

## **The road to zero**

***By David Hearne, Researcher, Centre for Brexit Studies***

That the earth faces a period of rapid warming due to human activity is now beyond reasonable doubt (and has been for some time). Whilst there remains some room for genuine scientific discussion over the magnitude of the effect, the direction is clear (I won't labour the analogy with the economic impact of Brexit here).

Moreover, and in contrast to Brexit, even conservative estimates of the impact are deeply troubling on a global basis. The upshot is that society needs to reduce emissions very much faster than many laypeople – including me – realised until very recently.

Of course, I learnt about the “greenhouse effect” in school. However, back in the '90s and noughties it seemed a rather abstract thing. Technology and science would find a way to save us – it always did. We had a good half-century to get there (a lifetime when you're only 15).

Technological progress in the low carbon sector since then has been remarkable. The only thing that matches the stunning success of science and engineering has been the lamentable failure of politics. To a lesser extent, however, economics has also been at fault.

We got embroiled in discussions about the right discount rate to use and modelling assumptions to make when trying to devise optimal policy choices. The emperor was busy fiddling in his ivory tower while Rome burned.

In retrospect this was an absurdity. Partly because when discussing the future of the planet, we should be extremely risk averse and partly because we have a clear moral obligation to future generations.

Likewise, I know and agree with the rationale behind Pigou taxes and carbon emissions trading permits. However, we need to be honest about the scale of the challenge and the speed at which we need to resolve it.

As such, solutions that are traditionally considered “economically suboptimal” might need to be imposed due to the time optimal policies might take to have the desired result. Likewise, the economic incentives to reduce emissions are not nearly strong enough.

The argument, “our [UK1] emissions are tiny compared with those of China or the USA. Why should we act when their emissions reductions are so much more modest?” is like asking, “Why vote?” Call it a prisoner's dilemma<sup>2</sup>, call it the “tragedy of the commons” or call it something else. The reality is that we are morally obliged to act, even if others do not. Moreover, we are not powerless. As the EU's mooted, “carbon border adjustment mechanism” implies, we have the ability to shape our indirect emissions.

So, bringing all of these themes together, what does this imply in practice?

(1) Buy time.

(2) Do the easy stuff first!

(3) Don't let the perfect be the enemy of the good.

With regard to the first, some greenhouse gases are potent but short-lived. Dramatically reducing those expands the window of opportunity. This means tackling our methane output. An easy win here is tackling agricultural emissions, particularly from dairy and red meat.

As someone who loves steak and a glass of red wine, followed up by yummy cheese, this is a sadness to me. However, this is an easy thing to do and has additional health benefits. In the not-too-distant past, red meat was something that could only be afforded on rare occasions when there was something to celebrate. Likewise, much of the human race is lactose intolerant.

So yes, enjoy a leg of lamb at Easter or Eid, enjoy a succulent burger to celebrate graduating and splurge on port and cheese at Christmas. But the weekly kebabs, spag bol and chilli need to become a thing of the past for all of us. Similarly, milk is a great source of calcium for my children, but I'm 35 and so daily milk on cereal is going to end up on growing my belly rather than my bones.

In terms of other "easy stuff", continuing to decarbonise the electricity grid is an easy win. Yes, there are issues around intermittency, but there remains scope to dramatically scale up renewable generation. It's hard to see any future fuel source that doesn't use electricity as an intermediary (whether hydrogen, battery power, domestic heat pumps or anything else).

Also (politically) easy: make carbon taxes palatable by compensating consumers. Specifically, we can impose tax on natural gas but then use the proceeds of the tax to make a lump-sum payment to all property dwellers<sup>3</sup>. Likewise, we can increase duty on flights, meat and dairy and make lump-sum payments with the proceeds. Alternatively, the money might be hypothecated and used to insulate housing or subsidise alternatives to gas boilers.

Finally, we must not let the perfect be the enemy of the good. Battery-powered electric vehicles are not zero emissions. However, almost every credible study has shown that they do have significantly lower lifetime emissions than their fossil-fuel powered equivalents. Indeed, many of the objections are almost incomprehensible for several reasons.

It is true that at least 40% of properties do not have offroad parking (so charging is a potential problem). Second, some drivers must frequently make extremely long journeys. However, nobody is suggesting transitioning the entire vehicle fleet overnight.

It would be environmentally senseless and economically stupid to send all current cars to the crusher. The reality is that for half of drivers, battery-powered vehicles are currently a viable mode of personal transport. Given that even if all new cars and vans were battery powered it would probably take around seven years for them to make up half of the pool of vehicles, these worries appear bizarre.

In fact, it will take some years to scale-up battery vehicle production and sales, giving ample time to solve these problems for the vast majority of drivers. Moreover, the cost gap is a lot more modest than many realise in large parts of the vehicle market and continues to shrink.

There are legitimate reasons to worry about the sourcing of cobalt in particular, but from a climate perspective, it is clear that battery-powered electric vehicles are less damaging than their fossil-fuelled equivalents. Moreover, since much of their lifetime CO<sub>2</sub> emissions derive from manufacture, we can cut this by implementing known techniques.

Finally, since (with a low-carbon electricity grid) the marginal emissions of each mile driven are miniscule, we can and should take steps to use vehicles (especially cars) more effectively. In other

words, actions to extend vehicle life, autonomous vehicles and transport-as-a-service are all complements of electric vehicles in a lower carbon world.

In short: we know that we can preserve a habitable world for are offspring. The only question is whether we are willing to.

### ***References***

1. Or France, or Germany, or Spain, or Italy etc.
2. <https://plato.stanford.edu/entries/prisoner-dilemma/>
3. An obvious mechanism would be through a flat council tax discount. Those who are eligible for zero-rated council tax could get a grant equivalent to that amount through the council (who should have a record of the dweller to establish their eligibility).