

Imagine 2033: How we achieved a rapid transition to a just, healthy, and sustainable post-carbon society

John Wiseman

It's time to stop this madness. To anyone who continues to deny the reality that is climate change, I dare you to get off your ivory tower and away from the comfort of your armchair. I dare you to go to the islands of the Pacific and see the impacts of rising sea levels; to the mountainous regions of the Himalayas and the Andes to see communities confronting glacial floods, to the Arctic where communities grapple with the fast dwindling polar ice caps; to the deltas of the Mekong, the Ganges, the Amazon, and the Nile where lives and livelihoods are drowned, to the vast savannas of Africa where climate change has likewise become a matter of life and death as food and water becomes scarce. And if that is not enough, you may want to pay a visit to the Philippines right now.

Yeb Sono, Philippines lead negotiator,
UN Climate Summit, Warsaw, November 2013

AS YEB SONO reminds us, the devastating impact of Typhoon Haiyan provides one more powerful reminder of the real and present danger of the climate change emergency now hurtling towards us.

Disaster response researchers have learned that effective responses to emergencies such as fires, floods and cyclones depend on recognition that swift, decisive action is necessary and urgent (the emergency is real and heading our way); possible (there is a clear course of action which will significantly reduce the danger); and desirable (the benefits of action clearly outweigh the risks and dangers of inaction). The case for decisive climate action by Australia is clear and strong on all three counts.

1. Evidence of the likelihood and risks of global warming beyond 4 degrees continues to mount. As IMF Managing Director Christine Lagarde bluntly notes: ‘Unless we take action on climate change, future generations will be roasted, toasted, fried and grilled.’
2. The technical solutions needed to reduce greenhouse gases at a speed capable of preventing catastrophic climate change are now well known. The recently launched University of Melbourne research report, *Post Carbon Pathways*, shows that the key features of the post carbon economy road map are now widely understood. We need rapid replacement of fossil fuels by renewable energy; rapid reductions in energy consumption and improvements in energy efficiency; and the drawdown and sequestration of carbon into sustainable carbon sinks.
3. As momentum towards a decarbonised global economy continues to build, so too do the economic and social opportunities for Australia of being a first mover in the impending transition from fossil fuels to renewable energy and energy efficiency.

The *Post Carbon Pathways* report also demonstrates that the primary barriers to rapid decarbonisation are political, not technological:

- denial of the necessity and urgency of rapid emissions reductions;
- the power and influence of the fossil fuel industry and its allies;
- social, economic and technological path dependencies;
- unconstrained and inequitable growth in energy and resource consumption;
- governance and implementation constraints.

In the end, however, the most challenging question remains: How might the transition to a just and resilient post-carbon future actually occur? What theory of social and political change could plausibly deliver this transformation at sufficient speed and scale? In order to explore creative responses to this crucial question, the Post Carbon Pathways team have asked a range of leading climate change researchers, policymakers and advocates — including a number of speakers at the University of Melbourne Festival of Ideas — to provide a brief response to the following question:

Imagine it is 2030 ... Imagine we now live in a world in which the transition to a just and resilient post-carbon society has occurred so there is now real hope that catastrophic climate change will be avoided. How did this happen?

Responses to this question point to four overlapping and inter-related transformation and transition pathways.

1. Evidence, education and advocacy

Reflecting on the campaigns that overcame the threat of ozone depletion or the power of Big Tobacco might lead us to imagine an emissions reduction scenario driven first of all by scientific evidence, education and advocacy. The key question that remains here is whether the speed with which climate tipping points are approaching will allow us the time for primarily incremental strategies.

Looking back at 2013 it's hard to believe how close we were to the turning point, to the point where climate advocacy was built into an unstoppable social movement. Back then the world was hurtling towards the brick wall of runaway global warming. Political reality and 'reality reality' seemed to be growing ever further apart. On the other hand, in 2013 there were already signs of the big transformation to come. Renewable energy was already the fastest growing sector. The International Energy Agency estimated that every dollar invested in renewable energy would save three dollars in fuel expenditure by 2050. In 2033 it's already looking like they seriously underestimated the savings. 2013 was also the year when major reports by Deutsche Bank and Goldman Sachs showed that demand growth for thermal coal had already begun to soften and was likely to decline dramatically in the face of environmental regulation, competition from other sources of energy and improving energy efficiency.

Miriam Lyons
Director, Centre for Policy Development

Providing good information about the reality of climate change is an essential but insufficient piece of the communication and education effort. Many of the groups we are focusing on already know it's a problem. What they need to be armed with is how to win the conversation; how to make the case to their neighbours, to their friends, to their grandparents, to their grumpy uncle who talks about sunspots at Thanksgiving dinner. Then it's really about trying to connect people with each other. So they draw their strength from each other, get a sense of a community and really arm themselves with the belief that they can change the conversation. Because at the end of the day, what we're really talking about is building a movement.

Kevin Curtis
Chief Advocacy Officer
Climate Reality Project, Washington DC

2. Game changing and disruptive technological, social and economic innovation

The speed and spread of game-changing technologies such as the printing press, the steam engine or the silicon chip provide a second, plausible narrative of swift and transformational change. The speed with which renewable energy technologies and systems are improving in efficiency and falling in cost is certainly impressive, although it is also increasingly clear that social as well as technological innovation will need to be a central part of any real solution to climate change.

Public will, individual psychology, and technological innovation came together to create tremendous innovation dynamics, tremendous substitution dynamics. In a few years renewable energy has already overtaken, at least in installed capacity, the nuclear power industry in Germany. So this is ‘proof of concept’ — that yes, we can create big transitions.

Professor John Schellnhuber
Potsdam Institute for Climate Impact Research

It became evident that convincing the general population to accept unfamiliar innovative ideas was not the path to success. First, innovators and early adopters must show (a) that it can be done and (b) what an exciting and irresistible future could look like. By providing practical examples of change, the ‘chasm’ in innovation adoption was bridged and the uptake greater.

Matt Healey, Alison Stoakley, Garza Barragan and
Sean Hua (Festival of Ideas Imagine 2033
student competition)

There’s a magical point in markets where they all suddenly tip. They’re looking for ‘Where’s the opportunity for growth and discovery and opportunity?’ There’s a point coming in energy like that. China ramps up its response and the US starts to panic. Once the money is saying ‘Hello — we can do this!’, then the policy will take off. Then that will become self-fulfilling — the collapse of the coal and oil industry.

Paul Gilding, author of *The Great Disruption*

3. Visionary and courageous leadership — from above and below

A third transformational pathway might potentially be created though the kind of visionary leadership and community mobilisation that led to the achievement of women's rights and the overthrow of apartheid.

In 2006 the timing was right for passing the *Californian Clear Air Act*. People understood the science, we had the right mix of politicians, we had a governor who was very energetic on the issue and all these things coalesced. You never know when that's going to happen — and that's where leadership really comes in.

James Goldstene
former CEO, California Air Resource Board

Widespread recognition of democratic failings led to the global commitment to neo-democracy. Using portable devices, informed citizens now vote on key issues, receiving local and global information choices through independent media channels. Individuals and community groups control and organise automated tasks, such as planting and harvesting rooftop gardens. Food and water is sourced locally from rooftops and community gardens, dramatically shortening the distance between producers and resource users. Urban and peri-urban food production networks provide decentralised and resilient food production networks.

Nat Phillips, Timothy Watson, Matthew Stewart,
Friedrich von Oldershausen (Festival of Ideas
Imagine 2013 student competition)

I like to describe what happened as the 'Enlivenment' — a joyful, creative unleashing of the power of passionate, connected people who discovered the power was in our own hands. I reckon it was the farmers and the fooders that really triggered it. We 'jumped' first — moving beyond trying to persuade anyone else to do anything, but weaving connections between farmers and eaters, farmers and the land,

eaters and the land, listening and learning with Australia's first people about how we might go forward. All across Australia a wave of regenerative and transformative agriculture changed the story about what is possible, and what is good, in this country. We discovered self-determination, connection, self-organisation, country and swarming. We got smart and embraced technology and worked together to rewire the world.

Kirsten Larsen
Research Fellow, Victorian Eco-Innovation Lab,
University of Melbourne

4. Decisive action at moments of climatic, political and economic crisis

It appears increasingly likely that it also will take a devastating series of crises on the scale of Hurricane Sandy and Typhoon Haiyan to create the 'Pearl Harbor' political tipping points in which visionary political leadership, community mobilisation, technological innovation and social creativity can be brought into the alignment needed to drive transformational change at the necessary scale and speed.

The trigger is going to be some sort of natural disaster that wakes people up ... we're already seeing that happening, in that we're probably locked into irreversible change in the Arctic with the disappearance of the sea-ice. The community will wake up to what is occurring and demand action, along the lines that: 'We have been looking at the problem for 30 years and done virtually nothing. Now we have to really start moving.' The pressure will then come on the business and political worlds for real action.

Ian Dunlop
Club of Rome and Safe Climate Australia

Every crisis, they say, is an opportunity. Australia, I am happy to say, made the most of its crises. When the comfortable years of consumer affluence were taken from us almost overnight, this challenged our

economy — indeed, our very civilisation — to refashion itself and create a new identity, a new narrative of progress. We discovered that our culture could thrive at a far lower material standard of living than we had thought; we also discovered that we were much hardier and resilient than we had thought; that we were much more creative and resourceful than we had thought.

Perhaps the most important feature of our new economy is that we do not use anywhere near as much energy as we did in earlier decades. Due to the fact that our levels of production and consumption have been radically downscaled, we can now afford to produce most of our limited electricity needs with solar, wind, and hydro. By walking, cycling, using public transport, producing food organically, and relocalising much of our economy, we have also been able to reduce our consumption of oil to a small fraction of what it once was. Last year, after a political firestorm, we closed all our coal power plants. We are not at the post-carbon society yet, but we're well on our way, and after two dark decades, the future is again looking bright.

Sam Alexander
Research Fellow
Melbourne Sustainable Society Institute

Conclusion

An honest assessment of the size and scale of the political obstacles standing in the way of an adequate and timely response to the climate crisis is certainly an essential guard against wishful thinking. Human history is, however, full of stories of transformational change, which few at the time saw coming ... the abolition of slavery, the end of apartheid, the fall of the Berlin Wall, the still unfolding possibilities of the Arab Spring. Such reminders of the complex, and unpredictable relationships between the constraints of our physical environment and the human capacity to imagine and create alternative futures provide valuable starting points for thinking about

political scenarios with the potential to drive a rapid transition to a just and resilient post-carbon economy.

Perhaps, as Lester Brown, CEO of the Washington-based Earth Policy Institute, argues:

We are really on the edge of some fundamental changes. I liken it to recognising the link between smoking and health 20 years ago and the tobacco company CEOs are under oath saying, ‘There’s no proof of a link between smoking and health,’ and get away with it. Then, within a year or two, everything had changed and they couldn’t say anything because no one would listen to them and no elected member of Congress would be seen in public with a tobacco company CEO. It just changed that fast. It happened very quickly, it had reached the tipping point and suddenly it was an entirely new ball game.

Our hope therefore is that the ideas, experience and insights brought together in the Post Carbon Pathways and Imagine 2033 projects can contribute to well-informed and decisive action at the point at which the transformation to a just and resilient post-carbon future makes the leap from political impossibility to political inevitability.