As the crow flies

(Straight to the point)

September, 2020

CROW News

Tolland community development plan
CROW submitted ideas to the NSW Government Land and Housing Corporation concerning ways to ensure that this community development plan would result in a sustainable and healthy environment. We have received this response from Craig Smith, Program Director, South West Sydney & Southern NSW:
Evaluation of the returned submissions will commence shortly, with an outcome to the process to be communicated by the end of this year. I appreciate the suggestions developed by the Climate Rescue of Wagga and can advise that they will be duly considered as part of our engagement with the local community, once the Project is underway.

We have also received acknowledgement or our submission and support from our local member, Dr Joe McGirr which says in part:
I support your suggestions and I have written to the Minister for Water, Property and Housing, the Hon Melinda Pavey MP, endorsing your proposal and seeking advice on what measures are currently being included in the scope of the project to ensure aspects of energy efficiency and carbon reduction methods are incorporated into the renewal.

National Community Energy Plan
CROW also put a submission to Community Energy Plan being led by Helen Haynes in the Federal Parliament.
From Helen Haynes
SAVE THE DATE: LAUNCH OF COMMUNITY ENERGY PLAN 23 SEPTEMBER
First of all, I want to thank you whole-heatedly for your submission to our community co-design for a national community energy policy. I'm contacting you with a quick update on where we are at with this and a 'save the date' request for your diary. We had a total of 100 submissions to the co-design, from every State in the country – just a fantastic effort from you all. You can read them all here.
We will send the registration details through to you in the next few weeks.

Local Community Development
Finally CROW has approached Michael McCormack's office concerning the future development of the Riverina electorate, and regional areas more generally, and hopes to organise a discussion with members of his team soon

TECHNOLOGY

Back to the future – wind powered cargo carrying boats

The Oceanbird, capable of carrying 6,000 vehicles, has been created by Swedish maritime engineers.
"The wind is back," the Swedish consortium stated. Further details of the new ship design, which features sails that are 100 m high, were unveiled this week. The vessels will not travel as fast as today's car carriers. Instead of taking seven or eight days to cross the Atlantic, the wind-powered vessels are expected to need up to 12 days.

… and, just by way of contrast, we have this 0.5 km long big orange elephant.

Shell's massive floating LNG factory off the Kimberley coast has been in shutdown since February and industry analysts are divided on whether the $12-17 billion facility has a future.

Prelude FLNG is the largest floating object ever built and billed as the solution to getting gas out of Australia's most remote undersea gas fields.

With five times the steel of the Sydney Harbour Bridge and half a kilometre long, it certainly is big.

But as it sits idle 400 kilometres north of Broome, it risks becoming the world's biggest white elephant.

Riverina Water solar battery project

(From the Daily Advertiser)

UP to 200 jobs will soon be created in Wagga as part of a solar farm and battery project valued at more than $20 million.

The five megawatt farm is expected to run the Hammond Avenue plant of Riverina Water, potentially saving the company at least a million dollars on its yearly $3.5 million electricity bill.

Planning ad design are expected to be completed by the end of June next year, with construction – where the bulk of the jovs will be created – to begin soon after.

Director of Engineering for Riverina Water, Bede Spannagle said, “In terms of ongoing jobs we are trying to make 8t as automated as possible, but there will probably be about five to 10 jobs when it is finished.”

Remember September 7, 2020. Renewables hit 50%

It’s the season of new records, and the most notable one in a week of new milestones in Australia’s main electricity grids is a new peak for renewable energy share in the National Electricity Market: It reached 50.4 per cent at 10.55am on Monday.

It also likely the first time that the combined output of wind and solar was more than that of black and brown coal, traditionally the dirty bed-rock’s of Australia’s electricity supply.

Rooftop solar provided 24.6 per cent of supply at 10.55am, utility scale solar 10.1 per cent and wind energy 13.5 per cent. Together, they totalled 48.2 per cent, and the percentages might have been higher had not some wind and solar farms decided to switch off to duck negative pricing events.

Here’s a smart Australian idea – recycling coal fired power stations using fancy Lego blocks

The University of Newcastle has patented a thermal storage material that is set to be commercialised and used as an alternative energy source for coal-fired power stations.

Energy generated by renewables can be stored in blocks cheaply and safely as thermal energy, which can then be used as an alternative to burning coal for steam turbines and power stations.

The 20-centimetre-long, 16-centimetre-high miscibility gaps alloy (MGA) blocks are stackable and can be retrofitted to retired and existing power plants, which could effectively power up old coal-fired power stations.

“We’re aiming to bridge the gap between cheap and abundant renewable energy, which is generated in peaks, and the ability to store and dispatch energy at any time of day or night, to meet consumer needs,” University of Newcastle materials scientist and lead researcher Erich Kisi said.

You can find a more detailed description of this fascinating ideas HERE.

More from Newcastle Uni – flexible, printable solar cells

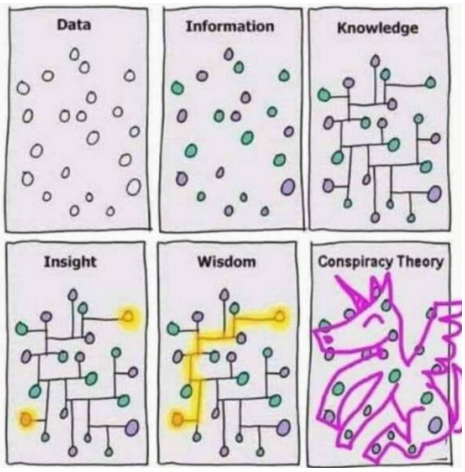
The University of Newcastle has developed flexible, printable solar panels and they have received their first real-world installation, after being integrated into new shade structures as part of a new public space developed by the Lane Cove Council.

The Canopy features rainwater capture, a green wall and electric vehicle charging stations, and will become one of the world’s first public deployments of the printable solar cells.

Paul Dastoor from the university's faculty of science says that a real-world deployment of the technology would help accelerate commercialisation, allowing for the performance and long-term durability of the panels to be tested.

SCIENCE

Diagram of the day

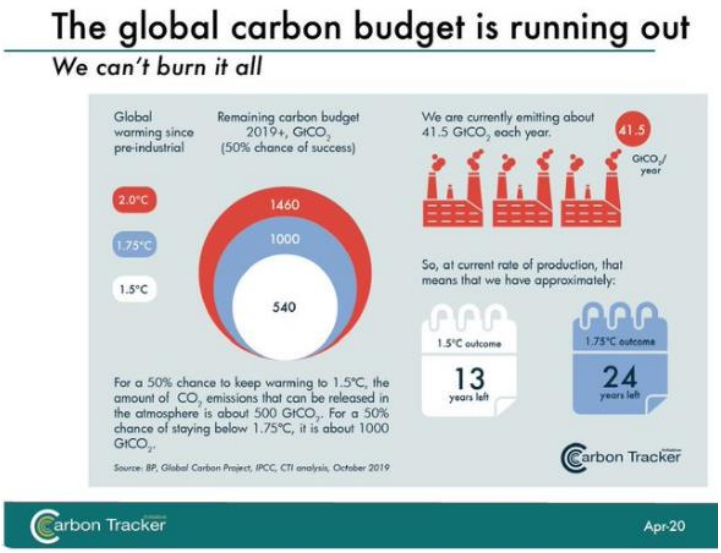


I don't know if this diagram applies more to climate science deniers, anti-vaxers or COVIDIOTS.

In any case, it illustrates perfectly the ability of conspiracy theorists to start with randomly collected data points, totally ignore the path to wisdom and end up with a delusional dragon.

(The diagram comes from some anonymous genius on Twitter).

Another diagram – but this one is serious



If we want to keep temperature increase to 1.5°C we have 13 years left at our current rate of usage.

If we are happy about 1.75 its 24 years. That would be a bigger disaster.

We should have been serious about decarbonisastion in the 1980's. Now the onlyh road to a reasonable environm,ent has to be tough and disruptive.

Yes, the *Australian*, global heating was a major cause of the Black Summer bushfires. Pyromaniacs not so much (about 0.1%)

This report (behind a paywall) from Toni Bashan in the Australian newspaper, presumably through gritted teeth.

A highly anticipated inquiry report into the Black Summer bushfires has concluded that catastrophic conditions were caused in large part by climate change and greenhouse gas emissions, but factors such as dry fuel loads were also significant in contributing to the infernos.

Mental health and well-being matters also featured prominently in the inquiry report, as did hazard reduction burning, which are set to be conducted closer to homes and at-risk communities.

Further research into climate patterns, technological innovation and the use of grazing in national parks also formed part of the recommendations and findings.

Led by former NSW police deputy commissioner Dave Owens and former chief scientist Mary O'Kane, the inquiry distilled the fires' causes to a range of prominent factors. Among these were the extreme dryness of some forested regions, the over-stretched resources of the NSW Rural Fire Service, and the inability of firefighters to reach ignition sources quickly enough in some remote locations.

Climate change was also singled out early in the report.
"It is clear we should expect fire seasons like 2019-20 or potentially worse, to happen again," the report noted. "Climate change as a result of increased greenhouse gas emissions clearly played a role in conditions that led up to the fires and in the unrelenting conditions that supported the fires to spread, but climate change does not explain everything that happened."
While NSW, like the rest of the country, is technically in winter, the fire season has begun for 2020. Several local government areas are on alert, and funding measures have been brought forward to mobilise hazard reduction efforts.

Learning from the past could save biodiversity

Palaeo-archives are giving scientists new insights into how warming climates affected different species and biodiversity in the past, which they hope will inform future conservation strategies.
They have found that during ancient warming events species and biomes shifted their ranges hundreds to thousands of kilometres, altering the composition of communities and impacting critical ecosystem functions that humans rely on.
The hippopotamus (*Hippopotamus amphibius*), for example, relocated as far north as the UK during the last interglacial, when global temperatures were as least as warm as today, and giant tortoises (*Hesperotestudo crassiscutata*) used to roam the US Midwest, which now experiences severe frosts.
"Climate change has the potential to disrupt all facets of biodiversity, ranging from the gene to the ecosystem," says Damien Fordham from Australia's University of Adelaide, lead author of the study published in the journal *Science*.
With new tools to explore late Quaternary paleo-records, periodic rapidly warming climates over the past 130,000 years provide a "natural laboratory" that can give us an idea of what to expect, he adds.
"These abrupt warming events caused massive alternations in species distributions, abundances and genetic erosion, radically changing the structure and function of ecosystems, affecting services such as nutrient cycling, primary productivity and fire regimes.
"This provides the clearest picture yet of the wide-scale disruption that forecast rates of human-induced warming will have on biodiversity and the goods and services it provides to humanity."
Their research shows how some species can become extinct if they can't move fast enough to keep up with rapid climate changes.

MONEY

Oil on the way out – Exxon gets booted from Dow Jones rich list.

Exxon Mobil's demotion from the Dow Jones Industrial Average after nearly a century is being celebrated by environmentalists as a harbinger of the fossil fuel industry's demise.
The oil behemoth was the longest-running member of the blue-chip stock market index after being added in 1928 when it was still called Standard Oil of New Jersey. In 2013, Exxon was the most valuable company on earth, valued at around $418billion.

Oops, there goes our third biggest coal market

South Korea will shut down 30 additional coal power plants by 2034 in line with the country's ambition to cut greenhouse gas emissions and promote eco-friendly energy sources, President Moon Jae-in announced Monday.
In a speech delivered virtually for the first International Day for Clean Air for blue skies, the president said his administration plans to close 10 existing coal power plants by the end of 2022 and another 20 by 2034.
At the same time, the country will more than triple the number of solar and wind power facilities by 2025 compared with last year. Korea will also work to boost the number of electric cars to 1.13 million from the current 110,000 and increase the number of hydrogen vehicles from 8,000 to 200,000.

Adani backs renewables! Who knew?

Figures published by analysts Mercom Capital Group show that India's Adani Group – the owners of the highly controversial coal project in Queensland's Galilee Basin – is now the world's leading solar power generation asset owner in terms of operating and off-taker contracted solar projects.

Adani's renewable energy portfolio measures in at 12.32GW – exceeding the total installed capacity of US solar in 2019 and displacing over 1.4 billion tonnes of CO2 over the lifetime of its current assets, according to Mercom.

Gautam Adani, chairman of the Adani Group, seized on the data to say it reflected his company's commitment to a "clean-powered" future, notwithstanding its insistence on developing the Adani mine in Queensland.

"While we are pleased to be ranked the largest solar player in the world, we recognize that there is a lot more that remains for us to do as the world transitions into an increasingly decarbonized energy landscape," he said in a statement.

POLITICS AND POLICY

Big battery build out planned for NSW

NSW has awarded the first contracts to build massive batteries for its power grid as it moves to roll out at least 15 such projects across the state.

Minister for Energy and Environment, Matt Kean, told *AFR Weekend* the state government will spend $37.5 million, and bring in $233 million in private investment, to install two large conventional batteries, a gas hybrid battery and a "virtual power plant" across regional NSW.

The virtual power plant will link up 650 residential and small business batteries.

Together they will produce up to 170 megawatts of dispatchable, or on demand, energy. The Tesla "big battery" installed at the Hornsdale Power Reserve in South Australia at the end of 2017 produces 100 megawatts and is being upgraded to 150.

The new projects will all be completed between 2021 and 2023, according to Mr Kean, and will support 260 jobs.

The bad news on carbon pollution – big business gets a free pass.

Only 1.2% of the greenhouse gas emissions released by Australia's top 65 emitting companies had to be offset under federal and state laws last financial year, an analysis has found.

The analysis by Footprint, a sustainability news site, examined both regulatory constraints imposed on businesses with emissions greater than 1m tonnes and any voluntary offsetting commitments they made.

Combined, the 65 businesses emitted 352.7m tonnes – about two-thirds of Australia's total greenhouse output. The analysis examined operational emissions only, and did not consider "scope 3" emissions that result from the products the businesses sell.

The federal government's safeguard mechanism policy was promised to limit emissions from major industrial facilities, in part by requiring them to offset carbon dioxide above a baseline. States and territories can also require companies to offset emissions through environmental approvals and licences.

However, the analysis shows that both levels of governments have opted not to exercise these legislative powers. No state or territory government has imposed a carbon offset condition for more than a decade and there are only two state-imposed legacy offset conditions in place.

… and the (sort of) good news – this year's pollution is down. Thanks COVID

Coronavirus restrictions have caused Australia's greenhouse gas emissions to fall to their lowest level since 1998, the latest official data suggests.

National emissions in the June quarter 2020 were estimated to be 8% – or about 10m tonnes of carbon dioxide – lower than a year earlier.

The energy and emissions reduction minister, Angus Taylor, said the reductions in preliminary data to June had been caused by "unsustainable restrictions on Australians' livelihoods and freedom to travel", including a 79% reduction in emissions caused by jet fuel.