CROW Newsletter

Making a noise about climate change
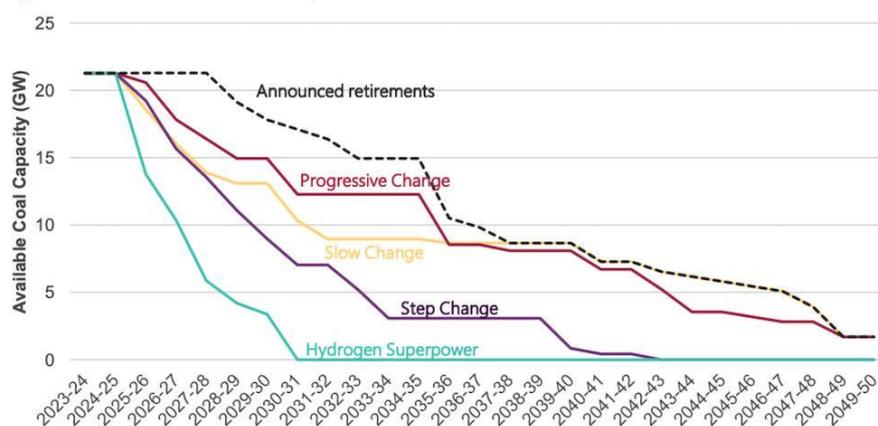
December, 2021

The good news newsletter

AEMO: Goodbye coal, and don't let the wind turbine blades hit you on the way out

Australia's coal-fired power plants are likely to shut at almost triple the pace currently announced, with Victoria's brown coal fleet to be closed in just over a decade and the main electricity grid becoming coal-free by 2043, according to the market operator.

The Australian Electricity Marketing Organisation's draft Integrated System Plan 2022, an industry blueprint updated every two years and released on Friday anticipates a nine-fold increase in large-scale renewable energy, such as wind and solar farms, as electricity supplies double to meet the decarbonisation of transport and other sectors without coal.

But let's keep pushing for the bottom line in the AEMO graph below – Hydrogen Superpower – where coal is gone by 2032.

Figure 18   Forecast coal retirements, all scenarios versus announced retirements

So, what does the AEMO think will replace all that coal power?

In its place will be vast amounts of large scale wind and solar, a trebling of rooftop solar PV installations, huge amounts of storage and new transmission links criss-crossing the countryside.

And the pace of growth will continue to accelerate over the coming decades. By 2050, a phenomenal 255GW of wind and 300GW of solar will be required to support the electrification of transport, households, and industry, and an anticipated boom in green hydrogen and green ammonia exports and consumption.

It is a wild prediction. In the exhaustive 18-months of consultations conducted by AEMO, **nearly one in five of the energy experts consulted – as recently as November – thought this would be the most likely scenario.**

Twelve months later Victoria has Australia's biggest battery

The Victorian Big Battery, the biggest battery storage installation in Australia, and one of the biggest in the world, has been officially opened and is now operating at full capacity, just 12 months after being awarded its landmark contract.

And another coal plant bites the dust

Explosive engineers have demolished two giant chimney stacks and a boiler at a defunct coal-fired power station west of Sydney as part of efforts to transform the site.

The 175-metre chimneys at Wallerawang have loomed large for residents of Lithgow, a town on the western edge of the Blue Mountains that is home to two coal-fired plants and coalmines.

Senate clears way for offshore wind farms

Landmark federal government legislation that will allow offshore wind farms to be built in Australian waters for the first time – and clear the way for massive renewable export projects like Sun Cable's in the Northern Territory – has successfully passed through the Senate.

The Offshore Electricity Infrastructure bill was introduced to Parliament by federal energy minister Angus Taylor in September of this year, following years of campaigning by green groups, state governments and developers keen to tap the world class renewable resource identified off Australia's coastlines.

Household power bills to fall by about $77 a year

The advance of renewable energy across Australia is driving down household electricity bills, and will result in average savings of about $77 a year by 2024.

Queensland is projected to lead the way among the states in the National Electricity Market, with a typical household's bill to drop by 10%, or close to double the national average fall of 5.7%. That will cut the typical Queensland residential bill from $1,226 in 2020-21 to $1,100 by 2023-24.

Let's go for 3000% renewables. You know you want to.

Australia could become a leading global supplier of green energy and green metals, producing as much as 3,000 per cent renewable electricity to power the production in new green export industries, leading energy experts say.

Professor Ken Baldwin, says that a vision of Australia as a global supplier of green energy and green metals, like steel and aluminium, could see Australia produce as much a 3,000 per cent of its electricity consumption from renewable energy sources.

Cheap heat beneath our feet

About 650 metres beneath the Latrobe Valley, the heart of Victoria's coal country, lies a little-known, naturally hot 65℃ pool of water in an enormous aquifer.

This aquifer is a source of geothermal energy – a renewable source of heat or electricity that is, so far, being used to heat an aquatic centre in the town of Traralgon. They chose it – over natural gas, coal-fired power or even emissions-free solar and wind – because geothermal energy is now the cheapest option for heating.

AGL, Fortescue to turn Hunter coal plants into Hydrogen hub

Australia's biggest polluter AGL Energy has struck a deal with iron ore billionaire and green hydrogen evangelist Andrew Forrest to turn its Hunter Valley coal fired power stations into a major renewable hydrogen and industrial hub.

The vision shared by AGL and Forrest's Fortescue Future Industries is to power the "Hunter Energy Hub" with wind, pumped hydro, solar thermal storage, and grid scale batteries, and to attract industry to the facility.

New Australian batteries may last three times longer, charge 60 times faster than Li-ion.

Brisbane-based Graphene Manufacturing Group (GMG) has announced impressive initial performance test results for its graphene aluminium-ion batteries. The hew batteries use technology developed at The University of Queensland (UQ).

So far the graphene aluminium-ion battery energy storage technology has shown high energy densities and higher power densities compared to current leading marketplace lithium-ion battery technology – which means it will give longer battery life (up to 3 times) and charge much faster (up to 60 times).

SA, already a world leader, pushes ahead with its renewable economy

(H/T Grant Adams)
A $750 million hydrogen facility is planned for Port Pirie after a deal was struck between the Marshall government and Trafigura, a commodities trading company that also owns Nyrstar.

The electrolyser would use the state's wind and solar energy to split water, either from a desalination plant or from the smelter's treated wastewater, into oxygen and hydrogen. The oxygen will supply Nyrstar's smelting operations, while the hydrogen will be sold by Trafigura to domestic transport and heavy industries or converted into ammonia for international export.

Winds of change – Cory Bernardi's replacement in the LNP backs carbon pricing

A member of the Morrison government has unleashed a stunning demand for a proper national carbon pricing mechanism that will force "polluters to pay" alongside compensation for low-income families to deal with transition costs.

In a speech to a group of fund managers, chief executives and students in South Australia last week, Senator Andrew McLachlan surgically undermined the Prime Minister's "technology-not taxes" approach to climate policy even as he applauded Scott Morrison's 2050 net zero target.

EV's are on their way in Australia

Recent Grattan Ihstiture research has found that most car-owning households will be able to charge their cars in their garage or driveway. Electric vehicles are also getting more attractive as purchase costs fall and battery range rises.

Surveys have found 56% of Australians would consider going electric with their next car purchase, while the share of consumers who would not purchase an electric car is declining quickly.

ARENA investigates Bioenergy

Bioenergy could contribute as much as $10 billion per year to the Australian economy by the 2030s, according to a Government roadmap. Australia's Bioenergy Roadmap outlines how 26,000 new jobs could be created in the bioenergy sector, with many of them located in regional areas

Bioenergy is a form of renewable energy generated from the conversion of biomass into heat, electricity, biogas and liquid fuels. Biomass feedstocks include a wide range of natural materials, including agricultural crops, sewage or landfill.