



decisions with confidence

Emissions reduction and Energy Security

Can we have both?

Good oil and gas September 2022



Disclaimer



RISC is an independent advisory firm, providing insightful and impartial advice to a broad range of clients in the energy industries. We provide a more comprehensive, reliable and respected opinion faster than anyone else in the industry, enabling our clients to make their business decisions with confidence.

The statements and opinions attributable to the author and/or RISC in this presentation are given in good faith and in the belief that such statements are neither false nor misleading.

In preparing this presentation the author has considered and relied solely upon information in the public domain. This information has been considered in the light of RISC's knowledge and experience of the energy industries and, in some instances, our perspectives differ from some of our highly valued clients.

In some cases the views and opinions of the author may differ from those held by others within RISC.

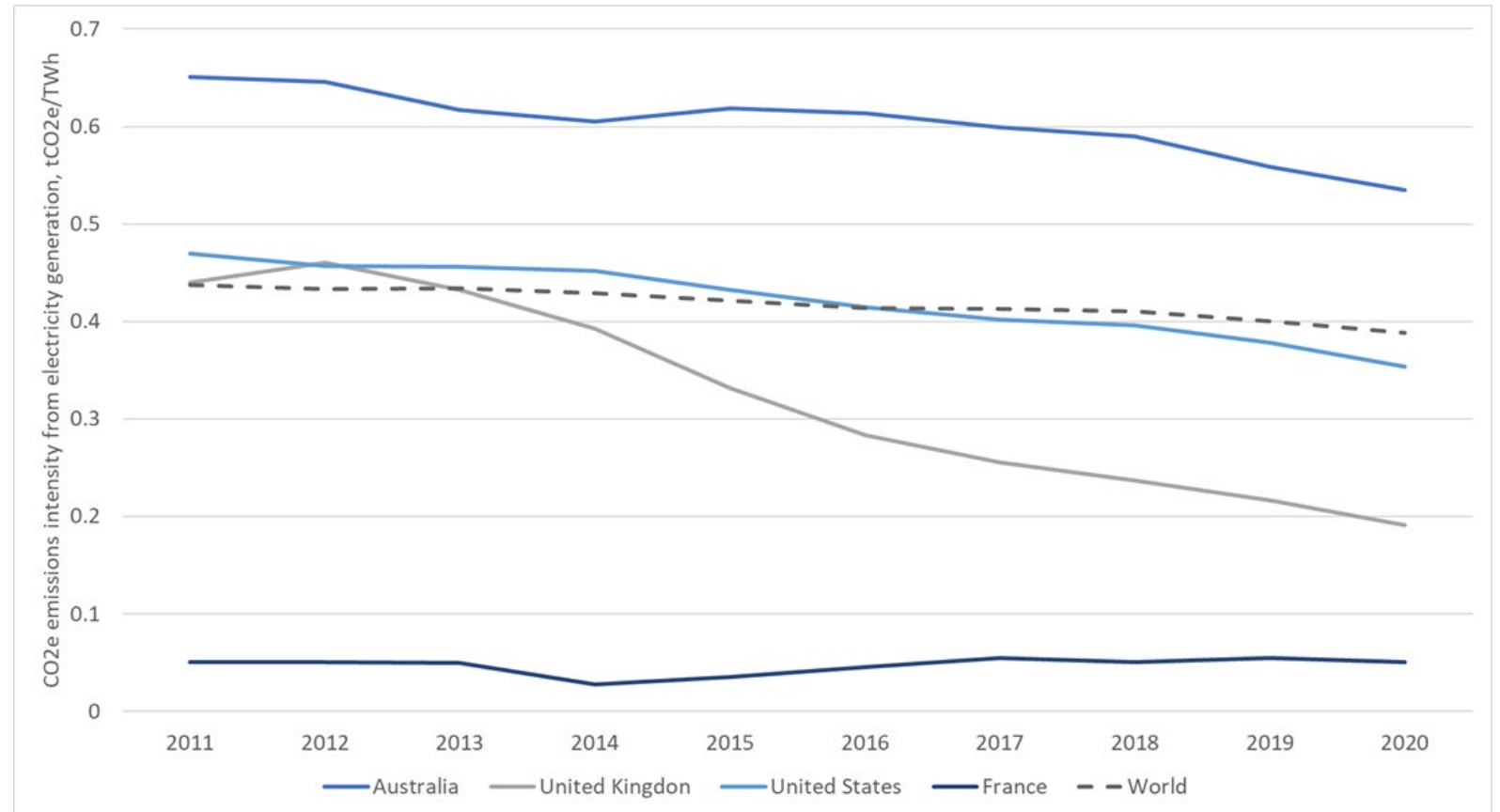
RISC has no pecuniary interest or professional fees receivable for the preparation of this presentation, or any other interest that could reasonably be regarded as affecting our ability to give an unbiased view.

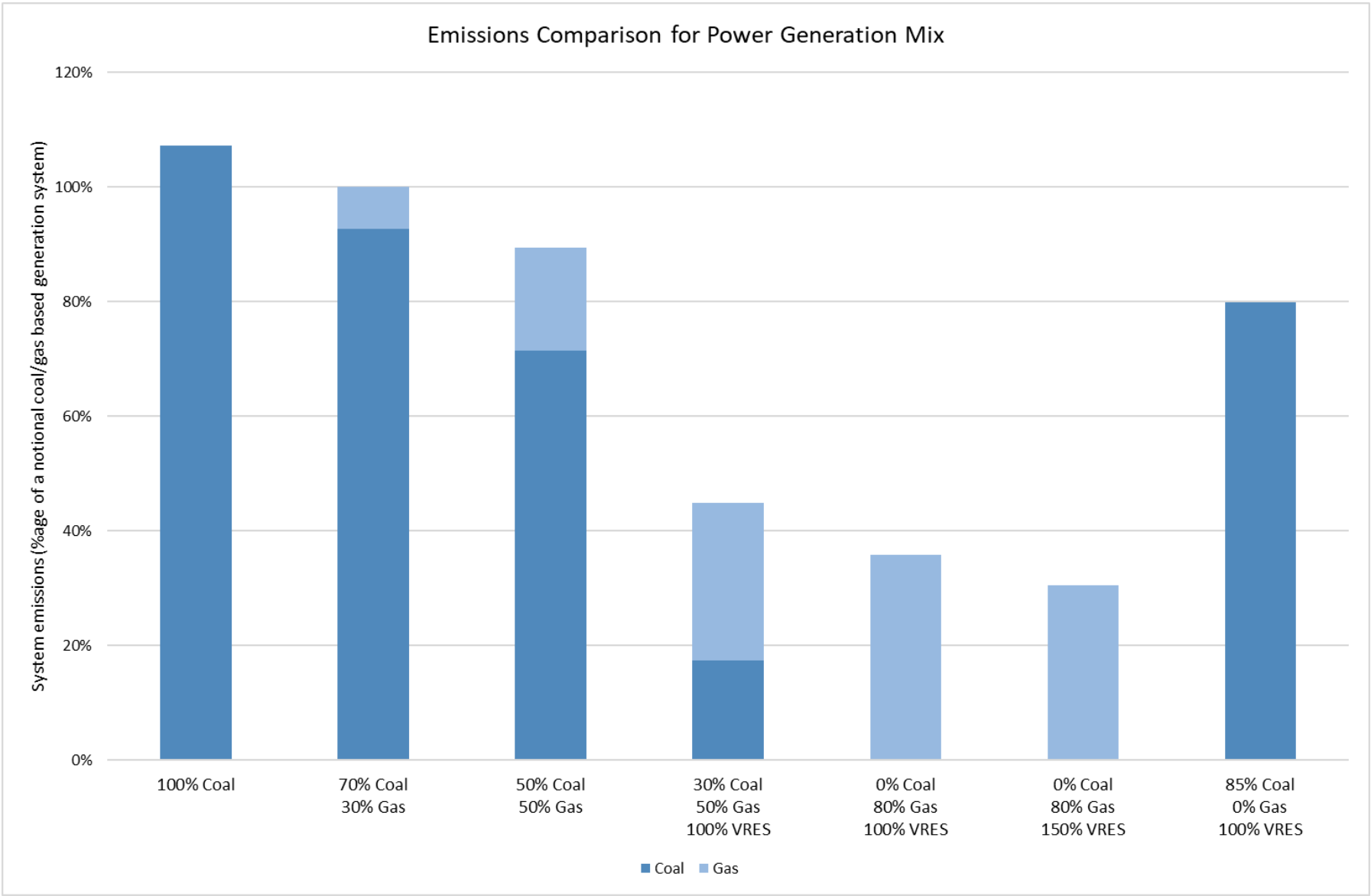
This presentation is the copyright of RISC and may not be reproduced, electronically or in hard copy, without the written permission of RISC.

The world is moving towards lower emissions

Global acceptance of the need to reduce emissions has lead to a re-think on energy sources

- Whilst Australia is reducing emissions associated with power generation it lags most of the rest of the world
- Australia still relies heavily on coal-fired power generation, especially in the Eastern States
- Demand is still increasing
- France is dominated by nuclear power
- The US has switched a significant amount of generation from coal to gas
 - Coal from >40% to <20%
 - Gas from 25% to 40%
- Both the UK and US have reduced demand (e.g. through energy efficiency measures)
- The UK has reduced it's reliance on coal from over 50% to less than 2% in the last decade.





Emissions reductions have been driven by a replacement of coal-fired power generation to renewables support by gas-fired generation

In the UK increases in renewables and decreases in emissions have been supported by gas use

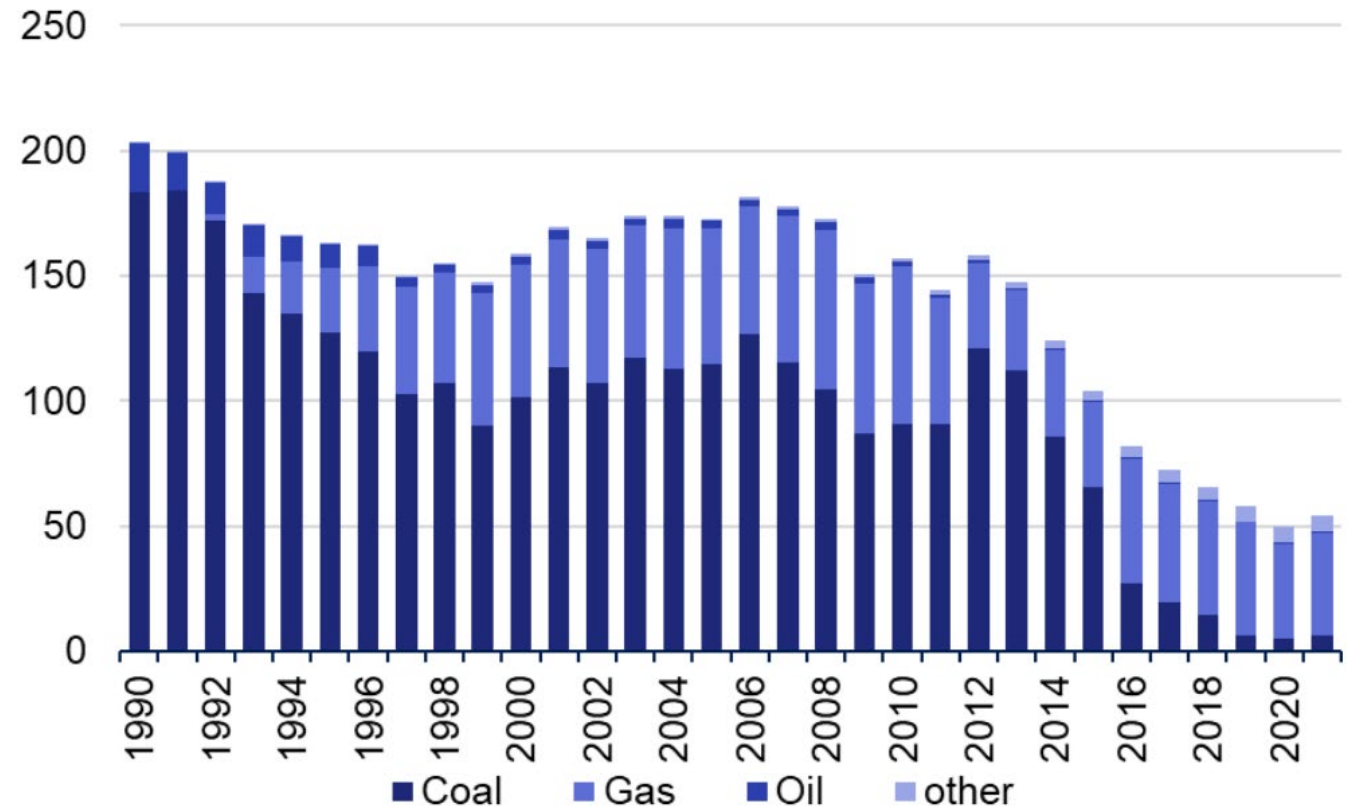
In the UK:

- Coal use in power generation has fallen from around 40% in 2010 to less than 2%.
- Emissions from power generation have fallen by approximately 65% since 2010.
- UK went for 2 months “coal free” in 2020.
- Gas use remained relatively unchanged but its share of the generation market increased to around 35-40% due to falling demand
- UK emissions are now the lowest in over 130 years (since the 1880's)

2021:

- *3% Growth in renewables capacity of ~1000MW did not lead to a growth in renewables generation*
- *Less sun and wind resulted in a 17% decrease in renewables generation*
- *Gas use increased in 2021 (+19%)*

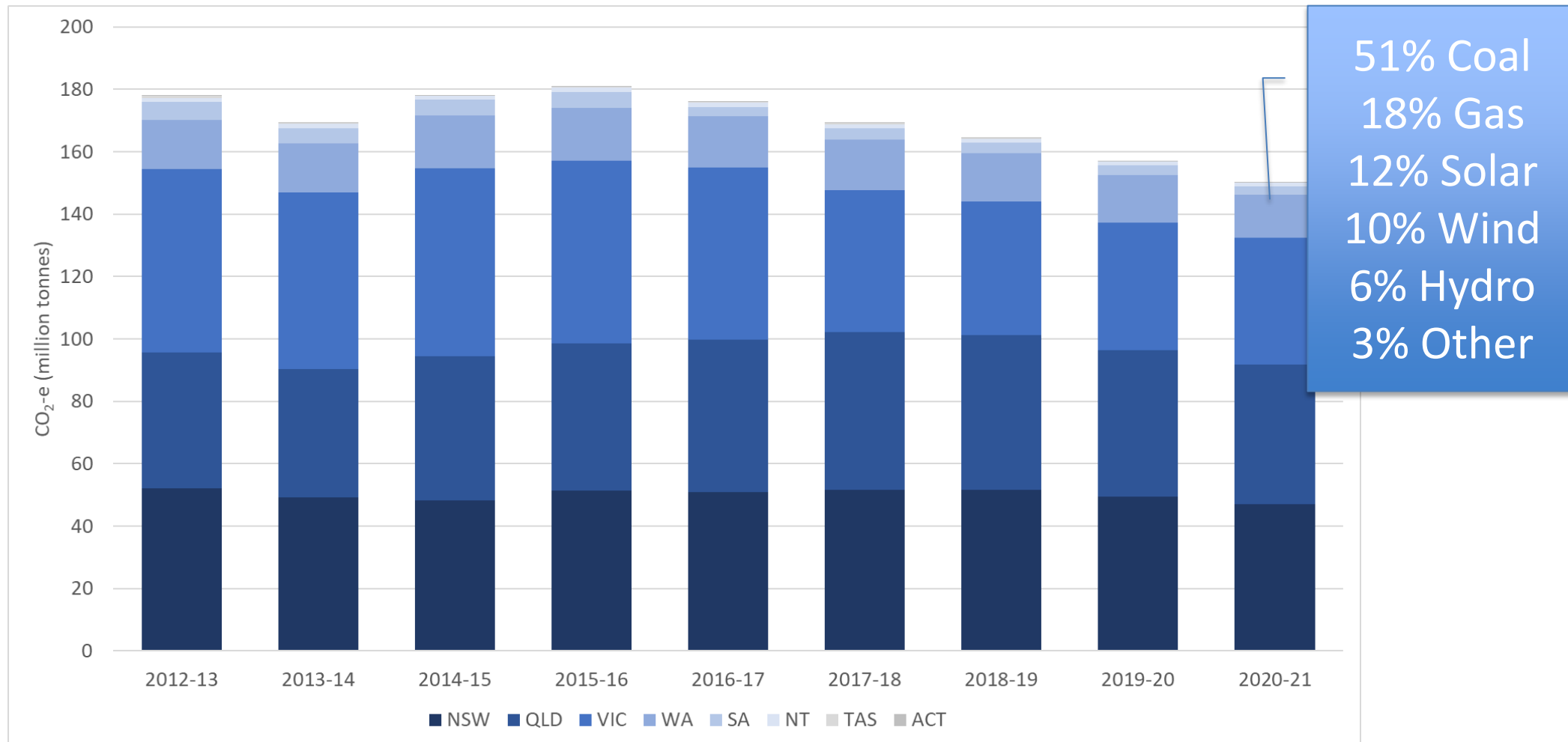
Annual CO₂ emissions from UK Power Stations



Australia has not switched from coal...yet

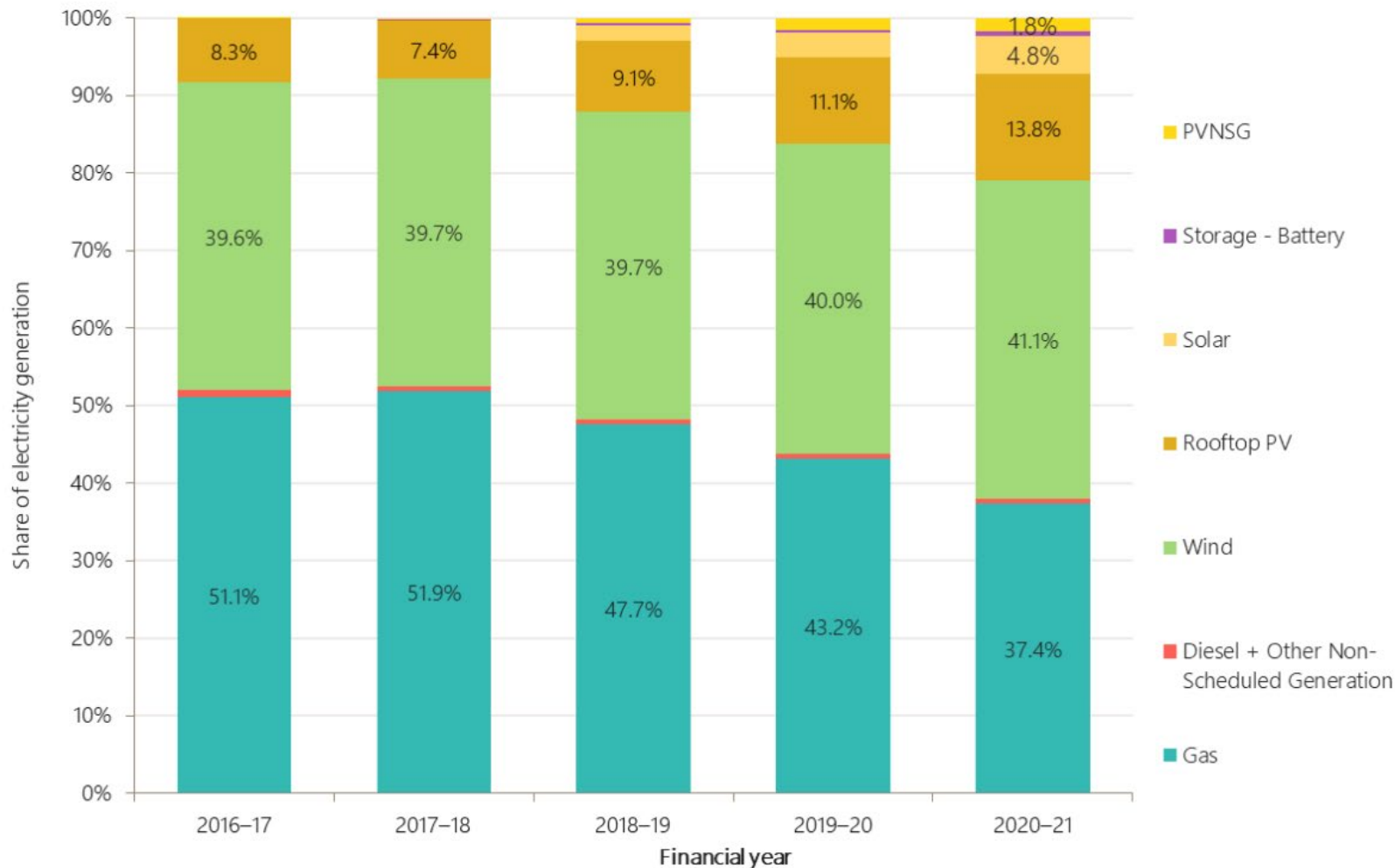


Australian emissions have not reduced as much due to our continuing reliance on coal



South Australia's renewables success also depends on gas

SA experience shows that gas is also required to enable the penetration of renewables, batteries do not provide firming capacity



Source AEMO SA Electricity Report 2020
PVNSG = 100kW-30MW "non-scheduled generation")

Daily and seasonal supply volatility

Reducing gas use is not the same as reducing gas capacity....

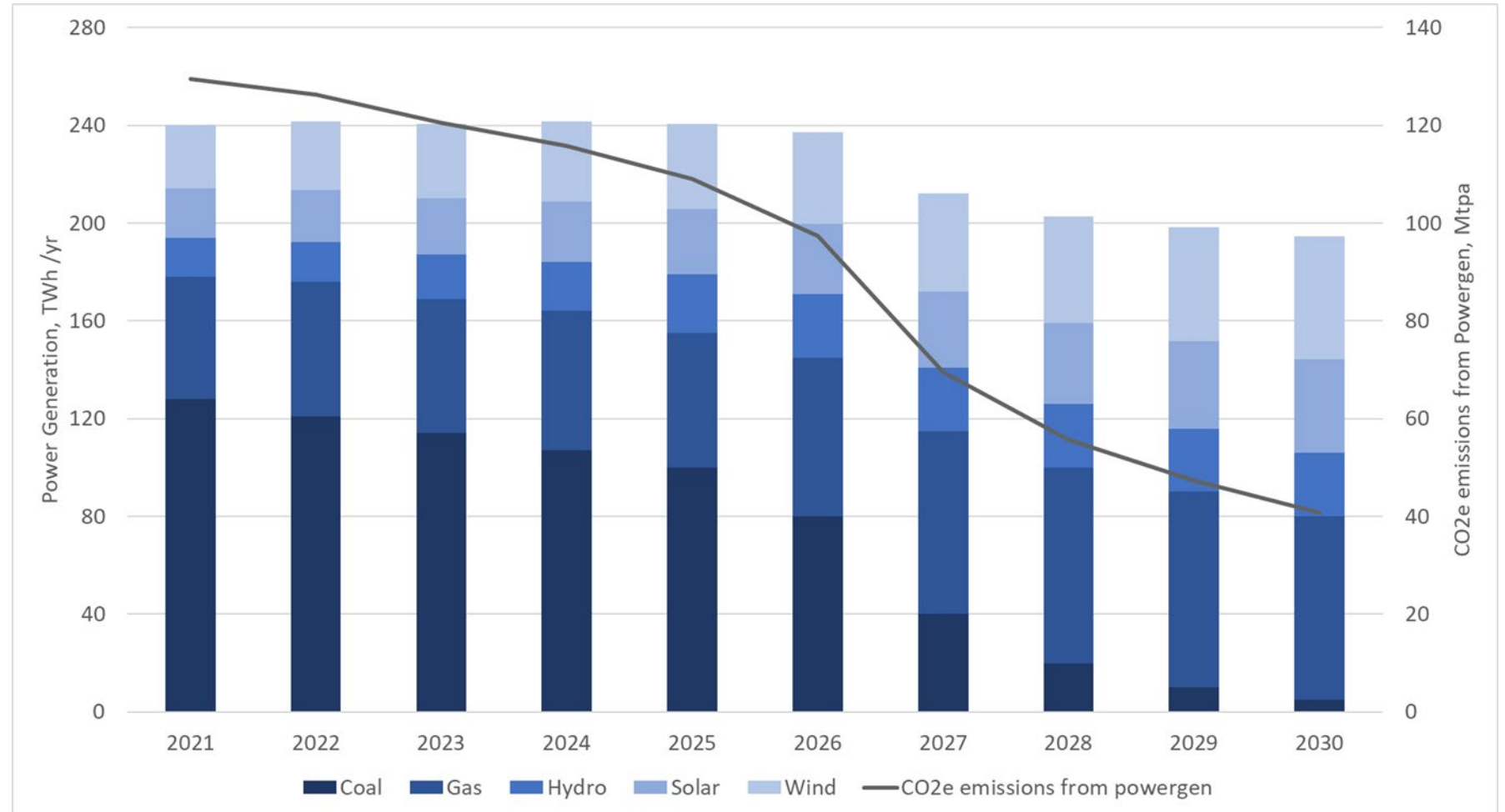


What if...

Australia follows a similar path to the UK

Requires commitments to:

- Reduce reliance on Coal
- Reduce demand
- Improved energy efficiency
- Acceptance that gas use may increase until a viable alternative can be found.





www.riscadvisory.com

Perth

Level 2
1138 Hay Street
WEST PERTH WA 6005
P. +61 8 9420 6660
E. admin@riscadvisory.com

Brisbane

Level 10
95 North Quay
BRISBANE QLD 4000
P. +61 7 3025 3397
E. admin@riscadvisory.com

London

20 St Dunstan's Hill
LONDON EC3R 8HL
United Kingdom
P. +44 203 795 2900
E. admin@riscadvisory.com

South East Asia

Jakarta
Indonesia
P. +61 8 9420 6660
E. admin@riscadvisory.com