

Climate-wise – We Are The Champions!

All climate policy lobbyists worldwide see the word “leader” as being the holy grail. It is used in a quantitative and competitive sense as in “country X is now in the lead” or “country Y is the clear leader”. Achieving leadership is positioned as a much-desired vanity project.

So who is the current gold medallist in the climate policy stakes?

New Zealand has fancied itself for some time. Back in 2008 then Prime Minister Helen Clarke [declared](#): “New Zealand is now a world leader in its action programme on climate change. Labour will keep it that way.” [Here](#) is Tom Scott’s 2008 cartoon “Green Utopia”:



Under John Key, we then went for the gold medal at Copenhagen [in 2009](#). We did the same pre-Paris in 2015, with Simon Bridges as Minister. But the Green Party now claims we need to legislate for carbon neutrality by 2050 to be sure of clutching the prize.

Looking past the rhetoric, we find that there are endless innovative ways to measure success, and the Green lobby (eg Carbon Tracker) can devise an argument that every developed country is the world’s worst. However, if we focus instead on relevant metrics and hard data, there can be little doubt that we have already scorched off the competition from the other 35 developed (OECD) countries.

Top-down Measurement

New Zealand as a whole contributes a **negative** volume of carbon dioxide to the atmosphere. We are a net carbon sink. All those human-caused emissions from SUVs, tractors, coal power, cement, aircraft, NZ Steel, etc, etc – are *all* offset and absorbed by our forests and farmlands. If our whole country with all its 4.5 million people were to slip beneath the waves tomorrow, the world's climate would be worse off!

NIWA scientists have carefully measured the atmospheric carbon dioxide on both sides of the country over a 36-month period, finding that New Zealand removes an average of [98 TgCO₂ per year](#) from the atmosphere. This is a *net* figure, after deducting the result of its human-caused emissions which amount to only 35 TgCO₂ per year. That is a big contribution to the rest of the world.

The peer-reviewed scientific paper, Steinkamp et al ([2017](#)), notes that the bottom-up National Inventory Report (NIR) compiled by the Ministry for the Environment consistently under-estimates the sink value of our forestry and land use sectors as being 27 TgCo₂ per year, when it is actually nearly five times higher.

Top-down estimates of the CO₂ contributed by continental OECD countries is not possible, although it has been suggested that other afforested countries like USA and Canada, and farm-based countries such as Ireland might also be net carbon sinks. On the figures available though, the top-down count demonstrates that New Zealand is clearly the most climate-friendly country in the developed world!

Net CO₂ per capita

[Wikipedia](#) offers a list of the *gross* per-capita emissions of all 193 UN countries. As both the UNFCCC Treaty and the Paris Agreement place the primary mitigation obligation on developed countries, we need only compare ourselves to the other 35 members of the OECD. A comparison with our major trading partners shows:

	Metric Tonnes (Gross)
Australia	15.4
Canada	15.1
Japan	9.5
New Zealand	7.7
South Korea	11.6
USA	16.5
EU (Average)	8.6
Non-EU OECD (Average)	9.8
OECD (average)	8.9

From the above it can be seen that New Zealand's **gross** CO₂ emissions per capita are *lower* than those of any of its major trading partners and below both the EU average and the OECD average. This is an impressive performance.

But the global effort to mitigate human-caused climate change is not about *gross* emissions. The Paris Agreement is unmistakably clear in seeking to “achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century”. Participants are required to focus on *net* emissions. Of the handful of developed countries which had lower 2014 per-capita gross emissions (Switzerland, Chile, Mexico, and

Turkey), none of them have tree-planting projects to compare with New Zealand. It seems clear that, on a bottom-up count, we are the undisputed climate leader of the developed world!

Livestock Methane

For many years, the New Zealand media uncritically swallowed the Green activists' spin that New Zealand had the "fourth highest per capita emissions" because of the enteric methane unavoidably produced by our ruminant livestock. This pervasive narrative has now been fully and finally exploded by the authoritative Oxford study, Allen et al (2018): "*A solution to the misrepresentations of CO₂-equivalent emissions of short-lived climate pollutants under ambitious mitigation*".

We now know that the translation of methane to CO₂-equivalent was formerly exaggerated by a factor of at least four, so that the methane share of New Zealand's annual greenhouse gas emissions reduces [from 38% to about 9%](#). More importantly, the '[cloud of methane](#)' decays as fast as it grows, so a steady state dairy herd (for example) adds no greenhouse warming at all.

The key solution is to minimise the herd's methane outputs while maximising food production. The climate champion produces so efficiently that it has the world's *lowest* emissions per kilogram of dairy products. That champion is New Zealand whose dairy production is twice as climate-efficient as its nearest competitor (Ireland).

Renewables

Almost all developed countries have targets to convert a certain percentage of national electricity supplies to renewable sources by a certain date. This is an extremely expensive way to contribute to the global effort, as can be seen in Australia whose power prices have gone from amongst the lowest to be amongst the highest in the world over less than two decades. The UK has had a similar experience.

New Zealand luxuriates in having superb natural hydro and geothermal resources. Over 80% of our supply is renewable, a fact which places us at number 3 in the developed world (after only Iceland and Norway). Under this heading we are way ahead of all our trading partners.

Comparable Effort

A Ministry [paper](#) relating to our Paris Agreement Target suggested that inter-country comparisons might include (a) trade competitors; (b) countries in similar circumstances; or (c) some global average across all countries. As has been seen, I believe an average of OECD countries is more useful than a worldwide average.

The Treasury believes an "equal pain" indicator is most appropriate in gauging New Zealand's "fair share" although acknowledging that it is difficult to measure and compare objectively. This is why I prefer the data-driven comparisons of per capita emissions.

MfE notes that the most cost-effective abatement available is often the purchase of international carbon offsets at the prevailing global carbon price. In my view, any government which chooses more expensive options is not entitled to any credit for the surplus pain it has volunteered to incur for its own selfish political reasons.

New Zealand's efforts to mitigate climate change arguably out-do those of comparable countries:

- Our ETS covers more sectors and a wider range of long-lived gases than its European counterpart or any other national scheme. Its percentage of exempted industries is much lower.
- The New Zealand ETS appears well constructed and has not experienced the series of scandals that have plagued the European scheme. It has not been sunk in fiery political controversy such as has occurred in Australia and is now occurring in Canada. Although it could be seen as a good precedent, comparable countries have not yet chosen to follow it.
- Our taxes on petrol and diesel are amongst the highest in the OECD as is our current “carbon price booster” of \$25 per tonne.
- The UN director-general has praised this country’s “*extraordinary leadership*”, noting that New Zealand is “in the front lines”, at a time when the rest of the world is “not on track to achieve the objectives defined in the Paris Agreement, and political will seems to be fading”¹.
- IPCC climate scientists familiar with our efforts have been fulsome in their praise. Oxford Professor [Myles Allen](#) declared in a recent visit: “You are leading the world on climate change”.
- We have played a heavyweight role in climate change diplomacy, including proposing the non-legally-binding structure of the Paris Agreement and leading efforts to phase-out fossil fuel subsidies. Similarly, we have led the international research effort in respect of agricultural gases.

“Ambition”

New Zealand accepted an ambitious (ie painful) legally-binding target under [the](#) Kyoto Protocol and exceeded it. Canada withdrew, Japan reneged, USA ignored it and Australia joined very late.

Our Paris Agreement NDC for 2030 is well below BAU and will obviously be a huge stretch. Professor David Frame, New Zealand’s leading climate scientist, has [observed](#):

“Our target is more stringent than, those of Australia (-26–28%), the United States (-26–28% by 2025), Canada (-30%) and Japan (-25.4%). Our target is roughly halfway between the European Union’s and Japan’s... If the rest of the world matched New Zealand’s [climate change](#) commitment out to 2050, then the world would be on course to meet its goal of warming by less than 2°C above pre-industrial levels.”

So, if we do not exceed the EU in ‘ambition’ are we leaders or losers? Professor Frame has [done the numbers](#):

“Our 2005-2020 commitments have been roughly in line with what would have been expected of us if we had been a country within Europe, with the same per capita income we currently have.”

Professor Frame has also [noted](#):

“In AR5, which remains its most recent Assessment Report, the IPCC said that by 2050 global emissions need to be somewhere between -35% and -55% compared with 1990

¹ This refers to the EU’s recent *refusal* to accept a “Zero by 2050” target, the USA pull-out from the Paris Agreement, and recent increases in coal-powered generation in China and India.

levels. New Zealand's 2050 target is -50% compared with 1990, which is .. toward the more stringent end.

Conclusion

Throughout most of this century New Zealand has been a 'world leader' in the effort to mitigate climate change. This status raises interesting questions. What benefit has the country derived? Has our lead been followed by others? Have we effected any discernible reduction in the global average temperature predicted for 2100?