Carbon Takeback: How We Will Stop Fossil Fuels from Causing Global Warming

Professor Myles Allen, Professor of the Environment

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“We can’t afford to make solving climate change hostage to any woke agenda” argues Oxford’s ‘Physicist behind Net Zero’

In the final public lecture of his series on Net Zero, Myles Allen, the 2022-25 Frank Jackson Professor of the Environment at Gresham College, will argue on Tuesday that we need a radical new approach to climate policy to avoid Net Zero becoming a divisive wedge issue in the next general election.

The solution, Allen argues, is to focus on “who can afford to deliver net zero, how we can achieve it without dictating how Britons live, and how we can design climate policy so that our trading partners see it as an opportunity rather than a hair-shirt-wearing contest?”

He calls for policy to “follow the Willie Horton principle: asked why he robbed banks, he replied, because that’s where the money is. Who benefits most from our continued use of fossil fuels? Certainly not you, the long-suffering consumer – it is the fossil fuel industry itself.”

So, he goes on, we can take the climate issue off the political agenda forever with a simple Act of Parliament, running something like this: “after 2050, you can’t sell stuff in the UK that causes global warming. So, if you’re selling stuff in the UK today that causes global warming, you have 25 years to stop that stuff from causing global warming – by capturing or recapturing all the carbon dioxide it generates and disposing of it permanently.”

Capture and geological storage of one tonne of carbon dioxide for every tonne still generated from fossil sources, or Geological Net Zero, is the only durable way, short of a world-wide ban, to stop fossil fuels from causing global warming. “Important though it is to restore our biosphere … we can’t solve climate change by turning rocks into trees.”

Such a “carbon takeback” policy would add only a few pence to the cost of a litre of petrol by 2035. If coordinated internationally and “if we also manage to reduce fossil fuel demand so we aren’t reliant on the most expensive marginal fields, then there is no reason why the carbon neutral fossil fuels of the 2050s should be any more expensive than their dirty ancestors are today.”

Myles Allen is the Head of Atmospheric, Oceanic and Planetary Physics in the Department of Physics, University of Oxford. He delivers his final Gresham Lecture on Net Zero, entitled Carbon Takeback: How We Will Stop Fossil Fuels from Causing Global Warming, 6pm, June 10th, 2025, Barnards Inn Hall, Holborn, and online.

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Myles Allen, Final Gresham Lecture on Net Zero, Barnards Inn Hall, 6pm, June 10th, 2025

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Over the three years I've been giving these Gresham lectures, since October 2022, the world has warmed by almost one tenth of a degree; we've experienced our first year in which average temperatures, boosted by El Niño, exceeded 1.5°C above pre-industrial; carbon dioxide and methane emissions have continued to rise; wholesale gas prices in Europe have dropped by 40 Euros per Megawatt-hour; and politicians promising to scrap all climate policies are gaining ground in Britain, Europe and the United States.

So, I'd like to start on an optimistic note.

What if I were to tell you that there is a chance we could stop global warming within a generation without spending a penny of taxpayers' money or providing anything for Reform to grumble about in 2029? In fact, with a simple four-line Act of Parliament, we could take climate change off the political agenda forever. But it is a chance we aren't taking.

This probably sounds rather implausible – viewed from where we are today. But take a different perspective. Imagine the world the decade after we achieve net zero – specifically, net zero global carbon dioxide emissions with methane and nitrous oxide both down as well. Global temperatures are no longer rising. The impacts of climate change are still with us, and sea levels are still rising, but weather has stabilised. Global warming is over.

Do you think we will still be using fossil fuels, or burning limestone to make cement, or coke for steel, anywhere in that post-net-zero world? If your answer is "no", then you really are a pessimist, because even in the most optimistic scenarios, we are still generating plenty of carbon dioxide from fossil sources well past 2100. So, if the only post-net-zero world you can imagine is a fossil-free world, you are assuming we won't stop global warming until well into the 22nd century, by which time temperatures will be three to four degrees above pre-industrial.

If we are to have any chance of avoiding dangerous climate change, we must stop fossil fuels from causing global warming before the world stops using fossil fuels.

Let's think about what that entails.

In our post-net-zero world, every tonne of carbon dioxide generated from geological sources – coal, oil, natural gas or limestone – will need to be captured at source or recaptured from the atmosphere and permanently disposed of, so there is no risk of it ending up back in the atmosphere. Right now, the only scalable permanent disposal options involve reinjecting carbon dioxide back underground. Ocean geochemical disposal or reacting it with certain rocks might be cheaper, but raise other environmental concerns. And important though it is to restore our biosphere, carbon stored at the surface, in forests and peatlands, is vulnerable both to climate change itself and to competition for land for food and bioenergy production.

So, we know what a durable net zero looks like: Geological Net Zero, balancing flows of carbon into and out of the geosphere, the solid earth. This is not controversial: we published a paper earlier this year with all the authors of the six 2009 net zero papers to point out this was what net zero needs to mean if it is to deliver the goal of stopping global warming.

Thus far, not a single company or country has set a goal of Geological Net Zero – perhaps because it makes things rather too simple. Far cheaper to employ a clever carbon accountant to balance your fossil fuel emissions with forest carbon credits – especially if, as current rules allow, you can take credit for carbon absorption that is happening anyway.

But this will eventually change, because we can't solve climate change by turning rocks into trees. All scenarios that meet the goals of the Paris Agreement reach Geological Net Zero early in the second half of this century.

The next question is, who is going to pay for all that carbon dioxide disposal in our post-net-zero world? There are really only two options: either taxpayers stump up, or we include the cost into fossil fuels themselves. Any economist will tell you that it generally leads to better outcomes if those who benefit from an activity, meaning here those who sell or use fossil fuels, deal with their side-effects, rather than

imposing the cost on the general taxpayer.

Of course, everyone (especially the industry) would much prefer the taxpayer to pay. A senior executive of an oil and gas company (which had just reported gross profits comparable to the annual budget of the NHS) once explained to me patiently that “carbon capture and storage is a public good, so obviously the public should pay for it.” Just last week the carbon capture industry of the UK was writing to Rachel Reeves to ask for yet more billions to be poured into carbon capture projects in the UK. For the sake of our planet, those projects should go ahead. But must they be paid for out of the public purse?

Any funding model for climate solutions that depends on taxpayer handouts is vulnerable: just look at what is happening in the United States. The Climate Change Committee estimates the annual bill in 2050 for carbon dioxide disposal in the UK could top 20 billion – comparable to what we used to pay for membership of the European Union, a membership that had a lot more tangible and immediate benefits than a carbon dioxide disposal programme. And remember what happened to that.

Conventional climate policy wonks insist that their favourite policies, carbon taxes or emission trading schemes, will effectively incorporate the cost of carbon dioxide disposal into the cost of fossil fuels anyway. By 2050, they claim, carbon prices will be so high no-one will actually pay them, instead paying someone else to capture and dispose of any carbon dioxide they still generate from burning fossil fuels.

There are three problems with relying on carbon pricing to get to net zero. The most obvious is political: no one likes carbon taxes. Ask Mark Carney. The next is practical: permanent carbon dioxide disposal is expensive, so under a rising carbon price, no one has any direct incentive to deploy carbon capture and storage until all cheaper options for reducing emissions have been exhausted, by which time it will be too late to build out the necessary storage infrastructure.

Then the only way to get to net zero is literally to price out all the remaining sources of carbon dioxide. We consistently see carbon prices rising to over $1000 per tonne before emissions get to net zero in Integrated Assessment Models, several times the cost of capturing carbon dioxide back out of the air and storing it back underground. This is ridiculous, but exactly what will happen if that storage infrastructure doesn’t get built in time. And we’ve had carbon prices in the UK and Europe for over 20 years, and not a single carbon capture and storage facility has been built in response.

The last strike against relying on carbon pricing is a point of principle: if we rely on carbon pricing, governments benefit today from carbon taxes or the sale of emission allowances, giving them a perverse incentive to keep us addicted to fossil fuels. Even in so-called “cap and dividend” schemes, politicians still get to buy votes with that carbon dividend. And the converse is what happens after net zero. Under a carbon-price-based regime, the only way to achieve net negative emissions will be for the government to pay for carbon dioxide removal. So, carbon pricing means today’s taxpayers benefit, without realising it, so they still hate the policy; the policy almost certainly fails to achieve its goal, because there is no guarantee carbon dioxide storage infrastructure is built in time; and the bill for clean-up is dumped on the next generation but one. Is this really the “first best policy”?

So, what’s the alternative? Back to that four-line Act of Parliament. We have already set a goal of Net Zero by 2050, but lots of people are now fretting it’s going to be unaffordable, intrusive and, if other countries don’t follow our lead, ineffective. The solution is not to throw in the towel, but to ask who can afford to deliver net zero, how we can achieve it without dictating how Britons live, and how we can design climate policy so that our trading partners see it as an opportunity rather than a hair-shirt-wearing contest?

We should follow the Willie Horton principle: when asked why he robbed banks, he replied, because that’s where the money is. Who benefits most from our continued use of fossil fuels? Certainly not you, the long-suffering consumer – it is the fossil fuel industry itself.

So, the Act runs something like this: after 2050, you can’t sell stuff in the UK that causes global warming. So, if you’re selling stuff in the UK today that causes global warming, you have 25 years to stop that stuff from causing global warming – by capturing or recapturing all the carbon dioxide it generates and disposing of it permanently. Promising to stop selling your global-warming-causing products just before 2050, like that coal mine in Cumbria that Boris Johnson waved through because it’s license only ran to 2049, doesn’t wash.

The only way to stop fossil fuels from causing global warming is to reduce the net geological carbon intensity of those fuels – that’s the fraction of carbon dioxide generated by their production and use that is

released to the atmosphere rather than being captured or recaptured and permanently disposed of – to zero.

What is a reasonable pathway for the net geological carbon intensity for a company to plausibly claim it is on track to reduce it to zero by a given date? Here, the much-derided IPCC emission scenarios may help. While the absolute numbers coming out of these scenarios are easy to snipe at, we can use them to tease out common features that indicate an underlying truth – what we call an "emergent constraint". Pathways of economy-wide net geological carbon intensity all show a remarkably similar shape: they start at 100%, and flat. All carbon dioxide is currently released into the atmosphere. From the point climate policy kicks in, they all trace out a neat parabola down to zero on what is, by definition, the date of Geological Net Zero.

This is exactly what you would expect: a physicist would call it a geodesic, or path of least resistance – as traversed by Galileo's cannon ball if he'd actually thrown it off the leaning tower of Pisa. When countless hours of computing time and economists' head-scratching come up with something so natural and intuitive, it is very hard to argue for anything else.

Britain has decided to get to net zero by 2050. That would be 5-10 years before the whole world does it in Paris-compliant scenarios, which is reasonable given the 100 years' head-start in burning fossil fuels that we gave ourselves at the beginning of the industrial revolution. We don't intend to rely on international carbon credits (which, if you remember the offsets lecture, are largely nonsense anyway), and we don't have that much peatland to restore, so this has to mean Geological Net Zero.

That parabolic pathway means that, to be on track, we need to be capturing and geologically storing 4% of the carbon dioxide we still generate from ongoing fossil fuel use in the UK 2030, 16% in 2035, 36% in 2040, 64% in 2045 and 100% in 2050. If Kemi Badenoch wants to strut around saying 2050 is too soon, Geological Net Zero by 2055 would mean 11% storage in 2035 rather than 16%. So what? For me, a policy that guarantees a well-defined and durable net zero in 2055 would actually be better than promise of net zero in 2050 based on carbon accounting tricks.

But we don't need to compromise on the time-table. Geological Net Zero by 2050 is completely achievable: the East Coast and Hynet CCS clusters, already under construction, will easily be enough to get us to 16% by 2035. The only catch is that they are being paid for by a combination of taxpayer handouts and penalties on high-emitting industries, so we can expect politicians popping up in 2029 offering to "save the NHS" and "save British Steel" by cancelling these handouts and waiving the penalties (the savings wouldn't save the NHS, and there are better ways of saving British Steel, but that never seems to trouble anyone).

How about a fairer funding model? Everyone who benefits from using fossil fuels should contribute to the development of carbon dioxide disposal, not just a few high-emitting industries. And why should all taxpayers pay, when some use far more fossil fuels than others? So, instead of relying on taxpayer handouts, which are vulnerable to the whims of politicians, and penalties on large emitters, which are vulnerable to move their factories to India, we could impose the obligation to dispose of carbon dioxide "upstream" – on anyone who wants to produce, import or sell fossil fuels in the UK.

Cue shrieks from the Daily Telegraph (part-owned the United Arab Emirates) that this would make fossil fuels more expensive, destroying country life, condemning innocent grannies to heating or eating, and driving the last of British manufacturing abroad. But hang on a minute. A 4% geological carbon dioxide storage obligation by 2030 would add less than a penny to the cost of a litre of petrol. 16% by 2035 might add 5-10p, depending on how much of the bill the industry passes on. If government is really worried, they can always trim fuel taxes or the VAT rate on gas to compensate – after all, they are going to have to wean themselves off fossil fuel taxes as we transition to electric cars and heat-pumps anyway.

We've called this a "Carbon Takeback Obligation", although folks in the fossil fuel industry object to the word "takeback". It's not their carbon, you see. They don't like "obligation" either. But I don't care what we call it, the principle is very simple: if you want to continue to sell stuff that causes global warming, you need to get on with stopping it causing global warming, progressively, over the next 25 years.

By the time we get to 100% carbon takeback in the 2050s, including the cost of carbon dioxide disposal would add significantly to the cost of supplying fossil fuels. Perhaps 60p on a litre of petrol – that's the full cost of recapturing all the carbon dioxide that petrol generates back out of the air and pumping it back underground. That's still less than we already pay in VAT and fuel tax, and less than petrol prices rose between 1998 and 2008 – probably the last time anyone can remember when things really were getting

better. And it's less than prices have fallen since 2022 while I've been giving these Gresham lectures.

Unlike carbon pricing, carbon takeback offers a straightforward route to net negative emissions: if necessary, we just raise the required takeback fraction over 100%. Carbon dioxide removal would then be paid for, not by long-suffering taxpayers, but by the fossil fuel industry and its remaining customers, which is as it should be. What if there are no remaining customers? That would only happen if renewable energy becomes so cheap that fossil fuel demand collapses entirely. Then, indeed, we would have to find other ways to pay for carbon dioxide removal, but at least we will have abundant cheap energy available to make it affordable. But in most scenarios, consumption of the most profitable fossil fuels, oil and gas, remains robust to 2100 and beyond even under the most ambitious climate policy.

No-one liked the level of fossil fuel prices in 2022, but the real problem was that they went up so fast that we didn't have time to adapt. If we all knew that petrol and gas prices were going to go back up closer to 2022 levels by the 2050s, we'd have plenty of time buy more efficient cars, or switch to electric, and insulate our homes properly.

And this is the worst-case scenario in which no other country adopts a carbon takeback policy, so all the cost is simply added on to international fossil fuel prices. If, at the opposite extreme, all countries were to adopt carbon takeback, then the cost of carbon dioxide disposal would simply become part of the cost of extracting and processing fossil fuels. For the vast majority of the fuels we use, extraction and processing costs are much less than what we pay for them: most of what we pay is someone's profit, royalty or tax. So, if, over the next 30 years, we also manage to reduce fossil fuel demand so we aren't reliant on the most expensive marginal fields, then there is no reason why the carbon neutral fossil fuels of the 2050s should be any more expensive than their dirty ancestors are today.

Of course, in this scenario, the fossil fuel industry would be making a lot less money than it might have done otherwise, because it would be paying for all that carbon dioxide disposal, but the vast majority of fields would still be profitable. And long-sighted producers like Saudi Arabia might even prefer a managed transition to a carbon neutral fossil fuel industry – they would call it a Circular Carbon Economy – than a headlong scramble to sell the last barrel of oil before the whole party gets shut down.

In the long term, the success of any climate policy depends on enough countries actually wanting to stop climate change. People who tell you that renewable energy is about to become so cheap we will all just stop using fossil fuels anyway are dangerously optimistic. I hope they are right, of course, but as the true cost of renewable-dominated grids and carbon-free transport fuels and materials becomes clear, we need to prepare for a future in which they are wrong. Renewable energy has been getting cheaper, while fossil energy has not – but a big part of the reason is that so much of what we pay for fossil energy is pure profit. If the fossil fuel industry had to choose between cutting costs and accepting lower profits or going out of business, they have vast firepower to defend their market share.

But in the near term, unlike carbon pricing, there is a reason that other countries might look enviously at a carbon takeback policy, and actually compete to adopt something similar. This is the secret sauce in carbon takeback: unlike every other climate policy apart from unsustainable government handouts, it actually makes a concentrated source of carbon dioxide, like a chemical plant or cement factory, into an asset rather than a liability.

In the first decade of a 25-year carbon takeback policy, the takeback obligation is still less than 20%. Fossil fuel suppliers are obliged to pay the full cost of capturing and disposing of that carbon dioxide, but this adds less than 20% of the cost of that capture to the cost of fossil fuels, a few pence on a litre of petrol. They would naturally choose to capture that carbon dioxide from the cheapest sources available, which are typically the most concentrated: their own refinery emissions, chemical plants, cement producers and so on. So, suddenly, Britain becomes a great place to put a chemical plant, because you can sell your carbon dioxide for storage rather than being liable either to pay a carbon price to emit it or for the full cost of capturing and storing it yourself. Of course, someone is paying: in effect, Britain's car-drivers would be paying to fit carbon capture on Britain's chemical plants. But drivers aren't paying very much – far less than existing petrol taxes. And unlike Jim Ratcliffe, Britain's drivers can't threaten to do their driving in South East Asia instead.

If we truly care about climate change, we should be encouraging high-carbon industries to come to Britain to make sure their carbon dioxide is properly managed, not driving them away. Under a carbon takeback regime, Jim Ratcliffe would be able to sell the carbon dioxide generated by his ethylene plant in

Grangemouth, so he might stop complaining about our high carbon and energy prices. He might even choose to build more plants in the UK, and have cash left over to buy more players for Manchester United.

So, if either Britain or Europe were to adopt a carbon takeback policy, the other would rapidly follow suit, just as they have both been scrambling to respond to the subsidies for carbon capture introduced by the Biden administration (and still surviving) in the USA. As the carbon takeback fraction rises enough to have an appreciable impact on energy costs – remember, it would be a good 15 years before the cost of compliance with carbon takeback rises even as far as the current European ETS price – then adopting countries might need to get more aggressive, such as requiring all importers to prove that their products have been made with carbon-takeback-compliant fuels, or pay a penalty.

Traditional carbon border taxes, like the EU's Carbon Border Adjustment Mechanism, work on a country-to-country level: in a nutshell, Europe proposes to slap a CBAM on any country whose climate policies Europe deems are not up to scratch. I once heard someone from Brussels say "of course, the CBAM is not neo-colonialist". If you have to say that, you have a problem. A carbon takeback policy is much more targeted: if you want to import computers into Europe and you are manufacturing them in a country without a carbon takeback policy, then you have to talk to your fossil fuel suppliers (not many companies) to have them supply you with carbon-takeback-compliant fuel. You will pay slightly more for that fuel, but that is the price of doing business in Europe.

Which brings me to the final puzzle: if carbon takeback has all this going for it, and I've been banging on about it for well over a decade, why has no one adopted it? A big part of the reason is that many of my colleagues in academia have been reluctant to admit the increasingly obvious fact that we won't phase out the use of fossil fuels in time to meet our climate goals. We saw this at COP28, when the COP President, Sultan Al Jaber, said that, while we will stop using fossil fuels eventually, there is "no scenario out there, that says that the phase-out of fossil fuel is what's going to achieve 1.5C." Everyone piled on to brand him a climate denier when what he said was absolutely true.

And just a few weeks ago, Tony Blair said "any strategy based on either 'phasing out' fossil fuels in the short term or limiting consumption is a strategy doomed to fail." The Telegraph and Reform trumpeted that even Blair admits "Net Zero 'doomed to fail'". Everyone promptly turned on Blair, falling headlong into the trap of admitting that net zero really is a stalking horse for limiting consumption. No one bothered to point out that this wasn't what Blair actually said.

But the real problem with carbon takeback, I suspect, is that no one immediately benefits from it. The fossil fuel industry hates it, of course. I've met plenty of people in the industry who admit that something like this will happen eventually, and would even welcome it, but they are firmly barred from saying so: their lawyers are scared stiff of implying they have any responsibility for the carbon dioxide generated by the products they sell. When the Oil and Gas Climate Initiative considered the idea, they landed (of course) on a Carbon Storage Obligation imposed on large emitters. This went nowhere, because most industrial emitters are working at wafer-thin profit margins already.

Environmentalists think it will be a distraction, taking the pressure off fossil phase out. At an event in Oxford last week, Natalie Bennet (former co-leader of the Green Party) was plugging her new book, "Change Everything": the title says it all. She was completely dismissive of my "false techno-solutions" that don't involve reimagining our society. Let's be clear, I would love a politics based on a "sustainable, democratic sharing of the Earth's resources." But we can't afford to make solving climate change hostage to anything that a large fraction of the British population would see as a general woke agenda.

The renewable energy industry doesn't like carbon takeback because it undermines the case for green subsidies. The Treasury doesn't like it because it doesn't raise any revenue. And politicians are scared stiff of anything that makes it transparently clear that fixing climate change means certain products are going to get more expensive.

So, carbon takeback really has nothing going for it, apart from one tiny thing: it stops fossil fuels from causing global warming. And once you get over the fantasies that we are going to phase out fossil fuels in time to avoid dangerous climate change, or set up a global giga-scale carbon dioxide removal programme funded entirely by future taxpayers, it is the only way to stop fossil fuels from causing global warming.

We got tantalisingly close on a couple of occasions. In 2015, Lord Oxburgh introduced an amendment to the Energy Bill that would have consulted, no more, on "measures requiring extractors and importers of

petroleum to contribute to the development of carbon capture and storage". It was supported by all three major parties, including by Matt Ridley, a well-known sceptic of most climate policies. Then Renewables UK, the wind and solar lobby, got it rephrased to "contribute to the cost of low-carbon development", the Treasury objected this was just a hypothecated carbon tax, and the whole thing died.

In 2019 we got invited (through none other than Matt Ridley) to present it to the No. 10 Policy Unit – they were really interested, and asked the civil servants at BEIS to look into it. Then Covid hit. And just last December, one of you, Jason Casey, offered to introduce me to his MP, Sarah Jones, who also happens to be Minister of State responsible for Carbon Capture, Utilisation and Storage. With impressive speed, we got a very friendly invitation to meet at her constituency surgery.

I was beside myself – finally we were going to explain the idea to the responsible Minister in a government that prided itself on effective and pragmatic climate policy. Her constituency office followed up to ask what the meeting was about, and, like an idiot, I told them. They immediately emailed to say this was ministerial business and passed it across to the civil servants in her ministerial office. A few weeks later I received a two-line email saying "due to a busy diary, the Minister cannot meet." Let's be clear, I'm sure Sarah Jones knew nothing about it: it will have been passed to some long-suffering civil servant who's one priority is to get the next round of CCS clusters funded in the current spending review. The last thing they need is some random academic popping up proposing a whole new funding model.

I get it that the government has a lot on its plate. But carbon takeback is a way of taking a very large issue off its plate. Under a carbon takeback regime, the fossil fuel industry itself is obliged to take care of net zero. Of course, government will still have a lot to do to police the deal, to make sure the industry really does get rid of the carbon dioxide it is supposed to. And we will still need policies to encourage a shift to renewables, and electrify transport. But these then become energy security policies. Partly, but only partly, because net zero is taken care of, we expect fossil fuels to become scarcer and more expensive over the coming decades, so we'd better reduce our dependence on them. And it makes clear that anyone waving a placard saying "No to Net Zero" is actually saying "let's let BP and Shell off the hook", which might not resonate as well with potential Reform voters.

Politicians increasingly like to say Net Zero 2050 is unachievable. They clearly haven't talked to our oil and gas engineers. Those engineers know, if only their lawyers allowed them to admit it, that if they had to capture one tonne of carbon dioxide for every tonne generated by the oil and gas they sell and pump it back under the North Sea, and the same rules applied to everyone, they would do so. One major company has already announced its intentions: in 2020, Oxy announced its goal of achieving net zero greenhouse gas emissions from both its activities and, crucially, the products it sells, by recapturing the carbon dioxide those products generate and pumping it back underground, before 2050. They have been investing in that plan ever since, including building the world's largest facility for capturing carbon dioxide from the air. Of course, it's a goal, and dangerously dependent on US government policy – but with the right policies, they are 100% confident they can do it.

Oxy fully intend to use that captured carbon dioxide to extract more oil, which riles environmentalists. But as a climate physicist, how can I object? If Oxy pump down more carbon dioxide than is generated by the oil and gas they extract, and that carbon dioxide stays there, then why should they not sell net zero oil? Of course, there is a role for government is making sure that is true. If Oxy are serious, they would welcome that scrutiny, if only to stop their competitors making specious claims.

Oxy's competitors grumble about how hard this will be, no doubt laying the groundwork for price hikes. But this is the same management that claimed taking lead out of petrol would cause chaos on our roads, or fixing acid rain would bankrupt the power sector. Once we all realise there is no alternative, we just have to ignore their whingeing and get on with it.

So, there you have it. One policy, one outcome, to stop fossil fuels from causing global warming. But too many of those responsible for climate policy are far too busy delivering the next subsidy regime, or redesigning carbon accounting rules, to even think about it: it's too simple, too transparent, and makes too many of their favourite policies redundant.

This is where you come in.

I agreed to give these Gresham lectures – 18 hours on Net Zero – not because I think you need my wisdom, but because I need your help. I need you to follow Jason Casey's lead and get involved. And you can – a couple of young colleagues in Oxford Net Zero recently set up Carbon Balance, a non-profit dedicated to promoting the principle of producer responsibility for fossil fuels. Go to their website, carbon-

balance.earth, and find out more.

And write to your MP, or get down to their surgery, and ask why don't they just require the fossil fuel industry to get rid of the carbon dioxide generated by the products it sells rather than dumping the whole burden of achieving net zero on you, the consumer? If they tell you that's because that would make fossil fuels more expensive, then point out: so would your carbon tax, or emission trading scheme – and the difference is, this would actually work.

If enough of us, who are neither invested in blocking climate action nor already invested in a specific climate solution, start pointing out the obvious – that we need to fix fossil fuels before we phase them out – they won't be able to ignore us. So, get out there, start talking, and let us be the last generation that allows fossil fuels to cause global warming.