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Climate and communities: Adapting to the new normal

Presentation by

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Video and audio versions of this speech are available on our website.

About the presentation

We all know that climate change is damaging our natural environment, but what impact is it having on our communities? A future defined by climate change will bring new issues and obstacles that the community sector will need to face and overcome. We have to. There is no Planet B.

Hilary Bambrick:

So I was asked to speak to you today about climate and communities and adapting to the new normal. And my first slide there is actually a painting by an artist friend of mine, Jan Van Dijk, a Brisbane artist. And it's his imaginings of what climate change might look like. And he finished it late last year, shortly before COVID started. And I actually think it's held up well because we've sort of got multiple things going on at the moment in the time of climate change.

So I was asked to speak to you about adapting to the new normal, and first of all I wanted to pose the question, well, is there a new normal? So we're going to have a look at what climate change looks like now and in the future, and have a look at some trends and some impacts on health and communities. And the second question I'm asking is: can we actually adapt?

So unfortunately I'm going to take you pretty low before hopefully I can bring you back up again. So this is a bit of graffiti from down the road at my place. "We will all die in the impending ecological collapse." So it sounds pretty dire, and we certainly have work to do.

So what's going on? Just a quick climate change 101. We've got atmospheric carbon dioxide increasing – has been for some time. And what that does is it creates warmer temperatures on Earth as those gases get trapped and create what's called a greenhouse gas effect.

So we hear a lot about carbon as being an issue, but it's not the only greenhouse gas. So methane is another one. It's actually more potent than carbon, but it's shorter-lived. So carbon's emitted, it stays in the atmosphere for upwards of 100, 200 years. With methane it's around 20 years or so.

So what is this actually doing? So these are temperature anomalies relative to the 20th century mean. And as you can see, since about the time that I was old enough to think I could ride a tricycle, we've been at above average temperature anomalies. So we haven't had any below-mean years since the mid 1970s.

So what does this actually mean? So we have not only an increasing in mean temperature but an increasing in extremes. So at the moment we're sitting at just over one degree global average warming. In Australia, we're

nearly at 1.5 degrees. And part of that is because we're a large land mass, so the average global increase takes into account ocean as well, and that's tempered very much by the sea. So Australia is warming at a more rapid rate than on average for the globe.

And what this means. So an increasing extreme, so increasing temperatures, and we also see more variable rainfall and more uncertain rainfall. So an increasing frequency, duration and intensity of extreme events. So extreme heatwaves, extended droughts, bushfires, severe storms. Cyclones are expected to increase in intensity but may actually reduce in frequency, so we may get fewer of them, but they'll be much stronger. And of course, sea level rise and storm surges that can go along with that as well.

So this changes our seasons – extending the hot seasons, for example – and extends the geographical distribution. So the tropics in Australia, if you like, are getting lower, getting further down to Brisbane. And there's more energy in the system driving all this change.

So, whenever I give a talk about climate change, I think about the recent records that we've recently broken. And every time I give a talk, I have to update this list. And I give those talks pretty frequently. So I've just got a selection here from a few recent extreme heat events to point out. One, the Middle East heat dome. So that gave us a feels-like temperature of 74 degrees, the combination of heat and humidity. And I don't know about you, but I can't imagine what that would feel like having to be out in those conditions.

The town of Moree in New South Wales, I'm not sure if anyone's joining from there, but I'm sure you'd remember in February 2017, so we'd hit over 50 consecutive days above 35 degrees just in one town. And again, Penrith in 2018 had temperatures over 47 degrees. Another one to note – and this isn't a typo – but temperatures 30 degrees above average in the Arctic in January 2018. And we've only seen that repeat subsequently as well in the Arctic summers.

So it's led to a number of unprecedented events. So Cyclone Winston in the Pacific Islands was extraordinarily strong. We had around the same time deadly monsoons in India, Nepal and Bangladesh around the same time as Hurricane Harvey. And just massive amounts of water dumped on vast areas, and many people died. The California wildfires in 2019 were bad, and then in 2020 we've seen bigger fires. So, repeat situation there.

Now, we also see that record cold happens as well. So in Europe and in North America, we have seen winter temperatures plunge much lower than you might otherwise expect, and so that gives a lot of people reason to say, “Oh, there’s no global warming.” But the reason behind that is that the polar vortex, the circulation system that keeps the cold air further north, that polar vortex was weakened by the warmer temperatures, and so that cold air escapes. And what you do end up seeing is things like this. So this is Niagara Falls, and this is what global warming can look like.

So how will climate change affect Australia? So as I mentioned, cyclones might become more intense but less frequent. Extreme rainfall events are expected to become more intense. So less rain overall in a lot of areas, but when it does rain it's going to be pretty heavy.

Hotter and drier around much of the country. Heatwaves longer and hotter, and also happening more frequently. So higher sea levels, so an increase in flooding in coastal cities and towns, particularly if it's coupled with storm surges. Potential severe thunderstorms days and droughts are going to happen more often, and over wide areas.

So we’re now in what's been called the Anthropocene. So this means that we’ve so fundamentally altered our life support system, that humans have altered our life support system, and so it's actually changed that system, which is just phenomenal if you think about the scale of the planet and what we’ve managed to do.

Now, my area is climate change and health, and I just popped this slide up here. This isn’t new thinking. So Tony McMichael was my former boss and mentor in ANU during my post-doc, and it's his work that got me into this. And he wrote this book in 1993, *Planetary Overload*. So we’ve had a long time to be thinking about these things and a long time to do something about it. So he was one of the first people to really make the connections between climate change and health.

So the ways in which climate change affects health. There is the very obvious ways – very extreme heat days. And we do see people die during those extreme heat times, heatwaves. Bushfire’s another obvious one, and severe storms. So there’s very direct kind of impacts on lives and causing injury and trauma and so on.

But there’s also a number of less direct impacts of climate change. So vector-borne disease. And these are ones that are mediated by the

environment. So warmer temperatures and higher rainfall leads to more mosquitoes and more transmission of vector-borne disease.

Respiratory disease. So longer pollen seasons, more intense, higher pollen counts, and more allergenic pollen as well, contributing to asthma and allergy. And we've seen, just as an example, the thunderstorm asthma event in Melbourne a few years ago was extraordinarily intense as well, which was coupled with high pollen count and severe storms.

So gastroenteritis as well, so food- and water-borne disease. Just as an example, cases of salmonella increase during the warmer months. And it's because the microbes can multiply more quickly on surfaces, for example, and in food.

We see an increase in association of depression and suicide during drought in rural areas, and so the increase in drought is likely to lead to an increase in mental health disorders, particularly in rural areas. Increase in obesity and chronic disease as well. So potential for less available fresh produce, so eating less healthily but also not wanting to move. I don't know about you, but when the temperature warms up, you really just kind of want to lie around in a hammock rather than get out and get moving. And then also impacting on food security as well. So droughts, again, and severe storms can damage food crops.

So this is sort of representing this in another way, these more physical and ecological impacts of temperature and those physical weather events, but also showing that there's much broader impact on society as well. So affecting infrastructure, displacing people. There's very much an understanding in the climate change and health world that the largest impacts will actually be from displacement and conflict, for example over scarce resources, rather than from people dying directly from heat, for example. So a broad range of things that climate affects.

So just to talk about some of these. So extreme heat, obviously, it's increasing. So a few examples from around the country. And this is actually a few years old now, this slide, and things have only gotten worse. But some examples from these times. So in Canberra, where I'm from, at Ngunnawal country, the number of heatwave days has more than doubled. In Sydney, heatwaves now start earlier. In Darwin, the number of days have doubled, and so on. So there's particularly impacts are happening in all of our capital cities, and Melbourne would certainly attest to that.

Now, something to keep in mind when thinking about climate and health, because not everybody's equally affected. So people who are older, if you're indigenous, homeless, or migrant, socially isolated, or if you've got underlying health conditions, if you're less mobile, dependent on other people, have a low income, you're much more at risk, particularly during extreme heat events.

But other groups of people who are also at risk are those that we might think of as being the fittest and the healthiest in our society – so people who work outdoors and also our emergency services workers. And that's because they're out there having to attend to incidents during those times when it would actually be much safer to be inside.

And of course also those risks vary by location. So urban areas tend to heat up as the thing called urban heat island effect, so all the concrete and so on absorbs the heat during the heat, and it gets hotter and hotter, and it stays warmer at night. So if you've got access to green space and trees and parks, you're much better off as well.

We're also around the country not equally susceptible to heat when it happens, and that's largely in part to do with the ways that we've become physiologically adapted to a degree, and also the behaviours that we might do as well. So just to pick some examples here, in Queensland, mortality starts to rise at around 30 degrees, but in Tasmania it's around 27 degrees. So only small differences, but that makes a bit of a difference when you're thinking about extreme heat. So there is some capacity for some level of adaptation to the environment that we're used to living in. And we also do behaviourally adapt as well. So, typical Australian summer: pictures about what we do when it gets hot. We find a body of water.

I'm going to run through some examples here. And part of this is to show that we can't always adapt to what's in store or what we're being exposed to so fast. I'm sure those of you in Melbourne would remember in 2009 extreme heat that Melbourne suffered, where transport was shut down. Railway tracks were buckled, there was loss of power, people got stuck in lifts and had to be rescued and so on.

Now, that directly led to more than 200 deaths, to the point where there wasn't actually room to store the bodies. So that's sort of how extreme these events are, and at obviously a huge economic cost as well.

And around the same time, we did see the Black Saturday bushfires in Victoria, which were extraordinary and unprecedented at the time. So 173 people died during those fires. And the impacts were very far-reaching. So it affected livestock and food crops, national parks and so on. And these conditions had never been seen before in these areas. Winds were extraordinarily strong, and the temperature was extraordinarily high and there was just no way out of there for many people who were trapped at that time.

And it's very much changed the way that we look at bushfires now. So we have had to, at some level, adapt. So I'm not sure if many of you know, there used to be this idea that you stay and you defend your property, and now there's times when that's just not tenable at all. It's a leave, and leave early.

So another kind of climate-associated health outcome. We normally get dengue in far north Queensland every year. We get an outbreak. It's brought in from overseas. It doesn't circulate locally all year. But it is brought in every year, and it circulates at that time. So normally there's around 200 cases per year, but in 2009 there were 1200 cases. And if we think about it, it wasn't only the people who were sick from dengue who were affected. It actually caused a shortage in national blood supply because the Red Cross couldn't take donations from the areas that were affected. So, just trying to demonstrate the bigger, broader impacts of climate change on health that might extend a little bit beyond what we initially see as the health impact.

The Millennium Drought in Australia. So I'm just running through a few extreme events in Australia. So this went on for a number of years. Rainfall was around 60% below average. And it really did decrease the land area that could be used for agriculture, and it had massive impacts on communities and rural mental health, as I mentioned. So an increase in depression and suicide.

It affected people living in the cities as well, obviously, with food availability and price, and we have changed, again. Another way that we've tried to adapt is with things like water restrictions. But these sorts of things can only go so far. And we're expecting to see a continuation of decreased rainfall in the southeast of Australia, and so drought will actually become the norm, if you like.

At the opposite end, in 2011, we had the severe floods in Queensland. So this caused what has been termed an inland tsunami, where seven metres of water just swept through a town. 38 people died. And 200,000 overall were affected. So this had massive direct costs, obviously, to people's health, and it also cost a lot to the economy, to the point where there was a flood levy. On tax returns, people paid a flood levy that year to help recoup some of that lost GDP.

Some more severe storms, this time South Australia. So this was very much like a cyclone happening in South Australia. So winds of 140 kilometres, and it took down transmission towers. And that is actually literally a photo of Adelaide at the bottom without any lights on, so lots of power went out everywhere.

And this was my introduction to Brisbane. I moved to Brisbane in February 2017, and this was my bedroom. So wearing my wellies sweeping up the water from Cyclone Debbie. And it had much bigger impacts, again. So massive impacts on our winter vegetable supply around the country as areas were hit.

Now, more recently, and from where I'm broadcasting from today, so Southeast Queensland, not normally an area known for bushfires – it's usually far too moist and foresty – but we had major fires in December 2018 and then a repeat again in similar areas in 2019 in September.

And I'm sure all of you, this is very fresh in everybody's memories – our Black Summer bushfires just from last summer. And this was the photo I took as I went to Canberra for Christmas to see my family. And this was the view that I was greeted with. And it had already been very smoky in Brisbane from the fires that we had around there, and I know that Sydney and Melbourne suffered as well. But Canberra, the smoke was extraordinary, and it went on for weeks and weeks and weeks.

So at one point, when all those major cities – Australia's three largest cities – were affected, there was more than eight million people who basically had become three-pack-a-day smokers. And that obviously includes children as well. And in Canberra in December last year, we were already wearing masks. So we were kind of ahead of the game there for this year.

And it can be kind of – this is how it feels sometimes. So this headline, "Australians recovering from their 15th once-in-a-lifetime disaster." This was from a number of years ago now, but it really highlights that what we're

seeing is an increased frequency of those extreme events that might have once come one in 100 years – you might have a one-in-100-year flood. It might now be once every seven years, for example. So while this is a satirical headline, it actually shows what we're looking at now with climate change increasing extreme weather.

And similarly, in Australia we do tend to laugh a bit at the extremes that we're exposed to. So this was one that was warning people not to go swim in floodwaters.

Okay. So how have we adapted? Well, as I've mentioned, we've changed the way that we think about things. But we've also had to change the way that we measure and represent things. So in 2013, the Bureau of Meteorology had to add two new colours to weather maps so that they could actually show where temperatures were exceeding 50 degrees. We've never had to do that before. That wasn't an issue but had become an issue. So if you're not measuring something, if you're not representing something, then you're invisiblising it as well. So it's very important to be able to actually show what's going on.

And similarly, following the 2009 Victorian bushfires, a new level was added to the fire danger rating, a catastrophic – so you know, catastrophic conditions. That's the don't even try to stay and defend your home. If a fire breaks out, you just need to get up and leave. What concerns me is obviously climate change isn't over yet, and we're kind of waiting to see what the next possible rating might be.

Okay. So in 2013, those colours were added. In 2017, they were most definitely needed. So it didn't take very long. So this is the forecast map in Australia for February 2017. Large areas of purple on there, those new colours. And similarly, we had some records broken across New South Wales at that time.

And at that time, Shane Fitzsimmons, who you might remember from the Black Saturday fires, talked about if you're caught out in the open under these sorts of conditions, you are likely to die. So he's not mincing any words there. It's pretty extreme. But he also said this is as bad as it gets. And I hate to say it, but it's not actually as bad as it's going to get.

And this is what brings us to is this the new normal. So this photo was taken of Peregian Beach just in September last year, fires where there shouldn't have been fires. And what it does show is the apocalypse is great

for photography. It does make for some beautiful photos. Initially, looking at that, it looks like a sunrise or a sunset, but it's actually a beach community on fire.

So is it the new normal? Well, here are my two beautiful children. They're a little bit older than this now. And if you have a look at the graph on the screen, you can see that there's – this basically gives us two options. The blue option is if we drastically reduced our emissions pretty much now. And the red plume, I suppose, shows where we're actually heading at the moment.

So I've just popped it on there to kind of humanise this, because we sort of think that it's a grand scale thing in the future, but I've got – maybe I'm being quite generous with my lifetime here, but I've estimated how long I might live for on this graph. And we can see that if we head up from 2060 and sort of head up vertically, the options aren't particularly good. So we're probably sitting at around four degrees if we don't do anything particularly strongly by then, by the time I'm in a very at-risk age group.

But for my kids, that's going to hit them around middle age. And if I ever have grandchildren, then they're going to be born into a world where temperatures are already extremely high.

Now, a little bit about why we're there and what we do. So if we think 2020, this is where we are at the moment. There's about – even if we were to stop all our emissions today, like just cut them off or whatever, there's about another 20 years of warming in the pipeline. And that's about another half a degree of warming in the pipeline even if we stopped everything today.

So if you think about where we are now globally at around a little bit over one degree, that takes us up over the 1.5 even if we stopped all emissions today. So it is critical that we start actually rapidly reducing and drawing down those emissions. So that's just putting on there the 20-year time scale. So we'd expect temperatures to continue to rise until around 2040 before they get a chance to stabilise.

Most countries or many countries are starting to talk about net zero emissions by 2050, so I've just popped that on that graph there so you can see what that's looking like. And if we go to net zero at 2050, we're looking at 2070 until things have a chance of stabilising.

Now, one of the problems with that – and I'll talk about it in a little bit – is that by that time, the climate's going to be out of our control because of tipping points, which I'll talk about in the next few minutes as well. So it becomes a point it doesn't actually matter what we do. We sort of set off these other systems that will keep the climate changing.

And if we want to think about where we could have actually have been, this is 1997, when the Kyoto Protocol came out. And if we'd actually done something drastic then, we'd be pretty much at the maximum temperature now that we would be reaching, and it would stabilise from here on in. So if we'd actually taken action in the '90s, when we could've, about where we are now is about as bad as it would get.

Okay. But how much control do we actually have over the climate? So for any of you interested in some nightmare scenarios, if you like, we may not actually have much of a choice. We may not be able to rein in climate change if we let it go too far. So the Paris Agreement from 2015, it was an agreement to limit warming to two degrees, with an aspiration to limit to 1.5. Well, as I've said, we're probably already past that just because of the warming that's in the pipeline already and where we've got to already. So we really do need to work hard to rein it in under two degrees.

And why we need to do that is because even at the one- to two-degree average warming, we're starting to see systems collapse. So, ice sheet collapse leading to sea level rise, but also it contributes to – you get less reflection of heat as well, so absorbing more heat. We'll get a change in ocean currents. And I mentioned earlier that methane is a very potent greenhouse gas that we don't talk about too much, but there's a lot of it trapped in permafrost. And if that permafrost starts to melt, then that methane will be released, and that's a very potent greenhouse gas as well. So all of these things can lead to runaway climate change, where it might actually get completely out of our control. So we do need to work really hard to keep the warming as low as possible.

So can we adapt? So I've sort of talked about is it the new normal, and I said, "Well, probably not." Can we adapt? And we can to some degree, but there's a limit to how much we can adapt. There are biophysical limits, economic limits, geographic limits. So for example, as sea level rise takes over land, as less land is available for food production, and so on.

So we can build things like early warning systems to tell us when there's going to be a heatwave or a dengue outbreak. We can shore up our health

systems to make them a little bit more resilient. We can obviously give extended care for family, friends, and neighbours during hot weather, check in on them, make sure they're okay. We can provide drought relief, flood relief, and bushfire relief. We can put flood levies on people's incomes to pay for those sorts of catastrophes.

But it's no more than just tweaking around the edges. At some point we won't be able to actually do what we – to be able to cope in that climate. So those sorts of things are no match for what's actually to come.

So the only real tenable option is to urgently cut emissions. So if we don't drastically and urgently and meaningfully cut our emissions, the future not only looks uninsurable – so you won't be able to insure your home in a bushfire area, for example – but it will also be uninhabitable.

Some of you may have seen the news around the *State of the Climate* report that came out the other day, and I think this quote from Jackie Brown is very telling. So we think of this decade being hot, but this decade will be one of the coolest in the next hundred years. So that's a point to really think about and about the action that we need to take now to make sure that that future does not become uninhabitable.

So how do we do that? So a good thing to know is where our emissions actually come from. So I'm just going to look at Australia for a minute. And most of our emissions come from coal burning for electricity, so 35% of our emissions. The next greatest amount comes from transport, so petrol-based cars and trucks and so on. And the next amount is for things like the gas that we use in cooking and heating and so on. So that's what stationary energy, excluding electricity, means. It means, largely, gas.

And you'll also notice over... I just lost my screen for a minute. You'll notice in the green 10% section, that's looking at fugitive emissions. And you're thinking, "What are fugitive emissions?" Well, it's emissions that escape when we're trying to mine or frack gas, for example, and are probably vastly underestimated. So we're not really even counting properly.

So the key things here, if we take the biggest contributor, it's from coal burning for electricity. So it's a good one to target for reducing. Now, if we're going to have just even a chance of staying below two degrees – and this is only a chance, it's a 50-50 chance – we've actually got to leave most of the coal in the ground, most fossil fuels in the ground. We can't actually

afford to keep digging this up and keep digging up and burning fossil fuels.

And yet – so a quick look at Australia's emissions reduction policy. It's extraordinarily woeful. So it's 26% to 28% by 2030, and that's relative to 2005 levels, which were extraordinarily high. So Australia's still looking at coal mining expansion up here in Queensland's Galilee Basin, so both the state and federal governments are complicit in that. And that is intended largely to supply India, with the argument that it's cleaner than coal from elsewhere, so this coal is not as bad as coal from elsewhere. But what it does do, it will lock in those countries and lock in the world to be in coal for the next 30 to 60 years. That's the plan. And we just can't afford to do that with the state of the climate and where we're at so far.

You might have heard of something called clean coal. It's really not. It's like a mild cigarette. It's still going to kill you, it's just it might do it slightly more slowly. So it's a 20% reduction in emissions. So it's still highly polluting. It's also very, very expensive, and in Australia at the moment what we're seeing is the cost of new renewable energy is actually cheaper than the cost of new coal. So coal is actually increasingly unsellable as well.

Coal creates pollution at every single stage, so it's not just the burning and climate change that we're concerned about. It's actually very dangerous for the communities surrounding coal mines as well, and in the transport corridors, and also for the workers. So we've seen a re-emergence of black lung disease.

In the Hunter Valley, a statistic of 42 million kilograms of dust is deposited over the Hunter Valley just through the transportation of coal. So it's dangerous at every single stage. And it does actually affect people in communities, and it's visible. You can see it on your house. So this is a self-portrait done by a six-year-old using the coal dust that covers her house. And this was in Illawarra, another coal mining, coal transport area.

Okay. So Australia's looking pretty woeful internationally on how we're doing on renewable energy. And you think about all the sun and the wind and so on that we have. We've got a great opportunity here to really excel in this space.

So we do have a choice. We can decide what kind of society we want to live in. We can think not only about our energy source but also about urban planning and transport and social capital and cohesion. And they're

the sorts of things we really need to think about if we're going to have the best shot at avoiding the worst health impacts of climate change. And very mindful that a number of communities are built on coal jobs. So actually being able to provide tangible examples of what new jobs will look like in those areas is very important.

So a number of benefits of reducing emissions, immediate benefits, we don't have to wait for the climate. If we stopped mining coal today, we'd have cleaner air tomorrow. So it's very simple.

Just to point out that humans aren't the only things on the planet, so not only human health but wildlife. We lost around a billion animals is the estimate in those Black Summer bushfires – companion animals', working animals' lives and so on, all affected by extremes of climate as well. And we do need to think about animals when we're making our plans for what to do during emergencies.

It's also a lot of cultural icons that are at risk as well, so coming down to our sense of identity. The Great Barrier Reef I think has had three major bleaching events in recent years, and if we hit around 1.5 it's probably not even going to exist anymore.

And then not only the loss of icons but the loss of whole countries. So this is taken from Kiribati [pronounced Kiribus – eds] in the Pacific, and its low-lying coral atolls. And this was a road, and this photo was taken at low tide. So at high tide, that road is completely underwater.

So the decisions we make today matter. Just to put it in perspective, a child born today in Australia is likely to live to the end of the century. So they'll be there when those temperatures – unless we take rapid and urgent action, they'll be there when those temperatures hit. At least three degrees if every country sticks to their Paris pledge, we're going to hit three degrees. So we actually need to do better than that. And there's no time to waste. We've still got another 20 years of warming in the pipeline before things will start to stabilise if we do things now.

So who will make it happen? Well, we've been trying for a number of decades to get some significant action, and it has been very difficult. So in some places, it will be elected officials and lawmakers who are on board and who do instigate those changes, but there's also – in fact, I want to draw your attention to the Cities Power Partnership. So this is a

consortium of local governments who have pledged to reduce emissions and to take action on climate change.

But we also have the power of civil society, so the power of you. So NGO activities such as sharing information, divesting from fossil fuel. And we see that not only amongst individuals but industries as well, and institutions. So a number of universities, for example, no longer invest in fossil fuel.

We've seen a rise of civil disobedience and Extinction Rebellion, although this year I have to say it's been quite quiet on that front with the pandemic. But we've also seen some significant court action as well. So, recently some of you might have seen a case against the Rest super fund, in which somebody took them to court and said you're not protecting – you haven't thought about climate change, how are you protecting my investment from climate change. So making changes in those ways. So I suspect we'll see more and more happen through the courts.

Now, in the midst of another global crisis, health crisis, we've obviously got COVID going on still at the moment. We're very lucky here in Australia in the situation that we're in. But just some parallels between COVID and climate change and things that we could draw lessons from. So Australia's response to COVID was swift, decisive, and based on evidence and expert opinion. A little bit shaky to start with, but improved very quickly. It required some mass suspending upfront and rapid action, which seemingly seemed at odds with ideology. So we saw free childcare, and we managed to eliminate poverty overnight, at least temporarily. So we know that these things can be done. And it wasn't that difficult.

So this has meant that in Australia we've largely avoided a public health catastrophe, and I want to say so far, because obviously it's not over yet. So it shows the government can enact changes in the public interest quickly if they choose to. So it is all about choice.

And also just to kind of think of a bit of a brighter note, the COVID recovery is a perfect opportunity to reset our emission trajectory. So we do have a chance to choose which industries we support for that economic recovery, and we do have an opportunity to build a more equitable society and to boost investment in renewable energy. And now that I've brought you up a little bit, I'm just going to bump you down again as I finish off.

I've had this postcard on my office door for more than 20 years. So for those – it says, "There must be a source of energy down there," and it's two business-looking people looking down at the ground rather than up at the sun. And I just want to show that we can't possibly have a gas-led recovery and deal with the climate change issue.

So we really do need to think much more creatively, and I'd urge all of you to use whatever powers you can to speak with your local members to make sure that this message comes through. We can't actually afford to keep expanding coal mining. We can't afford to rely on gas. Twenty, 30 years ago, gas might have been a transition fuel, but it's not anymore. We don't need it. We can switch straight to renewables. And on that note, I shall finish.

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