Australian Democrats

A Decade of Climate Action

DECEMBER 2021

Agenda

- Intro: Where are we now?
- What happened at COP26 Glasgow and what's next?
- The Path to Deep Decarbonisation
- Australian Democrats Climate Plan

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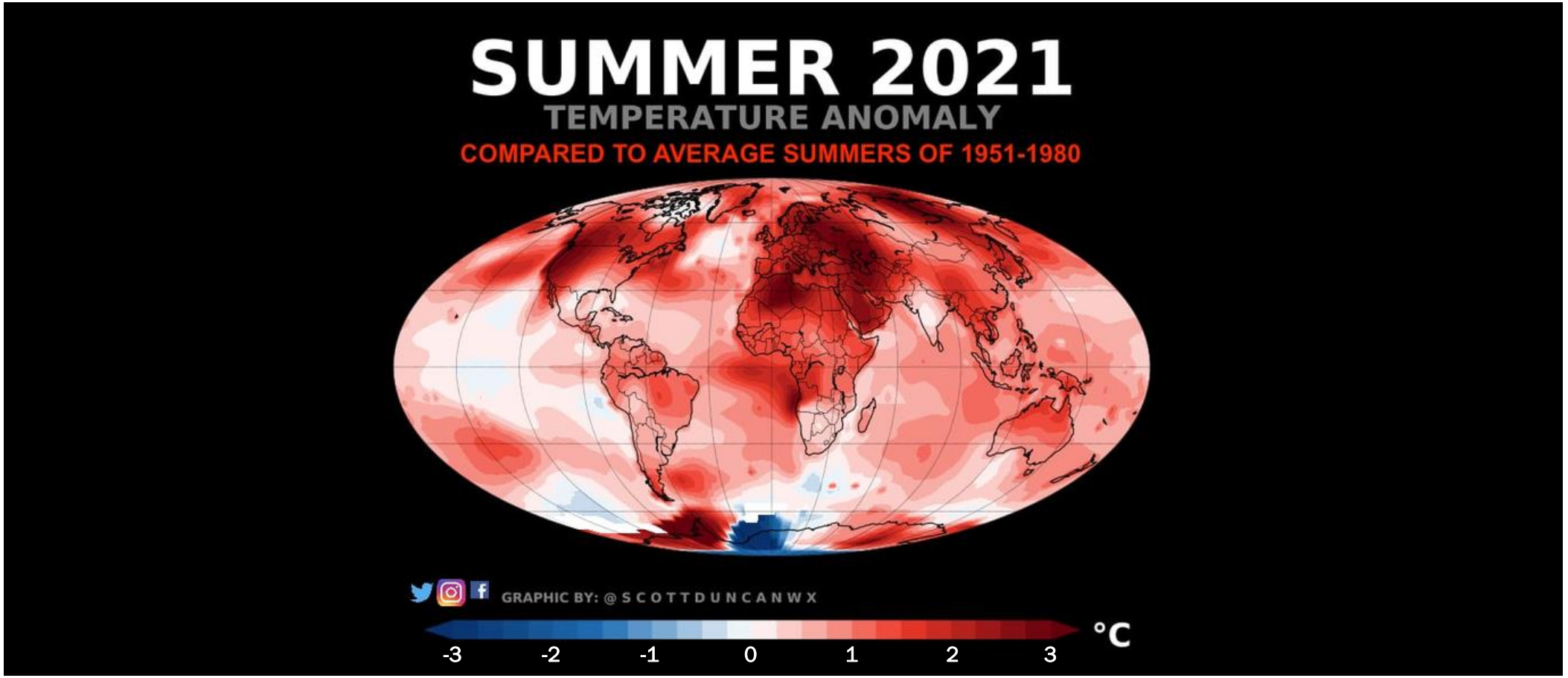
Where are we now?

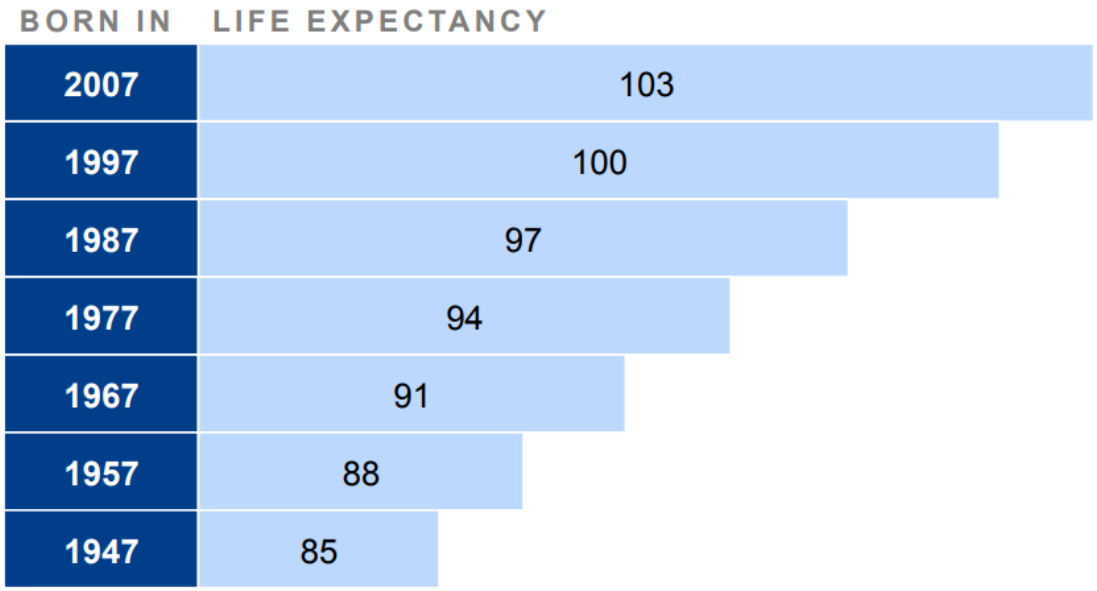
Findings from Sixth IPCC Assessment Report (2021):

- Global temperatures have risen by 1.1°C on average since the period 1850-1900
- We are living in the warmest multi-century period in over 100,000 years
- Land temperatures have risen faster than over oceans (1.6°C vs 0.9°C)

Land Temps Increasing Faster than Ocean Temps

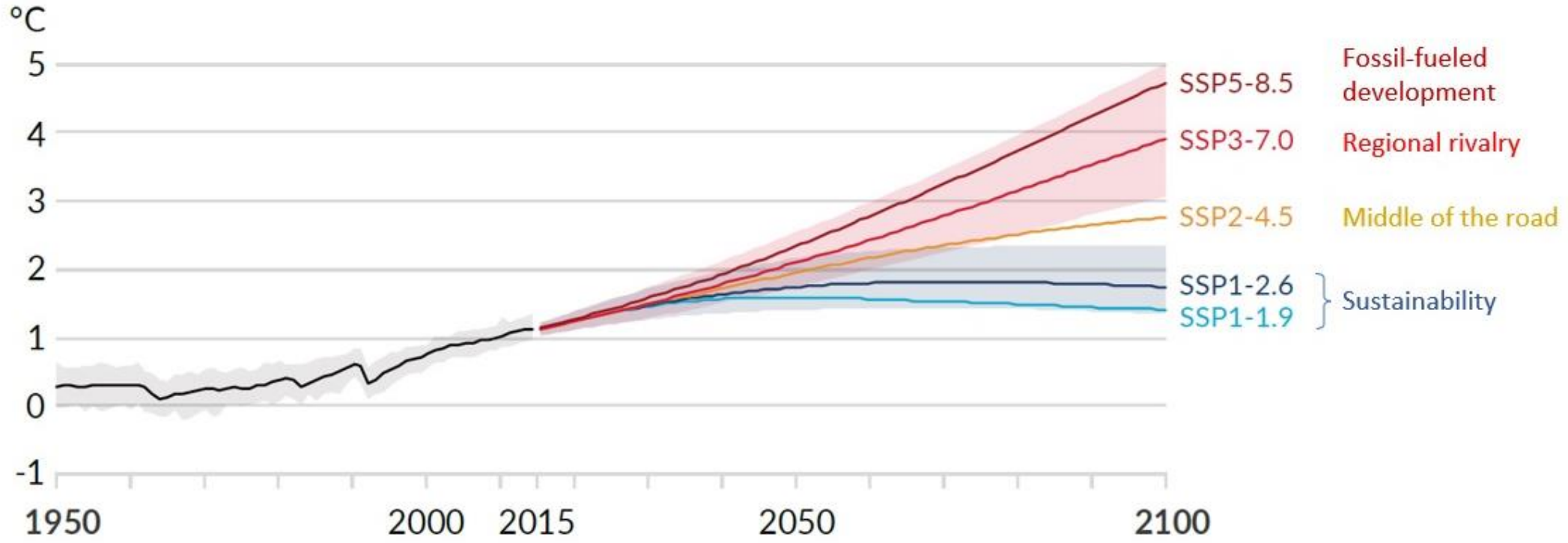


Human life expectancy is >100 years



Source: We'll Live to 100, WEF.

Projected Temperature Rise to 2100 *(IPCC)*



Source: IPCC 6th Assessment Report, Summary for Policymakers p29

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What Happened at Glasgow?

A snapshot of the state of climate policy

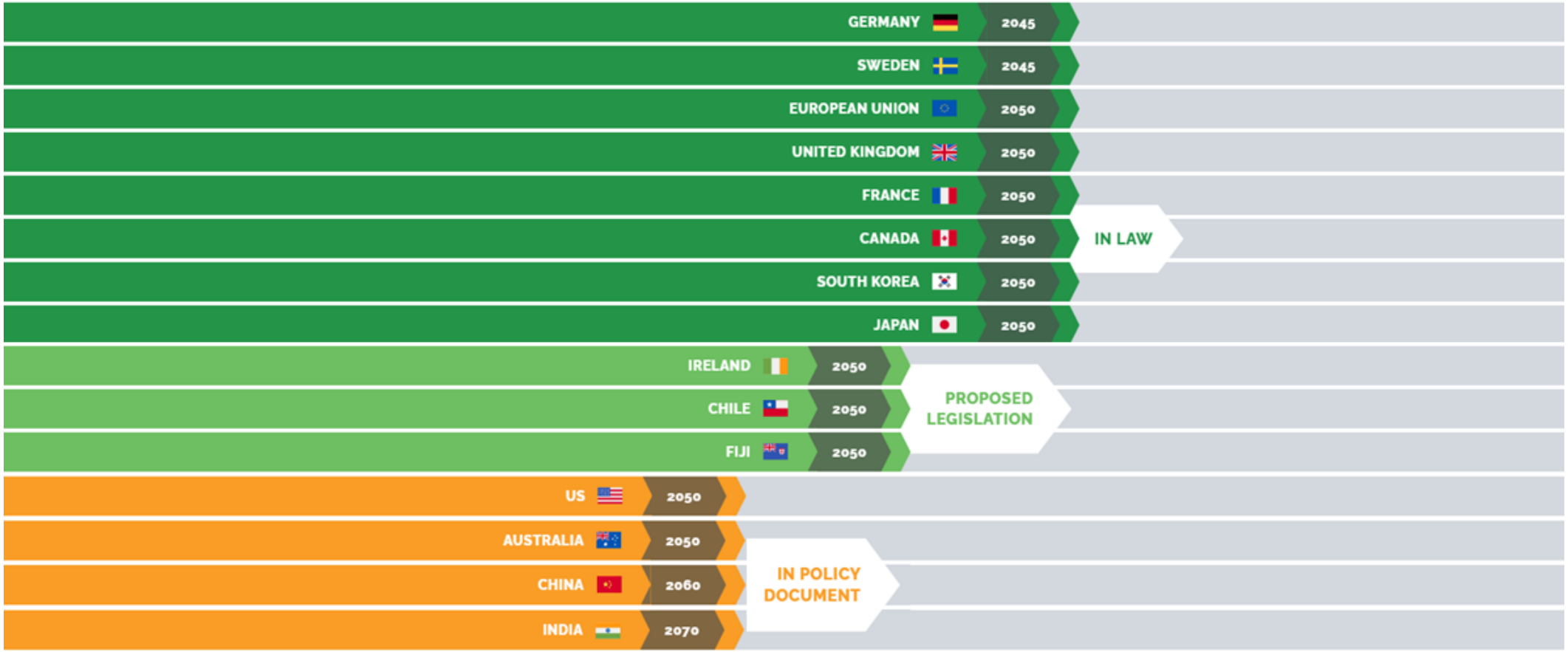
Key document: *The Glasgow Climate Pact*

Article 36:

"Calls upon Parties… to transition towards low-emission energy systems… including accelerating efforts towards the ~~phase out~~ phase-down of unabated coal power and inefficient fossil fuel subsidies"

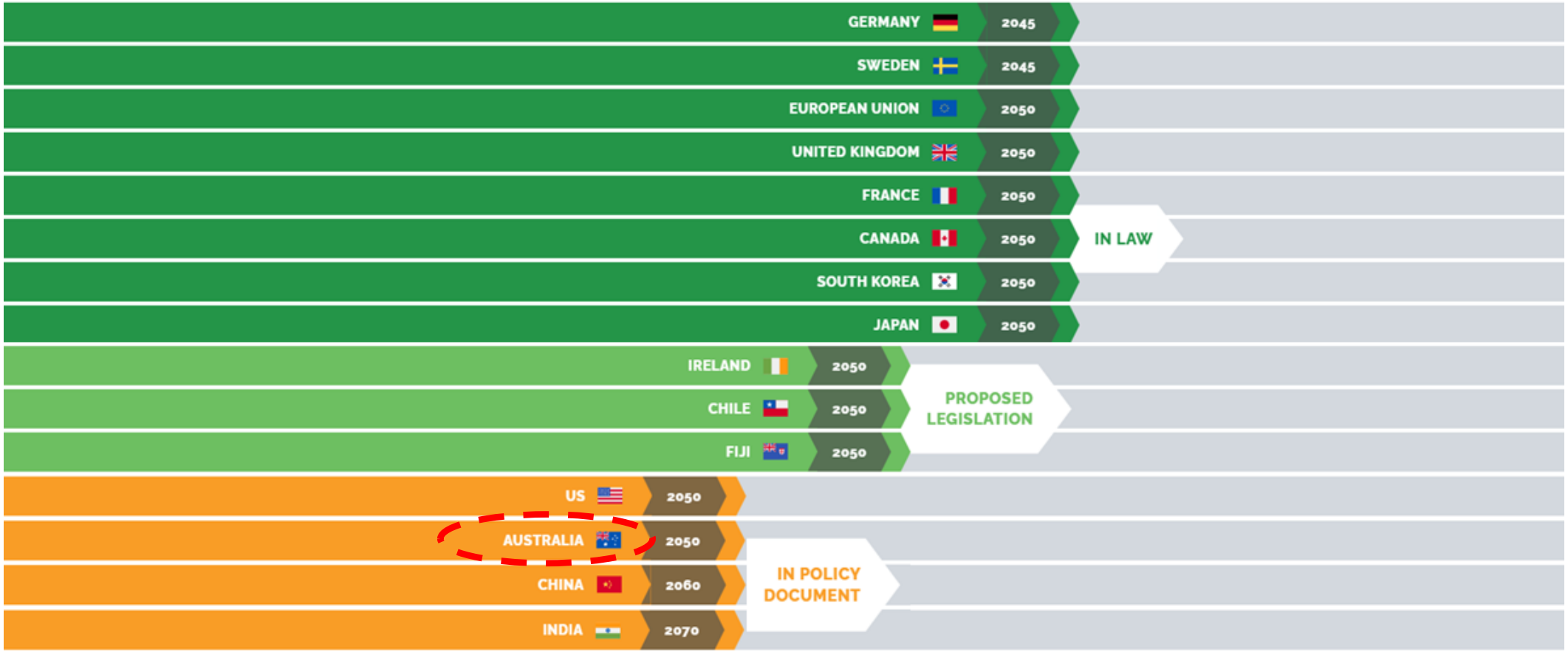
First time coal and fossil fuel subsidies were mentioned in a COP agreement

Continued Acceleration of Net-Zero Commitments



Source: Energy & Climate Intelligence Unit, 2021

Continued Acceleration of Net-Zero Commitments



Source: Energy & Climate Intelligence Unit, 2021

Australia at COP26

- Last minute pledge to net-zero by 2050
- Declined to strengthen 2030 emissions reduction target
- Spruiking carbon capture and storage and blue hydrogen

Australia increasingly a climate pariah

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- **The Path to Deep Decarbonisation**
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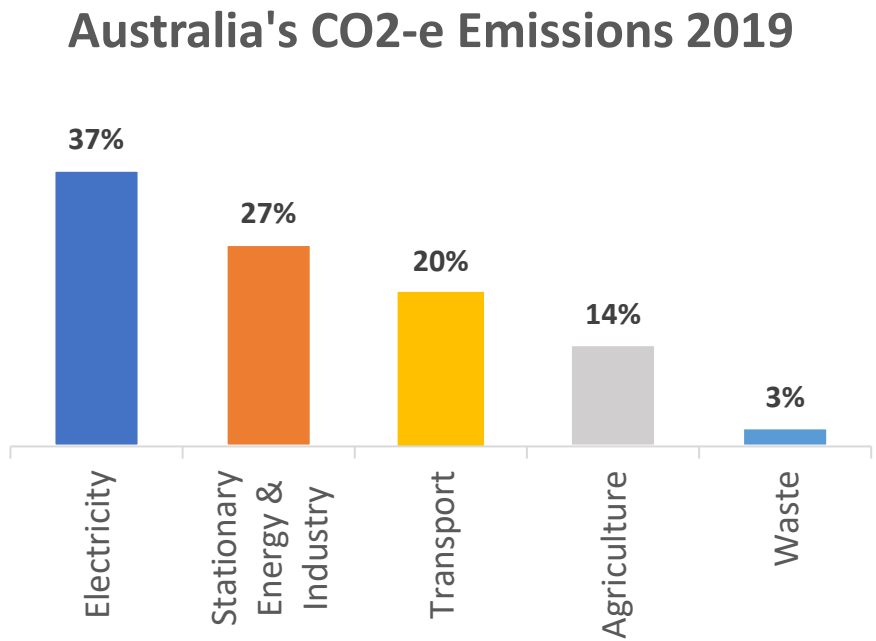
Deep Decarbonisation 101

- The first 70-80% of decarbonisation is less difficult than many think

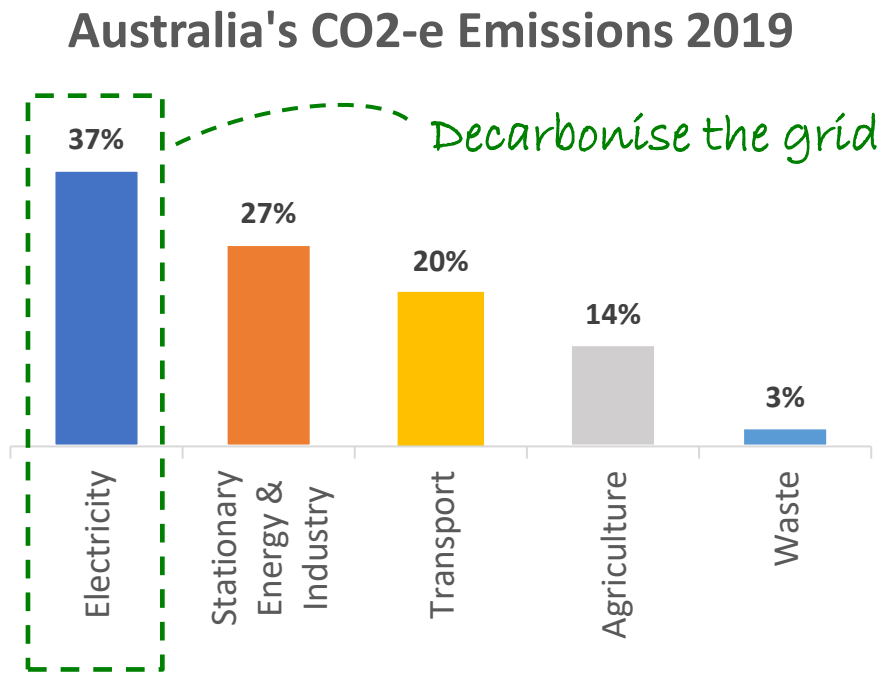


Total: 554 million tonnes CO2-e

Source: Australia's Emissions Projections 2021, page 11, Dept of Industry, Science, Energy and Resources
Note: Land use emissions (-5%) not included. Fugitive emissions have been distributed pro rata among categories other than agriculture and waste.

Deep Decarbonisation 101

- The first 70-80% of decarbonisation is less difficult than many think
- **Step 1 = decarbonise the power grid and electrify everything**



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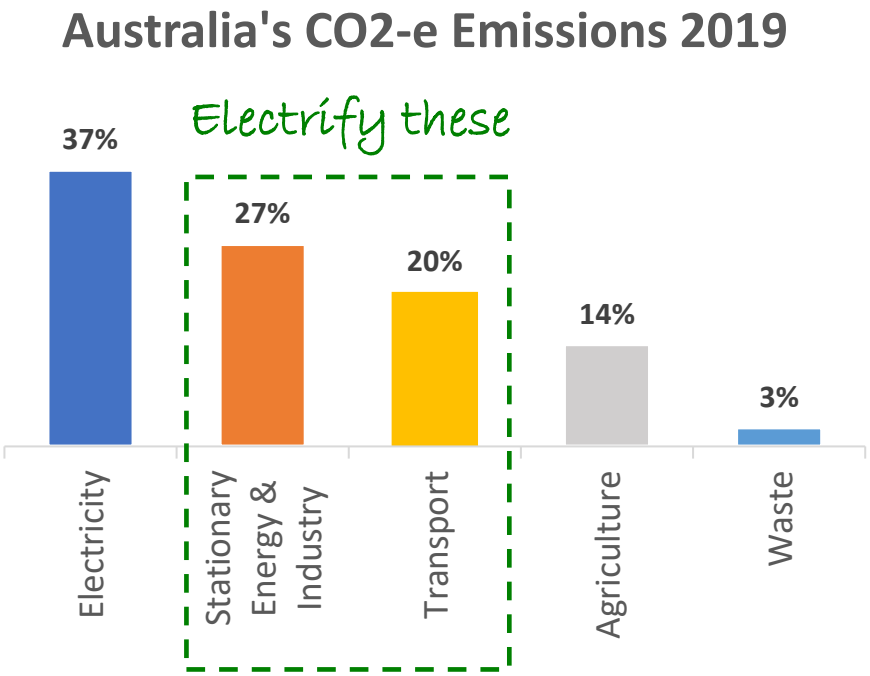

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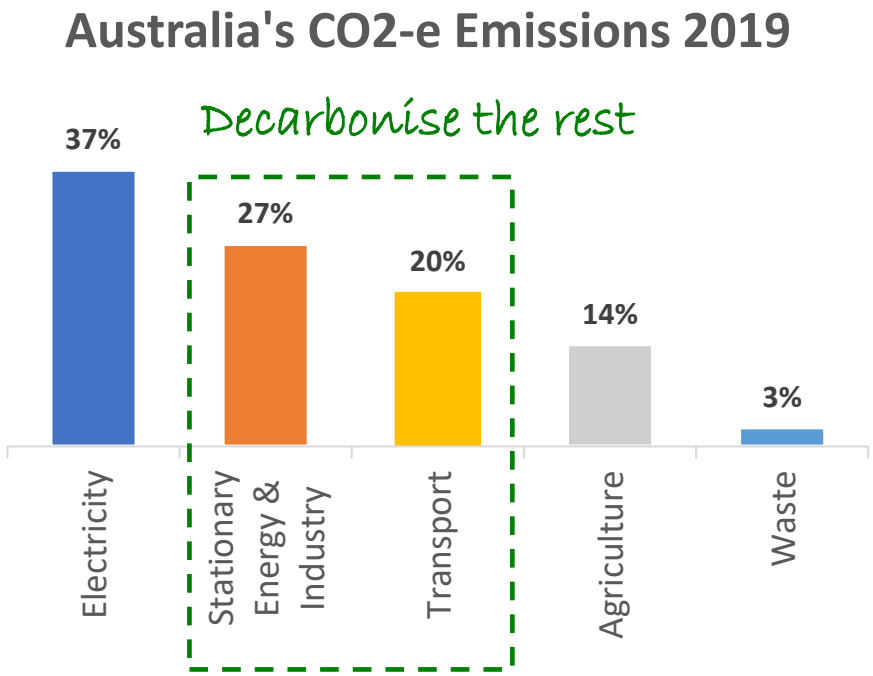
Deep Decarbonisation 101

- The first 70-80% of decarbonisation is less difficult than many think
- Step 1 = decarbonise the power grid and electrify everything
- **Step 2 = decarbonise industry and transport that is hard to electrify**



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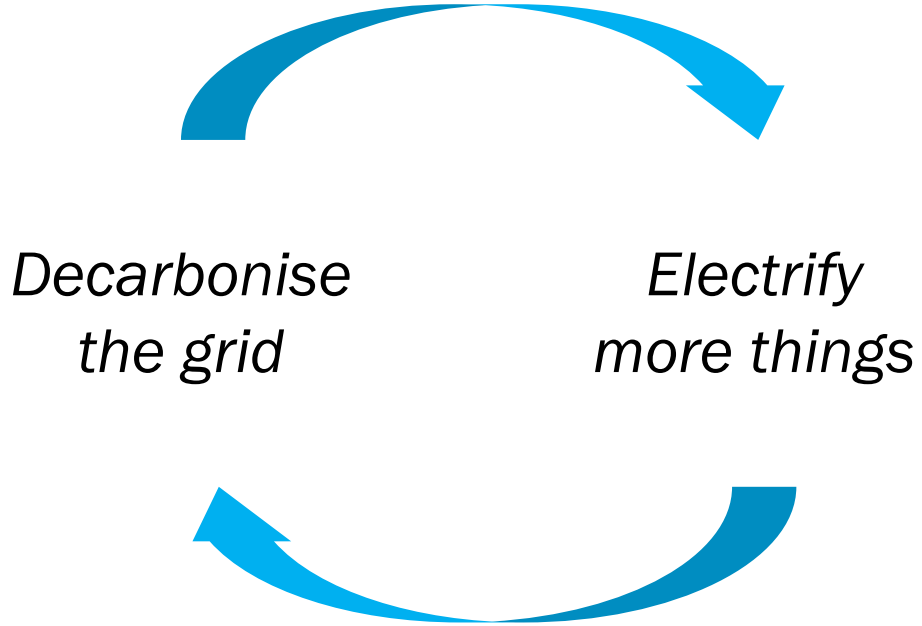
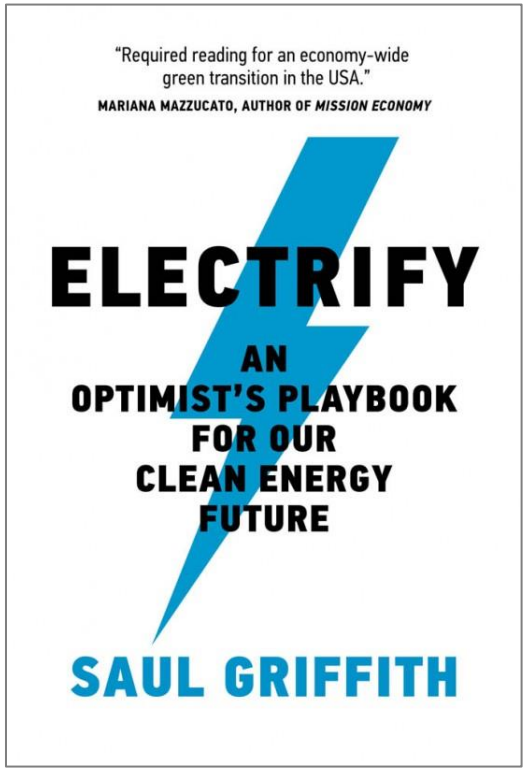
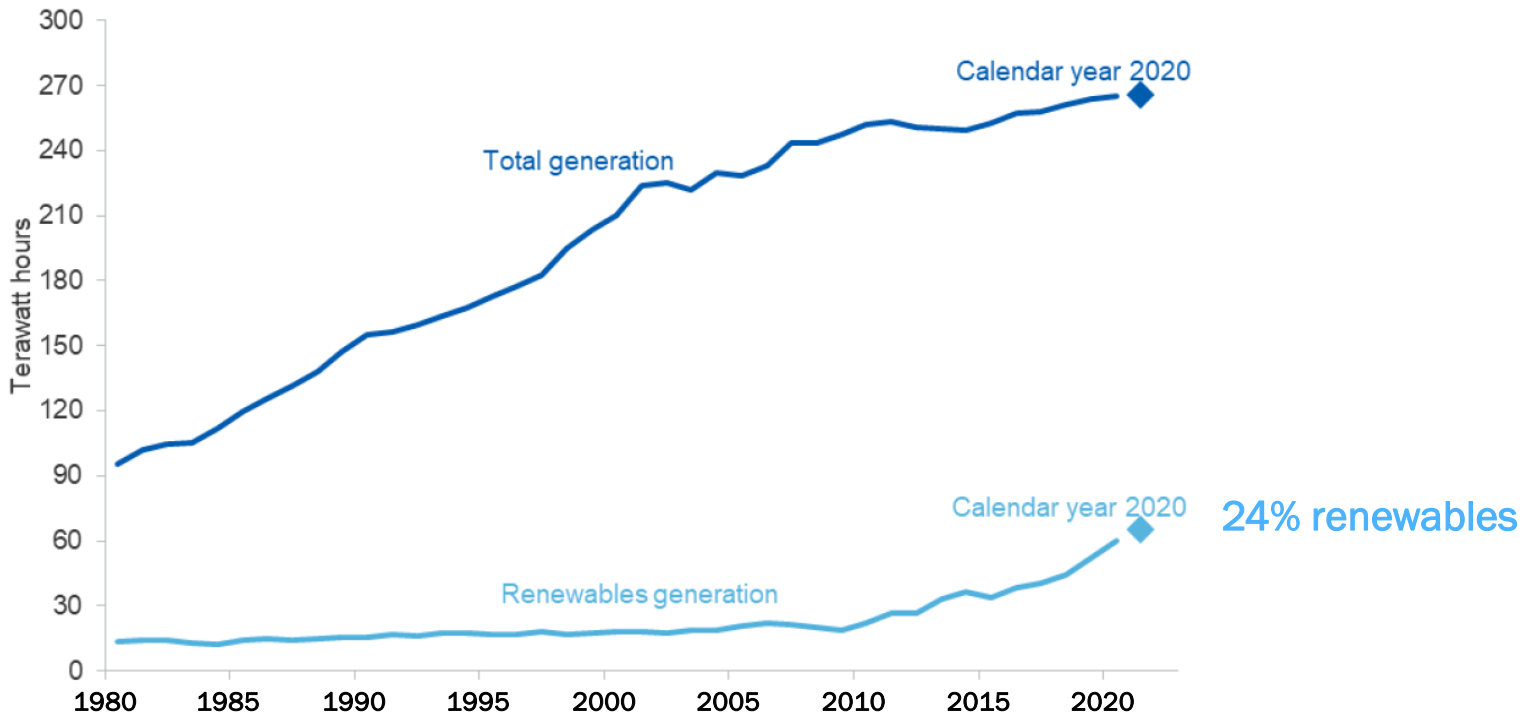
Step 1: Decarbonise the grid and electrify everything





Decarbonising the grid is happening now

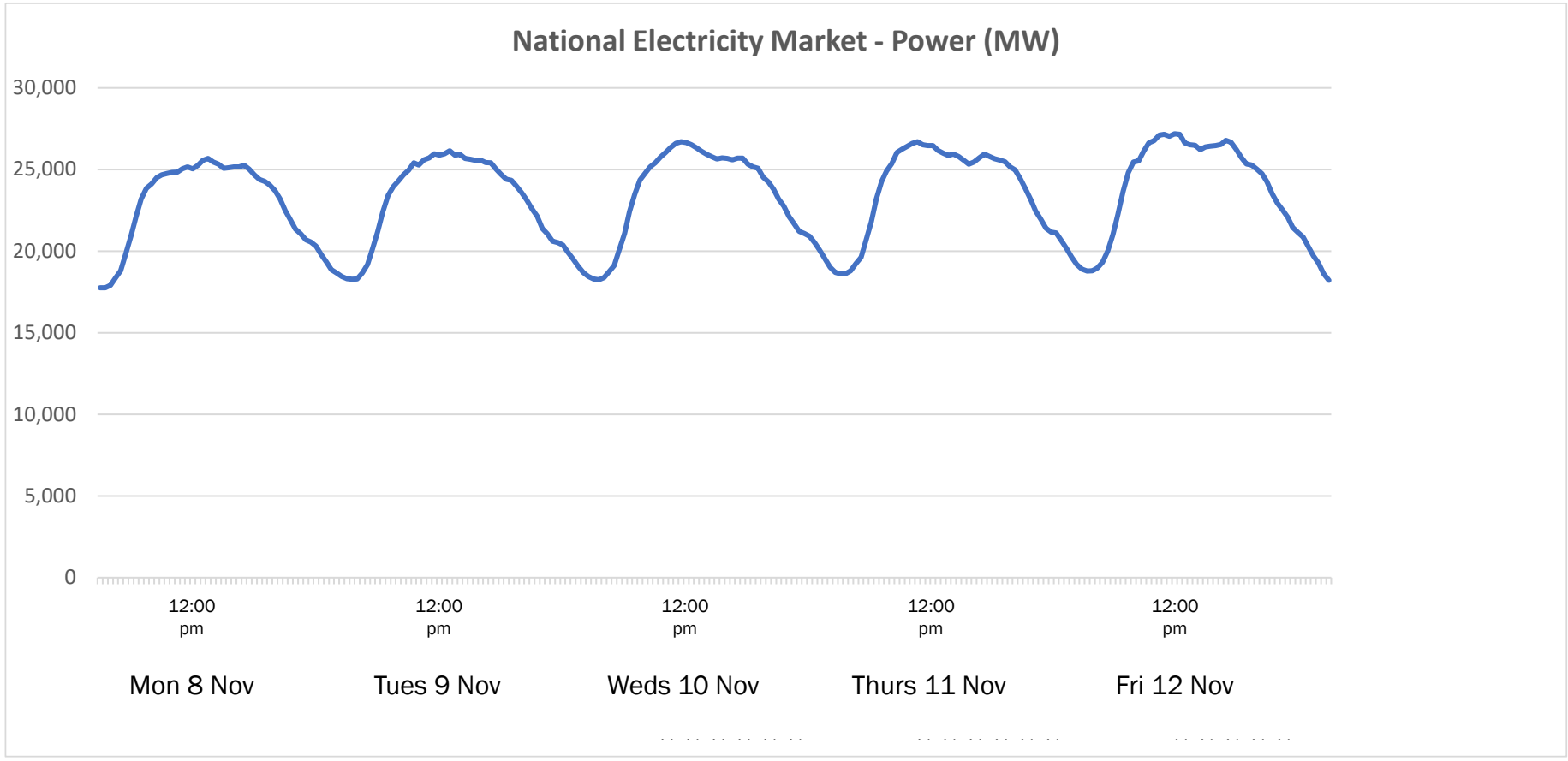
Figure 3.3: Australian electricity generation



Sources: Department of Industry, Science, Energy and Resources (2021) *Australian Energy Statistics*, Table O; International Energy Agency (2021), *World Energy Balances*

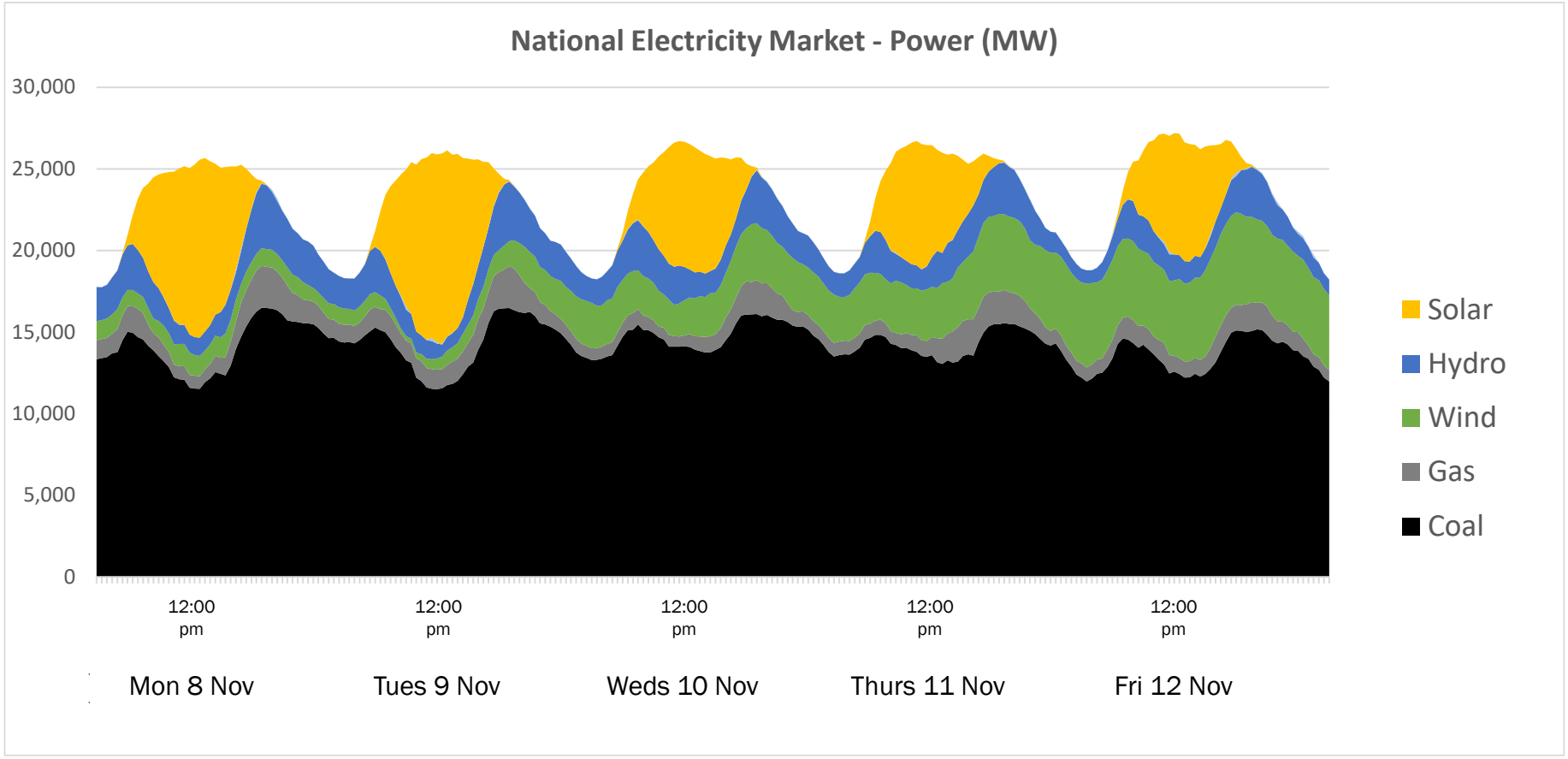
Source: [2021 Australian Energy Update Report](), page 25

How we power the grid



Source: www.opennem.org.au

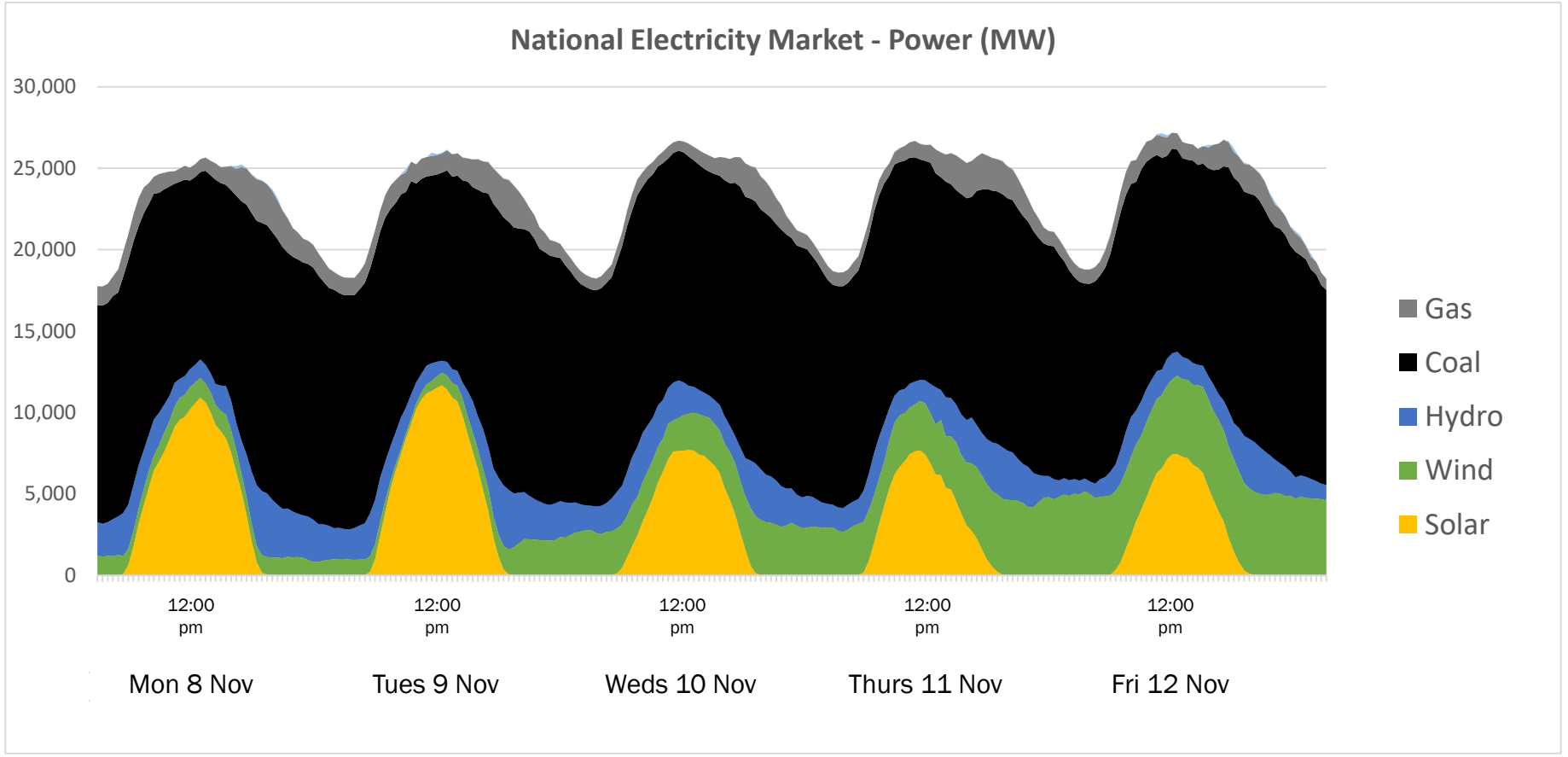
Some say “renewables can never be baseload”



Total Power from Renewables: 34%

Source: www.opennem.org.au

We say: Renewables as baseload



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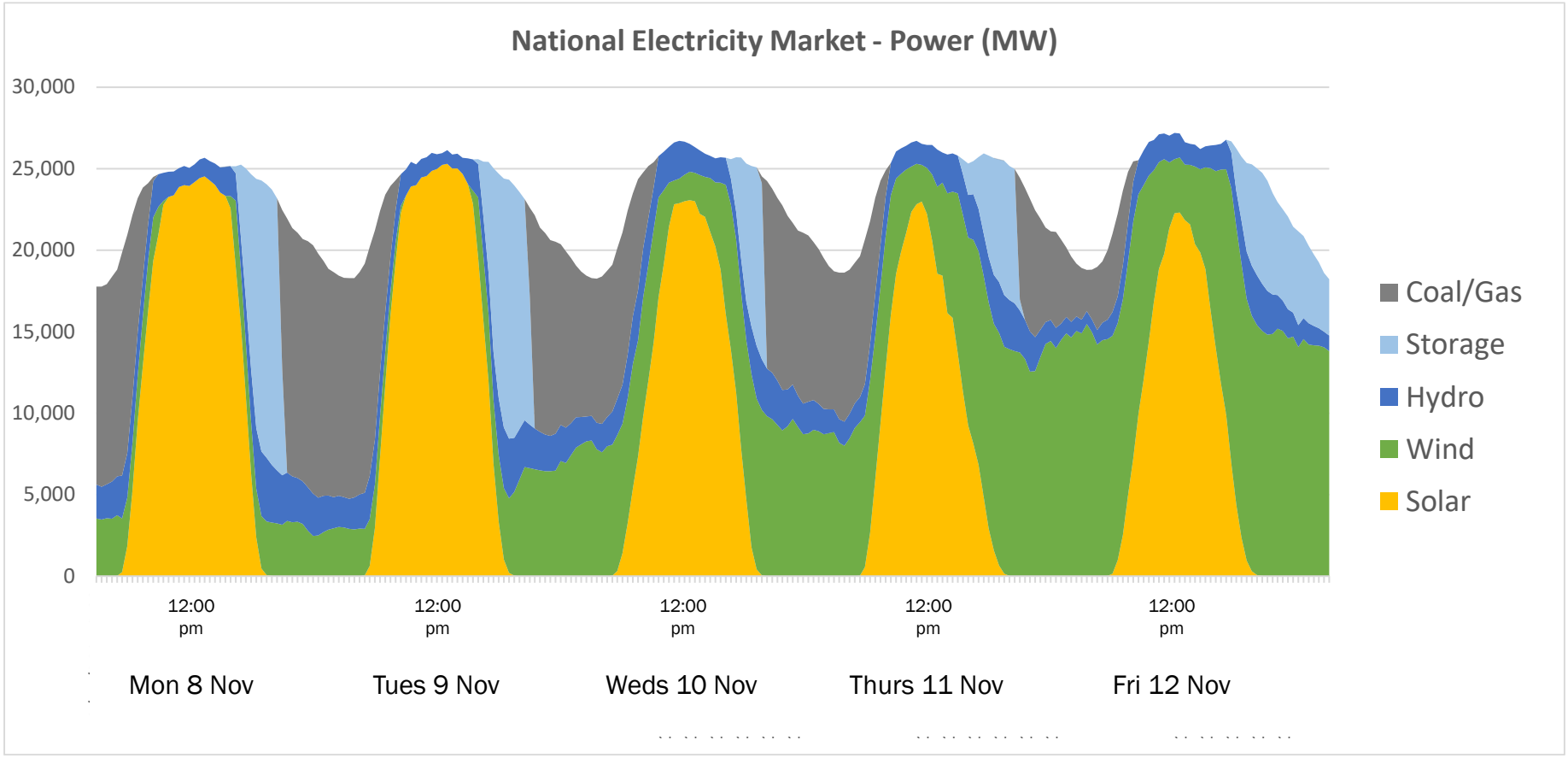
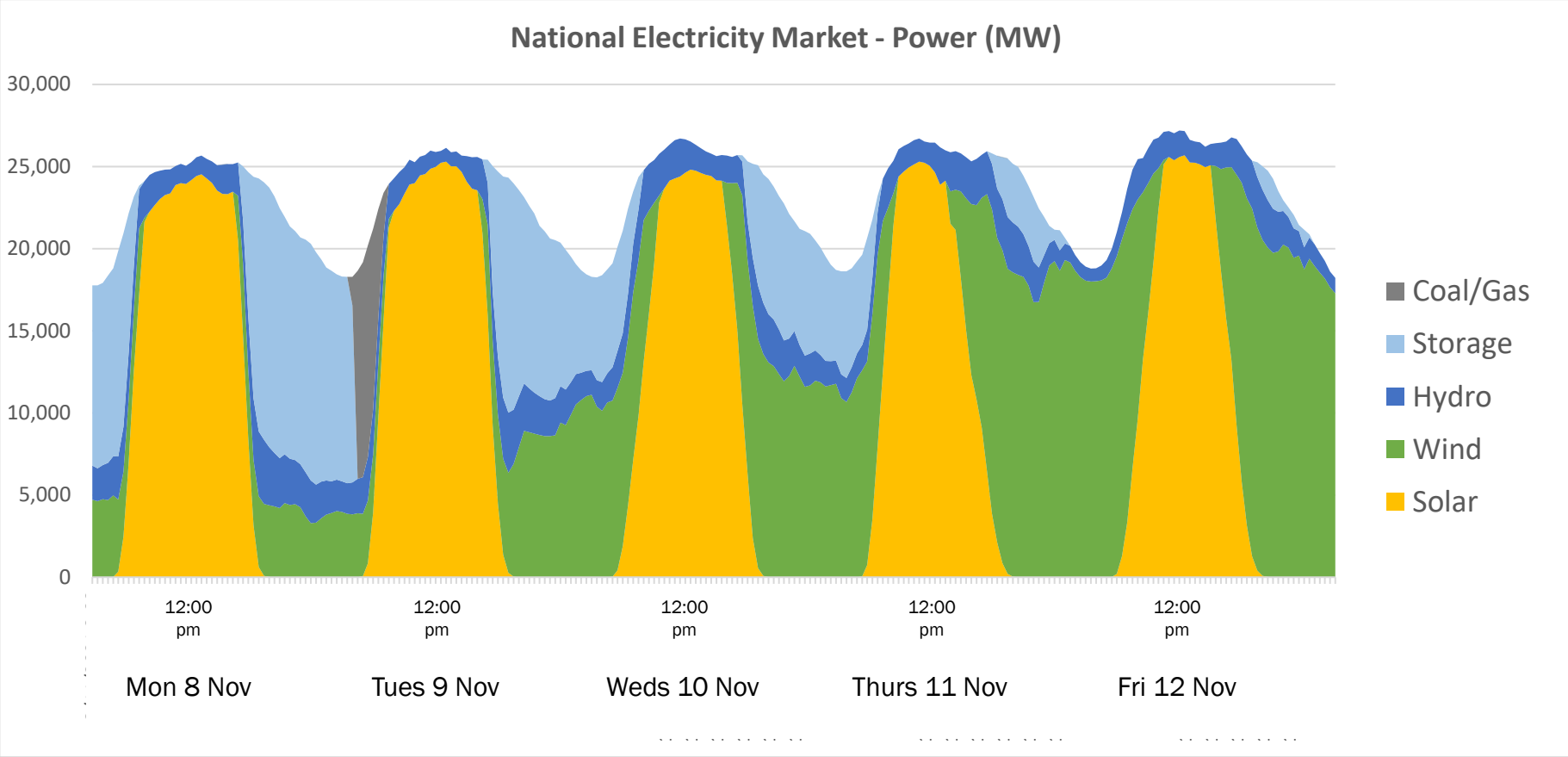
If we tripled solar and wind capacity



Total Power from Renewables: 83%

Source: www.opennem.org.au , author's calculations

If we quadrupled solar and wind capacity



Total Power from Renewables: 99%

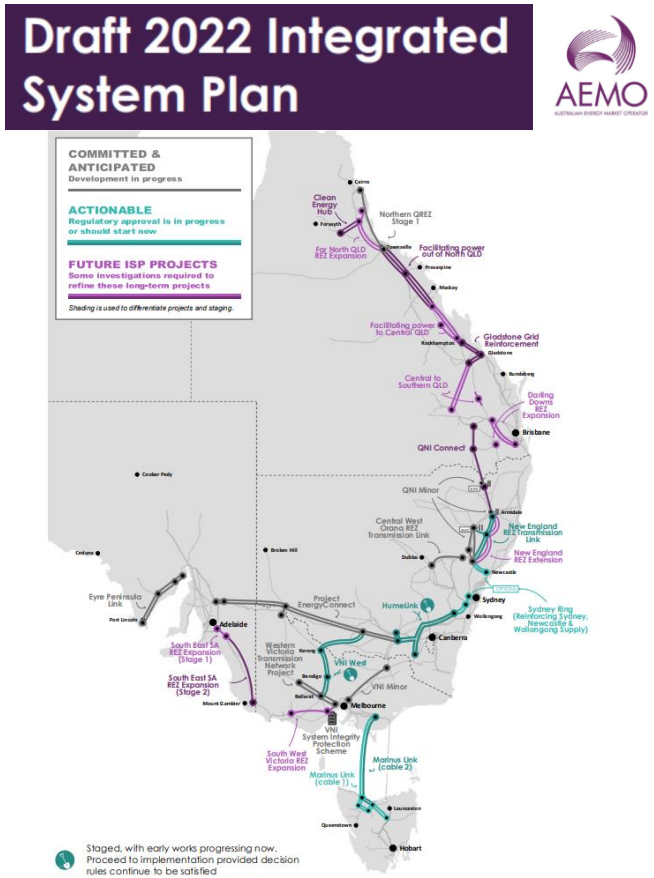
Source: www.opennem.org.au , author's calculations

Investing in the clean transition

Audrey Zibelman

(CEO, Australian Energy Market Operator, 2018 - 2020)

"We've shifted from wondering whether wind and solar are our cheapest resource to a new set of problems which is: how do we efficiently integrate these resources into the system so that we can take full advantage of the fact that for the first time in this industry we can use free fuel?"



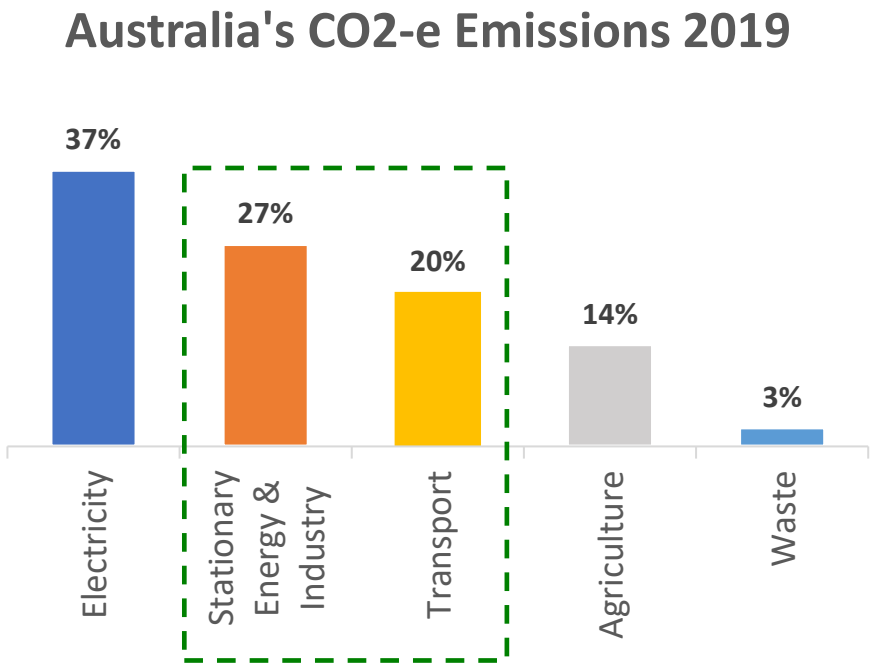
Time-varying electricity prices: The final frontier in decarbonising the grid

- The arrival of smart meters allows for real-time pricing of electricity

- An efficient price signal encourages consumers to:
  - Reduce demand when prices are high (turn off appliances)
  - Use electric vehicles as batteries
    - Charge up when prices are low
    - Discharge power when prices are high

Step 2: hard-to-abate industry and transport

- Some industry and transport will be electrified
  - Light vehicles (cars)
  - Home heating and cooking
  - Manufacturing
- Other areas harder to electrify
  - Heavy transport
  - Certain industrial activities
- In these areas, hydrogen can play a key role



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Hydrogen is not a new technology

- Fuel cells combine hydrogen and oxygen to produce water and energy

- A hydrogen fuel cell powered Apollo 11

Francis Bacon with fuel cell prototype, Cambridge, 1959

Is Hydrogen the Swiss Army Knife?

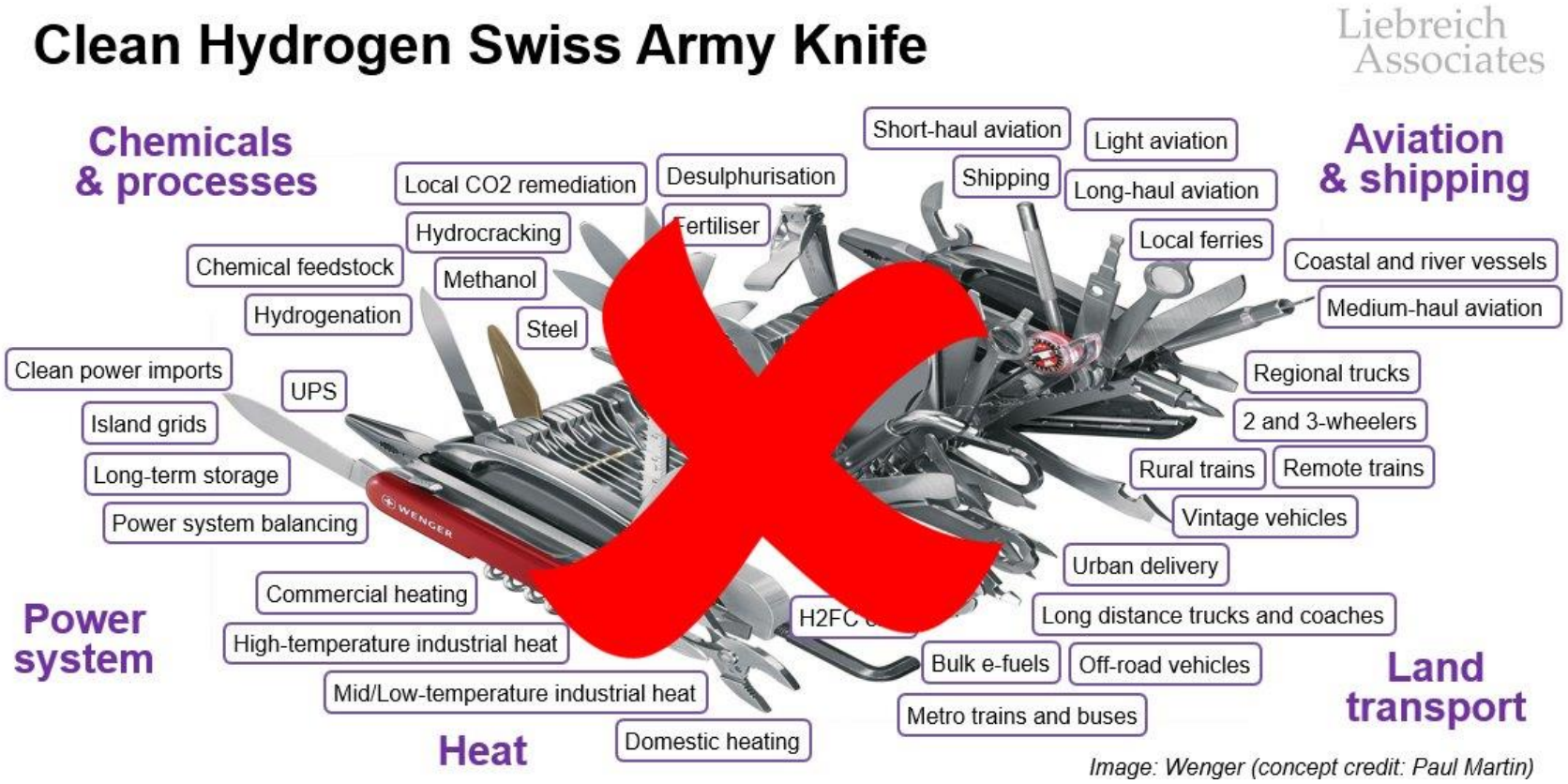
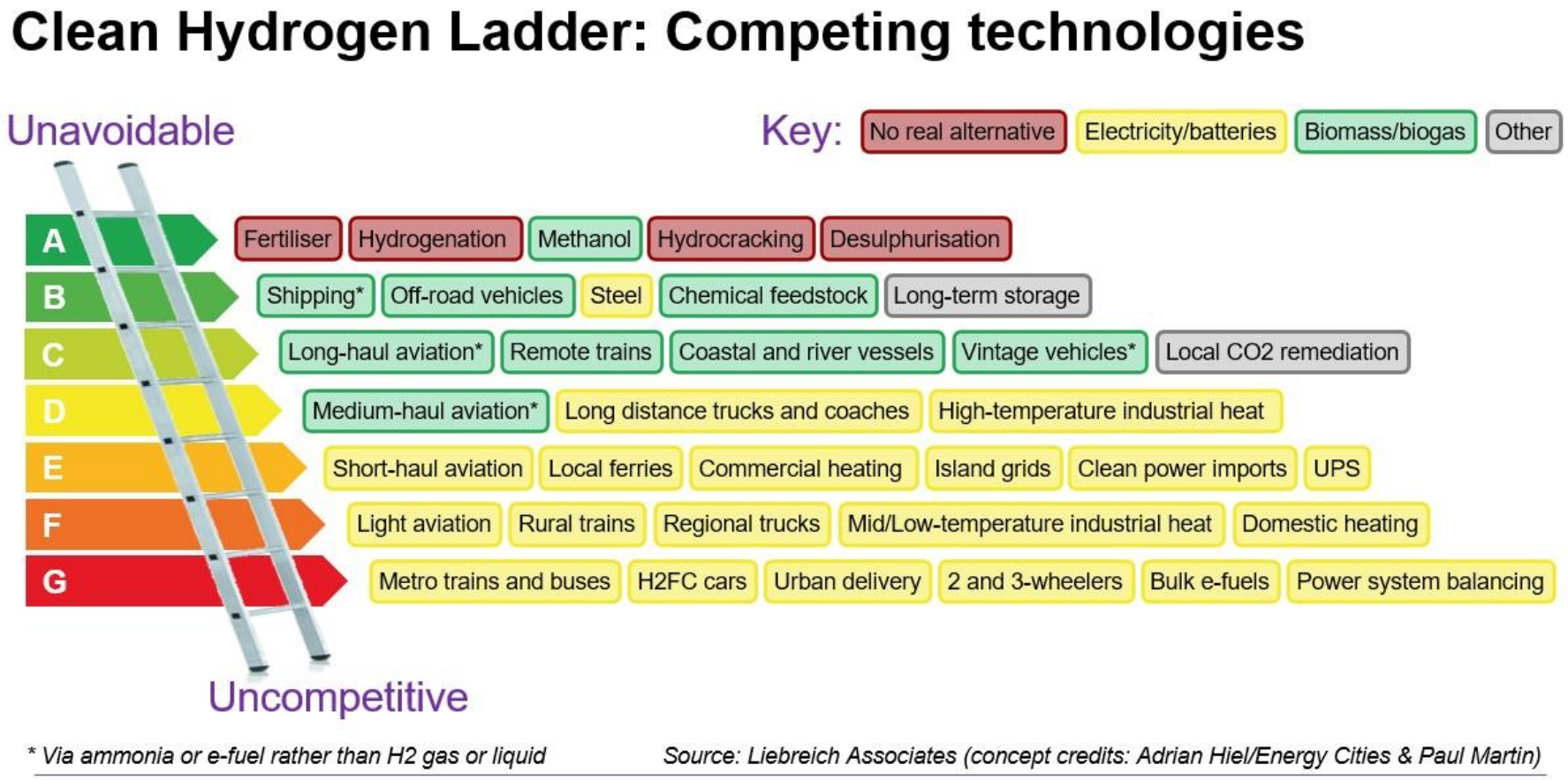
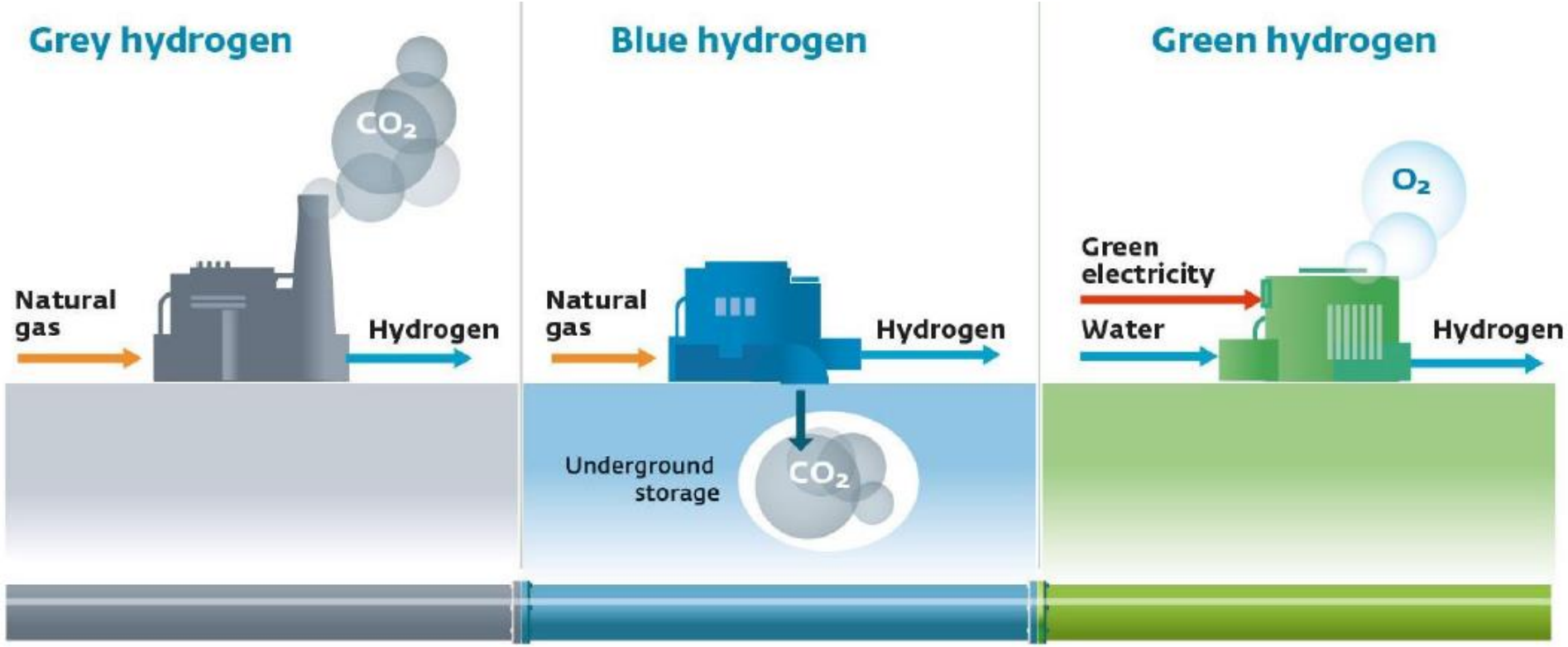


Image: Wenger (concept credit: Paul Martin)

Hydrogen is useful in abating certain activities



Where does hydrogen come from?



We Can Achieve Deep Decarbonisation

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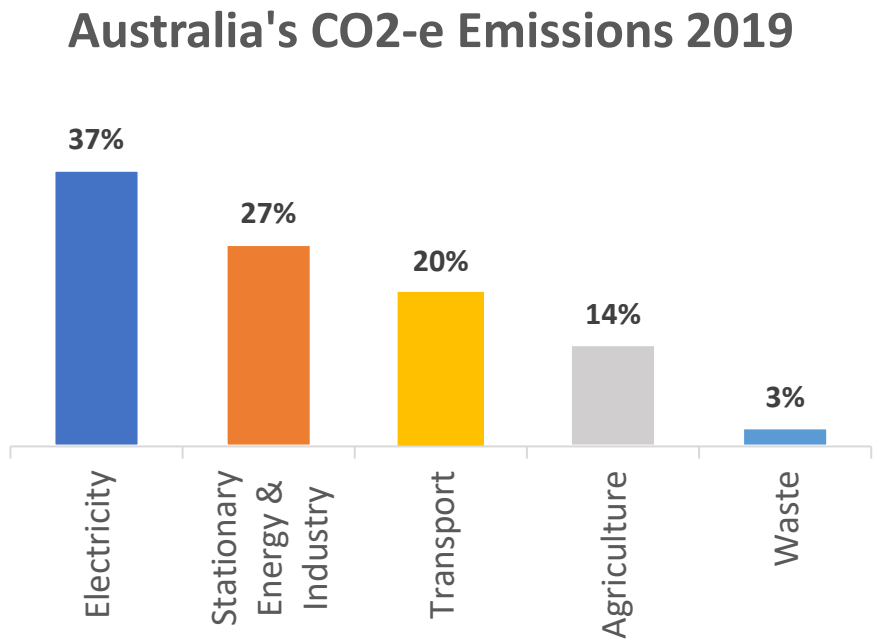

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Australian Democrats Climate Plan

- This is the decisive decade on climate
- We must rapidly decarbonise this decade, not by 2050
- We know how to do it

We will target a 55% emissions reduction by 2030

How we will do it

- Decarbonise the grid and electrify everything
  - Public investment to decarbonise the grid: Storage + transmission lines + renewables
  - Incentivise electrification: vehicles, cooking & heating, industry
- Decarbonise heavy transport and industry
  - Drive cost reductions in green hydrogen
- A carbon tax
  - Starting at $30/tonne, to be increased in line with key trading partners
- Stop subsidising fossil fuels

Ensure no one is left behind in the transition

- The energy transition will impact groups unevenly
- Government must support industries in transition
  - Support workers in transition pathways to find new jobs
  - Provide advanced notice of mine and power plant closures
- AD's climate plan has been developed together with our economic reform plan
  - Our "An Economy for People" package will benefit all but the top 2% of Australian income earners
  - Under our plan, an individual earning $50,000 would take home $3,500 more in annual income

Why Vote #1 Australian Democrats?

- Track record on climate
  - In 2000, Australian Democrats' Senator Lyn Allison chaired the Senate Inquiry into Australia's Greenhouse Future
- Transparency and accountability ("keep the bastards honest")
  - The inaction of the major parties on climate is a direct result of dark money and vested interests in politics
- Preference voting means even if the Democrats are not elected, your 2nd preference will count

What next?

Read our Decade of Action Climate platform : www.democrats.org.au/a-decade-of-climate-action/

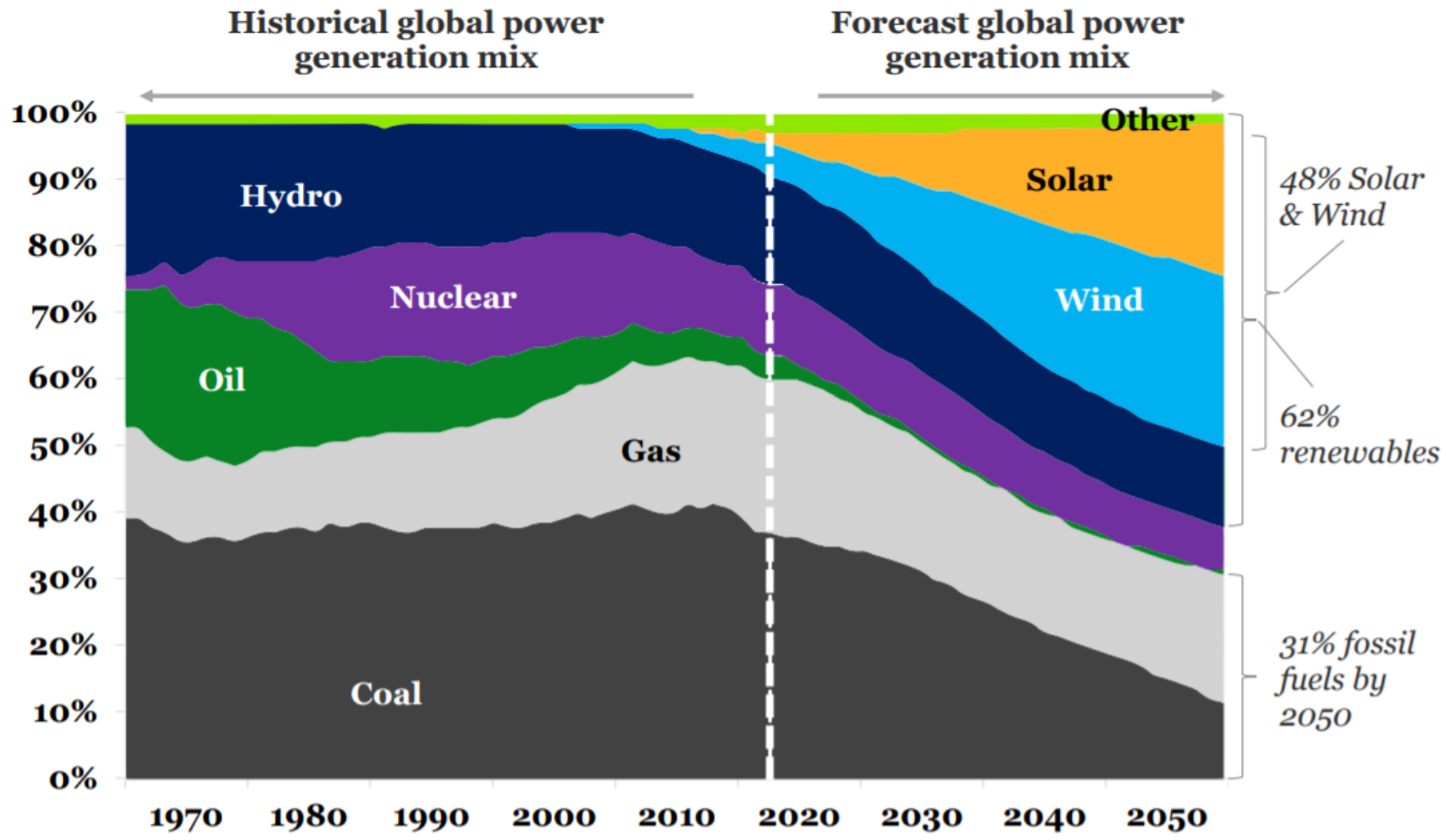
Slides available at this page

Join the Australian Democrats: www.democrats.org.au

Donate: www.democrats.org.au/donate/

Appendix

Coal on its way out



Source: Bloomberg New Energy Finance, 2019.

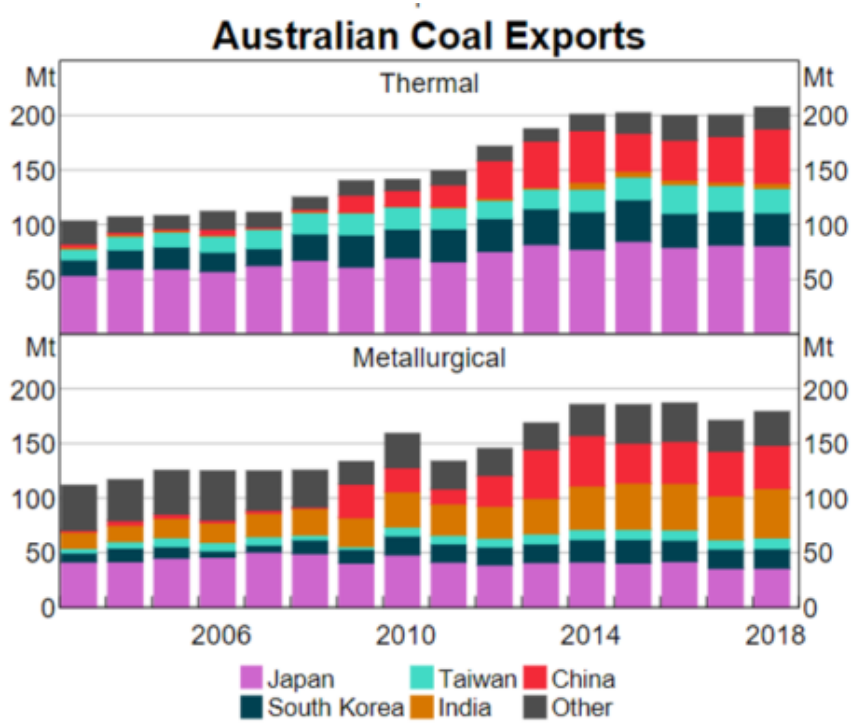
Coal on its way out

International Energy Agency forecasts global coal demand to fall by 12 to 66% by 2040

- Major buyers of Australian export coal are decarbonising

Australia's Top 20 Exports 2018-19

Rank	Commodity[a]	$ million	% share
1	Iron ores & concentrates	77,189	16.4
2	Coal	69,592	14.8
3	Natural gas	49,731	10.6
4	Education-related travel services [b]	37,556	8.0
5	Personal travel (excl education) services	22,450	4.8
6	Gold	18,867	4.0
7	Aluminium ores & concentrates (incl alumina)	11,358	2.4
8	Beef	9,476	2.0



Source (top 20 exports): Australian Trade and Investment at a Glance, DFAT, 2020.

Source (coal exports): Reserve Bank of Australia.