

To whom it may concern,

Yesterday, a fast-moving bushfire started only 4 kilometres from our home. I called my fiancée to tell her to not come home until it was safe to do so. Our most important documents, and possessions with sentimental value, were already in a fireproof safe. I started preparing our house: for the second time in a week, I got on the roof to clean the gutters, raked the dead leaves, watered around the house, filled buckets and blocked all potential opening for embers. Luckily, the wind changed direction and blew the fire away from us and towards a less populated area. This was at the end of an extraordinary fortnight of extreme high temperatures, the hottest heatwave since records began in Australia. As you are probably aware, the BOM had to add a new colour for their charts to represent such heat.

Although this might be seen as an isolated incident, and the weather is intrinsically variable, we know climate change will not only make the climate more extreme, but also more often. This isn't just an observation because we almost lost our home, it is a fact. The IPCC, the Climate Commission (with their recently produced "Off the charts: Extreme Australian summer heat") and 97% of climate scientists all agree that anthropogenic climate change is already upon us.

Let us not be distracted by vested interests and their vocal supporters that would like us to believe that 'the science is not settled'. This is the same kind of doubt-seeding tactics that big tobacco companies use to pretend that smoking doesn't cause cancer. Science is never settled, but if 97% of experts (not shock jocks or politicians, but recognised experts in the field of climate science) agree that human activity is causing climate change, and that the effects will be more catastrophic weather events, then I think we should listen to them. We should listen to them, and we should act even if it is at a cost in the short- to medium-term, it will be hugely beneficial in the long-term. Let's say you have heart problems. In order to get an accurate diagnosis, you decide to see 100 doctors. If 97 out of 100 doctors told you that your lifestyle of overeating and not exercising was the problem. If they told you that there is no treatment currently available. If they told you that the surest way to live a healthy life and be able to watch your kids grow up was to eat less and exercise, what would you do? You wouldn't wait for a potential magical pill that may or may not materialise before it is too late. Unless you have no interest in living a long and happy life, you would take the advice of the 97% of the doctors telling you to exercise more and eat less. Of course this will require effort and sacrifices on your part, but there is just too much at stake not to do it.

Of course, climate is different from obesity. Australia can't do it alone, as we are only a small % of world population and the climate is a global phenomenon. However, it is wrong to sue this argument as an excuse for inaction.

Because Australia is currently so reliant on fossil fuels to meet its energy needs, it would be an incredibly empowering achievement if we, as a nation, managed to switch to clean energy. This would show the world what can be done with genuine political will and the support of the public. Australia can be the nation that shows the way out of the current climate crisis.

This incredible achievement doesn't have to cost our economy and quality of life. Clean energy technology could be a huge job creation opportunity. Given Australia's sunny climate, low population density and extensive coastline, it is nothing short of a missed opportunity not to capitalise on this good luck and become leaders in renewable energy. For example Germany, who has a lot less sunshine hours every year than we do, is currently well ahead in clean energy use.

How did that happen?

The way forward has been thoroughly researched, as you are probably already aware, by a volunteer organisation called Beyond Zero Emissions (<http://beyondzeroemissions.org>). It is a fully costed roadmap that outlines how Australia can become carbon neutral within ten years at a cost of \$8 per household per week, creating jobs in the process.

The carbon tax is a good start to a less carbon intensive nation, but more needs to be done if we have any chance of avoiding catastrophic climate change. Some of the most carbon intensive power stations in the world, such as Hazelwood in Victoria, are still operating when they should have been closed down years ago. There is no reason why a nation as wealthy as ours could not replace such

obsolete power stations with clean energy.

Another thing that needs to be looked at more seriously is infrastructure and planning. Indeed, many people would like to do away with their car and cycle or walk to go to where they want to go. Unfortunately, and even with the best of intentions, this is not always possible. For example urban sprawl, with big shopping malls located a long way away from each other, make it hard for people living on the periphery to access them without using their car or public transport (if it is even available). This is sometimes referred to as being 'locked in'. The creation of local shops and corner stores need to be encouraged, and their necessity taken into account by town planners so that they are situated within walking distance from people's homes. Enabling more people to walk instead of using their car would have the added benefit of improving people's health and sense of community.

But as we know, stopping CO<sub>2</sub> emissions today still leaves too much of it in the atmosphere. Therefore, on top of reducing our fossil fuel usage, we also need to find ways to get carbon out of the atmosphere in the medium-term. One device has a lot of potential: once started, it is powered by sun and water, needs almost no maintenance and is also self-replicating. This 'device' is called a tree, which turns CO<sub>2</sub> into wood as well as storing it in the ground. Carefully managing our forests, and protecting the ones that are the most carbon dense (such as old-growth Eucalyptus regnans) is our best bet to reverse the trend of more and more CO<sub>2</sub> being poured into the atmosphere every day.

I know the solutions proposed above may seem costly and will require lot of work. Bu we simply do not have time to waste with band-aid solutions that make us feel better but achieve very little apart from giving people good conscience. Band-aid solutions are improvements in technology that save a small percentage of power, but not enough to offset the growth in production. As an example, a car maker that designs cars that are 2-3% more fuel efficient is not enough to offset the increase in sales of 5-10%. Overall fuel usage still goes up. This is called *relative* decoupling. Relative decoupling is has two main drawbacks. Firstly, it often creates a 'rebound effect', which causes people to use their car more because it is cheaper to run. Secondly, it gives people good conscience that they are doing their bit for the environment, so it is OK to go on a long-haul flight because you have got a fuel-efficient car.

What we need is *absolute* decoupling, where energy savings are large enough to offset the growth in sales and the 'rebound effect'. Absolute decoupling leads to an overall decrease in energy usage.

In 'Man-made World' (Quarterly Essay No 44), Andrew Charlton mounts a compelling case for the research and development of clean energy, which could lead to absolute decoupling. Of course, there is no certainty that clean energy R&D will deliver the solution, and we shouldn't put all our eggs in the one basket: there is too much at stake to gamble away our future. This is why, as detailed above, we should first of all try and reduce our emissions while taking as much carbon out of the atmosphere as possible. Clean energy R&D is worth pursuing, however, as it could well be the key to our climate and energy conundrum. It could easily be financed by the carbon tax or the mining tax. Or better yet, by ending government subsidies to polluting industries and redirecting the money to clean energy.

As Black Saturday 2009 and the Queensland floods demonstrated, no amount of emergency services preparedness can prevent loss of life and damage to infrastructure. Billions are wasted every year re-building after extreme weather events, and no amount of money can bring back the people who have lost their lives to such incidents. The human and financial cost is guaranteed to mount if we don't do anything to stop climate change soon.

Climate observations are in-line with worst-case scenario predictions, if not above. We know that the cost of doing nothing is much greater than the cost of acting to curb climate change. Why is so

little being done to tackle such a crucial problem?

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