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Within the US, New York and California are aiming to achieve carbon neutrality by 2050.<sup>20</sup>

All this is far easier said than done. It is going to be very expensive. And, in every case, the promise is likely to be broken.

It is instructive to look at the case of New Zealand. It was actually the first country in the world to promise to go carbon neutral. It is also the first country to have spectacularly failed, and the first to promise for a second time to achieve the same thing.

In 2007, Prime Minister Helen Clark declared her vision was that the small nation would become carbon neutral by 2020. She was celebrated by the United Nations as a "Champion of the Earth." If only cutting carbon was as simple as winning attention. New Zealand not only failed to achieve the vision, but also failed even to reduce *any* emissions. The latest 2019 official statistics show that the country's total emissions will be *higher* in 2020 than they were when Ms. Clark's ambition was declared. New Zealand is on track to be a whopping 123 percent off Ms. Clark's vision. Yet, in 2018, Prime Minister Jacinda Ardern reupped the pledge, promising to achieve carbon neutrality by 2050. Legislation aimed at achieving that goal was passed in 2019.<sup>21</sup>

New Zealand is a fascinating case study because, to its credit, Ardern's government actually asked its leading economic authority to estimate the cost of her promise. Thus, we have what is likely the only official, academically credible estimate of what it will cost to achieve carbon neutrality. This research, undertaken by the leading independent economic think tank in New Zealand, shows that just getting halfway to the target—cutting 50 percent of New Zealand's emissions by 2050—would cost at least \$19 billion annually by 2050. For a small country with a population similar to that of the Republic of Ireland or the state of South Carolina, that's a big deal, about what the government spends now on its entire education and health care system.<sup>22</sup>

And it is only the cheapest cost of getting halfway to Ardern's target. Getting all the way will likely amount to more than \$61 billion annually, or 16 percent of GDP by 2050. That is more than New Zealand today spends on social security, welfare, health, education, police, courts, defense, environment, and every other part of government combined.<sup>23</sup>

FALSE ALARM

To achieve their promise, New Zealanders will need to accept an escalating carbon tax that ends up so phenomenally high that it would be equivalent to a gasoline tax of \$8.33 per gallon. And even the 16 percent GDP cost relies on a fairy-tale assumption that every single policy will be enacted as efficiently as possible. Bearing in mind the evidence that costs double in the real world, it could be 32 percent or more.<sup>24</sup>

The cost doesn't just start in 2050, which would make it easy to ignore. Getting there requires policies starting in 2020, meaning the costs will start coming in now, ramp up to 16–32 percent in 2050, and stay there for the rest of the century.

Across the century, the cost adds up to more than \$5 trillion and could reach beyond \$11 trillion. If we imagine each New Zealander paying an equal share of this amount every year across the century, the cost would be the equivalent of at least \$12,800 for every single New Zealander, every year. If the policies are done badly, as they have been done so far across the globe, the cost per person could even go beyond \$25,000 per year.<sup>25</sup>

As a back-of-the-envelope exercise, if we took the percentage cost of going carbon neutral in New Zealand by 2050 and applied it to the United States, that would imply a cost of at least \$5 trillion in today's money. Not just once, but every single year. That is higher than the entire current federal spending of \$4.5 trillion. And again, under realistic assumptions the amount could be closer to \$10 trillion a year.<sup>26</sup>

But at least New Zealand will help the world in dealing with climate change, right? Even if the country will be going through a huge and protracted, self-inflicted cost, it will also deliver some good? Yes. But barely.

Let's get a sense of the size of the impact. If we assume that New Zealand this time will actually deliver on its net-zero promise in 2050 and stick to it throughout the rest of the century, the total amount of greenhouse gas reduction will, according to the standard estimate from the UN's climate panel, deliver a temperature reduction in the year 2100 of 0.004°F, or about four-thousandths of one degree Fahrenheit. Given the expected temperature increase by around 2100, this means that New Zealand going net-zero by 2050 will postpone the warming that we expected to see on January 1, 2100, by about three weeks to January 23, 2100.<sup>27</sup>

So, New Zealand is considering spending at least \$5 trillion to deliver an impact by the end of the century that will be physically unmeasurable.



WHY THE PARIS AGREEMENT IS FAILING

This will make it hard to get Kiwis to support such strong climate policies continuously for the next eighty years. Sooner or later, and likely sooner, a politician is successfully going to argue to dump the net-zero promise that will deliver zilch in a century, and instead double spending on things like health, education, and environment, *and* get some tax reductions.

THERE HAS NEVER been an official estimate of the cost of the Paris Agreement, nor has there been one that gives a meaningful evaluation of its impact. Looking at the numbers, it is obvious why.

The Paris Agreement will be the costliest pact ever agreed to, by far. It will cost us \$1–\$2 trillion per year from 2030 onward, if actually fully implemented. Yet the agreement will do almost nothing for the climate: all of its promises will reduce the temperature rise by the end of the century by an almost imperceptible 0.05°F. And none of the big emitting countries are anywhere close to actually delivering on their promises.

Spending trillions to achieve almost nothing is, not surprisingly, a bad idea. Every dollar spent will produce climate benefits worth just 1¢.

Surely, we can do better. Right now, we're pursuing a policy that won't solve climate change—not even close—and that will waste trillions of dollars along the way.