



As the crow flies

(Straight to the point)

January, 2020

December's newsletter, focussing on good news, almost seems like it was in bad taste given the devastation that has continued and increased since.

This newsletter necessarily starts the New Year on a more sombre note. There is little to celebrate and much in the news of Australia's fires that tears at the heart

So let's start with something controversial.

IN THE PRESS

Is "omnicide" the word for the Twenties?

During these first days of the third decade of the twenty-first century, as we watch humans, animals, trees, insects, fungi, ecosystems, forests, rivers (and on and on) being killed, we find ourselves without a word to name what is happening. True, in recent years, environmentalists have coined the term *ecocide*, the killing of ecosystems — but this is something more. This is the killing of everything. *Omnicide*.

Some will object, no doubt, that this does not count as a "cide" — a murder or killing — but is rather a natural phenomenon, albeit an unspeakably regrettable one. Where is the murderous intent? Difficult to locate, admittedly, but a new crime also requires a new understanding of *culpability*. Indeed, one of the most serious problems with the laws against genocide is that they were written in a way that requires that the specific intent to destroy a people can be shown to have existed. Even where it did exist, such intent most often remains hidden in people's dark hearts.

This time, though, we need to go much further. We need to understand that the responsibility for omnicide is various and layered. The role that those responsible play this time is almost always less direct, but its effect no less devastating. We are unlikely to identify anyone actively scheming the death of the five-hundred million wild animals whom we believe to have died in the first month of [this summer's Australian bushfires](#).

Before and after the fires – photos from space.

[Click through to this article. The photos are astounding and disturbing – and things are worse since these shots were taken.](#)

Editor's note: We pulled four before-and-after-images from [NASA's Worldview application](#), and asked bushfire researcher Grant Williamson to reflect on the story they tell. Here's what he told us:

I've been studying fires for more than a decade. I use satellite data to try to understand the global and regional patterns in fire – what drives it and how it will shift in the future as our climate and land use patterns change.

When I look at these images I think: this is a crisis we have seen coming for years. It's something I have been watching unfold.

Look at the sheer scale of it. Seeing this much fire in the landscape in such a broad area, seeing so much severe fire at once, this quantity and concentration of smoke – it is astonishing. I haven't seen it like this before.

How do animals survive a fire?

Have you ever wondered how our native wildlife manage to stay alive when an inferno is ripping through their homes, and afterwards when there is little to eat and nowhere to hide? The answer is adaptation and old-fashioned ingenuity.

Australia's bushfire season is far from over, and the cost to wildlife has been epic. A [sobering estimate](#) has put the number of animals killed across eastern Australia at 480 million - and that's a conservative figure.

But let's look at some uplifting facts: how animals survive, and what challenges they overcome in the days and weeks after a fire.

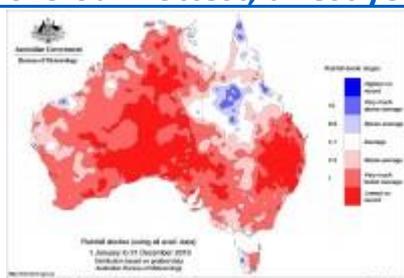
Fire fighter and koala – photoshopped? I don't know, but a powerful image all the same.



Maybe this photo of a fire fighter and a koala watching on inferno will become a symbol of the onset of the our new climate.

SCIENCE

BOM: [2019 our hottest, driest year](#)



The Bureau of Meteorology has released its [2019 Annual Climate Statement](#), showing 2019 was both the warmest and driest year on record for Australia.

The Annual Climate Statement is the Bureau's official summary of the previous year and includes information on temperature, rainfall and significant weather.

Australia's average mean temperature in 2019 was 1.52 °C above average, making it the warmest on record since consistent national temperature records began in 1910 and surpassing the previous record in 2013 of 1.33 °C above average.

Meanwhile the national average rainfall total in 2019 was 277 mm, the lowest since consistent national records began in 1900. The previous record low was 314 mm set during the Federation drought in 1902.

Bureau of Meteorology head of climate monitoring Dr Karl Braganza said the record warm and dry year was one of the key factors influencing [recent and current fire conditions](#) in large parts of the country.

"2019 was consistently warm, but it was book-ended by periods of extreme heat," Dr Braganza said.

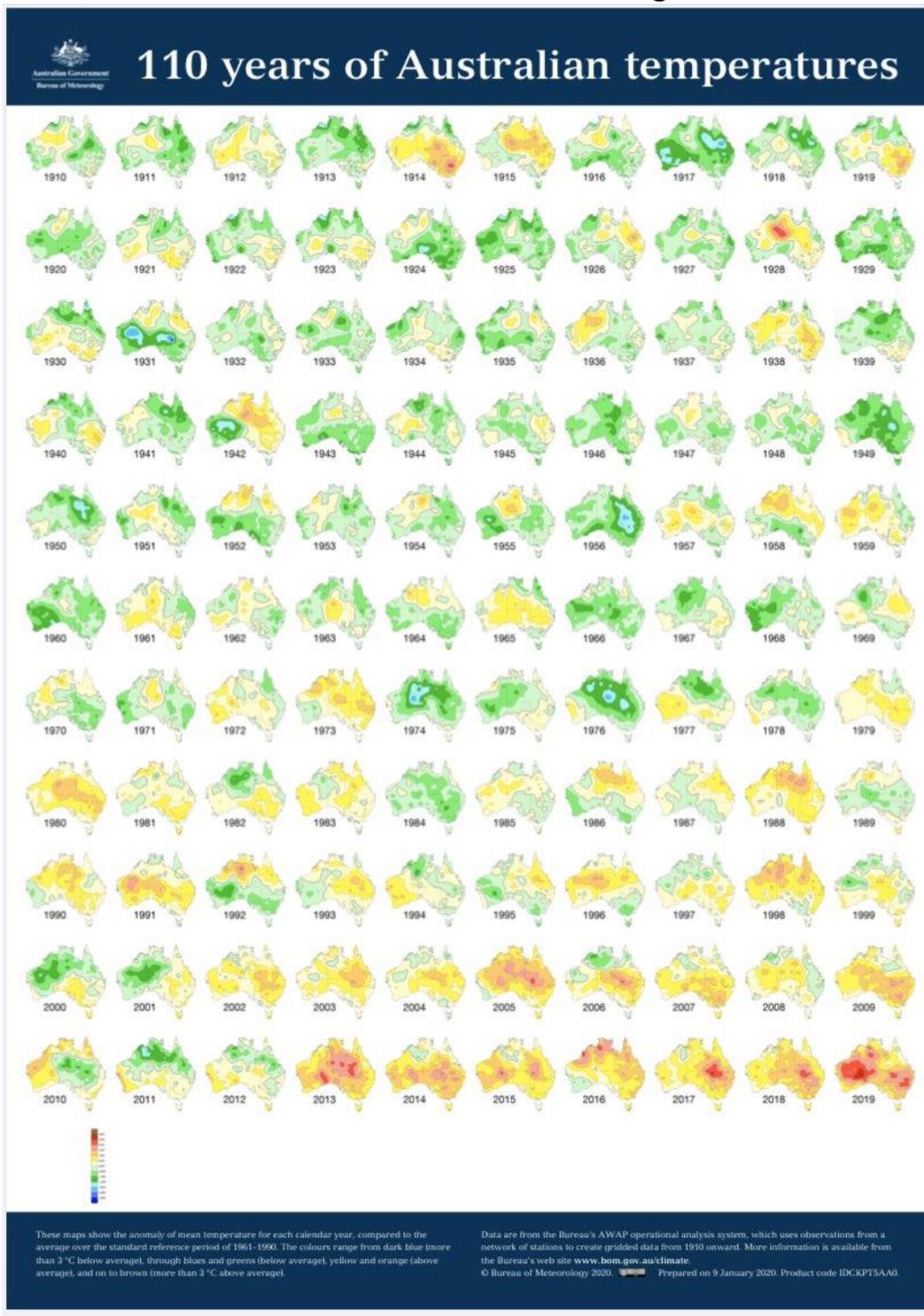
"[January last year](#) was the warmest month Australia has ever recorded, while just a few weeks ago in December, we saw the Australia-wide record hottest daily average maximum temperature broken multiple days in a row.

Are 'locked up' National Parks helping bush fires?

[Spoiler alert: NO. But do click on to the full story.](#)

As disastrous bushfires continue to grip much of the country, causing loss of lives and homes, claims persist that not enough has been done to manage bushland to mitigate fire risk. One frequent claim is that the "locking up" of national parks has somehow contributed to the increased bushfire risk this season, rather than prolonged dry and hot weather and the influence of climate change.

Blue is cooler, red is hotter than the 1960 – 1990 average.



The latest science is alarming – even for experts

(A bit technical, but worth a read)

One common metric used to investigate the effects of global warming is known as “equilibrium climate sensitivity”, defined as the full amount of global surface warming that will eventually occur in response to a doubling of atmospheric CO₂ concentrations compared to pre-industrial times. It’s sometimes referred to as the holy grail of climate science because it helps quantify the specific risks posed to human society as the planet continues to warm.

We know that CO₂ concentrations have risen from pre-industrial levels of 280 parts per million (ppm) to approximately 410 ppm today, the highest recorded in at least three million years. Without major mitigation efforts, we are likely to reach 560 ppm by around 2060.

When the IPCC’s fifth assessment report was published in 2013, it estimated that such a doubling of CO₂ was likely to produce warming within the range of 1.5 to 4.5°C as the Earth reaches a new equilibrium. However, preliminary estimates calculated from the latest global climate models (being used in the current IPCC assessment, due out in 2021) are far higher than with the previous generation of models. Early reports are predicting that a doubling of CO₂ may in fact produce between 2.8 and 5.8°C of warming. Incredibly, at least eight of the latest models produced by leading research centres in the United States, the United Kingdom, Canada and France are showing climate sensitivity of 5°C or warmer.

When these results were first released at a climate modelling workshop in March this year, a flurry of panicked emails from my IPCC colleagues flooded my inbox. What if the models are right? Has the Earth already crossed some kind of tipping point? Are we experiencing abrupt climate change right now?

TECHNOLOGY

Solar potential in Australia warrants investing in electric vehicle market

Australia has great potential to capitalize on its exceptional solar resources and save people big dollars by driving growth in electric vehicles powered by residential rooftop solar and batteries, according to a report released today by the Institute for Energy Economics and Financial Analysis (IEEFA).

One fifth of households have already installed rooftop solar to reduce overly high electricity bills

We are seeing rapid change in Australia with people totally on board in adopting new energy technologies,” says IEEFA analyst Gerard Wynn.

“Australia is leading the world in rooftop solar market share, and people are looking around for the next carbon-free innovation.

In a market where electric vehicles and batteries are made more affordable, transport and fuel costs are also reduced

“THE BEAUTY OF ELECTRIC VEHICLES IS THEY CAN BE CHARGED BY A HOUSEHOLD’S ROOFTOP SOLAR PLUS BATTERY, with savings generated by on-site power generation and from avoiding the cost of constantly fuelling a conventional car.”

“At the moment, the combination of an electric vehicle with rooftop solar plus battery has a payback period of nine years, falling to 4 years in 2025, and less than 2 years in 2030,” says Wynn..

“Electric vehicles will become increasingly attractive to Australian consumers who have already demonstrated their passion for early solar adoption through more effective policies and incentives.”

“When the government introduces the right mix of incentives, people in Australia will benefit from cheap, solar-powered charging for their vehicles sooner,” says Wynn.

“Electric vehicles are cleaner, quieter, and less carbon-emitting than conventional cars.

“With rooftop solar being installed at faster rates per capita than anywhere in the world, Australia has a big opportunity to jump on the bandwagon and reduce everyday bills for Australians even further, while kicking climate goals.”

Melbourne apartment block shares rooftop PV, battery storage

A ground-breaking solar and battery microgrid system has been installed on an apartment block in the Melbourne suburb of Preston, smashing the “solar ceiling” for its tenants, and potentially millions of others who have been “locked out” of cheaper, cleaner energy.

The 70kW of solar and 54kWh of battery storage – installed by the now RACV-owned Gippsland Solar – was delivered in partnership with new-comer retailer Ovida, shared solar start-up Allume Energy, Housing Choices Australia, the Australian Energy Foundation and RMIT.

It uses the Solshare energy distribution technology pioneered by Allume, which connects the 52 apartments and allows for the rooftop generated and battery stored solar power to be shared between them.

Allume [said on LinkedIn](#) on Thursday that it was excited to launch its first installation under the Community Energy Hubs Project, in an event attended by Victorian energy minister Lily D’Ambrosio.

The state government last year [committed \\$1 million in grant funding](#) to the Community Energy Hubs project, which ultimately aims to install shared solar and battery storage systems in three multi-tenanted buildings.

POLITICS AND PLANNING

[Extracts from the NSW Government Energy Plan](#)(Click through for the whole plan)

(Compare and contrast with the Federal Government lack of detailed planning).

First, the NSW Government will support the market to deliver reliable electricity at the lowest price, while protecting the environment. **Firmed renewables** are now the most cost-competitive form of new generation and cost less than the current wholesale electricity price.

These measures are expected to reduce household bills by \$40 per year, leverage \$8 billion of private investment, mostly in regional NSW; maintain the electricity system’s reliability over the long-term; and improve environmental outcomes. This Strategy is estimated to result in 1,200 new jobs, most of which are expected to be in regional NSW

Second, the NSW Government will set an **Energy Security Target** to ensure that the State has sufficient generation capacity to cope with unexpected generator outages during periods of peak demand, such as during heat waves.

Third, the NSW Government will ensure the State has **sufficient powers** to deal with an electricity emergency, if one arises

There are more than enough proposed firm generation projects to meet and exceed the Target. However, without final investment decisions on these projects, there is a risk that they will not proceed. These projects include: • a 250MW gas peaking plant at Newcastle (AGL) • a 320MW gas peaking plant at Tallawarra (Energy Australia) • four large-scale 50MW batteries (AGL with Maoneng Group) • the 50MW Darlington Point Battery • projects funded under the Emerging Energy program.

The NSW Government has five options to enhance firm supply or reduce peak demand, if required, to meet the Energy Security Target:

1. Fast track the development of the **HumeLink interconnector** to unlock up to 1200MW of existing capacity, of which 500MW would be available during periods of peak demand, and 2000MW of new reliable capacity following the completion of Snowy 2.0
2. Accelerate a further upgrade of the **Queensland-NSW Transmission Interconnector**.
3. Use the **NSW Government’s electricity contracts** to stimulate private sector investment in firm generation
4. Expand the **Emerging Energy program**
5. **Increasing scheme targets under the Energy Security Safeguard**. These options will be assessed against the State’s objectives, including to limit financial exposure to taxpayers and consumers.

What are the government's political options following the fires?

Here is a fascinating and different take on our problems from Chris Wallace writing in *The Conversation*. The following is just an extract of his whole argument, which is well worth a read. He considers three political scenarios that are available to the Federal Government as a consequence of the public's response to the catastrophic fires. I'm attracted to his third scenario, but it requires you to have your fingers firmly crossed.

What these three scenarios look like

Everything magically changes for the better would look like this: Morrison announces the crisis has transformed his previous token admission of a link between bushfires and climate change into a revelation of the reality of global warming, with consequential policy change.

As logical and desirable as this seems, it is unlikely, not least because of Morrison's character and personal beliefs.

Everything stays the same has a powerful impetus behind it. Morrison does not want policy change any more than his likely successor in the event of leadership change, Peter Dutton. Government-friendly journalists and commentators at [News Corp](#) and [2GB](#) show no sign of changing tack either, so even if the government wanted to shift its policy, the media environment makes it difficult to do so. The forces of inertia are powerful.

Then there is the slim **hope that something different happens**. This scenario relies on all three of Australia's main political groupings – the LNP, Labor and the Greens – realising they each face their own distinct climate policy challenge and rising to it.

A possible way forward

There is an obvious point the LNP, Labor and Greens might momentarily agree upon to move policy forward. It is the ETS [proposed](#) by Liberal Prime Minister John Howard in 2007.

Howard positioned the LNP as the party Australians could trust to implement an ETS in a way that gives "firms and families" the ability to "plan for the future with confidence".

His authorship – and his framing of his ETS as an act of economic responsibility – provides a fig leaf Morrison can now use to move the LNP to a credible, sustainable and politically viable climate policy position.

"Something different" has to start somewhere. If Morrison can deploy the cunning he showed winning the 2019 election by drawing on Howard's deep well of credibility within the LNP to implement the plan himself and then inviting – daring – Labor and the Greens to back him, it would be a signal political achievement.

And if Morrison doesn't want to, Labor, the Greens, independent MPs and conscientious LNP MPs should vote together to turn Howard's ETS into law right away. With political will, "something different" can start now.