

## Getting climate policy back on track

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Uncontrolled climate change is among the biggest challenges to the achievement of a prosperous yet sustainable Australia. It is already evident that climate change is present and is having significant effects. There is now an extensive literature on the “attribution problem,” that is the determination of the extent to which particular extreme climatic events can be attributed to climate change. In the last few years the scientific community has concluded that it is reasonable to attribute the severity and increased frequency of extreme high temperature events, to climate change. The current (November 2018) heat-wave we are experiencing in Queensland at the moment is an example.

Heat waves have been experienced throughout Australian history but the frequency has increased as the global climate has warmed. In the event of, say, a 4-degree warming those things would be drastically worse. Peter Christoff's (2014) *Four Degrees of Global Warming: Australia in a Hot World* is an excellent, if depressing description of the consequences.

The target agreed at the Conference of Parties in Paris was to hold global warming definitely below 2 degrees and ideally as low as 1.5 degrees. That in turn implies a carbon budget, that is an allowance of the total amount of carbon dioxide and other greenhouse gases that we can collectively emit as a species, a limited amount, most of which has already been used.

The Paris Agreement was what embodied those goals. It's certainly an Australian

discussion, not discussed very satisfactorily. It begins less ambitiously than, for example, Kyoto. Rather than with a globally agreed scheme, it has individual contributions by individual nations determined by them.

The starting point is what are called Intended Nationally Determined Contributions, (INDC). Those were the commitments that countries made at the conference of Parties in Paris which were understood to be first bids. That is that each country said, “We'll do this.” Some of them had conditions attached, some of them were unconditional.

Everyone understood that this wasn't a solution to the problem. Some of the more negative rhetoric from environmental pessimists takes the view that that the INDCs were the commitments and there's nothing else to the Paris Agreement, a point on which they agree with some of the deniers. In reality, the whole point was that these commitments should be scaled up over time with a ratcheting up of ambition.

What are the implications of the INDCs alone? The first point to observe is that the INDCs are commitments to 2030. By design they don't say anything about what will happen beyond 2030. The INDCs alone imply emissions will level out by the late 2020s. That clearly is not going to limit warming to 2 degrees. Even assuming gradual decarbonization, the likely warming is at least 3 degrees. So very clearly those commitments aren't adequate and weren't intended to be agreed as a solution to the problem.

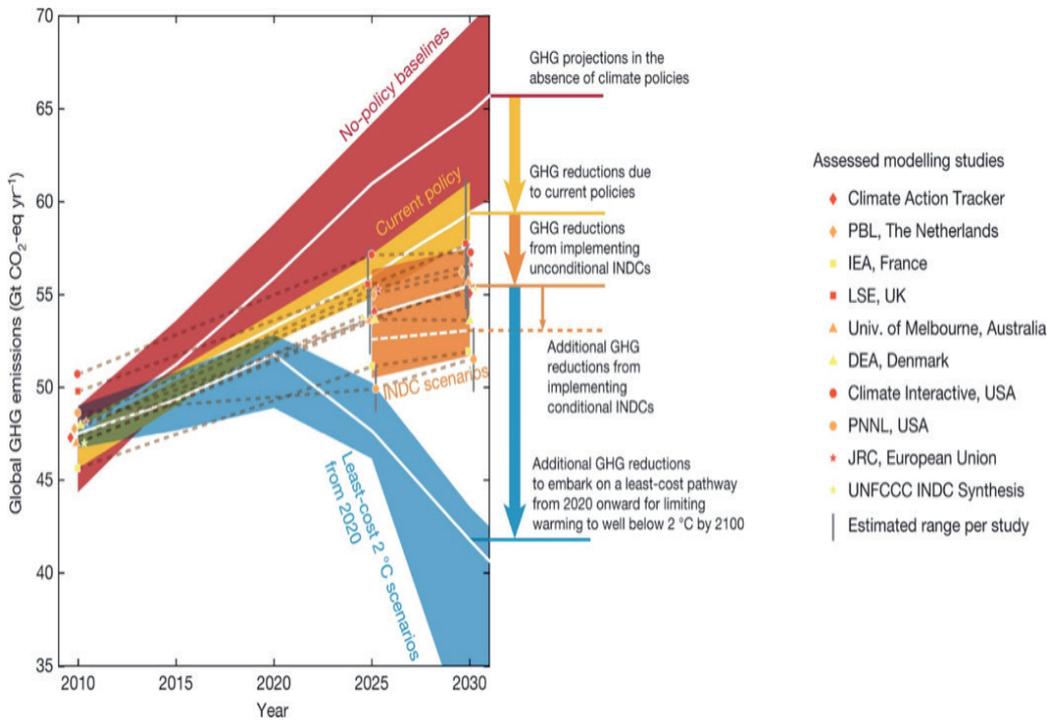


Figure 1: Emissions scenarios to 2030

Figure 1 shows a range of scenarios for emissions. The top ones are the no-policy based lines, that’s what’s estimated will just happen if we ignored carbon dioxide emissions entirely. That is, effectively, the policy of the current Australian government, which is to remove all the existing policies and replace them with nothing. The next set of red lines consists of current policy, doing nothing new but keeping existing policies in place. Then if we look at the orange section of the curve, that’s where we get to essentially with the INDCs, looking first at the unconditional commitments that countries have made and then if there are various things which are conditional on other people doing things. All of those have essentially emissions increasing or, in the case of the most optimistic INDC (flattening out clearly getting nowhere near what we need.

The blue curves are the ones that are actually needed to get on to a low-cost pathway of limiting warming. Of course, because this only goes to 2030, there’s always a higher-cost pathway. We could close down the economy as of 2030 and that would, at incredible cost, solve the problem but these are low-cost and least-cost policies. The longer we delay, the closer we come to the famous wrecking ball that would destroy the economy.

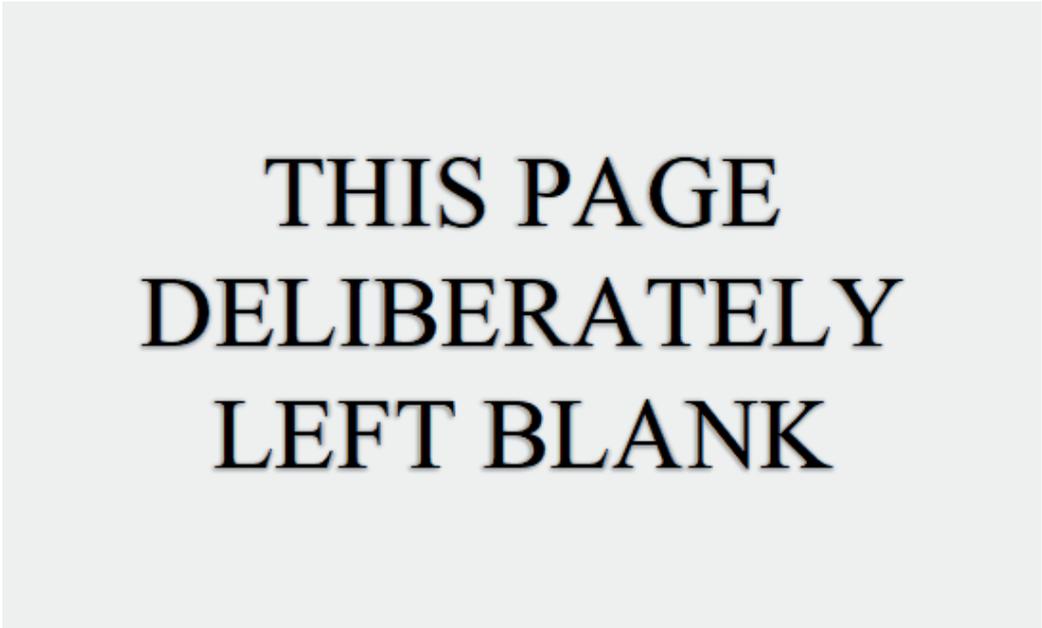
In retrospect, had the world acted in a coherent way in, say, 2010 we’d be well on the way to solving the problem and indeed well and truly on these low-cost pathways. As you can see if you extrapolate, if you just join an imaginary graph going back at 2010 and imagine a decline starting shortly after that, we would clearly be there. The longer we delay, the greater are those costs.

What was Australia's INDC? The Abbott government made this commitment in 2015. As with a number of other countries, Australia's INDC has a conditional and an unconditional component. The commitment was to achieve a 26 to 28 per cent reduction in emissions relative to 2005<sup>1</sup> by 2030.

We had, and may yet have again<sup>2</sup>, something called the National Energy Guarantee, which at least in its initial incarnation was supposed to achieve this goal but only for electricity, which is the easiest and cheapest part of the system to decarbonise. Substantial progress has already been made through the Renewable Energy Target. That in turn means that we are indeed on track to achieve substantial reductions in emissions from

electricity generation. We haven't opened a new coal-fired power station for a long time and they're gradually closing down.

Electricity generation is only about one-third of emissions, so a 26 per cent reduction in this sector wasn't going to achieve our INDC, which in turn wasn't remotely adequate. As noted above, it was only ever meant as a starting commitment to be negotiated upwards subsequently. Both the NEG and Renewable Energy Target were abandoned by Prime Minister Turnbull immediately before his replacement and haven't been replaced by anything much. Effectively therefore Australia has repudiated its INDC, although we have yet to follow the US in terms of actually withdrawing from the Paris Agreement.



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Figure 2: The Morrison government's climate policy

<sup>1</sup> 2005 always appears in the Australian targets, unsurprisingly because that was when our emissions peaked and so of course we always pick the highest date to make our numbers look good.

<sup>2</sup> It appears that the Labor Party is going to make one last try for bipartisanship (or possibly mischief making) and revive a version of the National Energy Guarantee if elected.

To understand this failure it is necessary to look at the political background. As stated by former Prime Minister Turnbull, the controlling faction of the government, has shown it's opposed to any action whatsoever on climate change<sup>3</sup>. Even policies that previous conservative governments introduced have been repudiated. Whatever policy is announced, they call it a carbon tax and reject it.

In economic terms, in a sense, the denials are right. Any policy that attempts to stop something puts a price on that policy and is therefore a tax. It can be a regulation or whatever it is, effectively any policy can be expressed as a tax. It's just a question of whether you have an efficient and clear overt tax or an inefficient and half-baked one such as the Abbott government's "Direct Action" policy. Direct Action involved a bizarre kind of carbon pricing mechanism, based on auctions, although with a substantial subsidy involved. It was the last policy to be applied under the current government, and funding has now been exhausted.

To consider options for progress, we must assume a change of government and, in all probability, abandon the prospect of bipartisanship with the LNP. A policy must at least have sufficient community support to get through a new House of Representatives and through the Senate, and that implies support from the Labor Party, from Greens,

the Centre Party, at least some Independents. We have to have a policy that at least can sustain itself from changes in the balance of power in the Senate, if not a bipartisan one.<sup>4</sup>

Interestingly, in attacking this, of course, the government has revived the phrase "wrecking ball through the economy" used to describe the carbon tax imposed or more precisely the fixed price Emissions Trading Scheme, imposed under the Gillard government<sup>5</sup>. The GDP did exactly nothing in response to that carbon tax but the phrase has been revived and the longer we go with no action, of course, the more costly the delay will be.

Looking at an economically feasible road map, this is a global road map so it's not specific to Australian circumstances but it works fairly well, based on Rockström et al, Meinshausen, one of the authors of this paper. So first point is no brainer policies for immediate adoption.

Carbon pricing makes sense essentially independently of climate change because it might internalise the health costs of burning coal. In places like Delhi and Beijing air pollution kills thousands of people every year and so imposing a tax price of some kind on carbon makes eminently good sense. A recent study suggested that, even in places like Sydney where the coal-fired power stations are a fair distance away, fine particle pollution kills hundreds of people every year

<sup>3</sup>Turnbull referred to climate change as the third rail of Australian politics. This (American) metaphor comes from the high-voltage third rail in some electric railway systems, and for any issue so controversial that it is "charged" and "untouchable" to the extent that any politician or public official who dares to broach the subject will invariably suffer politically. Given that Mr Turnbull has twice lost the leadership of the Liberal Party over this issue, the metaphor seems apposite. [https://en.wikipedia.org/wiki/Third\\_rail\\_of\\_politics](https://en.wikipedia.org/wiki/Third_rail_of_politics)

<sup>4</sup>This paper was presented before the May 18, 2019, federal election, at which the conservative Morrison government was returned. (Ed.)

<sup>5</sup>The dramatic imagery conjures up visions of economic destruction and hordes of beggars in the streets. Of course, as with most apocalyptic prophecies, nothing of the sort happened when the carbon tax was introduced. Equally, as with other failed prophecies, this failure did not stop the prophecy being repeated.

(Ewald 2018). The same is true for the US (Muller et al 2011).

There's also a range of no-regrets options which we'll come to. Fuel efficiency and energy efficiency policies are essentially just a matter of reallocating people's attention a bit. Now, attention isn't free but considering the stuff which we do allocate attention to, putting a bit of that attention towards energy efficiency, I think, comes under the category of a no-regrets policy. The big efforts come between 2020 and 2030. In that period we need essentially to decarbonise electricity supply, at least getting coal out of the electricity mix, and we also need to be well on the way to a massive shift towards electric vehicles. So those are the two big discrete lumps of the decarbonisation process, electricity generation and transport. There's then a bunch of trickier and more case specific problems in industry, agriculture and so forth. We need by 2030 to have made very substantial progress on those goals, with the aim of completely decarbonising the industrial economy by 2050. Quite a few governments have committed to this in principle. What they haven't done is adopt the policies needed to achieve that goal.

We need negative net emissions after 2050. Some of that's just a matter of planting lots of trees. Some of it rests on exotic options like removing carbon dioxide from the atmosphere which may or may not work. Some of it though we can potentially get for free if we can reduce methane emissions. Because methane has a relatively short residence time, if we can reduce emissions from methane, which is basically paddy rice and ruminants belching, those are the two big sources, the methane will gradually dissipate from the atmosphere over the period from 2050.

What must a new government do? First, we need to set a more ambitious target and again we need to remember this isn't just electricity. The Climate Change Authority, of which I was a member for some time, recommended to governments of both parties a target of 40 to 60 per cent reductions in emissions relative to 2005 to be achieved by 2030. That requires a substantially higher rate of emissions reductions for electricity and we're nowhere near that. We need immediate acceleration of progress towards decarbonisation across the fields of electricity generation, transport, industrial and residential use and land use.

What kind of policies do we need? Economists fought globally a losing battle for prices. Prices are by far the best way of doing this. If we had a uniform carbon price which had been introduced when we saw the problem at a low rate, like \$10 a tonne in 1997 and had ratcheted it up steadily, we would have the problem solved by now but as usual, the advice of economists was ignored. Carbon pricing faced political resistance almost everywhere it was proposed.

Nonetheless carbon pricing is finally happening. The EU, which has had many false starts, finally has an effective carbon price running at currently close to 20 Euros (around \$A30) a tonne. The scheme started around 2007, so it's taken 10 years to iron out the concessions that were made to national governments, which led to an excessive issue of permits, but it's finally having an effect.

Following a change of government, Australia will, in effect be starting from scratch. In these circumstances we need to use all the tools at our disposal: prices but also regulation and direct action. Even when you're primarily using regulation heavily, you want

prices because if the prices are right, people don't have the incentive to find their ways around the regulation. If you have regulation that tells people to do something that isn't in their financial self-interest, they'll find a way around it, and so prices are a crucial backup in making sure that a regulation system works.

As regards land use, we need subsidies rather than taxes. We need to pay farmers to keep land forested and we need to pay them to adopt measures such as dietary supplements that will reduce methane emissions.

Energy efficiency is a topic close to my heart. When I was on the Climate Change Authority I pushed hard to get a study into motor vehicle fuel efficiency. We produced a report advocating this. It's been sitting on the government's desk for a number of years. That partly reflects the efforts of climate deniers in the government. In addition, car dealers like selling cars that perform well on the sales floor. They don't care about fuel efficiency which people pay for later, so they've resisted it. We need to push hard on this issue of particulate pollution and substantially raise standards on sulphur emissions from fuel, which is another of the obstacles to more fuel-efficient vehicles, on coal from coal-fired power stations and so forth.

In terms of direct intervention, the crucial step is public investment in renewable energy, I'm happy to say Queensland is leading the way in that respect. We actually have CleanCo, a public company which will invest in renewable energy. We need to move much faster on creation of infrastructure for renewables, for electric vehicles. Again, Queensland is taking the lead on that point.

We still have time but not much. A decade wasted. Some of that was due to the efforts of interest groups but most of it is sheer bloody mindedness. History will judge very harshly the people who have led this country for the last five or six years who have pursued, essentially, cultural vendettas at the expense of the environment. We need an unconditional commitment from both sides to return to reality. Unfortunately we've already foreclosed the low cost options. Thank you.

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