

Author Roland Kupers: We can't rely on governments or businesses—we need a climate policy revolution

Governments are unwilling and market forces are not enough. Tackling a problem as complex as climate change in the post-Covid era requires a systemic policy approach, argues Roland Kupers.

By Robin Hicks

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Roland Kupers, author of the book *A Climate Policy Revolution: What the Science of Complexity Reveals about Saving the Planet*, says the time has run out for gradual, linear change; systemic change is required to address climate change. Image: Roland Kupers

Roland Kupers believes that the world's governments cannot solve the climate crisis. Neither can market forces, at least not on their own, he says.

The former Shell executive, climate policy academic, sustainability consultant and author argues that an understanding of complex systems and how they can be manipulated is the only way to address one of the biggest problems humanity has ever faced.

Kupers is an expert on how interconnected systems work. In his book, *A Climate Policy Revolution: What the Science of Complexity Reveals about Saving the Planet*, the Dutchman contends that small government interventions, combined with insights into how complex socio-economic systems behave and change over time, are what are needed to take on a challenge as complex as climate change.

“With climate action, the ‘what’ is easy. You could get rid of fossil fuels, eat less meat, insulate buildings, and shift to electric vehicles. The hard thing is the ‘how,’” he said in an interview with Eco-Business. “A climate plan requires deep thought about how to get a system in motion.”

Kupers said that he is not against government action, but feels that it has been ineffective. “If governments woke up and ordered climate action, I’d be all for it. It’s just that it simply is not happening. My argument is that there are other ways of combining small government interventions with bottom-up dynamics to create non-linear change,” he said.

It's the [non-linear](#) change—that is, change that can effect an entire, complex system—that we need, because we’ve “sat on our hands for decades”, Kuper said. “If we’d taken action 50 years ago, we could leisurely, linearly reduce greenhouse gases. But now we’re at a point where we can no longer gradually make changes.”

Kupers contends that the Covid-19 pandemic offers lessons for humanity's response to climate change. “A virus does not respond to regulations or market incentives. The only thing you can do is change the system around it so that it's less successful,” he said.

According to Kupers' field of complexity science, social norms follow the same mathematical models as pandemics. “They’re contagious. The question is, how do you make climate-friendly social norms more contagious?” Kupers said.

The pandemic has resulted in lower emissions, partly from the [biggest fall in air travel](#) since the September 11th terrorist attacks on the US. Could less air travel become a social norm, Kupers wonders. And how about meat consumption, which has [fallen by 3 per cent](#) since the [outbreak](#) to its lowest level globally since 2000?

The good thing about social norms is that people adapt, Kupers explained. “If you evolve new ones, you won't miss the old ones,” he said. “Vegetarians don't regret not eating meat.”

In this interview with Eco-Business, Kupers talks about how systemic action can tackle the climate crisis, the differences in climate policy approach in Singapore (where he was a visiting professor at Singapore Management University between 2014 and 2018), China and Australia, and how hopeful he is for the future of the planet.

How does climate action happen quickly without much government regulation? One example you mention in your book is when the US switched from a reliance on coal to natural gas. It took a mix of actions that targeted mercury regulations, a few investors, independent researchers, and generous technology subsidies...

One of the factors was the regulation of mercury. The US senate asked the Environmental Protection Agency to regulate mercury to the best available technology immediately, because at the time there were fears about mercury affecting children's brains. It was a small law on mercury emissions in coal plants, but that catalysed the end of coal in the US.

Another example is the feed-in tariff law for solar in Germany. It was just a three-page law. But that small intervention mobilised €120 billion (US\$140 billion) of taxpayer subsidy for the cost reduction of the solar PV industry globally.



Both the US mercury law and the German feed-in tariff are examples of catalytic interventions by the government. They are top-down in a sense, but their effect is viral. We need more viral interventions that have far reaching consequences.

How well is Singapore taking systemic action to tackle climate change?

Singapore clearly has an authoritarian government that has greater sway than those in liberal democracies, but it also has a tradition of systemic action and is one of the most advanced counties in the world in applying systems thinking in government. But it has never applied it to climate policy.

Singapore's first NDCs (nationally determined contributions to the Paris climate accord; Singapore agreed to reduce carbon intensity by 36 per cent of 2005 levels by 2030) were pretty vacuous. They essentially said, we're doing nothing. Which, for a rich country, is shameful. There are so many easy things that Singapore could do to reduce emissions—before getting on to the hard stuff like decarbonising the petrochemicals industry.

An equatorial country where most buildings have single-glazed windows and air-conditioning belches out of open shop doors is just bizarre. If Singapore applied what it has learned from tackling water issues to climate policy, using the same set of tools and approaches that galvanise bottom-up action and create different social norms, it would create change very quickly. But it first needs the will. Singapore hasn't shown the desire to tackle climate change, even with the [latest NDCs](#) [that aim for net zero emissions after 2050, as soon as it's “viable”]. It urgently needs to do so.

Besides improving electric vehicle infrastructure, deploying more renewables and improving energy efficiency, what else could Singapore do to tackle climate change?

Many people argue that Singapore is just a small state of only six million people, so has little climate impact. But that overlooks the country's interconnectedness. If Singapore said we're going to be carbon neutral by 2040, it would send ripples throughout Asia; Indonesia, Malaysia and others would sit up and take notice, because Singapore is seen as a regional leader in many ways. Climate action is never just a local issue.

That interconnectedness is seen with the annual haze from burning forest fires in Indonesia, which also affects Singapore and its neighbours...

I was in Singapore when the haze was so thick you couldn't see across the street. The blame was placed on Indonesians, but the base-load pollution in Singapore is actually about a-third of the haze. Not only that, a lot of the Indonesian companies responsible for the haze use Singaporean capital. It's the interconnectedness of these issues that should be the essence of public policy, because it gives you the intellectual running room to take more sophisticated action.

To what extent has systemic climate action been applied in China?

There are two elements that are encouraging from the systems perspective. One is China's grand vision to bring about an “[ecological civilisation](#)” [China announced this strategy to green the country, and place itself at the centre of the green movement globally, in 2015]. It is a remarkable formulation—much better than Europe's green new deal, which is far more utilitarian.

The other is that China has a tradition of policy by experiment. Complex systems are very hard to predict, and China recognises this by trialing different policies in different regions, evaluating the consequences, learning from them and then scaling up the best policies. That's a necessary way to do systemic policy. In Western liberal democracies, politicians are expected to have the right answer, otherwise they're told they're not doing their job and voted out at the polls.

A key difference between China and Singapore is that China is further along the path to climate action by articulating its ecological civilisation vision. It is applying that vision to climate policy and within many constraints. It's still a relatively poor country but is doing amazing things, such as reducing the cost of solar, expanding the world's biggest electric car market, and building wind turbines at a lower price than anywhere.

What do you make of Australia's approach to climate policy?

Australia, which is one of the highest emitters in the world per capita, is an example of where there is a lack of top-down action to tackle climate change. The government is sitting on its hands—much like Singapore. Australia's is a purely a market-driven system. There's been a boom in renewables simply because it makes sense for people to put panels on their roofs. Australia shows us that relying on market forces alone will not drive sufficient climate action.

How does your argument for a systems approach to climate action apply to businesses?

Businesses were designed for risk-sharing and efficiency, not for adaptability, innovation or ecological action. So, fundamentally, businesses are not well suited for systemic change. With most big industry transitions, like the IT revolution for example, incumbents disappear and companies are reconfigured or merged into others. So while we should push businesses to take action, that should be a sideshow. I don't think it should be the main strategy. It's not businesses' fault—it's just that institutionally they're not designed for systemic change.

It also means that politicians shouldn't listen to incumbent businesses as much. They should much more strongly work out which companies to reconfigure and which should go bust. Because change, in every historical tradition, includes destruction. The kind of deep change we're going to need for an ecological civilisation to pick up, is going to require deep change. The assumption that we can get there with the existing set of companies and institutions is an illusion.

How hopeful are you about the future?

It's hard to say. I purposefully wrote an optimistic book that describes even at the 11th hour we could rise to the climate challenge—but it's on a knife's edge, frankly. There are sources of optimism. China is intriguing. The EU green new deal [to [create the first carbon neutral continent](#) by 2050] is somewhat hopeful, as is the Joe Biden presidential campaign [which has pledged to pump [US\\$2 trillion into a green recovery](#)]. But only just.

For Asia, it would make such a difference if Singapore showed up in Glasgow in 2021 [for the next United Nations Climate Change Conference], and said, ‘We've thought about this, and we're going to be carbon neutral by 2040’. Just the intention would make a huge difference. It's not that hard for a rich country to become carbon neutral.

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