

90 Minute Discussion at QCT Assembly, 12 October 2019.

Ecumenical Care for Creation – with an emphasis on Climate Change

(10 minutes presentation)

Speaker 2: Where are we heading?

What are the key issues we need to face to move closer to a sustainable lifestyle? What are the potential outcomes if we don't act decisively? Who will be most affected? How bad is it really?

Climate change

The Paris Agreement signed in 2015, commits its signatories to “Holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels”¹.

But right now we're on track to hit 1.5 degrees around 2040, and over 3 degrees by 2100.

Those are just global averages. The effects will be different at different latitudes and at different distances from the sea. Let me show you some modelling for this part of Brisbane put together by the Australian Conservation Foundation.

- Back in 1960-1990 the average daily maximum in Eagle Farm was 25.6 degrees.
- (Each coloured bar represents a day's temperature, and you can see the inner ring divided into the four seasons.)
- Fast forward to 2050. If we don't stop climate change the average daily maximum in Eagle Farm is projected to be 29.1 degrees...
- ...3.5 degrees hotter.
- (Notice that the season bars have moved to show what each part of the year will feel like. It will be as if we have three months of autumn, no winter, two months of spring, two two-weeks bits of summer, and six months of “new summer” even hotter than our current one.)
- What we experience as winter will no longer exist.
- The year will be dominated by extreme heat.
- Extreme summer temperatures 2.8 degrees hotter than the 1960-1990 summer average.
- 21% less rain on average than 1960-1990.
- Up to 190 days over 30 degrees, 139 more than the 1960-1990 average.
- Up to 2 days over 40 degrees, when the 1960-1990 period averaged none.

On science and scientific evidence

Why did I say modelling rather than predictions? Because to say predictions might make it seem like these figures were plucked out of the air. But these predictions represent the best efforts of the world's best scientists in the relevant fields.

¹ <http://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf>

However, I realise that you may harbour some scepticism about these, and other, predictions. I don't have the time to take you through the science in detail - and I am a mathematician by training, not a climate scientist!

But if you are sceptical, I would ask you to carefully consider the basis for your scepticism and why it does not extend to other areas of testable science. What I mean is this: when advancements in science lead to good news and useful inventions, we are happy to accept them. Advanced medicine, high-speed telecommunications and improved weather forecasting are boons to humankind.

Could it not be that, like the ancient Israelites, we find it hard to listen to predictions that disaster will come if we don't change our ways, and we prefer to drown those predictions out with voices that tell us all will be well. If my analogy is accurate, listening to the false prophets will not go well for us!

Back to the science.

Climate predictions are among the most rigorously tested predictions in the world. The changes in the climate observed over the last 30 years fit the predictions made 30 years ago very well. They are as accurate as we can make them.

Heatwaves

Looking at the effects of global warming across the world, what can people expect?

"At 1.5 degrees Celsius warming, about 14 percent of Earth's population will be exposed to severe heatwaves at least once every five years, while at 2 degrees warming that number jumps to 37 percent. Extreme heatwaves will become widespread at 1.5 degrees Celsius warming."²

There really is a huge difference even between doing what we as a nation have committed to, and going the extra mile.

(And by the way – Australia is not meeting its emission reduction targets. The government keeps releasing the figures months late, or on a day when it thinks no-one will be paying attention, or talking about how emissions per person are falling, but the fact is: emissions overall are rising we're not doing what we agreed to.)

Sea level rise: Who will be most affected?

The poor and marginalised are always the first to be affected (because when problems hit the rich and powerful, they "somehow" get to the top of the agenda).

Climate change is a global problem, so it's the poor and marginalised nations who will be affected first. There are four nations whose territory is made up entirely of atolls: the Marshall Islands, Tuvalu, Kiribati and the Maldives. Unchecked, climate change will likely make these nations uninhabitable.

The President of Kiribati said in 2014, "For us climate change is not an event in the future. It's an event that we're dealing with now...our entire survival is at stake",³ and the foreign minister of the

² <https://climate.nasa.gov/news/2865/a-degree-of-concern-why-global-temperatures-matter/>

³ <https://www.abc.net.au/news/2014-07-11/kiribati-president-calls-for-urgent-climate-funding/5590202>

Marshall Islands has stated “Displacements of populations and destruction of cultural language and tradition is equivalent in our minds to genocide”.⁴

<sober pause>

More broadly, 2 degrees of warming equates to sea level rise of 60cm, which will affect areas very close to here. <slide>

And there’s more...

Australia’s carbon emissions break down as follows:

- Electricity and other types of energy production: 49%
- Transport: 19%
- Agriculture and land use: 15%
- Fugitive emissions (leaks from other activities such as methane from a coalmine): 11%
- Industrial processes and product use: 6%

The three highest categories – electricity, transport and agriculture – are where we need to make the biggest changes.

Preventing global warming is the most urgent environmental issue today. Other effects I haven’t had time to cover include increased fire risk, diminished crop yields, and the extinction of animals and plants which can’t travel fast enough to stay at the temperatures they prefer. But I hope I’ve given you a sense of the scale of the problem and the moral challenge it sets before us.

Thanks for your attention.

Other notes

Other issues on the horizon: Waste/recycling, Water, Peak oil/gas, peak minerals, peak nitrogen for fertiliser.

Cumulative warming effects mean this is like a mortgage – early repayments make the debt easier to pay off.

Framework/lens of prophecy

Not a population problem, but a distribution problem.

⁴ <https://www.climatechangenews.com/2015/10/05/climate-change-migration-is-genocide-says-marshall-islands-minister/>