

# Learning to live with Paris



DAIRY 101  
CLIMATE CHANGE

*Whatever happens with climate change, Karen Trebilcock reckons there are good reasons not to fill our atmosphere with crap of any sort.*

**A**bout a decade ago, the University of Otago hosted a researcher from Anchorage, Alaska. He talked about polar bears and climate change at a public lecture which was part of the university's Hands-On Science programme for secondary school students so the theatre was full of excited teens, along with people keen to hear what it could mean for those living in Dunedin.

In the question time, one teenager asked whether her parents should destock their farm because of the greenhouse gases created by their livestock.

The researcher was horrified.

"No, you can't do that. You need to increase production to make up for the areas that are going to be turned into deserts by global warming. This country needs to grow as much food as it can to feed the world."

I remember the face of the teen. She was totally confused.

Ten years on and polar bears in Alaska are still facing shrinking ice floes and we're still arguing whether climate change is real and happening and what we should do about it.

So what do dairy farmers need to know?

First, climate change (whether you believe in it or not) will affect how we farm, the taxes we pay and the ways we stock our farms. Whether we will have any say in this, individually, as farmers, and as a country, is doubtful.

The Paris Agreement, ratified by New

Zealand on October 4, 2016, means we and almost all of the rest of the world (except for the United States – this is the one Donald Trump said no to) will seek to limit temperature increases in this century to below 2C and encourage initiatives that bring the increase down to 1.5C or lower.

To limit temperature increases it is generally accepted we have to lower the amount of greenhouse gasses being emitted into the atmosphere so all countries participating in the Paris Agreement are expected to report regularly on their efforts to do so. The greenhouse gasses are carbon dioxide, methane, nitrous oxide, ozone and fluorocarbons.

In NZ, the government produces an annual National Inventory Report summarising greenhouse gas emissions which are categorised into five sectors – agriculture, energy, industrial processes, waste, and land use change and forestry.

Agriculture is included because cows and sheep, like all mammals, belch and fart methane and their urine and faeces create nitrous oxide when broken down by microbes in the soil (part of the nitrogen cycle). That includes the buffalo living in Yellowstone National Park, the elephants in sub-Saharan Africa and, of course, all of our animals too.

However, although our animal population for our landmass is relatively low (no herds of wildebeest escaping marauding lions here), populations endemic to a country are not included in the Paris Agreement – just farmed animals.

And it doesn't differentiate between gases created by burning fossil fuels and gases created by biological processes such as a cow's rumen bacteria creating methane and soil microbes turning their urine and dung into nitrous oxide. A molecule of CH<sub>4</sub> is a molecule of CH<sub>4</sub> however it got into the atmosphere.

This gives NZ a unique greenhouse gas profile because our agricultural sector is a significant part of what we do and most of our electrical generation comes from hydro.

Because of this, agricultural emissions make up almost half of NZ emissions, while in other developed countries, agriculture usually makes up about 11%.

So if we are to cut our emissions, as we have said we would when we ratified the Paris Agreement, it's agriculture that is going to get almost half of the government's attention.

Some people (farmers) would also claim it's no doubt easier for the government to destock farms than stop Aucklanders driving over the harbour bridge.

However, as the researcher from Anchorage pointed out, agriculture is needed to feed people and also, in NZ, dairy is our number one overseas earner so it's not that easy. There has been lots of research into cows which could produce less greenhouse gasses but nothing so far has been found that is the so-called magic bullet (apart from unmagic ones) and the Government hasn't yet decided how it's going to make farmers reduce emissions.

Barley ripens near Dundee in Scotland on what the British media dubbed "Furnace Friday" when temperatures got to a record 30 degrees Celsius there in July this year.



There has been talk of taxes (yep – the fart tax), reducing stocking rates, using different feeds but all have consequences that may or may not reduce the country's, or the world's, overall emissions. It may also affect our wealth as a nation.

But what's the point of being a fairly economically comfortable little country on the edge of the South Pacific if global warming is turning our world into a slightly colder version of hell?

Parts of the world are undeniably hotter than they were 50 years ago. Whether they are hotter than they were 1000 years ago, or 50,000 years ago it's hard to say. Ice ages come and go.

But with the world hotter than it was only 50 years ago, it makes sense scientifically that there are more volatile weather events (hot air holds more water vapour) than there were back then.

Certainly the media is making sure we all believe it. But storms come and go. When I first moved to Westport in 1988, three floods in one year covered the farm where today's Agriculture Minister Damien O'Connor milked cows. Paddocks were silted up and had to be regressed. In the 30 years since there have been a few more floods but never three in one year. For many years there were none.

Would we have said back in 1988 the Westport floods were caused by global warming? We didn't even know about global warming then. Maybe floods are the norm in the huge Buller River catchment and the lack of them since is due to climate change?



Having to feed the world is not going to cut it as a reason to renege on our obligations to cut greenhouse gas emissions.

What I do know is when it comes to science coupled with public hysteria, we only have to look to the Y2K bug to have a good laugh at ourselves. For those too young to remember Y2K, Google it. And for the record we all partied on New Year's Eve in 1999 like there would be no tomorrow but all that happened was we woke up with hangovers. Our toasters (and everything else) still worked.

I'm sure, after walking around a few European cities this past Northern summer when they were all shouting about their heat wave records, that if everyone turned off their air conditioning and went to the beach instead, temperatures would have dropped at least a couple of degrees.


If global warming is really happening, I would like to think we are intelligent enough to figure out how to live with it, protect our wildlife and our people. Even in disaster movies, someone always survives. And what's wrong with a few more days at the beach in the south?

But all of that type of thinking doesn't really matter. We signed the Paris Agreement with the rest of the world. Now we have to meet our obligations.

And using the argument, again from our polar bear researcher, that we need to feed the world isn't going to work.

Only 3% of global milk production is ours, our meat and grain even less. We're not going to save China, Mexico or Russia or any other country from starvation.

And don't start talking about food wars. All food shortages do in the modern world is make the poor poorer and the rich more keen to sit in darkened rooms with the controls of armed drones at their fingertips.

If we forget about the endless arguments, the name-calling, the politics, the billions spent on research, maybe, at the very least, we should realise we actually don't need a good reason to stop putting more crap, of any sort, into our atmosphere. 

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