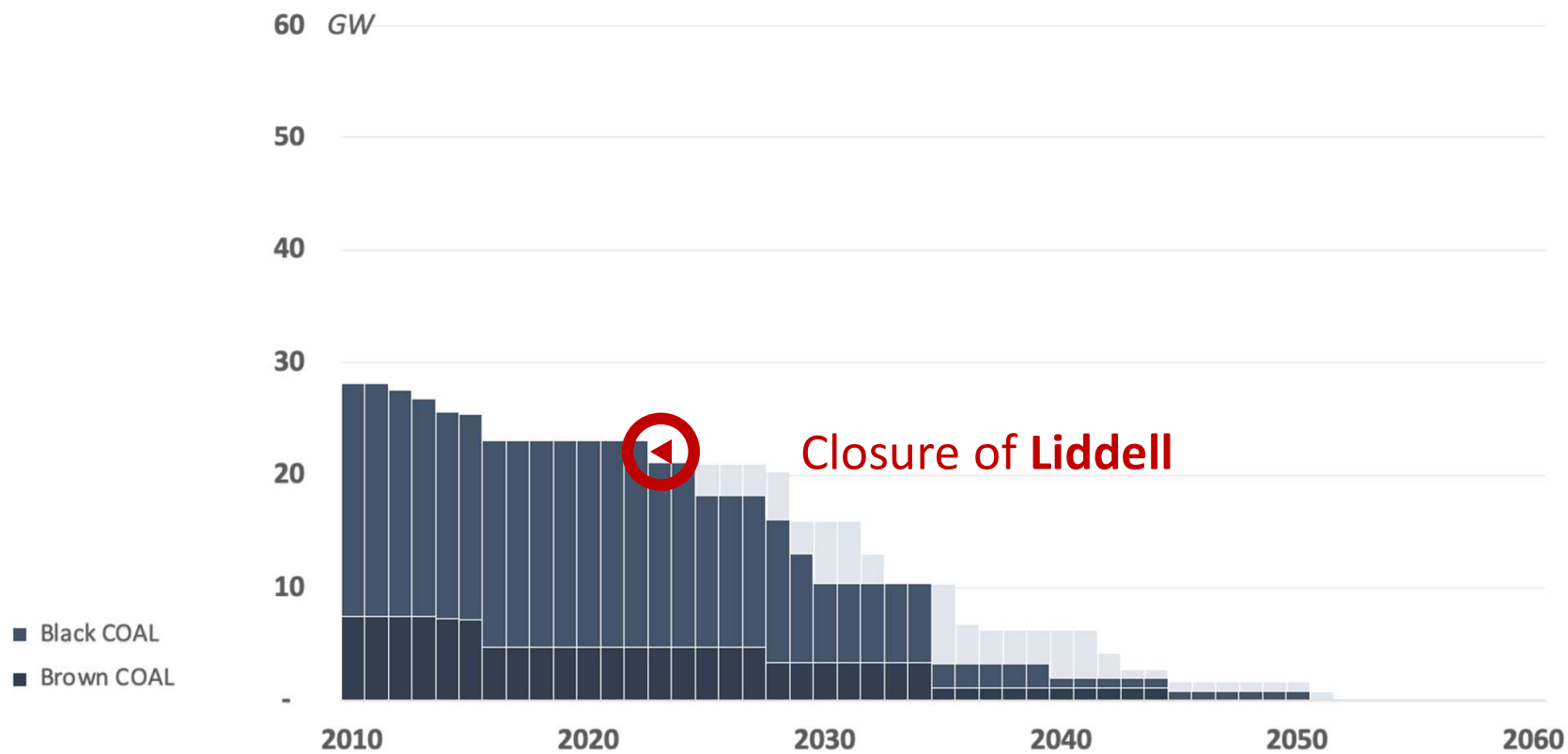
## CONTEXT

Oct 2021



## CONTEXT

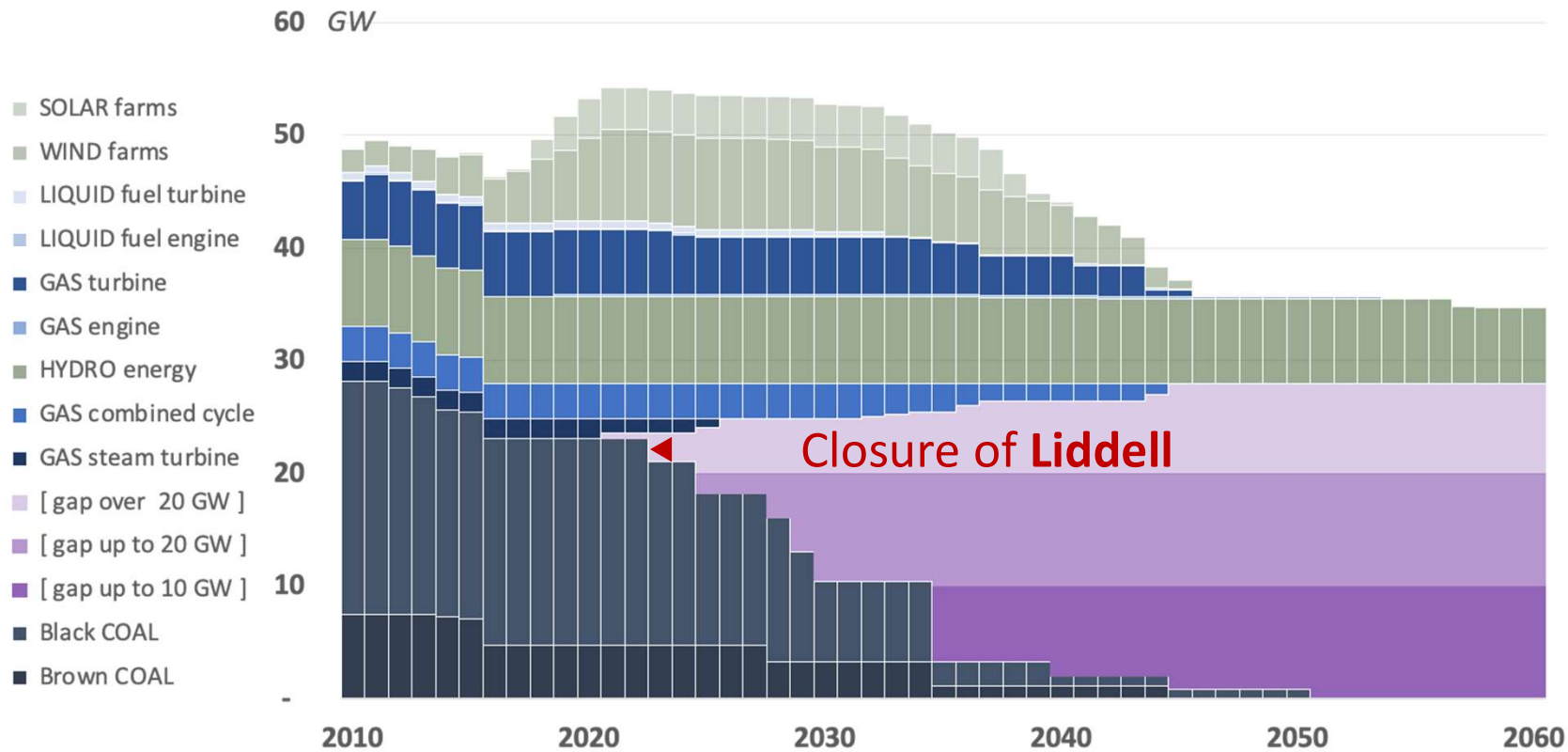
Jan 2023





## CONTEXT

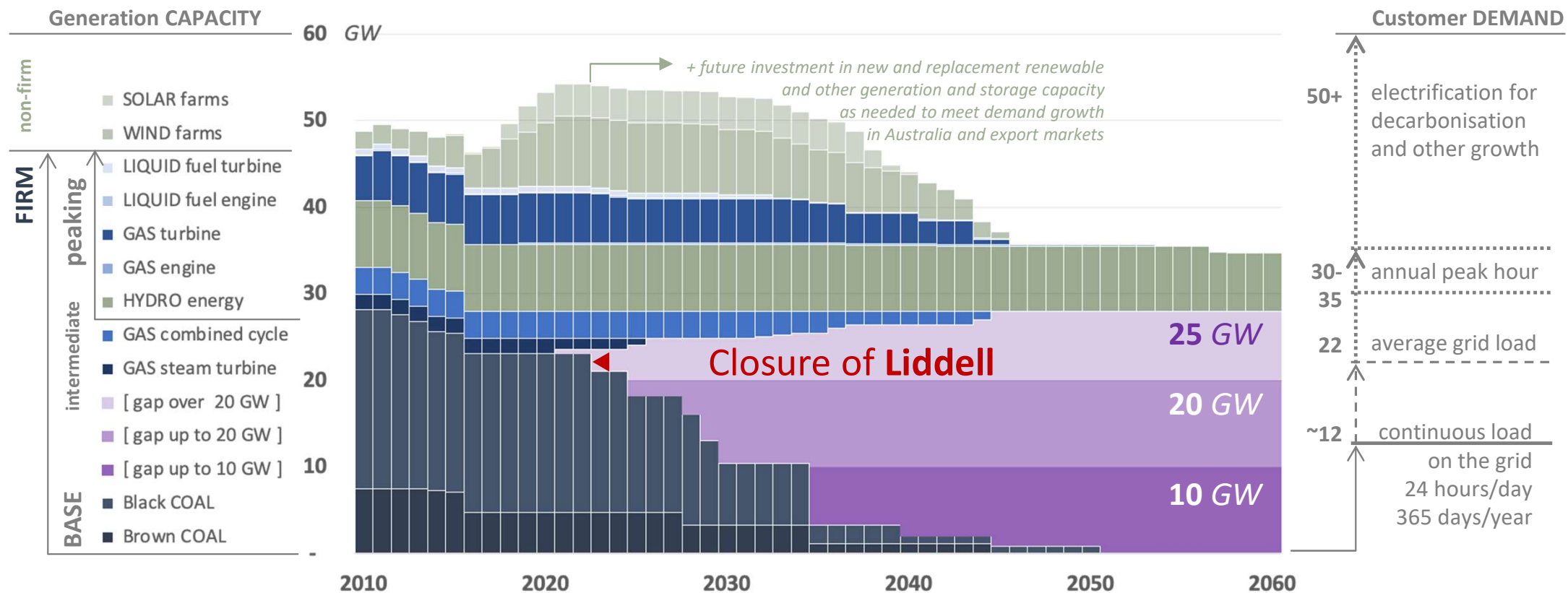
Jan 2023



Source: adapted from *What would be required*, Figure 1, with updated data

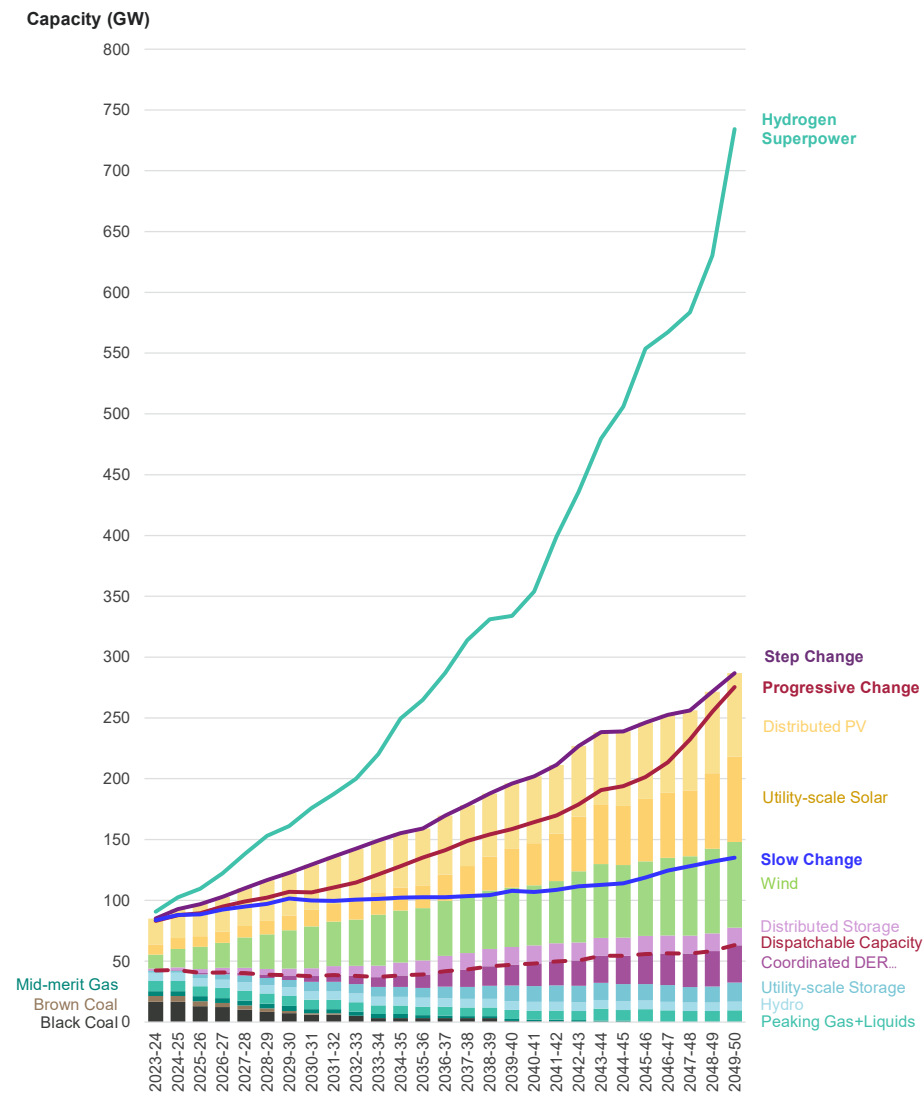
## CONTEXT

# The interconnected power system in Eastern Australia



Source: adapted from *What would be required*, Figure 1, with updated data

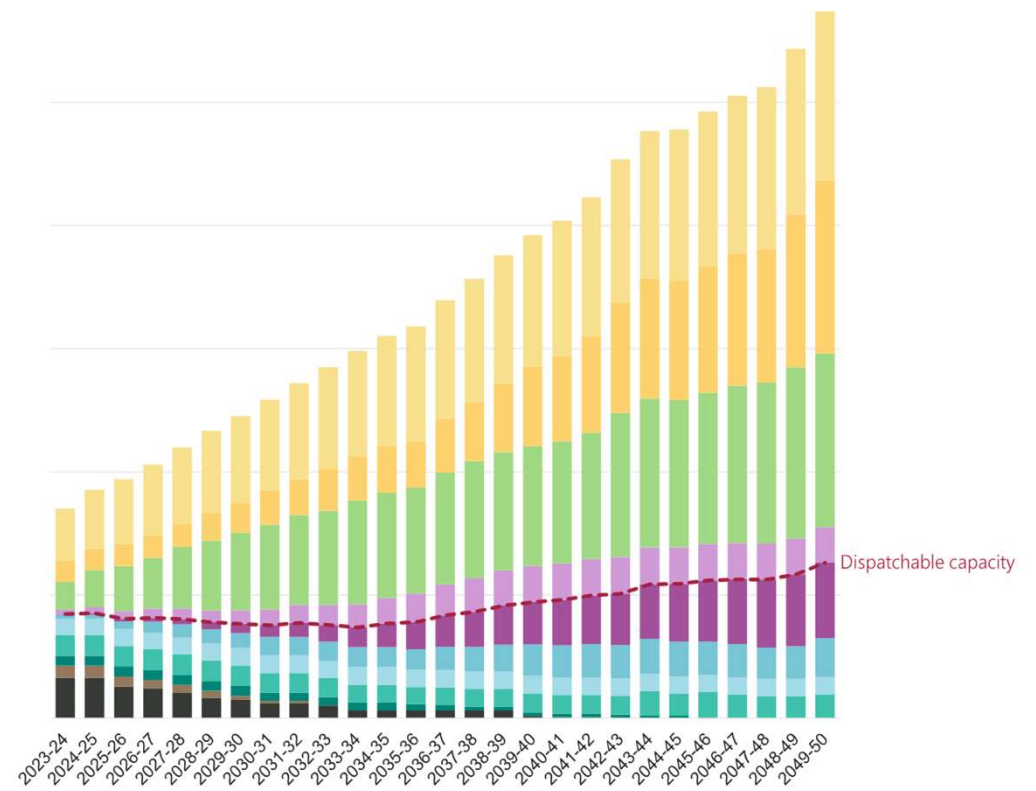
Figure 11 Development opportunities to 2050 in *Step Change*, and compared to total capacity required in *Progressive Change* and *Hydrogen Superpower*



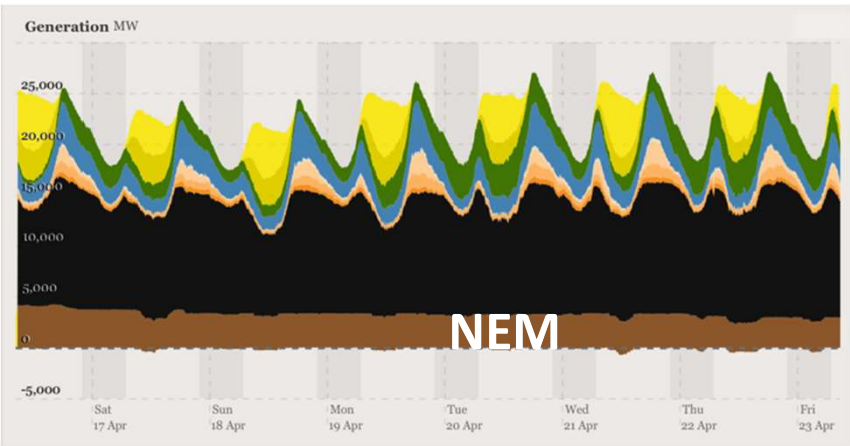
## 2022 Integrated System Plan

June 2022

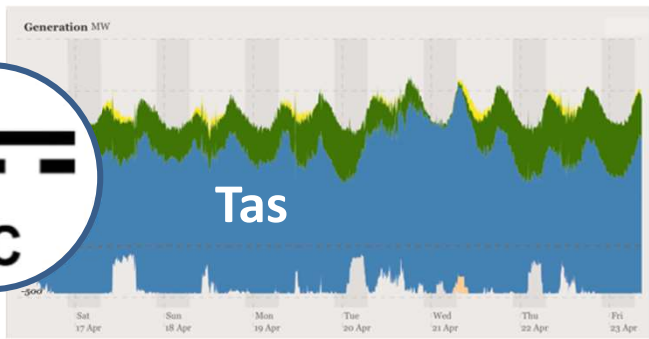
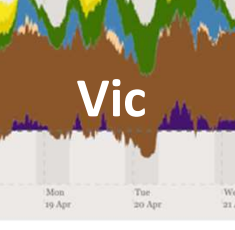
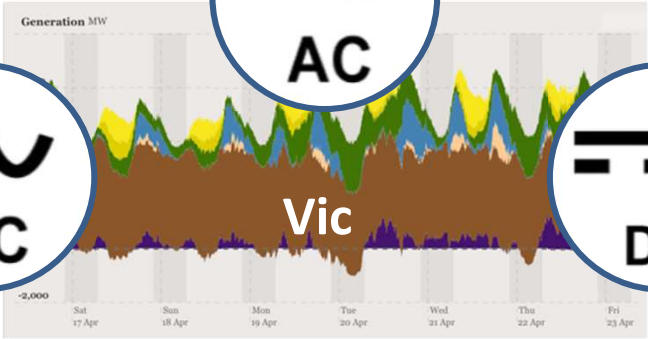
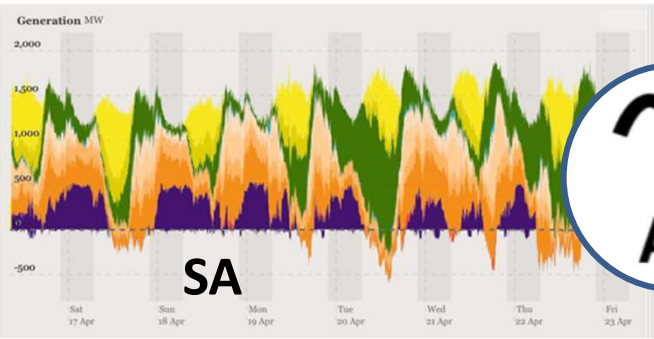
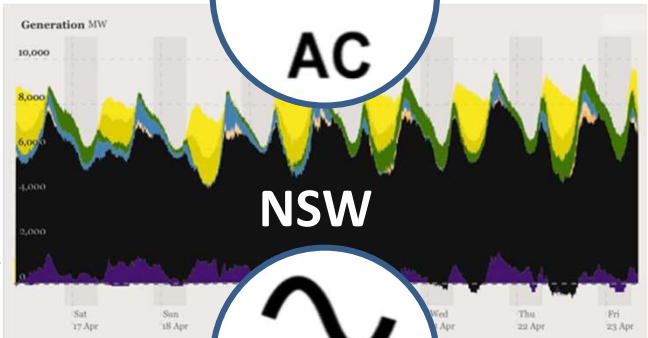
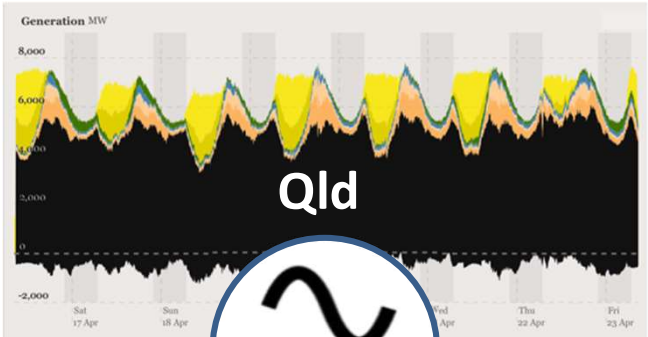
Figure 1 Forecast NEM capacity to 2050, *Step Change* scenario



# Reality checks



All charts from [openNEM.org.au](https://openNEM.org.au) using AEMO data for mid-April 2021



## Key

- Solar (Rooftop)
- Hydro
- Gas (OCGT)
- Distillate
- Coal (Brown)
- Solar (Utility)
- Battery (Discharging)
- Gas (CCGT)
- Biomass
- Pumps
- Wind
- Gas (Reciprocating)
- Gas (Steam)
- Coal (Black)
- Battery (Charging)



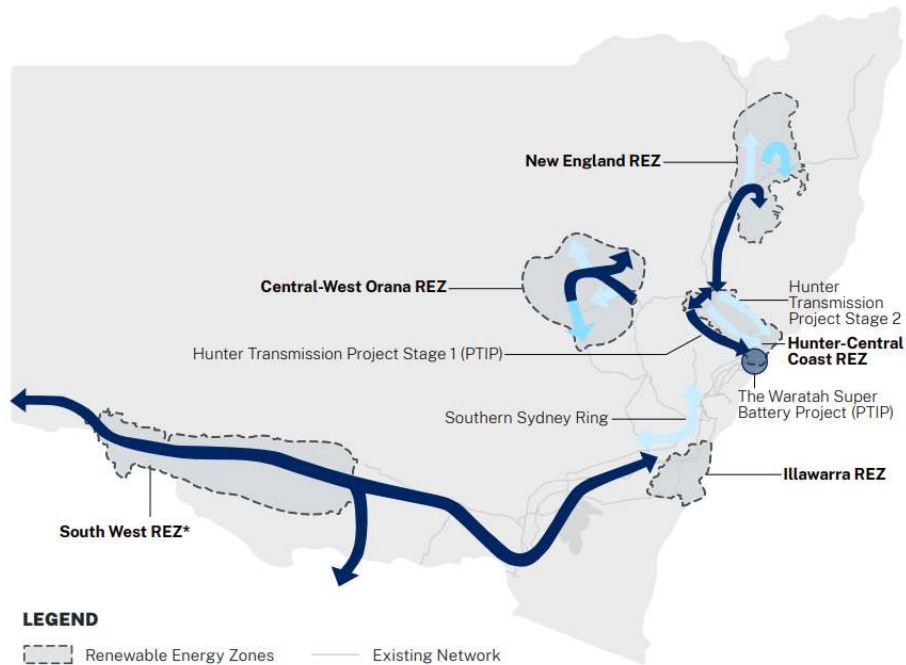
EnergyCo

[www.energyco.nsw.gov.au/industry/network-infrastructure-strategy-nsw](http://www.energyco.nsw.gov.au/industry/network-infrastructure-strategy-nsw)

Home About EnergyCo Renewable Energy Zones Projects Community Industry Latest updates Contact

Home > Industry > Network Infrastructure Strategy for NSW

## Network Infrastructure Strategy for NSW



### LEGEND

--- Renewable Energy Zones — Existing Network

**Deliver Now**

**Secure Now**

**Plan for the Future**

\*Network infrastructure delivered through Transgrid's ISP projects EnergyConnect, HumeLink and VNI West

## REZ development – 2029-30 in the Step Change scenario

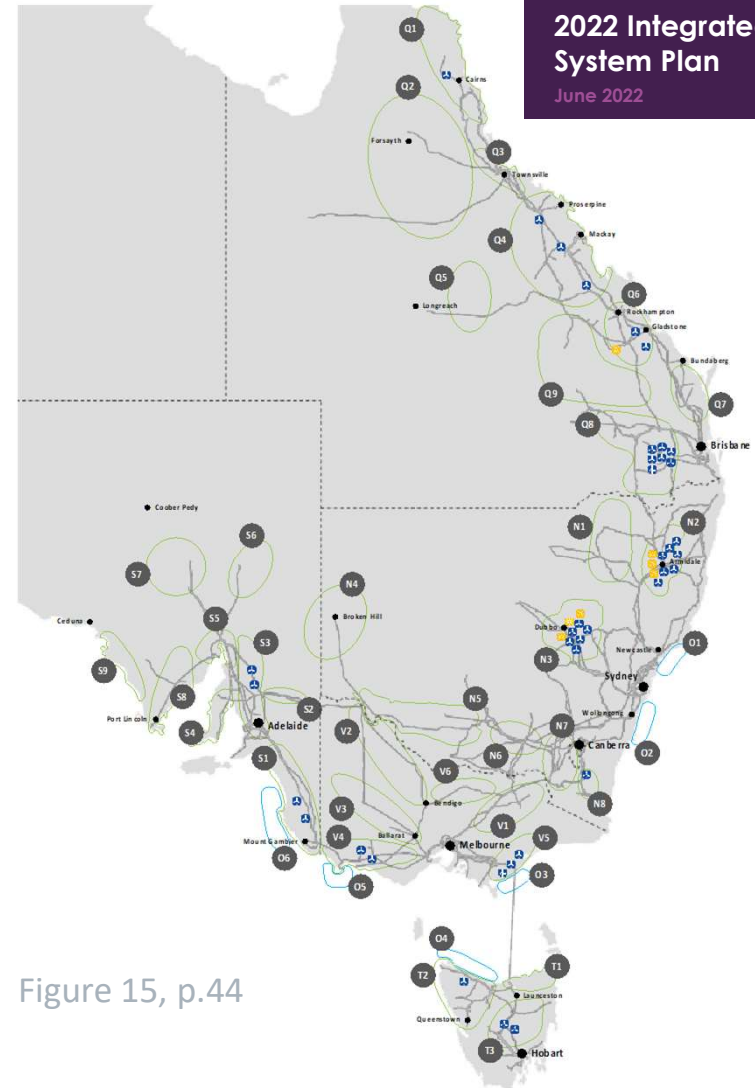


Figure 15, p.44



2022 Integrated System Plan  
June 2022



Maria, what would be your advice for Australia?

*“Well! First: stop blowing up your coal plants —  
you’re not ready to live without them yet!”*

— Maria Korsnick, CEO of NEI, highly experienced engineer



“...we must be prepared critically to  
examine the various options”

**Peter Varghese AO**, Chancellor

Given the uncertainty and  
the current diversity of views  
Australia needs to

- **Create REAL OPTIONS**
- **compile those options into a coherent PLAN B**

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