

Talking Cents

February 2018

Talking Cents is an ecumenical group charged by the Auckland Anglican Diocesan Council to promote an alternative to current economic and political thought, and to encourage debate within the church. Ministry units are encouraged to distribute these articles. This article is contributed by Mary Betz, Catholic spiritual director and writer on ecology, justice, scripture and spirituality.

Are we facing the challenges of climate change?

Most of us watch the weather – on TV, online or by looking out the windows. Last month we saw drought in many of the country's provinces while a tropical storm in tandem with king tides brought flooding in coastal areas in the upper North Island and on the West Coast. Last year major storms brought flooding to homes, commercial premises and farms in the coastal North Island, and low-lying areas in Otago and Canterbury.

Tropical storms are weather events which increase in intensity with climate change. As the atmosphere warms from the increase in greenhouse gas emissions, most of the temperature increase is absorbed by our oceans. The increasing warmth in the oceans fuels the intensity of storms and will do so increasingly as our climate continues to warm a predicted two more degrees by the end of the century unless greenhouse gas emissions are stopped in their tracks.

Many climate change impacts are already irreversible: our glaciers have lost a quarter of their ice since 1977, with potential follow-on effects on ecological and hydro-power resources; sea levels have risen 14-22cm at four main ports in the last century; the increase in extreme weather events has caused an increase in insurance costs; pests like wasps have caused changes in native beech forest ecosystems; ocean acidity as well as temperature has increased, with potential effects on marine ecology and the fishing industry: soils in drought-prone areas are getting drier, with potential impacts on agriculture and forestry.¹

Other consequences are also evident: stormwater drains were not built for the intensity of storms we are now experiencing. Billions of dollars will be needed to upgrade infrastructure to avoid 'Edgumbe-like' floods. Weather-related power

outages are also increasing – from 29 in 2015 to 36 in 2016 to 50 in 2017.²

While mitigation of climate change impacts is necessary, questions arise when we ask who will pay for them. When we speak of infrastructure like stormwater drainage and powerlines, the answer is local and regional councils and power companies – all of which involve more money from our own pockets. But when it comes to coastal erosion, who should bear the risk of increasing property damage: the property owner, the local council (which again means all of us) or insurance companies? Soon, insurance will not cover some coastal properties, as a recent study on 'insurance retreat' shows.³ Another 10cm rise in sea level is already 'locked in' by the warming effects of greenhouse gases long since released into the atmosphere. With that 10cm rise, locations formerly exposed to inundation every century will now be likely to be flooded every 22 years, and at that point, insurance will fail to cover those properties, which also means banks will not give mortgages. Another 10cm rise will be with us in 20 years time.

Stopping climate change in its tracks is necessary to prevent the even more disastrous changes which could bring about the collapse of the global human community as we know it. That was the aim of the Paris climate accord of 2015: to keep global temperature rise to below 2°C – and preferably 1.5°C, commonly regarded as the tipping point temperatures which would bring drastic changes to earth's terrestrial and marine ecosystems. To do this, 196 countries agreed to set targets to reduce fossil fuel emissions. This year countries will convene again to disclose when they plan to peak their emissions and how they plan to achieve net-zero emissions by the second half of this century.⁴

¹www.mfe.govt.nz/sites/default/files/media/our-atmosphere-and-climate-2017-at-a-glance-final.pdf
<https://www.stuff.co.nz/environment/98020081/some-new-zealand-climate-change-impacts-may-already-be-irreversible-government-report-says> 19 October 2017

² <https://www.stuff.co.nz/national/100410551/home-truths-on-climate-change-how-it-will-affect-your-house-your-garden-and-your-job> 12 January 2018

³ <https://www.stuff.co.nz/environment/climate-news/98001955/how-climate-change-could-send-your-insurance-costs-soaring> 6 January 2018

⁴ https://en.wikipedia.org/wiki/Paris_Agreement

While the Paris accord was a great aspirational one, a UN Environment Programme study has shown that all the national targets together, even if met, will still result in a 3°C temperature rise, rather than a 1.5-2° rise.⁵ A study in *Nature* last year has shown that major industrialised nations are not actually reducing emissions yet, even according to their current targets, nor are they enacting necessary policy changes to do so.⁶

So where is New Zealand in all this? While we emit a relatively small proportion of carbon (.17 percent of global emissions), our per capita emissions are the fifth highest in Organisation for Economic Cooperation and Development (OECD).⁷ Our gross greenhouse gas emissions have risen 24 percent since 1990, due to increases in dairy farming (nitrous oxide from excess nitrogen fertilizer, methane from animal waste and digestion) and road transport (mostly carbon dioxide). Our net emissions have risen a whopping 64 percent because of the rise in the gross emissions and because of an increase in logging, which removed forests which acted as carbon sinks. In 1990, forest growth offset almost half of New Zealand's gross emissions, but by 2015, increased forest harvesting resulted in forests offsetting only 29.7 percent of gross emissions.⁸

New Zealand's agriculture and energy sectors are the largest contributors to New Zealand's gross emissions – 47.9 percent and 40.5 percent respectively. Agricultural emissions have increased 16 percent since 1990 due to an 88.5 percent increase in the national dairy herd and a five-fold increase in nitrogen fertilizers. Energy emissions increased 36.7 percent, with most of that from road transport (New Zealanders are in the top ten countries with the most motor vehicles per capita.) and manufacturing using fossil fuels.

Massey University Professor Robert McLachlan reminds us that our Emissions Trading Scheme (ETS), which allows companies to buy their way out of reducing emissions is, after a decade of tinkering, in a shambles.⁹ Carbon credit purchases are sometimes very dubious tree planting schemes in developing nations.

⁵<https://www.theguardian.com/environment/2016/nov/03/world-on-track-for-3c-of-warming-under-current-global-climate-pledges-warns-un>

⁶https://en.wikipedia.org/wiki/Paris_Agreement

⁷www.mfe.govt.nz/sites/default/files/media/our-atmosphere-and-climate-2017-at-a-glance-final.pdf October 2017

⁸<http://www.mfe.govt.nz/publications/climate-change/new-zealands-greenhouse-gas-inventory-1990%E2%80%932015-snapshot> May 2017

⁹<https://www.stuff.co.nz/environment/99349577/a-fresh-start-for-climate-change-mitigation-in-new-zealand> 29 November 2017

New Zealand also still has an attachment to coal, despite its use producing the most carbon emissions of any fossil fuel. McLachlan reports that dairy giant Fonterra burns more than half of all New Zealand's coal for processes like drying milk. So the dairy industry is responsible not only for a large chunk of the 47.9 percent of emissions that come from the agricultural sector, but also a good share of emissions from the energy sector.

Our new prime minister, Jacinda Ardern promised, during the election campaign, that climate change would be her 'nuclear issue.' But shortly after the election it was announced that oil exploration permits would be granted in Taranaki, apparently because of a legal nightmare if they were refused. If the government IS serious about climate change, then fossil fuel exploration is a good place to start cutting. A short time after the oil permit announcement, another came from Minister for Climate Change James Shaw heralding a 2018 consultation on a Zero Carbon Act¹⁰, a major step toward a sustainable economy. An interim Climate Change Committee will also do ground work while a permanent Independent Climate Change Commission is set up later in 2018.

What can each of us do to help reduce New Zealand's greenhouse gas emissions and meet the challenges of climate change?

- Advocate for a gradual economically, environmentally and socially sustainable shift away from dairy farming (bringing agriculture into the ETS will help) and from fossil fuel (especially coal) production and use;
- Advocate for increased public transport and incentives for electric cars – and use these if and when possible;
- Plant more trees and advocate for more land to be planted into forest;
- Advocate for stronger carbon emissions targets, including support for the Zero Carbon Act;
- Advocate for a stop to offshore fossil fuel exploration in New Zealand's economic zone;
- Reduce consumption, reuse, and recycle;
- Eat more plant-based meals;
- Grow as many of our own vegetables and fruits as possible, and compost garden and food waste (methane is produced when plant material is land-filled);
- Delight in all creation!

¹⁰<https://www.beehive.govt.nz/release/first-important-step-towards-zero-carbon-act> 18 December 2018