CROW Newsletter

October, 2018

The new Intergovernmental Panel on Climate Change – staying under 1.5°C

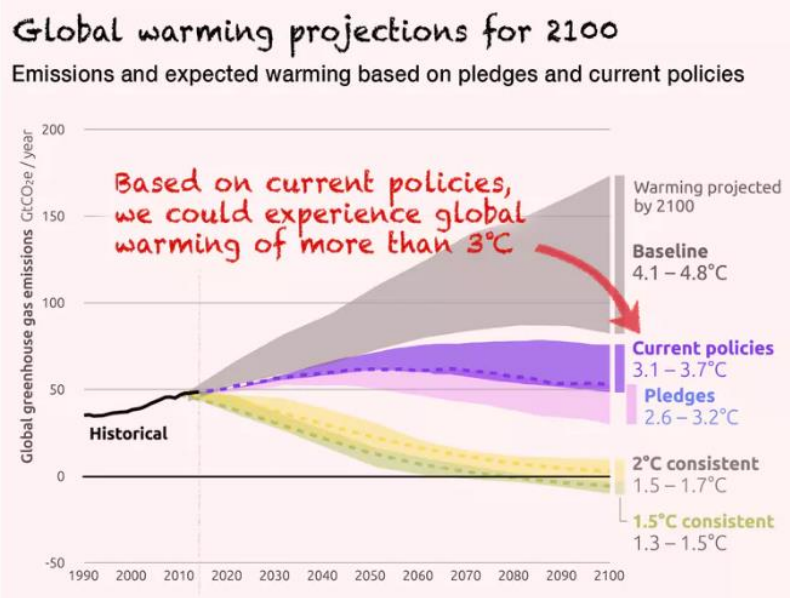
"And that's why this report is so important: because it lays out, in clear and unmistakable terms, the risks we face. Not under hypothetical scenarios that will never be realised, but under real-world targets of 1.5°C of warming and above that are still within our grasp, if we heed this urgent warning."

Katherine Hayhoe, Climate Scientist

The best in-depth analysis of the IPCC Report I can find is on the **Climate Brief** website at https://www.carbonbrief.org

It has a particularly good graphic (see further down in this newsletter) showing the differences in the consequences of a 1.5oC increase as against a 2.0oC rise in temperature.

But the basic, frightening realities are in the graph below:



How long have we got?

This is from the Open Mind blog ("Tamino"). Always a good source of accurate information.

It's already bad. But when will things get so bad that it is obviously — *obviously*— the worst problem in the world? How long until we go over the cliff?

We have already reached dangerous levels. The heat waves throughout the northern hemisphere this summer have cost plenty, to the economy, in human suffering, ill health, even lives lost. The wildfires in California this year were much worse than they would have been without global warming. Just last year we set a new record for the total cost (adjusted for inflation) of billion-dollar climate-related disasters. They cost the U.S. over $300 billion.

As bad as it is already, *extremely bad* is yet to come. Some say it'll be when total warming since pre-industrial times reaches 2°C, others say — and I agree with them, given the costs we've already seen — that we'll cross that threshhold at 1.5°C. That's the level at which the costs, both economically and in terms of human life and suffering, will threaten our ability to cope.

We can't keep burning coal

There is no scenario to keep global warming to 1.5C that allows coal to be burned for electricity by the middle of this century, a major United Nations climate report says.
The UN's Intergovernmental Panel on Climate Change (IPCC) report concludes human-caused greenhouse gas emissions have already pushed global average temperatures up by 1C since the second-half of the 19th century.
Warming is higher than the 1C average over land, with temperatures as much as three times higher in the Arctic, causing melting. Extreme temperatures, rainfall and sea levels have been pushed higher.
Massive and rapid transformations across societies will be needed to keep to a 1.5C target, with dramatic cuts to fossil fuel use across all sectors of society.

Coral reefs that provide food and livelihoods to an estimated 500 million people worldwide are particularly hard hit. Even at 1.5C, the report says there is "high confidence" that coral reefs will further decline by 70 to 90 per cent. At 2C, there was "very high confidence" that 99 per cent of all reefs will be hit.

The details of the effect on sea level rise – from the Guardian

What we know is this: the global mean sea level has risen 20cm since the beginning of the 20th century. Some of this has been owing to the water thermally expanding as the oceans have got hotter – since hotter liquids take up more volume (this is how liquid thermometers work).
Some of the rise in sea level has been due to the Greenland and Antarctic ice sheets melting, and some due to other glaciers melting. The rising sea levels are global: they affect everyone with a coastline, from tiny Pacific islands that would be entirely submerged to a huge country such as Bangladesh, for which a one-metre rise in sea levels would result in nearly a fifth of the country being submerged and 30 million people being displaced. But while rising sea levels affect everyone, the post-glacial rebound affects only the coasts connected to parts of the Earth's crust weighed down by the Greenland and Antarctic ice sheets.

Click on the title of this section for more

Say goodbye to (at least) 70% pf the world's tropical coral

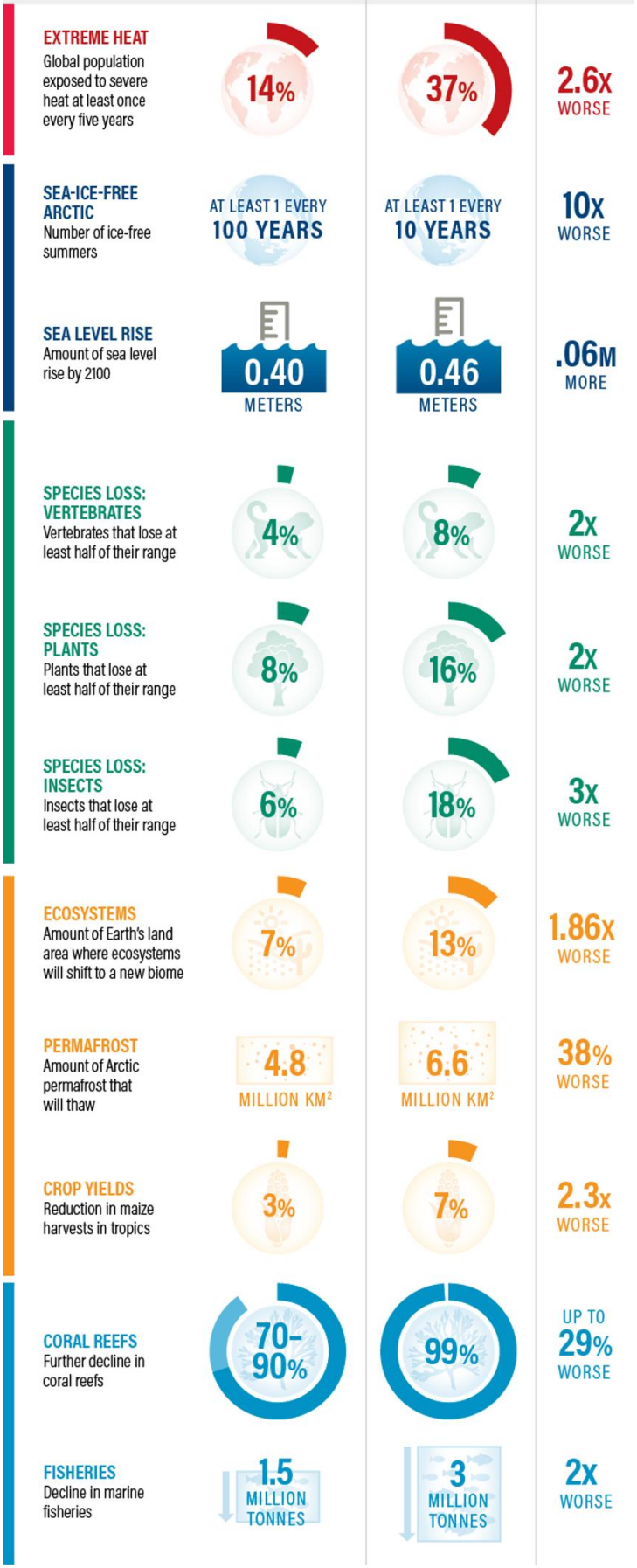
Limiting global warming to 1.5C rather than 2C would likely be the difference between the survival of some Great Barrier Reef coral and its complete decline, according to the latest United Nations assessment of climate change science.
The Intergovernmental Panel on Climate Change special report on the impact of global warming of 1.5C above pre-industrial levels, released in South Korea on Monday, found coral reefs were likely to decline between 70% and 90% if the temperature increased to that level. If global warming reaches 2C, more than 99% of coral reefs were projected to decline.
Scientists said it underlined the need for urgent global action to cut greenhouse gas emissions – including a rapid withdrawal of coal-fired electricity, a shift that would have major implications not only for Australia's power grid, but one of its largest export industries.

Next page – the difference between 1.5°C and 2.0°C

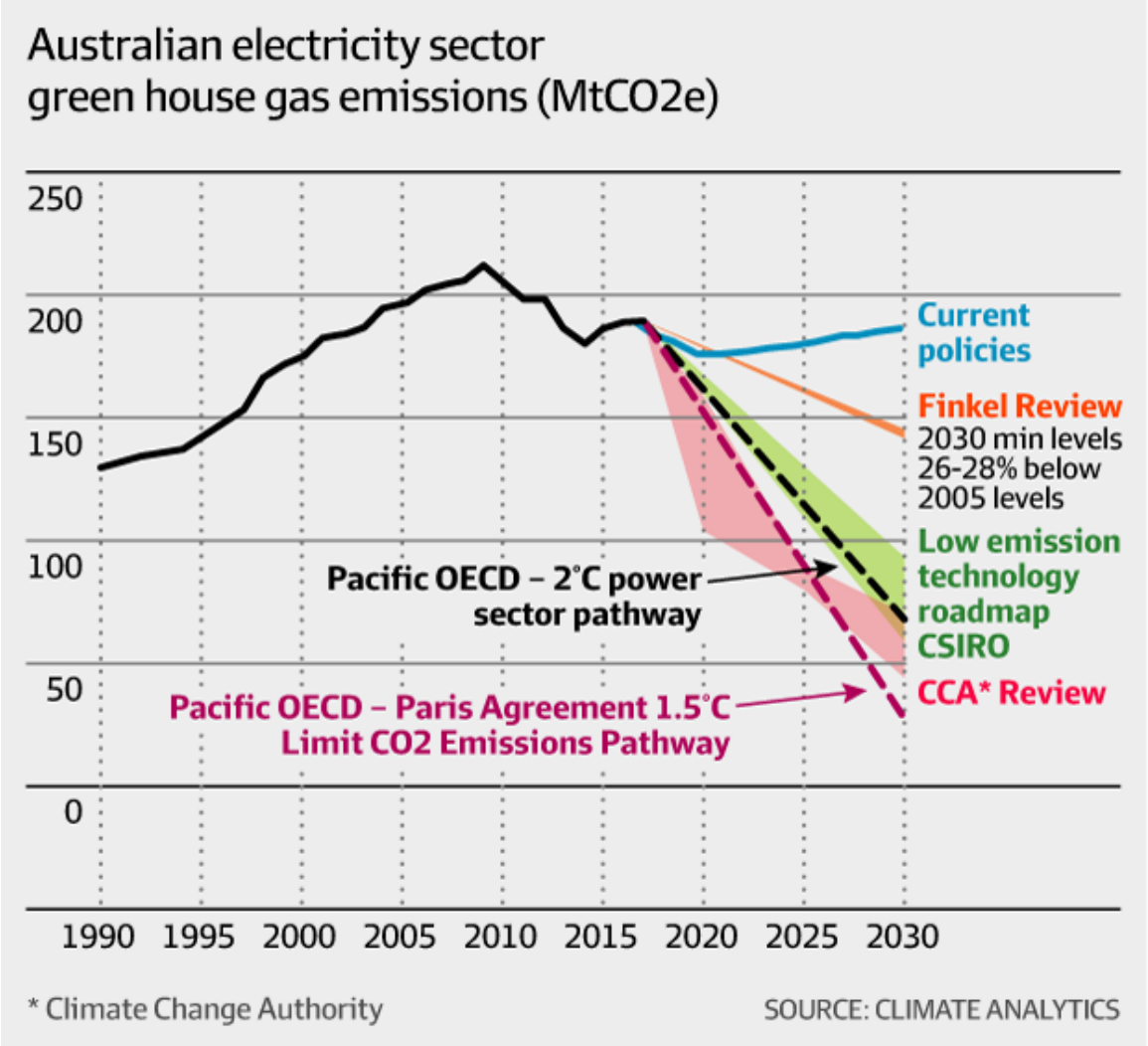
WORLD RESOURCES INSTITUTE

HALF A DEGREE OF WARMING MAKES A BIG DIFFERENCE:

EXPLAINING IPCC'S 1.5°C SPECIAL REPORT



Not in a canter 1. What Australia needs to do



(To achieve the 1.5° target) Carbon emissions would need to be reduced by 45 per cent from 2010 levels by 2030 and to around net zero by 2050. These are much more ambitious than the government's target and more in line with the policy federal Labor took to the 2016 election but is yet to confirm as 2019 election policy.

Renewable energy would supply 70-85 per cent of electricity, and gas – another strong export industry for Australia – would supply 8 per cent of electricity when coupled with carbon capture and storage (CCS). CCS has been demonstrated technically but its cost is prohibitive and no commercial rollouts on existing thermal power stations have resulted from trials conducted in the US, Canada, Australia and China.

Agriculture would be challenged by increasing competition for land for biofuels and reafforestation, which would need to be part of the global effort to reduce carbon emissions to net zero by 2050.

"Such large transitions pose profound challenges for sustainable management of the various demands on land for human settlements," the IPCC report says.

Transport would have to move from 5 per cent low emissions fuel in 2020 to 35-65 per cent - a particular challenge for Australia which lags other rich countries in electric vehicle take-up.

Not in a canter 2 – Morrison is lying

Greg Jericho writing in the Guardian:

When Barrie Cassidy asked Morrison on Insiders if he still believed we would meet our 26% reduction target “in a canter” he replied that “people choose and pick their figures to make their political arguments. We’re going to meet those in a canter our 26% target … All of the issues are pointing to that outcome so I’m comfortable with our 26%.”

So let us pause now as I choose to show the government's own figures, which reveal not only that we are not going to make the 26% target in a canter, but instead by 2030 our emissions will be about 29% above the level they need to be:
If the prime minister has some data in his back pocket that leads him to believe that "based on our assessments" Australia will meet its targets, maybe he could give those assessments to the Department of Environment and Energy so they can then publish them for all of us to see.

Not in a canter 3. This is what the Government report says.

Emissions to 2030

Total emissions in 2030 are projected to be 570 Mt CO_2-e, which is 5 per cent below 2005 levels (597 Mt CO_2-e). This is a reduction of 22 Mt CO_2-e from the estimate of 2030 total emissions published in the 2016 projections of 592 Mt CO_2-e.
Without taking account of the measures discussed above, emissions in 2030 are projected to grow by 3.5 per cent above 2020 levels. Most of the projected growth in emissions is in the transport sector, led by increased heavy vehicles activity for freight, and the agriculture sector, driven by increased stocking numbers.

(You will recall that the Australian Government report on carbon dioxide emissions was snuck out lot on the Friday before the football grand finals.)

Not in a canter 4. From the Independent Australian

For us to meet our Paris obligations the Department of Environment and Energy clearly outlines that we must reduce our emissions by at least 26% when compared to 2005 levels.
The very same department released Australia's emissions projections in the week leading up to Christmas last year which showed our
'emissions in 2030 are projected to be … 5% below 2005 levels.'
Again, the Government's own figures – sneakily released in the holidays when very few people were paying attention – show we will be nowhere near where we need to be to meet Paris.
Not in a canter. Not a stagger. Not even crawling barely over the line.
Nowhere near it.
The most recent figures, which again were released late on a Friday afternoon before a long weekend and twin NRL and AFL grand finals, found that Australia's greenhouse gas pollution levels continue to rise — by 1.3% in the year to March 2018.
So despite the data from his own Environment Department and proof that emissions are rising that is so embarrassing the Government held onto it for months, Morrison continues to insist we will meet our Paris commitment.