



22 February 2025

## Environment and Economics – a Marriage of (In)convenience: the policy makers' edition

Last year I addressed two large audiences using the same title: *Environment and Economics – a Marriage of (In)convenience*. One was a conference of environmentalists, the other a business audience. The two editions offered these groups some blunt conclusions that they might have been tempted to slide over. Your invitation enables me to complete the trifecta and deliver an edition for policy makers.

Before I go any further, let me say a word or two about my role. As you know I am Parliament's servant – I'm there to provide advice to **all** MPs, not the Government. The Environment Act of 1986 says that I'm there to watch over the system of laws and agencies we use to manage the environment. Critically, it says I'm to do this "with the objective of maintaining and improving the quality of the environment". Parliament in 1986 thought it was safe to assume that we would want to "maintain and improve" our environment. I wonder, in passing, if that is still the case.

Parliament is sovereign, it can decide to do what it likes. I'm there to help inform it about the environmental consequences of its decisions. There's a reason for that: there are plenty of private individuals and businesses ready and eager to argue for their own interests. They will have environmental consequences. The environment can't speak for itself. My job is to make sure politicians can reach a balanced judgment – if they wish to.

The PCE is not in the business of telling parliamentarians how to design their environmental policies. There is no one 'right' way to manage the environment. That's ultimately an ideological matter – how you view the role of the state and the market, and how you understand what te Tiriti may have to say about the environment. If a government washed up in office and announced an end to any market mechanisms in environmental policy, I would have to sit down and provide advice on the workability and cost of regulatory approaches – and what sorts of unintended consequences might lie in wait. The same would apply if a libertarian government decided to ditch regulation, privatise all resources and rely on private legal actions to resolve every problem. I'd ask exactly the same questions. And in both cases my analysis would be



delivered “with the objective of maintaining and improving the quality of the environment”.

In short, I wouldn't say anything to a Bluegreens conference that I wouldn't say to a red-green or a green-green conference, if I was invited to one. And perhaps that's the **first conclusion** I must offer: ultimately, understanding the environmental challenges we face isn't a party political matter. The concentrations of CO<sub>2</sub> in the atmosphere, nitrogen in the water or microplastic in living organisms are measurable, biophysical states. Dismissing these challenges as woke won't change them one iota. Neither will greenwashing, by the way. The physical world isn't taken in by our rhetoric or evasions.

Which brings me to my **second conclusion**: because most environmental challenges have long lead times, you can airbrush environmental problems aside in the short term. But the consequences of doing so can't be imagined away. They will come back to haunt us in the longer term and the costs are likely to be heavy.

The scale of the environmental problems we face is not for the faint-hearted and trade-offs are unavoidable. The question is, how big should they be and who should carry the can – decision makers today or a future generation?

If you're one of those who think that protecting the environment has got a bit out of hand and we need a bit more balance, then you must expect the obvious questions: how much more environmental deterioration are you prepared to tolerate? How much more biodiversity loss can we safely live with? What lower level of water quality would you settle for?

There is scant evidence that we're making significant progress on any of the big environmental pressures. Water quality, greenhouse gas emissions, plastic pollution, biodiversity decline, antibiotic resistance – you name it, we're not making progress. There's the odd good news story at the local level, but by and large, the eight billion of us on this planet, including the five plus million of us, are degrading the immensely complex, natural system that is our environment.

Just holding the line, let alone trying to rebuild some of what we've destroyed, will be immensely costly. Now, rich countries have choices. Poor ones don't. Which brings me to my **third conclusion**: We won't be able to tackle the environmental challenges we face if we don't have a successful economy. We need growth. The question for me is, what *sort of growth*? Will it be growth consistent with *maintaining and improving the quality of the environment*? Or just any old growth?



I had to think a fair bit about growth during the years I worked at the OECD. It's the composition of growth that matters. This in turn depends on how productively we draw on three sources of capital: financial, human and natural. I can't usefully add anything on financial and human capital or on productivity that wasn't covered by Iain Rennie or Paul Conway in their recent speeches. But let me say a few words about natural capital because we know less about it.

We didn't put things like water or soil or minerals there. By and large we don't pay to use them. We tell ourselves that we're turning natural capital into human and financial capital. But the reality is that it's a sort of piggy bank that we have been raiding for 150 years, and no one is really keeping tabs. No one, that is, except the environment itself. Because the environment is starting to send some invoices for services rendered. There are plenty more in the pipeline – and they're becoming larger.

It seems to me obvious that the economy is a subset of the physical environment in which it operates. There are still people in denial about that – a denial that is usually rooted in some hazy idea that technology will bail us out. While technology may well overcome all sorts of shortfalls, it seems lazy to write off a vastly complex, self-sustaining system that costs nothing. Clean air, water and soil that can support human survival on this planet seems to me worth sustaining. It's a pretty impressive capital base on which to build our lives. But if we run that base down, nature will invoice us. Let me mention some invoices that are on the way.

Let's start with a simple one – wilding conifers. 2.5 million hectares of New Zealand are infested with wilding conifers. Currently 1.5% of the infestation is classed as dense. Modelling suggests that if left unmanaged, we'll add a further 0.5 million hectares and 60% of it will become dense forest. That's a lot of fuel for wildfires. The last National government committed \$37 million to control in 2016. The last government came up with \$100 million over four years, dropping back to a maintenance level of \$10 million a year. That's enough to control only about 42% of the current infestation.<sup>1</sup> So a large chunk of that \$100 million will be wasted. But much bigger bills are in the mail if we don't act.

How about water? Over the last 30 years there has been a dramatic switch in land use towards dairying and beef cattle in places like Canterbury. Nitrogen levels in ground water have responded as you might have expected. The proportion of sites in Canterbury that breach the drinking water standard has almost doubled since 2002.

---

<sup>1</sup> Sapere, 2022. Benefits and Costs of Additional Investment in Wilding Conifer Control. Prepared for MPI. <https://www.mpi.govt.nz/dmsdocument/58519-2022-Benefits-and-costs-of-additional-investment-in-wilding-conifer-control>



The latest groundwater report shows 59% of monitored groundwater sites have nitrate concentrations that are “likely” or “very likely” to be increasing. The costs of removing nitrogen from water are non-trivial. For example, removing nitrate for a city of Christchurch’s size could cost between \$830 million–1.5 billion.<sup>2</sup>

We can ignore water quality, in which case the environment – and people – pick up the costs. Or we can try to head them off. But nature’s invoices are already in the mail.

The biggest ones probably relate to climate. New Zealand has no control over the outcome. That’s why we need international treaties. It’s what the world does that will determine the damage we will experience here. Whether countries continue to kick the can down the road or launch into a frenzy of climate scepticism doesn’t much matter – the end result will be the same: inexorable warming and rising climate damage.

New Zealand, like most countries, is in the ‘kick the can down the road’ camp, which might, in our case, be better described as ‘kick the pinecone down the hill’. We’ve decided that it’s cheaper to plant trees than reduce emissions, despite the risks we’re running from fire, disease and extreme events. I have published extensively on these risks in the face of which policy makers seem paralysed. Only a rising carbon price will reduce our emissions and that won’t happen with access to unlimited forest offsets. Without a complete rethink, planting will continue and the invoices will pile up.

I can’t tell you in advance what the size of those invoices might be. But insurers are taking an increasing interest in our preparedness to adapt to a very uncomfortable future. Various studies have estimated the value of the assets at risk from climate-related events. The numbers are mind-bogglingly large – around the \$200 billion mark for residential properties alone.<sup>3</sup> Commercial properties or infrastructure are on top of that. There has been a lot of talk about South Dunedin, but much less about the valuable dairy land in the Hauraki Plains. How quickly the climate changes, and sea level rises, and which regions get hit by extreme events will determine the final bill.

---

<sup>2</sup> ECan, 2023, Annual Groundwater Quality Survey.  
<https://www.ecan.govt.nz/document/download?uri=5093763>

Birdling, G, 2020. Statement of evidence of Gregory Albert Birdling for the Christchurch City Council.  
<https://api.ecan.govt.nz/TrimPublicAPI/documents/download/3909177>

<sup>3</sup> Finance and Expenditure Committee, 2024. Inquiry into climate adaptation  
<https://selectcommittees.parliament.nz/view/SelectCommitteeReport/73e0779f-249d-4067-9ec8-08dce18146d9>



And then there are pandemics. A growing human population and the ongoing destruction of our wild places is bringing us closer to what is left of nature and increasing the risks of diseases crossing over from the animal world to humans. It is estimated that COVID may have cost the global economy as much as 11% of GDP.<sup>4</sup> Total New Zealand Government COVID response appropriations were over \$70 billion.<sup>5</sup> Some of us are watching the evolution of avian bird flu. Birds move around. So do people. If a variant develops that not only infects humans (which it already has) but can also transmit from person-to-person with nasty symptoms, all bets are off. The invoice will be very large.

As a species, we seem pretty good at watching problems emerge, like possums in the headlights, and then wondering why the bills seem so enormous.

But it doesn't have to be that way – and just occasionally it isn't. Recall what happened at Lake Taupō. A couple of decades ago, when dairy conversions were sweeping across the country upending sheep farms and pine forests in their wake, people got worried about the quality of Lake Taupō. There were already signs that its exceptional clarity was declining. Mass land use change in the immediate catchment threatened to make that irreversible.

In the end, taxpayers and ratepayers put \$80 million on the table to 'purchase' a 20% reduction in the flow of nitrogen into the lake. If dairy conversions had proceeded in the catchment, we might have seen (in current dollars) an extra \$5 million per annum flowing into the economy and 200,000 more kilograms of nitrogen flowing into the lake. Add to this \$16 million per year from intensifying the existing sheep and beef operations.<sup>6</sup> So, over the 14 years that have passed since the cap was introduced, we have denied ourselves around \$290 million of economic output. We took something off the table because we wanted to maintain the water quality of our biggest lake. Sure, there are economic benefits to a clean lake – think of what tourism generates for example. But I'm not sure the calculus was quite so mercenary. There were powerful cultural reasons to side with maintaining water quality, and recreational

---

<sup>4</sup> Faramarzi A, Norouzi S, Dehdarirad H, Aghlmand S, Yusefzadeh H, Javan-Noughabi J, 2024. The global economic burden of COVID-19 disease: a comprehensive systematic review and meta-analysis. <https://pmc.ncbi.nlm.nih.gov/articles/PMC10870589/>

<sup>5</sup> Treasury, 2023. COVID-19 Response and Recovery Funding – Allocation <https://www.treasury.govt.nz/information-and-services/nz-economy/covid-19-economic-response/overview-covid-19-response-and-recovery-fund-crrf/covid-19-response-and-recovery-funding-allocation>

<sup>6</sup> AgFirst, 2019. Financial Impact of the Waikato Regional Plan Nitrogen Cap on Taupo Farmers. Prepared for Waikato Regional Council. <https://www.waikatoregion.govt.nz/assets/WRC/WRC-2019/TR201924.pdf>



ones. People chose to forgo short-run benefits to secure long-run ones. And, of course, to head off a future water quality clean-up bill. That's one invoice we hope won't be in the mail.

I've spent quite a bit of time on the scale and potential cost of some of the challenges we face. We can attempt to screen the problem out if we wish to, but the invoices will keep coming. We'll need to be pretty resilient and have pretty deep pockets if we're going to get through. So yes, economic performance is very important, but it can't be growth which simply grows future liabilities even faster.

My **fourth conclusion** is that we take much more care about things we pay for than things we can get for free. If we want to avoid those invoices from nature in the mail, then we need to start paying now for the stuff we waste. Pricing will often be the mechanism of choice. I'm delighted that the Government has committed to fully pricing road transport by making increased use of tolls and congestion pricing as well as extending road user charges to passenger vehicles. This has to be the subject of a multi-party sign-up, just like GST was. It can be done.

I was intrigued that the step was explained in terms that were all about user pays, reducing congestion and future proofing the system. There wasn't a word about the environment. But the benefits are obvious. By making road users pay the full costs of their time behind the wheel, road pricing incentivises people to make the most efficient decisions – economically and environmentally – in deciding whether, when and how to travel.

Price mechanisms are great, but they require a lot of information. And we don't always have that. Regulation can be cheaper in some situations. I have long thought it was crazy for farmers to want to account for their own greenhouse gas emissions when emissions factors applied at the milk factory, or the freezing works can do almost as good a job at a fraction of the cost.

We could have a lively debate here. But whatever the mechanisms that are chosen, it is the job of governments to see to it that environmental scarcity is reflected one way or another in what we consume and how we do business – and to do that, we need good information. Which brings me to my **fifth conclusion**: what you don't know **can** hurt you.



When faced with fearful children, my parents' generation used to say, "what you don't know can't hurt you". In other words, stop worrying about stuff that you don't even know about. I expect that attitude contributed to a bit of an 'out-of-sight, out-of-mind' approach to all sorts of environmental neglect, like pipes that swished stuff into the tide or chemicals buried in the local dump. As some of those invoices have started arriving, the costs of that attitude have been starkly revealed.

Trying to know everything before we do anything is obviously going to the other extreme. We'll paralyse ourselves. But at the very least, we need to know what we don't know so we can weigh up the risks. Remember the Clyde High Dam? It was committed and half built before the risks posed by potential landslides were properly understood. The bill to de-risk the project was over \$400 million – a colossal sum in the late 1980s. No one wants to spend more time approving projects than is necessary, but without good information some decisions will be ones we will live to regret.

Ever since I took over this role, I have been calling for serious investment in getting environmental information up to scratch in this country. There's a vast amount of it, but it is riddled with gaps, often lacking time-series, uses methodologies that defy comparative analysis and is highly fragmented in a way that makes joining the dots difficult and expensive. It would be nice to imagine a 'social investment approach' being applied to the environment. But the fact is that we don't have the basic information required to understand many of our environmental liabilities.

Getting that information will cost money. But it will also **save** time and money. If we can be more confident about what can go where and what the environmental tolerances are, we can make environmental management a less onerous and costly affair. Being able to access and interrogate high quality, spatial, multi-layered information is, in my view, as much a core responsibility of central government as defence or law enforcement. Without it we can't run a modern economy. I will say no more here other than that after seven years the issue remains unaddressed.

My **final conclusion** is that you won't get people to go along with efforts to solve problems that they don't own or understand. People understand stuff that happens to them. They know what an extreme weather event is when it hits them. They know what contaminated water is when someone in the community dies. But many of the environmental issues we face are slow and insidious. That requires understanding.



In a distant geological age, I was once an MP. Most of you here are too young to know what happened in the early 1980s. It was the end of one era and the near revolutionary dawn of another. There was fierce disagreement and real debate between parties but also, very importantly, within them. As a very young MP in a rural electorate where the sky seemed to be falling in, I felt that the best I could do was to try to help people understand what was at stake – subsidies, floating exchange rates, GST, you name it. Everything was on the table. You had a choice – offer sympathy with a good bedside manner or front up and try to help people understand the facts of the matter.

What I learned is that people are really interested in tricky questions if you take the trouble to engage them in understanding why what seems straightforward isn't. Rather than hit them over the head with your answer, explore with them why something they think is incomprehensible might not be. Most environmental challenges are in the **hard** basket. But politicians can help people understand why they don't have to be in the **too-hard** basket.

The impact of land use on biodiversity and water quality **is** in the hard basket. Rural people know that. Let's be honest: the current approach isn't working. Over 15 years we've had boatloads of research, four National Policy Statements on freshwater, a lot of court cases arguing over where we are heading and not much actual progress on the ground. There are high levels of mistrust because people feel they've had an awful lot of environmental policy done to them. Regional councils have become an easy target. But central government hasn't exactly made their task easy.

Finding people to blame will get us nowhere. Neither will deciding that it's all too hard and it's time for a pause. We need a different approach. That's what my report on land use change – *Going with the Grain: Changing land uses to fit a changing landscape* – was all about. It wasn't written to come up with yet another top-down, technocratic 'solution' from Wellington. Instead, it acknowledges this is as much a social and economic problem as it is an environmental one. As a result, we need a system that strikes a balance between central and local government, and community action. A system that encourages people to work together to understand what's at stake, change behaviours and learn how they can make progress in their patch.

And that is the crucial thing – every patch is different. Which is why I have tried to persuade both this Government and the last one to take an experimental approach rather than one rule for all. Some things could be done better from the centre, but not decisions on what to do where and how to do it. I am suggesting quite a different way of operating that involves meeting communities at eye level and risking the possibility that they may come to different conclusions.





There are some big questions about governance and how you might ensure action that is ambitious enough to actually improve the environment; and about how you deal with people who don't want to cooperate. But speaking with farmers and catchment groups on the ground over the last few months, I am in no doubt that there is intense interest out there in what could make a difference. Most people are prepared to confront uncomfortable environmental realities if they feel there is something they can do about them.

My messages to environmentalists were essentially about confronting trade-offs. My messages to businesses were mainly about confronting the fact that good environmental regulation is necessary. If I was to summarise the messages I've offered here, I'd say that they're about making an informed and conscious choice: either you grapple with the challenges we face today (and that means investing in information and trusting people) or you kick the can down the road and hope that future businesses, households and taxpayers will be able to bear the costs.



## Key messages

I suggested to **environmentalists** that they needed to confront five inconvenient truths that involved some hard thinking about the sort of economy we have and the trade-offs that can't be wished away. They were:

- We can close polluting industries, but in most cases, we will simply import the goods that rely on them from other countries.
- Under certain conditions, we must be willing to entertain environmentally damaging activities, like mining or the provision of infrastructure.
- Calling for green growth isn't the easy economic and environmental win some people imagine.
- Change – even a clean green one – is costly. There are few win-wins. There are often losers.
- And finally, if anyone thinks degrowth is the answer, no one has worked out how to do it without significant conflict.

In place of inconvenient truths, I offered **business leaders** five unpalatable realities. They were:

- the physical environment is deteriorating
- certainty is not something you can demand of governments or the environment
- environmental regulation is necessary
- environmental taxes, levies or charges are unavoidable if a more environmentally sustainable economy is going to be affordable
- the risk of greenwashing is alive and well.

To our **elected representatives**, I offer the following conclusions:

- The environmental challenges we face aren't a party political matter. Dismissing them as woke or covering them in greenwash won't make them go away. The physical world isn't taken in by our rhetoric or evasions.
- Policy makers can park environmental problems in the short term, but they will come back to haunt us in the longer term and the costs are likely to be heavy.



- A successful, growing economy will determine whether we have the means to reverse some of what we've set in motion. The crucial question is, what **sort** of growth? It can't be growth that simply undermines itself.
- People take much more care about things they pay for than things they can get for free. We have to be prepared to pay for the environmental costs of the way we live.
- What you don't know **can** hurt you. The quality and accessibility of our environmental information is woeful – particularly for a biological economy like ours.
- Government and council efforts to tackle environmental problems won't succeed if people don't own the problems or understand them.