

REPORT ON PROCEEDINGS BEFORE

PORTFOLIO COMMITTEE NO. 7 - PLANNING AND ENVIRONMENT

CLIMATE CHANGE (NET ZERO FUTURE) BILL 2023

CORRECTED

At Jubilee Room, Parliament House, Sydney on Friday 27 October 2023

The Committee met at 9:15.

PRESENT

Ms Sue Higginson (Chair)
The Hon. Mark Buttigieg
The Hon. Scott Farlow
The Hon. Jacqui Munro
The Hon. Peter Primrose
The Hon. John Ruddick (Deputy Chair)

PRESENT VIA VIDEOCONFERENCE

The Hon. Anthony D'Adam

The CHAIR: Welcome to the first hearing of the Committee's inquiry into the Climate Change (Net Zero Future) Bill 2023. I acknowledge the Gadigal people of the Eora nation, the traditional custodians of the lands on which we are meeting today. I pay respects to Elders past and present and celebrate the diversity of Aboriginal peoples and their ongoing cultures and connections to the lands and waters of New South Wales. I also acknowledge and pay my respects to any Aboriginal and Torres Strait Islander people joining us today.

I ask everyone in the room to turn their mobile phones to silent. Parliamentary privilege applies to witnesses in relation to the evidence they give today. However, it does not apply to what witnesses say outside of the hearing. I urge witnesses to be careful about making comments to the media or to others after completing their evidence. In addition, the Legislative Council has adopted rules to provide procedural fairness for any inquiry participants. I encourage committee members and witnesses to be mindful of the procedures.

Professor ANDY PITMAN, Director, Australian Research Council, Centre of Excellence for Climate Extremes, University of New South Wales, affirmed and examined

Associate Professor GABRIEL ABRAMOWITZ, Australian Research Council, Centre of Excellence for Climate Extremes, University of New South Wales, affirmed and examined

The CHAIR: Welcome and thank you for making the time to give evidence. I also acknowledge the short time frame in which you have been invited to make submissions and participate. Would either of you like to start with a short opening statement?

ANDY PITMAN: I will start just to clarify the ARC centre of excellence. It's a national centre with international connectivity around the understanding of climate science and climate change. We are five universities but we collaborate closely with the CSIRO, the Bureau of Meteorology in Australia and multiple organisations internationally—we are in the sixth of a seven-year term—to understand the nature of climate change, the nature of the link between emissions and climate extremes, and the processes underpinning climate extremes. So if you do have questions we couldn't answer today, I have substantial resources I can call on to answer any more detailed questions you might have.

GABRIEL ABRAMOWITZ: I just wanted to say that we support legislating the 50 per cent by 2030 and 100 per cent by 2050 targets. We're really pleased to see a structure in place to achieve that. It seems like the proposed commission's independence is critical to fulfilling that role so I would encourage the Committee to do everything you can to ensure independence of that commission. As you've noted in your third guiding principle, reducing emissions early is much more beneficial than later, even if you meet the target in both of those cases. I believe that the current Government policy is a 70 per cent reduction by 2035. I don't know what happened with planning but it would be interesting if that could be in there as well, only because cutting early makes quite a big difference. So if that 70 per cent by 2035 were in there, it would mean that the road between 2030 and 2050 would have quite deep cuts early, which would be great.

I have two more points. One is to raise that there's a possibility that scope 3 emissions might be out of budget or inventory at some point soon, which would be a good thing in terms of risk management for this kind of problem. Obviously the atmosphere doesn't really care where the emissions come from—so, another thing for the Committee to consider. Finally, I reinforce that actual cuts to emissions are key and that offsets can be extremely risky in the short term, and there is a very good chance that they are unlikely to remain offsets in the long term. We have seen, for example, what's happened with fires over the last few weeks, and this is not very long after 2019, so there is vulnerability in investing in standing stock of carbon above ground. That's all I'd like to say.

The CHAIR: For the benefit of the Committee, could you please explain, perhaps in simple or as lay terms as possible, the difference between an average global temperature increase of 1.5 degrees to two degrees?

ANDY PITMAN: That's a challenging thing to do simply. There is 1,000-page report by the Intergovernmental Panel on Climate Change talking about the difference between a 1½ degree and a two degree. The short story is that every tenth of a degree does harm, and if you could limit warming to 1½ degrees, the scale of the extremes we are likely to experience will be substantially smaller on average over the Earth as a whole than if we warmed to two degrees. But, I'm afraid, you're too late on 1½ degrees. There is no feasible, logistical strategy, I think, to limit warming to 1½ degrees. We're seeing accelerating warming in the short term over the last year or so as El Niño comes in. I think 1½ degrees was an awesome target when it was proposed; two degrees is extremely challenging. Two degrees remains in play. It is achievable but is going to require global action at a scale that isn't really apparent at the moment. So everyone loves 1½ degrees. Lots of people have targets for 1½ degrees, but it is too late to limit warming to 1½. We can exceed 1½ degrees and then develop strategies to bring the global temperature back down by 1½ degrees. The technologies to achieve that are being considered and developed, but they don't exist at the moment. Sorry!

The CHAIR: Thanks for that. In your submission, the ARC has described necessary climate and emissions reductions action in terms of urgent and rapid and sustained. Could you specifically outline how ARC defines those terms on a scale from 2023 to 2050?

GABRIEL ABRAMOWITZ: I'm not sure I understand the question exactly. Are you asking what those cuts look like or the scale?

The CHAIR: Yes. In terms of looking through that lens that you've identified as the urgent and rapid and sustained, how do we look at that from 2023 to 2050 if we're looking at what you would chart as rapid and urgent?

GABRIEL ABRAMOWITZ: I think it ties into your last question a little bit, but my perspective may be a bit different to Andy's. I see it as a risk management problem that is very hard to come back from, because if you roll the dice and you go too far, you can't go back. It's not like polluting a river, where you say it's really polluted and now we clean it up, and then everything's okay. It's very hard to come back from. The consequences are potentially quite severe. So I would suggest it's a risk management problem, and one would want to, within any comfort zone, cut emissions to the degree that one can.

The CHAIR: So then, consistent with your statement, Professor, about 1.5, what would you say to a proposition that net zero emissions by 2050 is consistent with the Paris Agreement?

ANDY PITMAN: The Paris Agreement is to limit warming below two degrees and to aspire and work towards limiting warming to as close as 1½ degrees as you can. It doesn't have a legislated 1.5-degree target in it. So if you get to net zero quickly, that gives you a good chance of avoiding two degrees. I'm not aware of a pathway that's logistically viable to limit warming to 1½ degrees.

The CHAIR: Was the ARC at all involved in, or did you have any input into, the current New South Wales policy of the 70 per cent by 2035?

ANDY PITMAN: No, we did not.

The CHAIR: Can you outline what your understanding is—and the ARC says the "best available science"—when it comes to limiting increases to below two degrees? I won't say 1.5 anymore.

GABRIEL ABRAMOWITZ: I don't have a concrete answer. Andy, do you want to have a go?

ANDY PITMAN: Climate science has been going on for decades. It goes back a very long way, and there is a vast amount of science that has been aggregated over a very long period of time. We've known that increasing greenhouse gases in the atmosphere have a significant impact on our climate for—and I forget the number of years, but about 200. It's not a newly discovered phenomena. Over last decades, there has been a vast amount of science done that all link increases in greenhouse gases in the atmosphere to both emergence of extreme events that have not been previously observed, amplified risk of tipping points—for instance, collapse of ice sheets, failure of ocean currents, vulnerability of reef systems and so on. The amount of evidence now is—it's not controversial at all. That all points to the rationale behind the Paris Agreement, which is that we have a clear and present danger from climate change and the solution to that is to very urgently and deeply cut emissions.

I have the view that a lot of the emissions reduction targets are not necessarily scientifically directed; they are politically well informed. The science said, in 1990, that we had to deeply cut emissions. It's a really challenging problem, and it didn't really happen. That leads to the consequence that, as the clock ticks, the urgency and the depth of the emissions reduction becomes more and more challenging. We're now at the situation where it's literally all hands to the pump in trying to reduce emissions. Everybody has to pull their weight in reducing emissions, and it's really welcome that the New South Wales Government is looking at doing that quite aggressively.

The CHAIR: On that point, in your submission—I suppose it's going back to that initial premise of rapid and as quickly as possible—you make the point that you urge to make every effort to strengthen the cuts in emissions urgently, both in terms of timing and depth.

ANDY PITMAN: Yes.

The CHAIR: So that's something that you would maintain? I think you're suggesting that perhaps these targets are not science-based; they are more based on something perhaps ambitious, whatever that is, but something that's not scientific, the 2050—

ANDY PITMAN: The science would say you have to get to net zero in 2000, and we were saying that at the time. It's not that we've suddenly thought, with hindsight, that we should be cutting emissions. The Intergovernmental Panel on Climate Change have brought out many reports, with a roughly six-year cycle, and have just become increasingly precise in the urgency and the depth to which emissions have got to be reduced. So the reason we strongly support deep and urgent reductions is not a new thing. The language is becoming stronger because jurisdictions around the world have not urgently and deeply cut emissions, if that makes sense.

GABRIEL ABRAMOWITZ: It might also be worth going back to a point that I made in my opening statement there that meeting a target—well, however you meet the target is quite important. If you were to meet a net zero 2050 target by cutting very early, that could be twice as beneficial in a risk mitigation sense as doing it all towards the end, because the amount of carbon you've emitted is much less. Sure, by 2050 you're not emitting any more, but it's about the total that gets emitted, because it just joins the global pool.

The CHAIR: Does that go to your evidence that the 70 per cent by 2035 is actually an important—

GABRIEL ABRAMOWITZ: Yes.

The CHAIR: On that interim target, do you think that in terms of marrying legislative or political ambition with science, it is important to have those staged targets?

GABRIEL ABRAMOWITZ: I say it only because cutting earlier is always a good thing. It seems already politically palatable in the sense that it's Government policy. It is not legislated, I understand. But the fact that that has already been accepted would seem like an easy option to put it in there, and that would mean that from 2030 to 2050, it's not waiting from 2030. Not necessarily that it would happen that way, but it's not waiting until 2045 to start doing the hard work, because you have already legislated another target. I understand administratively it's a burden but, relative to the risk, I would suggest that's not much of a burden.

The CHAIR: There are two things you raise in your submission. One is the idea of scope 3 emissions and that they're not charged against the New South Wales emissions inventory. I think you raised that in your opening statement and you do in your submission. You're suggesting that it is responsible or wise from a science emissions reduction that scope 3 somehow gets addressed here?

GABRIEL ABRAMOWITZ: Absolutely.

The CHAIR: In the current situation, are those scope 3 emissions accounted for somewhere?

GABRIEL ABRAMOWITZ: That's up to wherever those goods go. My interest is really in limiting emissions, and the point with considering scope 3 is that we have another avenue for control over emissions. Whether or not that comes in budget soon in an international context—I doubt it would be backdated, but if it were backdated we might be in trouble. It may come in an international context soon that that becomes part of a national budget rather than wherever it ends up going.

The CHAIR: With your work with the ARC, are our scope 3 emissions that we don't account for accounted for in a non-official sense? Are we aware of what our scope 3 are from New South Wales?

GABRIEL ABRAMOWITZ: I don't think it's in any formal budgeting. I could take it on notice to find out in more detail, but my understanding is it's roughly four times the New South Wales budget as it stands—our scope 3 emissions from New South Wales.

The CHAIR: You talk about compounding climate hazards. Can you explain that a little bit please?

ANDY PITMAN: Apologies for the terminology. A great deal of climate science over last decade has been to try to understand why a heatwave is intensifying, why a storm is intensifying or why short-term rainfall is intensifying, as a single variable or as a single thing. The insurance industry is very well aware that most catastrophic damage is caused when several of those things occur simultaneously. Classically, a major storm that generates a lot of rainfall has less effect than a major storm that generates lot of rainfall simultaneously with extremely strong winds. It's much more complex to understand how climate change is affecting the risks of co-occurring events in contrast to a single event.

A lot of work in climate science is now focused on how does climate change weight the dice towards more risk of coincident extremes—heatwaves co-occurring with drought or storm surge co-occurring with a king tide. These things compound the risk very dramatically to generate extremely negative outcomes. For example, the Lismore flooding was a compound event because, had the catchments not already been saturated, the scale of the consequence of the rainfall events would have been smaller. For the poor climate scientists, we now have to understand the probability and magnitude of the rainfall event within the context of what the state of the catchment will be when those events occur, and that is a much more challenging problem. But those things are emerging globally rather dramatically. We are seeing a lot of catastrophic extreme events that are the confluence of multiple extremes co-occurring in a location.

GABRIEL ABRAMOWITZ: Just to add to that, another way to think about that as well is the impact it can have on infrastructure. You can imagine that most vulnerability assessments for particular pieces of infrastructure think about the risk of flooding and what that would do to a road network or something like that. But we have very little assessment of what would happen if the road network goes out and the phone network goes out and the power goes out and how the probability of co-occurrence of these things changes. That is a point, really, in addition to what you already said, Andy.

The CHAIR: I'm from Lismore. The event was quite incredible, really, and understanding that compounding factor. Yes, the catchment was saturated, but the actual rainfall event in the coming days was unbelievable.

ANDY PITMAN: That event was off the charts for climate scientists. It wasn't just for the local people; it was a truly spectacular event from the perspective of a scientist sitting in a university office. It was absolutely amazing.

GABRIEL ABRAMOWITZ: There were a lot of texts flying around about rainfall records in various locations.

The CHAIR: From your expertise, whilst that is continually described as an outlier, is it possible, probable, likely that we will see more events like that?

ANDY PITMAN: It now exists from multiple lines of evidence that short-duration rainfall is intensifying at about 20 per cent per decade. If you stop and think about what 20 per cent per decade means, you get very nervous about the design of stormwater and so forth. But that is short-duration rainfall. The Lismore event was extremely complicated. You won't want me to go into detail, but it was initiated by the breaking of atmospheric waves some 1,000 kilometres south-west of Perth and it then connected in extraordinarily complex ways all the way up the east coast to be expressed in the form of the event that you experienced. We do not know if climate change impacted that event. We do know that climate change has the capacity to influence the intensity of the rainfall and the amount of moisture in the atmosphere, but that particular event was the compounding of multiple processes. It will take years to unpick those to tease out the role of climate change. It could be very substantial or it could be limited.

GABRIEL ABRAMOWITZ: Just to add, more broadly, you may or may not be aware that, if you look at projections that come out of models, there is not a very clear signal in many parts of Australia about what rainfall per se is going to do. But there seems to be a much clearer signal about changes in the variability of rainfall. For increased variability, there seems to be a signal, which means more high extremes and more periods of no rain, basically.

The CHAIR: Is there an attribution science that is used in what we were just talking about? Is that something that's developed? Would you say that we are advanced with understanding attribution science?

ANDY PITMAN: There are two kinds of attribution science. I can send you briefing notes we have written on this, if you would like, because it takes a lot of time to write them in clear English. There is a form of attribution science that asks can we demonstrate that there is a warming signal or a rainfall intensification signal, on average, as a consequence of increased CO₂? That science is absolutely robust, and it has been for decades. We can absolutely definitively say, yes, heat waves are getting worse; yes, rainfall is intensifying and so on as a consequence of increasing the CO₂ in the atmosphere. Then there is something called event attribution, which is not "Do events on average change as a consequence of increased CO₂?" but is "Did this singular event respond to the increased CO₂?" That is rocket science.

There's a major paper coming out from the Australian research community very shortly assessing which phenomena we can make clear statements about and which we cannot, and an event of the form of the Lismore event isn't one that we can make definitive statements about in contrast to heatwaves or rainfall intensification in general, so it's a very complicated area. The Bureau of Meteorology is doing a lot of really nice work on trying to create what's called operational event attribution and many researchers around the country are working on that and it's a major international effort. There is a deep disagreement amongst the climate scientists to what degree you can make definitive statements around an event responding to climate change as distinct from events in general responding to climate change. Does that make sense?

The CHAIR: Thank you—a little bit.

GABRIEL ABRAMOWITZ: It's a very tough problem.

The CHAIR: Yes. It would be wonderful if you could provide what you're referring to.

ANDY PITMAN: Not a problem.

GABRIEL ABRAMOWITZ: Research notes.

The CHAIR: I know it's a bit dense, but it might be very helpful. Can I talk just briefly about offsets and the requirements? If we are looking at a legislative frame that sets a 2030 and a 2050 target and then the likelihood of the use of offsets in a scheme like that, is that something that would be in line with the reducing emissions rapidly in a sustained way if we were looking at the use of offsets?

GABRIEL ABRAMOWITZ: Super risky.

The CHAIR: Right.

GABRIEL ABRAMOWITZ: Super risky. I think the potential changes in fire frequency—if we're talking about offsets and above-ground carbon like in vegetation, it is super risky just because it's vulnerable to dry events, El Niño events, if you're talking about soil carbon as well. I suspect in the short term you could do a pretty good job of it if you had very tight control over how offsets were managed, but long term I'm not sure there's much to achieve. One thing to think about is if you are trying to sequester carbon into above ground, into vegetation, the amount you can achieve by doing that is roughly the amount of carbon that's been emitted from deforestation historically because you're not going to get above that level, which is an order of magnitude more than the fossil fuel emissions that we have.

The CHAIR: If we were looking at a scheme that included offsets, which you would imagine a 2050 target perhaps does if we're not looking at any other mechanism—this bill, as it's presented, doesn't yet present the mechanisms of actually achieving emissions reduction, just a target—what would you say in terms of if there was no reduction in fossil fuel emissions and we were literally looking at an offsets scheme to do that in that first—say, from now to 2040, if we were going to carry on emitting and relying on offsets?

GABRIEL ABRAMOWITZ: I think if you actually had the mechanism to accurately quantify how much carbon was taken up by those offsets, it would very quickly become apparent that that was not possible.

The Hon. JOHN RUDDICK: Well, I'm just curious to ask the professors: Can you just quickly tell us what your academic background was in terms of how you became professors, what area of research?

GABRIEL ABRAMOWITZ: I can go first. Background—undergraduate was many, many things; it was philosophy then physics then mathematics; postgraduate, honours in mathematics; then PhD in evaluating the land surface component of climate models, trying to use a range of observational sources to try to understand when models actually give you inference about a natural system and when they just give you numbers. So, that's sort of my background. Research has been broadly in evaluating models, not just climate models but ecosystem models, hydrological models, trying to again understand the inference question—when you can use these models to understand the real world and when you can't.

ANDY PITMAN: I did a PhD in the mathematical modelling of terrestrial processes—energy, water and carbon in land atmosphere processes, working within the climate modelling area. Then I've spent 30 years working on multiple aspects of climate, with an emerging interest in extremes for the last seven years as the Director of the Centre of Excellence; prior to that, more average-type processes when I was the director of a former centre of excellence; and now moving much more into trying to keep people honest in their use of climate information. There are some bad actors out there who are selling a lot of information to do with future climate that isn't defensible from a climate science perspective.

The Hon. JOHN RUDDICK: You write in your paper:

The link between greenhouse gas emissions and global warming is unequivocal.

ANDY PITMAN: Absolutely.

The Hon. JOHN RUDDICK: Let's imagine for a moment that you're entirely wrong. There have been lots of people who have had unequivocal positions in history about science and they've been proven, with time, to be completely wrong. Can we agree it would be fabulous if you were wrong?

ANDY PITMAN: Totally.

GABRIEL ABRAMOWITZ: Absolutely.

The Hon. JOHN RUDDICK: It might be professionally embarrassing for you but it would be a good thing, wouldn't it?

ANDY PITMAN: No, it would not be professionally embarrassing. It would be something to deeply celebrate and many of us have spent decades trying to find flaws and errors in the science.

GABRIEL ABRAMOWITZ: I could put it a different way. Every scientist has ego. The credit that I would get from doing that and the prizes that I would get from doing that would just make a career for me.

ANDY PITMAN: It's possibly worth noting the highest achievement in science is a Nobel prize.

GABRIEL ABRAMOWITZ: You would get one for that.

ANDY PITMAN: You would win a Nobel prize for finding a fundamental flaw in the link between greenhouse gases and climate change.

The Hon. JOHN RUDDICK: You don't think that the people who do have a sceptical view are suppressed?

ANDY PITMAN: Absolutely not. In fact quite the contrary. If you want to publish in elite journals you cannot publish papers in elite journals that conform to the consensus. We all spend our time looking for flaws and errors in the standard paradigm. It's just you can't do that between carbon dioxide in the atmosphere and climate change because there isn't a flaw in that argument.

GABRIEL ABRAMOWITZ: To go back to a couple of points, to what Andy was saying, it was actually I think 1896 that that link was established between CO2 and warming.

The Hon. JOHN RUDDICK: My understanding—you gentlemen know more about this field than me but the first person in the world to coin the term "global warming" was Roger Revelle from the Scripps institute. Are you familiar with Roger Revelle?

GABRIEL ABRAMOWITZ: It may well have been, but there have been several—

The Hon. JOHN RUDDICK: Al Gore is the one that kicked this off as a political issue in the early 1990s, and he had no qualifications in atmospheric science. He said, "I'm copying what Roger Revelle says." He quotes Roger Revelle endlessly in his movies and books. Roger Revelle did seriously look into this issue from 1957 onwards with cooperation from the US Government and governments all around the world, including Australia. After about 40 years of research and after Al Gore has come out and said, "I'm just copying what Roger Revelle says," Roger Revelle wrote a paper in the early 1990s saying, "I think we've got to be very careful about this." He said, "The more we've studied this, the more doubt we've had." That was in 1990. Professor Pitman, you just said that we've known since 1990. The guy that kicked the whole thing off, Roger Revelle, by 1990 he was having serious doubts about it. He was saying, "Maybe what we're seeing is just the natural variation of the climate that has been going on for billions of years."

ANDY PITMAN: It is challenging for me to summarise the scale of the scientific evidence that links greenhouse gases in the atmosphere with climate change. It's easy for me to summarise the evidence against that because there isn't any. This is a rare field in that the fundamental physics of the link between greenhouse gases and climate has not actually changed in 200 years. Compare that with almost any other field: If you go back 200 years in medicine, nothing in medicine has withstood 200 years of scientific development.

The Hon. JOHN RUDDICK: Yes.

ANDY PITMAN: The fundamental principles of how radiatively active gases, like CO2, act on our climate has remained unchanged because it's basic physics. You might well be able to find individuals that have views that are nuanced, but you are truly on the wrong side of history if you want to prosecute that case.

The Hon. JOHN RUDDICK: If you're right and if the world has—this will be my last question, Chair. If the—

The CHAIR: I was going to say, can it be a question, Mr Ruddick?

The Hon. JOHN RUDDICK: If you're right—

ANDY PITMAN: The word "if" is incorrect in this context.

The Hon. JOHN RUDDICK: You've just agreed it would be great if you are wrong.

ANDY PITMAN: No, that's a hypothetical. You would need to provide me a piece of evidence.

The Hon. JOHN RUDDICK: Since you are right and since we are heading for a catastrophe and since we do need to re-engineer the whole world, why do you care about what is happening in Australia or New South Wales when it's such an insignificant part of the emissions? China is building a coal-fired electricity station about every 15 days and their carbon emissions are going through the roof. Why do you care about coming to New South Wales Parliament? Why aren't you organising protests out the front of the Chinese embassy? If we are facing catastrophe, nothing we can do here can stop it. Why aren't you putting your efforts into fighting China? Why is it all about domestic politics?

ANDY PITMAN: It's not. To clarify, I'm a scientist; I'm not campaigning.

The Hon. JOHN RUDDICK: But the world is coming to an end. China is responsible for it more than anyone.

GABRIEL ABRAMOWITZ: I don't think anyone is saying the world is coming to an end. What we're saying is that there is significant risk involved with not doing anything about this problem. The risk would be to your family and your children and my family and my children. It's a little bit like saying that someone has been under a bus with a pair of pliers and they've cut a whole lot of cables, and you're saying to me, "If you can't tell me where that bus is going to crash, I'm getting on the bus."

The Hon. JOHN RUDDICK: No. Going with that analogy, the bus is on its way to crash because of the carbon emissions. The Western world has reduced its carbon emissions in the past 20 years. You know that. China is going up exponentially. There's no reference to the country which is spitting out all of this stuff that you think is going to cripple civilisation.

ANDY PITMAN: With due respect, Senator, this is a New South Wales piece of legislation that we have provided input to. If it had been a Chinese Act of parliament, we might have made a submission to that, but it wasn't. So it seems a bit disingenuous to say we should be having a conversation with the Chinese.

The Hon. JOHN RUDDICK: Well, if it's a catastrophe—

ANDY PITMAN: Of course, the Chinese signed up to the Paris agreement.

The Hon. JOHN RUDDICK: They're ignoring it.

ANDY PITMAN: I would suggest to you that their investment in renewables to transition off fossil fuels is a really quite impressive engineering effort.

GABRIEL ABRAMOWITZ: That dwarfs our own.

ANDY PITMAN: So it's not that they're ignoring this problem any more than the US.

The Hon. JOHN RUDDICK: I think they're making a lot of money off it.

The CHAIR: I remind members that under our rules we have a very clear statement that all witnesses will be treated with courtesy at all times, and that extends to not badgering the witnesses. They're here on generous time through invitation. Thank you, Acting Professor and Professor. Do we have any other questions?

The Hon. PETER PRIMROSE: May I ask two hopefully courteous questions? As a New South Wales parliamentarian, and in terms of this New South Wales Act, Professor Abramowitz, you raised initially in your opening statement a comment in relation to the guiding principles in clause 8.

GABRIEL ABRAMOWITZ: Yes.

The Hon. PETER PRIMROSE: I was wondering if either of you have any other comments in relation to the guiding principles—whether you believe there are things we should add, whether you're basically happy or whether there are things that should be deleted?

GABRIEL ABRAMOWITZ: I did read through them, but I confess that I can't remember all of them. I didn't see anything that alarmed me, but I'm very happy to take it on notice if feedback would be welcomed.

The CHAIR: Very welcome.

The Hon. PETER PRIMROSE: Thank you. I would appreciate that, in terms of the legislation. The other thing, if you would do the same, is in relation to the proposed functions, in clause 14, of the Net Zero Commission. I was wondering if you could have a look at that and also provide some feedback in relation to whether you're basically satisfied or if there are things that you would like to see amended, added or deleted.

GABRIEL ABRAMOWITZ: Okay. I am very happy to do that as well on notice. The one thing that I did raise in my opening statement that might be worth adding here is that I'm obviously not that au fait with the way legislation is drafted and what the implications are of each little part of it. It was unclear to me whether the appointment of the commission and how turnover in the commission would work and whether it was in the Minister's power to make the committee of a particular ilk if they wanted to, or whether it was an attempt to be an independent committee making decisions in the best interests of the State rather than of the government of the day.

The Hon. PETER PRIMROSE: That's something we need to clarify, then.

The Hon. SCOTT FARLOW: Some of the areas of contention in the bill come in terms of the targets. You were outlining before that you might have a target, but being able to get to net zero before 2050—or being able to get to within, let's say, 70 per cent by 2035, which has been the Government's target—would be advisable. Do you think there's a role in the bill for there to be more targets in the bill so that it isn't necessarily just the 50 per cent by 2030 and net zero by 2050?

GABRIEL ABRAMOWITZ: I don't have the familiarity with the kind of level of administration that would require, how much burden that puts on Parliament and all of the instruments that would be required to prosecute that. If it were not significant, then yes, particularly since there's already apparently a palatable target there that would allow for stronger cuts. Obviously there's a balance to be struck there, but I couldn't comment on what the best balance is.

The Hon. SCOTT FARLOW: With respect to the 50 per cent by 2030 target, what's our trajectory in terms of being able to reach that at the moment?

GABRIEL ABRAMOWITZ: I don't know the answer to that. I could take it on notice and look it up.

The Hon. SCOTT FARLOW: With respect to offsets, you were outlining some of your concern before, and I know your submission does as well, in terms of the use of offsets and the potential counter offsets in the long term. Are there any other alternatives that exist?

ANDY PITMAN: The specific objective is to reduce the amount of greenhouse gases in the atmosphere. We are aware of multiple ways of doing that. Above-ground, nature-based solutions, I have no problem with them being your last 5 per cent, but the heavy lifting is not feasible by offsets because of the risk of those offsets to climate change, fire and so on. Another area which is regularly discussed is carbon capture and storage. There is no doubt that carbon capture and storage can provide a fraction of the necessary emission reductions. The latest I heard was up to a potential of 15 per cent. If you've cut emissions by 85 per cent, carbon capture and storage might give you that little bit left, but it isn't going to be a viable solution to do the heavy lifting.

There are many other areas and research to look at ways of storing carbon. I know it sounds trivial and simplistic, but by far and away the most stable and long-term solution to the carbon problem is to leave it in the ground. There it is nice and safe. It has been there for a very long time; it has been there for millions of years. If you leave it where it is, you can be pretty confident it'll stay there. Rather than finding some really sophisticated, expensive technological solutions, just leave it in the ground in the first place.

GABRIEL ABRAMOWITZ: This might give you some comfort as well. Part of the problem of the framing of this is that it's very much, "We need to cut. We need to stop. We need to wind back," which is very much a negative framing. And it seems like a framing that targets particular parts of the business community or whatever. Obviously it's not about that. Another way, and probably the way that the Committee would constructively look at this, is that there is massive economic opportunity. There is massive growth opportunity here.

The Hon. JOHN RUDDICK: It's not happening.

GABRIEL ABRAMOWITZ: That's because the transition hasn't really started, I would suggest.

The Hon. JOHN RUDDICK: Has it happened anywhere in any country? Where the countries are more advanced—the renewable utopia—the electricity prices go higher and higher. That's what's giving us inflation.

GABRIEL ABRAMOWITZ: I don't think that's true.

The Hon. JOHN RUDDICK: Where am I wrong?

GABRIEL ABRAMOWITZ: The cheapest power bill at the moment—

The Hon. JOHN RUDDICK: Is it working in California?

GABRIEL ABRAMOWITZ: If you had to build more power now, what would be the cheapest form?

The Hon. JOHN RUDDICK: Coal.

GABRIEL ABRAMOWITZ: No. I'm afraid it's not.

The Hon. JOHN RUDDICK: Why are we suppressing it? Why won't we let the free market sort it out?

GABRIEL ABRAMOWITZ: Why are we subsidising it?

The Hon. JOHN RUDDICK: We're not subsidising it—no more than any other industry. We're penalising it.

GABRIEL ABRAMOWITZ: I would suggest looking—

The Hon. JOHN RUDDICK: We should have a free market in energy.

GABRIEL ABRAMOWITZ: I would suggest looking into that.

The Hon. JACQUI MUNRO: Thank you so much for coming today and for your submission at such short notice. Were you consulted at all while the bill was being developed and put to Parliament?

ANDY PITMAN: No.

GABRIEL ABRAMOWITZ: Not me.

ANDY PITMAN: I wouldn't expect us to be. We're a national research centre. We happen to be hosted in New South Wales, but I wouldn't have expected us to be consulted on those things.

The Hon. JACQUI MUNRO: Your expertise is very welcome here. It's forming part of the consideration of the bill now, which is good. Do you think the 50 per cent target by 2030 that is in the bill is adequate to address the risks that you've spoken about?

ANDY PITMAN: My personal view would be it's realistic and extremely ambitious. It's lovely to think of a higher target, but you actually have to have targets that are achievable. The rapid development of renewables gives you a reasonable shot at achieving a 50 per cent reduction. If you decided to make it 80 per cent by 2035, you wouldn't achieve it.

The Hon. JACQUI MUNRO: Do you think 70 per cent by 2035, which has been in regulation, is achievable?

ANDY PITMAN: I think it's extremely ambitious. I like ambition; it changes the mindset of investment and leads to outcomes that are hard to imagine. Whether it's achievable, I really couldn't say.

The Hon. JACQUI MUNRO: When we're talking about risk, the intention of the bill is to limit warming to between 1.5 and two degrees. Will a 50 per cent target by 2030 actually be able to achieve that, given you've spoken about the need to front-load the reduction?

ANDY PITMAN: There isn't a direct correlation between the emissions reductions in a State and the amount of warming that occurs. It is the tragedy of the commons. Everybody says that if they do it on their own, it doesn't make a difference. But if everybody does it, it makes a profound difference. Arguments to say, "But if we do it, it doesn't make any difference," hardwire the outcome—

GABRIEL ABRAMOWITZ: That nobody will do anything.

ANDY PITMAN: —to the climate changes that lead to the sorts of consequences that have been widely reported. So it is disingenuous to say, "Just because we do a little bit, it won't make any difference." If we used that argument, we would never have sent troops to Afghanistan, for instance. We are not a global heavy hitter, but we are an influential country and an influential State. What New South Wales has done in terms of renewables has been noted globally and has led to a flow of capital into this State. Economically, it is hugely beneficial to the State to lead in these directions because it generates wealth and jobs.

The Hon. JACQUI MUNRO: Do you think that we risk losing that lead if we are less ambitious and we're actually winding back the ambition that we sought?

ANDY PITMAN: Absolutely. The flow of capital globally, the viability of the insurance industry, the viability of the reinsurance industry to insure the insurers—that is all a global market. If the New South Wales Government is lacking ambition and is seen to be not doing its part, there is a substantial risk around investment and the viability of insurance and reinsurance in the State.

The CHAIR: Are you aware that the 70 per cent target by 2035 is currently in regulation and is actually a set target in New South Wales?

GABRIEL ABRAMOWITZ: I wasn't.

The Hon. MARK BUTTIGIEG: My question follows on from the theme that we've been discussing of the importance of the interim targets. Given the legislative inflexibility that's involved in legislating targets along the way and perhaps having to change them based on the commission's advice, do you think it would be acceptable to have those sorts of interim targets in regulations as a subservient instrument to the main legislation? I think that's the intention of the bill and, as the Chair has pointed out, there is already an interim target there.

ANDY PITMAN: One of the things that scientists are not trained in is governance and legislation. I really couldn't comment.

GABRIEL ABRAMOWITZ: I did try to make sense of that. My understanding was that the commission could be involved in setting interim targets. I could not tell you what that meant in terms of how binding that was or whether that was just a recommendation.

The Hon. MARK BUTTIGIEG: The idea is that we would take the advice of the commission, put it in regulations, which are enforceable. The overall long-term target would be enforced in legislation but the regulations for the interim targets would be met, obviously. In relation to the discussion surrounding Mr Ruddick's questioning, presumably there's been any number of independent studies which have collated the relative weight of evidence that climate change is, in fact, a real and present danger. I mean, there must have been studies purely on data collation of the volume of evidence for and against. Could you maybe enlighten as to some of those?

ANDY PITMAN: I'm going to answer that question outside of the scientific domain, just to try to give you a sense. The US national defence, the British national security and the Australian national security have all done a full-scale assessment on the science and have reacted to that by recognising there is substantial issues for national security to do with climate change. So it's not a bunch of scientists saying, "We have a problem"; it is hardcore economists, financiers and the military. There were reports by the US military in the 1950s saying, "This is a substantial risk to our operations." It is woven into all elements of national risk assessment.

There's been a very recent one done by defence highlighting risks of climate change. These aren't greenie, touchy-feely environmentalists. When you have the military extremely concerned about the consequences of climate change, that's moved beyond a scientific discourse. But if you want the scientific discourse, the observational data is unequivocal in the ocean, the atmosphere and on the land. The scientific evidence from fundamental theory is unequivocal and if we want to move to modelling, which we don't need to in this context, the modelling is unequivocal too.

GABRIEL ABRAMOWITZ: You could also ask anyone who's hard-nosed in the insurance industry whether they think it's an issue and why would they be spending huge amounts of money if they didn't think it was an issue.

The CHAIR: We've got a really good submission being to made this inquiry from the Insurance Council of Australia that sets out some of the risks and costs as well. We are really taxing you both here, but can I ask, if we don't get to maintain below two degrees, what are some of the heaviest impacted industries, ecosystems and communities that we are looking at? What are the biggest impacts, here in New South Wales in particular?

ANDY PITMAN: Sea level rise is a major risk to many coastal communities and some coastal infrastructure—

The Hon. JOHN RUDDICK: Hasn't happened.

ANDY PITMAN: —and that is kind of hardwired now. There's a limit to what we can do about that. That's going to cost the State a great deal of money. There are major consequences in terms of heat and heat stress that is going to require re-engineering of our communities, because people aren't very good when the temperatures exceed 50 Celsius, which they have already done in Western Sydney. There are going to be multiple challenges around surviving and quality of life in our cities, especially with increasing humidity. In fact, you may have heard speeches by Twiggy Forrest wondering around—very concerned about the relationship between heat, humidity and economic productivity.

For farming, the 1½ or two degrees sounds unimportant to farming, except it's not a 1½ degrees on every temperature; it is a change in the variability. You do not need very many days at 40 Celsius to kill a crop that is just germinating. So it's about the change in the nature of the weather in a warming planet that changes the economic feasibility of maintaining those systems. Fire is a substantive risk. Farmers can cope with drought if it occurs infrequently, but if it occurs frequently the viability of some of those farming communities becomes challenging, which leads to an immediate impact on government, because you have to find solutions to those communities that were dependent on agriculture. There are many publications now demonstrating a direct correlation between heat and economic viability, particularly in economic sectors that are outside. The mining industry is worried about climate change in those sectors of the mining industry that have substantial human engagement. I could carry on. The short-term duration rainfall, for those of you who commute in Sydney, could cause all kinds of trouble if you are getting much more intense downbursts.

The insurance industry—there is no way, as far as I understand it, to run an economy if you don't have access to insurance and reinsurance. It puts all the pressure back on government. So rather than socialising the cost of risk via insurance and reinsurance, government will have to pick up that risk if the reinsurers decide that Australia is too high a risk. It feeds into every sector of society and culture, and I haven't even touched on the environment. I don't see global warming as an environmental problem; I see it as a fundamental economic risk. That is why the solutions need to be framed via legislation with a really careful eye onto the viability of an economy from a State that chooses not to act strongly in terms of emissions reductions.

The Hon. JOHN RUDDICK: Professor Pitman, the Chair asked you what can we expect from global warming—

ANDY PITMAN: That's what I kind of covered.

The Hon. JOHN RUDDICK: —and the first thing you said was rising oceans. Now, we've been told that for 30 or 40 years. House prices on waterfront properties and beachfront properties have gone up exponentially. There's no hint that they're coming down. Would you recommend that people who have a property, a home, near the water line—would you recommend that they sell them?

ANDY PITMAN: That depends on what you mean by "on the water line". If I'm on granite three metres above sea level, absolutely not. If I'm on a sand dune, yes, absolutely.

The Hon. JOHN RUDDICK: It's not happening, so those people—

ANDY PITMAN: Oh, it absolutely is happening. With due respect—

The Hon. JOHN RUDDICK: The real estate prices aren't being affected. People want to live there more than ever.

ANDY PITMAN: First of all, insurance typically doesn't cover action of the sea. Yet the insurance companies did pay out the damages in Collaroy, and that was almost certainly a major strategic error on the part of the insurance industry. So it is a myth that rising sea levels are not having impact on coastal properties. They certainly are around the world.

GABRIEL ABRAMOWITZ: I'd also suggest that's not a very good metric to measure whether sea level's rising.

The CHAIR: Property prices.

The Hon. JOHN RUDDICK: You've done modelling. You've both done lots of modelling. The modelling told us we were going to have much higher oceans than we've got right now.

ANDY PITMAN: No, that's simply factually incorrect.

GABRIEL ABRAMOWITZ: That's not true.

ANDY PITMAN: The rate of sea level rise that we are observing is, first, accelerating and is, second, consistent with the modelling that has been in the literature for 20 years.

The Hon. JOHN RUDDICK: If it's so unequivocal, how much has Bondi Beach risen since the year 2000?

ANDY PITMAN: No, that is a misunderstanding of the nature of global sea level rise.

The Hon. JOHN RUDDICK: There's only one ocean. It is all connected.

GABRIEL ABRAMOWITZ: It is all connected but it does change—it does rise by different amounts in different places.

The Hon. JOHN RUDDICK: Oh, okay.

ANDY PITMAN: You may think of the ocean as a relatively flat surface; it is not. It has orography like the land. What you can easily see is an area of relatively high sea level move, or an area of low sea level move.

GABRIEL ABRAMOWITZ: And you have changes in atmospheric pressure because of changes in where synoptic systems happen, and you can actually have a mean sea level difference of tens of centimetres on average.

The Hon. JOHN RUDDICK: So I take it that you're saying that Bondi Beach has not risen since 2000. So where in the world has it risen half a foot, or something?

GABRIEL ABRAMOWITZ: If you'd like me to take it on notice—

The Hon. JOHN RUDDICK: I would.

GABRIEL ABRAMOWITZ: —and give you some information.

The Hon. JOHN RUDDICK: Yes.

GABRIEL ABRAMOWITZ: It's been rising consistently for a long time.

The Hon. JOHN RUDDICK: I would like to take you up on that, Professor Abramowitz.

GABRIEL ABRAMOWITZ: Excellent. It has mostly been thermal expansion. There has been some contribution from melting land ice, but it's mostly been thermal expansion.

The Hon. JOHN RUDDICK: I look forward to your response.

ANDY PITMAN: With due respect, Senator, the questions you are asking have been answered time and time again.

The Hon. JOHN RUDDICK: Well, that's great. We can answer it again.

ANDY PITMAN: They were answered by the Australian Academy of Science. They were answered by the Royal Society. They were answered by the US National Science Foundation. They have been answered. I am very happy to offer you personal briefings on the science.

The Hon. JOHN RUDDICK: Yes, let's do it.

ANDY PITMAN: And we could take that up afterwards.

The Hon. JOHN RUDDICK: Thank you. I'll take you up on that offer.

ANDY PITMAN: But you are asking questions that have been answered on the record many times.

The Hon. JOHN RUDDICK: My office will get in contact with you, Professor Pitman. We'll have a discussion, yes.

The CHAIR: Thank you. I remind everybody that we all come to these sessions with very different views, perspectives, levels of education and—

The Hon. JOHN RUDDICK: That's what Parliament is about, not Dorothy Dixers. We have heard Dorothy Dixers from the other panellists. Parliament is about robust debate, alternative views—

The Hon. MARK BUTTIGIEG: I just want to clarify some ambiguity which may have been created by my previous line of questioning regarding the interaction of the regs with the parent instrument, the legislation. I think I may have misled the Committee. The ambition is for the commission to advise on the most appropriate interim targets, and then the legislation—the Act—will be amended to incorporate those targets. So it will be pulled up into the main legislation. I just wanted to clarify that for the Committee.

The CHAIR: Thanks, Mr Buttigieg. Do either of the witnesses have any final things you would like to say at this point?

GABRIEL ABRAMOWITZ: No.

ANDY PITMAN: No. We don't mind robust conversations. You should see what our graduate students do to us.

The CHAIR: Yes, I imagine that you are incredibly used to it. Thank you both so much. As I said at the outset, it has been a very short time frame that this Committee has had to analyse this legislation and call witnesses and ask for submissions, so we are incredibly grateful. Thank you for your evidence. The secretariat will contact you in relation to the parts you have taken on notice. Because it is a short turnaround, there's a short time frame within which to respond.

GABRIEL ABRAMOWITZ: That's fine.

The CHAIR: I hope that that's not too inconvenient to both of you. Once again, we are incredibly grateful for your expertise and for attending today. Thank you.

(The witnesses withdrew.)

(Short adjournment)

Mr MICHAEL PLAYER, New South Wales Policy Manager, Property Council of Australia, affirmed and examined

The CHAIR: Welcome back, everybody. Mr Player, thank you for making the time to give evidence today. Would you like to start by making a short opening statement?

MICHAEL PLAYER: Yes, I will. Good morning, Chair, Deputy Chair and Portfolio Committee members. Thank you for providing the Property Council of Australia with the opportunity to present to this inquiry on the Climate Change (Net Zero Future) Bill 2023. The Property Council and the Green Building Council of Australia have provided a joint submission in support of the net zero future bill and together commend the New South Wales Government for taking action to decarbonise the State. The IPCC has made clear that climate governance is a key lever in the policy toolkit of governments to deliver greater emissions reductions. Enshrining a 50 per cent reduction in net greenhouse gas emissions in New South Wales by 2030 and net zero by 2050 is essential to achieving our commitments under the Paris Climate Accord and brings New South Wales into line with other comparable jurisdictions at a national and subnational level.

The Property Council and the GBCA also welcome the establishment of the Net Zero Commission to independently monitor New South Wales' progress towards its emissions reduction targets, to ensure transparency and accountability. We understand that the Net Zero Commission will provide advice on the emissions budgets for New South Wales, having regard to Commonwealth emissions budgets and nationally determined contributions. It is our view that emissions budgets in New South Wales should be set at an economy-wide level and sector level to ensure there is clarity over the scope and responsibility of the emissions reduction task ahead. We recommend that the net zero future bill identify and define sectoral pathways to transition to net zero by 2050 in line with the Commonwealth Government's approach, covering electricity and energy, industry, resources, the built environment, agriculture and land, and transport. Setting emissions budgets by sector and defining sectoral pathways to transition to net zero will be critical in providing policy certainty to industry, government and the broader community and will help drive investments in low-emissions and renewable technologies.

Furthermore, creating alignment with the Federal Government's approach will ensure that the Net Zero Commission's monitoring and reporting is consistent with a nationally harmonised framework. In line with the Federal Government's approach, extensive engagement should be undertaken with the community, industry and experts to inform the development of the sector emission reduction plans. It is recommended that the New South Wales, through the work of the Net Zero Commission, establish discreet, sector-based advisory groups to ensure that the emission reduction plans are robust, ambitious and achievable, with tangible actions for reducing emissions, consistent with the State Government's net zero target. This will also ensure that the sector strategies are accepted by the stakeholders they target. It's also critical that the appointment of the commissioners themselves provide appropriate sectoral coverage. Commissioners should have discreet sector knowledge and expertise to ensure that practical and robust emissions budgets and transition pathways are developed for each sector. Thank you for the opportunity to provide an opening statement, and I am happy to answer any questions.

The CHAIR: Thank you very much, Mr Player. The Committee will ask some questions. We'll do it in a various, random way. Can I start by thanking you for the submission. I know that members have only just received the written submissions, so we are just having a bit of time to work through that. I note that you're looking for more equity or direction in the sectoral pathways to emissions reduction.

MICHAEL PLAYER: That's correct.

The CHAIR: What is your main motivation for that as part of the mechanisms?

MICHAEL PLAYER: It just provides longer term certainty to the sector about what its role is in the national share of the emissions reduction task. I think what we have seen in the past is a lack of clear policy certainty from governments in general, not from this Government but a clear lack of policy certainty previously, like at the Federal Government level and the various State and Territory government levels. Having a clear enshrined target and then setting the base plans creates a clear signal to the investment sector but also to the property sector specifically about what the trajectory needs to be, and then they can align their plans with that trajectory.

The CHAIR: Does it concern you if, say, one sector is doing more heavy lifting in terms of emissions reduction? Is that a concern for your sector? For example, if the fossil fuel sector didn't have to do a thing or agriculture and land did haven't to do emissions reductions or got holidays from doing that for a certain period, would that concern your sector?

MICHAEL PLAYER: I'm not really in a position to comment about other sectors. What I can say about the built environment is that it makes up 50 per cent of energy use and 25 per cent of emissions in Australia and,

really, buildings represent also some of the lowest cost emission reduction opportunities. Prioritising the built environment frees up a national share of emissions for other sectors and I think that's really what the focus of government needs to be—moving the targeted decarbonisation action plans for the built environment and other sectors.

The CHAIR: We have been given some evidence about some of the ambition from within your sector. For example, Lendlease have incredibly ambitious net zero targets for their industry, as a participant in the industry.

MICHAEL PLAYER: That's correct.

The CHAIR: I think they are looking at their scope 1 and 2 by 2025 in terms of reduction, and an absolute reduction—I am sure there is some scope for offsetting in there, but an absolute zero by 2045. From your submission, I am very much getting the picture that is something where you are seeing a great degree of economic opportunity but, most importantly, it's essential for minimising risk to the sector. Is that correct?

MICHAEL PLAYER: Yes, that's correct. The sector is already a market leader in Australia on decarbonisation efforts. The property sector in particular makes their long-term capital allocations through an ESG frame already, so that's why it's quite critical to have some clear signals from government through the enshrining of these laws but also through an independent body like the Net Zero Commission to say, "How are we going to get there?" From our perspective, we want that signal from government. There's a lot of good work that has already been done, but there are certainly some laggards in the sector. I think having that guidance means that we can all come into line to make our part in the decarbonisation journey.

The CHAIR: New South Wales, in regulation, has an interim target of a 70 per cent reduction by 2035. Is that something that you would say is quite enculturated in your sector? You are all on that pathway and trajectory and that is what you are working towards?

MICHAEL PLAYER: Yes. The sector isn't monolithic, I guess. There are different elements that are subsections of the property sector that are doing better than others. I think particularly those elements of the property sector which have institutional investment backing, where there's a requirement to consider ESG, are probably performing better because they have to. But I think generally the 2035 target in regulation is a good signal, but having it legislated would probably provide a higher order signal to industry and probably would be more preferable. It's our understanding that the Net Zero Commission will provide a view to amending—whether the bill needs to be amended—based on how we're progressing against the 2030 and the 2050 targets. Then, having those interim targets then enshrined into law would be welcome.

The CHAIR: So you see no harm—you see more benefit to your sector by having an interim target enshrined?

MICHAEL PLAYER: Yes. That's correct, yes.

The CHAIR: Do you think that—there's clearly the ESG drive but it is also clearly the economic imperative as well, and that there's that.

MICHAEL PLAYER: That's right.

The CHAIR: With that, is that also driven through the risk of not doing this? Is that where the kind of basis for it is?

MICHAEL PLAYER: Yes. There's a risk from a capital perspective that capital will leave the industry, but then there's also the climate risk element that needs to be considered as a part of sort of land use planning but also the resilience and the design of buildings to increased climate risk. I guess, from an economic perspective, the energy efficiency measures at a national level could deliver about \$20 billion in energy bill savings for businesses and households, so there's a clear benefit there. Particularly electrifying the built environment could deliver about \$49 billion in energy savings between 2024 to 2050 compared to a business as usual sort of scenario, so there are some really clear benefits.

The recent changes under the Sustainable Buildings SEPP, which are bringing up the New South Wales standards for new buildings under NatHERs up to seven stars is a really positive move because it will see more energy savings for households over the longer term. Whilst there is a bit of an up-front cost—obviously there is an impost for the sector—it will be delivering savings over the longer term. We see that there is a clear economic benefit for families that are living across various homes in the built environment.

The CHAIR: Are you informing your sector from the evidence that we've seen from the Insurance Council and the Insurance Council of Australia in terms of futureproofing your sector?

MICHAEL PLAYER: Yes. We've been pretty forthright in our views around the need for a clear sort of climate resilience strategy. There's some really good work happening now through the NSW Reconstruction Authority, which was commenced under the former Government through Resilience NSW, to develop a statewide strategy. One of the most powerful tools that we have to manage climate risk is in land use planning but also in the design of buildings. Complementary to an emissions reduction strategy, we think that there's a need in New South Wales for a kind of climate risk strategy that's focused also on buildings, particularly the design of buildings, and that does need to be thought about in regulation and in planning rules moving forward; but it's also got to be balanced against some of the cost constraints that we're seeing in the industry now. That's why it was quite welcome to see that this legislation balances the fiscal responsibilities of the New South Wales Government but also the economic costs of action and inaction.

The Hon. JOHN RUDDICK: Thanks for coming along, Michael. You represent the people who build properties in this country. Now, I have been told for 30 years that the oceans are going to rise because of global warming, but we're seeing in Australia and all around the world that coastal properties continue to go up very strongly in price. Do you think those people purchasing those properties are making a mistake?

MICHAEL PLAYER: Look, there are probably people that are better suited to answer that question.

The Hon. JOHN RUDDICK: But it is interesting that for 30 years we've been told that the oceans are going to rise, but people don't seem to really care about it, do they, which is interesting. Now, you've mentioned—let's imagine, just hypothetically, in the next 10 years that the consensus became that people didn't believe that carbon was actually posing any threat to the world and that it's junk science, and your sector could remove this decarbonisation program. How much do you think that would reduce the cost of new housing in this State?

MICHAEL PLAYER: Again, I'm not a climate scientist, sorry.

The Hon. JOHN RUDDICK: No, but this is a building question. If you didn't have to worry about decarbonisation, if it just was not an issue, because I know there are endless regulations—to build a new house you have to do all these things, but if we didn't have to worry about it, surely the cost of housing would come down quite significantly?

MICHAEL PLAYER: Again, either way the energy efficiency standards that are being introduced for buildings actually deliver cost savings for families.

The Hon. JOHN RUDDICK: You think it's making houses cheaper?

MICHAEL PLAYER: The operational costs of running a home would still be cheaper. Regardless of whether climate change would be real or not in this scenario, it would still deliver savings.

The Hon. JOHN RUDDICK: But what about the building of a house?

MICHAEL PLAYER: The upfront costs of building a house might be more expensive in the short term, but as those supply chains are developed and as those building practices are developed those costs will come down because the supply will meet the demand. But the evidence is pretty clear that the energy efficiency savings that are delivered to households over the life of a mortgage, over a 25-year mortgage, will deliver quite significant savings.

The Hon. JOHN RUDDICK: My final question is that you say you want the New South Wales Government to work with the Federal Government and with the property and finance sectors to accelerate the expansion of preferential financing mechanisms, which includes products like green mortgages. What is a green mortgage?

MICHAEL PLAYER: Things like green mortgages are where you get a discount, essentially, to the interest rate on a mortgage because your home is more energy-efficient, and therefore because you're spending less on energy bills over the life of that mortgage you essentially have more money to pay back in servicing that debt. So it's recognising that it's actually cheaper to run a home which is more energy-efficient. So those are the types of models that have been adopted overseas and that we're seeing recently here in Australia as well.

The Hon. SCOTT FARLOW: Thank you, Mr Player, for your attendance today and for your submission. We've spent a little bit of time this morning on offsets, and with the property sector and construction it's seen that anywhere between 35 per cent to 40 per cent of carbon emissions come out of construction. I know that cement accounts for about 8 per cent to 10 per cent of global emissions when it comes to carbon. Some of these are very hard to ameliorate, at least at this stage. How much in terms of your path to net zero relies on offsets for the property sector?

MICHAEL PLAYER: Our view is that the pathway is reduce, eliminate, compensate, with offsets at the end. Reducing embodied carbon in buildings is really your first step. So looking at the design of the building,

looking at the materials that you're using, all of those sorts of things are ways to reduce the embodied carbon; and then looking at the operational life cycle of the building, ensuring that it's powered by fully electric, fossil-free energy, is the second; and then whatever else is left over, you should offset. The embodied carbon piece is still very hard. There are still not the developed supply chains that we need to completely eliminate embodied carbon in buildings, and offsets are a way to deal with that. But I think thinking about how we design buildings definitely goes a long way to helping reduce the embodied carbon profile.

I probably would say as well that the New South Wales Government and many governments across Australia have a really important role to play in the embodied carbon space, particularly from an infrastructure perspective as well. They have a lot of purchasing power, so if they set a carbon baseline for the infrastructure that they're building and seek to reduce carbon through their competitive tender processes below a certain baseline, then that delivers a better outcome overall and again it's less carbon in the national share of the budget that we have to reduce later on. It is a difficult task but it's something that's not completely insurmountable, and with real focus on reducing upfront embodied carbon I think we can go some way to getting there. But the New South Wales Government, I think, has an important role to play in setting some leadership in this space.

The Hon. SCOTT FARLOW: In terms of a submission made by one of your—I won't say competitor organisations—cousins, so to speak, in the peaks in the property sector, the UDIA called for:

... a new clause 8(8)(H) that recognises the basic human needs for food, water, air and housing—

in terms of the objects of the bill. Is that something the Property Council would support or sees as being needed as well?

MICHAEL PLAYER: I'd probably have to take that on notice.

The Hon. SCOTT FARLOW: Sure. I would be happy for you to come back to us with your perspectives on that.

MICHAEL PLAYER: Of course.

The Hon. SCOTT FARLOW: With respect to your submission, one of the things that you advocated for was green door policies which would provide expedited or prioritised review and approval of development applications associated with more sustainable and higher performing buildings. I'm interested in you outlining how you would see that potentially working and what mechanisms in the planning system could be used to have that looked at?

MICHAEL PLAYER: That and density bonuses as well are particularly powerful incentives. In the City of Sydney, for instance—and even outside the city—there are a lot of buildings that are built to a very high Green Star rating, except that's not necessarily recognised through planning policy, that they sit as higher order buildings, in terms of their performance, than others. The way that you could do that is seeking to accelerate assessment of those projects, of those development applications. You could dedicate more resourcing, potentially, to assessment of those applications. You could have dedicated teams that look at those sorts of things. There are a number of different ways that you could do it.

The Hon. SCOTT FARLOW: Do you think this would require a dedicated green building SEPP or the like?

MICHAEL PLAYER: You could potentially do it that way, yes. We're going to have applications of all sorts of plans that come through at a council and State level, so I think it's about prioritising resources towards those buildings that are delivering a higher decarbonisation outcome for the sector.

The Hon. JACQUI MUNRO: Thank you so much for coming today, and for your submission. We heard from one of the Government members of the panel earlier that there is an intention that the bill, if it becomes an Act, would be able to change the targets that exist. I suspect that having a stable target throughout a pathway to net zero is actually a good thing to ensure that the industry has some sense of where they need to be going. Do you think it would make your life and your members' lives more difficult if there was an opportunity to shift that target in the lead-up to 2050?

MICHAEL PLAYER: The regulation already exists for the 70 per cent target by 2035, so there's that strong signal there already. There does need to be some flexibility, I guess, for the Net Zero Commission to assess how we're performing against those targets and adjust them. But, again, I would go back to my point about certainty. If we're providing industry a clear signal that New South Wales is one of the leading jurisdictions that decarbonises, then that provides industry with confidence to invest. Translating the regulation into legislation, when there is a degree of certainty from the commission that we can meet those targets, is important. A 2035, 2040 and 2045 target would be useful, noting that Victoria in particular has a 2045 target of net zero. But, as far as I understand, it's pretty common practice around the world to start introducing legislated interim targets.

The Hon. JACQUI MUNRO: Do you think 70 per cent by 2035 has given your members a strong indicator so far of what they should be doing in a particular time frame?

MICHAEL PLAYER: Yes. That was certainly a good first step, and I think this legislation is a good next step along that pathway.

The Hon. PETER PRIMROSE: I have two questions I am asking all witnesses, and you may wish to take them on notice. In terms of clause 8 relating to the guiding principles, are there any issues other than the ones that are here that you strongly disagree with, or are you basically satisfied with those guiding principles?

MICHAEL PLAYER: Yes, we're satisfied with the guiding principles. I think we detail in our submission that the guiding principles, within the section that refers to the Net Zero Commission specifically, should identify the sectors that will be targeted and define the sectoral pathways for those in the legislation. We think that's quite important.

The Hon. PETER PRIMROSE: Sorry to interrupt, but that was my next question to you. It was precisely that, in terms of the Net Zero Commission and the functions of the commission in clause 14. When you talk about the sectoral emission reduction plans—for example, section 2 says that the commission will advise and give recommendations to the Minister about how to give effect to the guiding principles in New South Wales, such as by sector emission reduction plans. Do you think that should be there? Do you think that should be in a regulation? Should it be acknowledged by the Minister in the House? How do you see that?

MICHAEL PLAYER: It should be in the legislation, yes. I note that at the Federal Government level, they've kind of defined those sectors. WA has defined their sectors in line with the Commonwealth as well. Having that nationally harmonised approach through legislation is really important. The more States and Territories that sign on to that sector-based approach will provide greater certainty to industry.

The Hon. JACQUI MUNRO: Do you mind if I quickly add one thing? Something that I was trying to get to earlier with my questions is that there is quite a big difference between 50 and 70 per cent in five years. I'm wondering if the 50 per cent target by 2030 is signalling to your members that they actually don't have to do as much as what they were planning on doing.

MICHAEL PLAYER: Because it's in regulation anyway, I think it was pretty clear where the signposts were, to be honest. Again, this is just a welcome step towards providing clearer signals to the sector.

The Hon. JACQUI MUNRO: What I'm concerned about is that if the Government were serious about achieving 70 per cent by 2035, then that's the legislation they would be putting forward. In fact, by legislating something that is not as strong, and within quite a short time frame, the trajectory that people were going on in terms of their development standards and the technology that they're employing, and even the suggestions you're making for policy changes, is actually not as urgent or not as necessary.

MICHAEL PLAYER: The evidence earlier today made it clear that it's very ambitious. Our view would be that the urgency is there. From our perspective, we need to see emissions reduction strategies developed for the sector to give us a clear outline of how we need to meet these targets in the first sense. Having those developed with actionable, tangible plans is really important. Then we know, through the commission's advice and their reporting, how well we're doing against that. Legislating the 2035 target before we've got a view from the Net Zero Commission as to how we're going along that pathway probably wouldn't be the right step.

The Hon. JACQUI MUNRO: We're legislating a target anyway.

MICHAEL PLAYER: We are, but legislating a 70 per cent target by 2035 without knowing whether we're going to hit 2030 requires the advice of an independent body like the Net Zero Commission to show us how well we're doing. It's not to say that we can't do it, but it does require—as the evidence previously provided—pretty rapid and urgent action across all sectors, particularly across the built sector, which is why we think there needs to be a focus on the development of a net zero building strategy that covers the policies that we've canvassed in this submission.

The CHAIR: Your submission about the sector pathways and providing for those is consistent with some of the legal submissions we've received about the best way to get there. I will ask one final thing, because we're kind of out of time. Do these ambitious targets, wherever they're set, and getting there as furiously and fast as we can, have a relationship to the innovation in building technologies, building materials and those carbon-negative-type materials—whether it's hempcrete or those kinds of things—that we're hearing about?

MICHAEL PLAYER: It does insofar as it flows down into regulation, into planning policies and into construction codes—all of those sorts of things—which then create a conforming practice for the market to follow.

It gives a clear outline of where innovation needs to head. It is already heading there, but it provides a stronger signal. That's why we think it's really important that these laws are being enshrined.

The CHAIR: And that's the role you see for government—to set that leadership direction for your sector?

MICHAEL PLAYER: Set that leadership direction, yes. It's still critical. The New South Wales government owns a lot of buildings; it owns a lot of public infrastructure. There's a lot that it can do in its own leadership in this space to drive decarbonisation of its assets through its purchasing power. But, again, the load is really on industry to decarbonise, and having that clear signal at a legislative level is incredibly important. So I commend the bill.

The CHAIR: Wonderful, thank you. Are there any final things you'd like to say, Mr Player?

MICHAEL PLAYER: No, that's it. Thank you very much.

The CHAIR: Thank you very much for your evidence. The secretariat will be in contact with you. I think you may have taken one thing on notice.

MICHAEL PLAYER: Yes.

The CHAIR: We'll be in touch with you. Thank you very much.

(The witness withdrew.)

Ms RACHEL WALMSLEY, Head of Policy and Law Reform, Environmental Defenders Office, before the Committee via videoconference, affirmed and examined

Mr PAUL CRENNAN, President, Environment and Planning Law Association (NSW) Inc., sworn and examined

Ms GRACE HUANG, Board Director and Convenor of the Memberships, Partnerships and Personnel Portfolio, National Environmental Law Association, affirmed and examined

The CHAIR: Welcome. Would you like to start by making an opening statement, Ms Walmsley?

RACHEL WALMSLEY: The Environmental Defenders Office welcomes the opportunity to make a submission to this inquiry, as we have long called for a New South Wales climate change Act and reforms to ensure that key New South Wales laws are climate ready. We've long recommended a whole-of-government approach to climate change be established by enacting laws that deal with both climate change mitigation and adaptation in a clear and coordinated way. An overarching climate change Act is a missing piece in the New South Wales statute book and, if strongly drafted, will provide a clear framework for ensuring decisions across New South Wales Government are consistent with meeting emissions-reduction targets, carbon budgets and temperature goals. A clear legal framework is also needed for planning, risk assessment and building resilience to help the New South Wales community, economy and environment adapt to the significant impacts of climate change.

We support the proposed bill but recommend that it be strengthened to ensure that timely, science-based targets can be achieved—starting now in this critical decade—for climate action. At the outset, this involves increasing the ambition of the targets, aligning interim targets and carbon budgets, and strengthening operational provisions to establish a whole-of-government approach to ensure that the targets will be met. Legislating 2030 and 2050 targets is an important step but is insufficient in isolation. The bill needs to set targets by reference to a carbon budget reflecting New South Wales' fair share of the remaining budget for limiting temperature increase to 1.5 degrees. We know here that experts have recommended the target needs to be at least 74 per cent reductions in emissions below 2005 levels by 2030 and net zero by 2035. At a minimum, this bill should legislate the previously agreed target of 70 per cent reduction by 2035.

A key point of our submission is that to be meaningful and effective, the necessary targets need to be embedded in relevant decision-making processes and be enforceable. In this context we recommend that the bill be amended to include a schedule of related legislation that needs to be amended to include a reference to the new legislative targets and guiding principles. For example, this includes planning, environment and resource legislation. The absence of provisions linking critical decisions, like the approval or expansion of the new fossil fuel projects, to these targets would render the targets ornamental. We also recommend the bill should impose a duty on Ministers and government and statutory decision-makers to consider climate change and act consistently with the legislated targets in exercising relevant powers.

The Government also needs to identify and commit to concrete steps and a time line for the related reforms to make this work. This includes developing a climate SEPP, amending the resources SEPP, updating the strategic statements on gas and coal, removing legal barriers to clean energy investment and amending our planning laws to embed the guiding principles and climate considerations in decision-making. Our submission makes 27 recommendations, including strengthening objects, definitions, guiding principles and targets. We also recommend an expanded role for the commission in providing advice on proposed projects, as well as assessing the alignment of government policies, processes, programs and decisions with the targets. We commend the Government for introducing this legislation as a critical step and urge the Committee to recommend strengthening its provisions to ensure effective climate action and targets that can and will be met.

PAUL CRENNAN: Thank you for the opportunity to appear today. I tender the apology of Robert White, who is the vice-president of EPLA. He is a barrister. He had a case that ran a bit longer than expected and his duty is in court, so he apologises. We provided a written submission, which I understand has been before the Committee and you would have had a chance to digest. The brief overview is, broadly, EPLA welcomes bill. Enshrining targets for reducing greenhouse gas emissions by 2030 and 2050 is a laudable objective. Establishing guiding principles is important. The creation of the Net Zero Commission, including skills-based appointments and a substantial scientific and technical skills membership, is also important. Tying the guiding principles to the considerations of the commission with legislation is also commendable.

We have some concerns. The absence of a statutory duty to meet targets is one which we have set out in the paper. EPLA suggests that specific duties be imposed upon the Minister and cites some examples of comparable legislation in the UK and Victoria as opportunities. EPLA submits that greater ambition for the targets to be achieved to net zero might have been included. The absence of milestones to maximise the likelihood of

achieving targets is something of a concern. No milestones are provided for in the bill, and the bill specifically forbids the regulations from introducing targets which are to be achieved prior to 2050. We consider that to be a defect.

In the adaption objectives, the absence of a process of assessment of risk, response, re-evaluation and reset is something which might have been included. We believe the opportunity is available for it to be included. Clause 19 identifies the obligation to receive and to respond to a report. Included in the report can be recommendations and advice. The response is to be tabled to both Houses of Parliament and is to identify, if a recommendation is accepted, what will be done about it; and if the recommendation is refused or noted, then reasons must be given—not so for advice. We see that is a missed opportunity and there ought to be included the same obligation to deal with advice given to the Minister as recommendations are given. Having said those things, EPLA commends consideration of the bill.

GRACE HUANG: Overall, NELA is supportive of this bill. It is the first time that net zero targets have been enshrined in legislation in New South Wales. It establishes the independent Net Zero Commission, which is going to be not subject to the control or direction of the Minister. It also introduces for the first time innovative guiding principles into New South Wales law. However, NELA submits that the bill can and must be more ambitious.

In this respect, we would like to draw the Committee's attention to two concepts, the first concept being that of planetary boundaries. A 2023 update has reported that six of the nine planetary boundaries are currently being exceeded. These include climate change and biosphere integrity, which represent the two core planetary boundaries that essentially ensure the stability of the Earth system. It also includes novel entities, land system change, freshwater change and phosphorus and nitrogen flows. That's the first concept, and I would refer the Committee to the work of Rockström and others in the 2023 article.

The second is the concept of the production gap. By 2030, on current trajectories, governments are actually planning to produce 110 per cent more fossil fuels than is consistent with a 1.5-degree warming pathway; so that is more than twice the amount. By 2030 this would lead to 240 per cent more coal, 57 per cent more oil and 71 per cent more gas than is consistent with that 1.5-degree pathway. By 2040 this production gap will increase, so the fossil fuels excess will grow to 190 per cent.

Against this context, this bill presents quite a remarkable opportunity in New South Wales history to meet these challenges. NELA wants to help this Committee make this bill a leading climate change Act, not only in Australia but also in the world. At this time of unprecedented change, we must expand our political and legal imaginations. In our submission, which we have provided to the Committee, we've made six recommendations and grouped our sub-recommendations under those six key themes. The first theme is that the bill must operationalise climate change considerations across government and also align government decision-making with the net zero targets that it seeks to legislate.

Secondly, the bill needs to increase the ambition of the net zero targets that are currently proposed. In this respect, we invite the Committee to consider not just the percentage amount included in those targets but also the temporal targets. For example, the IEA has suggested that advanced economies need to bring forward their net zero targets to 2045 rather than 2050 as currently proposed. Other organisations—for example, the Climate Targets Panel, which also included the late Professor Will Steffen—have suggested bringing the net zero target to 2035, which is even further.

The third recommendation we make is that the bill should recognise the intersecting nature of the climate and biodiversity crises. This is something that has been recognised internationally, and we submit that the bill should recognise this in order to bring it into line with the leading edge of this debate. Fourthly, NELA submits that the bill should recognise addressing climate loss and damage as an objective and priority of the bill, in addition to the climate adaptation objective, which has already been included. The work on loss and damage is certainly still emerging. However, in order to prepare New South Wales for the challenges that lie ahead, we submit that this should be explicitly included as an objective of the bill.

Fifthly, we make recommendations targeted to strengthening the Net Zero Commission, including by adding extra prescriptions as to how the commission will be constituted, to ensure that it really captures a broad range of expertise. Finally, NELA recommends that, in the exercise of its functions, the commission be required to consider a greater diversity of perspectives. These include those of non-human communities, youth and First Nations knowledges. Overall, NELA thinks that the bill is a really great step forward, but we just want to help make sure that it can become as innovative and leading as it can be.

The CHAIR: Thank you, all. Your submissions are incredibly helpful and very comprehensive and provide some great guidance and very specific guidance. Can I just ask a few questions? One, I just want to posit

this. We heard from some pretty heavy-hitting climate experts this morning that 1.5 degrees is just not there—it's not possible; that keeping temperatures to that increase is actually just not something we can achieve and that the ambition, really, now is maintaining below two degrees, or two degrees and below. On that basis, would you say that the way the bill is currently presented, with its ultimate net zero target by 2050, is consistent with the Paris Agreement? Perhaps if I could start with you, Ms Walmsley.

RACHEL WALMSLEY: Thank you, Chair. EDO's position is that every effort must be made to keep warming limited to 1.5 degrees, and that is the position of the Paris Agreement. I think it's really critical to realise that 1.5 degrees is existential for some communities. It's literally—the rate of warming so far has got perilously close to that. Just because we're on a trajectory because of previous decisions, it doesn't mean that we shouldn't be doing everything we can now to still aim for 1.5 degrees. I think it would compromise the strength of this bill to start saying, "Well, maybe we can't achieve that, so let's weaken standards now." What we need to do in this bill is set out ambitious standards for action in this critical decade until 2030. That is still focusing on all efforts for 1.5 degrees.

If you look at the IPCC's special reports on what 1.5 actually means, we're already living that. New South Wales communities have already been ravaged by bushfire and storm events. We're already living that. We need to absolutely make every possible effort for 1.5 degrees still, and that means making the tough decisions. In the context of this legislation, it means setting those ambitious targets and operationalising decisions, because every tonne of carbon pollution contributes to climate change. We need to have brave, courageous, world-leading legislation that links all those decisions. We cannot have a target in isolation in a bill. We need a target linked to a carbon budget that is linked to a temperature goal. That's the architecture that we need to see established in this legislation.

The CHAIR: On that, Ms Walmsley, your proposition in your submission at this point is that—going to that point on the architecture—the targets at the moment are quite ornamental because there's nothing in this legislation that will cause the emissions reduction. What we're seeing in this is the setting of targets and the forming of a commission, but because there are no consequences of not achieving these targets, and there are no mechanisms for them to be achieved across government right now, that's what's rendering your proposition that these targets are currently ornamental. Am I on the right track in understanding that point?

RACHEL WALMSLEY: Yes. I use the word "ornamental" because we don't want a target to be set in the far distant future that is purely aspirational, with no consequences of whether it's achieved. When I say this issue is existential for communities, it really is. So what we need is for targets to be operationalised. In a range of the submissions, including from EPLA and NELA, we talk about mechanisms to give this bill teeth and to give these targets meaning. They include things like a schedule of related legislation, where decisions have to be consistent with the targets, and particularly duties on decision-makers—duties on Ministers—to make sure these targets are met. There are also recommendations to strengthen the commission in terms of their advice role and their review role, and many submissions have suggested a review trigger to help ratchet up targets if needed. What we don't want is just to have a climate Act passed for New South Wales that has a 2030 and a 2050 target and for the Government to think, "Okay, tick. That's done." That won't have meaning unless it is embedded across government in decision-making and those targets are operationalised through duties and related reforms. We need to give this bill teeth.

The Hon. ANTHONY D'ADAM: I want to explore that idea around duties. How does that actually work? What are the implications of putting a duty obligation on the Minister for the Environment and the Minister for planning into the legislation? How does that create an enforcement mechanism?

The CHAIR: Can I suggest, Mr D'Adam, that perhaps Mr Crennan wants to go to that point, because he specifies the examples of the Victorian legislation and the UK legislation, and can perhaps provide a bit more detail about that.

PAUL CRENNAN: The approach that we suggest is that it is a ministerial responsibility and, within the Westminster system, it is the obligation of the Minister to perform. The failure of a Minister to perform has a consequence, and that would be solid encouragement to Ministers of Government to ensure performance. There are plenty of mechanisms available to them within the use of the commission, and the scientific background that is available to them with that will surely provide them with the tools that they need to enable them to discharge that duty. That's where we see the consequence.

The Hon. ANTHONY D'ADAM: Does the duty give rise to an opportunity for there to be litigation by third parties to enforce the duty in the courts?

PAUL CRENNAN: No. It would be the traditional approach of the obligation of the Westminster system.

The Hon. ANTHONY D'ADAM: So you don't think there's any risk—

The CHAIR: The way I see it—and it's spelt out quite clearly in the submissions. I can't remember whether it was in NELA's, the EDO's or EPLA's, but it was in one of the legal submissions around providing a mandatory obligation to consider, and therefore the duty begins and ends and is provided to the Minister at that point. Naturally, if the Minister fails to comply with the mandatory obligation, then there is a litigation exposure. But that is completely and utterly guarded by the Minister simply performing the nature of the duty. Am I grasping that correctly, Mr Crennan, in terms of how that's being spelled out?

PAUL CRENNAN: That was in somebody else's submission, not ours.

The CHAIR: I think that may have been EDO or NELA perhaps spelling out the mandatory obligation.

GRACE HUANG: In NELA's submission, what we have proposed is a duty that's quite similar to the one contained in the Victorian provision. That's the new suggested provision 10, which says:

10 Minister responsible for achieving targets
The Minister must ensure that the State achieves the targets contained in section 9.

Rather than framing it in the terms that you have suggested, Chair, which is that the Minister simply must take into consideration these targets, we've actually gone a step further and suggested that the Minister be responsible for ensuring that those targets are actually met.

The CHAIR: Essentially your suggestion is that that is actually—and going back to Ms Walmsley's submission—the kind of architecture we would be seeing if we were looking at this bill to genuinely drive down emissions?

GRACE HUANG: That's correct, yes. In terms of the litigation point, the duty contained in this provision would be a statutory duty. That would create remedies in administrative law, for example, for people to try and legally enforce that duty.

The Hon. ANTHONY D'ADAM: In effect, it invites the courts to be the enforcement mechanism for the legislation, doesn't it?

GRACE HUANG: That's correct.

The Hon. ANTHONY D'ADAM: Rather than relying on the usual mechanisms of the Westminster system, ministerial accountability to the Parliament and the general obligation on government to adhere to the law.

GRACE HUANG: Indeed. That might be a point of difference between NELA's position and EPLA's position.

The CHAIR: Is it fair to say, though, that even under the Westminster system there is the prerogative of the courts to be the enforcer of any administrative maladministration anyway? Mr Crennan, that is the current Westminster system, is it not?

PAUL CRENNAN: They are overall inherent powers of the Supreme Court in New South Wales, yes. If I might just draw attention to our submission, not to create a duty may be an indication that the New South Wales Government is not wholly committed to achieving net zero or that it is not convinced that the targets can be met. That's our springboard.

The Hon. ANTHONY D'ADAM: That's just an inference, though, surely. Ultimately, the Parliament is the mechanism for ensuring that the New South Wales Government adheres to its commitments, as contained in the legislation.

PAUL CRENNAN: Or the population at the ballot box, yes.

The Hon. JACQUI MUNRO: Could I ask a question about the aspect of the bill that you pointed out, section 9 (3)? I think it is very important to point out. The section states:

... the regulations must not set a specific interim target to reduce net greenhouse gas emissions in New South Wales by a particular date occurring before 30 June 2050.

I think that's a really critical piece of the bill that needs to be brought out. In your view, Mr Crennan, does that negate the existing target of 70 per cent reduction by 2035?

PAUL CRENNAN: I see that this legislation would override the prior regulation. In those circumstances, the answer to that has to be yes.

The Hon. JACQUI MUNRO: That sounds very concerning.

The CHAIR: And you identify that as a defect?

PAUL CRENNAN: Yes.

The CHAIR: I don't think it's an intended clause, I can't imagine, surely. We'll find out.

The Hon. JACQUI MUNRO: That is the clause as it exists. To Ms Walmsley, thank you for your submission also, which makes a number of recommendations about how targets should be set. I was just wondering if you could expand a little bit on that for us, please, given that, should targets be set, then this subclause would have to be omitted.

RACHEL WALMSLEY: Just on that subclause, we recommend that that be deleted. That's a regressive move, in our position. In terms of our specific recommendations about how targets should be set, as I noted in the opening statement, we think there should be enhanced ambition in the targets consistent with the science. We think to overcome the issue you've just raised that that subclause 9 should be deleted and instead there should be a 2035 target inserted for 70 per cent reduction to just reinstate that because it's previously had bipartisan support, so that should be in the legislation. We actually in our recommendations also suggest there needs to be a clear mechanism for targets to be made more ambitious through, as I mentioned, a review mechanism, a ratchet-up mechanism, but there also needs to be a provision inserted to prevent regression, consistent with the non-regression principle that we can't have backsliding of targets—a mechanism to increase targets as needed, but we can't have backsliding of targets.

We need to remove that prohibition on getting there faster, if that's what the science says is needed. We also, in relation to the targets, would support specific targets, for example, for methane, being able to be made under the bill and regulation. As I said, we support interim targets being provided for specifically by the bill. For example, a number of jurisdictions have five-yearly interim targets being set that are linked to carbon budgets and we would support that model. There are certainly a number of amendments that can be made to the target-setting mechanism to make sure that it is continually ambitious and improves in line with the science.

The CHAIR: Ms Walmsley, you mentioned the principle of non-regression. Can you just tell us what that comes from?

RACHEL WALMSLEY: That's an international law principle originally, but what it means is that if you have laws that have a level of environmental protection in them, then if you have the non-regression principle applied, it means you can't keep making laws that reduce and reduce and reduce those environmental protections. It's in recognition that certain laws need to set a baseline and they need to have continuous improvement based on best available science. Certainly, climate is one of these areas. We can't set a target, decide that it's too difficult and then just adjust regulations to reduce the target. We need to have that duty and we need to have clear, ambitious targets. I think in the Climate Change Act federally that was passed last year, there's a non-backsliding principle. There are examples from other jurisdictions, and it just means the targets have to keep on track and it's futureproofing—it's not possible for a future government to just renege on these targets and backslide. This is too important to have those kinds of loopholes in this legislation.

The CHAIR: In the NELA submission, there are two concepts there, but one in particular is about the loss and damage. It's a very compelling case in your submission that, if we're looking at climate change, loss and damage is something we're already quite advanced on in terms of impact. You also reference the loss and damage to the adaptation principles. Am I understanding that that comes from the IPCC material that talks about the hard edges of adaptation where you actually can't—there are certain things that you can't see through an adaptation lens and we're already kind of experiencing this in New South Wales now. Is that where that principle of loss and damage is derived from?

GRACE HUANG: Yes, that's right, Chair. The principle of loss and damage comes into play when you recognise that climate adaptation efforts may not be enough to stop loss and damage from being suffered from climate change already. These impacts have already been felt. The way that adaptation efforts have been carried out to date, New South Wales has also been primarily focused on damage to property without recognising other things, for example, connection to place and non-property related aspects.

The concept of loss and damage is supposed to go beyond this concept of climate adaptation. The reason we included it in our submission was because we consider that this bill should really create a multi-pronged approach to addressing the challenge that's raised by climate change. Part of that challenge is mitigating climate change. Part of it is adapting to it, but part of it is also recognising where certain communities may not necessarily be able to adapt to climate change and in that case there should be mechanisms to address that.

The CHAIR: Does that come from the fact that the bill seeks to have targets to reduce, to mitigate, but it also has that adaptation objective? So without the other piece of the work, we're failing on one part of the architecture.

GRACE HUANG: Yes, that's exactly right, Chair.

The Hon. SCOTT FARLOW: I'm going to pick up on Mr D'Adam's previous question with respect to the Victorian experience in particular in terms of litigation that has arisen out of the ministerial obligation there. Do you have any insight in terms of what litigation has arisen out of the Victorian obligation under the Climate Change Act 2017?

GRACE HUANG: That's something that I will probably take on notice.

The Hon. SCOTT FARLOW: Mr Crennan, have you got any insights there?

PAUL CRENNAN: No, I don't have any.

The Hon. SCOTT FARLOW: If you could take that on notice, I would appreciate it.

PAUL CRENNAN: Thank you.

The Hon. ANTHONY D'ADAM: I just wanted to address the question around carbon offsets. Ms Walmsley, in your submission you're pretty down on offsets. I wonder perhaps if you could just elaborate on the case for not counting carbon offsets. In the absence of having carbon offsets as a tool, that would severely constrain the sort of market mechanisms that might be available to achieve overall emissions reductions, wouldn't it?

RACHEL WALMSLEY: I'm happy to talk about offsets. A lot of the discussions about net zero targets—a lot of people would prefer the term "real net zero" because a lot of work has been done and analysis has been done on how net zero targets are achieved. For example, at EDO we've got a safe climate corporate team that looks at greenwashing in relation to net zero claims. If you dig into some of the net zero plans of companies, they actually involve an increase in real emissions but because they have a commitment to look into carbon capture and storage or do an offset elsewhere, they're claiming that it's actually net zero on a promise of doing something elsewhere. And even within the regulatory system now, we have approvals where there is a condition that post-approval a fossil fuel company will invest in CCS. That's not direct emissions reductions.

If we're setting up a system where we want to meet a target but we allow these enormous loopholes which might not actually result in actual emissions reduction, then we're kind of setting ourselves up to fail. That's why we've made recommendations about really clarifying the definitions to make sure what we mean by real direct emissions reduction, because if we have loopholes of unproven technologies or problematic technologies such as carbon capture and storage, we're not going to actually meet our goals. For some hard-to-abate sectors—a lot of really good analysis came out during the safeguard mechanism debates at the Federal level on this—there can be direct emissions reductions for scope one, there can be certain direct offsets that can be done within certain projects but once you get to the hypothetical future offsets, there are some real integrity problems.

The Chubb review of the carbon market at the Federal level really exposed some governance problems and problems in terms of outcomes like: Are these carbon offset projects actually delivering the outcomes promised? And in many of the cases, they weren't. I think there's a real piece to look at integrity and outcomes in this context. We don't want to have legislation that allows such a big loophole and that would, again, undermine our ability to meet these really important emissions reduction targets.

The CHAIR: Can I ask about the guiding principles? I can't remember where I read it, but I think it was posited that there should be a paramount duty or primacy in the guiding principles that was linked to the duty. Is that something that was explored or should these principles all just be equally weighted? Does anybody have a view on that from the architecture perspective?

PAUL CRENNAN: There does not appear to be a hierarchy set out within the legislation and there's certainly no statement of there being a hierarchy, in which case one would give equal weight to each of those guiding principles. Indeed, it is quite difficult to set one above the other in reading the bill as it topples out. Each of them is very important and it is really refreshing to see them contained within the legislation. As I said earlier, the commission is required to operate having regard to those guidelines, so it's good to see the principles extended to the arm which is going to deliver the advice and recommendations.

The CHAIR: Are there any limits to the independence of the commission, as it's described currently? I think I might have seen some suggestions in ways of tightening up the constitution of the commission.

RACHEL WALMSLEY: Yes. We've made a number of recommendations about the commission—for example, that the majority of commissioners be independent and not associated or affiliated with the fossil fuel industry. Also, we've recommended amendments to clause 12 to make it clear that there should be an even spread, to the extent practical, of the skills and qualifications so we don't end up with a commission that just has one kind of industry skill represented, for example. We think expertise of lived experience of climate-impacted communities could be involved. We also think—as I said in the opening statement—that the scope of the body could be extended in its review and advice role. Also, we suggest that once the commission is in place and it starts making climate plans, it should report to the Minister within six months of its constitution and then at yearly intervals to make sure it's giving back regular advice. But, certainly, independence and integrity of the commission will be really, really important for objectivity.

The CHAIR: Going to NELA's submission, if there was the linkage that you're suggesting would be very beneficial to this kind of law—the climate and ecological link between achieving emissions reduction—would we need that kind of expertise on the commission?

GRACE HUANG: That would be a good idea, yes, to set aside one or a number of positions where commissioners could have expertise in how climate change might relate to biodiversity impacts or the inverse. It's not something that we've canvassed in our submission specifically, but we would support that.

PAUL CRENNAN: Chair, I might add to what Ms Walmsley said. I've made an observation in relation to schedule 1, where the commissioner is to hold office for a term not exceeding five years and the commissioner is not eligible for reappointment. One can see the importance of refreshing commissioners along the way, but it would be sad to lose expertise that might be well and truly harnessed. Perhaps that is a prohibition that ought be removed.

GRACE HUANG: Just to add to Ms Walmsley's and Mr Crennan's comments, NELA has also suggested some amendments that would tighten the constitution of the commission. For example, at clause 12 (3), we consider that these skills, qualifications and experience are all quite important. We believe that the members of the commission should comprise this expertise instead of this expertise simply being a consideration for the Minister to take into account when recommending that a commissioner be appointed. We have also suggested an additional subclause (4), which is targeted towards ensuring a diversity of perspectives to comprise the commission. This clause is based on a South Australian provision where they provide that their authority needs to comprise a reasonable range of persons from different backgrounds. That's the intention behind that suggestion.

Finally, we've suggested a new subclause (6), which goes towards First Nations knowledge and the recognition of First Nations knowledge in our New South Wales legislation. In NELA's submission, the person that is appointed to represent Aboriginal interests should have that Aboriginal knowledge recognised in accordance with their own Aboriginal cultural laws. We consider this to be quite important, and it's something that has already been done before in the legislation that establishes the EPA and the selection of board members there.

The CHAIR: On that point, where you've put your suggested amendment to (3) (g), are you saying they have been used before? They seem like words that I've probably looked for in the past, and there they are. Are they words derived from another place?

GRACE HUANG: In terms of subsection (3) (g), I'm happy to take that on notice. I'm currently not aware of other examples where that has been implemented. What I was referring to earlier was what we've suggested at subsection (6), which is that the Minister must not recommend a person for appointment unless the person is an Aboriginal person within the meaning of the Aboriginal Land Rights Act 1983, recognised as a cultural knowledge holder and also willing to represent Aboriginal cultural values. This is modelled on the provision that sets up the EPA board.

The CHAIR: And I suppose that drives (3) (g) and giving real effect to that, if that's—

GRACE HUANG: That's right.

The CHAIR: Thank you. I know we're out of time. We haven't mentioned scope 3 emissions at all, and New South Wales, the scheme and the design and architecture of this. How do you see that in terms of the role? I can't recall whether you had addressed it, but there might have been a suggestion that we should be looking at scope 3 emissions in any New South Wales climate regulatory scheme. Does somebody want to comment on that?

RACHEL WALMSLEY: I'm happy to. It's quite clear that it's very artificial to talk about scope 1, 2 and 3, really. As former chief scientist Penny Sackett has said, and the court has accepted, every tonne of carbon pollution contributes to this problem of climate change which is impacting New South Wales and our communities. That's why we need to bring temperature goals into this architecture. This is a global problem that

needs local solutions. Again, the court has recognised that very fact. It is artificial and unhelpful to say there's a whole range of emissions that we don't need to consider. We absolutely do need to consider all emissions. I think there's ways to develop this architecture to ensure that all emissions can and should be considered by relevant decision-makers.

The CHAIR: Do you have any comments on that? I see you nodding there—you're in agreement with that proposition about scope 3?

GRACE HUANG: Yes, NELA is supportive of Ms Walmsley's comments. In addition to that, we would note that, under the current bill, the provisions for carbon accounting are going to be provided for in the regulations. The Committee may wish to consider making an explicit reference to scope 3 in the legislation itself to ensure that scope 3 is included in any carbon accounting mechanism that's established.

The CHAIR: Is it fair to say that without those suggested amendments, particularly the schedule that touches on the other legislation, this bill in and of itself will not actually touch emissions reduction through its architecture? In other words, I gather that the bill just sort of assumes that, through the commission and advice, someone somewhere else will be reducing emissions, and the bill doesn't actually do that or touch that in its current form and architecture. Ms Walmsley?

RACHEL WALMSLEY: I think that is a critical issue that needs to be addressed in the bill because, as it's drafted at the moment, we have a 2030 and a 2050 target but they're not actually linked. There's a real disconnect in the bill. Those targets will be out there, written in legislation. There'll be a commission providing advice on those targets in quite a narrow way. But, as it stands, we'll have to come to a five-year review of the legislation to see whether it's working or not. That takes us perilously close. In this critical decade for climate action, we don't want to wait five years for a review.

What we need is legislation that ties decision-making to these targets. If there's a decision being made about a modification and expansion of fossil fuels, to pretend that that is somehow not relevant to New South Wales achieving these targets is nonsensical. What we really need for this bill to be meaningful is that schedule that links all relevant decisions back to these targets and guiding principles. We do need mechanisms like duties in there. Just because you have the existence of a duty does not mean there's going to be a flood of litigation. It's an accountability mechanism that says, "This is important to the Government. We are taking this seriously in operationalising what we've committed to." There's a community accountability provision there to help us get on the trajectory that we need to get on. It's a great step that the Government is legislating targets but, to make them truly meaningful, those targets need to be clearly linked to the decisions that this Government and statutory decision-makers are making today.

The Hon. JACQUI MUNRO: That, for example, is about making sure that there is an understanding that keeping Eraring open will have an impact on the achievement of targets like that.

RACHEL WALMSLEY: Absolutely. That's what we mean when we're saying we need a whole-of-government approach to this challenge. We can't have a Government policy, a strategic statement on coal and gas, that is contradicting and working against these targets. That's why we're suggesting the commission should have a role in reviewing Government policies and programs and processes to ensure consistency with this target. Achieving a climate target isn't something that can just be held by one portfolio or one Minister. It really has to have the architecture that links it right across government, and we see a really strong role for this commission to do that kind of audit and just make sure that Government policy across portfolios is working together to ensure that these targets are achieved.

The CHAIR: I know we're over time, but there's one last thing I didn't ask. I think it in was the NELA submission that you made reference to the principle around the healthy environment. Just for the purpose of this hearing, what were you actually referring to? You were referring to an objective reference about what that would look like, and I think you actually suggested an amendment?

GRACE HUANG: That's right, Chair. So in our submission, the language around the right to a healthy environment, which is included under section 8, should be tightened to tie it to the international instruments from which this principle has emerged—those are the two resolutions of the Human Rights Council and also the UN General Assembly. We think that this is an important way to ensure that the implementation of any right to a healthy environment doesn't drift away from what its original intention was supposed to be. That's why we've inserted those amendments.

The CHAIR: Just from a legal perspective, does providing those definitional aids in the legislation actually minimise potential litigation opportunities—where there's more definition, there's less likelihood of litigation?

GRACE HUANG: That's an interesting question, Chair, and I'm happy to take that on notice. I think that's all I will say about that at this point.

The CHAIR: Thank you. It's just the old litigator in me, I think. I am incredibly grateful—and I know the Committee is—for your time and your evidence, and I know the Government will be, because they've sent this bill here to be analysed. I know it was a short period of time to respond. That's not my fault; that's just what happened, so thank you for your evidence. The secretariat will contact you in relation to any questions on notice.

(The witnesses withdrew.)

(Luncheon adjournment)

Ms ILONA MILLAR, Partner, Gilbert and Tobin, Representing Law Society of NSW, affirmed and examined

The CHAIR: Welcome, Ms Millar. Would you to commence by making a short statement?

ILONA MILLAR: Yes, thank you. I am here representing the Law Society of NSW and, in particular, the climate change working group. The climate change working group is comprised of lawyers working across climate change in terms of corporate advisory, litigation, rural and Indigenous affairs, and is a mix of lawyers working in private practice, government practice, academics and NGOs. The Law Society and the working group very much appreciate the opportunity to respond to this inquiry on the net zero future bill. We really do sincerely welcome the introduction of the bill and the approach that's been taken in the bill to both set targets in respect of 2030 and 2050, but also, in addition to setting mitigation targets, the inclusion of an adaptation objective to recognise the need for New South Wales to be more resilient to the changing climate.

We were very pleased to see the inclusion of the guiding principles in the bill, and we see these as a sound basis for informing decision-making. We do see a couple of areas where the guiding principles could potentially be enhanced and strengthened. I can talk a bit more to those areas in due course. In terms of the targets proposed in the bill, in addition to setting targets for 2030 and 2050, the position of the working group is that it is desirable to have rolling interim targets included, to enable a more responsive approach to the changing circumstances, technology and the state of the climate emergency. So, whilst we agree that it may not be appropriate to deal with that through regulations, there may be other vehicles by which the Government can be continuing to revise and update its targets on a rolling basis, having regard to both Federal commitments through our nationally determined contribution under the Paris Agreement and also State-specific factors and developments in our economy and the risk profile to the State.

We were very pleased to see the establishment of an independent advisory body in the form of the Net Zero Commission. We see its function to independently review and monitor progress on the targets and to recommend action to address climate change as a really important function that also reflects what we see as best practice in setting up the framework to assess and manage climate change by governments. One of the things that we did see as an area for further development and improvement is, whilst the commission is able to request information from government agencies, we would like to see a strengthened approach to the provision of information from government agencies to the commission and reporting to government as a whole.

On areas related to climate change risk, we looked to the approaches that have been taken, particularly in the corporate disclosure space but also that the Federal Government is looking at in terms of applying a framework that looks at climate change risk and opportunity, particularly financial risks, and quantifying and looking at how that will be managed, having regard to scenario analysis, and see a real benefit to apply that same sort of framework and approach to transparency and accountability to government agencies—in particular, State-owned corporations—in the same way that that is being rolled out and is applying at a corporate level.

There were also a couple of areas where we saw the bill providing a really good framework in terms of the principles, but we were looking for further detail and guidance around implementation—in particular, the process around implementing strategies, policies and programs to address climate change—and also what it means by pursuing best practice. This links back to the point I made earlier that at present the bill doesn't propose any specific obligations for government agencies to address climate change in their decision-making, for example, or to be undertaking that risk assessment and developing transition plans to align with the Government's stated targets. That would be an area where we would see an opportunity to enhance the bill as well.

The CHAIR: Thank you very much. On that final point around the fact that the architecture doesn't really provide for how we do the thing, we heard evidence in the previous session and we've received some submissions that really set out a case that we should be doing that and that this is an appropriate place to be doing that. One of the suggestions was the imposition of a duty, and the comparative analysis was given for the UK and what has happened in Victoria. The other mechanism within the architecture was that there could be a schedule to the Act about other pieces of legislation where emissions reduction decisions or emission increase decisions are made. This would be the architecture that would present the legal case, or the legal avenue, to actually reduce emissions. From your perspective, or the Law Society's perspective, is that something that you think is sound or could be a sound architecture?

ILONA MILLAR: The Law Society working group hasn't landed on a specific position about the imposition of a duty. However, in looking at the architecture of best-practice climate legislation, where we see the role of a climate change bill or Act for a State Government in a framework where there is a Federal Government which also sets a certain approach to regulating emissions as well, the State-based frameworks play a very important role in providing guidance for the State as whole but also for State Government agencies. That's where I think it is important to be providing clarity around what the expectations are for those agencies that have

particular intersections with climate change. To be honest, that's every single government agency, but there are, of course, certain agencies that will be acting with particular responsibilities and making decisions that will be directly influenced by a consideration of the guiding principles. Also, the area that hasn't been explored in a lot of detail yet is that next step around the disclosure expectations, in particular, around climate risk and opportunity and resilience for State-owned infrastructure and assets. Personally, I really like the framework that the Victorian Government has taken with their Climate Change Act, which creates that clear expectation on particular government agencies to act in accordance with the guiding principles and to have regard to them when making decisions under the Acts listed in the schedule to the Victorian Act.

The CHAIR: The converse of that is, in the bill as currently drafted—in New South Wales compared with Victoria—there's no mechanism within the architecture that will effect the reduction of emissions. It does different work. It just sets something else up.

ILONA MILLAR: If the Government has the ability to request particular information from the Net Zero Commission, the Net Zero Commission, as I understand it, is also able to develop reports of its own initiative to address particular issues, and that can feed in and make recommendations in respect of the further policy and planning regime. However, it is more a matter of government policy how it then interacts with government agencies per se. What is different is that, if you look at, for example, the Victorian legislation, a person making a decision or taking action must have regard to potential impacts of climate change relevant to the decision or action and the potential contributions to the State's emissions as a result of that. So there is that clear and express link in the Victorian legislation that requires decision-makers to have regard to those guiding principles.

The CHAIR: At the moment, this bill is proposing a 2050 and a 2030 target. Currently, the law in New South Wales has a 2035 target of 70 per cent reduction in emissions that's enshrined in a regulation. An interesting concept came up in the last session for me, and that was the international principle of the non-regression of environmental laws. If, by chance or by consequence, the introduction of this bill meant that we lost that current regulatory target, do you see that as a possible regression in where we are in New South Wales law?

ILONA MILLAR: I wouldn't necessarily see that as a regression, in the sense that there's still a net zero by 2050 target, and there's a 2030 target. You would expect the 2030 target to be ratcheted up and every subsequent target that is legislated to be ratcheted up. It would only be a regression if you then said that the 2035 target is going to be less than the 2030 target.

The CHAIR: With the current draft, do you see that there is a ratchet in there at this point in time, or do you think that's an area where we should be looking at more work?

ILONA MILLAR: I think you could be more explicit. The first thing is we would like to see a process for setting interim targets that is more express in the legislation—that the commission will report and the Government will set interim targets. The Federal Government is setting five-yearly targets based on the ratcheting mechanism in the Paris Agreement and reflecting enhanced ambition under the nationally determined contribution. Again, that's also based on the non-regression principle. But you also see other States expressly having those processes to set interim targets. That's in a number of the other State climate Acts and bills.

For example, WA's proposed bill is looking at setting those interim targets. Interestingly, for WA, they're proposing that they do it through a gazettal process of updating targets. So I guess there is a question of: Where is the target best located? Clearly, having it in an Act gives it a greater force of law and it's more difficult to repeal and change. But I think the principle is that best practice would see a regular progress towards the 2050 target, with interim targets being set along the way so that essentially a transition plan can be developed to then track and measure progress against those targets.

The Hon. SCOTT FARLOW: In terms of the WA process and the updating by gazettal, how often is that envisaged to occur?

ILONA MILLAR: Again, I think it's a five-yearly process, having regard to the updated NDCs and the updated Federal targets. But one of the things that's noted in the commentary that's provided on the WA bill is that it will take into account WA-specific context. That may mean that the targets are not directly aligned with a linear progression against the Federal targets as well. I think that it's important that, in developing and setting interim targets for a State, it needs to be in the context of the particular circumstances of the State—its economy and its commitment to society and the environment.

The CHAIR: Some submissions suggest that to have a legal framework like what is proposed but that also allows the current trajectory with fossil fuel development in New South Wales is—there were some pretty strong words; I can't quite remember what they were—not really an acceptable thing and, from a legal perspective, leads to gross inconsistencies. Is that something that you can see in this framework? I suppose it's going back to

that initial point of the architecture and the framework. But, if there is no reach within this legislation, does that provide a legal inconsistency in the framework?

ILONA MILLAR: I'm not sure I completely understand the question. On behalf of the Law Society I can't really give a view in respect of representation around fossil fuel development and so forth. We don't have a common position on that.

The CHAIR: If we're looking at the architecture in an emissions reduction law framework, is it reasonable to not have within the parent body or the framework any reach over into what the State is doing, in terms of actual projects that increase emissions reduction in the State?

ILONA MILLAR: Again, coming back to that principle around what is the role of a State-based piece of legislation, I see the role of a State-based piece of legislation as providing that framework to set targets, to provide for government accountability and to set principles around how climate change will be managed, to put in place the framework for developing policies and plans and setting up the framework for independent advice to government to inform government decision-making, and then also that piece around regulating the State Government's emissions as a whole.

There are other avenues and pieces of legislation that specifically address development and the emissions from development. So at a Federal level we have the framework for high-emitting industries that is dealt with through the National Greenhouse and Energy Reporting Scheme and its safeguard mechanism. Here in New South Wales the EPA has explicit powers and functions, particularly following the bushfire survivors case, to address greenhouse gas emissions in the framework of the Protection of the Environment Operations Act, and then there's also, separately, the discussion around regulating development through the EP&A Act here in New South Wales and the EPBC Act framework more broadly. I think there are other areas where you can provide for that legal regulation of development that has high emissions. A climate change bill, per se, if it were to regulate those issues, the scope and scale of the Act would be quite completely different.

The Hon. JACQUI MUNRO: Thank you so much for coming and also thanks for the submission. I was curious about the part where the submission says, "We agree that it is not appropriate for specific interim targets to be set by regulation." I was just wondering why that is the case.

ILONA MILLAR: Look, I think the reason for that is we agree that if you want to give targets priority in terms of—or make it more difficult for them to be backtracked on, you include the targets in an Act because then it has to have that additional layer of scrutiny before they can be changed. We would like to see targets and interim targets as they're made and set included in the Act rather than in regulation where it's much easier to repeal or change them.

The Hon. JACQUI MUNRO: Obviously the Victorian Climate Change Act does that by way of—it doesn't specify the targets, but it specifies that the Government must provide a target in a rolling manner as time continues. Do you think that that is an adequate approach?

ILONA MILLAR: Yes, I quite like the Victorian approach. I think that's a sound approach which sort of really reflects what we would say is kind of best practice for the climate legislation.

The Hon. JACQUI MUNRO: Would you say that in clause 9 (3) where the bill speaks about "regulations must not set a specific interim target" that that would mean that the existing target in regulation—that 70 per cent by 2035 reduction—would essentially be void?

ILONA MILLAR: That would be inconsistent with that.

The Hon. JACQUI MUNRO: With the legislation, yes.

ILONA MILLAR: It's then a matter of how the Government deals with that inconsistency.

The Hon. JACQUI MUNRO: I suppose the question is then about the willingness of the Government to amend this bill to reflect that desire for a rolling target.

ILONA MILLAR: Yes.

The CHAIR: How do you feel about the commission and the proposed commission? We had some suggestions earlier that to really bolster up the independence of that commission then there would be certain qualifications and also the exclusion of some interests on the commission, including those people in the industry who have high-emission industry affiliations. Does the Law Society have a view on how you avoid conflicts early on?

ILONA MILLAR: The Law Society doesn't have a specific position on the qualifications of members of the commission. What I would say is that when you look to the broad objectives and principles under which

the Act is developed, it's looking to address the environmental issues and managing the climate emergency and principles that speak to that. It's looking at managing the response to climate change in a way that also mitigates potential economic consequences to the State as a whole and, thirdly, looking at aspects around managing the social transition.

I think when we look at addressing climate change, and this comes through from the international frameworks but also specifically looking at aspects of just transition, it's important to be inclusive of stakeholders to enable the right sort of level of engagement and debate on all of those aspects, so on the climate science, on the broader economic consequences of particular actions but also on the community and stakeholder impacts of decisions and actions as well. This is probably my personal view: I think having a broad base in terms of commission membership to share a range of perspectives of views that cover expertise across those areas is important. And so I wouldn't necessarily advocate for excluding any particular person or body from that because, in particular, when you look at that component of just transition, you have to be engaging with industry.

The CHAIR: With the guiding principles, do you think it's good design to have all principles equally weighted in a bill that's seeking to reach a target or that is seeking to achieve a particular purpose? Is it good to have them all equally weighted or should we be looking at having paramount principles? What's your view?

ILONA MILLAR: I think the Law Society, as I mentioned before, welcomed the inclusion of the principles. We thought they were a fairly comprehensive list of principles. As I mentioned, I think there are some areas where you could also look to add some additional elements to those principles. To your question of weighting, I think it is quite difficult to go through and rank and weight all of these principles and it may lead to unintended consequences if you did do that.

The CHAIR: Is there anything else you'd like to add?

ILONA MILLAR: I think just in respect of the guiding principles, where we did see perhaps a gap was linking these principles to also pursuing nature and biodiversity repair and also looking at maximising opportunities to deliver on co-benefits, be they environmental or social co-benefits.

The CHAIR: There was something else that was raised in another legal session about loss and damage and the fact that, with the adaptation principle—and at the moment the adaptation principle is that New South Wales be more resilient. But there was a really amazing analysis in the NELA submission that, to be complete, when you look at the IPCC reports and you're looking at adaptation and then you get to the hard edge of adaptation, in some circumstances resilience just can't do it. You can't make something more resilient in the face of some climate impacts. Do you think this bill could benefit from having at least a kind of facing view towards the fact that loss and damage is something that we need to deal with?

ILONA MILLAR: I think there is scope for that. But the way in which the bill is drafted at the moment in sort of quite a high-level framework capacity, it may well be that in developing a State-based adaptation plan, it also looks at where the opportunities for resilience are and also, as part of that analysis and planning process, identifies where there will inevitably be damage and loss and what the mechanism is then to deal with that. For example, loss and damage is typically something that comes up in the context of impacts on Small Island Developing States, so we need to be looking at the point where people will ultimately be displaced as a result of climate change impacts because they can no longer inhabit the area that they're on for various reasons. Whether there are circumstances where climate change impacts will get to a point where people can no longer live in a particular area or—

The CHAIR: Do you think we're possibly there already? I'm thinking of my community of Lismore and Cabbage Tree Island, for example, where the First Nations community are being advised not to rebuild there and live there, yet they've been there for years.

ILONA MILLAR: I think there is scope to look at that. In the bill itself, it would be at a higher level in terms of a recognition that some communities may face adverse consequences as a result of climate change. But I think it's important to make sure that the commission or other government bodies with responsibility for adaptation planning are thinking about this in the context of their work. This also then feeds back into the role of government agencies in making decisions about climate change—for example, a planning authority or a local council ultimately making decisions about planned relocation or no longer allowing building in particular areas as a result of climate threat. I think it is important to be looking at that in that context of resilience and adaptation planning.

The CHAIR: Are there any other questions? I think that's all. I don't think we gave you any homework either.

ILONA MILLAR: Oh, good.

The CHAIR: Thank you very much for your evidence and your assistance. We acknowledge the short time frame that this inquiry has had as well, so we are very grateful for your participation.

(The witness withdrew.)

(Short adjournment)

Ms ANNE DENNIS, Councillor, North Western Region, NSW Aboriginal Land Council, before the Committee via videoconference, sworn and examined

The CHAIR: Ms Dennis, would you like to start by making a short opening statement?

ANNE DENNIS: First and foremost, I'd like to acknowledge country. I understand that you are meeting on the land of the Gadigal people of the Eora nation. I'm a Gamilaraay woman. I'm coming to you from Walgett in north-west New South Wales. The NSW Aboriginal Land Council—we are a legislative body. The legislation is now over 40 years. Through the NSW Aboriginal Land Council and the 121 local Aboriginal land councils, we consistently advocate for Aboriginal people and communities for full participation in the design, delivery and implementation of policy, services and projects, particularly relating to land, water rights, environmental conservation, and culture and heritage.

Ministers and parliamentarians come and go through their election process. What we find is that government agencies working with us is a concern, particularly with place-based arrangements and the number of Aboriginal nations that are not only across New South Wales but right across Australia. These place-based arrangements, particularly in the political climate that we've had today, in being able to address those many social, emotional issues and economic issues within our communities, how do we actively engage Aboriginal people? Through the network, through Aboriginal community-controlled organisations and place-based arrangements, I think this is probably the best way we can actually build those partnerships to be able to work together and address those many issues of concern that we're hearing about today, particularly in the media.

The CHAIR: Thank you very much for being here. As I've said to all the witnesses, I know it has been a short turnaround in terms of the notice of this inquiry. The climate change bill sets targets and has a bit of a framework around setting up how we will get there. One of the particular components of the bill talks about the need to ensure that First Nations people and knowledge, and the interests of Aboriginal communities, are considered. Also, there's the commission that will get set up that requires the commission to have skills on it, which includes the understanding and interests of Aboriginal communities. Do you think that goes far enough in terms of what's being proposed?

ANNE DENNIS: When you say the short turnaround and the time frames, I've been doing this all of my life. The NSW Aboriginal Land Council legislation has been around for 40 years. As I say, there's 120 local Aboriginal land councils and 28,000 members. We have worked tirelessly with the Government, whether it's around the culture and heritage legislation—which there really is none at the moment. It actually sits in the national parks and wildlife legislation.

So, in principle, NSWALC broadly supports the bill in its current form because it's about working those partnerships and really maximising the outcomes that we need and we want—for our people, for our young people and for our Elders to be able to use their knowledge and feel valued and respected in how we can actually work together. But the targets are not ambitious enough, and we hope to see that the Government will raise these targets. But we know that the Government—once it is passed, it will take another 40 or 50 years before government actually looks at whether or not to raise the bar of the target. To us, it's not ambitious enough, but we hope that the Government will actually work with us—really work together—to be able to maximise the outcomes.

I suppose when we look at Australia and New South Wales, nationally and internationally, it's quite disappointing around the legislation of emissions targets. The Government really needs to be more ambitious about that. We're also concerned that the delaying of coalmines or the commencement of new coal projects probably undermines the proposed targets in the bill, because there's not enough information around that. We actually support and will continue to support Aboriginal perspectives to be embedded within the proposed commission. However, the bill should be amended to legislate an Aboriginal-identified position on the commission, having skills, qualifications and experience in relation to the interests of Aboriginal communities, because at the moment it's not sufficient.

Given the recent natural disasters brought about by climate change—the droughts, bushfires and floods that really significantly impact on all of our communities—and the knowledge of Aboriginal people right across New South Wales, we've got that reciprocal obligation to care for country. That's around the planting of trees, plants, animals. It's intensively significant. But really, living out in the area where I live, the continual clearing of land—it's becoming a dustbowl with the clearing of land across our communities.

The CHAIR: Ms Dennis, in terms of the impacts on First Nations communities, I know your community; I visited in the 2019 drought. I saw the absence of drinking water and the conditions that were caused by that prolonged drought, as well as over near my own community of Lismore, on Cabbage Tree Island. Is it

your perception that First Nations communities are impacted drastically by those events? Is that what you were saying about the impacts of those disasters?

ANNE DENNIS: Really, I suppose, we're impacted to the point that—how do we as Aboriginal people contribute in our communities, and how do we start to address the many social, emotional and physical issues that are becoming more relevant to us as Aboriginal people? If our knowledge and values are not respected, and we're not at the forefront of sitting down within community to be able to address those issues—and, look, the Land Council really being able to sit there—that impact will be more devastating in the sense that how are we going to address it, through our organisations, to be able to maximise better outcomes in our community?

The examples that I probably see, particularly—and it varies because, again, it's how those partnerships are built and how government is inclusive of working together. We've seen it in the flooding that happened recently, particularly with Cabbage Tree Island, and right across the whole country, really. In Walgett, when Aboriginal people are at the forefront, are part of the programs and are valued for that, we maximise and we get better outcomes.

We saw with COVID how the Aboriginal medical services and the Aboriginal land councils really were at the forefront of being able to provide those services to Aboriginal people, whether it was remote communities on missions and reserves, and how people worked together. And people do come together. It's the spirit of people in Australia that we actually work together in natural disasters, whether it's bushfires or whatever, but then we seem to fall away from that when we start to look at the policies and how we start to build a sustainable future. As I said, the New South Wales Aboriginal Land Council has been around for 40 years but, again, we are not valued. This is an Act of Parliament and we are not valued. What people say in Parliament, and then what government agencies do in the delivery—whether it's Local Land Services, National Parks and Wildlife, Aboriginal Affairs, or the National Indigenous Australian Agency, there seems to be that miscommunication of how we actually do this together.

The CHAIR: At the moment, the bill is drafted where the members of the commission—it's considered that there must be interests of Aboriginal communities, but I think what I'm hearing strongly from you is—and there was evidence presented from previous participants who also suggested it—that to have that knowledge represented, it must be an identified Aboriginal person, recognised as a cultural knowledge holder, who can then represent those views properly on the commission.

ANNE DENNIS: And that's the thing. Aboriginal land rights must be seen as a public outcome in itself to deliver the broader public benefits, including climate change resilience. Really, I suppose, the returning of lands to Aboriginal people provides that environmental protection and climate change resilience. It will contribute to the sustainable land management and the management of sea and country and it will improve the quality of life. It supports the economic development and the tourism initiatives, it stimulates the local and regional economies and provides input and training opportunities not only for our young people but as a way of valuing our Elders' knowledge and respecting that.

The CHAIR: Just finally, did the NSWALC or any of your members have any input into drafting the bill? Were you consulted in the first instance about this?

ANNE DENNIS: Really, I suppose, the drafting of a bill—and we work tirelessly, particularly around the culture and heritage field. Again, the divisive nature of the different groups really limits and restricts how we actually work together. Our input into the bill is probably minimal, in a sense, and then, as I say, we work tirelessly to be able to maximise those outcomes. Because what's good for us is good for the whole community. We see that particularly in the clearing of land, the dust bowls—eventually. It doesn't rain in the desert. Our input is quite minimal because, again, government agencies are driven to tick the box and get something completed—so to be genuine. As I say, we've been doing this for 40 years, so valuing us shouldn't be restrictive because we've already been a part of this process and now we're coming to you, through this inquiry, to put forward our cases.

It's evident again, even under Close the Gap, that genuine consultation—the inadequate time frames and really probably total disregard around the principles of free, prior and informed consent, continues to perpetuate through history—it marginalised us as Aboriginal people. But, as I say, the Parliament is respectful. I'm not sure if they actually understand, totally, the land rights legislation, but government agencies should. They're the gatekeepers that actually really are not genuine about that consultation.

The Hon. SCOTT FARLOW: The only question from me, Ms Dennis, is, with respect to the inclusion of a First Nations person or an identified Aboriginal person on the committee, do you think that should be an additional position or do you think it should be included in the current positions?

ANNE DENNIS: Really, I suppose, as I say, in principle we support the bill, to be inclusive and to genuinely embrace. And us as Aboriginal people—whether it's an additional position or the position there now—

particularly when we're so many nations, but to have the advice of an Aboriginal person with those skills, with that understanding, and understanding that process, will allow us to be able to get our views across. Because, really, it's being able to implement this at a place-based level, in communities.

Whether you're in Cabbage Tree Island, Lismore or whether you're down at Eugowra or whether you're at Menindee, this bill really has to allow us—all communities—to be able to work under this bill, and the commission respecting us as Aboriginal people. I throw my hands up in the air, particularly about the referendum that's just happened, because again it will come at a contentious price for us as Aboriginal people who have worked in this space for so long. Really we've just got to be genuine, and we've got to be inclusive, and really—the contribution that we have as Aboriginal people—allow those opportunities.

The Hon. ANTHONY D'ADAM: Thank you, Ms Dennis, for your appearance today. I saw you speak at the Black Parliament a couple of months ago. I want to congratulate the Aboriginal Land Council on the excellent work that it does and on reaching 40 years.

ANNE DENNIS: Thank you.

The Hon. ANTHONY D'ADAM: It's quite an achievement. I just wanted to ask you about the guiding principles. Clause 8 (8) talks about:

Action to address climate change should take into account the following—

- (a) the knowledge and perspectives of Aboriginal communities,
- ...
- (c) the need to support local communities, including Aboriginal communities, who may be affected by the action ...

Then it goes on to identify local employment and industries, local economies, local procurement and "optimising job creation and employment transition opportunities". Perhaps you might be able to elaborate on some of the opportunities that you think might be available for Aboriginal communities arising out of the bill.

ANNE DENNIS: Really, again, New South Wales—the Government actually works with NSWALC. We really, probably, promote the carbon projects, the biodiversity of conservation options, things like that. But there are many barriers, I suppose, that impede the participation for land councils in many projects. Most of that is that the LALCs are under-resourced because—really, the New South Wales Aboriginal Land Council, we've got a statute fund, which we can't spend; we've got to live off the interest. Really, since COVID, the interest hasn't been very good. So, again—but yet we put out \$22 million into the local Aboriginal land council, and, really, that covers the administration costs. That employs one person in the community. It's looking at unused, unneeded Crown land that we can actually claim for economic development purposes, social purposes, cultural purposes and spiritual purposes.

Bear in mind that a lot of the land councils have also inherited the land that was handed back, missions and reserves. Now, we did not set up Aboriginal missions and reserves, and yet these lands are handed back to a land council with houses that are falling down. We inherit responsibilities around roads, we inherit responsibilities around water and sewerage, and we've got to come cap in hand to government for government funding to be able to contribute to that, and usually at the expense of working with the local government. Really, I suppose, how we start to work together in a community around—and the legislation and the bill actually allows us, as Aboriginal people, to participate but recognises Aboriginal community-controlled organisations, because, along with another bill, government will usually set up another structure, and then they will set up another committee, and then governments will actually come out and cherry-pick who they talk to and what they do.

When we've got a land council that has really got a membership and—again, our mob has got to be employed, and they've got to put food on the table as well. This is a real opportunity for us to be able to look at how we can move forward in the future around this bill to be able to really engage with local Aboriginal land councils and also other Aboriginal community organisations. But it's the government agencies, that direction about building on structures, such as the Land Rights Network, to be able to maximise those outcomes. I don't know if I answered your question.

The Hon. ANTHONY D'ADAM: Yes, that was good. I just want to follow up with that. Proposed section 21 talks about advisory committees. Would it be your suggestion that, rather than having a specific Aboriginal advisory committee, there would be some formal acknowledgement of the Aboriginal land council network to provide that advisory function to support the work of the—

ANNE DENNIS: That would be a great idea. That would be a great opportunity, because the land rights network has been around for 40-odd years. To start to look at and recognise the network is an amazing idea. We can look at an advisory structure. The Government actually implemented OCHRE and OCHRE excluded Aboriginal community controlled organisations—structures that have been around for over 50 years—and set up

LDMs, or local decision-making models, regional alliances and then NCARA. No other State or Territory has got what New South Wales has around the Aboriginal land rights legislation. We've also now got the Aboriginal languages legislation. We lead the whole country but, again, we've got to be able to work together and strengthen what we've got to show the rest of the country.

The Hon. ANTHONY D'ADAM: We've got an existing network for consultation in the lands council. We should be drawing on that rather than trying to create duplicative structures.

ANNE DENNIS: That's right. We've got nine regions. I always say I'm the ninth councillor. I'm the councillor for the north-west. There are nine regions, and we have an election process. Utilising this structure would be an amazing result, if we can pull that off.

The Hon. JACQUI MUNRO: Thank you so much for appearing today, Ms Dennis. We appreciate it. What I'm hearing from you is that NSWALC are looking for ambitious targets—as ambitious as we can get. I'm not sure if you're aware that there's already enshrined in regulation a target cut of 70 per cent by 2035. Were you aware of that?

ANNE DENNIS: No, I'd have to take that one on notice. No doubt some of our policy officers would be aware of that in NSWALC itself. If that's something I could take on notice to address that, that would be great.

The Hon. JACQUI MUNRO: Thank you. That sounds good. One of the things that we've heard today is that if this legislation passed, as the bill is now, it would essentially override that 2035 target. I'm trying to understand how organisations are already looking to this ambitious regulation that's already in place. In terms of the actions that you're already taking to mitigate climate risk and to reduce emissions through your membership base, could you explain some of those?

ANNE DENNIS: Really it's around the carbon emissions and particularly land that has been under a claim—and the biodiversity. There's land that land councils go into to reduce these emissions and things like that. That's one of the things. When there is new legislation that's coming in, it shouldn't be in total disregard. People need to be aware that there is land rights legislation. It's like Crown lands and environmental legislation. We comply with all of the legislation, so it has to fit. There is local government legislation as well, because each of our local Aboriginal land councils work with local government to be able to maximise how we strengthen economic development. We'd like to be able to contribute to that. If there are projects where we can work together and reduce the emissions, whether it's solar or wind, then land councils have some land. Because of zoning and things like that, we can't access and use that land.

We know, like, the more remote you are, like land on the east coast is of more value than land that's out—whether you're at Goodooga, Weilmoringle and places like that. How do we actually build that so that we as Aboriginal people can contribute within community? If you know, like, a place like Weilmoringle, they come under Brewarrina shire, which is 130 kilometres away. Boggabilla and Toomelah are right on the Queensland border but they come under Moree shire, which is another 130 to 150 kilometres away. You know, you've got that distance as well.

So, again, who best knows these places than us as Aboriginal people? How can we work together to maximise those outcomes and contribute so that our young people can take their place in community as well? You know, we are really—and land councils really look for viable options. But, again, even though we've got the intimate knowledge of land and country and we can add to that, you know, we've got to be able to upskill our people to be able to operate under different legislation and work together.

The CHAIR: Thank you very much, Ms Dennis. We're very grateful. I absolutely hear your criticism about the short time frames. I know you and I have been in this situation with the cultural heritage consultation we went through as well last term. Hopefully our time frames will start to improve.

ANNE DENNIS: Thank you for that. As I say, if we can strengthen the land rights legislation, I'm all for that.

The CHAIR: I hear you loud and clear. The secretariat will be in contact with any further information from you. Thank you so much for your time and your evidence today.

ANNE DENNIS: Thank you, everyone. Have a great weekend.

(The witness withdrew.)

(Short adjournment)

Mr TIM BUCKLEY, Founder and Director, Climate Energy Finance, affirmed and examined

The CHAIR: Mr Buckley, would you like to start by making an opening statement?

TIM BUCKLEY: Certainly. Thank you very much for the invitation to speak before this inquiry. I would just reiterate: I work for a public interest think tank and we are funded by Australian philanthropists to work in what we consider to be the national interest. We have no paid conflicts of interest. I don't do any representations. I have the privilege of being able to speak and work in what I consider to be the national interest. Our position is that we work to try and mobilise capital at the speed and scale required to deliver the investments that we need for the climate science, as dictated by the climate science, so I work very much from the finance perspective.

Climate Energy Finance partially supports this bill. We do think that having an Act of Parliament is an important step forward. We think the 50 per cent by 2030 is better than the Federal target of 43 per cent and we think net zero emissions, having the target, knowing the direction our State is going to go, is really important, and it's important to have that legislated. I will also add that the Net Zero Commission is a really important step forward. We need to have expert advisory and evaluation for the Government to actually have reference to. Our key concern is that the Act is not, as it's currently proposed, aligned with the climate science.

My background is 35 years in finance. I'm not a climate scientist. I take what our scientists tell us—the vast, vast majority of what the scientists tell us—as correct and we need to move dramatically faster than what this Act is proposing and what the Paris Agreement is predicated on. The Paris Agreement is all predicated on the common but differentiated responsibilities and that means the developed countries—like Australia, Europe and America, who created the vast majority of the man-made emissions—should act first in order to buy time for developing countries to develop their economies and for them to act by 2050. If I was looking at global carbon budgets, it's going to be critical that Australia and New South Wales and the developed world move well before 2050—like 2040, 2038—in order to buy time for countries like India.

I have spent the last decade working with Indian companies, government and finance in driving decarbonisation. I'm going there next month. They are committed to decarbonisation but when I talk to the government of India, they talk about 2070 as their commitment. Now, I'm talking with the top corporations in India and they talk about moving 10 or 20 years earlier, but their pushback is: Why should we, India, wear that cost when Australia's is not willing to move faster than 2050? To me, 2050 is not the right goalpost. It does set the direction of travel and, hopefully, we as a country can ratchet up, but we should have started a decade ago. I think it's also pretty critical we talk about time frames that are in our area of control, not after I've retired and most people in positions of authority have retired. It should be done this decade or in the next 10 years. I think it's critical we have a 2035 target.

I reference in our submission Zali Steggall's suggestion of 75 per cent by 2035, and even that is not directly aligned with the climate science but we need to have a ratcheting up. To me, the main objective, when I'm talking to financiers in Australia, when I'm talking to the biggest asset managers, asset owners, the biggest banks in Australia, it's all about the investment, employment and export opportunities for us as a country and as a State, and in my view they are huge. The opportunities for New South Wales, like Australia, are absolutely game-changing. I would emphasise that there are also rising risks if we don't act, and I can come back to that.

But the second last point I would make is that we've seen in the last two years hyperinflation from fossil fuel prices that has instigated a cost-of-living crisis, an energy crisis, a climate crisis. All of them are related and we need to actually move on all of them at speed. It's the poorest people in our nation that wear the majority of that cost and they are the most disproportionately affected. I was reading the Australian Actuaries Institute report about insurance affordability stress. It is skyrocketing in our country. There are 1.24 million households in Australia that cannot afford insurance for their houses, and that's up 24 per cent year on year. Housing affordability, insurance affordability, cost-of-living crisis—they're all related to the climate crisis. We can solve them. We can be a world leader, and I think the solutions are far more visible and far more doable than a lot of people talk about. People talk about solutions that we could deploy next decade.

I was just working with the Clean Energy Regulator yesterday down in Victoria and they put up the third quarter, so the nine-month calendar year data for New South Wales for ground heat pump installs. The ground heat pump installs—New South Wales as of six months ago was the top State in the country in terms of installation of ground heat pumps. Year to date, in the first nine months of 2023, they're up 500 per cent year on year. So we hear that there are not enough electricians to do the installations. Well, even without government targets, without clear direction, we are seeing installations up 500 per cent. We're finding the electricians to actually do those installations, and that means New South Wales citizens are acting. I think that's a pretty clear sign they've accepted the science, they're investing and the economics are aligned. I would use that as one of many data points to

illustrate how solutions are far more doable and they're economically viable. We need the New South Wales Government to lead.

The CHAIR: I take from that that if you were advising the Government today at five o'clock, you would say, "You can be confident that you could have more ambitious targets than what you've set out in terms of being able to actually implement those across the State and get the outcomes of those emissions reductions."

TIM BUCKLEY: Absolutely. I talk to investors every day, and I literally talk to investors who have investment proposals before the New South Wales Government, before the Queensland Government, Victorian Government, for tens of billions of dollars each, and I'm talking multiple investors who each want to deploy tens of billions of dollars in our State in solutions that can be deployed. Their biggest problem is getting approvals and getting grid connection and having the confidence to invest. But we've seen it; the ACCC just approved the takeover of Origin Energy—Brookfield's pitch. We will invest \$20 billion or \$30 billion in Australia, and the vast majority of that will come in the eastern States, mainly in New South Wales and Queensland. That is just one example, but I could name a number of examples of companies that have committed tens of billions of dollars and they want to deploy the money. They need the certainty. They need that policy certainty. They need the legislative certainty.

The Hon. JACQUI MUNRO: Can I just go on from that? What do we risk if we are not ambitious? In terms of a slowdown in investment, what's the opportunity cost?

TIM BUCKLEY: To me, the opportunity cost is really clear in the last 18 months. We've seen electricity prices in New South Wales go up 20 per cent year on year two years in a row. We've seen the gas price go up in that sort of order of magnitude, but for industry, the gas price went up 1,000 per cent. To me, it is obscene that Australia is one of the biggest exporters—we were the number one exporter of gas in the world two years ago; we're still in the top three—and yet we have higher gas prices often in our State than we do for our customers. They're getting 1,000 per cent increases in gas prices, we're getting 1,000 per cent, and it kills our industry. How, as a manufacturer, can you handle that sort of level of inflation? The cost of inaction to me is really obvious and yet the solutions are there. I look at the last three months. We saw the New South Wales electricity price drop 65 per cent year on year. More generation is the obvious solution. When I talk to investors, they totally agree with the CSIRO and AEMO that the lowest-cost sources of new generation are wind and solar, firmed by batteries, pumped hydro and smart grids.

The Hon. JACQUI MUNRO: Will investors be putting their money overseas if they don't feel like Australia is serious about making that transition?

TIM BUCKLEY: Absolutely. I was actually just talking to the CEO of an Australian technology startup yesterday—Craig Wood, the CEO of Vast Solar. He was down at All Energy. He has literally announced—it is public information—that he is listing on the US stock exchange. He was telling me yesterday that he's just hired a CFO in America. I was asking whether he's going to relocate to America. For family reasons he's not, but all of his staff are going to be hired in America. That is Australia's number one solar thermal company. It's been around for a decade or two. It has got Australian government funding, just in the last 18 months, thanks to the new Federal Government's commitment to decarbonisation. But, the reality it is—to your question—it's an investment and technology race. That is one of the top solar thermal technology players in the world and they're effectively saying they're going to follow other Australian companies and invest in America because the American Government wants their technology, they want the manufacturing, they want to deploy it and they're willing to provide government incentives and government policy to do it.

Tritium is another example of that. They're a Queensland-based company. As of a year or two ago, they built their main factory in America. Even though they're Australian technology—they're a world leader—they've exported 95 per cent of their product for the last five years. They're now supplying that product, that world-leading fast-charging network, through American product. So Australia will continue to lose technology opportunities. We are a world leader. Our universities are some of the best in the world. I am in awe of what New South Wales uni has done on solar—Dr Martin Green and his team, Renata Egan. But the Chinese have taken that technology, they've commercialised it and they've deployed it at unbelievable scale. They're very thankful for Australia's investment, but they have the benefit of it.

The Hon. JACQUI MUNRO: We're also particularly interested in ensuring that New South Wales is a strong, stable and secure place for investment. Do you have a view about the competition between, say, Queensland and Victoria versus New South Wales?

TIM BUCKLEY: I do. I was in Victoria yesterday listening to the Victorian Premier talk about the vision that she has to drive decarbonisation, to drive electrification in Victoria. We're doing a report at the moment about Queensland. They have a target of 50 per cent renewables by 2030, but 70 per cent by 2032 and 80 per cent

by 2035. Our report—and we've already done the modelling—says that they are on track to do that. We're seeing literally every week—I think this week a 375-odd megawatt wind farm was announced. Last year the Federal Government gave the approval for that. So we're seeing projects moving. At the end of the day, we do have a nationally connected grid on the east coast of Australia, so we can import electricity. We will increasingly import the electricity, they'll get the investment, they'll get the jobs and we'll import their product.

The Hon. JACQUI MUNRO: They're demonstrating that it's completely possible to be ambitious and achieve those ambitions?

TIM BUCKLEY: Absolutely. I was talking to someone who's a proud Western Australian. I made the comment that we need 82 per cent by 2030. He goes, "Not in Western Australia. We need 282 per cent because we're going to double and treble and quadruple our investment in value-adding in Western Australia." So we're going to need to quadruple the amount of electricity that Western Australia is building. Fortunately the Western Australian Government, under the leadership of Bill Johnston, the energy Minister—the climate Minister—has committed to a tenfold expansion in the capacity by 2042 in Western Australia, so investors and corporations have the confidence to invest in Western Australia.

The Hon. JACQUI MUNRO: Sorry to commandeer your line of questioning.

The CHAIR: We're doing free-flow questions, so you're ours to come at from every direction. The bill in its current form, in its architecture, doesn't speak at all to the current system of emissions projects. It doesn't touch those. It just goes on its own course, saying that these are the targets and this is the commission that will advise the Government on how we're tracking, but over here, for example. From a finance perspective, if, for example, high-emitting current industries keep going on a trajectory and they're not intersected, how does that impact on the decarbonisation aspect of the economy?

TIM BUCKLEY: We need the right road map, we need the right level of ambition and we need the direction of travel, but we need substance in there as well. Maybe thinking as to the implication on New South Wales' biggest emitters, the industrial companies, this will have no bearing on their day-to-day activity this year or this decade. They've all committed to 2050 net zero emissions. They'll say, "The New South Wales Government's entirely aligned," but they actually don't have any commitment to do anything themselves in the next decade. And this bill won't do anything to compel or compel them to invest in the solution. Global financial markets will eventually impose that, so that is the discussion I have with the management and the board and the shareholders of those companies. Global pressure is there for them to move faster and to move in alignment with the science. When I say "alignment", I mean the alignment with 1.5 degrees. This bill is not aligned with 1.5 degrees, according to the scientists I talk to. The pressure is there from global investors.

I look at BlueScope. We published a couple of reports. I'm not a fan of BlueScope. They're one of New South Wales' biggest employers in the steel industry. They have massively led decarbonisation in America, but I have to remind them they're an Australian company. Their board sits in Australia. They're leading the world in decarbonisation in America. They have invested \$2 billion in America in the last five years, as an Australian company. Look at the investment that they've made in Australia in the last five years. The answer, to round it to the nearest \$100 million, is probably about 100 million bucks in Australia, but 2 billion in America. My challenge to the board is, "Why are you willing to invest \$2 billion in America in driving and leading decarbonisation, when you're not doing the same in Australia?" They respond, "There's not the compulsion."

In fact, they're threatening to build one of the last blast furnaces built in the developed world in our State, and they're totally free to do that because the safeguard mechanism doesn't compel them to do anything different. The New South Wales Act won't do anything to compel them to do differently. They say, "That'll close by 2050, so we'll still be net zero." But, for the next 20 years—three years before, they'll probably close that facility. By then, we'll be reliant on imported zero-emission steel from other countries that have taken the investment opportunity and leveraged the new investment technologies that are around. Some of our global competitors are moving at a million miles an hour and we're sitting watching. That's not a leadership position. That's a total laggard position, and that will gut our manufacturing industry even further.

The Hon. JACQUI MUNRO: We've been speaking a lot about the investment opportunities. In terms of policy levers around investment in New South Wales and how financial markets respond to that, what are the policy levers that we can be embedding in this system?

TIM BUCKLEY: An ambitious medium-term target would be my number one—confidence for investors and for corporations that those targets have substance. So, what are the underlying policies that will drive delivery of those targets?

A target without any policies behind it is a waste of time if you know the policy is coming. I come from finance. To me, the biggest signal we obviously need is a price on carbon emissions if we want to deal and drive financial

markets. We've got the fourth biggest superannuation scheme in the world—\$3.5 trillion. Deploying that money—it's there, ready, willing and able.

I was talking with 50 of the biggest investors in this country yesterday for two hours about how China leads the world and how we don't have a price on carbon emissions. Europe has a price on carbon emissions. Europe has just introduced, this month, a carbon border adjustment mechanism to ensure other countries can't take advantage of Europe's leadership here. But to me, one of the most exciting announcements this year was last month. A Swedish company, H2 Green Steel, announced they'd raised €5 billion to build the world's largest, newest steel mill, and it's 95 per cent lower emissions than the existing European steel fleet. That's H2 Green Steel. They raised €1.5 billion of equity; they got €3.5 billion of debt to support it—€5 billion. They announced that in September, so six weeks ago.

I was then staggered—a month later, so two weeks ago, the same company put out a press release with the Canadian Government saying, "We are going to build the same facility twice, once in Sweden for delivery to Europe, and now we're going to build a second one in Canada using Canadian hydro." It'll be powered by renewable energy, and its primary objective is to supply the North American electric vehicle fleet because they were saying, "We don't have enough green steel in Europe from Sweden to supply America." American EV companies want to be green; they want to be forward looking. They are, and they want to have greening of their supply chains. H2 Green Steel put out a press release. It's non-binding as yet. They haven't raised the capital, but they raised €5 billion only six weeks ago, and now they've said they'll spend another US\$6 billion building the same operation in Canada.

The same day Vale, Australia's number one iron ore competitor in the world, put out an MOU, a memorandum of understanding, to H2 Green Steel to supply green iron to Sweden. They talked about 100 million tonnes a year by 2030 of green iron. Australia at the moment supplies 38 per cent of the world's iron ore. We produce zero green iron. Our number one competitor in the world is Vale, and they've just committed by 2030 to supply, at the moment, the only major contract for green iron. That's transformational. That's what I talk about. We're in a global technology and investment race, and Australia should be leading the world. We've got BHP, we've got Rio Tinto, we've got Hancock Prospecting and we've got Fortescue—four of the five biggest iron ore players in the world—and none of them have spent more than a couple of million dollars on green iron. Vale has just committed to transforming their entire business in the next seven years.

The CHAIR: I was going to say Fortescue.

TIM BUCKLEY: Fortescue has proposed to spend US\$6.2 billion by 2030. But they're working on decarbonising their haulage fleet first, their rail fleet, their shipping fleet and then green iron next. They will spend money. They have actually just commissioned a \$5 billion magnetite mine, which is the right type of iron ore for use in electric arc furnaces. So \$5 billion—yes, apologies, Fortescue is leading the world in that investment, but Vale is now proposing to overtake them.

The Hon. JACQUI MUNRO: Coming back to a local perspective, are there any projects in New South Wales that you are aware of that will create jobs and investment that will be aided by this bill if it becomes legislation?

TIM BUCKLEY: Yes, I mentioned in my submission one company. It's a listed company called Australian Strategic Minerals. I speak to the CEO quite regularly, and she's—it's a listed company. They have a project in Dubbo. It's been on the books for about a decade, I believe. It is a \$1.7 billion investment in critical minerals in Dubbo. It will be critical minerals mining and refining. That's the proposal—\$1.7 billion. There are 1,000 jobs in construction and 270 jobs ongoing for running the mine and the refinery. The CEO has said publicly, and the company has announced to its investors, that if they do not get Australian financial support and policy support, they will have to accept Korean Government support. The Korean Export-Import Bank has offered to fund them building the refinery in Korea. I don't work for them and I am not paid by them so I can actually cite that as an example.

The frustration is that Australian Strategic Minerals is Australian-listed. Their staff are here, the CEO is here and the board is here. They want to value-add in Australia but the threat is that they're already building a refinery in Korea right now with the Korean Government funding support, and they're saying, "We now want to build a second one, but we want to build the second one in Australia, in New South Wales, in Dubbo, and employ Australian miners, and then add value before we export." If you think about the decarbonisation of our electricity system, that would then power the refinery so we can export embodied decarbonisation. But the Korean Government's requirement on ASM—they're going to provide the capital to build the refinery but only if they get a long-term strategic offtake, which means that by the time Australia actually realises the ambition we should be having, ASM will have sold forward 100 per cent of their offtake to the Korean Government associates and we will never be able to get another look in. We will never be able to recover that opportunity. That's one example.

I could probably cite 50 across Australia. That's probably the best one for New South Wales. That's the opportunity cost to us.

The Hon. JACQUI MUNRO: So it's about speed and scale.

TIM BUCKLEY: Speed and scale, and that is supported by policy clarity.

The Hon. JOHN RUDDICK: I have a quick question. Nobody disputes that carbon emissions are in decline across the Western world. I'm assuming you don't dispute that? At the same time, over the last 20 years it's been in decline and we've had anaemic GDP growth while that's been happening. In Asia, and particularly in China, carbon emissions are absolutely exponential and they are having a lot of economic growth. You did say that you thought it was a good thing—almost a moral thing—that "The West has been rich for 200 years so we've got to give the developing world time to catch up, which is a fair thing to do." Don't you think it's risky geopolitically for us to go and spend endless trillions of dollars re-engineering a energy system that we already have, possibly making it less efficient, while China gets richer and richer? How do we know if, in 2050 or 2070 China just says, "No, we're not going to decarbonise our economy." We're letting them get very rich and we're just trusting them that, in the next generation or two from now, the legislature in Beijing will say, "Oh, yeah, now we'll decarbonise."

TIM BUCKLEY: So if I was to—we're not letting them do anything. As a sovereign nation, they will choose what to do, like we choose what to do. I spend a lot of my time studying what China's doing and, in fact, I started in the energy sector 15 years ago because I was a direct investor in China. I was running a startup global investment fund backed by Westpac and we were mandated to invest in the best technologies around the world for decarbonisation. We were investing in America, China, Europe and Australia. It dawned on me, the more I invested and talked to the CEOs of China's leading companies, that we really misunderstood our number one trade partner. I was staggered by the momentum, the commitment, the implementation and the ambition of the Chinese Government and their leading corporations.

The Hon. JOHN RUDDICK: This is to manufacture solar panels, wind turbines and other things, but not in actually decarbonising their economy.

TIM BUCKLEY: I'd challenge that a little bit, if I may. China is the world's dominant manufacturer of all of those technologies and they're getting more dominant every year, but China is also the number one installer of solar in their domestic economy in the world. China installed this year, year to date, six times more solar than America did and America's number two. They are the number one investor in onshore wind, in terms of installation of onshore wind, in the world. As of two years ago they became the number one investor in offshore wind in the world and they now have half—literally, they started in 2021—the world's cumulative installed offshore wind. Australia has about \$60 billion of projects in the pipeline over the next decade to build—not just our first offshore wind turbine, but to build a whole lot of them. China is already the number one player in the world in investing installations of offshore wind. They're the number one builder of new nuclear power plants in the world. They're the number one builder of pumped hydro in the world. They're the number one builder of hydro.

The Hon. JOHN RUDDICK: And they're the number one builder of—

TIM BUCKLEY: And they're the number one builder of coal—

The Hon. JOHN RUDDICK: —coal-powered electricity plants. I hear reports they're commissioning one every two or three weeks.

TIM BUCKLEY: That is correct.

The Hon. JOHN RUDDICK: Right.

TIM BUCKLEY: What I would emphasise, though, is you've got to look at the entirety. This year, year to date—the first nine months of this year—China has installed 36 gigawatts of coal. They've installed 179 gigawatts of wind and solar. So that is five times more wind and solar than coal. Now, coal operates at double the utilisation rate of wind and solar—so that's capacity, not generation. But they are installing six times more wind and solar than America is. Seventy-nine per cent of all of their installations this year were in zero-emissions technologies. China's solar installations are up 150 per cent year on year. They have just built enough solar module manufacturing capacity to double again and double again their installation rate.

When we think about China—there was a very scary number for September. Chinese electricity demand—so I'm agreeing with you, in terms of their economy is rock solid and growing. Electricity demand year to date is up 4.8 per cent. When you're up at 4.8 per cent—they've just been hit by their biggest drought in their recorded modern history. Their electricity production from hydro was down 40 per cent for the first eight months

of this year. That's an impact of climate change. When you literally have four times more hydro than any other country in the world and you're hit with an eight-month drought, you use more coal.

China's economy is growing, but China has committed to peak emissions by 2030 and net zero by 2060. On my modelling, on my analysis of where they sit, they are probably five to 10 to 15 years ahead of their targets. What they're doing is, like India, saying, "Well, when the West actually starts to acknowledge and act on the science"—China spends about four to five times the dollar investment, across all new technologies, than America does. America's economy is bigger than China's. They're spending five times as much as America is.

Let me finish with one other statistic that, from my perspective—I track what they're doing and it's just staggering how much money China is putting into solutions. But, to your point, they're walking both sides of the street. They're still using our coal, and they're still burning coal-fired power plants. Their attitude is they will continue to support economic growth and until they can get nuclear, hydro, wind, solar up to sufficient, they will continue to build coal. But I would expect their coal fleet expansion to actually end in the next year or two because they are building so much more new capacity in other technologies.

We touched on solar technology. China's solar manufacturers spend 6 per cent of their revenue every year on research and development. If you think about Woodside, they spend 0 per cent of their revenue each year on R and D. Whitehaven Coal spends 0 per cent—I'm rounding to 1 per cent, to the nearest decimal. You can have a look at their annual reports. Santos—less than 1 per cent of their revenue. Every solar company I track in China spend 6 or 7 per cent of their revenue every year. They replace every single factory every five years so they have the world's leading solar technology—and, by the way, they're using New South Wales university technology and they're deploying it. They're doubling capacity every 18 months in those factories.

I totally accept that China is still building coal-fired power plants; they are. But for every coal-fired power plant they build, they build five or six brand-new wind, solar, hydro, nuclear plants. We're building two pumped hydro projects in Australia. We're all aware of Snowy Hydro, and there's Genex's one in Queensland. That is two gigawatts of capacity. China is building 10 gigawatts of pumped hydro storage every year for the next decade. Their target is 120 gigawatts by 2030—10 gigs a year. So they're building five Snowy Hydros—they're commissioning five Snowy Hydros every year. We will take 10 to 15 years to commission one, and they will build 10 of them—sorry, five of them every year for the next decade.

I think we need to understand China realises that the investment, technology, employment, exports, global industry dominance and the climate science are all aligned with them dominating every industry of the future. There is not a zero-emissions industry of the future that China isn't the number one player in the world, and usually their market share is 50, 60, 70, 80, 90 per cent of the world's market share. Let me give you an example of that: batteries. Six of the top 10 battery companies in the world are Chinese—six. One of them, CATL, has 35 per cent global market share. The company didn't exist a decade ago, and CATL is doubling its capacity every two years. If we think we are going to win this race, we are joking. Australia is blind to how fast China is moving. I find it staggering what they're doing.

The CHAIR: In your submission, you mention how—and it's kind of an ancillary point, but I think it is part of the Government's posited ambition in the targets. Is the potential extending of the life of Eraring—because you raise that in your submission, and the way I read it is you actually think that's not a good step for ambition but particularly for the economy as well, and that it would undermine the national targets.

TIM BUCKLEY: It totally undermines the national target. To your question, Chair, it's about undermining investor confidence. We set a target 18 months ago at the Federal level. The target is 82 per cent renewables for the country. According to the Australian Energy Market Operator—Daniel Westerman, the CEO, gave a speech two weeks ago, and he said that there are 250 gigawatts of wind, solar and battery projects in the investor pipeline in Australia right now. Now, when he gave that speech six months ago, the number was 200 gigawatts; now it's 250. That is about \$300 billion of investor proposals on the table right now.

If we then go and provide a massive subsidy to keep an end-of-life coal-fired power plant continuing to run when the owner says it's not viable to keep it running—so the only reason Eraring will stay open is if the New South Wales Government provides a multi-hundred-million-dollar subsidy to keep it open. That will send the signal that if you are an investor in the solution, you are going to actually then have to compete with yet more subsidies to keep end-of-life coal-fired power plants operational.

I was listening on Wednesday, the Waratah big battery—the CEO of the company building that for the New South Wales Government. To the New South Wales Government's credit, that is the biggest battery under construction in the Western world—so outside of China; China has got one which is three times bigger, of course. But that is the biggest, by far, in the world, and it's also eight times bigger than the world's biggest utility-scale battery that was commissioned in South Australia in 2017. In the space of six years, we are literally growing

600 times the capacity, 700 times the capacity, of the biggest battery in the world. So that's under construction as of May.

In Victoria, Minister Lily D'Ambrosio has announced that she is supporting—through the Capacity Investment Scheme, with Minister Bowen—the construction of the 1.2-gigawatt battery in the Melbourne battery hub. That's 30 per cent bigger than Waratah big battery. So there is more than enough. There is something like—in our report that we published about three months ago, we detailed more than 10 gigawatts of battery capacity project proposals on the table in New South Wales alone. By the time we published that report, within two weeks there were five new proposals on top of that. So now the number is about 12 gigawatts.

There is more than enough investment capacity there, but if we go and subsidise coal-fired power plants to stick around beyond their useful life, I think the workforce will be put at risk because they are dangerous for the workers, but, more importantly—sorry, I take that back; nothing is more important than life. The cost to the consumer is going to go up because it will be a multi-hundred-million-dollar subsidy, on top of an industry that already gets massive subsidies, that being the coal industry.

The CHAIR: You think that that would also have an impact on Vales Point? You mentioned that that risks extending the life of that one too.

TIM BUCKLEY: Correct. There would be a cascading effect. Also, any coal-fired power plant owner—if some foreign billionaire who happens to have bought one of New South Wales' coal-fired power plants realises that they're going to be able to hold the New South Wales Government and the people of New South Wales to ransom, of course they will. We're telling them, "Yes, we'll give in to that ransom. We won't build the capacity ahead of schedule. We'll crowd out private replacement capacity and then we'll provide you a subsidy to keep going."

The Hon. MARK BUTTIGIEG: I take your point that the capacity is there, in terms of the investment, ready to go. But to then build the infrastructure and get the connectivity in time—is part of that logic that we need to have a transition? You can't just change this stuff overnight. What do you say to that?

TIM BUCKLEY: I think you're 100 per cent right. Where New South Wales has had very strong clarity of direction for the last five years, at the Federal level we've had, in my view, climate science denialism, and that has meant that not only did we not invest in the high-emissions technologies that we are reliant on historically but investors haven't had the right signals, so they've been unwilling to invest in the future. To your point, can we now start from reverse gear and get to full speed? The answer is no. But what I would say is that there are a lot of solutions that can be deployed rapidly whilst the New South Wales Government rolls out its grid transmission program. The renewable energy program—renewable energy zones—are behind schedule. There is a community backlash because at the moment a lot of the risks and the pressures—

The Hon. MARK BUTTIGIEG: In fact, we've got some people who claim there's a climate emergency, who say that we should delay the connectivity by putting it all underground. Anyway, that's another subject for another committee. I wanted to ask you about the questioning from Mr Ruddick in terms of the view of the world. It seems to me there are two dynamics here. There's the science, which is driving the existential moral imperative, but then there's the market. Even if the science didn't exist, given your investment background, is this a function of—this is where the future of energy economics and profit is. You have such a cheap renewable source that we're going to invest in it anyway. Isn't that part of where the market is going?

TIM BUCKLEY: There is, but to me, there is a question of intergenerational equity, but there's a more immediate pressure, which is that we have a cost-of-living crisis right now. The top half of our State can comfortably afford to deploy rooftop solar. They can comfortably buy their EV. They can have their battery. The reality is the battery in their EV is five times bigger than any battery they put in their garage. Therefore, they will have protection. The bottom half, who rent, live in apartments or can't afford the up-front capital costs, wear the cost. The crisis hits them in every possible regard. The floods—they'll be the ones most affected. They will be the ones without insurance. They'll be unable to recapitalise after they get smashed by the second or third flood in a row.

But we do have solutions. The Clean Energy Regulator yesterday, at the energy conference attended by 1,000 people listening to the solutions for two days in Victoria—probably more than 1,000—highlighted that national installations of rooftop solar in commercial, industrial and residential are up 11 per cent year on year. So we will deploy probably 3.2 gigawatts of rooftop solar this year. That will be a record for Australia. I mentioned that the ground heat pumps were up 500 per cent year on year. In the first quarter of this year, they were up 1,100 per cent. So there are technologies that are commercially viable. They're commercially deployable, and those with money will be able to deploy them right now. But we have to take the whole of our State with us, and we have to make sure we don't make it worse for the ones who can't afford to protect themselves.

There are a lot of solutions. My number one recommendation is the State should be accelerating the deployment of distributed energy batteries. We should have three Waratah big batteries, not one. Maybe they shouldn't all be that big. Maybe you should locate them around the State to actually work with our grid operators. But, having privatised the grid operators, the grid's largely owned by foreign sovereign wealth funds, so if we go and ask them what's the solution, they'll give you an economic solution that's viable for them. We need to actually look after people in New South Wales. My argument is, number one, we should be doing as much rooftop solar—we should be driving that, because that can be done in a house in one day and, in a commercial and industrial site, in one month. You can put a battery in in one month. You can put a Waratah big battery in in 18 months. If you made it maybe one-third of the size, you could do it in 15 months. Queensland just commissioned their biggest battery, and it was 15 months from final investment decision to commissioning.

The Hon. MARK BUTTIGIEG: Could I just take you to one of the objects of the bill? Clause 8 (4) talks about the guiding principles:

Action to address climate change should be taken in a way that—

- (a) is fiscally responsible, and
- (b) promotes sustainable economic growth, and
- (c) considers the economic risks of delaying action to address climate change.

In the context of your background, is that a good thing? Are people looking at this in the investment world and going, "Clearly the Government's on board here. Let's do this"?

TIM BUCKLEY: Yes. Let me maybe pivot to America as an example of that. The American Inflation Reduction Act is an absolute global game changer. It's the biggest single subsidy investment program by any government in history. It is by far the biggest for the American Government. It's in the hundreds of billions if not a trillion dollars of capital and subsidy support. What I am staggered by is the investment in manufacturing industries in America that's been announced by private companies in the last 12 months. They are literally investing US\$17 billion every month this year in building brand new factories. That is four to five times more factories than America has ever built before in their history.

What I'm trying to say is the American Government has taken a global leadership response. They have said they can't continue to allow China to win this trade war and investment and technology race. So the Americans are now back in the game, but with President Biden putting such a massive government stimulus on, he's been rewarded by an unbelievable amount of new private investment. I was talking with one Korean battery company; it's the biggest non-Chinese battery company in the world. They're building eight factories in America right now—eight—from a standing start, because of the Inflation Reduction Act. They're all going to be commissioned by 2025. Their biggest problem that they were reporting to the market is they actually can't get enough workers to build all of those factories, and the cost of labour is going through the roof because they're trying to build eight factories concurrently.

So we are in a technology and investment race. China is a decade ahead. America has now thrown a trillion dollars at the solution. We're throwing an Act of Parliament on, which is a good start, but we're starting late and we're not putting money on the table. At the end of the day, to me, finance needs a price signal. If we had a price on carbon emissions, there are plenty of technologies that are commercially viable today, and we would stop subsidising high-emission companies, and we'd actually start taxing them. That would give the Government a lot of revenue to actually invest in the solution. But there are a whole lot of solutions. We've tried them. It's become politically toxic, but, meanwhile, while we stuff around and debate it, China's just winning the race.

The Hon. JACQUI MUNRO: So we need more than a principles statement, essentially.

TIM BUCKLEY: Yes. This is a start, but we need a lot more, or we need a lot more substance.

The CHAIR: And even this start, you're suggesting, should be a bit more ambitious than 50 per cent by 2030 and 100 per cent by 2050. It's not a strong enough signal to the investment sector that we're on track to believe in them and support them.

TIM BUCKLEY: Absolutely. And it's got to be comprehensive. Let's look at New South Wales. Our single biggest revenue generator for the Government is coal royalties. Our single biggest export is thermal coal. To your point, China is still buying our coal. Japan and Korea are buying it, but Korea and Japan have both committed to net zero by 2050. They will not be able to buy our coal and deliver on that commitment. We could assume they are not going to act on their own commitments or—

The Hon. JOHN RUDDICK: Yes, I don't think so. The coal price keeps going up.

TIM BUCKLEY: Coal is volatile; it's a commodity. But as the international—

The Hon. JOHN RUDDICK: There's still a lot of demand for it. People go and say, "We'll do this by 2050", and they'll just laugh. Today's politicians won't be around in 2050, will they? They'll just renege on those commitments.

The CHAIR: You'll still be here, Mr Ruddick.

The Hon. JOHN RUDDICK: Hopefully.

TIM BUCKLEY: With respect, the International Energy Agency has just put out a 300-page report on Tuesday night. Fatih Birol, the CEO of the International Energy Agency—I believe the Australian Government funds them. They have said that the response to Putin's invasion of the Ukraine has been hyperinflation of commodity prices, of fossil fuel commodity prices and a cost-of-living crisis on the world, and the response from investment and industry is a massive acceleration of investment, whether that's in EV take-up, whether it's battery manufacturing, whether it's solar and wind, whether it's smart meters or whether it's grid investment. The IEA's report is all about how the response of the hyperinflation of fossil fuels has been a massive acceleration.

Germany will install seven or eight gigawatts of solar this year alone, in one year. We, as the sunniest country in the world, will do probably 3½ or four gigawatts. Germany is a country with barely any sun and a solar radiation factor that's maybe one-third of ours, and we'll do half the capacity. This is a really low-cost, permanent solution that could make Australia a leader and make New South Wales a leader. Instead, we're actually just subsidising our coal industry and supporting the industry that was absolutely driving the world economy for the last 50 years but will be redundant within 10 or 20 years. We can ride on coal's back, but it will be gone.

The Hon. MARK BUTTIGIEG: To put that in context—and you've touched on this before—there is a political environment to navigate. The last thing you would want to do is throw away the social licence to get this done. Would you agree with that? The view would be that the bill strikes an ambitious balance. The alternative, given the toxic nature of the debate, is that the whole thing gets politically torpedoed and we are nowhere at all. Do you have a view on that?

TIM BUCKLEY: I do not call this an ambitious bill. The 2030 target I'm fine with because it's more ambitious than the Federal target. But we need a 2035 target. We won't be here in 2050 in positions of power. We can only influence the next five to 10 to 12 years. We need an ambitious target that's moving us towards alignment with the climate science. I'll finish by saying that I'm going to India in four weeks' time. I'll be working with the second largest corporation in India. Their ambition is net zero by 2050 and they're hosting me for a week to discuss with all of their senior management why the Indian Government's ambition needs to be brought forward 20 years.

The number one corporation in India has a 2035 target—that's Reliance Industries. The number two corporation, the one I'm talking to, they're talking about putting out a 2050 target of net zero. Two of the biggest companies in Asia are committing to moving 20 years, 35 years ahead of their Government's target. Industry is leading and finance is leading. We need New South Wales to lead because we want to invest in the future prosperity of this State. I would not say this bill is ambitious or anywhere near ambitious enough. It's not aligned with the climate science and it's not providing the clarity and substance behind the headline to actually drive a material investment decision.

The Hon. MARK BUTTIGIEG: I think the point I was trying to make—

The CHAIR: We are really out of time.

The Hon. JACQUI MUNRO: I just have a yes or no question.

The Hon. MARK BUTTIGIEG: Come on!

The CHAIR: Famous last words.

The Hon. JACQUI MUNRO: It's just about whether you think that new offshore gas projects would be consistent with the intentions of this bill.

TIM BUCKLEY: Categorically, no.

The CHAIR: Mr Buckley, that was so informative. Thank you very much. I think we would keep you here for five hours if we could, but the time has come. You may have taken something on notice. If that's the case, the secretariat will be in touch with you. I don't recall whether you did—maybe not.

TIM BUCKLEY: Thank you very much for having me.

The CHAIR: We have just been stating that we are really grateful because the time frame has been so tight. We really appreciate everybody's accommodation of such a tight time frame. Thank you, Mr Buckley.

(The witness withdrew.)

Mr NIC CLYDE, Coordinator, Lock the Gate, affirmed and examined

Mr JEFF ANGEL, Director, Total Environment Centre, affirmed and examined

Ms JACQUI MUMFORD, Chief Executive Officer, Nature Conservation Council, affirmed and examined

Dr BRAD SMITH, Policy and Advocacy Director, Nature Conservation Council, affirmed and examined

The CHAIR: Welcome to all. Would any of you like to start by making an opening statement?

JACQUI MUMFORD: I'll make some comments to begin. The Nature Conservation Council is the peak body for grassroots environment and conservation groups around New South Wales, so we're coming at this from a concern around climate change and its impacts on nature across the State. The urgency of action on climate change really can't be overstated. We're looking at another horror summer of extreme weather conditions driven by global heating, even while some residents across New South Wales are still homeless from floods and fire from the last shocking flood and bushfire seasons that we've had. New South Wales has a critical role to play in cutting emissions as we are home to the world's biggest coal export port, one of the most coal dependent economies in the world and as the country's most populous State, and clearly we're already behind other States like Victoria, Tasmania, South Australia and the ACT when it comes emissions reduction targets.

We welcome the introduction of this bill to legislate emissions reduction targets and we're especially pleased at the mention of keeping warming to 1.5 degrees mentioned in the bill. However, we feel the targets don't go far enough and they're not science based. The science requires targets of a 75 per cent reduction by 2030 and zero emissions by 2035 to 2038, and that comes from carbon budgets prepared by global experts in the field which we refer to in our submission. We suggest that science-based targets should be the starting point for emissions reduction targets in the bill.

The Nature Conservation Council urges the Committee and the Parliament to strengthen and pass the bill with the following suggested amendments: setting stronger targets and carbon budgets based on the limiting of warming to 1.5 degrees; creating a duty for the Premier and the Minister to achieve the targets; establishing a review and a ratchet mechanism for all targets; enabling interim targets to be set, including keeping the existing interim target of 70 per cent by 2035, which is already integrated into the New South Wales net zero dashboard, the Energy and Utilities Administration Regulation 2021 and the EPA's climate plan, and we fear that abolishing that would be a backward step; requiring the commission to provide advice on all greenhouse-intensive developments as well as to conduct audits of departments and agencies.

The CHAIR: Thank you very much.

JEFF ANGEL: Very briefly, the Act broadly does two things: first, it sets the targets; and, secondly, creates the Net Zero Commission. When you look at the machinery in the Act and the powers and obligations, essentially the Net Zero Commission is a fairly passive mild organisation rather than an agent for change. And we have a number of proposed suggestions to amend parts of the legislation to make the Net Zero Commission a more forceful actor in climate policy in New South Wales. Clause 8, we see that the economic risks of delaying action to address climate change are subjugated to a mere consideration, and that shouldn't be the case. We should be avoiding the economic risks.

The bill gives the Net Zero Commission the role to advise on interim targets. Our position is, well, when? We think Parliament should put in a clause that states "by 30 June 2024". If they're interim, the sooner we know them the better. A new Act is going to be required to entrench a new interim target, rather than a regulation. We think a regulation is something that could move a lot quicker, with the appropriate consultations. The Net Zero Commission is not subject to ministerial direction, but it doesn't have any implementation powers so that makes it fairly harmless. The EPA does have implementation powers, but it is subject to the direction of the Minister. So there's a bit of a potential dilution process going on there. The bill doesn't amend targets or principles into other laws, like the Victorian Climate Change Act. I don't think we've seen Victoria collapse under other departments having a much clearer climate change level of responsibility. Thank you.

The CHAIR: Mr Clyde?

NIC CLYDE: Thanks for the invitation to appear today. I want to start by acknowledging and thanking the Minister for Climate Change, Penny Sharpe, for her leadership on this issue. History tells us that progress on climate issues in Australia is really hard, so we recognise how vital action on climate change is and we value this reform. In fact, we also warmly welcome the legislation of targets and the establishment of the Net Zero Commission. That said, unfortunately the previous Government has gifted this Government a massive headache in the form of an enormous pipeline of coal expansions. The last Government changed the rules around coalmining

to favour new coal project approvals over proper climate consideration. They embedded that through various policies and practices that we describe in the submission today.

This is the elephant in the room, in our view. As it currently stands, despite the excellent momentum this bill generates in the right direction, we don't think it will change the trajectory New South Wales is on towards the largest increase in coal tonnage approved for mining in this State since the Paris Agreement. New coal expansions represent the single biggest threat to the global climate from all activities in New South Wales. At least 12 coalmines are seeking to expand, with life-cycle emissions likely to exceed two gigatonnes of emissions, which equates to about 15 years of all the annual emissions in the New South Wales economy. It's crucial that the Net Zero Commission is given a role to advise on these projects before they proceed and that pro-coal policies are scrapped and replaced with proper climate assessments, in our view.

Even direct emissions just from mining coal are significant. Fugitives is the only sector projected to grow in New South Wales between 2020 and 2030. In fact, the Government's Net Zero Emissions Dashboard predicts that by 2029 fugitive emissions from coalmining will actually be larger than all emissions from the electricity sector in this State, so that's a problem. Your Committee has a submission from The Climate Risk Group before you. They say that due to the increased risks from flooding, coastal inundation and bushfires, our State is one of the most vulnerable States in the world to climate change—in the top 5 per cent of jurisdictions globally at highest risk. So we've got a lot of skin in the game. Finally, I wanted to say that in regard to fossil gas, we think the commission should have a role in helping to develop the gas road map, promised by the Government. We also need quick action from the EPA to directly regulate methane emissions. For all of the reasons above that I have mentioned, we hope some important amendments are made to the bill to put a safe climate at the heart of governing New South Wales.

The CHAIR: Thank you all for your very good submissions. You're in a sector that is, as I understand it, very close to the community and to the people who are working with and seeing these large emissions projects happen day by day on the ground, and you have constituents who contact you about that. What do you say to the fact that we are about to possibly introduce a bill that doesn't touch any of those emission projects but this is a climate ambition?

JEFF ANGEL: Historically, when you look at New South Wales, it has been fundamentally developed on the basis of fossil fuels. Attached to that is a whole range of institutional, economic and bureaucratic supports. While one can advocate for these projects not to go ahead, the point is the system will keep producing business as usual. This legislation, if not in whole, certainly as an initiative, should start changing that whole institutional context that delivers these projects and supports them. That's why various submissions have said we need to remove them. The Net Zero Commission and, to some extent, other parts of this bill can move that along. I don't think any of us think that this legislation, by itself, will stop gas and coal projects, but it certainly should create the power of the Net Zero Commission to make those changes happen and to push it up to the Government. I'm sure that they will be engaging with the community and the community will be saying the same thing to them.

The CHAIR: In that sense, you think that would be a beneficial reform? Your submissions are quite clear that that's what you think should happen through this legislation—to have some reach into assessing those projects and looking at this carbon budget that the NCC submission refers to. Where I'm heading with this is how do you see the bill in its current form impacting actual emissions reduction?

JEFF ANGEL: If you read it, it's creating a fairly complex set of machinery of review and consultation and research. As I said, it's quite a passive exercise, so we need this legislation to create an agent of change whose fingers can get into all of those other decision-making processes. At the moment, they might say something, but it doesn't really mean anything. If these guys in the Net Zero Commission say we need these interim targets and we need to draw down all those new projects coming on stream in the fossil fuel sector, then the obligation should be on the Government to do it. There is a risk that the Government sets up this body and they keep deferring to it as an excuse not to do anything and say, "Let's do some more research. Let's go and get the Net Zero Commission to run another inquiry." Unless there is a strong climate advocate inside government, Penny Sharpe can only do so much by herself.

The Hon. JACQUI MUNRO: One of the things that's been teased out today already is that there is a clause in the bill that says that no other regulations for a target before 2050 are allowed.

JEFF ANGEL: That's why if the Government wants to introduce a new target it's going to have to pass another Act. That could take 12 to 15 months. Let's do a regulation that can take six months. Yes, you're right.

BRAD SMITH: That was something that confused us about the bill as well. We think it is preferable to set interim targets by regulation. The reason for that is because we need to rapidly ratchet up ambition. But also, we're hopeful that ambition can be rapidly ratcheted. If we look at history, the New South Wales climate targets

have changed three times in the last three years because we often underestimate. We underestimate how quickly technology improves. We underestimate how quickly solar has become cheaper and so on.

We think it would be much more flexible if regulations would be able to set interim targets. Similarly, we think the 70 per cent by 2035 target should be in the bill. We also think that should be reviewed by the commission because, again, we need to find every opportunity to ratchet up ambition. So we would suggest putting that in but allowing the commission to make recommendations on that, and for regulations to increase the ambition of those targets but not decrease them.

NIC CLYDE: Chair, if I could also just add to that, to come to your question about the impact of the bill on emissions between now and 2030 in particular, we are extremely concerned that the bill actually won't do anything to stop this enormous pipeline of coal projects. It really is extraordinary, the scale of it that is proposed. Already, those emissions from the diesel, from the fugitive methane, even from the electricity—coalmining consumes 3 per cent of all electricity in the whole State just to crush the coal and convey it around and what have you, and light the mines. It's a massive consumer of energy and a massive emitter. A huge pipeline of projects—at the moment they want to dig deeper into those seams. Many of these mines are saying, "We're going to release more methane. Because we're going deeper, we're disturbing more methane-rich coal seams."

The CHAIR: Where does the fugitive increase come from? It sounds very dramatic.

NIC CLYDE: Whenever you disturb any coal seam to mine it, whether it's underground or open-cut, you will create methane emissions because methane is embedded in that coal and it is released through the process of mining. It's extremely significant. In fact, the IEA says it's massively underestimated what is being reported to the Australian Government. It's a huge problem. We have monitored very closely the Independent Planning Commission and the passage of every coal project assessment, basically, for the last decade in New South Wales.

The Independent Planning Commission is very clear that their hands are essentially tied by pro-coal-expansion policy, so they are saying to the Government, "If you want balanced decisions on coal expansions, you've got to change the policy settings." At the moment their strategic statement on coal basically says, "We're all about coal expansions." There are likewise other policies. The net zero update has a statement. The clear signal to the IPC is that they should keep expanding the industry unless policy changes. There's a new proposal from Glencore. They spell it out in black and white in their application. They almost goad the State Government by saying, "Current policy settings mean that you cannot refuse this project on climate change grounds alone." It could not be clearer than that.

The CHAIR: So the way you see this bill in its current form, it actually wouldn't change that because it's running on its own course while all those other things are happening. You're nodding, Mr Angel.

NIC CLYDE: I think the bill on its own, without scrapping those pro-coal-expansion policies, won't change the trajectory. No, not in our view.

The Hon. JACQUI MUNRO: Part of that is because there's no limit, for example, on extending the life of Eraring through government subsidies. Banning offshore oil and gas is another thing that has come to light. The Coalition has put a bill forward to ban that but, obviously, this bill wouldn't have any interaction with that at all. They could both happen in tandem. One essentially—

JEFF ANGEL: That's the point: It's not a driver of change. It's, in its worse case, just a talkfest.

The CHAIR: Sorry, could you just repeat that, Mr Angel? Sorry, this bill is a talkfest—is that what we're saying?

JEFF ANGEL: It's not a driver for change and, at its worst and weakest, it is a talkfest.

The CHAIR: We currently have a system that has non-legislated targets but has regulatory prescribed targets, and one of those is a 70 per cent reduction by 2035. From where you sit right now, does that actually present something better than what is currently proposed before us? Does the status quo actually present a better ambition than what we are presenting here?

The Hon. MARK BUTTIGIEG: Chair, can I just clarify with a supplementary question? The implication of that question is that this bill somehow vetoes that regulatory requirement on the interim target. I don't think that's necessarily the case.

The CHAIR: As the day has progressed, I think we're probably in need of some legal advice on that because the reality is that target—

The Hon. MARK BUTTIGIEG: Our advice is that it doesn't.

The CHAIR: You need to share that advice.

The Hon. MARK BUTTIGIEG: Evidence on record today has suggested a lot of the premise of the debate has been that that interim target in 2035 is overwritten. It's not.

The CHAIR: But the intention of this bill is that the net zero board won't exist anymore, and that target is inextricably linked to reporting to the net zero board. I think there is some circularity there. That's a matter, obviously, for Government and their Parliament to establish in time.

The Hon. MARK BUTTIGIEG: I just think that the ambiguity needs to be clarified because it's a bit misleading.

The CHAIR: I can reposit the question. In the event that the advent of this bill means that the 2035 70 per cent reduction is off the table, from your perspective, working on the front line of these projects each day, does that put us in a worse ambition position than what we are today, without this bill?

JEFF ANGEL: It might. Depending on how your legal advice goes, it might take it off the table, but the Net Zero Commission does have a specific responsibility to advise on interim targets. So it could, therefore, be replaced by what the Net Zero Commission says.

The Hon. JACQUI MUNRO: But not in regulation.

JEFF ANGEL: You may argue, "Well, that's an unnecessary duplication. Why don't we just keep the 70 per cent by 2035 target and stick it in the bill anyway? Why should they repeat and duplicate previous processes?"

The Hon. PETER PRIMROSE: As we have departmental officers on Monday, I think that's when we will need to clarify this.

The CHAIR: Yes.

The Hon. JOHN RUDDICK: Can I ask Mr Clyde a question? When you were wrapping up your remarks, you said that Australia or New South Wales is in the top five jurisdictions in the world which will be most affected by global boiling. Is that right?

NIC CLYDE: Top 5 per cent.

The Hon. JOHN RUDDICK: Every jurisdiction in the world where this is a big issue—the Western world—they say exactly the same thing. So where did you get that ranking from?

NIC CLYDE: It's from a submission to this inquiry from the Climate Risk Group. I used to work for the State Government and used to kind of share a space with the impacts and adaptation team that worked with the State Government and with Professor Andy Pitman, who you heard from this morning. I checked with them about the Climate Risk Group. They say that it's a highly credible outfit that's working extensively already with the New South Wales Government, in fact. They're running analysis globally of the—they're basically tracking where the sea level rise is happening, where the bushfires are happening, how much of the real estate is exposed to sea level rise and inundation and fire.

The Hon. JOHN RUDDICK: Is that happening in New South Wales?

NIC CLYDE: What's that?

The Hon. JOHN RUDDICK: Is that happening in New South Wales, sea level inundation?

NIC CLYDE: Yes, absolutely. That's why they're saying—so they've ranked—

The Hon. JOHN RUDDICK: You said "absolutely". So where is that happening in New South Wales?

NIC CLYDE: You have the submission; it only went online yesterday. I haven't had a chance to read it, but I have read the—

The Hon. JOHN RUDDICK: If the sea was encroaching on houses because of rising oceans, we would have heard about that. We wouldn't have had to read your submission. I don't think it's happening.

JACQUI MUMFORD: There is evidence of that.

The Hon. JOHN RUDDICK: I don't think it's happening.

JACQUI MUMFORD: It is. There are sea walls being built across northern beaches, for example, where we are seeing storm surges, which are associated with sea level rise. Nic also mentioned—

The Hon. JOHN RUDDICK: There was a storm surge—

JACQUI MUMFORD: Could I just also pick up on the 2019-20 bushfire season, which was mentioned, which was continually referred to as unprecedented. At the time, the environment and climate Minister, Matt Kean, closely associated it with as being driven by climate change. So I think it's pretty hard to dispute that New South Wales is in fact on the front line of climate change. As somebody whose family home was evacuated and threatened by the bushfires in 2019 and 2020, I think it's critical that we acknowledge that it is being driven by climate change and that it's only going to get worse.

The Hon. JOHN RUDDICK: On the bushfires, when Captain Cook flew up the east coast of Australia in 1770, his journal says, repeatedly, "There are fires everywhere." There are several plants in Australia that can only release their seeds in the heat of a bushfire. That is how—

JEFF ANGEL: Actually—

The Hon. JOHN RUDDICK: That has meant we have evolved in this way over tens of millions of years, and then to go and politicise another very bad bushfire—we have a very, very bad bushfire in this country every 10 years or so. It has been happening forever, and it's going to happen forever. Now we want to politicise it and re-engineer our energy market because we're saying, "This is because of global warming."

The CHAIR: Mr Ruddick, it's about—

The Hon. JOHN RUDDICK: I think it's very misleading.

JEFF ANGEL: Actually, it's the smoke that gets the seeds going. But you don't know what Captain Cook saw was a massive bushfire. It might have just been normal hazard reduction burning that the Aborigines did every year—and they still do it in the Northern Territory. You don't have any—

The Hon. JOHN RUDDICK: *The Sydney Morning Herald* is going back to the 1820s. It talks about bushfires all the time.

The CHAIR: Mr Ruddick, do you have any questions for the witnesses?

The Hon. JOHN RUDDICK: If I had good answers then I wouldn't keep quizzing them.

The CHAIR: But it is a courtesy extended to witnesses. On that basis, Ms Munro, do you have any questions for the witnesses—to get us back on track?

The Hon. JACQUI MUNRO: I was interested in whether you believed the bill, Mr Clyde, addressed your concerns about methane, but your comments indicate it doesn't. We have heard about methane already today, and the importance of minimising that release. Are there international examples that have been tested on controlling methane emissions?

NIC CLYDE: Look, it's a really important question. Our view is that we need an additional methane target in New South Wales. We think one of the first roles of the commission should be absolutely to look at this issue and advise the Government. But we know already that there are really concrete things that can be done, for example, in the coal industry to limit emissions. It's just that previous governments haven't been interested in doing it. Ember, which is a think tank that has done a lot of work in this space, is saying that about half of the methane emissions from coalmines on the east coast could be abated, but it would require some investment. There are a lot of ways that it can be done. There's flaring and there's technology called ventilation air methane oxidation, for the methane that's coming out of underground mine shafts. In some instances they call it beneficial re-use. There's so much methane that they burn it for power generation and then call that an offset and sell it as an Australia carbon credit unit and generate some income. That's happening at a few mines in New South Wales.

So there are lots of ways that it can be done. The problem is that it is free to dump it into the atmosphere. If you're a coalminer pursuing profit, you can dump it for free in the atmosphere or spend a bit of money and abate it. What are you gonna do? That's the problem we've got. If you look at the International Energy Agency's latest report—and we reference it in our submission—it says it's so critical, this issue, that we are in danger of irreversible tipping points because of that short-term climate forcing that methane has. It's so much more powerful over 10 to 15 years on the global climate. It's a very significant opportunity; it's a big problem. This is one of the problems of just allowing the coalmines to expand that have a big methane footprint. We absolutely need to do something about it.

The CHAIR: Mr Clyde, can I ask, I haven't done the full look myself, but those coalmine projects that are seeking to expand at this point in time, are most of those export coal projects?

NIC CLYDE: I haven't done a breakdown for our report, but most would be, yes.

The CHAIR: I'm just looking at the names. It's been a while since I have looked at them, but most of them look like they're—

NIC CLYDE: Yes, it's basically an export industry in New South Wales. I think we're mining 180 million tonnes per annum. We were burning about 20 million of those tonnes to make electricity. I think now—Brad would know more than I would—it is maybe 15 million tonnes.

BRAD SMITH: That sounds right.

NIC CLYDE: Yes, so most of it is export.

The CHAIR: Therefore those scope 3 emissions are not part of what the bill would be dealing with, and they aren't calculated anywhere in Australia at this point—in terms of those scope 3 emissions.

NIC CLYDE: From the coal that's sold overseas and burnt overseas, that's right—they're not. But if I could just say, that is why I emphasised that scope 3 is one thing when the coal is shipped overseas and burnt, but it turns out—I think few people understand this properly—that just the process of mining the coal is a very highly emitting process. They do count towards this State's inventory of our scope 1 and scope 2 emissions, and they are very significant and they are growing.

The CHAIR: We heard earlier some evidence about how emissions know no boundaries. So we are literally the generator and cause of those emissions elsewhere and we're not accounting for them, and this scheme doesn't even contemplate really trying to take that responsibility for those emissions in terms of their overall ambition. I suppose from where you're coming from—which is how do we actually reduce emissions globally and take our responsibility—it would be a responsible scheme if we started to calculate the emissions that we're actually responsible for.

NIC CLYDE: I agree 100 per cent. I think the industry's position is that, "Well, if you don't let us expand our mine, someone else is going to mine the coal somewhere else in the world, and the emissions are going to happen anyway, so there's no net gain. So you may as well just keep the industry expanding." But in our submission we quote the two Justices in two cases, one in Queensland and one in the New South Wales Land and Environment Court from Justice Preston, throwing that argument out and saying that the evidence simply does not back that proposition.

The CHAIR: That's right. I had read that, thank you, the substitution argument.

NIC CLYDE: Yes.

The Hon. JACQUI MUNRO: I have a question for Dr Smith. I was wondering about the importance of front-loading the reduction of emissions and the impact that it has on the environment. Why is that valuable? Why do we need to have a 2035 target, and why do we need to have a target that sits at 70 per cent as early as possible?

BRAD SMITH: Thanks for that question. Most carbon reduction schemes include carbon budgets and trajectories for achieving those so that governments or polluters don't just say, "We'll deal with that later." The reason is because as soon as the gas is in the atmosphere, it's causing warming. The Committee heard from Professor Pitman this morning about how much warming has already happened—it's almost already 1.5 degrees. Like Jacqui said, we're already seeing devastating impacts for people in New South Wales. We need to reduce that warming as much as possible, as soon as possible—reducing those forcings that are causing the globe to warm—and we need to minimise the overshoot above 1.5 degrees. As soon as we go over 1.5 degrees, that's the sort of safety guardrail and all sorts of things start going wrong: ice sheets collapsing, bushfires getting worse, forests emitting a lot of carbon. Bringing action as far forward as possible is really important. That goes to Nic's point around methane. Because methane is such a fast-acting greenhouse gas, any action we can take on methane has enormous benefit in terms of reducing the temperature.

Around your point of the 70 per cent by 2035 target, to reach the 2030 target that it seems like everybody in the Committee agrees with—50 per cent cut—between 2020 and 2030, that looks like reductions of around five million tonnes per year in New South Wales. Every year we need to reduce emissions by five million tonnes. To reach the 2035 target of 70 per cent, that emissions rate would need to continue and actually accelerate slightly. If we were to remove that 2035 target and just have the net zero by 2050 target, then the rate of emissions reductions reduces really significantly. It drops—it's in the submission—I think around four million tonnes. It's a significant reduction in the ambition and the rate of decarbonisation. That's why we really support keeping that target in there, so that everyone has certainty that's what we're working towards. Of course, we'd like it to be reviewed and ratcheted up, if possible.

The CHAIR: Ratcheting it up, what do you suggest is the best look of that ratchet? What does it look like?

BRAD SMITH: I think that's one of the great roles that the commission can play. I think it's partly about identifying where there are opportunities for abatement. I guess we're really positive about this because there are so many places that we see as really big opportunities to reduce emissions and actually ensure greater prosperity for New South Wales and ensure people have better lives. For example, our houses and our buildings are terribly wasteful at the moment in New South Wales. Implementing energy efficiency measures would make homes more comfortable, would improve people's health and would also reduce emissions. Similarly, energy efficiency in businesses would make our businesses more productive and profitable. Changing from native forest logging, which emits millions of tonnes every year, to a plantation-based timber industry would actually draw down carbon emissions every year as well as being more productive.

There are so many opportunities where we can reduce emissions and also save money in our budget or improve life in New South Wales. Hopefully, the commission would be able to look at those opportunities and advise where it's possible to ratchet up emissions. We think that those reviews—initially, I think, the 2030 and the 2050 targets, as the bill currently stands, will never be reviewed by the commission. We think that that's a missed opportunity. When the commission is established, it should immediately review those targets, but then to have a regular schedule that's in the bill, for looking back and saying, "When can these targets be increased?"

The CHAIR: Just on that point in terms of the ratchet mechanism, how agile is, potentially, the system of reduction? Should we be having a system where the commission is literally able to be or required to be looking at things on a six-monthly basis? When does that kick in—12 months to start with, six-monthly after that, 18-monthly? What is the agility once you start on that emissions reduction pathway, to that mobilised all-effort sense?

JEFF ANGEL: The commission's been given the right to investigate things of its own volition, so it could say, every six months, "We're going to look at the budget." It gives an annual report to Parliament, and the Government needs to respond to the issues it has brought up. They're good things. I guess the thing that bothers me is the legislation is so all-encompassing and says "everything". It doesn't actually set priorities, and they could be wandering off on some other things that don't really have a fundamental impact on policymaking. So there does need to be more direction in this legislation about what's important.

The CHAIR: Do you think actually having a paramount, an order of—

JEFF ANGEL: Yes. The hierarchy's important because there's about—I don't know, what are there?—20 principles and objectives and—

The CHAIR: Yes. We could be off looking at economic growth instead of actually reducing emissions, you mean? It's that broad?

JEFF ANGEL: I think that's a risk with this legislation. They partly depend on who they put on the Net Zero Commission and how strongly they and the chair want to direct it. But, frankly, that's Parliament's job to say what's the important stuff to look at.

The Hon. MARK BUTTIGIEG: On that point, though, can I just put to you—there's a little bit of a sort of negativity towards the bill, when, I think, there's a general acceptance that this is a big step forward compared to what we've had. Let's bank that. Can I just point you to section 14 (1) (d), which allows the commission to identify and recommend action that should be taken by the New South Wales Government, including strategies, policies and programs that should be implemented by the Government. It's sometimes necessary in legislation to give a degree of flexibility to the government of the day to take expert advice. Wouldn't you agree that, if the commission were to recommend the sorts of things you're talking about, it would be difficult for a government to ignore that?

JEFF ANGEL: When I said that I don't think this bill changes the whole universe, that's right. It just creates another, hopefully, potentially important voice on climate change policy. I think we've all seen, plenty of times, government ignore recommendations. That's partly the way government works, that other agencies will be saying, "This interferes too much with our other programs" or "It's going to have this negative effect" et cetera, and the whole thing gets into an omelette. But because climate change is so important and becoming so urgent, the Government needs to have clarity rather than continuous debate and power struggles between agencies. They all need to be going in the same direction.

The Hon. MARK BUTTIGIEG: Some of that is, obviously, coloured by the political persuasion of the Government in terms of how invested they are on a particular issue, and I'd suggest that this Government's intentions are somewhat more genuine than the previous. Could I just get some answers from some of the other witnesses as well?

BRAD SMITH: Thanks, Mr Buttigieg. To your first point, yes, we welcome the bill and support it and are very happy that it's been put before the Parliament. We see having these targets in legislation and having a Net Zero Commission as a really important step forward. There are a couple of things about the bill that we were surprised by that we think could really strengthen it and we've outlined those I think already today, including the 2035 target, ensuring that interim targets can be put in regulations and a few other things. In terms of the functions of the commission, I agree, 14 (1) (d) is great. It's good to see it there. I think there are a lot of functions, especially under subsection (2) in that section, where we feel the commission would be stronger if it was directed to do those things, so the commission "shall" provide advice rather than "may" provide advice.

The Hon. MARK BUTTIGIEG: It currently allows the commission to provide advice on interim targets.

BRAD SMITH: Is that 2 (b)?

The Hon. MARK BUTTIGIEG: Yes.

BRAD SMITH: That's right. We think that that should be a requirement for the commission and there should be a schedule for those interim targets. I think that there's a lot there, and we think the bill would be stronger if there was certainty around the role of the commission. To go to the Chair's point around how frequently these things should be done, I actually think there should be a huge work plan for this commission. The Federal Government is required, under the international agreements, to go to the conference of parties and once every five years ratchet up that ambition because everybody understands we need to ratchet our ambition up. And perhaps that would be an appropriate time scale to be reviewing the targets of New South Wales, so that it aligns with that international commitment. But in the meantime, like others have said, decisions are being made by government all the time that have huge impacts on our State's carbon emissions, whether that's the approval of coalmines, whether that's the extension of coal-fired power stations that shouldn't be extended or subsidised or whether that's—

The Hon. JACQUI MUNRO: Offshore oil and gas.

BRAD SMITH: —offshore oil and gas, or wood supply agreements for native forest logging. We think the commission should be providing advice on those decisions. That's potentially a big job, but it doesn't make sense to us that you would have this expert commission and then not look to it for advice on all of those important decisions. Similarly, we think that there should be consequential amendments to other Acts to make sure that, when those decisions are being made, the principles and targets in this Act are considered.

JEFF ANGEL: I mean, if you look at clause 8 (4):

Action to address climate change should be taken in a way that—

- (a) is fiscally responsible, and
- (b) promotes sustainable economic growth, and
- (c) considers the economic risks ...

Well, (a) and (b) will just be grabbed onto by any department that says, "Well, we're going to have economic growth. We're fiscally responsible. We've considered the cost of climate change. Goodbye." These things aren't equal.

The Hon. MARK BUTTIGIEG: Except that the two may not necessarily be mutually exclusive. Fiscal responsibility may indeed involve heavy investment in renewables.

JEFF ANGEL: It may.

The Hon. MARK BUTTIGIEG: Because as we heard the evidence earlier this morning, that is where the market is going clearly.

JEFF ANGEL: Yes, but I don't think the department of mines or transport is going to interpret it that way.

The CHAIR: I suggest these witnesses have had day-to-day interactions over decades with how these clauses get interpreted and used to—

The Hon. MARK BUTTIGIEG: I can understand the cynicism given previous iterations of government ideology.

NIC CLYDE: Can I just make a quick point to Mr Buttigieg's question. From our perspective, there's been a lot of commentary about the bill and, broadly speaking, we welcome it, notwithstanding all of the amendments that lots of people in civil society and my colleagues here are suggesting should be made. I just

wanted to make a quick point, though, that one of the dangers that we see is if the Government legislates and then says, "Okay, job done." That's a problem if you don't do any of the other things that you do need to do to solve this other real emissions problem.

I just want to quote one problem—one policy. This is something the coal industry quotes again and again. You'll see the Independent Planning Commission reference it in their decisions too. They point to things like the net zero plan stage 1. We understand this was an outcome of coal industry lobbying, but it specifically bans the decision-maker from considering the 50 per cent by 2030 target. It says you cannot consider that when you're assessing a major project under the EP&A Act. That's what that policy says. If you do nothing about that as government and you've got a 50 per cent policy, a coalmine is going to go, "Well, that still stands, that policy, so we can't see there's a problem. You need to approve our development." Do you know what I mean? The signals are still there to the decision-maker to keep making decisions which increase emissions with the bill as currently drafted.

There are lots of things that are great about the bill, but if that's the only thing that happens and you don't scrap these other policies that are so problematic—also you need to drive a reduction in fossil gas. That's very clear. I think the Victorian Government and ACT Government are doing a great job there. But the bill also needs to send signals to the gas industry that we can't get to net zero without getting off gas. That signal at the moment, I think the messages are pretty mixed in New South Wales whereas they are very clear in the ACT and Victoria.

The Hon. MARK BUTTIGIEG: Mind you, I think the commission has the ability to make commentary on those particular decisions.

NIC CLYDE: Yes, they would eventually—

The CHAIR: I think that's the point, that it's commentary. I think one of the compelling statements earlier was from Ms Walmsley from the EDO. She said you could technically sit down in five years' time, look at everything and we've just increased a lot of emissions and actually done no work yet. That was her interpretation if you just introduced this bill.

We're out of time. Thank you very much for your time and your evidence. I don't think anyone took anything on notice, but if you did the secretariat will be in contact with you. As I have done with everybody else, I acknowledge the time frame has been very short. We're very grateful that you have come along and given evidence in the short time frame. It's been very helpful. Thank you very much, all of you.

(The witnesses withdrew.)

Dr SHAUN WATSON, Co-Chair, Doctors for the Environment Australia NSW Committee, affirmed and examined

Dr CYBELE DEY, Co-Chair, Doctors for the Environment Mental Health Special Interest Group, affirmed and examined

The CHAIR: Welcome, Dr Dey and Dr Watson. Would either of you like to start with an opening statement?

SHAUN WATSON: First of all, it's a great privilege and honour to be called before this Committee, so thank you very much. We are both here to represent DEA, which is a health organisation focused on the health impacts of environmental change, particularly climate change. Our members are mostly doctors who work full time looking after patients and are calling us to care for the health of our patients and of the New South Wales population both present and, importantly, future. The work we do is voluntary and it's done in our free time, including now, of course. I'm a neurologist who works both in Randwick in the east and Blacktown in the west of Sydney in public and private practice, and Dr Cybele Dey is a youth and adolescent psychiatrist who works in the Sydney Children's Hospitals Network. I think it's important to emphasise that DEA has forged very close partnerships with the Australian Medical Association—the AMA—and most of the specialist medical colleges, and they're all, needless to say, august and relatively conservative bodies, so we're not just on the environmental fringe of medicine.

The AMA and DEA together declared a climate health emergency in 2019, and our joint commitment to tackling this emergency continues. We are all aware—hopefully everyone here in the room but, certainly, within DEA—that the health impacts of climate change are occurring right now. They are the direct effects of heat, bushfire, floods, storms and numerous secondary effects. Not least of these are the impacts on mental health, which we want to emphasise today, particularly with Cybele being here. The wellbeing of the people of New South Wales is fundamentally dependent on our physical and mental health. Equally, our physical and mental health is fundamentally dependent on a healthy environment, social and economic structure and, above all, a healthy climate.

DEA supports the bill as a necessary part of a meaningful and practical commitment to addressing climate change. Our support rests upon the urgency of the climate health emergency. We would prefer the bill to be more ambitious in certain respects. We don't necessarily need to go into too much of the nitty-gritty, but we're open to those questions, and much more needs to be done to boost healthy adaptation to the impacts that are already occurring. However, we recognise that the bill, as it stands, is a major step towards a healthier future for New South Wales.

The CHAIR: Thank you very much. The members will have a few questions for you. One of the things that I don't think we have had any evidence about is the correlation between those in the New South Wales community who actually are developing real anxiety—climate anxiety, as I understand it has been called. Is that part of the motivation for your work, because of that growth and what you're seeing, to advocate for ambitious action?

CYBELE DEY: Yes, and I would add that it's part of it. I'm a child and adolescent psychiatrist and I'm also qualified as a paediatrician, and what we're seeing across the community, both in patients and families but also in rigorous research done across the community, is really significant rates of distress about the impacts of climate change, and that's definitely one of the factors. It's not all just anxiety; there are many other emotions involved. A lot of that can be a healthy response to the real dangers of climate change, but there actually are now large numbers of young people in Australia who are having significant day-to-day functional impairment and distress linked to their concerns about climate change, and I would add that there are now repeated studies, both overseas and here, showing that lack of government action on climate change is linked to young people's and children's distress about climate change.

So that is definitely relevant, and there's a really big opportunity for parliamentarians and government to show leadership, because, actually, by showing leadership and taking meaningful action on climate change today, that will already be a signal that reduces some of the distress in the community. I'll stop soon, but just to make the point though that, while climate distress is important because it is people registering the seriousness of the situation when they understand what's going on, the other mental health effects of climate change are really not well recognised, and they're something that I think is really important for the Committee and governments to be aware of. We're already, in Australia, having very significant impacts from increasing frequency and severity of heat—so we get increases in emergency presentations across the board and we get increases in significant mental health distress. In fact, suicidal behaviour increases during hot weather, online bullying increases during hot weather and

domestic violence increases during hot weather. That's just one example, and then there's a whole lot of others that people are perhaps a little more familiar with around the consequences of disasters.

To add to that, when people survive a disaster or experience a disaster, as with the bushfires we're already having this time of the year, when that happens in the context of seeing leadership by local leaders and by governments, the mental health outcomes are better. When it's in the absence of effective leadership, the mental health outcomes for those communities are worse. There are also a number of other mental health effects which are not just climate distress, just to flag that. Thank you. Great question.

The CHAIR: It was actually your qualification that stimulated the discussion and just some more general understanding, so thank you. I have hogged so many questions. Members, do you have any questions? I have more, but I will open it up.

The Hon. MARK BUTTIGIEG: There are a couple of articles in the Act which specifically attempt to address what you have just spoken about, section 8 (5) and 12 (3) (f) in particular. Section 8 (5) states:

Action to address climate change should be consistent with the right to a clean, healthy and sustainable environment.

Section (12) (3) (f) states that the commission should have the expertise on:

(f) the effects of climate change on human health and safety.

Is that a positive step?

CYBELE DEY: Yes. It's wonderful to see that happening, and we need to make sure that there is accountability to ensure that it is followed through.

The Hon. MARK BUTTIGIEG: That it is implemented, yes.

CYBELE DEY: Absolutely, having the health impacts—and I'm so delighted that we're here and that there's interest in understanding the health impacts. We need to make sure that they're linked to all of the key decisions that affect climate change. For example, if further extensions of coalmines or further gas approvals and gas policies continue, that has an effect both now in terms of the mental health of people concerned about climate change and on into the future as well as the additional health harms of fossil fuels, like air pollution related harms, which are very significant as well.

But I guess it's just that feedback loop. Knowing that it's not only that the Committee can and should have that information but that the really serious health impacts we already have in Australia that we know will continue to increase, according to the royal commission after the bushfires, for at least another 30 years—we need to know that those are actually being taken into account when decisions are made that have a major impact on climate change. Otherwise our health system actually can't cope, and there's a whole lot of suffering and harm and loss of productivity that follows with that.

The Hon. JACQUI MUNRO: Thank you so much for coming today and for taking the time to help us out with our considerations. We know that heat stress is one of the most deadly forms of climate impact in Australia. What are you saying to people who are coming to you with concerns about how they can keep themselves well and healthy when they have pressures like heat stress or even air pollution and they're having respiratory difficulties? What's your response?

SHAUN WATSON: Would you like me to answer that question?

CYBELE DEY: You can start.

The Hon. JACQUI MUNRO: Either of you.

SHAUN WATSON: I would preface my response to that in saying that minimising tackling the level of the problem at the level of mitigation is arguably more important and, I guess, the general thrust of this bill. At the same time, the reality is that this summer is likely to be fairly horrendous, certainly in terms of heatwaves, with abnormally high temperatures over three days or more and likely in terms of bushfire smoke. Every doctor does have a responsibility to help deal with it on a patient-by-patient basis. Speaking for myself, I'm looking after patients in the traditional doctor-patient relationship as well as trying to help at the big picture level. Basically, I say stay indoors and use air conditioning, if you have the luxury, which, unfortunately, not all of us do.

The Hon. JACQUI MUNRO: And if you can afford it.

CYBELE DEY: Or to run it.

SHAUN WATSON: Yes, if you can afford it and if the power's running. There are many caveats to that. I would say not to go outside and do crazy stuff, not to work on the roof in 40 degrees, or go to a relative or friend's house or some other environment which is cool and safe, in the way you would if a bushfire was

approaching. I think we've got a lot of work to do in terms of incorporating warning systems of the kind of Hazards Near Me type style into the specific very real health hazards. Heat is the silent killer and arguably kills more people than any other natural disaster, which I'm sure you're aware of.

CYBELE DEY: It's another great question and yes to all of what Shaun has just said. I would just add that, in terms of preparing for the effects of heat, there is active effort being made in the public health system. I probably have to be aware of what hat I'm wearing so I would just like to acknowledge that there is work happening in that space and one of the other factors is that often people are not aware. They're aware that they're distressed or they're aware that they're having breathing troubles, but often people don't actually make the connection, particularly with heat. In fact, lots of people die from heart attacks and strokes during heatwaves. In fact, we have very significant numbers of mental health emergencies on just a single hot day.

But people in the general community are not necessarily aware. They think of distress about climate change being understanding the threat of climate change and being worried about it, which is real, whereas in fact you may have no understanding or belief—"belief" is the wrong word—no understanding or acceptance of the climate science and still have a life-threatening health emergency, both physical or mental, as a result of heat, bushfires, floods and particularly the compounding effects. Then there are the flow-on effects. Last week I was seeing a child who's in a rural area via telehealth whose mother couldn't attend the appointment because the roads were cut by bushfires. His access to mental health care was being impacted last week by bushfires, and he's not the first young child that I've seen who has had impacts on his mental health which have led to him needing specialist referral. I can go through other examples, but I know we're short on time.

The CHAIR: Your submission is quite clear that you're looking at the science that is suggesting that the interim target of 75 per cent by 2035 is sound.

SHAUN WATSON: Yes.

The Hon. JACQUI MUNRO: It was 70 per cent by 2035.

The CHAIR: No, in the DEA submission it's "introduce an interim target of 75 per cent by 2035", which I understand is actually—what's the Independent's name at the Federal level? Zali?

The Hon. JACQUI MUNRO: Zali Steggall.

The CHAIR: She's really promoting that as the most sound position at this point. I am just wondering if that's where—

SHAUN WATSON: Yes, that is correct and that was under considerable time pressure, as you've already kind of highlighted. That was kind of taken from a separate submission at the Federal level but, yes, we stand by that. We also stand by supporting most aspects of the bill as it comes to us at the moment.

The CHAIR: But that idea of more ambition—

SHAUN WATSON: Yes, more ambition.

The CHAIR: From what I can gather so far, more ambition is what you suggest is an indication of leadership right now.

CYBELE DEY: Yes.

The CHAIR: I think it was you, Dr Dey, referring to evidence that local leadership on the topic of climate, whether it's response or ambition, is commensurate to good outcomes.

CYBELE DEY: Yes, seeing meaningful action. While, yes, targets are important but they're important when they are also linked to actions that people can see making a difference. But, yes, absolutely, seeing that leadership—

The Hon. MARK BUTTIGIEG: Just to flesh that out a bit, if the statements and high-level language in the bill are followed through with concrete action, which is the intention of the legislation, then that sort of brings what you're saying together. This is not necessarily about the bill being unambitious in and of itself; it's about the action that goes with the bill. That is what you're saying, is it?

CYBELE DEY: Yes. The difficulty is that it is such an urgent situation from a health point of view that we now need to have clear targets that allow us to have a liveable future. If the target is at a point where it's not going to allow humanity to have a liveable future then that isn't going to relieve people's distress. It's also not going to help prevent the enormous increases in asthma from increased pollens, the enormous increases in heart attacks and strokes during heatwaves, and the increases in anxiety and depression and substance abuse in the years following disasters—the list goes on.

The Hon. MARK BUTTIGIEG: Whether it's right or wrong, is there also consideration of the psychological effect on the other side of the argument? You may have people, for example, in certain industries who may feel their jobs are threatened, or there is anxiety that comes with the potential loss of electricity supply because of blackouts. I'm not making a judgement on whether that's right or not, but it seems as though that's a very active consideration in some sections of the community. Do you see those psychological effects coming through from your consultations as well?

CYBELE DEY: I'm presenting tomorrow at the world conference of general practitioners with some general practitioner colleagues. The difficulties that colleagues and I are seeing around people being concerned is when there is conflicting information, which is essentially based on disinformation and misinformation. Absolutely, having a job, having security and having a community that's thriving is important for your mental health, but there's also really clear evidence that we need to support communities to transition off fossil fuels. We also know that, for example, when you close a coal-fired power station, you get an increase in the birth weights of babies the following year, and you get reductions in heart attacks and reductions in stillbirths, so you get benefits to the community then and there. At the same time, yes, absolutely, there needs to be planning. In a sense, the leadership part is to see it happening and have it explained.

Having a way of ensuring that disinformation and misinformation is called out—I would add, in that sense, having truth in political advertising is important, because what we're seeing in consulting contexts and what we're talking about tomorrow is around people being distressed when they're not believed. In fact, in the community there are still a lot of people who are understandably confused, because there's a lot of misinformation. That's one of the things that we've been involved with in Doctors for the Environment, trying to make sure that there's reliable information. So, for example, that people making policy are aware that when they stand up and show leadership, that will be good for the mental health of the community.

The Hon. MARK BUTTIGIEG: That's a very important point because the bill has to do with that perception as well, right or wrong. For example, if you're trying to convince people that we have to make this transition, they need to have certainty that their livelihood and their environment is not going to be affected by the change. For example, in Germany there was a guarantee that no coalminer would lose their job, or they would be fully paid out. They bought a lot of political goodwill by doing that. I think the analogy translates to New South Wales as well, to a degree, because the misinformation only thrives when people feel insecure.

CYBELE DEY: Absolutely, and people feel threatened. The other thing, though, is that it also happens when the actual threat that's already here is minimised. A lot of people who I'm seeing are already impacted by the impacts of climate change. Even people in areas where they're working in the fossil fuel industry are also experiencing the heatwaves and the bushfires—the impacts of multiple disasters over time. In fact, most people in the fossil fuel industry who I've come across with distress about that are worried that there's a lack of planning and a lack of a pathway out. They can see that that's going to happen, and what they don't want is to be left with stranded assets and no job.

The CHAIR: Can I ask about one final point? If you don't feel that this is an appropriate question for you to answer, please don't feel compelled. There's a clear understanding from most people that the health system is currently under enormous pressure, regardless of emerging pressures, and that we're not necessarily keeping up with the pressures. I know you've kind of touched on it, but how do you see that in terms of that day-to-day, year-to-year, perspective? If we carry on and just kind of walk to 2050, as experts in this field, what do you see in your profession and the system itself that you work within?

SHAUN WATSON: I think there's no doubt that the pressures that will continue to come from climate change and that will come from the impacts of climate change this summer. For example, in all likelihood, will continue to put more and more pressure on the emergency system and all aspects of the healthcare system. We know that ambulance call-outs go up, we know that emergency presentations go up and we know that deaths go up. All of those things will inevitably place short- and long-term pressures on a hospital system that in New South Wales—I don't think it's fair to say it's failing—is always on the brink of failing. That's the way our health systems tend to be run. They run at pretty much full capacity all the time. There aren't beds lying around empty waiting for a new crisis.

In terms of moving from mitigation and trying to stop the problem at the source through to adaptation, I think improving the resilience of the emergency response system within health care and the healthcare system in general is critically important. As Dr Dey has mentioned, there is lots of work going on. At the moment it's a little bit fragmented, and it would be wonderful to see that drawn together and brought together in a cohesive manner to make sure that everybody who wants to make a contribution—whether it be an individual, a hospital, an area health service or local health service, the State Government or the Federal Government—can all work together and make this happen smoothly and coherently. Does that answer your question?

The CHAIR: Very much so.

CYBELE DEY: Can I add a little bit? In terms of child and adolescent mental health, we have seen—and, in fact, that was what got me into this in the first place—increases in the frequency of presentations with serious mental health problems in children and teenagers, and increasing severity. When I started more than 20 years ago, the number of children and young people that would present to emergency was much lower. There are multiple factors that go into that, but globally it has increased, and that was pre-COVID. Regardless of what gets found about that, we know that on hot days, from international data—I'm also a researcher at the University of New South Wales—there are more children presenting to emergency and more teenagers with mental health emergencies. That is something that is already putting more strain on the young people and their families, most importantly, but also on the health system's capacity to respond well and provide the right kind of care at the right time. The effect of compound disasters is something we're already seeing. Children are presenting, having been able to recover from the experiences of the trauma of one set of disasters—like one bushfire or one flood—but then, when they are just getting better and their community gets hit with another one, it becomes too much.

The CHAIR: We're out of time and over time. I am grateful for your attendance and evidence and the short turnaround. I don't think you took any questions on notice, so you don't have any homework. If I'm wrong on that, the secretariat will contact you. Did you want to table a document?

CYBELE DEY: Yes, please—two. It's the *How Climate Change Affects Mental Health in Australia* report by Doctors for the Environment Australia. That's what I gave a copy of to the two Liberal members of the Committee that left. I have a copy for all of the members of the Committee. And this is a copy of our submission to another committee, but it's salient to this because it's about how climate change affects the mental health of young people.

The CHAIR: Thank you. That's very appreciated. That concludes our session.

CYBELE DEY: Thank you for everything you're doing. We really appreciate it.

SHAUN WATSON: We really appreciate it.

(The witnesses withdrew.)

The Committee adjourned at 17:25.