



NOT DARK YET BUT IT'S GETTING THERE

David Frost

The Global Warming Policy Foundation
2023 Annual GWPF Lecture

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About the lecturer

David Frost, The Rt Hon Lord Frost of Allenton CMG, was the UK's chief Brexit negotiator, and is now a Conservative member of the House of Lords.

Opening address

From Dr Jerome Booth, GWPF Chairman

Before I introduce Lord Frost, I would like us to remember our founder Lord Lawson, who very sadly passed away at the beginning of last month. We wouldn't be here without him. It was his bravery and his courage and inspiration to set the GWPF up, as well as do all the other wonderful things he did in his life, often despite many around him disagreeing with him. And that is what we need in public life more than ever: proper challenge. And, of course, the GWPF for all its being made out to be all sorts of things, is an educational charity which attempts to have a debate and to be a forum for that debate. We welcome challenge, and proper critical thinking on what are very important issues.

Lord Frost almost needs no introduction at all, as he is so well known. He was a key advisor to Boris Johnson and then became a cabinet minister and our chief negotiator for Brexit. I am delighted to introduce him today to present on the topic 'Not Dark Yet, But It's Getting There'.



Not dark yet, but it's getting there

Is Net Zero compatible with mass prosperity?

2023 Annual GWPF Lecture

David Frost, The Rt Hon Lord Frost of Allenton CMG

Introduction

I want to begin this lecture by paying tribute to Lord Lawson, Nigel Lawson, who sadly died last month. It is a striking, and in many ways rather depressing, illustration of how much politics has changed since his time in government that his great memoir, *The View from No.11*, contains no index entry for 'global warming', 'climate change', or even 'environment'.^{*} That changed very soon after he stepped down, and he got involved in the debate with gusto, set up this Global Warming Policy Foundation, and was one of the few politicians who were willing to subject the consensus political response to climate change to real debate. To the extent we are still able to debate these issues rationally, it is very much thanks to Lord Lawson's efforts over the last 30 years. He is very much missed by all of us.

It is an honour to deliver the GWPF Annual Lecture this evening. I do so in the footsteps of very many distinguished predecessors and true experts: Steven Koonin in 2021, Richard Lindzen, Matt Ridley, and many more. Mentioning these names shows why, well before I became a trustee of the Foundation myself, I was an avid reader of these lectures, as a beacon of rationality and reliable fact in a world which seemed so devoid of them. So it is with trepidation that I now put a foot into this debate myself. I am encouraged, however, by the fact that it is not only scientists who have spoken here. There is a wider perspective which we need to hear and which, for example, Cardinal George Pell – another sad loss this year – brought in his lecture in 2011. The climate change issue cannot be left to scientists. How it is handled affects the whole of society. That is where I come in.

I came into politics late, and through Brexit not climate. But 30 years dealing with the EU gives you a very good nose for bad economics, for lobbying, rent-seeking, for *la pensée unique*, for corporatism, and indeed for a suspicion of capitalism and markets more broadly. All those things seem to me to be also highly characteristic of the way we – by which I mean this government, but also the West and its allies more broadly – are handling the challenge of climate change. That is why I care so much about this issue. I care about the risk that we are legislating ourselves into economic decline. It is therefore on that aspect, the economics, that I will focus primarily tonight.

Hence the title of my lecture: 'Not Dark Yet, but it's getting there'. This is of course a lyric from the eponymous Bob Dylan track – a song which is a reflection on his own mortality and his declining powers as a human being. I invite us tonight to make the same reflection about our society. It is not just about whether we literally go dark, as we can no longer keep

^{*} At least in my early copy.

the lights on – but also whether we in the West can sustain the confidence to face our challenges and to succeed as the world's leading economies and societies, or whether we alternatively sink into miserabilism, degrowth, and economic decline.

So tonight I'll speak mainly about how we are handling the consequences of the scientific view of climate, rather than whether that view is well founded in the first place. Still, every speaker on this subject must nevertheless make their view clear, if only as inoculation against some of the wilder accusations that inevitably come one's way. So: it seems to me that the physics of the greenhouse effect is extremely well established. The ability to predict what that means for the climate is less so, but it seems overwhelmingly likely that there has been human agency in the global temperature rises of the last century or more. That said, as Steve Koonin, the distinguished physicist and under-secretary for science in the Obama administration, who I have already mentioned, notes in his book *Unsettled*, 'the science is insufficient to make useful projections about how the climate will change over the coming decades, much less what effect our actions will have on it'.¹ He later describes 'over-the-top statements about 'climate emergency' and 'climate crisis' as 'increasingly divorced from the science'² – a view which seems very reasonable to me. Overall I take it as a desirable goal to reduce the amount of carbon we emit, but in a way which is proportionate to the threat, if threat there is, and which sustains economic prosperity and growth. Climate change is a problem, one of the many we face: it is not existential and it doesn't mean extinction is coming.

The science is, in my view, distinct from the political goal of 'Net Zero 2050'. That is an arbitrary target conceived to meet another arbitrary target i.e. to keep temperature rises to 1.5 degrees above preindustrial levels. The causal connection between those things is very much open to debate, so are the necessary trade-offs, and so is the methodology by which we get to the target. I refuse to accept that questioning the specific target of Net Zero 2050 can be or should be off-limits. Indeed, only propositions that subject themselves to debate are worthy of being taken seriously in the first place. So we must keep asking: is Net Zero 2050 an achievable goal at an acceptable cost? And are we going about it in the right way?

My answer, perhaps not surprisingly, is no. I am going to argue that the route we have chosen to deliver net zero is inevitably wasteful and damaging; that it is totally implausible that it will boost growth, and much more likely that it will reduce it; that as a result governments are pursuing completely incompatible political and economic objectives, but will not be able to do so for ever; that when the crunch comes they may well double down on further economically damaging measures in order to meet the goal; and, therefore, finally, that people like me must prepare for that moment when we will need to try to get onto a more rational path with a rethink of net zero methods and, almost certainly, timetable.

Our damaging road to net zero

Much net zero policy is about how we predict the future. That is difficult. As we have seen from the OBR's and the IMF's efforts in the last year,[†] even short-run economic predictions within well understood economies are subject to huge and damaging errors. Yet the uncertainties that we face on net zero go massively beyond this. A huge number of factors are at play – not just the inherent unpredictability of any modern economy, but uncertainty about technologies: hydrogen, SMRs, CCS, and much more;[‡] the effect of decisions made by the government and by regulators and their interaction domestically and internationally; the impact of the different mixes of electricity generation, the effect of renewables on the grid, and much more. On top of that comes massive international uncertainty and extremely dangerous geopolitics. This means that predictions are almost certainly going to be wrong.

One can test this by looking backwards and checking predictions actually made, something that policy makers rarely do. Look at the predictions made in the Labour government's 2003 Energy White Paper.³ This is in fact quite a sober document, in many ways much more economically rational than more recent outputs from government – which I will come on to. The political environment was relatively calmer. Still, they got a lot wrong. They obviously did not foresee shale gas and the dramatic upending of assumptions about future prices. They envisaged much more extensive wave and tidal power. They thought there would be much more local generation from these sources, but also from biomass and waste. They believed there would be much more backup capacity to handle renewables' intermittency and they thought nuclear power would be on the way out. As a result, they took us down a route that, today, is clearly problematic.

Governments nowadays have exactly the same difficulties in making predictions, and for the same reasons. It is of course well-known, since Hayek, that knowledge about an economy is dispersed and cannot even in principle be known by planners. The inherent uncertainties in the current situation mean that today's confident predictions about energy prices, technologies, their economic and scientific effect, and their interaction with the climate are essentially just guesswork.

You might think, therefore, that the right thing for governments to do would be to invest in basic scientific research and experimentation, to establish a simple regime for taxing the externality of carbon emissions, to put in place a supportive regime for planning and infrastructure, and otherwise stand back and let the market sort out how best to meet the policy goal, however it is defined and however demanding it is.

Of course governments have done no such thing. They have all, instead, chosen a highly dirigiste route to net zero. Despite

[†] OBR, Office for Budget Responsibility; IMF, International Monetary Fund.

[‡] SMRs: small modular (nuclear) reactors; CCS, carbon capture and storage.

all the evidence, they believe they know best and are confident in the technologies that will get us to the goal. We have targets for almost everything: cars, boilers, hydrogen, offshore wind, solar. They have designed highly complex policy regimes to take us there, which assume they are capable of calibrating exactly the right amount of tax and subsidy. As a result they have created systems that are so complex that nobody can understand them. There is nothing like a free market, yet there is no clear government direction or centralisation either. The consequences of this system, it being unpredictable, are themselves unpredictable, and the unwelcome consequences themselves then have to be corrected for – as we see at the moment with the proposed hydrogen levy.

As Dieter Helm wrote of the UK energy market in his 2017 energy review:⁴

The sheer number of interventions in the UK energy market is so great that few if any participants in the markets, few regulators, ministers or civil servants can have grasped them all. The inability of the market participants to grasp all these interventions is in itself likely to increase the cost of energy...The result is that it is not possible to make a cost-effectiveness assessment of almost any of the specific policies.

This has happened for the same reason it always does: because governments are generally made up of clever people, and clever people tend to think they know best how to run things. This is true generally – look at the calls from all sides of the political spectrum at the moment for a new industrial strategy – but it is perhaps particularly true in the specific area of energy and climate, which is full of highly educated people who believe that their narrow specialisms, often painfully achieved, qualify them to predict the future accurately, and certainly often make them disdainful of people who question them.

We can be confident of one thing in assessing this dirigiste approach: that it will be highly economically inefficient. We can be sure that regulators will be captured, rents will be sought, and poor decisions will not only be taken but will be persisted with long after it is clear they are irrational. Moreover, we are investing in technologies that are certainly less efficient at producing energy than their predecessors, and less reliable in delivering it when it's needed, hoping that something will turn up to help out, and at the same time imposing, or promising, restrictions on lifestyle choices to deal with the consequences.

We all know the examples. In Britain we will soon be making people buy inferior and more expensive boiler technology and driving many out of the new car market if they aren't prepared to take a punt on electric vehicles. House designs are increasingly constrained, and indeed energy efficiency requirements are squeezing the whole housing market. Most egregiously, we are forcing investment in windmills, a technological breakthrough

first mentioned when Henry II was on the throne, but less obviously suited to providing power on demand today, given that we have so far found no solution to the intermittency problem other than maintaining a back-up network of gas and coal-fired power stations. The battery storage technology does not exist, hydro storage can't be developed on anything like the right scale, and hydrogen remains costly and unproven. Moreover it is surely obvious that renewables plus back up will be more expensive than just the back up. Despite all these problems, many seem to believe that the solution to our problems is just to keep building windmills until we have 'enough'.

In normal circumstances one might expect political parties advocating this vision of legal compulsion to adopt defective technology to be rapidly chucked out of office and replaced by those backing economic growth and higher living standards. That isn't happening. That is in part because the intellectual climate has become highly collectivist. As we discovered from the Liz Truss interlude, there seems little real understanding of how a modern economy or a free market actually functions, indeed even of the concept of 'growth' as such. Hardly anyone thinks that desirable outcomes can be achieved by the market, and almost everyone thinks that if the government is not doing something then it isn't happening.

The normal tendency of intellectuals to fail to understand economics has been reinforced, in Europe anyway, by the widespread belief that the purpose of policy making is to tame markets not liberate them, and by the view that the 2008 crash and bailouts was caused by free market capitalism rather than by bad regulation and poor central bank decision-making. There has been a general drift leftwards, and of course the Left, including that substantial proportion of the Left which thinks it is on the Right, always like control and direction, an instinct which explains why they liked lockdown so much, and which they find conveniently reinforced in Net Zero.

On growth and net zero

But there is another reason why normal political mechanisms aren't working. It's that governments are now claiming, with a straight face, that net zero policies are actually good for the economy. That is a relatively recent development. Let me refer again to the 2003 Energy Review. This suggested that dealing with climate change – on a much less demanding target of a 60% reduction by 2050 – would cost up to 2% of GDP.⁵ That may have been an implausibly low figure, but it is at least a cost. By this year, in its March response to the Skidmore energy review,⁶ we find the government saying 'net zero is the growth opportunity of the 21st century and could offer major economic opportunities to the UK.'⁷

The Skidmore review itself said 'In some estimates, the UK would see approximately 2% additional growth in GDP, through

the benefits from new jobs, increased economic activity, reduced fossil fuel imports and cost savings (for example cheaper household bills). That 2% figure goes back to just one rather thin report, dating from 2020, produced by Cambridge Econometrics, which claims extra growth of 2–3% by 2050 if the Sixth Carbon Budget and its successors are fully implemented. It's hardly comprehensive or robust.

In truth this whole area is riddled with economic fallacies; not just the Cambridge Econometrics report, but report after report, comment after comment, makes the same mistakes. Let's just single out a few.

- We see Bastiat's famous broken windows fallacy, as expounded in his essay '*Ce qu'on voit et ce qu'on ne voit pas*', the view that capital destruction is actually good for the economy because of all the work generated in repairing it, rather than seeing that such activity does not increase the net stock of wealth and does not take into account the opportunity cost; that is, how the resources could have been used on something more productive. In our case, much net zero investment simply replaces existing capital. It doesn't improve it, and indeed arguably what we are left with is worse than what we had before, leaving us with an energy sector that is less productive and less useful than the one we had at the start. How does that make us a more productive economy?
- We see the persistent temptation to count benefits but not the costs. The Cambridge Econometrics report explicitly says that its modelling is based on the assumption that taxes will go up to fund the extra public investment required, which they claim is only 1% of GDP, though it is almost certainly a lot more – I will come on to that. Will this not affect economic growth? Won't the rickety renewable-heavy grid, or investment by private firms in the private generators they will need to ensure security of supply, or the general effect on the business environment, also affect growth?
- We see optimism bias. As Dieter Helm (again) wrote last month,⁸ 'It is not good enough to simply assume that the costs for all the 'good' stuff will just follow a sharp line downwards, whilst fossil-fuel prices will remain volatile and ever higher.' Optimism bias is a particular feature of judgements about the direct costs of the transition to net zero, as opposed to the economic effect. Cambridge Econometrics say this will be 1% of GDP annually. Skidmore says 1–2% of GDP. Independent studies suggest it is going to be about three times that – well above any conceivable cost of adaptation to increasing temperatures.
- We see illusory certainty and misplaced confidence in prediction. Part of the justification for Cambridge Econometrics' 2–3% extra growth figure is a belief that electricity prices will be lower by 2050. Good luck with that. The growth figure itself could of course be expressed alternatively as additional growth of

0.06–0.10% in each of the 30 years from 2020. That is essentially a rounding error. Nobody can make predictions of such precision and I say that such a prediction is not meaningful.

- We see the view that resources are always available. Cambridge Econometrics base their growth figure in part on an assumption that there are unemployed resources, which can be mobilised by public investment. In this world there is lots of capital waiting to be used, we always have enough workers, there are no timing complexities or linkages that must be properly sequenced, foreigners are always willing to fund the UK, and UK consumers are always happy to save instead of consume. Massive projects, such as insulating every home in the UK or doubling the capacity of the electricity grid, can be undertaken without any resource constraints or effects in the wider economy. That is not a realistic depiction of the world we live in.
- And finally we see all the general fallacies always associated with industrial policy: that individual businesses' prospects are the same as the economy's prospects, that certain kinds of industry have accurately predictable spin-off effects on the wider economy and are therefore worth supporting with public money, that the overall prosperity of the country can be increased by pumping public money into industries in depressed areas, that successful technologies can be reliably predicted ex ante, or – perhaps the most widely cited of all – that the large numbers of jobs created in green industries are a benefit to the economy rather than what they are, a cost of investing in technology that is inferior to its predecessors.

It seems to me quite implausible, given this litany of fallacies and economic solecisms, that the current net zero programme is going to boost growth. Quite the opposite. Much of this investment will turn out to be wasted. To the extent it is not, it will deliver us a system of energy production, distribution, and consumption which is higher cost, lower output, less robust and less efficient, and indeed is already doing so. This will have effects that are entirely predictable and already visible. We are seeing supply disruption in parts of the US, as strains on the grid grow. In Britain we are seeing lower productivity across the economy and disinvestment in relatively energy intensive industries. That is exactly what you would expect to see. It is for the net zero proponents to prove, not just say, that the basic principles of economics will be different in future. I don't think they can.

Now it is important not to overstate the consequences and become catastrophists, like some net zero advocates. The net zero plans are a significant drag anchor on the economy, not a crisis. Market economies are highly flexible things, as we've learned in recent years. Europe has generally responded much better to last year's energy crisis than many thought possible, though we also got lucky with a relatively warm winter. Even the much more extreme cases of sanctions against Qatar a few years ago, or against Russia this year, have in fact, after a period of adjustment, had

remarkably little effect on the economies concerned. The South African economy also copes, somehow, with a seriously problematic energy sector. But, as that last example shows, the drag anchor does really matter and does make a difference. It matters especially if only certain countries – that is, the West – are imposing it on themselves, and especially if the foreseeable measures seem likely to get tougher, not softer.

Contradictory objectives and cold feet

I sense our own government is beginning to realise that the economics are more doubtful than the net zero proponents argue. If, as some commentators say, our Prime Minister is beginning to get worried by the costs of net zero, we can only welcome that. There is evidently some debate within government on the balance between security of supply, price, and decarbonisation. As the Climate Change Committee points out, UK government policy is already not consistent with the declared policy of decarbonising the energy grid by 2035. I quote Dieter Helm for the last time: he comments: 'There's very little chance that the 2035 target will be met, and no chance on current policies.'⁸ So we must welcome the Government's seeming willingness to push gently against the net zero ideology, for example with the proposed Cumbrian coal mine, the opening of new areas for exploration in the North Sea, and the renewed push behind nuclear – though of course in all these areas wider policy, for example on taxing the energy sector, has to be made properly consistent with that too.

We can also see it in the incipient questioning of net zero measures across Europe. The EU is getting cold feet about abolishing the internal combustion engine. Here in the UK, the politics of heat pumps and electrification are beginning to make themselves felt. Ipsos Mori polling from last year shows that support for most specific net zero measures is falling.⁹ The most strongly supported measures are those which most people probably believe would not affect them – changes in pension fund investment rules and frequent flyer levies – while support for phasing out gas boilers has halved and support for EV subsidies is now only slightly positive.

Yet there remains a long way to go. The atmosphere of groupthink is extremely strong. Public opinion leans heavily one way, with huge majorities in favour in principle of net zero, and is easily maintained like that because of the practical limitations on free debate. The net zero opinion is a high status opinion; the crunch point is a long way off, and no doubt many people also think 'all these clever people can't be totally wrong.' Many even on the right of British politics, supposed advocates of free markets and of economic rationality, seem reluctant to think hard about net zero. Overall there seems to be an active determination across politicians and opinion formers *not* to look too closely at the issues. That is worrying. As the great Alfred Sherman said, 'You can wake a man who's asleep, but you can't wake a man

who's pretending to be asleep.'

In fact, my sense is that members of Western governments actively prefer to live in complete cognitive dissonance rather than confront what they know in their hearts: that they are pursuing unfeasible and internally contradictory policies. To summarise the situation:

- Governments are pushing a set of economic policies which they say are essential to save the planet.
- Yet even so those policies are not consistent with the declared goal and not tough enough to achieve it.
- Nevertheless those policies foreseeably make the economy worse.
- Yet governments tell their voters the policies are good for them.
- But nevertheless impose them by compulsion rather than allowing free choice.
- And sustain and support a political debate in which it is very difficult for anyone, including themselves, to explore the alternatives.

A crunch point is coming

I do not think this can be sustained indefinitely. Unless we are rescued by an unforeseen technological bonus, something, at some point, will crack.

There seem to me to be two possible directions of travel. The first possibility is that resistance to net zero measures grows and governments respond to that, by abandoning or (more likely) delaying the goal, or by going about it in an economically more rational way, as I set out earlier – though this will of course make the costs even more visible and obvious. This could happen as doubts about the nature of the 'crisis' grow, and as voters in the West get frustrated by the persistent slow growth and increasing restrictions on their lifestyle while the rest of the world carries on as normal. The Dutch Farmers' Party's success is a straw in the wind here, but to make any real impact mainstream political parties here and across Europe need to pick up the issue, and it would require a persistent minority to push hard to change the debate. This is not impossible – we saw it in the US and UK on lockdown policy during the pandemic. But at the moment the political conditions seem a long way from allowing this to happen.

The second possibility is one in which governments recognise they can no longer credibly sustain an economic justification for their measures, but the wider politics and the reluctance to admit error mean they cannot abandon the target and must try to reach it. At that point we should expect to see a ramping up of the catastrophic risk rhetoric in order to justify much tougher measures, the diversion of perhaps 5% of GDP annually, maybe

more, together with assertive measures to control consumption and demand. My worry is that the broader climate of economic and political debate tends to lead us in this direction. The huge focus on lifestyle change to save the planet, the politicisation of everyday lifestyle choices, the emphasis on living local and sustainability rather than being a burden on the earth, and the focus on reducing energy consumption rather than seeing cheap and abundant energy for what it is – a necessity to improve human lives – all this prepares the ground. Worse, policy during the pandemic showed how difficult it was for most governments to escape the climate of opinion they had created, to admit to errors, and to change course. All this is seriously alarming. If we don't resist this miserabilism now, an approach that ends with lifestyle restrictions and rationing, we will risk seriously damaging levels of economic irrationality in the next decade. That outcome would risk us not just going dark through power supply shortages but could set the West seriously on the back foot in the geopolitical competition of the coming years.

Arguing for a more rational path

The job of those who are willing to question the rush to net zero is to see this crunch moment coming and to start to get the politics ready. We must show that pushing for net zero on the current timetable and with current methods involves unacceptable costs to the economy and to individuals. We must persistently question the view that voters must just live with those costs and adjust their lifestyles as a result. That doesn't involve claiming that net zero, or something close to it, is an undesirable goal: carbon reduction is worth doing. It involves explaining that we have chosen a method that ensures vast waste, inefficiency, cronyism, and economic decline, the costs of which will be borne by the average voter. Accordingly, we need a rethink of the methods and, almost certainly, the timetable. And we must do this in ways which can be easily communicated and resonate with public opinion.

I suggest the following areas:

- First, we should keep underlining that there is not just a problem, there is a solution. That is gas to nuclear, backed with investment in fundamental research, and taking advantage of technological advances. This doesn't require massive reinvestment in new energy production of doubtful value. The government can stop guessing about future winners and support investment in technologies that exist now and offer the best, fastest, and most reliable way of getting emissions down quickly.
- Second, we may therefore need to be more dismissive of current renewable technology as an unnecessary complication. We need to find a much clearer way of explaining why renewables are inherently more expensive than the other options, and communicating the obvious point that if you need renewables plus backup, why not just have the backup and avoid all other prob-

lems?

- Third, we must keep underlining the costs to the average voter – the mounting totals of renewables subsidies, both on bills and in tax, the extra costs of poor quality boilers and electric cars, the impact of compulsory insulation and energy efficiency, and much more. Moreover we can point out that, even at this level, we are off track to deliver net zero. All the pain is not even delivering the goal.
- Fourth, point out who is benefiting: the wealthy who can afford dubious carbon offsets, the green energy companies that are raking off taxpayer subsidies, and many more. They're getting the benefits and meanwhile small businesses that produce useful products are being crushed by the burdens.
- Fifth, point to lockdown. In 2020 the banning of most human contact and travel resulted in a fall in UK emissions of just 9%. Imagine what it would take to get that figure down significantly further. Are people prepared to live with very much tougher restrictions on their life for ever?
- And finally, be positive. We have allowed net zero advocates to become associated with positivity, with the clean green future, when in fact what they offer is a future of rationing, of restrictions, and of miserabilism. We need to keep underlining that we believe in the future, it is we who have a solution for the problem of cost-effective energy at scale, and it is we who believe human ingenuity will solve the climate change issue in a way that makes us all better off.

To conclude. We aren't dark yet, but we do risk getting there. At the moment we are heading in the wrong direction. We are hamstringing ourselves, making our people poorer, reducing opportunity, and as a result limiting our economic, political, foreign policy, and defence capacity – our ability to get what we want in the world and make ourselves richer. But at the same time there are the first signs of consumer resistance to the practical consequences of the net zero ideology. A crunch is coming. We must do everything we can to change the debate and be ready for the moment when we can hope to push things in a different direction. The future of our societies rests on it.

Notes

1. *Unsettled*, Steven Koonin, p. 4.
2. *Unsettled*, Steven Koonin, p. 5.
3. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/272061/5761.pdf.
4. <https://www.gov.uk/government/publications/cost-of-energy-independent-review>, para 2 and 3 of the Review.
5. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/272061/5761.pdf, para 1.13.
6. <https://www.gov.uk/government/publications/review-of-net-zero>.
7. <https://www.gov.uk/government/publications/independent-review-of-net-zero-government-response>.
8. <https://dieterhelm.co.uk/publications/the-net-zero-2035-target-for-electricity-is-not-credible/>.
9. https://www.ipsos.com/sites/default/files/ct/news/documents/2022-11/Net%20Zero%20Policies_October_2022.pdf.

About the Global Warming Policy Foundation

People want to see policies that enhance human wellbeing and protect the environment; policies that don't hurt, but help. The Global Warming Policy Foundation (GWPF) is committed to providing a platform for educational research and informed debates on these important issues.

In order to make progress and advance effective policy assessments, it is essential to cultivate a culture of open debate, tolerance and learning. Our aim is to raise standards in learning and understanding through rigorous research and analysis, to help inform a balanced debate amongst the interested public and decision-makers.

We aim to create an educational platform on which common ground can be established, helping to overcome polarisation and partisanship. We aim to promote a culture of debate, respect, and a hunger for knowledge.

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2010	Vaclav Klaus	The Climate Change Doctrine
2011	George Pell	One Christian Perspective on Climate Change
2012	Fritz Vahrenholt	Second Thoughts Of An Environmentalist
2013	John Howard	One Religion Is Enough
2014	Owen Paterson	Keeping The Lights On
2015	Patrick Moore	Should We Celebrate Carbon Dioxide?
2016	Matt Ridley	Global Warming versus Global Greening
2017	Tony Abbott	Daring to Doubt
2018	Richard Lindzen	Global Warming for the Two Cultures
2019	Michael Kelly	Energy Utopias and Engineering Reality
2020	Frank Furedi	Narratives of Existential Threats in the Climate and Covid Era
2021	Steven E Koonin	Unsettled
2023	David Frost	Not Dark Yet, But It's Getting There

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