REPORT ON PROCEEDINGS BEFORE

JOINT STANDING COMMITTEE ON NET ZERO FUTURE

EMISSIONS FROM THE FOSSIL FUEL SECTOR

CORRECTED

At Macquarie Room, Parliament House, Sydney, on Friday 12 December 2025

The Committee met at 9:00.

PRESENT

The Hon. Jeremy Buckingham (Chair)

Legislative Assembly	Legislative Council
	Ms Sue Higginson (Deputy Chair)
	The Hon. Mark Buttigieg
	The Hon. Wes Fang
	The Hon. Jacqui Munro
	The Hon. Cameron Murphy

PRESENT VIA VIDEOCONFERENCE

Legislative Assembly	Legislative Council
Ms Trish Doyle	
Ms Liesl Tesch	
Mr Michael Regan	

The CHAIR: Good morning, everyone. Welcome to the Joint Standing Committee on the Net Zero Future. This is the first hearing of the Committee's inquiry into emissions from the fossil fuel sector. Firstly, I'd like to acknowledge the Gadigal people of the Eora nation, the traditional custodians of the lands on which we are meeting today. I pay my 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.

My name is Jeremy Buckingham and I am the Chair of the Committee. I ask everyone in the room to please 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 inquiry participants. I encourage Committee members and witnesses to be mindful of these procedures.

Mr PETER MORRIS, Principal Adviser, Minerals Council of Australia, affirmed and examined

Mr STEPHEN GALILEE, Chief Executive Officer, NSW Minerals Council, sworn and examined

Mr DAVID FRITH, Director, Policy, NSW Minerals Council, affirmed and examined

The CHAIR: Thank you very much for attending to give evidence and for your submissions. Do you have some introductory remarks that you'd like to make, Mr Galilee?

STEPHEN GALILEE: We do, thank you, Chair. I have a short statement on behalf of the NSW Minerals Council, and Peter has a similarly short, brief statement on behalf of the Minerals Council of Australia, if that is agreeable with the Committee.

The CHAIR: That is.

STEPHEN GALILEE: Thank you for the opportunity to appear before this inquiry into the greenhouse gas emissions from the fossil fuel sector in New South Wales. It's a shame that no other sectors lodged submissions or will be represented here today—and I'm not sure if any were invited—because it does limit the ability of this Committee to undertake a comprehensive review of emissions from the fossil fuel sector in New South Wales. Coalmining is just one of several sources of fossil fuel emissions in New South Wales. Electricity generation and transport are larger sources of fossil fuel related emissions, and there are significant emissions from industrial use of fossil fuels in industries such as steel and cement production and other manufacturing, as well as commercial and residential use. Of course, agriculture is a major source of emissions, particularly methane, but they're not the subject of this inquiry.

Coalmining now makes up around 12 per cent of the State's emissions, which means about 88 per cent of all emissions in New South Wales are generated by sectors other than coalmining, and I hope this Committee will conduct similar inquiries into emissions from those other sectors in the future. The coalmining industry has a proven track record of reducing emissions—a State-leading record. Since 2005, emissions from the coalmining sector have fallen faster than any other sector in New South Wales, and faster than the State average. This reduction has been achieved through a shift in production from gassier underground mines to less-gassy open-cut mines, and through increasing deployment of methane abatement projects, with New South Wales coalmines delivering more than four million tonnes of direct methane abatement in 2023-24.

In addition, almost all of the sector's emissions are captured under the Commonwealth Safeguard Mechanism, meaning they are already subject to regulated requirements to reach net zero by 2050 without any additional intervention by the New South Wales Government. The New South Wales Government's own modelling shows the New South Wales coal industry is on track to reduce net emissions in line with the State's 50 per cent by 2030 emissions reduction target due to the Safeguard Mechanism continuing to bring down the industry's emissions, and I don't think there are many other industries that can make those same claims.

Despite the claims of some, there continues to be strong demand for our coal. Over the last three years, global coal demand has hit record highs, with another record year expected, and New South Wales coal exports are rising again to near record levels. Although these coal exports from New South Wales represent less than 2 per cent of global coal production, the economic benefits are significant here, with New South Wales coal production jobs close to all-time records set back in 2012. Around 10 coalmining operations are seeking planning approval to extend their operating lives. Around 8,000 people currently work in those operations across New South Wales, which is nearly one-third of the total coalmining workforce in New South Wales.

At a time when some mines will be closing in 2030—we know Mount Arthur will be closing and, soon after, Mangoola—the jobs in these other mining operations that are seeking to extend are not threatened by any imminent changes to global coal demand but by the potential for perverse outcomes resulting from futile climate-related policy gestures here. There should be no reason not to grant these approvals and protect these 8,000 existing jobs, at least not on climate grounds, when New South Wales coal emissions are falling faster than the State average, are almost fully covered by the Commonwealth's strict emissions reductions legislation, and are also already on track to meet the New South Wales Government's own emissions reduction targets.

PETER MORRIS: I appear today on behalf of the Minerals Council of Australia and in support of the NSW Minerals Council's submission. My role at the MCA includes being an associate member of the International Energy Agency's Coal Industry Advisory Board and I'm the longest serving chair of a committee. I'm the chair of the low emission technology committee. I've also served for many years on the executive committee of two of the IEA's technology collaboration programs. In addition, I've been involved in the development of the coal industry aspects of the National Greenhouse and Energy Reporting scheme measurement determination since its inception

in 2007. Over 70 countries mine coal and there are seven major exporters by sea. However, the Australian Government has stated:

> Through the NGER scheme, Australia is currently the only country in the world to use methods equivalent to the highest (most sophisticated) Intergovernmental Panel on Climate Change (IPCC) method tier for estimating fugitive methane and carbon dioxide emissions from underground and open-cut coal mines.

This world-leading situation reflects the role the coal industry has played in working cooperatively with government officials, laboratories and auditors to improve the reporting requirements of the industry. The industry has fully funded extensive research to support this through the black coal industry research program ACARP, which we understand is rare for reporting sectors. As a consequence, the existing coal fugitive emissions measurement methods are workable, auditable and cost-effective, using mature technology and established techniques that are proven for the application of inventory measurement. The current methods have been developed, validated and approved over time, based on sound and transparent science. It is envisaged that future improvements and development of emerging methods will undertake a similar process. Notwithstanding the adequacy of the current statutory reporting framework, it is important to remain open to potential improvements or enhancements from the use of new technologies and practices, including remote sensing.

The MCA notes that several of the inquiry's terms of reference have been, or are being, specifically addressed in reviews by Federal government agencies and by the Federal Government's Expert Panel on Atmospheric Measurement of Fugitive Methane Emissions in Australia. These processes are best equipped to consider several of the technical issues covered in the terms of reference for this inquiry. The MCA also requests that the inquiry note and acknowledge the emission reduction efforts made by the coal industry through Safeguard Mechanism, and adopt a similar outcome-based approach allowing these efforts to contribute to New South Wales' emission reduction targets. Moreover, we recommend that facilities in the Safeguard Mechanism be exempt from State schemes and assessment, as they are aligned with the national target and emissions budget.

The CHAIR: Thank you, Mr Morris, for your submission. We will turn to Government questions.

Ms LIESL TESCH: As far as future technology regarding remote sensing, what is the journey looking like in that? Because I think capturing that data is going to be really important moving forward.

PETER MORRIS: Yes, there's a lot of activity in this area, as you will know. The United Nations Environment Programme has dedicated significant resources to measurement and exploration of this activity. The challenge at the moment is that it's unproven and unregulated for use in Australian coalmines. In theory, if it could be improved and regulated, then it could provide a very useful source of measurement. The difficulty with satellites is probably well known. I can run through some of the complications with it, if you like. Some of the United Nations Environment Programme publications—one this year, for example—have acknowledged those difficulties and said that, at the moment, airborne information with aircraft and drones is probably a better way of estimation.

But the difficulty is getting the information. For example, satellites only operate when it's daylight, and it's very difficult with open-cut mines, given the different climates within a very large open-cut mine et cetera; the operational characteristics of the mine, including dust from explosions; and the effect of water, because we have water on road surfaces for damp suppression—suppression of dust. These all affect the measurements. At the moment, the measurements that have been obtained are often unrepresentative of a coalmine's activity. For example one on Australia, published earlier this year by the United Nations Environment Programme, only looked at 1 per cent of the activities over a two-year period of a coalmine and then extrapolated that, which is quite misleading, I'm sure you would agree. We in the industry are very interested in this. There's a driver here that if we are able to obtain improved ways of top-down measurements—if I can call it that—balanced with bottom-up approaches, then it could be prospectively something that could be useful. But it needs to go through that regulation process to prove up that new top-down approaches really are reliable.

Ms LIESL TESCH: Is anyone in New South Wales using drones to take measurements at this point in time?

PETER MORRIS: There are some explorations with that technology, yes. But it's unproven and unregulated, so really at this stage it's just deployment for research purposes. A number of researchers are being supported by the industry through the ACARP program. In addition, the expert panel that I mentioned in my opening statement is undertaking work in this area too. They have asked the department of climate change to fund a demonstration in Australia with a controlled release experiment at potentially a coalmine or a simulated coalmine.

The CHAIR: For the benefit of the hearing and *Hansard*, that was the Expert Panel on Atmospheric Measurement of Fugitive Methane Emissions?

PETER MORRIS: Correct.

Ms TRISH DOYLE: Hi. I am the member for Blue Mountains, and also the Parliamentary Secretary for Environment and Climate Change, Energy and Heritage. Thank you for appearing today and talking to us about some of your views and some of your work in this area. Can I ask each of you, if you wish to, to elaborate on what you believe has driven the reduction in coal sector emissions to date?

DAVID FRITH: It's been a combination of things. This is something that's been highlighted by the Commonwealth Government in their methodology report to support their emissions estimations. It's been driven by a shift in production from gassier underground mining environments to less gassy open-cut mining environments over time. That has been a factor. But there has also been a much-increasing deployment of fugitive emissions abatement across the sector as well. We've got multiple projects in New South Wales that are draining gas before mining and after mining from coal seams, and they are abating that methane that's drained from the coal seams through either flares or, where possible, through the use of power generation. We've included some figures in our submission that highlight that that's delivered around a four million tonne reduction CO2 equivalent in direct emissions from the mining sector in 2023-24. That equates to roughly a 20 per cent reduction in our direct emissions in that year. It's been a combination of those two factors over time.

Ms TRISH DOYLE: Excellent. Would anyone else like to add some points or responses to that particular question?

PETER MORRIS: Perhaps only just to confirm what David has said. With regard to fugitive emissions, the industry really is world leading in pre-drainage and goaf drainage for underground mines. We also do post-drainage activities through the National Greenhouse and Energy Reporting Scheme. We've developed methodologies based on sound science for the post-drainage application, for example. We undertake flaring, increasingly within closed flares. We also look for beneficial use opportunities. Australia in this State has been long using fugitive methane emissions for electricity production, and there are potential other beneficial uses. For open cuts, it's more challenging, and we can talk about the technologies there. The reason we call it fugitive is because it escapes. Near-surface mines tend to be less gassy just because they're near surface. It goes back to the geology and the way that the coal seams have over geological time been established, so they do firstly tend to be less gassy, and because they're not deep, they tend, because it's been developed over geological time, to have lost a lot of that gas through their natural fugitive characteristics.

But the technologies there are challenging, and we are exploring the opportunity, or the possibility, of pre-drainage of open cuts, but that is difficult, because we don't have the experience in the world and in Australia for undertaking that. It's more difficult with the conditions of an open-cut mine from a safety point of view and an operational point of view. At the moment, we consider that the NGERS methodology doesn't really allow pre-drainage beyond a year. We're working with the department of climate change in Canberra to get information necessary to address that issue.

Ms TRISH DOYLE: Thank you, Mr Morris. Many would say—and I'm playing the devil's advocate here, as you would expect—that the main reduction in historic emissions is from coalmines actually closing, not from technologies. Is it not the closure of coalmines that has driven emissions reduction?

PETER MORRIS: No, obviously, the closure of gassy coalmines reduces emissions, but in Australia today, there's 103 coalmines operating and only 30 underground mines. There's a definition of a gassy mine in the legislation for safety purposes in this State, and the number of underground mines in Australia that are gassy is probably only six to 10, because a number are not operating. They're in care and maintenance. There have been closures of mines, but a lot of those are open-cut mines—surface mining activity.

STEPHEN GALILEE: Can I add to that, Peter?

PETER MORRIS: Yes.

STEPHEN GALILEE: There are fewer coalmines now than there were. When I started this job, 14 years ago, there were about 60 operating coalmines in New South Wales. I think there's 38 operating mines now. There were a lot more underground mines back then. We are still producing the same amount of, if not more, coal than we did back then, and we are still employing the same number of people, if not more, than we did back then. We're just doing it at fewer places.

The Hon. WES FANG: Before I start on my substantive questions, in what is curious timing I suspect, the Net Zero Commission released their coal report this morning at about 6.00 a.m. Mr Galilee, have you had a chance to peruse it, noting that it was only released three hours before you were due to give evidence? Do you have any views as to what the report says and can you comment on the contents?

The CHAIR: For the benefit of Hansard, you're talking about the *Coal Mining Emissions Spotlight Report* from the Net Zero Commission.

The Hon. WES FANG: Yes. It was released at 6.00 a.m. this morning, interestingly enough.

STEPHEN GALILEE: Thank you, Mr Fang. I've been up all night reading the report because it was released to the *Newcastle Herald* for some reason and they had it on their front page at midnight last night. We put out a statement this morning in relation to this report. We believe that it's flawed and superficial. The recommendation in relation to extensions of coalmining operations puts thousands of jobs at risk for the reasons that I outlined earlier. It's a bit confusing because, on the one hand, the report cites Commonwealth Treasury modelling—which has since been questioned—that the coalmining industry is about to collapse, that it's in imminent terminal decline. On the other hand, the report is proposing a whole lot of regulatory measures and restrictions on the industry to prevent it from continuing anyway.

I think there's a bit of ambiguity there. That Treasury modelling that's referred to at the end, there are significant questions about the reliability of that given some of the assumptions that it's based on. It's based on some recent Senate estimates proceedings. The claims in relation to the commercial viability of proposed regulatory measures are also wrong. They ignore commercial reality, they ignore some limited feedback provided by the industry but they also ignore the technical and safety limitations of some of the regulatory proposals that are currently on the table, particularly from the NSW EPA. Those proposals for technologies are yet to be proven in Australian mining conditions. We have serious concerns about rushing into that technology or it being imposed upon us and putting our people at risk

The report also ignores the industry's utilisation, as we've just heard from Peter, of world's best practice techniques for emissions measurement and responding. Most importantly from our perspective, the report completely ignores our State-leading record on emissions reductions as an industry and our proven track record on emissions reductions, including significant abatement. As I said earlier, we've reduced our emissions by 28 per cent since 2005. It's faster than the State average and it's faster than any other industry. We are heavily regulated by the Commonwealth to do that. We're doing our bit and then some on emissions. To be singled out as the industry that's solely responsible for threatening the State's emissions reductions targets at a time when we are contributing, and then some, to doing that and are on track to do it and are required to do it anyway—it does seem curious that our industry is being singled out.

The Hon. WES FANG: So is it fair to say, then, there was no consultation with your industry prior to the release of the report?

STEPHEN GALILEE: We've had some limited consultation with the Net Zero Commission, at our request, in relation to trying to educate and inform people that are making these independent expert recommendations to government that they are expert enough and most of the technical expertise on these matters are generally with the practitioners. How would you describe the consultation?

DAVID FRITH: I think we have been consulted. We've met with the Net Zero Commission several times, as have multiple companies from within the industry. I don't think most of the companies were aware that that consultation was to inform this report.

The Hon. WES FANG: But in relation to this report, you weren't provided a draft copy where you could correct some of the inherent issues that you're obviously able to identify now?

STEPHEN GALILEE: No. Look, we got given a copy of the executive summary late yesterday. We were told that it was embargoed until 6.00 a.m. It's clearly been placed in the media before then and possibly coordinated with some other witnesses that you'll hear later today. I don't know that. I'm just having an educated guess.

The Hon. WES FANG: As I said, the timing was curious. You might say that it's somewhat of a political hit job, given the hearing today.

STEPHEN GALILEE: It's the sort of thing that a climate activist group would do or even—dare I say—an industry association, but I wouldn't have thought it's something that an independent expert statutory authority providing advice to government would do.

The Hon. WES FANG: Neither would I.

STEPHEN GALILEE: That's what they've decided to do.

The Hon. WES FANG: You talked about the coal exports, and in the report it suggests that they're declining. In relation to world coal production, where is New South Wales and how significant is New South Wales coal production compared to what we're seeing across the world?

STEPHEN GALILEE: We're 2 per cent of global coal production. We're a tiny fraction of global coal production overall. If we stop mining coal in New South Wales today, that 2 per cent would be taken up very quickly by others. Our customers aren't turning off their blast furnaces or their power stations around the world if they can't get their coal from us. Some of you would have heard me say this before. In terms of the state of the coal industry, I'd just give you a rundown of the International Energy Agency's forecasts for coal. In 2020, after a COVID-related fall in global coal demand, the IEA predicted global coal demand would reach around 7.4 billion tonnes by 2025—now—and would never again be as high as it had been in 2013.

The next year—2021—the IEA revised its estimates up, predicting coal demand would rise to an all-time high of just over eight billion tonnes in 2024. The next year—2022—the IEA again revised its estimates, flagging the possibility of a new peak in 2022 or 2023 before a plateauing. In 2023, they said global coal demand was actually likely to peak that year. Last year, global coal demand reached 8.8 billion tonnes, which was a new record, 16 per cent higher than the IEA's 2020 forecast of where it would be this year. We're expecting it to, potentially, go over nine billion this year in the next report.

No-one's pretending that things aren't going to change here, but the projects I referred to earlier and the willingness of those companies and those projects and those operations to seek extensions of their existing operations—not new ones, existing operations—where we have 8,000 people, a third of the coalmining workforce, working in an industry that is delivering emissions over and above what it is required to do—it doesn't make sense to me why this industry is being singled out, particularly by the Net Zero Commission, when we're 12 per cent of the State's emissions. We're reducing those emissions. If you believe the doomsayers, the industry is going to be gone soon anyway, so I don't understand. It just seems to be a policy and political hit job on what they see as an easy target, rather than something that is based on the evidence and what we are seeing out there ourselves.

Ms SUE HIGGINSON: Thank you all for coming here and giving your evidence and your submissions, as always. With regard to the report, do you think there is a reasoned case in there that when you look at all matters in terms of your efforts—which everybody can see, the efforts of the emissions reductions that you have made so far—the argument for no new expansions or no new emissions from those projects is a reasonable and fair ask of the industry? The fact that you have made those reductions is very important, but we are still talking about a large tranche of emissions and we're looking to abate, avoid, mitigate across all sectors. So just the finding that new projects will not assist us with meeting our targets and, in fact, the industry should not be seeking new projects—

STEPHEN GALILEE: No-one is seeking a new coalmine. We're seeking to extend.

Ms SUE HIGGINSON: Sorry, extensions.

STEPHEN GALILEE: There's a definitional problem that it—

Ms SUE HIGGINSON: We refer to that as "new coal".

STEPHEN GALILEE: Yes, but it's misleading to say that.

Ms SUE HIGGINSON: Extensions seeking to access new coal within the reserve.

STEPHEN GALILEE: Yes. That's extending an existing operation for longer than its consent. I think maybe one of them is seeking to increase its output marginally at a time when—if I believe what I'm told by The Greens and others—coal demand is going to collapse and all those other mines are going to shut. The production profile of the industry, if you believe what people say about coal, is going to decline. Why would we self-impose on ourselves a rushed, brutal economic transition, rather than have it managed over time to allow those mines that can continue to operate and export their coal to customers to continue, and those mines that are closing to gradually close over time—rather than self-inflict some ridiculous economic harm on our economy—when we're talking about 2 per cent of the world's coal? Our industry is doing what it needs to do to contribute to the emissions targets already, and the Safeguard Mechanism is going to ensure we continue to do that. The argument that we should leave all this coal in the ground is a classic activist argument, but the same thing could be said for any other industry.

You could say it about agriculture. You could say it about manufacturing. You could say it about artificial intelligence and data centres. All those industries, if they increase their emissions, or if they don't reduce them at the same rate potentially as us, are going to threaten the State's emissions reductions targets, but we are singled out, in my view, because we're seen as an easy political target by some, and because we're regulated already, so it's easy to turn those policy levers, rather than deal with some of the hard political questions about some of those other sectors. I think—

Ms SUE HIGGINSON: Can I just ask on that point—

STEPHEN GALILEE: —it's an attack job.

The Hon. WES FANG: Point of order: The member's trying to provide an answer.

The CHAIR: Order! It would help Hansard and the conduct of the hearing if we don't talk over the top of witnesses and each other.

STEPHEN GALILEE: Ms Higginson is always very polite in her questioning, and we appreciate that. I know she doesn't like that I'm allegedly a friend of the Premier, but we could be friends if you give me a chance.

Ms SUE HIGGINSON: I am very happy for you to continue your very good friendship with the Premier. It's very clear that you are.

The Hon. WES FANG: You can have a meet-and-greet with him.

Ms SUE HIGGINSON: You can be bros as much as you like.

STEPHEN GALILEE: Yes, we hang out all the time.

Ms SUE HIGGINSON: Just in terms of the industry's ambition, it will rely on the Safeguard Mechanism and offsets in terms of meeting its obligations. Given that, does that not make the argument for all those people out there who might suggest that your industry right now is boasting on the fact that it now just produces small packs of cigarettes to the lung cancer patient, not big packets of cigarettes to the lung cancer patient? Do you not see, given your actual stated ambition is to rely on the Safeguard Mechanism, which we know is not genuine emissions reduction—it is offsets—that the no new coal argument stands very strong and that's where the populace, in terms of young people, is coming from? Do you see that argument?

STEPHEN GALILEE: I think it's a very facile argument, to be frank, and the tobacco analogy is pretty juvenile too, to be honest. We are not just relying on offsets, but even if we are—you argue and others argue that we should be taking scope 3 emissions into account, for example. They are emissions generated somewhere else and accounted for elsewhere. Offsets are emissions avoided somewhere else, so why shouldn't they be counted here? What's wrong with offsets? This industry is doing—we're at the cutting edge of the technology to avoid and abate as well. I don't think any other industry could say it's abated as much as 20 per cent or so of its overall emissions as we have. It's about 20 per cent, isn't it?

DAVID FRITH: Twenty per cent.

Ms SUE HIGGINSON: It was a very high starting point.

STEPHEN GALILEE: Well, it's not.

Ms SUE HIGGINSON: Well, it was.

DAVID FRITH: I'd only add that there's considerable efforts being put in to directly abate emissions. The industry isn't simply relying on offsets, and we've outlined in our submission a huge range of initiatives—it's not even a complete set of initiatives—across the industry to further reduce emissions. At underground mines, we've got mines improving the gas drainage efficiency of their operations so they can draw more methane through those existing abatement systems. They're sealing underground workings to avoid methane entering the ventilation stream and avoid those emissions. We've got a couple of mines that are installing new flares to abate methane that's drained from those operations. We've got world-leading technology being applied at the Appin Mine in the Illawarra, which is the first of its kind in Australia and the first of its kind in Australian mining conditions to abate VAM emissions from an underground mine. We've even got an open-cut mine in the Hunter Valley at the moment that's seeking approval to trial pre-drainage of their open-cut coalmine to abate methane emissions from that site as well. I think the notion that you're trying to present that we're fully reliant on offsets isn't accurate at all.

The CHAIR: Some have suggested in their submissions that fugitive methane is under-reported, is not accurately accounted for. What's your response to that? Is there a possibility that we're not accurately measuring and therefore reporting the full extent of fugitive methane emissions from your sector?

PETER MORRIS: The key message from us is that we use proven, world-leading, regulated approaches for measurement. We need to continually improve that with better methodologies, better science, because this continually evolves. It's just the nature of mining. Every mine is different. Australia, as I said in my opening statement, has the highest IPCC, Intergovernmental Panel on Climate Change, reporting mechanism globally but for both underground and open cuts. As I also said in my opening statement, there is opportunity to look for better ways of doing that. That is being investigated by both the Federal Government expert panel that I referred to and also by our industry. We are also investing directly through our industry, through Low Emission Technology Australia and the black coal industry research program, to further improve drainage and to look at opportunities for expanded drainage and to develop other technologies, particularly ventilation air methane.

STEPHEN GALILEE: Can I just add to that? You asked a question about methane and I think it's a valid one and Peter gave his response. We're also concerned about the accuracy of the emissions reporting generally. Our experience so far has been an over assumption on industry emissions. Our most recent experience is the New South Wales Government emissions forecast for our sector being 20 per cent higher than the actuals, based on the safeguard reporting when it came in for the same period.

It's not an easy task, we accept that, and we don't think there's any malice in the overestimates. The accuracy of those forecasts are being improved and we support that. We don't want to be arguing about the numbers. We want to know that we are dealing with accurate forecasts in relation to where our industry is. Because if our emissions are being overestimated by 20 per cent, then the New South Wales story is not as good as it should be and that impacts policy development.

Ms SUE HIGGINSON: Can I just ask you on that 20 per cent, that's not yet reconciled is it? My understanding is that's not yet reconciled. I understand that you're suggesting it is 20 per cent over. The Government is still assessing your claim that it is, at this point?

DAVID FRITH: That's based on our analysis, yes. Centennial put in a submission to this inquiry and it highlighted that for their operations there was a one million tonne overestimate. It's pretty clear there is something amiss.

Ms SUE HIGGINSON: But just to be clear, that's not yet reconciled. We will find that out at some point?

STEPHEN GALILEE: Yes.

Ms LIESL TESCH: I have a further question about the gassy mines that are producing the most emissions. Is there anything we can do to reduce those significant emissions better than what we're doing now?

DAVID FRITH: I'd say that they've been putting a lot of effort into reducing their emissions already, particularly the highest emitting mines. They are the ones that are leading the way in terms of gas drainage efficiency and making sure that they are abating as much methane as possible from their mines. I think we've highlighted in our submission some of the improvements in gas drainage efficiency that have been adopted at the Appin Mine, for instance, where they've increased their gas drainage efficiency from around 50 per cent up to around 65 per cent. So they are putting a lot of effort into this area. I would note that these gassy underground mines—

Ms LIESL TESCH: Can we do more?

DAVID FRITH: They are looking at doing more. So the Appin Mine should be credited with being at the forefront of VAM abatement in Australia. They've hosted a wide range of research at their site over the last couple of decades and are now at the cusp of being able to construct the first RTO unit that's going to be operating under modern Australian mining conditions hopefully in the near future. That's a really important project that will help work through some of the technical uncertainty of this kind of technology in terms of Australian mining conditions, with our very low VAM concentrations—importantly, bringing the safety regulator along with us, and the workforce, to make sure that this is being done in a safe and effective way. Appin should be congratulated for leading that.

The Hon. JACQUI MUNRO: I'm just wondering if any of your members at a New South Wales or national level have made applications through the new IDA process in New South Wales.

The CHAIR: What's the IDA just for the benefit of the—

The Hon. JACQUI MUNRO: The Investment Delivery Authority.

STEPHEN GALILEE: The new one. There's been some interest outside of the scope of this inquiry from some metals mining operations that would meet the criteria, but the advice we've had from the Government so far is that they're not going to open it up to resources projects just yet. They want to get some processes in place in relation to other sectors before making that opportunity available to others. There's at least one that I'm aware of who would be very keen to seek that facilitation and it's $1 billion of investment into a metals mining operation in the Central West of New South Wales.

The Hon. JACQUI MUNRO: Have you had any meetings with the Premier in the last six months?

STEPHEN GALILEE: I had a meeting with the Premier last week. I've had one meeting a year with the Premier since the election and that was my yearly meeting with him last week.

The Hon. JACQUI MUNRO: That's in your professional capacity?

STEPHEN GALILEE: Yes.

Ms SUE HIGGINSON: You should be a better friend. I think you would be a much better friend.

STEPHEN GALILEE: It's the depth of the friendship, not the frequency, right?

The Hon. JACQUI MUNRO: Do you have a lobbying firm that you utilise?

STEPHEN GALILEE: No.

The Hon. JACQUI MUNRO: And the Australian—

Ms SUE HIGGINSON: They are the lobby.

The Hon. JACQUI MUNRO: The Australian Council.

STEPHEN GALILEE: Industry Association.

The Hon. JACQUI MUNRO: Also, the national body?

PETER MORRIS: We're an advocacy body. We're not a lobbying body.

The Hon. JACQUI MUNRO: I'm just curious if you employ any—

PETER MORRIS: No. Never. I've worked for the Minerals Council of Australia for 31 years. I take that as an affront.

The Hon. JACQUI MUNRO: It's not supposed to be insulting.

STEPHEN GALILEE: I think the question was does the MCA use third-party lobbyists.

The Hon. JACQUI MUNRO: That's right. I'm not asking if you're a lobbyist. With regards to the 30 per cent methane reduction that has been signed up to at a Federal level, are you on your way to achieving that? Where are you up to with the 30 per cent reduction by 2030?

DAVID FRITH: If you look at the net zero model that's available online, methane emissions from the coalmining industry have dropped 10 per cent in the first three years of that period, between 2020 and 2023, so that's roughly on track with that trajectory.

The Hon. JACQUI MUNRO: Is that your understanding of the current trajectory, though—that you are still on track? Or do you have more up-to-date figures?

DAVID FRITH: We don't have more up-to-date figures than what's available publicly. The point I'd make is that methane abatement is probably the most viable abatement opportunity that the industry has. We've already spoken through a lot of the efforts that the industry is putting into that particular area of the industry's emissions.

The Hon. JACQUI MUNRO: You feel confident that there will be a 30 per cent reduction by 2030?

DAVID FRITH: I'm not going to put a figure on it. I can't predict exactly how much of our emissions are going to be delivered through direct abatement and what would be delivered through offsets. What I can say is that methane abatement is a significant focus for the industry. I ran through a lot of those projects that the industry is progressing at the moment. We will see further direct reductions in methane emissions from those projects.

The Hon. JACQUI MUNRO: Finally, the Superpower Institute submission estimated that the industry could pay, or the sector could pay, $2.70 to $4.10 per tonne for abatement costs. There was a suggestion that these abatement mechanisms should be implemented with that cost. Is that a cost that you are familiar with in terms of your calculations? Or how do you calculate abatement cost?

DAVID FRITH: I'm not familiar with those particular figures. The abatement costs and the impact of the Safeguard Mechanism is going to vary quite substantially between different mines. I've seen figures a lot higher than that for the underground gassy mines. It really will depend on the site-specific circumstances of a mine in question and the abatement measure that you're talking about. I can't really provide a generic answer about what it would cost.

The Hon. JACQUI MUNRO: Do you have an upper limit? You just mentioned that you've heard costs that would be much higher than that. Do you have a sense of what that would be?

DAVID FRITH: Wood Mackenzie, I think, has released some analysis around safeguard cost costing up to about $8 a tonne for underground mines in 2030, upwards of there, so that would be one figure.

The Hon. WES FANG: Just in relation to the issue of modelling and the like, we've spoken about how New South Wales is looking at issues of modelling and trying to calculate what emissions are. Could you speak to what other jurisdictions, say across the world, are doing in relation to the way that they model their coalmining

emissions, if it differs from what we're seeing in New South Wales, and perhaps provide some methodology around the way that we do the analysis in New South Wales itself?

PETER MORRIS: In our submission from the Minerals Council of Australia, we've included a table with information about the other major exporters, and all that information is available on the public record. It's based on national inventory reports to the United Nations Framework Convention on Climate Change. The Russian one's in Russian, the Colombian one's in Spanish, but they are all there, and we've looked at those and translated them. The Australian Government, I quoted in my opening statement, has also looked at this. The Climate Change Authority, in its NGER review in 2023, looked at that issue. That's the basis of the Australian Government saying that we are leading the world.

In terms of our reporting, we are far, far better than any other coal producer, and you need to kick the tyres on these things. We accept that you need to go back and revisit them, and you should do that regularly. Under the NGER Act, that's done every five years, which is appropriate. Every year, there is consultation with the Federal department of climate change about suggestions that the industries might make and others, or government officials might make, based on scientific inquiries and inquiries such as this one. At the moment, there is a review of the method 2 for open-cut reporting. The terms of reference haven't yet been issued, but that is going to happen too, and we welcome that.

The Hon. WES FANG: One last question, Chair, if I could.

The CHAIR: Unfortunately, Mr Fang, the time for questions has concluded.

The Hon. WES FANG: Shut down by the man. Political stitch-up, this whole thing.

The CHAIR: I'm not shutting you down at all, Mr Fang. Time marches on. It has marched past the time for this section of questions, and we've got other witnesses waiting to appear. Thank you very much to the Minerals Council of Australia and the NSW Minerals Council for appearing. If members have any other questions, we will forward those to you through the secretariat. Thank you very much for your submission and your vociferous defence of your industry. We appreciate it.

(The witnesses withdrew.)

Mr MARK JONKER, Chief Executive Officer, Carbon Logica, before the Committee via videoconference, sworn and examined

Mr SCOTT BARKER, Managing Director, Carbon Logica, affirmed and examined

The CHAIR: Thank you very much for appearing at this hearing. Do you have some introductory remarks that you'd like to make?

SCOTT BARKER: Chair and members of the Committee, thank you for the opportunity to appear before you today. Carbon Logica welcomes the inquiry and is pleased to contribute our perspective on how New South Wales can achieve its net zero ambitions while maintaining economic resilience and responsible resource production. Since 2022, Carbon Logica has actively been involved in reducing emissions from the metallurgical coal sector of both New South Wales and Queensland. We capture fugitive methane from underground coalmines and turn this waste product into baseload electricity. We own and operate three electricity generation projects in Queensland's Bowen Basin, and we're actively working with miners in New South Wales to deploy similar technology. Fugitive methane is the largest contributor to greenhouse gases from the coal sector. When captured and used for electricity generation, the abatement represents one of the most immediate and impactful opportunities available to New South Wales to reduce its emissions.

Our submission to the Committee highlighted three key points. Our first is that methane abatement is critical and it's feasible. Proven technology exists today to capture and convert waste coalmine methane into low emissions electricity and abate VAM through catalytic oxidation. These projects can deliver dual benefits: significant emissions reductions and firmed electricity supply to support the grid during the renewable transition. This technology is technically feasible but it does require support from policy to underpin investment and accelerate deployment. In a similar way to how governments are supporting the transition to a lower carbon economy in other sectors, we believe that incentivising the coal industry could provide some of the lowest cost abatement opportunities for this State and for Australia.

The second point we made was that responsible coal production remains essential for a functioning society. Global steel demand continues to rise, driven by infrastructure, renewable energy deployment and urbanisation. Current steelmaking technologies overwhelmingly rely on coking coal, and this is expected to continue for the foreseeable future. While low carbon alternatives are promising, they are not yet commercially available. Australia leads the world in safe, efficient and environmentally regulated coalmining. If production is displaced overseas, demand will simply be met by jurisdictions with weaker standards and higher emissions intensities. Wood Mackenzie reported in the metallurgical coal energy transition outlook 2025 that Australia's emissions intensity for coal mined is 147 kilograms of CO2 per tonne. As an example, Chinese coal had an emissions intensity of more than double this, at 322 kilograms of CO2 per tonne, and the global average intensity was 185 per cent of Australia's, at 272 kilograms per tonne. A premature withdrawal of coalmining in Australia would not reduce emissions. It would export them and it would increase them.

Our third point is that policy alignment and transparency are needed. New South Wales must ensure policy to reduce emissions dovetails with Commonwealth frameworks such as the ACCU methods, the Safeguard Mechanism and the NGERS. Rather than penalising the resource industry, we believe that incentives will drive the best outcomes. We would like to see the New South Wales Government create policies to help accelerate investment in technology that can abate VAM and reduce methane from open-cut mines, and also to commercialise drained methane.

In summary, Carbon Logica urges the Committee to recognise the dual priorities of scaling up coalmine waste gas abatement opportunities as an immediate high-impact emissions reduction pathway and—the second priority—of sustaining responsible metallurgical coal in New South Wales to ensure that global steel demand is met under high safety standards and environmental standards. Australia is uniquely positioned to lead by example, reducing emissions intensity domestically while continuing to supply the resources needed for global infrastructure. We look forward to working with the Government and industry stakeholders to deliver practical, scalable solutions that support New South Wales' net zero future.

Ms SUE HIGGINSON: Thank you. Mr Jonkers, did you have anything to add to the opening statement, or you're happy for us to move to questions?

MARK JONKER: I'm happy to move to questions, thank you.

Ms SUE HIGGINSON: Thank you. I'll just flick with one to start and then I'll head to my colleague here. Do you have any visibility or understanding of why New South Wales has not imposed a more regulatory requirement in the uptake of these technologies, particularly VAM technologies, with existing large mines in New South Wales?

SCOTT BARKER: I think it's important to understand that every coalmine has certain different circumstances to deal with. Certainly within every coalmine's approvals, there are specific things that the regulator requires you to do on various items, including emissions, so I'd say there is some regulation already in place from when approvals are made. From a Federal level, the now individually provides every mine site with a site specific intensity factor. Over time, that factor reduces—for every mine to be driven to reduce its emissions. From a regulatory point of view, I guess the idea is to allow enough flexibility to deal with the site's specific constraints and specific needs but also to drive investment and to reduce emissions at each mine site.

The Hon. WES FANG: For the benefit of *Hansard*, VAM is ventilation air methane. Just in relation to that, I'm quite curious about all this technology. Technology is a solution to problems that we currently have. Your submission says that you have experience in relation to VAM abatement in New South Wales and Queensland. Can you provide some details about those projects that you've constructed and operated?

SCOTT BARKER: No, there's no VAM projects that are currently operating in Australia in any commercial scale. VAM has been implemented in countries overseas.

The Hon. WES FANG: So when you reference that experience that you've had in New South Wales and Queensland, what would that be?

SCOTT BARKER: My experience, I'm a mining engineer, and Mark is from the energy industry. Our business, Carbon Logica, combines those experiences to provide miners with an emissions reduction strategy, and then we deploy capital to take waste methane and do something useful with that waste methane. Our company at the moment is operating power stations in Queensland's Bowen Basin. We take waste gas that would normally be either vented or flared and we turn that into electricity.

The Hon. WES FANG: The Chair referenced the potential for the Government to impose VAM on mining sites. If you haven't actually constructed and operated one—how many are operating in Australia?

SCOTT BARKER: No, there's no VAM operations in Australia.

The Hon. WES FANG: How many have been constructed and operated across the world?

SCOTT BARKER: I don't have exactly that figure, but there are VAM operations around the world. I'd probably just add to the conversation on VAM. In Australia we do have specific conditions that require us to manage our goafs a little bit different to overseas. I don't want to get too technical, because obviously I'm a mining engineer and there's not necessarily the same audience, but in Australia, we effectively do what we see overseas from a VAM perspective through our goaf drainage systems. A lot of the VAM units we've seen overseas are typically located on what they call back-of-block bleeder shafts. They are used to ventilate the goaf, so they effectively pull the goaf fringe back.

The Hon. WES FANG: What I don't understand is that when my colleague indicated that this is something the Government should impose on industry, how would we do that when we've not ever built one in Australia?

SCOTT BARKER: I didn't realise that you were asking to impose VAM on the industry.

Ms SUE HIGGINSON: It's not quite what I asked, but yes.

The Hon. WES FANG: Well, you did. You suggested why hasn't the Government imposed things like VAM? We can't do that because we haven't produced one in Australia.

Ms SUE HIGGINSON: It's happening overseas.

The Hon. WES FANG: That's correct. We've never built one here.

SCOTT BARKER: It's an exciting conversation, I think. Our business is excited to help in this space. One day we'd like to be involved in helping miners reduce their VAM emissions as well as just the rich gas. But I think it's important to note, in the VAM examples overseas, they're typically dealing with higher methane concentrations than we have in Australia. I was trying to go into that because how we deal with our VAM in Australia is we do a lot of goaf drainage in our longwall blocks. What we do is we take the gas out while it's still rich, and we flare it or we put it through for a power station.

The CHAIR: Sorry, Mr Barker, you said "ghost drainage"?

SCOTT BARKER: Goaf.

The CHAIR: Can you explain that term?

SCOTT BARKER: After a longwall has mined a panel, the roof is collapsing, and particularly where there's adjacent seams above and below, gas then forms into that low-pressure area. If it's not drained out using

goaf drainage, it enters the VAM—it enters the ventilation system. Overseas, instead of drilling holes, which is very expensive and what we do now—we typically draw all that goaf gas back into a back-bleeder system, into a bleeder road, which is typically very rich in methane, maybe 2 per cent methane, and then that ventilation air is put through an oxidiser using an RTO. Those are the examples we see overseas. We just don't have the same scenario in Australia.

The Hon. WES FANG: The catalytic oxidation for VAM you said is commercially viable technology that exists today. Can you provide some examples of the technology and where it's applied at the commercial scale?

SCOTT BARKER: There's going to be a presentation on this in Sydney on Monday. Overseas it happens under higher methane concentration ventilation roadways, in those back-bleeder systems where the methane is at 1 to 2 per cent. What the trick is in Australia is trying to deal with those very low concentrations of methane because we already take a lot of methane out of the ventilation system before it reaches the ventilation, the fan, at the moment.

The Hon. WES FANG: Sounds like it's not that big of a problem, then—not as big a problem as we're seeing overseas.

SCOTT BARKER: Because of the other things we do in the mine, we already take a lot of methane out of the mine. That's probably a lot to do with why our coals have lower emissions than our counterparts overseas.

The Hon. WES FANG: This is great testimony.

SCOTT BARKER: But VAM shouldn't be ignored because it's still a large portion of what we report as our emissions. It might be 60 per cent of the emissions from an underground mine are coming from VAM.

The Hon. WES FANG: How long would it take, do you think, to actually have a commercially viable operating VAM system on an Australian mine, and how much would it cost?

SCOTT BARKER: I think we're excited to see the work that the Appin Mine's doing. They've certainly been at the forefront of this for a long time in the industry. My understanding is they've announced a project that they're going to put on their vent shaft no. 6 relatively soon. The industry will learn a lot from that. In Queensland, there's another operation in the Bowen Basin that's looking at putting VAM on in the near term as well. Both these operations, importantly, were incentivised to do this through grant systems. The issue with VAM abatement—

The Hon. WES FANG: Public money, you mean.

SCOTT BARKER: I guess the issue with VAM abatement today is that, because we're technically trying to solve a large volume of air with a very small amount of methane in it, it's really expensive to abate.

The Hon. WES FANG: We're spending a whole lot of money to fix a problem that's barely there. That doesn't seem like it's very economical to me.

The CHAIR: Thank you, Mr Fang, for that comment.

Ms LIESL TESCH: You said that you had three electricity production facilities in the Bowen Basin in Queensland. Is that something that the mines themselves have funded, or have incentives been provided to develop that?

SCOTT BARKER: Carbon Logica has raised the capital and developed those projects. We're strongly supported by the mines as we obviously have an agreement in place with the mines to buy the waste gas and turn it into electricity and have the electricity as an offtake. The mines are certainly counterparties to these projects being developed. The reason why waste coalmine gas power stations are able to be developed is because there's Federal legislation—under the carbon farming Act—that allows for waste coalmine gas to be turned into electricity and a carbon credit. At the moment, there's no method to go and register new projects. It's something that certainly we would be recommending to be remade as a method that has delivered a massive amount of abatement over its lifetime up until 31 March this year.

We've also been advocating to extend that method. At the moment, it only deals with waste gas from an underground mine. We're advocating to have that method extended so that waste gas from open-cut mines, which we see as likely to occur certainly under the Safeguard Mechanism reforms and the discussion around pre-draining open-cuts—as that comes to fruition, there'll be a lot of waste gas generated and we see that that waste gas will get flared if there's no method to turn that waste gas into electricity commercially.

Ms LIESL TESCH: I have a further question. You say that incentivising this would be beneficial. Are you implying that incentivising is the only way to encourage the mines to do a better job with emissions capture?

SCOTT BARKER: There are some circumstances where abatement can happen without incentive, but you'll get less abatement unless you incentivise it. The key message here is that if cost for Australia is continuing going up by adding punitive measures for emissions, instead of producing at a loss, mines will shut earlier in Australia and that coal production will be taken up, because the demand will stay strong, and we'll be offshoring our emissions through production in other parts of the world. As we just explained, the emissions from Australia are much less than the global average, and we're in a very unique spot in the world being able to supply our high-quality met coals into parts of the world that have the most demand. All our coals are going into Asia. We're located in a great spot of the world to be able to provide that. We have capital markets that allow investment in large infrastructure projects that can create abatement.

I think that's one thing that's missing from this conversation: These projects that provide abatement are large infrastructure projects. They require a long-term outlook and they require people to make investment decisions not for a couple of years—it's 10 years, 20 years to build a power station or build a VAM unit. We need a sector that's going to be here for that period and that we think is going to stay viable for that period. I think one of the things we're seeing, approvals for coalmines being shorter approvals or more contingent makes investment in abatement harder. If you're potentially not going to continue mining after a certain date within that 10-year period, you're putting that investment in your abatement solution at risk.

Ms SUE HIGGINSON: Just on that premise, though, you really are ultimately suggesting that it really has to be a long-term guarantee of resource extraction in order to justify the abatement technology? That's kind of your submission?

SCOTT BARKER: Yes. On a power station project, for example, probably 70 per cent of the cost is in the up-front capital. The operating cost is very low. The gas is a waste product; you're maintaining engines. But to get the project up, we need to have enough tenure, and the problem statement has to be that there are emissions for a period of time to make that investment.

Ms SUE HIGGINSON: Can I just take you to mines, though? Because, realistically, in New South Wales, we're not really looking—there's no particular future for coal-fired power stations in New South Wales, is there? If I could just keep you on the mines, because that's obviously the issue that New South Wales is dealing with.

SCOTT BARKER: Yes. Sorry, I'm talking about waste coal and gas power stations, power stations on mines that are just fuelled by the waste gas—waste methane. We're producing less power with the coal that we produce domestically in our current power stations, but the world is not—the world is continuing to produce more power with thermal coal but also producing more steel. Our coal is still in demand. If we shut it down in Australia, it will get produced somewhere else in the world.

Ms SUE HIGGINSON: Sorry, can I just get you to focus in the context of really what our obligation is here as a Committee, which is looking largely at New South Wales emissions, our reduction targets and our legal obligations to adhere to those, and in terms of what looks like incredible technology that is happening in other places. Just in relation to mines in New South Wales, is it your evidence that it is unlikely that any mine, excepting the work that Appin is doing, is going to be motivated to employ and develop this technology at existing mine sites unless they have a long-term guarantee of extraction?

SCOTT BARKER: Yes, I would—because a VAM project at large scale could be a couple of hundred million dollars. If you're going to put a couple of hundred million dollars into an emissions abatement project, it needs to then do its job over a period of time to have that abatement—to make that commitment worthwhile.

Ms SUE HIGGINSON: And return that investment?

SCOTT BARKER: Yes.

The CHAIR: In your submission, Mr Barker and Mr Jonker, you say that you would like to see an expansion of the Australian Government's CMWG ACCU method so that these potential technologies can be unlocked. Could you please expand on that?

SCOTT BARKER: I might say a few words quickly and then I'll hand it to Mark. He's been the expert in this for a number of years. Coalmine waste gas, which is the CMWG, to electricity is a method under the carbon farming Act to allow Australian carbon credit units to be created through displacement of emissions from the electricity grid. The method works by taking a waste product that would ordinarily be either vented or flared, putting it through an engine to generate electricity. That electricity gets produced for no additional emissions than the BAU case. That electricity then gets put into use and displaces the emissions that come from our electricity grid. Today, especially when the clouds are around, most of our electricity comes from coal. It's got an emissions profile based on whatever the grid's emissions production is at the time. Today we generate about 640 kilograms

per megawatt hour of electricity. Therefore we earn 0.64 of an ACCU for every megawatt hour that is produced from a waste coalmine gas power station using that waste product from a coalmine.

At the moment, there is no method to register a new project. The method sunset on 31 March in 2025. The method that did exist was limited to operating underground coalmines. Our submission advocates not only to renew that method to allow new projects to be registered—underground coalmines—but also to extend that method to open-cut mines. When the method was generated, there was no waste coalmine gas being produced from an open-cut mine. No-one was doing any pre-drainage or capturing any rich gas from an open-cut mine. That's changing under the safeguard reforms. People are looking at extracting the gas prior to production in an open-cut mine. That gas will become available for some use. It won't be economic to put a waste coalmine gas power station on that site. It will just be flared without an extension of that method.

MARK JONKER: If I could just add to that, if you look back to this industry over the last 30 years, there's been approximately 300 megawatts of power generation developed. In addition to that, a trial project was developed at WestVAMP back in 2007. All of those projects were developed under the form of either a carbon credit through the New South Wales Greenhouse Gas Abatement Scheme that ended with the introduction of the Carbon Pollution Reduction Scheme in 2009, or through the ACCU method which was introduced in 2013. What is true is that during that period where the industry solely relied on the carbon tax as the incentive to support emissions reduction through power generation, there were zero projects that were developed.

In our experience, what we've seen is that with the ACCU methods, or with the former New South Wales Greenhouse Gas Abatement Scheme, those have been successful policy measures that have encouraged methane abatement from the underground coalmining sector. What we're advocating for is to extend the method that has sunset to not only include underground mines, but to extend that to include open-cut mines. We're confident that, with incentives, we will see the industry invest—companies like ourselves that can invest in projects and accelerate the methane abatement from the sector.

Ms LIESL TESCH: This has obviously sunset. The time has expired. What is the thing preventing us extending this or revisiting it?

MARK JONKER: The ACCU method is a method that sunsets every five years. Under the carbon farming Act, the method is reviewed by DCCEEW, a Commonwealth Government body, and presented to an independent body called ERAC for consideration whether the method should be extended or amended. At the moment, those methods and a bunch of other methods have not been extended, so we're not confident that in the short term we're going to see an extension, but we're certainly advocating to see this method extended and supported by the Commonwealth Government through a recommendation from ERAC and ultimately to the climate change Minister.

Ms LIESL TESCH: Do you have any indication why they haven't been extended at this point?

MARK JONKER: No, we don't.

SCOTT BARKER: No, we don't. ERAC has provided its recommendation. It was all very positive. The recommendation was very positive for the sector, that there are a lot of methods going through the remaking phase at the moment. Effectively, the carbon crediting scheme was introduced about 10 years ago, so there's a bunch of methods that have all come due at the same time.

The CHAIR: Thank you very much, Mr Barker and Mr Jonker, for Carbon Logica's submission and your attendance here today at the hearing. Your evidence is well received and very useful. There may well be some questions that members have, which the secretariat will forward to you. Thank you again for your attendance and your submission and the work that you're doing.

(The witnesses withdrew.)

Ms AMANDINE DENIS-RYAN, Chief Executive Officer, Institute for Energy Economics and Financial Analysis, before the Committee via videoconference, affirmed and examined

Ms AMY LEIPER, Communications Strategist, Institute for Energy Economics and Financial Analysis, affirmed and examined

Mr HENRY ADAMS, Director, Common Capital, affirmed and examined

The CHAIR: Thank you very much for your attendance. Do any or all of you have introductory remarks you'd like to make? We will start with Mr Adams.

HENRY ADAMS: Chair and Committee members, thanks for the opportunity to assist with the inquiry. Common Capital are a policy and economics research organisation. I'll briefly give you some context on the research that we've done in this space and our key findings to help understand what I'm best placed to answer questions on. Our research set out to answer two questions: If the technology exists to abate coalmine methane, why isn't it being deployed, and what, if any, actions could the New South Wales and Queensland governments take to complement the Safeguard Mechanism and accelerate abatement onsite on coalmines and within their own emissions inventories?

We drew on analysis of abatement technology costs from reputable independent studies, including CSIRO, Rystad, the UN Economic Commission for Europe, NGERS, Safeguard mine emissions data, and on corporate financial reports and Government commodity data. We conducted over 80 interviews and workshops with government teams, NGOs, researchers, consultants, technologists and mining service providers to understand the opportunities and the barriers, and to co-design a set of practical complementary measures to address them. In our reports we go into much detail on the abatement opportunities and the range of barriers to their adoption but, to keep it simple to start with, the key finding is that while there are many abatement technologies for many open-cut, below-ground mines available, on average at a cost of below $30 a tonne—that is, below ACCU and SMC prices—the opportunity costs of these investments and first-mover disadvantage are amongst a number of significant barriers to their adoption under current policy settings.

In simple terms, for the mines deploying the significant capital and labour required up-front in these deep abatement opportunities—it delivers lower shareholder value than if that were deployed to their core business of mining so that, under current policy settings, there's a disincentive to do more than what is required to make the incremental emission reductions under the safeguard. It's important to note that while these independent studies find that the technologies are at very low cost, at scale, it's likely that for the very first movers, the cost will be higher as the local industry and regulators have to skill up and learn by doing.

It's also worth noting that, generally, the more emissions intensive a mine is, the lower the dollar per tonne of abatement will be required as that up-front capital is then amortised over the total amount of abatement over the lifetime of that project. In a follow-up study that we released yesterday, we estimate that if the six gassiest mines in Australia were able to deploy abatement solutions of their choosing and appropriate to their own circumstances, they could reduce emissions in the order of 4.9 megatons a year in New South Wales by 2030 and 3.1 by 2035, coming close to closing the current gap that New South Wales has in its net zero trajectory.

AMANDINE DENIS-RYAN: Good morning, Chair and Committee members. IEEFA is a global think tank that conducts financial analysis on energy markets and policies with a mission to accelerate the transition to a diverse, sustainable and profitable energy economy. You will likely be most interested in our work on fugitive methane emissions and on coal exports, as well as on gas and energy markets and the Narrabri Gas Project. I have four key points that I'd like to make this morning. One is open-cut coalmine methane emissions are likely to be materially under-reported, probably by a factor of three, if not more. The shift to self-assessment means that the top 10 open-cut coalmines in New South Wales report emissions intensities that are 80 per cent lower than the expected State average.

This is concerning given that the vast majority and a growing share of coal production comes from open-cut coalmines. Correcting for under-reporting, we estimated that fugitive methane emissions from coal and gas are expected to represent nearly 30 per cent of New South Wales emissions in 2035. Two, there are low-cost technologies available to nearly eradicate underground coalmine emissions and to materially reduce open-cut coalmine emissions. Like Common Capital, we found that all of the technology solutions are estimated to cost less than $30 per tonne of CO2, lower than the cost of carbon credits today. In total, we estimate that the cost of methane abatement translates to about $1 per tonne of coal. That's less than 1 per cent of recent coal prices.

Importantly, should under-reporting be confirmed, then the cost of abatement would be lower than those estimates because there would be more revenue generated for the same capital costs. The last methane has a significant value. We calculated that about 50 potentials of gas could be recovered from Australian coalmines

each year. That's about 10 per cent of eastern Australia's annual gas use with the value of about $650 million a year. Three, Government policies are not currently effective at driving emissions reductions, and additional interventions are required. Barriers to action include capability gaps, first-mover risks, and the relative profitability of reducing emissions compared to other uses of capital, like you've just heard. Buying carbon offsets is often considered to be a more attractive alternative.

Four, the expected decline in thermal coal exports means that the lowest cost opportunities may simply be to avoid the development of, and reduce the production from, methane intensive coalmines. In recent years, the growth in exports to China and Vietnam has compensated for drops in other markets, but this is changing. China's coal association recently forecast that seaborne imports would decrease by one-third by 2030, and Vietnam has committed to stop building new unabated coal plants. Metallurgical coal exports have also been consistently declining over the last few years. Arguments that Australian high-quality coal will fare better than competitors are not backed by evidence. New South Wales needs to start thinking about how it will manage the phase-down of its coal production now. Thank you for the opportunity to present and happy to answer any questions.

The Hon. WES FANG: Mr Adams, how was the report that you referenced commissioned? What was the genesis of it?

HENRY ADAMS: The primary report that I referenced was funded by philanthropy.

The Hon. WES FANG: Philanthropy? Which organisation was that, or person?

HENRY ADAMS: It was Boundless.

The Hon. WES FANG: Boundless Earth?

HENRY ADAMS: Yes.

The Hon. WES FANG: Who funds Boundless Earth?

HENRY ADAMS: I think that's probably a question for them.

The CHAIR: It may be slightly outside the terms of reference.

The Hon. WES FANG: I think it becomes important later. Do you know who funds them?

HENRY ADAMS: My understanding is it's affiliated with the Cannon-Brookes family.

The Hon. WES FANG: They have quite a number of investments in renewable energy projects, don't they?

HENRY ADAMS: In terms of the direction of the question, the vast majority of the work that we do is for Government, and we work in a way that is fiercely independent.

The Hon. WES FANG: It would be unusual for you to be commissioned to do work from a private organisation?

HENRY ADAMS: No. We work for industry associations, we work for philanthropy, we work for NGOs and we work for Government. Whoever our clients are, we have a dry, professional, evidence-based approach to our research and analysis.

The Hon. WES FANG: Does Katerina Kimmorley work for you?

HENRY ADAMS: Does who?

The Hon. WES FANG: Katerina Kimmorley.

HENRY ADAMS: Work for me?

The Hon. WES FANG: Does she work for Boundless Earth?

HENRY ADAMS: Again, that's a question for Katerina.

The Hon. WES FANG: Does she work for Boundless Earth? Are you aware of that?

The CHAIR: I'm not sure how this is within the terms—

The Hon. WES FANG: She's one of the New South Wales commissioners for the Net Zero Commission.

Ms SUE HIGGINSON: Point of order: I suggest at this point the question is a bit outside the scope for this particular witness.

The Hon. WES FANG: I just think that when you're presenting a report, you actually need to declare the conflicts of interest.

The CHAIR: Order!

The Hon. JACQUI MUNRO: I think the Minerals Council have a conflict of interest, for example.

The Hon. WES FANG: Yes, but they declare it.

The CHAIR: Order! You've made your point, Mr Fang.

The Hon. CAMERON MURPHY: Point of order—

The CHAIR: A point of order has been taken.

The Hon. CAMERON MURPHY: Chair, I think Mr Fang should withdraw that, because that's casting an aspersion on the witness.

The Hon. WES FANG: No, I think when you present—

The CHAIR: Order! Mr Murphy's in the middle of making a point of order.

The Hon. CAMERON MURPHY: He is in violation of the procedural fairness guidelines. The witness was asked the question, which was about some other organisation, not his, and he answered it, saying, "I don't know. It should be directed towards them." And then Mr Fang went on to make his own interjection by way of commentary about this witness. I think it's most unfair.

The CHAIR: It is. I remind the honourable member about the procedural resolution that was passed by the House and not to adversely mention persons that are not here to defend themselves. Mr Fang, do you have some questions about the submission?

The Hon. WES FANG: No, I think I'm good.

Ms SUE HIGGINSON: I'm just curious, and I don't expect the answer to be yes, whether or not you have had an opportunity to at least just skim over the Net Zero Commission's report that was released this morning—

The Hon. WES FANG: Or was it leaked to you earlier?

The CHAIR: Order!

Ms SUE HIGGINSON: —about emissions from coalmining, in particular, the methane reduction of the coalmining sector. Have any of you had a chance to look at it?

HENRY ADAMS: I've skimmed the executive summary.

Ms SUE HIGGINSON: I think that one of the findings that they have made in relation to any new coal will potentially jeopardise any new coal approvals—I accept when I refer to that, I'm referring to expansions, as opposed to brand-new coalmines—would jeopardise the New South Wales Government's obligations under the climate legislation to meet its emissions reduction targets. I'm just wondering if you have any view on the idea of new coal expansions being approved in New South Wales.

HENRY ADAMS: We actually released some modelling on that last night. We looked into that. There's a degree to which all emissions from every sector are a barrier to achieving these targets. Every single sector needs to decarbonise. This is an economy-wide challenge. In terms of new expansions, we ran the numbers on not approving them and we ran the numbers on approving them but treating them as expansions under the , so with emissions intensity targets—sorry, not expansions, as a new mine. If you set the emissions intensity standards at the same level as the would apply to a brand-new mine, the emission reductions are lower if they're not approved, but only incrementally than if you just have the level intensity standards.

AMANDINE DENIS-RYAN: I just wanted to mention that we have actually looked at the amount of coal capacity that has already been approved. We have found that it's significantly higher than the level of production today, and it would be much higher than the level of production that is expected to be needed from Australia under a Paris-aligned scenario. It's more than twice pretty much what would be required in a Paris-aligned scenario. There's already more than enough coal that has been approved today and we don't necessarily need any new expansions or extensions.

Ms SUE HIGGINSON: I'm just looking for any comment in relation to one of the findings in this report, and we've heard from other witnesses this morning, about onsite abatement at the existing mines. We know that some of our mines obviously are incredibly high emitting. What do we need to do? Is the only way we're going to see proper, most effective abatement to existing mines if we impose regulatory obligations to uptake that

technology? I'm concerned that we've just heard evidence—which is very good, credible evidence—that we're not going to see it unless we do something to require it. I'm just wondering if you can make any comments on that.

HENRY ADAMS: That was the guts of the question that we set out to answer and spoke intensively with people across the sector. The report that we released last year suggested a package of measures of which regulations were one key pillar—outcome-based regulation. Rather than prescribing mine by mine exactly what technologies individual mines should adopt, leave it up to the individual mine managers to work out exactly what solutions are appropriate for their circumstances, but have intensity-based standards that come down over time. You also concentrate the effort and attention on those mines where you're going to get the biggest return.

Again, I think the modelling I released this morning suggested that it was probably comparable with what you saw in the Net Zero Commission exec summary. The six gaseous mines represent about 45 per cent of fugitives from the sector but only about 10 per cent of production. Generally, they're gassier. Again, we have not looked mined by mine at their individual circumstances, but our understanding of the way the economics work around abatement. You've got a large amount of the costs—capex upfront—as we heard from the previous witness. That capital is tied up upfront but you then amortise that over the amount of abatement. While $100 million a tonne is a big number for a not very gassy mine, if it is a very, very gassy mine, and you're getting lots of abatement over a long time frame, that's what gets you down to those low dollar-per-tonne numbers. We have the Minerals Council saying $8. We were assuming something higher than that.

Regulation is one. The other key thing, as I said, there's first-mover disadvantage here. Those numbers were the marginal cost at scale when you've done this before. For the very first projects who do this, the people who work for them, the consultants in the sector, haven't done a VAM project in Australia. This isn't rocket science, but there is still a learning curve. The first time in any sector you have a new project it takes longer and costs more, and there are regulatory issues. The Resources Regulator has to come up with guidelines and processes. Our other recommendations would be that there's an opportunity for the Resources Regulator to proactively work across government with the sector to figure out—help them do this in a safe and effective way. There's a case for some matched funding for those first projects to help socialise those costs across the rest of the industry.

The CHAIR: Just on that, Mr Adams. You say that one of your suggestions is a methane abatement fund. How would you imagine that work? Is that public money? Is that a levy on industry? Can you expand on that suggestion?

HENRY ADAMS: Great question. I think in our paper we detail a whole suite of options that could be analysed. I think in considering them, there are equity issues, so from a public money point of view—the Climate Change Fund essentially comes from New South Wales electricity customers. That money, that business case for that fund, was put in place to drive investments that would lower the cost of energy for all customers, so that that up-front—which this doesn't do. I think in our modelling we looked at, for example—this is a for-instance number, not a hard recommendation—an order of magnitude 20¢ per tonne of coal levy for about five years would raise enough money to provide matched funding for significant abatement across most of the sector.

That's one way. The argument for doing so is those coalmines that move first are going to incur higher costs, drive the cost down so that the coalmines that follow them will then be the beneficiaries of that and there's an equity case for socialising those costs. That's one option. These are high-level options analysis that we've provided with some considerations that would need to be worked through.

The CHAIR: Ms Denis-Ryan, did you want to make a contribution?

AMANDINE DENIS-RYAN: Just in terms of the policy options, we also looked at a range of different opportunities. One of the main things that we found is that a foundational piece is improving the measurement, because that's really important to make sure that any mechanism that is introduced is actually effective. It also helps make the business case for the companies. Then, in terms of the levers that you have access to, really the two main buckets are regulation and price signals. On the price-signal front, you can look at the incentive side.

We have found that in some countries, the revenue from carbon credits can actually trigger a fair bit of activity. For example, in the US, it's really triggered a lot of activity in the cost of operating mines, methane captures, which has been seen as an opportunity for economic development in communities affected by mine closures, but then you've also got the mechanism, for example, of taxes. And then you can think, if you've got a tax on methane, you can reinvest that revenue as well to do some of the things that Henry was talking about. But, really, it's often either regulation or price signals.

Ms LIESL TESCH: There are significant concerns about the unreported emissions coming from open-cut mines. Is there technology available in Australia to improve the consistency of that reporting?

HENRY ADAMS: Amandine, do you want to take that, or me, or will we both?

AMANDINE DENIS-RYAN: I think there are two main issues there. A few experts have flagged significant problems with the method itself. For example, I think it was the University of Wollongong that found that method 2 approach to determining low-gas zones was flawed and that it should be reviewed with a threshold that should be significantly lowered. So the method itself could be improved. The second problem is there's no external verification at the moment. That can be addressed by some auditing of the method and how it's applied as well as verification from third-party measurements. There are significant developments in terms of satellite flyovers and other types of measurements that can triangulate the data that is provided by companies.

HENRY ADAMS: I can elaborate or give a complementary take, if that's okay. Again, technical details we'd direct to experts like UNSW or University of Wollongong, but our understanding of the many conversations that we've had with them, others and the Government, and the reports on the matter is this is not a solved problem but this is a very solvable problem. There's been significant improvement in the last few years in the technologies, that, as Amandine said, it's not about any one technology. It's about stitching together a set of things like ground lasers, flights, satellite data, modelling.

The key point, I think—and we touch on probably the last policy opportunity for government—is that from a cost and an efficacy point of view, this is something that works better if it is socialised at an EPA or at a government level. Doing it across a region gets you lower costs and synergies of stitching together all of these different datasets than is possible for any individual mine to do themselves within their own site. So there's a case for thinking about this in a bit more of a systematic way, similar to the way we do air-quality monitoring in the Upper Hunter.

The Hon. JACQUI MUNRO: Thanks for appearing today and for your submissions. I don't know if you were here to hear the NSW Mineral Council's and the Mineral Council of Australia's evidence around measurement of methane. They were saying that Australia and New South Wales are essentially subject to the most stringent reporting measurement and have the highest possible standards of measurement of methane emissions. Quite a few submissions dispute the accuracy of that. I wanted to get your views on how Australia is tracking in terms of the accuracy and the quality of our measurement systems.

HENRY ADAMS: Amandine?

AMANDINE DENIS-RYAN: Just noting that everything I'm going to say is based on other organisations' research rather than our own. But we found that consistently a range of third parties are suggesting that there's significant under-reporting. Our estimate of a threefold ratio of under-reporting for open-cut coalmines is mostly based on the International Energy Agency data, which is considered to be a very credible international data provider. The data suggests that overall fugitive coalmine methane emissions are about double reported levels. If we assume that underground coalmines are broadly on par with reporting levels because of better types of measurements, then that would mean that open-cut coalmines are about three times under-reported. It's consistent with what others have found. For example, the Superpower Institute also found that methane emissions are 2½ times higher than reported levels, and they found that their satellite observations were much more closely aligned with an alternative dataset provider, Climate TRACE. According to Climate TRACE, under-reporting could be even higher. They found that open-cut coalmines could be more than five times higher than reported levels and oil and gas emissions nearly four times higher than reported levels.

This is also consistent with some of the flyovers that have been done, for example, by the United Nations Environment Programme. We found emissions three to eight times higher than reported at one mine; I think it was in Queensland. Some of the things that we have looked at are the changes in emissions intensity from the shift in method, and we found that has been the source of a lot of the reductions, for example, in recent safeguard measurements. What we found is that, systematically, the shift from method one to method 2 has driven a decrease in emissions intensity. You would expect that some mines would be lower than the State average and some mines would be higher than the State average, but the fact that every mine is significantly lower than the State average just doesn't sound quite right and consistently with what people have flagged in terms of the risks associated with the method. This is something that we think warrants more investigation.

AMY LEIPER: Noting that method one is the default method for estimating coalmine emissions based on State average and benchmark levels. Method 2 is a self-assessed gas sampling and analysis. In 2010 to 2012 method 2 was introduced into New South Wales, and companies have progressively been taking that up.

HENRY ADAMS: I won't elaborate on the specific international comparisons, but maybe a bit of context to think about how to answer that question: It's important to remember that whatever climate tech we're looking at, in whatever sector, we're in an exciting, rapidly evolving set of innovation—both from a technology and a policy point of view. What might be best practice today is not going to be best practice tomorrow. Given, as we

all know, the speed with which government works, there's long lags between things, so if you're benchmarking yourself against today, you're really benchmarking against yesterday. The Federal Government's inquiry into the NGERS method is an acknowledgement that there is scope to improve, so basically sitting still in any part of the transition is going backwards.

The Hon. JACQUI MUNRO: So the IPCC's guidelines are potentially outdated and relying on the IPCC as a benchmark is not necessarily going to give us the best and most accurate outcomes?

HENRY ADAMS: I'm not going to say yes or no to that, other than that getting to net zero and then negative, which is what at the State and Federal level has been signed up to, is a big task and is going to require continued work and innovation.

The Hon. WES FANG: I already spoke this morning about curious timing. It would also indicate, if another report was released, that there may be curious timing and also coordination. You tabled through the secretariat the *Closing NSW's Emissions Gap* report today as well. Was that published today?

HENRY ADAMS: It went online last night.

The Hon. WES FANG: Okay, so we've got two reports against coal. Just in relation to the *Closing NSW's Emissions Gap* report, was that funded through philanthropy as well?

HENRY ADAMS: You've seen these reports. Both of our reports, on the title page, we acknowledge our funders.

The Hon. WES FANG: Who funded the *Closing NSW's Emissions Gap* report?

HENRY ADAMS: It was funded in part with money from Lock the Gate.

The Hon. WES FANG: Lock the Gate? So you've got a climate activist group funding your reports. You've got people who are invested into the renewable energy projects funding another report. We've got the Net Zero Commission tabling reports at six o'clock this morning. It's all very curious as to why there's a dump of reports the day before and the morning of this inquiry. Was this coordinated?

The Hon. CAMERON MURPHY: Point of order—

The Hon. WES FANG: I'm asking if this is coordinated. It's a legitimate question.

The CHAIR: A point of order has been taken by Mr Murphy. Mr Murphy, I'll hear the point.

The Hon. CAMERON MURPHY: Thank you, Chair. I know that at least the National Party side of the Coalition doesn't believe in net zero and sees this as some sort of a conspiracy.

The Hon. WES FANG: You can't use debating points.

The CHAIR: Order!

The Hon. CAMERON MURPHY: The point of order is that this is clearly outside the scope of the terms of reference to this inquiry.

The Hon. WES FANG: It goes to the credibility of the witness.

The CHAIR: Order, Mr Fang!

Ms SUE HIGGINSON: To the point of order, Chair—

The CHAIR: Ms Higginson.

Ms SUE HIGGINSON: I think more to the point is about this witness, and I think that if Mr Fang has questions, he can put those questions to a relevant witness about the timing and funding of reports. I note Lock the Gate are witnesses coming later in these proceedings.

The Hon. WES FANG: I will be addressing it then.

The CHAIR: As is the Net Zero Commission. I uphold the point of order. Can we please have questions that are relevant to the terms of reference? I do believe that you're straying outside the terms of reference. So please ask some questions.

The Hon. WES FANG: Chair, I would submit that it's absolutely legitimate for me to ask if there was coordination in relation to the timing of the release of these reports. Mr Adams, did you coordinate the timing for the release of this report with anybody else, particularly from the Net Zero Commission?

HENRY ADAMS: No.

The Hon. WES FANG: Why was this report published yesterday?

HENRY ADAMS: We've been working intensively on this issue for the last 18 months because it has been a priority for the Government.

The Hon. WES FANG: So why was—

The CHAIR: Order! You've asked a question, Mr Fang. Mr Adams is answering the question.

HENRY ADAMS: We were rushing to get it out so that it would be relevant, so I could get it to you in order to talk to you today, because I was invited to speak today.

The Hon. WES FANG: It's your evidence, then, that in an 18-month period you rushed the report out, you've released it the night before this hearing. Nobody's had a chance to really examine it in detail. You're now tabling it as evidence. How are we supposed to address any issues that we might find in the report when you provide it the night before—or it's published online the night before and we get it—when did the email arrive?

The Hon. JACQUI MUNRO: We get evidence on the day all the time.

The Hon. WES FANG: When did the email arrive? It arrived at 8.25 this morning.

The Hon. CAMERON MURPHY: The rest of us have read it, Wes.

HENRY ADAMS: My evidence is my answer to the questions. This was supplementary information that I provided to the Committee's team in the event that it was useful, because it's going to have data that I'm not going to be holding in my head, so if there's a level of precision you want in terms of my answers that I'm not able to provide today and wanted to refer to afterwards, it was there. The other report was released—it's been a long year; I don't recall, but I think a year ago that has been sitting out there in the public domain since.

The Hon. WES FANG: Did Lock the Gate request you release it by yesterday?

The CHAIR: Order!

Ms SUE HIGGINSON: Chair, can I just comment? And can I thank you, Mr Adams, for your assistance to the Committee and your expertise and professionalism.

The Hon. WES FANG: Was that a point of order? This is not a point of order.

The CHAIR: I just called order. You asked a couple of questions. Now it's—

The Hon. WES FANG: I asked the question, did Lock the Gate ask you to release it by—

The CHAIR: No, you didn't ask the question—

The Hon. WES FANG: I did.

The CHAIR: —because I've moved on. Ms Higginson is now asking a question, I hope.

The Hon. WES FANG: Well, no, she made a statement. But did Lock the Gate ask—

The Hon. CAMERON MURPHY: Point of order—

The CHAIR: Order! A point of order has been taken.

The Hon. CAMERON MURPHY: The Hon. Wes Fang is now cavilling with your rulings. He ought to be called to order for the first time, if he is going to ignore the call given to Ms Sue Higginson and just ask questions.

The CHAIR: Yes.

The Hon. WES FANG: How is it not a relevant question?

The CHAIR: The resolution passed by the Committee—in the deliberative that you did not attend—was that the allocation of questions would be left in the hands of the Chair. The Opposition just asked a few questions. Now, moving on to the crossbench, Ms Sue Higginson has the call.

The Hon. WES FANG: If you don't want the answer, that's all right.

Ms SUE HIGGINSON: The New South Wales Environment Protection Authority has released documents about large emitters, how to abate, expectations. Do you have any comments about the licensing regime that we have in New South Wales that can cap pollutants and so forth? I know that we've talked about the suite of tools that we have, but do you have any particular comments around the mechanisms that we have, the licensing regime in New South Wales in terms of methane and any other greenhouse gas emissions?

HENRY ADAMS: I think the legal specifics are probably going to be best addressed to other witnesses. But my understanding, having spent 20 years in the space at a policy level, not a legal level, is that within the POEO Act and regs there are broad powers that can be used. I think historically the licensing regime has been used for either prescriptive, technology-based obligations—putting a particular piece of equipment at a particular place on a particular site—or price-based, low-base licensing mechanisms. My understanding—and, again, this is a question for someone else—is that it is within the powers of the Act and the regs to have something in between, which is just more emissions intensity standards that then allow a greater degree of discretion for individual facilities to work out what particular solution set is best suited for them to achieve the ultimate policy outcome, which is lowering methane emissions.

The CHAIR: Does IEEFA have a response to that question?

AMANDINE DENIS-RYAN: No specific comments on the licensing requirements. I would support Henry's comments that making sure that we tackle the most cost-effective opportunities would be a good outcome.

The Hon. JACQUI MUNRO: In terms of the potential for integrating the uncertainty around methane, how should we be looking at that in relation to assessments for the expansion of coalmines?

AMANDINE DENIS-RYAN: I'd be happy to take that on. One of the things that is of particular concern to us is that the variability between reported and third-party estimated emissions intensity is larger at the mine level than it is when you look at the totals. In particular, we looked at, for example, climate trace estimates compared to reported levels—not saying that climate trace would be a benchmark, but just as an illustration—for all the mines that had expansion or extension plans, and we found enormous variations. Sometimes climate trace estimates were lower, sometimes they were 10 times higher. To us, that makes it really important to improve the estimates of methane intensity of new developments, because the lowest cost option for the State is obviously to avoid the development of methane-intensive mines. Having no visibility on that methane intensity is really problematic.

Ms SUE HIGGINSON: Can I just add—sorry, carry on.

AMANDINE DENIS-RYAN: I was just going to say that mines actually do sampling as part of assessing new areas, so there should be opportunities to do that in a reasonably cost-effective way.

Ms SUE HIGGINSON: On that point, the Minerals Council did give evidence that the Government has made a 20 per cent overestimation of the emissions of the coalmining sector. Do you have any specific analysis about that?

AMANDINE DENIS-RYAN: I don't have specific analysis about that. I could only point back to the statistics from third parties that I mentioned before.

Ms SUE HIGGINSON: Because it sounds like they are contesting those third-party statistics. Is there anything you can do to assist us in understanding that conflict or how we get to that, when we're looking at the broadsheet, of these conflicting analyses or data inputs? Is there something that we, as a Committee, can be looking at to assist us in reconciling that?

HENRY ADAMS: I think there is a fair amount of uncertainty. I think the Federal Government, as we said, is reviewing the NGER method. There's a diverse range of perspectives as to what the emissions are. I think that was the basis for why we suggested it was an opportunity and priority for government to invest in basin-wide independent monitoring networks to help firm up the quality of that independent data in a systematic way.

Ms SUE HIGGINSON: But given the time delay in that work, what would be a kind of recommendation in terms of what we do? Are we meant to take a precautionary approach to these things or use the highest accounting level that we have? Is there any expertise from jurisdictions elsewhere that could be recommended to New South Wales about what we do while this contest is happening, given we've got these emissions reductions obligations?

HENRY ADAMS: Certainly a sensitivity analysis would be appropriate, to make assessments considering a range of possible emissions, given that uncertainty. I think that's probably as far as I could go, but I'm sure there are others. I'm just thinking on my feet.

AMANDINE DENIS-RYAN: You probably want to look at both those kind of top-down verification methods but also the bottom-up insights that are provided by the people that have looked at method 2 in more detail. A lot of open-cut coalmines in New South Wales, I think maybe all, or just the vast majority, use that method 2. I think it would probably be good for you to also talk to the University of Wollongong and to the CCA, who have looked at some of the issues associated with the method itself, to get a sense of both those third-party measurements but also some of the more specific technical issues with the method.

The CHAIR: The IEEFA submission talks about post-closure methane capture. We've got some large open-cut coalmines in New South Wales which are heading towards closure. Mount Arthur comes to mind. Are our mines comparable to other jurisdictions where post-closure methane capture has been effective? Is it an option for us here, especially when it comes to some of our large open-cut coalmines?

AMANDINE DENIS-RYAN: I wouldn't be across the technical detail. What I can say is that it seems that there's very little understanding of post-closure methane emissions in Australia. They are likely to be heavily under-reported as well. They might not be so material today, but as there's a decline in the coalmining production and more mines go into rehabilitation, it could become a lot more material, so I would strongly encourage more scrutiny on those emissions levels. In the US, as I mentioned, there's been a lot of activity in terms of post-mine closure methane capture, and they have found that it was a very useful economic revitalisation tool. There's also opportunities in it, not just costs.

Ms LIESL TESCH: The Minerals Council implied that the Appin Mine in particular is doing significant work to reduce methane emissions, and I still have concerns about the six most gaseous mines in New South Wales. Do you agree that that's correct or do you think they could do better?

HENRY ADAMS: I'm not going to speak to the quality of the work happening at the Appin Mine, other than I think we've looked at it in terms of just the speed and the scale of abatement that is needed to decarbonise the economy in line with the goals that the Parliament and the Government have set. There's more opportunities, and if we want to achieve the targets that are set, we need to move faster.

The CHAIR: Does the Opposition have one last question that's relevant to the conduct of the inquiry?

The Hon. WES FANG: I would contend that my question is relevant.

The CHAIR: Hold on. It's 11 o'clock.

The Hon. WES FANG: Oh! See? A stitch-up.

The CHAIR: I'll let you ask it, Wes, but it had better be relevant.

The Hon. WES FANG: Mr Adams, did Lock the Gate instruct you to release the report by yesterday in order to meet the timeline for this inquiry?

HENRY ADAMS: No.

The CHAIR: Thank you, Mr Adams, for your attendance today. Thank you to IEEFA, to Ms Leiper and Ms Denis-Ryan, for your attendance. We very much appreciate your submissions, the work you've done, your attendance and your evidence today. If there are any other questions that are relevant to the conduct of this terms of reference we, via the secretariat, will be in contact, seeking some answers there. Again, thank you very much for your attendance.

(The witnesses withdrew.)

(Short adjournment)

Mr NIC CLYDE, New South Wales Coordinator, Lock the Gate Alliance, affirmed and examined

Ms BEVERLEY SMILES, Secretary, Central West Environment Council, affirmed and examined

The CHAIR: We will recommence the hearing. Thank you very much to our witnesses.

The Hon. WES FANG: Hearing? I thought it was an inquisition.

The CHAIR: We'll see if it's an inquisition or a hearing.

NIC CLYDE: Mr Chair, I'm inspired to tell the truth by the Net Zero Commission's report, released this morning. I think that's what they've done today.

The Hon. WES FANG: A political stitch-up.

The CHAIR: Ms Smiles, do you have some introductory remarks you'd like to make before we turn to questions?

BEVERLEY SMILES: Thank you, Chair and Committee members, for the opportunity to provide evidence today. Central West New South Wales is at a crossroads of the energy transition while also containing the western coalfields, with some of the largest coalmining operations in the State. It is of considerable concern that these large greenhouse gas emitters are applying for major expansions. The New South Wales strategic statement on coal, adopted by the previous Coalition Government, is still the main driver of coal expansion into new exploration areas, contradicting the New South Wales policy to reduce emissions. The promised review of this damaging coal strategy is still outstanding. We are already a quarter of the way through the twenty-first century and still promoting fossil fuel expansion when the world is supposed to be on a trajectory of emissions reduction. In the western coalfields, the following expansions are in the planning pipeline.

The Glencore Ulan coalmine, approved to produce up to 20 million tonnes per annum, has applied to extend coal production until 2041. The Peabody Wilpinjong mine, with current open-cut disturbance over 30 square kilometres, approved to produce 16 million tonnes per annum, has plans to extend mining operations, opening up another large area of farmland until the late 2030s. The Yancoal Moolarben mine, New South Wales' largest coal producer, exporting 19.33 million tonnes in 2024, has applied to disturb a further 675 hectares for open-cut extraction. The fugitive emissions from these large mining operations that, combined, disturb over 300 square kilometres of landscape have been poorly assessed and reported.

For example, up to 2014, Ulan coalmine reported baseline emissions as 123,668 carbon dioxide equivalent, but after 2014, this was dropped to below 100,000, conveniently below the Commonwealth's reporting requirements, with no transparent justification. It is critical that the fugitive emissions from these projects are better measured and reported. It's also of concern that the large areas of vegetation clearing for these projects is not included in the emissions calculations. The three mines combined have applied to remove over 800 hectares of carbon sink in the region. This is additional to a much larger area of vegetation removal under previous mine approvals, and the ratio of rehabilitation to disturbance is currently very small.

Our region is hosting the first renewable energy zone approved in New South Wales, with a significant workforce shortage. The mining industry is competing for labour across numerous urgently needed industries, including housing and renewable energy construction. The Central West region is particularly vulnerable to variable climate conditions that are becoming increasingly extreme in a carbon-fuelled environment. The cost to agriculture, water security and increasing infrastructure damage through drought, flood, fire and intensifying storms has lowered the quality of life and increased the cost of living in our region. We had a catastrophic fire day in November, with all harvesting ordered to halt. This is a major cost to the agricultural industry.

All emissions from New South Wales coal are adding to the global climate chaos. The increasing cost of climate change to New South Wales outweighs any economic justification to continue coal expansion based on revenue from royalties and taxes. The argument for regional jobs no longer holds up. It is critical that all coal projects in our region wind up under their current approvals, and we applaud the Net Zero Commission report released today. Coalmine expansions are inconsistent with New South Wales targets and international law.

NIC CLYDE: I just want to acknowledge and thank you all for conducting this inquiry and making time before Christmas. I really appreciate the time of the Committee to have us here today. I also just want to acknowledge that I'm on Gadigal country. I'm a union member. I also have the privilege of working on a Unions NSW committee with the Gomeroi people, who right now continue to oppose the Narrabri Gas Project and, in fact, are conducting a second appeal in the Federal Court in Brisbane that's scheduled for March of next year. Their opposition remains. The union movement stands with them. I do too, as a union member and member of that committee. I also work for Lock the Gate Alliance.

The Hon. WES FANG: Point of order: I'm not sure that this is actually relevant to the terms of reference of the inquiry.

The CHAIR: There's no point of order. Yes, it is completely relevant.

NIC CLYDE: It's about fossil fuel emissions from a gas project and community opposition to that. What an extraordinary morning. I woke up and read *The Sydney Morning Herald*. The headline was "NSW should end coal expansions to meet net zero targets". This is an extraordinary moment and it's an opportunity. I guess this has come about because a committee that was established by legislation that you all in this Committee passed in a bipartisan fashion at the end of 2023—your vote enabled the legislation, enacted that, that set up this committee that has diligently worked to produce this analysis that they have released this morning to inform your Committee in your inquiry into the impact of fossil fuel emissions and coalmine expansions on meeting New South Wales' legislated targets that Minister Sharpe says are essential to the wellbeing of New South Wales, our people and our biodiversity.

That's what needs to happen to safeguard the future of communities like Bev's in New South Wales and our climate. We really do need to end those coal expansions. The Net Zero Commission has articulated that very, very clearly today. They've also said that changes are required to the planning framework, and there's quite a lot of analysis in the report about the shortcomings in our planning framework in New South Wales, which is just not fit for purpose to assess these new high-emitting projects and make the decisions that we need it to make. The commission points out that every increment of warming will escalate the risks and the adverse impacts of climate change, and multiple times in the report reminds us that deep, rapid and sustained reductions in greenhouse gas emissions are required this decade.

From Lock the Gate's perspective, we think that this report from the Net Zero Commission overnight warrants really quite an urgent response from the Joint Standing Committee on Net Zero. I understand members will digest the material, make some recommendations and release their report next year. But in our view, given the scale of these expansions—the department of Planning is literally on the verge of referring another expansion to the IPC, which is the first one that will go to the IPC under the Labor Government. There are perhaps two, three, four or five other projects that could be determined and approved in coming months. We really think it's urgent and incumbent upon the Committee to issue a communique, if you like, to say, "We've heard evidence today, we've digested the Net Zero Commission's report and, Minister Sharpe, our recommendation is—" and I'll come to those in a moment.

Our recommendation—what we suggest your communique could say—is that, off the back of the Net Zero Commission report, we really need a pause on all coalmine determinations in New South Wales while the very clear findings of the Joint Standing Committee are digested by the Government and acted upon not just by Minister Sharpe, because this is not just the climate Minister's responsibility, but by Minister Scully as the planning Minister and Minister Houssos as the mining Minister, with oversight from the Premier. I think the time has come for that. We also recommend that the Committee, in your communique, should you take us up on that suggestion, should recommend that that John Barilaro strategic statement on coal should be scrapped. Or, if that's a bridge too far for the Committee, that should at least be suspended in this six-month period whilst the policy settings are reviewed and reset in New South Wales.

I also want to make a brief comment about independent assessment. At the moment, under Premier Minns the New South Wales Labor Government has assessed eight coalmine extensions and expansions. Every single one of those projects—a hundred per cent so far—have been approved. They've been approved—not by the Independent Planning Commission, so there was no independent determination of those projects. They were all determined in-house by the New South Wales planning department. Why do I mention that in particular? To our Labor friends on this Committee, prior to the election Clayton Barr, on behalf of the entire party, promised that "new coalmine projects must be subject to an independent approval process". In November 2023 Minister Houssos, speaking on behalf of the entire Government, said:

> From a whole-of-government approach, we would say that we support an independent assessment of planning of all resources projects. In relation to any expansion of existing coalmines or new coalmines, they would have to go through that independent process …

Minister Scully said something similar to Lock the Gate in writing in May of this year. What is ambivalent or equivocal about those clear policy statements, I ask you? There's a very clear commitment that coalmine expansions are contentious State developments. In recognition of that, Labor's policy is that they should go to an independent assessor and determiner, at arm's length from government, in the Independent Planning Commission, whose functions—

The Hon. WES FANG: Is this an opening statement or evidence? I'm not sure.

The CHAIR: Order! Please continue, Mr Clyde.

Ms SUE HIGGINSON: Then what happened?

NIC CLYDE: Sorry, I lost my train of thought briefly.

Ms SUE HIGGINSON: You said the promise was they would go to the Independent—

NIC CLYDE: Thank you. So that was the clear promise. Eight in a row have been determined by the planning department; none of those eight have gone to the Independent Planning Commission. That is my point. The majority of the coalmine expansions that the Net Zero Commission is referring to in their report released today are modifications, which means unless this Committee recommends a change to the State Environmental Planning Policy (Planning Systems) 2021 regulation—unless that is amended to change that—this practice will continue, and NSW Labor's own policy will continue to wither on the vine and will not be implemented. Thank you for my lengthy introductory statement. I appreciate that, Mr Chair.

Finally, I think it's quite striking to us—given the extensive commentary in the Net Zero Commission's report on the role of the planning system, the fundamentally important role of the planning secretary and the New South Wales department of planning—that the department of planning is not represented in these proceedings today and is not participating in giving evidence. We would recommend finally, as a matter of some urgency, that the Committee should seek a written response from the department of planning—ideally before Christmas, to inform the writing of your report and analysis—that explains the department of planning's position on the Net Zero Commission's report and clearly articulates to the Joint Standing Committee how the department of planning intend to respond to these irrefutable findings of the Net Zero Commission. Thank you very much.

The Hon. JACQUI MUNRO: We've spoken about the different types of measurement. I'm curious about what reforms to onsite monitoring you would recommend if New South Wales, for example, adopted satellite verification.

NIC CLYDE: I can have a crack at that one. I think in terms of onsite, kind of by definition, satellite is not really onsite.

The Hon. JACQUI MUNRO: The intention of the question is to understand how you would marry up satellite verification with onsite testing.

NIC CLYDE: Yes, thank you. I think this is a really important question, and there are people with more expertise on this matter than me appearing today, but my understanding is that in general terms, the underground coalmine reporting is relatively accurate. I have spoken to people that have interrogated satellite mapping data and have found a pretty close correlation between what the underground coalmines in New South Wales are reporting to the Federal Government and what the satellites are observing from space. It seems like we have a reasonably good handle on the emissions from the underground coalmines. The problem, as I understand it, is the open-cut mines, where it's open-cut, it's diffuse, it's more difficult to measure, and we've had this sort of scenario where there have been these ridiculously outdated modes of measurement and verification that are now being method 1. It's being phased out almost completely now in New South Wales and we've moved to method 2.

The problem with method 2 is where companies will mine into their coal deposits and then say, "Oh well, this section of coal deposit has this much methane and carbon dioxide in it. Therefore, if we multiply the millions of tonnes of coal that we mine, it should emit this many emissions." The problem, as I understand it, is that there's a lot of opportunities for companies to go, "Okay, where is the lowest methane content in our coal seam and the least amount of carbon dioxide emissions? Let's measure that bit, and we'll put that forward as our emissions factor for our mine." How reliable is that? I think it really does need some independent study and verification. I'm very pleased that the Federal Government, in concert with the EPA, are doing that. I think that's crucially important.

The Hon. JACQUI MUNRO: Obviously, you have called for the end of new coalmines and expansion. Do you have a sense of a timeline that you would prefer for the retirement of projects in the Hunter or the Illawarra?

NIC CLYDE: I might defer to Bev, firstly, and then I might have a go.

BEVERLEY SMILES: As far as the mines in Central West, two mines at Lithgow have just been given a five-year extension in time, but the current approvals for the three larger mines is 2033 for two of them and 2038 for the biggest one, the biggest producer in the State. That's why we're saying, "Well, that current approval should be the end of the life of those mines, and the transition opportunities that already exist in the Central West should be taken up now." If I could just go back to your first question, one of our concerns is that Ulan mine isn't reporting anything anywhere, so we're not getting information from all the mines.

The CHAIR: How do you mean Ulan mine is not reporting anything anywhere?

BEVERLEY SMILES: Because they magically dropped their baseline emissions in 2014, they're not required to report to the Safeguard Mechanism. They don't report anything in their annual reports. There's no reporting of their methane emissions anywhere.

The Hon. JACQUI MUNRO: Can I just ask one more question around that point you made about independent assessments of coalmine expansions, Mr Clyde. Can you just very specifically outline or explain your recommendation for how this Committee should actually embed that expansion to the IPC?

NIC CLYDE: We've been trying to prosecute this issue for quite some time. It's personally been quite frustrating for me that there's such clear statements from the State Government that this is our policy, but then everyone just ignores it. Eventually, after a significant amount of pushing and prodding, I think it was David Gainsford from the department of planning who put on record—I might be wrong about that, but it was someone from planning in budget estimates, I believe, who said, "Actually, at its heart, it's an issue that's determined by the State Environmental Planning Policy (Planning Systems) 2021 regulation". That is my understand of the specific regulation that needs to be amended. Government could just do it so quickly. If it's your own policy, why wouldn't you just amend that tomorrow to implement your policy?

The Hon. WES FANG: Because the lights would go out.

The Hon. CAMERON MURPHY: Point of order: Reluctantly, I feel like I have to take a point of order, because we've just had these squalid, persistent interjections from Mr Fang during the opening statement from the witness as some sort of pathetic running commentary on answers that are being provided. It's most disrespectful and I ask that you formally call him to order.

The CHAIR: I uphold the point of order. I won't call him to order at this point, but I do remind Mr Fang that interjections are disorderly and that, as per procedural fairness resolution 19 passed by the House, we have to treat all witnesses with courtesy at all times. Please desist from interjecting; otherwise, I will call you to order. You were saying, Mr Clyde, the change that you would like to see in that regulation so that modifications are referred to the IPC, I think.

NIC CLYDE: To the IPC. I think the reason the Government made those statements in the first place that that's the policy of government is in recognition that coalmine expansions are contentious at this point in time. Minister Houssos, I think, said herself that these things shouldn't be in the hands of politicians. That's the function and the whole point of having an Independent Planning Commission. I think the wake-up call from the Net Zero Commission overnight is that the rationale for getting that scrutiny from the IPC could not be clearer. At the moment, with these mods, where there are all of these deficiencies in planning decisions that the commission's report has identified, by the time the community finds out that those decisions are being made and understands the reasons for the decision, it's too late. It's literally the day that the decision has already been made. It's after the fact, so there's not opportunity to say, "Well, actually, you got that wrong. This is not consistent with meeting the State's targets."

I just wanted to say that, and can I just briefly comment on the question that Ms Munro asked earlier? I wanted to just respond to that briefly. You asked a question earlier about what does this mean for the phase-down of coalmining in this State, expansions versus existing projects. Minister Houssos, in her draft consultation paper on the Future Jobs and Investment Authority, published a table, and the table was very simple. It was just "Here's all the coalmines in New South Wales, and here are the legislated closure dates of those mines." The department of planning themselves make the distinction that a coal project is very different to a renewable project that could theoretically run forever if it continues to generate clean energy. Coal projects are time bound, and one of the reasons, we've learnt this morning, is they're time bound because we simply can't afford to keep mining this stuff in new deposits of coal. You could say no to all coalmine expansions, as the commission has recommended. You would still have a very significant amount of coal being mined in the State for quite a long time.

The Hon. JACQUI MUNRO: Just to clarify, you would be comfortable if the legislated closure dates were met essentially?

NIC CLYDE: I kind of pause I guess and reflect on what we're talking about here. This is the global climate. The emissions from fossil fuels are piling up in the atmosphere. Every time there's an IPCC report or a bit of new science comes in, we find out that the time we had has just got a bit shorter and the budget that we thought we could spend on carbon, more of it has been spent. The Victorian State Labor Government thought net zero by 2050 was a good idea. It has brought that forward to 2045. When your Parliament legislated the climate Act, there were very serious science organisations that were saying, "You know what, the science says we have to get to net zero by 2035." There will be pressure on those mines that have a consent to mine out to 2040, but it just doesn't make sense from the perspective of—

The Hon. JACQUI MUNRO: So you'd like to see them move forward?

NIC CLYDE: I think ultimately there needs to be some sort of science-based managed decline of the coal industry while we look after our coal communities because otherwise we're literally seeing the costs in the communities around the State who are having to battle the impacts of climate change.

The Hon. WES FANG: Mr Clyde, in your social media post you say that there are six new coalmines and 18 more in the works. Can you tell me where those six new coalmines are?

NIC CLYDE: Sorry, I can't read the text on that. Six new coalmines? What does it say?

The Hon. WES FANG: It says, "Since 2023, the New South Wales Government has approved six new coalmines and there are 18 more in the works." You have a picture of Chris Minns. He's a bit young there; it's probably an old photo.

The CHAIR: Would you do us the courtesy of tabling that?

The Hon. WES FANG: I'm happy to table it.

NIC CLYDE: I can tell you what those projects are. I would characterise them as six new coal projects.

The Hon. WES FANG: That's not what it says. It says "six new coalmines" quite clearly. Where are those six new coalmines that you've referenced?

NIC CLYDE: I'm here to give my evidence on behalf of my organisation. You've asked a question—

The Hon. WES FANG: Yes, and this is your social media from your organisation. Where are those six new coalmines?

NIC CLYDE: I am not familiar with that social media post, but I can tell you what—

The Hon. WES FANG: You are the convenor of Lock the Gate New South Wales, correct?

NIC CLYDE: We're coordinators, but, yes, in New South Wales. I think what this social media post refers to is six new coal expansions and extensions to existing mines.

The Hon. WES FANG: That's not what it says, is it? This is where it becomes an issue.

The CHAIR: Order! Mr Fang, Mr Clyde is attempting to answer the question that you have asked. Please do him the courtesy of giving him the time to answer the question in full.

NIC CLYDE: Mr Fang, if you're pointing out that the social media post—

The Hon. WES FANG: Is factually incorrect.

NIC CLYDE: —which I've seen for the first time today, says "six new coalmines", I think you're right.

The Hon. WES FANG: Do you agree it's factually incorrect?

NIC CLYDE: I think that should have said, "Since 2023, the New South Wales Government has approved"—well it's actually redundant now; it's eight coalmine extensions and expansions. But if going back in time, that should have said "six new coal projects".

Ms SUE HIGGINSON: Or coalmine expansions.

NIC CLYDE: Or coalmine extensions.

The Hon. WES FANG: So you now admit that that social media post was blatantly incorrect—there are no "six new coalmines" that are approved since 2023.

BEVERLEY SMILES: New coalmining projects.

The Hon. WES FANG: Sorry, Ms Smiles, you're saying that there are six new coalmining projects that are approved. Where are they?

NIC CLYDE: I can tell you. There are eight, as I say: Boggabri MOD 8; Glendell modification 5, life extension; Mt Arthur Coal MOD 2; HVO—

The Hon. WES FANG: Those are expansions, though, aren't they? They're not new coalmines.

The CHAIR: Order! You've asked a question, Mr Fang.

The Hon. WES FANG: No, I'm just—

The CHAIR: I'll call you to order. Mr Clyde is listing the mines that you have asked him about. Please proceed, Mr Clyde.

NIC CLYDE: I think it's important to get on record what is happening in this State. The fifth mine extension and expansion that was approved was Ulan Coal MOD 6. Did I mention Hunter Valley Operations MOD 8 earlier? Tahmoor MOD 3, the second-highest emitting mine in the State, an expansion was approved there. The last two are relatively small: Cullen Valley Modification 5 and Invincible Colliery Modification 6, extension of life.

The Hon. WES FANG: None of those projects that you've listed are new coalmines, which is what your social media post says.

NIC CLYDE: I think the important point is if you're the global atmosphere, you don't say, "Oh, this coal that was mined and burnt from an extension has a different impact on climate to this coal that was mined and burnt from a new mine." The impact is the same. That's what we're talking about this morning.

The Hon. WES FANG: Mr Clyde, that may be your position now, but your social media post clearly says that there were six new coalmines approved and 18 more new coalmines in the works. Do you admit now that that was blatantly incorrect?

NIC CLYDE: Mr Fang, what I will admit is that I think you have an excellent eye for detail with social media posts and you would be a fantastic recruit to the Lock the Gate social media team.

The Hon. WES FANG: I do. You would have no idea how good my eye for detail is, which is why I think it is incumbent on me to point out when organisations such as yours are providing false and misleading information to the public. Do you admit that there are no new coalmines that have been approved since 2023 in New South Wales?

NIC CLYDE: What I'd like to get on the record is that since the New South Wales Labor Government was elected, there have been eight coalmine expansions and extensions approved.

The Hon. WES FANG: Why can't you provide a clear, succinct answer?

The CHAIR: Order!

The Hon. WES FANG: I'm not talking about expansions.

The CHAIR: Order, Mr Fang. I'll call you to order for the first time. It's the first time.

The Hon. WES FANG: It's the first time.

The CHAIR: It is the first time. I'll call you to order because you're continually interjecting. You're asking questions. You've asked an important question.

The Hon. WES FANG: Because he's not answering the question, Chair.

The CHAIR: Order! Mr Clyde is answering your question. Please treat him with courtesy, as the resolution of the House requires. Mr Clyde, please proceed.

NIC CLYDE: Eight expansions and extensions approved to existing coalmines, a further 18 projects in the planning system right now, and, Mr Fang, that's not the end of the story. There's at least a half-a-dozen additional coalmine expansion projects that companies are working up right now, encouraged by Mr Barilaro's policy, that should be scrapped, that are not yet in the planning system. I think we've kind of exhausted this issue. You said, "Well, they're not new coalmines." I've said clearly that should have read "coalmine expansions and extensions". I'd love to welcome you to the Lock the Gate social media team, because you have a great eye for detail, and these things should be checked before they go out into the public domain.

The Hon. WES FANG: They absolutely should, which is why I'm going to ask you the question, how can people believe anything your organisation says when you're so clearly loose with the truth, to say that there are six new coalmines that have been approved since 2023, when there have been none?

The CHAIR: That's a statement, Mr Fang—

The Hon. WES FANG: No, I said how can people trust him. How can people trust Lock the Gate? You clearly are providing misinformation.

BEVERLEY SMILES: Could I make a—

The CHAIR: Ms Smiles, if you'd like to, you can keep this short.

Ms SUE HIGGINSON: Thousands of people do.

The Hon. WES FANG: Thousands of people do? Is that a justification, Ms Higginson?

The CHAIR: Order!

BEVERLEY SMILES: If I could just make a comment on this particular issue, as far as the community's concerned, two expansions in our area that are being treated as modifications—as far as the community is concerned, they are new mines. They're opening up whole new areas of country. Just because it's the same company and they're hooking it up with greater distance of truck movements to their coal-handling plant, the actual area opened up, the impact on the local community, the impact on the environment and the impact on the climate is a new mine. That's why we're so concerned about the way these expansions are actually being dealt with in the department of planning, treating them as modifications when they're actually new mines.

The CHAIR: Thank you, Ms Smiles. Just before I turn to Ms Higginson, the Hunter Valley Operations project that's on the books, of itself will be the biggest—it's a modification, is it not?

NIC CLYDE: No, that's a major project.

The CHAIR: That's a major project? But that project is the largest coalmine ever proposed in this State. Is that correct?

NIC CLYDE: The largest, Mr Fang, the largest single coalmine expansion and extension ever proposed in New South Wales. Yes, that is correct.

The CHAIR: Excellent.

The Hon. WES FANG: That's Mr Buckingham. I'm Mr Fang.

NIC CLYDE: I'm sorry. I know you're concerned about this issue, so I wanted to—

The Hon. WES FANG: I am, yes. At least you said Fang.

The CHAIR: What are the implications to meeting our net zero targets, our interim targets, if that project were to proceed?

NIC CLYDE: Actually, I've got three one-pagers that I'd like to tender today as part of my evidence.

The CHAIR: Sure. Let me have a look at those.

The Hon. WES FANG: Have you fact-checked them?

The CHAIR: Order!

NIC CLYDE: There's some copies for the Committee. Once Committee members have had an opportunity to get a hold of that page, you'll see, Mr Chair, what that clearly shows. I thank you for the question because this is of really great concern to us. You have the single largest project ever proposed. The blue columns on the chart represent current annual emissions, scope 1 emissions, from that mine. The orange columns represent what Hunter Valley Operations say will be emitted if the Government approves their massive expansion. So you can see that the trajectory—this represents a very, very significant increase in emissions for the next, what, 16 years. There is no decrease compared to current emissions. Quite the reverse. In fact, it would represent roughly a 90 per cent increase in emissions from the current average.

I think this cuts to the heart of the Net Zero Commission's report—that Planning is simply not recognising this reality. I've got another chart here from the Maules Creek coal project, the second largest coalmine expansion and extension proposed in New South Wales at the moment. You can see there from the red bars that it's the same story. There is no decrease. It's not on a trajectory that's aligned with the New South Wales emissions reduction trajectory at all. It's actually the opposite. It's an increase in emissions for a very prolonged period, plus all of those scope 3 emissions that the New South Wales Court of Appeal decision recently reminded us are smashing our regional communities—with the DAMSHEG decision.

Ms SUE HIGGINSON: Thank you both for your evidence and in particular Ms Smiles, thank you for bringing that direct community lived experience of what we're facing in the Central West. Could I ask you to comment on some evidence that we heard a little bit earlier? Essentially my understanding of the submission that seems to have been made to this inquiry—in relation to the mitigation and abatement of existing mines, and the big existing mines emitting high amounts of methane as well as carbon dioxide—and assuming this was it, is that the only way coal corporations will properly, genuinely and earnestly invest in the technologies that we know are available to reduce those emissions, such as VAM and other technologies, is if they have a long-term forecast of continuing coal. What do you say to that?

BEVERLEY SMILES: Not being able to put a dollar figure on it, but I think the profits that the industries are making with their exports—most of the value of coal goes offshore rather than benefitting the local impacted communities and environment. I can't see that argument holding up myself. The reality is at the moment the

industry itself is as impacted as everybody else by the extreme weather events that we're experiencing. We've got a very large fire in the Goulburn River National Park. There hasn't been a train run on the Sandy Hollow railway line for nearly a week because it's been impacted by this fire. I don't see that the industry has a long life in the State for a number of reasons. I don't see that as being a reasonable argument for not mitigating what they're producing now.

Ms SUE HIGGINSON: You raised, Mr Clyde, the strategic statement on exploration and coalmining. Is it your view now, with the report released today, the *Coal Mining Emissions Spotlight Report*, that any strategic statement on coal would have to be or should be consistent with this report? I know we've been promised a new report—or an update of the report is my understanding. Do you think the Minns Labor Government would now need to make any strategic statement on coal consistent with the Net Zero Commission report?

NIC CLYDE: Thank you for the question. That's a really important one too. If my memory serves me, from reading the Net Zero Commission report this morning, I think they actually explicitly state—and perhaps this is something you could explore this afternoon—that the strategic statement on coal is in conflict with the climate change Act.

Ms SUE HIGGINSON: As in the existing strategic statement?

NIC CLYDE: The existing statement, yes. This is another frustration. Minister Houssos announced in maybe May 2024, "Yes, the Government's reviewing this coal policy. One of the reasons we're reviewing it is to ensure that it's aligned with net zero trajectory and policy in the State of New South Wales." That was in May of last year. I don't want to go into it again, but I've already outlined at some length how many coalmine projects, extensions and expansions have been approved since that statement—"Oh, we need to align the policy with net zero"—was made. We still haven't.

We're almost approaching the third anniversary of this Government and we still haven't seen a reformed coal policy. I think the Net Zero Commission's report today is a very clear statement to the Government. I very sincerely hope the Government considers that, and I hope that you guys in the Parliament support the Government—support Minister Sharpe, Minister Scully and Minister Houssos. We're all in this together. We all drink the same water. We all rely on a safe climate for our kids. The mudslinging has got to end. We want to look after our coal communities. We need to get real about this, and I think the Net Zero Commission have called time on coal expansions this morning. That statement you referred to—the policy is repeatedly referred to by the coal industry when they propose expansions and they say, "Oh, look at this. Our expansion is consistent with the policy of the New South Wales Government."

Ms SUE HIGGINSON: It was specifically referred to in that context in the NSW Minerals Council's submission to this inquiry. Just on that, the Minerals Council, particularly Stephen Galilee, this morning presented evidence—and it was consistent evidence—that they are the industry that's being bullied and picked on, they're being singled out and this is a kind of political assassination of the coal industry. Is there anything in particular that you would like to say in response to that, given your constituent member groups? Namely, they are the people who are living around and in amongst the coalmines across New South Wales, whether they be in the south, the Hunter, the Gunnedah Basin or the Central West.

BEVERLEY SMILES: As far as my community's concerned, the coal industry is very powerful at the local government level, State Government level and Federal Government level, and they influence a heap of decisions that are going on everywhere. Why they feel that they're being victimised, I've got no idea. We're just reflecting and reporting on our lived experience in communities that are having to deal with multinational mining companies. The amount of spin that goes on in regard to what happens in local communities is very difficult to live with. If you go to an area like Mudgee, you're not seeing victimised coal companies at all.

NIC CLYDE: This is an economy-wide problem. It's all industries, all individuals, Government. Everyone needs to do their bit. I think it would be disingenuous to pretend that the electricity system wasn't being radically transformed, that there weren't serious policy interventions underway to promote electric vehicles in the transport sector—electrifying our buses. Coal is an incredibly wealthy industry. There was a new report released this morning, I think, from Common Capital that was saying—

The Hon. WES FANG: The one you funded.

The CHAIR: Order!

NIC CLYDE: —that there are significant opportunities that are affordable for the industry to reduce their emissions. The narrative that the Minerals Council has presented—if you actually look at the data, and I did—I downloaded all of the Clean Energy Regulator scope 1 data from under the Safeguard Mechanism, sorted into the coalmine emissions, and had a look at all of the reported coalmines where we have a continuous data set since

the Safeguard Mechanism began reporting in FY 2017. I had 21 mines—because some mines don't report in some years or they just opened a project and it's appeared in the data or they've dropped out or whatever. Of the 21 mines with continuous data, 14 reported higher emissions last year than in FY 2017. So how is the industry drastically reducing our emissions? Well, the majority of them increased their emissions over that time period. I think the commission this morning has called them out and said, "Look, actually, you need to do your bit."

The CHAIR: They sure have, and you have done your bit. Thank you, Mr Clyde and Ms Smiles. We are now at 12.00 p.m. Thank you very much for your submissions, for coming today and giving your evidence. We very much appreciate it and the work you do in the community, so thank you very much. If there are any questions from members, they will be forwarded to you via the secretariat in due course. Thank you again for your submissions and your evidence today. We very much appreciate it. You're free to go.

(The witnesses withdrew.)

Ms JACQUELINE MILLS, Senior Climate and Energy Campaigner, Nature Conservation Council of NSW, before the Committee via videoconference, affirmed and examined

Ms KASHMIR MILLER, Government Relations Manager, Nature Conservation Council of NSW, affirmed and examined

Mr CHRIS WRIGHT, Analyst, Environmental Defense Fund, affirmed and examined

Ms CHARLOTTE HANSON, Policy Advisor, Environmental Defense Fund, affirmed and examined

Ms RACHAEL CHICK, Senior Solicitor, Policy and Law Reform, Environmental Defenders Office, affirmed and examined

The CHAIR: I welcome our next witnesses. Do you have any introductory remarks you'd like to make?

KASHMIR MILLER: Nature Conservation Council of NSW is the peak body for nature in New South Wales, representing almost 200 member groups across the State, and has been advocating for nature for 70 years now. Half of threatened species in New South Wales are not expected to survive the next 100 years, and climate change is one of the biggest threats to nature and communities in our State. New South Wales's coal export industry is the State's biggest contributor to climate change, which in turn makes it one of the biggest threats to nature and the environment. The proposed Yancoal Moolarben Open Cut 3 expansion, if approved, would destroy 113 hectares of koala habitat and 80 hectares of endangered regent honeyeater habitat. It would involve water drawdown of up to six metres and emit an additional 72 million tonnes of CO2 equivalent.

The Net Zero Commission has warned that failure to act on coal sector emissions means more heavy lifting for other sectors of the economy. Most emissions reductions are expected to come from the electricity sector. However, the energy transition is proving slower than expected. Further coal extensions are being contemplated, so those emissions reductions are likely to be smaller and slower than previously expected. New South Wales is not on track to meet its emissions reduction goals under the Climate Change (Net Zero Future) Act, which places nature and communities at serious threat from escalating climate disasters such as bushfires, droughts, heatwaves and coastal flooding.

We are on the climate change front line, regardless of whether coal is burnt here or overseas. Approving coalmine expansions or extensions that involve more emissions just means that another sector will need to pick up the slack on the emissions targets. We have identified two major coalmining emission issues that Nature Conservation Council consider requiring the most urgent attention. Firstly, proposals to expand coalmining in New South Wales stand in direct contradiction to the State's responsibility to halt climate change and achieve net zero by 2050. Mining companies are seeking to shore up approvals for mine expansions that would not even begin operating until the mid-2030s. Secondly, current State Government policies show no significant cuts to coalmining emissions this decade. The Federal Safeguard Mechanism has also failed to deliver real emissions cuts for coalmining in New South Wales, with companies like BHP and Glencore expected to earn safeguard credits for every tonne of coal they produce until 2050.

Our key recommendations include, firstly, better regulation and mitigation of methane emissions from coalmines. This includes full implementation of the EPA's *Guide for Large Emitters* and integrating methane mitigation requirements into environmental protection licences. Secondly, develop a clear and rapid phase-down and phase-out plan to prevent further coalmine expansions. Thirdly, introduce a duty of care for decision-makers across government to meet the legislated emissions reduction targets and ensure all emissions, including downstream emissions, are accounted for in project assessments. Fourthly, set coal sectoral emissions caps and targets for 2030 and 2035 based on whole-of-economy and resources sector science-based carbon budgets aligned with the Paris climate targets. Lastly, review the strategic statement on coal to recognise the imminent decline of international demand for coal exports, as projected by the International Energy Agency, and ensure that the Future Jobs and Investment Authority are well positioned to support workers and communities through the transition, as well as land restoration in post-mining sites. We'd be happy to expand on any of these points for the Committee.

RACHAEL CHICK: The Environmental Defenders Office welcomes the opportunity to give evidence to this inquiry. New South Wales will not meet the 2030, 2035 or 2050 emissions reduction targets mandated in the Climate Change (Net Zero Future) Act without faster and more decisive action to cut emissions. It is crucial that the fossil fuel sector is a key focus for such action, due to its significant and likely under-reported direct emissions which are largely methane, a highly potent greenhouse gas. In addition, the scope 3 emissions of the New South Wales fossil fuel sector, which are significantly greater than the total direct emissions of the New South Wales economy, have played a substantial historical and continuing role in exacerbating climate change and its impacts on the environment, community and economy of New South Wales. This adds further imperative to focus on the sector.

The need for urgent action on climate change is illustrated by the first National Climate Risk Assessment, which identified severe risks for Australia under a three degrees Celsius warming scenario. Currently, greenhouse gas emissions from the fossil fuel sector are barely regulated in practice in New South Wales. We discuss this at some length in EDO's report from May this year titled *Improving Regulation of Coal Mine Methane in NSW*. Although the New South Wales Government and relevant agencies are in the process of making some policy changes, such as developing a new Net Zero Plan, EDO is concerned that the pace and level of ambition to achieve emissions reductions in this sector demonstrated to date does not reflect the urgency required. This is inconsistent with the guiding principles of the net zero Act and will make it extremely difficult to achieve the emissions reduction targets legislated under that Act without other, harder to abate or replace, industries taking on the burden.

Our submission to this inquiry examined the need for increased action to address the emissions from the fossil fuel sector in New South Wales and made a number of recommendations. Regulatory and policy reform is necessary to ensure that the emissions reduction targets and guiding principles of the net zero Act are effectively integrated into relevant planning and environmental decision-making, and that effective and timely mitigation requirements are imposed and enforced. This is not currently taking place. We note that the Government is in the process of developing a new Net Zero Plan, which it says will specifically identify transport and built environment as priority sectors for emissions reductions to meet the 2030 and 2035 targets. However, it has not identified the fossil fuel sector as a priority, despite the significant direct emissions from the sector, and the Net Zero Commission's concerns about "the risks to the State's targets from increased emissions in the resources sector", particularly the significant pipeline of coalmine applications in the planning process.

The EPA's recent draft Greenhouse Gas Mitigation Guide for NSW Coal Mines includes some mitigation measures. However, time frames for actual onsite mitigation measures to be phased in are too far in the future and do not reflect the scientific reality that the majority of emissions reductions must take place this decade in order to avoid the worst effects of climate change and, further, do not reflect the recommendations of the EPA's own independent expert review panel report. We also note the report of the Net Zero Commission that was released this morning into coalmining emissions in New South Wales. Given the time frame, we have not been able to consider it in detail but we welcome its measured and realistic approach to the task ahead. We note its recommendations relating to amendments to regulatory requirements relating to onsite abatement and to the planning approvals framework. Given EDO's expertise and experience in this area, we would be pleased to provide information and analysis to the inquiry, the Government or the commission as may be of assistance. We welcome the focus of both the inquiry and the commission on this important area. Thank you.

The CHAIR: Thank you, Ms Chick. Does the Environmental Defense Fund have some introductory remarks they would like to make?

CHARLOTTE HANSON: We do. Thank you. The Environmental Defense Fund is a global environmental NGO operating in more than 30 countries, with specialist expertise in methane science and policy. Our comments today focus on methane from coalmining, highlighting four key points. The Safeguard Mechanism looks likely to have limited impact on New South Wales's fugitive emissions from coalmines. Second, emissions reductions from New South Wales coalmines are due mainly to closures and shifts to open-cut mining rather than any proactive mitigation action, even though mitigation options are actually available. Third, a social cost of carbon-based grant could incentivise take-up of mitigation technologies. Fourth, a large-scale RTO pilot for VAM abatement is urgently needed in New South Wales. The Appin Mine's RTO is not a sufficient pilot to demonstrate safety and effectiveness. I'll hand over to my colleague, Christopher Wright.

CHRIS WRIGHT: Before starting, we have some supplementary evidence. Should we hand that out?

The CHAIR: Please do.

CHRIS WRIGHT: Apologies for that, I'm used to the PowerPoint kind of style. Hopefully this helps. The coalmining sector poses a unique challenge for the New South Wales interim targets under the net zero future Act. As the NSW Minerals Council points out in their submission, fugitive emissions in the coal sector have indeed reduced in New South Wales by 28 per cent since 2005. This marks a reported emissions reduction rate similar to that of the electricity sector and has certainly helped the State's emission reduction goals so far. But as figure 1 shows, these reductions have occurred through dramatic shifts in production to open-cut mining and largely also as a result of mining closures as opposed to proactive mitigation. This has been a net dividend for the State, but unfortunately we may not be able to depend on this dividend in the future, especially as some of the State's biggest emitting mines have secured their production well beyond 2030 and are actively seeking to extend beyond 2040 without mitigation measures in place.

Let's now move to the Safeguard Mechanism. The Safeguard Mechanism will soon cover 95 per cent of estimated coalmine emissions; however, it doesn't appear to be driving abatement in the State as of yet. While the Safeguard Mechanism saw a 2.4 per cent emissions reduction across facilities nationally in the last year, 18 out

of the 26 safeguard-covered coalmines in New South Wales missed their baseline targets this year, and the net result of both reductions achievement, overachievement and underachievement at the safeguard equates to something close to about a million tonnes of CO2. Since the Safeguard Mechanism was reformed, we have seen that the production-based emissions reductions which have occurred have been effectively offset by new coalmines entering the Safeguard Mechanism, unfortunately. The mechanism is simply not driving emissions reductions in the coal sector under current policy standards.

How do we address this? To date, efforts to incentivise mitigation at coalmines have focused on up-front support for new projects. You can consider this push funding. The up-front support has not generated project interest in New South Wales as of yet, and has seen limited success in Queensland. Once a pilot mine has demonstrated the feasibility of mitigation technologies, regulation should make mitigation more accessible. But given the availability of technologies to cut coalmine methane now, it is important to accelerate the timing of this, as my other colleagues have mentioned. Perhaps a novel idea to incentivise greater uptake of onsite greenhouse gas mitigation across New South Wales—we suggest the New South Wales Government consider incorporating a shadow cost of carbon into technology grants for abatement projects. This could build on the integration of the TPG24-34 Carbon emissions in the Investment Framework policy.

The carbon valuation mechanism could function as an additional performance credit for facilities implementing onsite mitigation technologies with a technology readiness level below TRL 8, such as ventilation air methane abatement, enhanced pre-mine drainage and accelerated rollout of heavy vehicle electrification. As highlighted in figure 4, we estimate this would initially result in a significant additional incentive per tonne for early movers. However, this would likely significantly reduce as the delta between the safeguard mitigation price and the social cost of carbon reduces over time.

CHARLOTTE HANSON: One of the most cost-effective technologies for abating ventilation air methane [VAM], is regenerative thermal oxidisers. They are the only proven and commercially used technology for large-scale abatement. EDF is concerned there is an assumption that the recently commissioned Appin Mine RTO will be a sufficient demonstration project for RTOs more broadly, when in fact a large-scale RTO is still needed in New South Wales, and soon, if we are to meet the target set by the EPA of having a safety review in 2028.

The Appin RTO, in our understanding, was originally proposed as integrating an innovative technology from CSIRO, but now it proposes to use what we understand is a traditional regenerative thermal oxidiser design similar to the units that were used in both 2001 at Appin and 2007 at West Cliff. This is at a cost of $15 million in public funding to abate a very small fraction of the mine's emissions. The Appin RTO does not appear to have a direct connection to the mine ventilation system, which is a similar approach to the first Australian VAM project in 2001 and many other projects between 2001 and 2010. This is a crucial design difference to a large-scale RTO which experienced technology providers are ready to deploy at New South Wales mines to demonstrate safety and effective abatement.

The CHAIR: Thank you very much for those introductory statements. We'll move to questions. Are there any questions from Government members?

The Hon. CAMERON MURPHY: Not at this stage.

The CHAIR: And the Opposition?

The Hon. JACQUI MUNRO: Yes, I do. I want to pick up on two things that both the Nature Conservation Council has mentioned and the Environmental Defense Fund mentioned around trying to quantify the impact of methane emissions, essentially, and also putting some sort of price or mechanism for abatement that relates to the value of it. In the Nature Conservation Council submission there is a recommendation for:

> A methane abatement fund: A government run fund to share 50% of the cost of first of a kind (FOAK) on-site abatement projects, generated from a levy across coal mines with funds distributed across the sector to cover 40% of capital expenditure.

What kind of levy do you imagine? How would that be calculated? Do you have any modelling around value? What amount of money is that fund required to have to cover 40 per cent of capex?

JACQUELINE MILLS: Thank you for the question, Jacqui. In terms of that recommendation in our submission, we covered a few different options in order to address or incentivise the mitigation that is required, as outlined in our and other submissions. That is one option. One of the barriers to mitigation that has been acknowledged is that, at the moment, there is not a regulatory playing field for those that move first. They are at some disadvantage. Some sort of industry-wide levy that would go to ensuring that the costs are spread across industry in a way that brings down the emissions is one of the key things.

I don't have further details on the very specific question that you asked on that. Others on the panel may like to speak further to that. Definitely a fund and a levy is one option. There is a range of other options to mitigate emissions that I think we covered in our submission. Firstly, full transparency is needed on the extent of methane or fugitive emissions that are actually occurring. The Open Methane platform is, from what we've seen so far, suggesting that the under-reporting of methane could be in the order of 50 per cent. There might be double the amount of emissions that are getting out there compared with what has been reported. That needs to be addressed by an independent government monitoring network.

One of the other options that we put forth was this concept of emissions intensity thresholds. There was a report that was released today by Common Capital which really went to the fact that it's a handful of mines that are the most gassy and the most emissions intensive in New South Wales. It really begs the question, I suppose: Can we have some regulatory measures that ensure that we are focusing on those most emissions-intensive mines?

I'll see if others on the panel wanted to add to that.

The Hon. JACQUI MUNRO: Was there anyone else who wanted to speak to that at all? No? Okay.

The Hon. WES FANG: I have a question now.

The Hon. JACQUI MUNRO: I did want to pick up on something that Mr Wright said. I couldn't find in the submission that you provided—you referred to figure 4 when you were speaking about a grants program that might be available. I'm just wondering what was that figure 4, and could you expand on that grants program idea a little more, please?

CHRIS WRIGHT: Yes, I'm very happy to. Figure 4 was not in the original submission. It's an additional idea that we'd like to propose and take this opportunity to do so. Effectively, what we've seen in the broad framework of trying to support onsite mitigation across the country here in New South Wales and Queensland is a series of up-front capital opportunities, maybe covering 50 per cent capex of these types of projects. We've seen some uptake in interest but not very much. I think that that's going to show that, even with the incredible progress that the Federal Government has made with the Safeguard Mechanism, the ACCU price and these up-front capex grants don't seem to be getting over the line.

What we'd like to propose is building off existing New South Wales legislation and policy and trying to integrate the TPG24-34 carbon emissions in the investment framework—which, effectively, outlines a shadow price for carbon for New South Wales investment decisions—and trying to then think what happens if the price of ACCUs and the Safeguard Mechanism credits continue over time and increase over time towards 2030, and that delta between, effectively, that sense of what the social cost of carbon would be in New South Wales versus the existing incentives for the Safeguard Mechanism.

We look at the Safeguard Mechanism as a great opportunity to incentivise emissions reductions. But, obviously, so far a lot of those emissions reductions are coming in the form of offsets, which New South Wales may not have ability to control if those offsets are contained within New South Wales or not. Effectively, we might be counting the emissions but not getting the reward of that mitigation. This would be a way of maybe reorienting that, offering an onsite mitigation incentive for a limited period of time for a limited set of technologies that could maybe offer that additional incentive needed to bring some new projects over the line. That could obviously be partnered with some of that push funding. Effectively, it's combining pull funding with push funding and seeing if that's an opportunity to get that over the line, while also integrating that social cost of carbon in a broader way.

The Hon. WES FANG: Ms Mills, I note you referenced the report from "somebody" Capital; we had them earlier today. In relation to that report—

Ms SUE HIGGINSON: Common Capital.

The Hon. WES FANG: Thank you. The names are so—

The CHAIR: Uncommon?

The Hon. WES FANG: To be frank, they probably don't really matter. It has all been a stitch-up. Ms Mills, how did you actually find out about this report being released?

JACQUELINE MILLS: The Common Capital report I read about in the media this morning.

The Hon. WES FANG: Curious timing, wouldn't you say, that both the Net Zero Commission and Common Capital or "Uncommon Capital", whatever we call them, released the reports within hours of each other before the hearing today? Curious, no?

JACQUELINE MILLS: I imagine that's up to them as to when they release their reports.

The Hon. WES FANG: Does it matter to you who funds these reports, in relation to the validity that you put behind them?

JACQUELINE MILLS: I look at the reports that I read and that I find and look at them on their merits.

The Hon. WES FANG: Understood. But when you're quoting facts and figures out of these reports, surely the organisation that funds these reports must weigh somewhat in the amount of validity you provide that report, would it not?

JACQUELINE MILLS: I don't think I've quoted from that report this morning. It has just been released. I haven't had the chance to digest the one that has been released this morning.

The Hon. WES FANG: But you cited it in your evidence, and you cited it in terms of it providing guidance to the Committee. Should we not consider who has funded these reports when we're looking to put weight behind the report itself?

JACQUELINE MILLS: That's a consideration for the Committee, I would imagine.

Ms SUE HIGGINSON: Ms Chick, I have a question for you, for obvious reasons.

The Hon. WES FANG: Because you used to work there?

Ms SUE HIGGINSON: I have clearly a previous proud association with the Environmental Defenders Office, over a decade ago now. Gosh, how time flies.

The Hon. WES FANG: Were you involved in stacking that court case that lost?

The CHAIR: Order!

Ms SUE HIGGINSON: I know that we all have not had a proper chance yet to digest the Net Zero Commission's *Coal Mining Emissions Spotlight Report*, but I know how fast environmental lawyers can read.

The Hon. WES FANG: Especially when it's leaked to them.

Ms SUE HIGGINSON: And I am just curious—that's enough.

The Hon. CAMERON MURPHY: Point of order: These loathsome interjections from Mr Fang—

Ms SUE HIGGINSON: It's exhausting.

The Hon. CAMERON MURPHY: It's just interrupting proceedings. He should be formally called to order for the second time.

The Hon. WES FANG: To the point of order: While I was asking questions Ms Sue Higginson was constantly interjecting, and any recording will show that. I'd ask the Chair to consider that what's good for the goose is good for the gander. If Ms Sue Higginson wants to—

Ms SUE HIGGINSON: Are you calling me a goose?

The Hon. WES FANG: Goose, gander—whatever.

The CHAIR: Order! Thank you, Mr Fang, but that's not relevant to your behaviour.

The Hon. WES FANG: Of course it isn't, Chair.

The CHAIR: If Ms Sue Higginson interjects, Committee members are free to take a point of order.

The Hon. WES FANG: Yes, but they don't.

The CHAIR: Order! I did not hear it. You have been reminded previously about your interjections, so I do formally call you to order for the second time.

The Hon. WES FANG: I'm almost out of here—early mark.

The CHAIR: Yes, well, please behave and treat other members and our witnesses with the courtesy that the resolution of the House requires.

The Hon. WES FANG: It's a way to stitch up the Committee, that's for sure.

Ms SUE HIGGINSON: Ms Chick, I'm curious. The findings are very clear in this report. I note that finding 4 states:

> Continued extensions or expansions to coal mining in NSW are not consistent with the emissions reduction targets in the Climate Change Act or the Paris Agreement temperature goals it gives effect to.

Do you think in broad terms—and I'm not asking for legal advice—that this contributes to the weight of material that really does put any government on notice as to its liabilities under the Climate Change (Net Zero Future) Act?

RACHAEL CHICK: The consistency of continued expansions of coalmines with the net zero Act—and also with the planning Act, with the public interest, which is a key consideration under the planning Act for development consents—we have long argued that the climate change impacts of those mines are relevant considerations; there's a long history of case law in New South Wales finding that. Although we welcome the finding, it's not new to us. Yes, as you noted and as I noted earlier, it was released this morning. I've had a skim, so I haven't been able to go through it in detail. It's certainly a strong statement that decision-makers should, in our view, take into consideration in their decisions.

Ms SUE HIGGINSON: To the Environmental Defense Fund, I'm just curious. You touched on how early uptakers of mitigation and abatement technology would perhaps be disadvantaged because there's no real regulatory imperative to uptake the technology. But we did hear some evidence that for mining corporations to do that on their own initiatives, it would generally be driven by their own bottom lines and profit agenda, and only with a guaranteed long pipeline of coal would that incentive be generated. Do you have anything to comment around that?

CHRIS WRIGHT: Thanks for the question. I think it's right. Effectively, when you are digging up coal you're making a commercial decision, and you're making a commercial decision most likely oriented to an export market, so you have to compete with export players. There is obviously a challenge in making any commercial decision in terms of when is your return on investment going to be for that decision? So, if you are implementing any sort of technology or capital decision and you don't have that confidence that you'll get that return on investment under current policy settings, then it is a difficult decision to make. I think that what we've seen in the broad approach towards, say, regenerative thermal oxidisers or other large capex decision-making is that there is a very big commercial part of that decision, and it is often quite difficult to, I guess, read between what are the commercial elements of that decision-making and what are the technical elements of that decision-making.

I think that there are genuine technical challenges that you need to overcome. If you operate a mine, if you're responsible for that mine, you shouldn't be made to make decisions that you don't believe in. But I think that there are also very serious commercial decisions that are being made that might blur some of that technical and safety kind of decision-making. All of that comes into combination with each other, and I think that right now, for myself, and I think for the general public, there isn't that clear transparency as to how those decisions are being made. There isn't that clear transparency in terms of what those commercial decisions and frameworks are, or what those technical challenges are that these mines need to overcome. If we get more transparency over that, I think we all benefit, and I think we all get a better understanding as to what some of the variables are that we need to support to try to decarbonise our mining sector.

Ms SUE HIGGINSON: I'm curious about the operation of the Safeguard Mechanism. It does seem fairly consistent that that mechanism is not, in fact, the mechanism that is driving down emissions. Yet in the Minerals Council's submissions to this inquiry, they seem to suggest that—and I don't want to paraphrase it wrongly—the Commonwealth is doing this work, there is the Safeguard Mechanism and New South Wales should just rely on that. What would you say to that, particularly in light of the fact that we have got legislated targets, we've got our own emissions and the impacts are happening right here in New South Wales?

The CHAIR: It's a very good question. Could I expand on it?

Ms SUE HIGGINSON: You can.

The CHAIR: I think all three organisations referred to the emissions baselines that are granted. Could you provide us your view on whether the safeguard is working when it comes to methane and how those baselines are set? If you could respond to that, we'd appreciate it—beginning with you, Ms Miller?

KASHMIR MILLER: I think Ms Mills might be better acquainted to that one.

JACQUELINE MILLS: Yes, I can jump in there. In relation to the Safeguard Mechanism, I think one of the key issues that we would see is that there's no actual requirement for onsite emission reductions by virtue of the ability of companies to purchase credits—so, Safeguard Mechanism credits or ACCUs as well. That ability to offset rather than directly reduce emissions is concerning. In terms of the scope as well, it doesn't extend to facilities emitting between 25,000 and 100,000 tonnes; it only kicks in at that larger 100,000-tonne CO2 equivalent. I think the broader concern is that those baselines or caps or limits have been set based on business as usual for those facilities, so, essentially, they've been set too high, meaning that those companies can be rewarded with credits without taking the action to reduce emissions.

Ms SUE HIGGINSON: Did you have any comments on that from the Environmental Defense Fund's perspective?

CHRIS WRIGHT: Sure. The Safeguard Mechanism is an incredibly challenging task. You're trying to create emissions reduction decline curves for a whole range of sectors, and for each one of those sectors, you've got to treat them slightly differently. In the mining sector, you have massive discrepancy between emissions from underground mines and open-cut mines, and so they've got to take some sort of decisions around how do they balance out those emissions differences. It is a little bit complicated, how they've tried to develop this, and I certainly don't make friends at dinner parties when I try to explain it. But one of the challenges around how that's designed is, as Ms Mills indicated—it's based on an emissions intensity average between 2018 and 2022, then trying to build in both the emissions average of the whole sector and then your individual facility emissions intensity, and then balancing them out in a decline rate towards 2030 that broadly aligns with that 4.9 per cent decline rate. But because of the balancing and blending of two different emissions intensity averages, it does it in a slightly complicated way.

Now, considering the challenges of the sector, I think it's a very well-designed scheme. But because the broader allows offsets, effectively, for its mitigation, you then come up with a very challenging commercial decision. If you have a significant emissions requirement to decrease emissions towards the end of the decade for underground mines, are you going to invest in a significant onsite technology that might cost money, or are you going to play the carbon markets as they progress towards 2030? This is a real decision, and I think that is why the New South Wales Government, with their 2030, 2035 and 2050 targets—that are more advanced than the Federal targets—need to figure out what can they do to bridge this delta and support that decision-making framework to incentivise onsite mitigation that goes beyond the currently.

I think that would result in not only all the benefits of early movers and all the technological and safety advances we would have, but we would build an incredible sovereign capacity for this technology and a sovereign understanding of how to manage this in our coal sector going forward. For those who want to see continued coalmining, we would see a decarbonised product that we can export around the world. For those who want to ensure that the emissions targets are met, we would ensure that the coalmining sector effectively plays its part in getting towards those interim and full net zero targets. I think this is a win-win scenario for all sectors across the economy. But it is a scenario where I think the New South Wales State has a role to play in intervening in that decision-making framework and offering additional incentives to incentivise this onsite mitigation to happen.

Ms SUE HIGGINSON: I was just recalling in the report—again, we've only skimmed it—that they talk about the role of the EPA and the EPA's suite of documents and its guidelines for large emitters that have been in place for some time now. It seemed to me that there was a bit of criticism or, for want of a better term, analysis that the EPA is not using these things enough, or they're not being used to their fullest extent. I'm curious about your view on that, and also on the licensing scheme—i.e. licensing methane as the pollutant, carbon as the pollutant, and so on—and where that fits into it in your framework.

CHARLOTTE HANSON: On the licensing, I think that including methane as a pollutant under EPLs would be a useful way of being able to limit emissions intensities from coalmining. I think that's a sensible consideration for the EPA and for the Government to make. Sorry, the first part of that was?

Ms SUE HIGGINSON: The application, already, of the guidelines and the documents that we already have.

CHARLOTTE HANSON: I think that timeline is generous when you consider the state of technology readiness of regenerative thermal oxidisers, for example, which is the most cost-effective and quickest way that we can be abating emissions from coalmines, and specifically at underground mines. That is the opportunity that we absolutely should be seizing. The EPA set a timeline of 2028 to do a safety review of abatement technologies, and then they're looking at requiring mines to implement technologies from 2030. If we already have that technology ready to go—and technology providers were keen to be part of the hearing today to talk about this really important opportunity that the State should be taking up—I don't see good reasons for delaying that.

I'm particularly concerned that we have an assumption being made that the Appin Mine RTO is somehow going to give us everything we need. We really need a very different and much larger scale demonstration project to be done right away. There's no reason for delaying that. I am concerned that there are delays happening that don't really check out in terms of the ability of the technology to come in and abate these emissions much more quickly.

Ms LIESL TESCH: Thank you very much, all of you, for your presentations. Ms Chick, you implied emissions are barely regulated in New South Wales and that we need to do more work in this space. What are you suggesting to improve and best regulate emissions in New South Wales?

RACHAEL CHICK: When I speak to "barely regulated", the qualifier was "in practice". There might be requirements on paper—for example, in development consents—for coalmines to reduce their greenhouse gas emissions so far as reasonably practicable. The way in which regulators have interpreted those sorts of requirements has meant that in practice they haven't required onsite emissions. The other avenue by which direct regulation of methane emissions from existing coalmines could occur, as has been previously noted by the panel today, is through environmental protection licences. Methane is an air pollutant. It falls within the definition of air pollution under the Protection of the Environment Operations Act. The EPA, under its previous climate change action plan and now in the draft climate change mitigation requirements, has flagged putting limits on EPLs. Our concerns are about the time frames.

The Hon. JACQUI MUNRO: I have one for Mr Wright and Ms Hanson. In your submission, you state that none of the open-cut methods have been scientifically validated in terms of measuring methane emissions. Is there a validation process that New South Wales should mandate in the interim before the Federal reforms conclude? What would they be? We heard earlier from the Minerals Council of New South Wales and Australia that they were adhering to global standards, and very stringent global standards, potentially—more than other countries. I wanted to understand where your view sits in that conversation.

CHARLOTTE HANSON: In terms of open-cut coal production reporting methods under the National Greenhouse and Energy Reporting Scheme, those methods that are available haven't been scientifically validated. We are in the process federally of working on refining how open-cut coalmines should report. That's through a study that the Federal Government has commissioned from the UNEP's International Methane Emissions Observatory. That genuinely will mean that Australia is leading in terms of open-cut coal reporting, if we can get a methodology that reflects the best practices for reporting emissions from those mines.

In terms of the existing methods, the Federal Government has required companies to shift from method 1, which is a generic emissions factor that is State based, to either method 2 or 3. Those methods allow companies to run their own sampling of three boreholes to determine what their emissions factor should be at a given site. There's not a great deal of oversight—certainly not publicly—that we are aware of in terms of how those emissions factors are developed. New South Wales could take some action to try to improve the transparency and the verification around open-cut mine reporting. In terms of transparency, it could require, for example, that companies using methods 2 or 3 disclose their emissions models and the methodologies they've used to reach their emissions factors. That would help a lot, I think, in deterring any potential kind of selective sampling or gaming that might occur.

The Hon. JACQUI MUNRO: Just on that, is there an existing body that you would suggest undertake that work or would it have to be a new independent agency?

CHARLOTTE HANSON: It sort of depends on the expertise. My understanding is that New South Wales probably has quite a bit of expertise in understanding—having developed and kept updated their own method 1 emissions factor for many, many years, I would think that there's expertise that could bring some accountability to these kinds of models that are being developed, but I don't know. It might need additional resourcing. And then in terms of verification, or in terms of sort of improving the accuracy of reporting using methods 2 or 3, there is the proposal around the ground-based monitoring network, which is very good, but that could be complemented with additional aerial studies, for example, and other sort of emissions-measurement technologies, and a program to do that on a regular basis so that we're much more likely to pick up on major emissions events.

Ms SUE HIGGINSON: I put this to previous witnesses, and I'm just curious—you don't have to comment on this. The mining association body here, the Minerals Council, earlier suggested that they are being singled out and targeted, that they've done heaps to reduce emissions and we should theoretically be looking elsewhere in terms of emissions reduction. I may not have represented that as properly as I should have, but it was to that effect. Do you have any comments on that?

CHRIS WRIGHT: Sure, Sue. I'd be very interested to know, "elsewhere"—are they talking about farmers should do the work?

Ms SUE HIGGINSON: They did mention agriculture. They mentioned transport. A previous witness said, "Well, those sectors are doing things too." But I'm just curious about whether you have a view on that kind of proposition being put at an inquiry like this.

CHRIS WRIGHT: I come from a farming family so we'll have to have a chat over dinner, I think. One of the most interesting documents that I think speaks to this—recently, about a week ago, the Department of Climate Change, Energy, the Environment and Water did their forward projections for Australia in terms of our emissions declines in different sectors. What you can see when you look at this particular graph—and sorry I didn't bring it in—that projects our emissions decline rates per sector to 2050. What happens in the electricity sector—

it's obviously the highest emitting sector at the moment—that drops pretty dramatically to 2030. Then there's another line that crosses over that line in about 2029 and that's the mining sector. So what this projection estimates—and this is a Federal projection; it's not limited to New South Wales—is that from 2029 onwards, the mining sector, which incorporates both coalmining but also iron ore, oil and gas and other minerals, will be our biggest source and our biggest sectoral emissions challenge as a country.

Obviously in New South Wales that translates largely into our coalmining sector. I understand that no-one likes to have a spotlight on them and no-one likes to be singled out. I think that it is very challenging to get everyone in the room and say, "Okay, who wants to pay for dinner?" But I think the challenge going forward is that if this is indeed the sector that we see the biggest challenge in reducing emissions, then we need to find new ways to incentivise that emissions reduction. We need to start pushing the envelope of the technologies that we currently utilise to achieve that mitigation. Right now, what the Federal Government is projecting is that we won't see onsite mitigation in a big way. Effectively, we will be waiting for production declines to do the work. I think that we can do better.

Ms SUE HIGGINSON: The Lock the Gate witnesses presented evidence that shows projected increases in emissions both at the Hunter Valley Operations and the Maules Creek—

The Hon. WES FANG: I'm not sure we can trust that. You can't trust their social media so—

Ms SUE HIGGINSON: Are you suggesting that unless New South Wales continues to require, as it's legally required to do to reduce emissions across sectors, that under the Safeguard Mechanism it's possible that we won't see that reduction in emissions, particularly in methane emissions, from those bigger, gassier offending mines?

CHRIS WRIGHT: Those are two individual mines. I don't think that represents a whole sector. I'm unclear whether those two individual mines would push the whole sector up or down. I don't believe it comes from social media. I certainly haven't seen it. What I would suggest is that the way the Safeguard Mechanism is designed doesn't necessarily adjust perfectly for new entrants. It doesn't necessarily allow an individual State to have full confidence that those emissions reductions would happen within their State. If we want confidence to reduce emissions within New South Wales, I think we need to take proactive attention there and come up with new ideas around how we can achieve that. For individual mines that come in, they are obviously potentially offset by other mines that close. There's a whole mix of production factors that go into what it means in terms of emissions at the State level.

Certainly, I think it's been identified by the NSW Productivity and Equality Commission, the New South Wales Net Zero Commission, that as new entrants come into the system, it makes it very, very hard to get a clear understanding of where emissions will be. It makes it very, very hard to align those emissions with some sort of goal that we want to hit at a sector-by-sector level. Obviously, the New South Wales Government could take the approach that the Minerals Council suggests and we point at other sectors, other economic sectors. I think that's a very challenging decision to make. I think that's a very challenging conversation to have with those other sectors, particularly if they feel, similarly, like they've done enough to reduce emissions. I think what we have here is real technological viability and a real opportunity to reduce emissions in the coalmining sector.

Ms SUE HIGGINSON: Ms Mills, we heard some evidence a little bit earlier, and I'm just asking you in your capacity as the climate and energy campaigner—I realise that's not limited to coal. We heard some evidence earlier from Ms Smiles from the Central West environment centre. She spoke to the competing workforce in terms of the transition from coal to renewable. I'm wondering if you've had any insights into that through your work?

JACQUELINE MILLS: With respect to workforce, Central West is one of the renewable energy zones in New South Wales, so one of the priority areas for renewable energy development, generation and transmission projects. Of course that's a whole-of-government priority and absolutely necessary for decarbonising the energy and electricity sector, thereby helping us reach the legislated emissions reduction targets. There are a number of challenges with the renewable energy rollout, as I think my colleague mentioned during the opening statement. We do need to be pouring everything we can into timely and nature positive renewable energy rollout. There is real scope for regional rejuvenation and for employment there as well. What we don't want to see is a situation where there is sort of competition for workforce. We need to ensure that there is sufficient workforce and opportunity for people in the regions.

The Hon. WES FANG: Ms Mills, you just spoke about the environmental-positive aspects of renewable energy, in that we need to ensure that—

Ms SUE HIGGINSON: I knew he'd pick up on that.

The Hon. WES FANG: Actually, Chair, you said that I should let you know when Ms Sue Higginson was interjecting. Clearly, that's one of those times just then. You can call her to order if you like. Or are you just only calling me to order—

Ms SUE HIGGINSON: I wasn't interjecting. I was just making a comment.

The CHAIR: Order! Don't devolve, please—

The Hon. WES FANG: I'm just curious what's happening here. I mean she can interject and you don't—

The CHAIR: Order!

The Hon. WES FANG: Are you going to call her to order or not, Chair? Is there balance in this?

The CHAIR: A point of order hasn't been taken.

The Hon. WES FANG: Well I'm taking a point of order. Ms Sue Higginson continually interjects when I'm speaking. I'm now raising it with you, which you asked me to do. Are you going to call her to order or are you going to do it only to me because I'm against the ideas that you're progressing in this hearing?

The CHAIR: Order!

The Hon. WES FANG: Is that what's happening here, Chair?

Ms SUE HIGGINSON: To the point of order: I emphatically was not interjecting, I was whispering to you, "Is that in the terms of reference—the renewable energy?" The terms of reference are emissions from the fossil fuel sector, not renewable energy.

The CHAIR: It was not an interjection; it was a comment made to me sotto voce. It was very, very quiet—

Ms SUE HIGGINSON: I was whispering.

The Hon. WES FANG: So there are double standards here, Chair.

The CHAIR: Order!

The Hon. WES FANG: Is that what it is, double standards?

The CHAIR: Order! Mr Fang, I will remind you—

The Hon. WES FANG: Yes, I'm on two calls, because you put me on two calls.

The CHAIR: Order! Maybe you want an early mark, Mr Fang. You are on two calls to order. If I call you to order for a third time, we have to go into recess—

The Hon. WES FANG: We do, yes.

The CHAIR: —to consider your behaviour and whether or not you will be removed from—

The Hon. WES FANG: But there's clear bias here, Chair.

The CHAIR: Order! You're cavilling with my ruling by interjecting. I also say to Ms Higginson that if we can listen to the questions and the answers in silence, that would be better for the inquiry and for Hansard. Unfortunately, it being 1.00 p.m., our time for questions has concluded. I thank the NCC, the Environmental Defense Fund and the Environmental Defenders Office for coming along and giving evidence today. It is very much appreciated, as are your submissions and the work you do in this area. If there are any other questions from members, the secretariat will be in contact.

(The witnesses withdrew.)

(Luncheon adjournment)

Ms LISA WILLS, Campaign Manager, Comms Declare, affirmed and examined

Professor PETER RAYNER, Chief Scientist, The Superpower Institute and Climate Resource, before the Committee via videoconference, sworn and examined

Mr GREG BOURNE, Director and Councillor, Climate Council of Australia, affirmed and examined

The CHAIR: Welcome back, everyone. I hope everyone's refreshed from lunch. We will recommence the hearing. Do any of you have some introductory comments you'd like to make? We'll start with you, Ms Wills.

LISA WILLS: Thank you, Chair, and thank you to the Committee for the opportunity to appear today. My name is Lisa Wills. I'm the campaign manager at Comms Declare. Comms Declare represents hundreds of professionals in the marketing industry that support climate action and work to counter misinformation from climate polluters. Our submission is that fossil fuels are killing us. If a product is driving serious and preventable harm, then its promotion should be restricted. Coal, oil and gas companies and their lobby groups are running well-funded, sophisticated misinformation machines, pumping out everything from billboards to Minecraft games to protect their business models and to prevent the shift to clean energy.

New South Wales is experiencing the escalating impacts of climate change—more severe heat waves, bushfires, storms and floods. These events can be traced back to pollution from a handful of fossil fuel companies. Air pollution from fossil fuels kills around 11,000 Australians each year—this is 10 times the annual road toll—and it contributes to respiratory disease, heart disease, cancers, learning delays and harmful pregnancy outcomes. Globally, fossil fuel pollution is implicated in more deaths than is smoking. Just as tobacco advertising bans significantly reduced smoking rates, with research showing that they prevented one in three new smokers, similar restrictions on fossil fuel promotions would help to shift behaviour, reduce unnecessary consumption and support the transition to cleaner, cheaper renewable energy. Therefore, what we are proposing is both targeted and practical: a ban on the promotion of fossil fuel products—that is, coal, oil and gas—on government land, in public institutions such as hospitals and schools and across government-controlled advertising assets such as transport.

This is not to be a ban on companies communicating. It is a restriction on promoting harmful products, but is grounded in public health, climate science and New South Wales precedent. With up to 72 per cent of New South Wales emissions coming from household consumption and green businesses crying out for new investment, addressing consumer behaviour has never been more important. Advertising is a key driver of behavioural change. There is strong momentum for fossil fuel marketing restrictions. The United Nations secretary-general has explicitly called for fossil fuel advertising bans, drawing a direct parallel to big tobacco.

The ACT, just over the border, has banned fossil fuel sponsorships in schools, and there are more than 40 bans on high-carbon advertising across the world, including 18 here in Australia and here in the City of Sydney. New South Wales already recognises the need to prevent harmful or misleading product promotion in other areas, through tobacco advertising prohibitions under the Public Health Act, the NSW Health Sponsorship Policy and education and venue sponsorship policies that avoid partnerships contrary to public interest or government values. Applying the same risk-based logic to fossil fuels is consistent, overdue and firmly grounded in precedent. A statewide fossil fuel ban is a simple, proven, lawful, holistic and cost-effective reform that protects public health and strengthens the climate integrity of New South Wales. Thank you for the opportunity to present today, and I welcome your questions.

GREG BOURNE: The Climate Council welcomes the inquiry into emissions from the fossil fuel sector. Urgently addressing emissions by phasing out fossil fuel extraction, use and exports is critical to the safety, security and prosperity of communities and natural environments in New South Wales and Australia. The New South Wales Parliament is rightly concerned about achieving its emissions targets, as they are far from assured. What New South Wales needs to achieve is decreased emissions. What the New South Wales coal and gas extraction industries need to survive is increased emissions. This fundamental incompatibility is currently played out in a Faustian bargain, with Federal and State governments selling their soul for some wealth in the present, while the devil, taking the largest cut, condemns the populous to the tortures of hell—an overheating planet. This bargain has to stop, with New South Wales taking the lead in its climate future by taking advice from independent, rigorous and non-financially encumbered voices such as its own Net Zero Commission and also the Climate Change Authority.

Australian fossil fuel companies only reluctantly address their domestic emissions, and they wash their hands of any responsibility for their emissions overseas. Indeed, they want their customers to keep importing at the same rate as now. They need global climate action to stutter and fail. For the coal and gas extraction industries, having to tackle climate change is an existential threat, and hence they have no choice but to stick to the mantras "Dig, baby, dig!" and "Drill, baby, drill!" They happily push their products overseas and hope to do so for decades

to come. They push their products with the zeal of a drug lord. They do not care about the future misery they bring or the havoc they create; they only care about securing their dividends. They brush aside political and community resistance at the supply end of the chain and weaken the resolve at the demand end of the chain. They want their customers to remain hooked. Successive Australian governments are complicit in the trade, and it will take courage and resolve to stop. This cavalier attitude of the fossil fuel industry reminds me of the BP CEO's remarks on the Deepwater Horizon oil spill in 2010. He said:

> The Gulf of Mexico is a very big ocean. The amount of oil and dispersant we are putting into it is tiny in relation to the total water volume.

Yes, he lost his job, but he went on to chair Glencore, one of the world's largest coalminers. The fossil fuel thoughts here in Australia—such as "we're better than many", "we use best practice here", "we're helping overseas customers decarbonise", "if we don't do it, someone else will" and "we'll clean up after we close"—are self-serving and ring hollow. This is the time for the New South Wales Government to stand up and lead.

PETER RAYNER: The Superpower Institute welcomes this inquiry and our chance to make a submission. Our submission is that the fugitive methane emissions are both a problem and an opportunity for New South Wales. They're a problem because the best evidence suggests that emissions from coalmines, in particular, are substantially higher than official reports. That both makes them harder to offset and increases their overall contribution to warming, even if we were to hit a 2050 net zero. We think the problems are systematic, so that any expansions or extensions of mines in the future will contribute more than we expect—more than is usually contained in the environmental statements. The opportunity comes from methane's strong warming action and its short lifetime in the atmosphere.

Together, they mean reducing methane emissions can reduce global heating earlier and faster than we can with carbon dioxide, helping us trim the peak temperature that we reach. We'd also like to strongly endorse the recent *Coal Mining Emissions Spotlight Report* from the Net Zero Commission. We think it lays out the problem well and describes practical steps that New South Wales could take to address them. We also commend the New South Wales Government for working towards independent measurement of emissions in key regions—in particular the Upper Hunter. Taken to completion, this independent verification can both improve the evidence base for emissions reporting and give the community confidence that abatement is effective and real.

The CHAIR: Excellent. Thank you very much, Professor. We will now turn to some questions.

Ms SUE HIGGINSON: Mr Bourne, I was accused this morning of presenting a juvenile view to the Minerals Council because I suggested that their submission to us was that they are now providing a smaller packet of cigarettes to lung cancer patients rather than a big packet of cigarettes to lung cancer patients, because they were presenting to us, "We've reduced our emissions somewhat and we shouldn't be picked on any longer and we should continue."

The Hon. WES FANG: Hear, hear!

Ms SUE HIGGINSON: Was my suggestion completely juvenile and outlandish—

The Hon. WES FANG: Yes. I can tell you that.

Ms SUE HIGGINSON: He's started already.

The CHAIR: Order! Please, Mr Fang. Desist from—

The Hon. WES FANG: I was just talking to Jacqui quietly.

The CHAIR: No, you weren't. Order! Mr Fang, please desist from interjection.

Ms SUE HIGGINSON: Apologies to the witnesses. Really, I suppose I'm not asking about whether I was being juvenile. I suppose what I'm asking is really that Minerals Council submission of trying to avoid and deflect what is a very real question—where I'm going to is where you said, "We need decreased emissions." If you could elaborate on that a bit in terms of that industry context, I'd be very grateful.

GREG BOURNE: Certainly. There's been a longstanding process for both the gas industry within Australia and also the coal industry within Australia of arguing, "We do it better, we do it cleaner than other people with coal, because our coal is so clean. That's really good. Indonesia would take it if we weren't doing it ourselves." That's the sort of argument. The attack language is very, very common from the oil industry. People in Western Australia know it with regard to the North West Shelf. I come from Western Australia originally. It is standard. It is a bullying tactic. Taking the high view, which is we know we have climate change, we know it's a problem, we know that every part of the globe's economy has to take action, we in Australia can lever it. In New South Wales we also have the issue, of course, of how do you transition people in each of the coal regions. That is not an easy thing to do, but you have to do it.

But knowing that it is closing—the industry, on a global basis—whether it be in 20 years or 15 years or longer, means that you have to take action. What I see with both the Minerals Council of Australia and the NSW Minerals Council's submissions, which I've read, is just the standard old stuff: "We need to keep doing it and we need to do it well. We are doing it well. Don't worry about us." They never talk also about "Oh by the way, we'd like you, the New South Wales Government, to pick up the remediation liabilities when we finally go bust." It is attack language, it stays attack language and it will always stay attack language. It will be the "drill, baby, drill", "dig, baby, dig" language.

Ms SUE HIGGINSON: Just on the Net Zero Commission's report today, and again I know we've all only skimmed it and not read it in complete detail, but their finding that continued extensions or expansions to coalmines in New South Wales are not consistent with emissions reductions targets in our laws—do you agree that to meet any of our ambitions we must say no to new coal? That refers to not just new coalmines but new expansions as well.

GREG BOURNE: Absolutely. It's in one sense illogical to expand and extend and think that the emissions will go down. They won't; they will go up. But given that financial investment decisions have not been made—it can't be counted yet—it shows that the trajectory is going down because things aren't expanding or extending. But the moment you put them in, the line continues on.

The way I see it—and, again, it's really good to see the report come out this morning—it is untenable, if you want to reduce emissions in New South Wales, to continue expanding or extending the coalmines, obviously. One other thing, though, for the coalmines is that they rely on being able to bank, effectively, extensions or expansions as coming, because it allows them to put off their remediation liabilities into 20 or 30 years to come. The moment they cannot show, in an accounting sense, that they have extension possibilities or expansion possibilities, they have to bring forward remediation costs, and that begins to become very painful to the dividend.

Ms SUE HIGGINSON: Could I ask you, please, Professor Rayner, you spoke about the idea that methane and methane abatement is this opportunity for us to do things better. With that proposition from the Net Zero Commission that expansions are inconsistent, do you see, with our methane abatement efforts, that expansions of coalmines would thwart that effort and opportunity?

PETER RAYNER: Yes. Basically, any time that you add a new potential source—and, in our case, that basically means exposing coal to the atmosphere so the methane can come off it—you're creating an extra difficulty for abatement. That abatement is never going to be perfect. You are almost certainly increasing emissions. So, yes, I think that would counter any abatement actions that we would take on current mines.

The Hon. JACQUI MUNRO: You gave some examples in the submission about the ways that advertising is used in the public. You mentioned schools. What does that look like? What does schools getting involved with fossil fuel companies look like?

LISA WILLS: That is a very interesting question. We are only recently starting to understand the full scale and scope of fossil fuel influence in schools across Australia, and that includes, obviously, in New South Wales. Certainly, there is scope for the New South Wales Government to act as the ACT Government has acted to ensure that fossil fuel sponsorship is no longer feasible in the school setting. Some of the examples that are the most prominent that come to mind and most recent actually come out of Queensland, not necessarily in relation to schools but certainly in relation to children's education. This week we learnt that Shell, Queensland's primary gas company, was providing $10.25 million to the Queensland Museum to, effectively, determine the nature of its children's education for children as young as nine.

We saw materials that were very much out of step with climate science that demonstrated that climate change is a passive thing that children have no means to enact any counter to, and that, we saw, can drive up climate anxiety for children. Where we see examples of fossil fuel advertising in schools, we attempt to engage primarily with the relevant departments of education. We know that in places like Victoria—no doubt in New South Wales too—there is a devolved model with schools, which is to say that schools determine their own structures and rules. But, where we can, we try to engage with schools, principals and parents, because we are concerned. It is case by case about the implications of these materials for children in a time of their critical development.

The Hon. JACQUI MUNRO: In terms of the Queensland example that you just gave, is it as clear as Shell reaches out to the museum and says, "Hey, we know that you're"—I don't know if they're having any financial difficulties or they just wanted an extra program and it's almost like a cold call to an organisation like that. Is that the idea?

LISA WILLS: We are in the process of putting in inquiries to find out exactly the nature of the contractual obligations. But what I can say is that there is no transparency around these companies engaging with taxpayer

funded cultural institutions. For example, what have companies like Shell forced Queensland Museum to promise in relation to children's education? We simply just don't know. In fact, the figure of $10.25 million, which is not a small sum, is not listed in the Queensland Museum's annual reports. That only came about as a result of our investigations. It is early days in this work, but we at Comms Declare are undertaking a full scope of the scale of this across Australia. If Queensland Museum is taking $10.25 million—and that is one example and the tip of the iceberg—then I'm certainly concerned for other institutions in New South Wales, including schools.

The Hon. JACQUI MUNRO: In relation to the ACT, were there particular examples that you could point to that led to that change in legislation?

LISA WILLS: Yes, there were some examples. For example, Ampol, the large petrol distributor, has their school awards, in which they provide high-performing students with petrol gift cards that can only be used at Ampol service stations—take from that what you will. We are concerned about this. The Ampol school rounding award exists across Australia. We now know, as a result of the ACT's prohibitions on this, that when you visit the Ampol website—in relation to schools—in the terms and conditions it notes that ACT students are no longer participating in the petrol giveaways which is, from our perspective, certainly a good thing.

The Hon. JACQUI MUNRO: Very interesting. Do you have any comments on the use of terms like "clean coal"?

LISA WILLS: We certainly do. A term like clean coal, as I'm sure Greg and others will attest to, in our view is simply climate obstructionist language. In fact, more recently—going to Greg's point on some of the language that is used as attack language—Comms Declare released what we called our climate obstruction bingo card, where you will see a whole list of terms akin to clean coal that we see, time and time again, fossil fuel companies use to distract and delay from the necessary transition to clean energy.

The Hon. JACQUI MUNRO: What is your understanding of the definition, for example, of clean coal, low-emissions gas, carbon neutral gas and that sort of language?

LISA WILLS: Our view is that that is most certainly a furphy. It is a marketing term. As an organisation made up largely of marketing individuals, we know marketing when we see it. This is absolutely a marketing term to distract from the very significant, high-carbon emissions of these industries.

The Hon. JACQUI MUNRO: Are you aware of anything that would constitute something like clean coal?

GREG BOURNE: No, there really isn't. The combinations of clean gas and clean coal come from the need to make it look clean. One of the ways we can do it with coal is to say, basically, "Ours is cleaner than Indonesia's." If you pick the wrong mine in Indonesia, you've got it the wrong way round. What we do is pick what we need to pick. With gas, you just say, "Our gas is cleaner than the old town gas that used to come off from coal" and things like that. It just becomes marketing mantra.

The other part of it is the education of politicians everywhere. I'll start in Western Australia. In 1996, Woodside first published how their gas was going to be cleaner, from a climate change point of view, and really helpful to China, Japan and elsewhere, and therefore we should do more of it. This would do nothing to slow down—and in 1996 this was correct—the growth of renewables. Of course by 2005 or 2006, renewables were beginning to grow. When you look at the data, what you see is that oil begins to go out of Japan; gas just keeps going up and up; renewables get slowed; China's growth in renewables get huge; and so on like that. It's an education, and that education goes through politicians, through staffers and all the way through. We need to do this, but that isn't the way the world is going now.

LISA WILLS: I would just add that I would think of a term like clean coal as akin to how the tobacco industry might talk about menthol cigarettes being better for you than a regular cigarette.

Ms SUE HIGGINSON: And Alpine lites.

GREG BOURNE: Or vapes.

LISA WILLS: Or vapes.

The Hon. JACQUI MUNRO: Does our online witness have any comments? Sorry, I missed you out.

PETER RAYNER: Yes. It's also a deliberate scientific misdirection. In the past, coal in particular was quite a serious problem from an air-quality point of view. People have used the term clean coal for one which causes less problems around various of the toxic air pollutants that are produced. It never was intended to mean that it was cleaner in a climate sense. No-one in the scientific community has ever used the term in that sense. It's quite an extraordinary thing for them to claim.

The Hon. WES FANG: Talking of definitions, do you agree that some of the language that's used around climate change can be somewhat alarmist, or do you think it's appropriately used by advocates?

LISA WILLS: Which of us would you—

The Hon. WES FANG: Anybody.

GREG BOURNE: Let me start. I was talking to Lisa earlier on about the graph I have at home of the temperatures in Western Australia that my grandmother and grandfather endured until their deaths, the temperatures that my parents endured—which are higher—until their deaths, the temperatures which will go on until I die, and the temperatures which my children will see as they see out this century. It is not alarmist by any means. The science is so solid—really so solid. Living in New South Wales, looking at the floods, the bushfires, the effects on people and the effects completely on our way of life, you begin to understand the import of this issue. Climate is changing, and we are having to change with it and are being affected very, very negatively by it.

The Hon. WES FANG: Given that you progress that view, is it fair to say, then, that the doomsday descriptions that can be provided to events—and we talk about fire and floods. I was around for the 2019-20 bushfires down in my part of the world in Wagga. We had the big fire just to the north-west of Tumut—the Dunns Road fire—and that went quite a big way. Ms Sue Higginson has been in Lismore, where we've had floods and the like. When these events occur, words like catastrophe and devastation—and they are devastating, but we attribute them to climate change. The language is quite strong there. Do you believe that that's appropriately used in those circumstances?

LISA WILLS: Mr Fang, dare I say, you've asked whether or not we believe that is the case. I'm sad to say it's a matter of scientific fact. It is, of course, concerning. I myself have a 13-month-old daughter. I look at the projections and, if I were not alarmed, I'm not sure I would be doing my job as a parent. As wonderful as it is to be here with you all today, dare I say, if climate change and climate crisis were not as significant as they were, I'm not sure I would be here. Perhaps many of us would be doing other things with our lives. Unfortunately, we look at the projections and we can see what's coming down the path. We can also see the opportunity that you each have in front of you to do something quite significant about it, which is really a remarkable position that you're in.

The Hon. WES FANG: Progressing that a little bit further, then, in circumstances where BP or Shell or Ampol might want to sponsor a school event, where is the harm in allowing those things to occur, when we know that, predominantly, the science-based aspects of climate change and the associated language are provided to children on a daily basis? Do you think that a fossil fuel organisation providing an academic or a sporting award to a school is in some way shifting the dial in terms of contributions that people will make in future?

GREG BOURNE: Perhaps I should answer that, having been an executive with BP and running BP Australasia and a few other places. At the time we started moving into renewables—

The Hon. WES FANG: Point of order: I'm not sure what you find so funny, Sue. This constant laughing—

The CHAIR: Order! That is not a point of order.

The Hon. WES FANG: Well—

The CHAIR: Order! That's not a point of order. We're hearing from Mr Bourne, so we'll continue to do that.

GREG BOURNE: I'll start again. Having been an executive with BP for many years and having seen our efforts at that particular time to transfer into renewables, selling out of coal—I actually sold the last coalmine that BP had in Australia—getting into renewables and getting to a particular point, all through that time we were providing educational staff to kids with regard to climate change, with regard to the possibilities of renewable energy. You will recall that eventually BP changed its CEO, changed its tack, and have basically gone back to sticking to the knitting. If you see the information that goes out now, it is very much "Isn't coal good? Isn't gas good? Isn't fossil fuel good?" It came back to where it was. If you look at two or three of the companies—and I put Exxon aside because Exxon has always been anti-climate change—what you see is the companies have said, "We need to stick to the knitting. We need to milk it as much as we possibly can. The future is actually pretty bad for us. We want the climate change agenda to fail. That way we can make dividends."

The Hon. WES FANG: Given the answer you provided that the language is appropriate, this is a catastrophe, it's all doomsday and you're worried about your 13-month-old, which I appreciate, and given that the rest of the world is effectively far behind where we are at the moment in relation to the reduction in emissions and that China, the US, India—all of these much larger countries with a lot more emissions—are still continuing to emit at the rate that they are, even if we were to turn off the tap tomorrow in New South Wales, and presumably

across Australia, we would make zero difference and the catastrophe that you keep talking about is going to hit us anyway. Even if we stop emitting tomorrow and are completely net zero tomorrow, nothing will change because the rest of the world is continuing to increase their emissions, so aren't we doomed anyway? Why not let them in to provide awards to the schools? You cannot have it both ways. You can't say that it's an absolute catastrophe and this is what has to be done or we're all going to die. Ultimately, even if we do it, nothing's going to change. We're not going to make any measurable difference.

GREG BOURNE: Perhaps I'll just give one geopolitical point, and point you to look at China. Basically China has been emitting a lot. Historically it's still got to catch up to America, but it is emitting a lot. But what it has done is it has built the biggest technological renewable energy battery storage, which is dominating the world, and which will continue to dominate the world. It will export to Africa in a big way. It already does export here and so on. It will continue to do that. That is an incredible gift to the world. Even as it does begin to decarbonise itself, and it is beginning to decarbonise itself, that's actually really doing something.

The Hon. WES FANG: Are they increasing or decreasing the number of coal-fired power stations?

GREG BOURNE: If I could continue.

The CHAIR: Order!

The Hon. WES FANG: Are they increasing or decreasing the number of coal-fired power stations that they operate?

The CHAIR: Order! Mr Fang, Mr Bourne was halfway through his answer. You'll get another chance to ask questions.

GREG BOURNE: If I could continue, China is going to drive that particular way. It's going to build many more renewable energy type technologies and pass them around the world. I will answer your question directly. It is increasing slightly, but you perhaps don't know that what has been happening in China is hundreds, and indeed thousands, of small coal-fired power stations built in the middle of cities are being closed. Nuclear power is taking over some of it. Gas-fired power stations are taking over some of it. Renewable energy is taking by far the vast amount. Some of the stuff that they're building will only be there for a short term.

The final thing I would say is if you do not think long, you do not have a future. You need to think long. One of the things I would say is that New South Wales in tackling climate change and its emissions has to think long as to what are the other technologies that we build here, what are the replacement technologies, which of our industries can we help transform into cleaner, which ones will die, and how do we help the people. But you have to be thinking long, and that's what I would suggest. Think long; plan ahead.

The Hon. WES FANG: I don't disagree.

Ms TRISH DOYLE: Hello, everyone. I want to express my appreciation to Professor Rayner, Ms Wills and Mr Bourne for being with us today. I join you today from the beautiful World Heritage listed Blue Mountains. I'm very keen to pursue, from a different angle, some of the points that my colleague Mr Fang has just raised. Ms Wills, you talked about the furphy of terms like "clean coal", and Mr Bourne, you made reference to the fact that polluters—the fossil fuel industry and companies—want to see action on climate change stutter and fail. To me, as a former educator, young people often have a lot to teach adults in this space. I think that we are at the crux of needing to address the kinds of climate denialist statements that Mr Fang just threw at us all.

The Hon. WES FANG: Point of order—

Ms TRISH DOYLE: It is important that we—

The CHAIR: Order! Mr Fang is taking a point of order.

The Hon. WES FANG: The Parliamentary Secretary is reflecting on the questions that I put. I wasn't making statements. I was putting questions to the witness. The witness has every right to answer the question in any way they see fit, but I'm entitled to put questions without having the Parliamentary Secretary reflect on the way that I put those questions.

Ms SUE HIGGINSON: To the point of order—

The CHAIR: I don't need to hear it. I would rather continue on. It's not a point of order.

The Hon. WES FANG: It is.

The CHAIR: It's not a point of order. Please continue, Ms Doyle.

Ms TRISH DOYLE: To each of the witnesses, if we are to not only combat climate change but also combat climate change denialists, what are some of the really important points that we need to be making in the media, in our Parliament and when talking to people on the street about the need to reduce emissions?

PETER RAYNER: One of the things that was really fundamental to the Superpower Institute when we set it up a few years ago was making sure that the evidence base around what climate change was, what we could do about it and what our contribution looked like was provided in a way that was open to scrutiny, so that every piece of data and every line of code that we use is available to anyone who wants to look at it, but that the data was also made available to people in a way that they could understand. For that, we've produced two websites, one called openelectricity.org and one called openmethane.org, which display the functioning of the electricity market and maps of Australia's methane emissions and the major contributions to those. We think that being honest, providing data to people in a way that they can clearly understand and can clearly use, but which is open to contest, is the strongest contribution that we can make to making sure that people really understand what's happening and really have the evidence base as communities to push for the changes that we need to make.

Ms TRISH DOYLE: Thanks, Professor. That's important. I think it's important for the Committee that we have this conversation today and that there be a record of it in the transcript. Mr Bourne, Ms Wills, do you want to add to that?

LISA WILLS: Yes, I'd be happy to build on the advice from Professor Rayner. I think it's spot on. I'll go back to the Queensland Museum most recent example. We'll happily provide a copy of the report for the Committee, as I think it's a very symbolic telling of what we see when we see fossil fuel companies incursions in children's education. First and foremost, what we saw in the Queensland Museum advice was that the material talked about climate change and "Yes, indeed, the climate is changing", but it was all very passive—"There is no particular agent of this." It was simply telling children, "This is the case," without providing a pathway of what they could do about it.

I'd also love to take an opportunity to provide to the Committee some very inspiring Australian research, which has only recently—as recent as last week—won a significant award. Some Australian researchers in children's education did the first study of what happens to young people when they receive information from fossil fuel companies about climate change. They found that, in receiving this material—which, again, is very passive and not at all historical—they saw that children's anxiety went up, and their mental wellbeing decreased.

Now, usually—and dare I say—some may be of the view that talking to children about climate change will naturally increase their anxiety. In fact, that's not what the data reflects. What we've seen is that if you provide children with the right information, in a way that they can understand, and provide them with a pathway forward to understand that there is something that they can do about it, and—in our view—primarily hold responsible the people for it, which is the fossil fuel companies, then you can increase their mental health and their wellbeing. The more truthful we are with our children and our teenagers, the better the outcomes for them and the better our society becomes.

GREG BOURNE: Again, evidence base is absolutely key. There are students of many ages, and by the time they're in year 11 and 12 they're already putting together spreadsheets. To find the data from a mining company as to how many tonnes it produced in which particular year, how many emissions came out from that particular company in that particular year, and how much methane came out is virtually impossible to do, yet it should be so simple to do. When you have that sort of evidence base, and you have a bunch of year 11 and year 12s together with their science teacher, I have no doubt that the communication begins to become very real. Marry that into the climate science of what's happening temperature-wise—when you see more emissions coming out—and you have a wealth of good information. Data is key—hindcast data, forecast data, but time series data.

Ms SUE HIGGINSON: I have one question for you, Ms Wills, or anyone if they've looked into this. What is the reason or motivation or incentive for anyone to engage in advertising, particularly with young people, including through sponsorship?

LISA WILLS: It's very simple. It's because it works.

Ms SUE HIGGINSON: And when you say "because it works"?

LISA WILLS: Companies like Shell, obviously, and other large-scale fossil fuel companies have extraordinary sums of profits to work with in this country. They've gone and spent, for example, $10.25 million at Queensland Museum, which, for some of us, is a significant sum of money. They do this because it works and because it shifts the public perception in their favour. They're speaking to children at a vulnerable time in their development. Another example is that Shell at Queensland Museum also sponsored a dinosaur-related exhibit. Separately, I found other examples of fossil fuel companies seemingly interested in dinosaurs. I couldn't quite figure out why, until I realized that what they're doing is promoting exhibitions related to fossils so that children

have a positive association with the word fossil as opposed to fossil fuel, which, of course, is centred to the primary crisis of their time. They know that by making insinuations and by shifting these children at this vulnerable period in their development, perhaps they'll have better luck with these upcoming generations than they've had with ours.

The Hon. WES FANG: Did they say that was their reason, or have you just presumed that?

LISA WILLS: We've determined that?

The Hon. WES FANG: How?

LISA WILLS: Through—

The Hon. WES FANG: How did you determine that?

LISA WILLS: We determined that by the patterns of misinformation that we see from these companies on the regular.

The Hon. WES FANG: How did you determine that sponsoring a museum exhibit about dinosaurs is somehow trying to sculpt children's minds into linking dinosaurs to petrol?

LISA WILLS: Mr Fang, I'd be happy to provide you with a copy of the report so that you have that full advice.

Ms SUE HIGGINSON: Just following on with the question, Mr Bourne, did you have anything that you wanted to add about that? Having run one of the largest fossil fuel corporations in the world, have you got anything to add to that in terms of that motivation and reasoning?

GREG BOURNE: If I go back to the 1996 Woodside motivation and the report that came out, which is marked "commercial in confidence" but is available now, absolutely it was written to assure people that what was going on with LNG was going to be really good. Mr Buckingham already talked about pollution in places like Guangzhou, Shanghai and elsewhere. I remember going in 2004 to Guangzhou, where the Mayor of Guangzhou said, "Thank goodness we've got LNG, because now we can clean up our atmosphere." That was the key. As companies began to say, "What are we doing this for?" in the initial days it was for cleaning up the coal pollution, as it were. As things moved forward and climate change became more and more a real and, indeed, existential threat to these companies, they acted in two different ways. One was: Get out of the heavy stuff; can you get into renewables? The other one was: Stick to the knitting.

You're always thinking about what you're doing. The communication is about what you're doing for the future. BP, up until 2006 or 2007, was basically saying, "We're going to go the renewables way." Eventually, it slowly but surely shifted back to, "No. We can't become a renewables company anymore. We left it too late." The communication is always focused on, "How can we be good citizens in the world that we see?" The way they are seeing it now is that geopolitics will take it out of their hands, so they can just make hay while the sun shines. That's the way it is going at the moment. It's pretty awful.

The CHAIR: Thank you very much to all of you for the evidence you have given today. The time for questions has concluded for this session. Thank you very much, Professor Rayner. I really appreciate your attendance and your submission, and you too, Ms Wills and Mr Bourne. If there are any questions from members, the secretariat will be in contact in due course. Thank you very much for your attendance today, your submissions and the work you do.

(The witnesses withdrew.)

(Short adjournment)

Mr NICHOLAS ROWLEY, Chair, NSW Net Zero Commission, affirmed and examined

Dr WILL RAYWARD-SMITH, Executive Director, Net Zero Commission, affirmed and examined

The CHAIR: We will recommence our hearing into emissions from the fossil fuel sector with our witnesses from the newly minted Net Zero Commission. Would you like to make an introductory statement?

NICHOLAS ROWLEY: I would, thank you very much, Chair. The Net Zero Commission was borne of this Parliament. The commission would not exist if not for decisions made here in this place. More than the decision establishing the State's 2030 and 2035 emissions reduction targets and net zero goal, our commission enables New South Wales to track progress and advise on how these targets can be most effectively and equitably met. We are pleased to report to this Joint Standing Committee and be guided by your recommendations on how the commission may best fulfil its legislated functions.

If there's one thing that I have learnt in my time working on the global climate problem, which stretches back almost 30 years, it is that we will not achieve what many advocates seek—that is, policy certainty in relation to how we respond to climate risk. Why do I say that? Because as parliamentarians, as you are, I would ask you to think on whether we have policy certainty in the areas of health, transport, security, economy or any other of the major policy challenges that we face here in New South Wales. I simply don't think it's achievable. However, when it comes to climate policy and effective climate policy, we do need to achieve a measure of stability and continuity, and I'll add one other word: rigour. The "how" questions in policy are much harder than the "what" questions, and establishing agreement on the "what" questions is hard enough. But one of the ways of achieving stability and continuity is through the law, is through legislation and through establishing institutions in the law.

Climate response may not always be at the top of the table, but it needs to be at the table, and the reason why it needs to be at the table is not just because we care deeply about the risks associated with climate change in the broad, but I ask you or any of your colleagues to think on a policy challenge in this part of the world that will become easier under a two-, three- or four-degree warming scenario. They all become harder. In response to the earlier recommendation from this Joint Standing Committee, and in support of this inquiry, today the Commission released its first spotlight report into coalmining emissions. The report examines how emissions from coalmining in New South Wales can be reduced, particularly fugitive emissions from methane. You will have heard a lot on some of the technical elements of how we think about these emissions—methane emissions and other forms of emissions—earlier in your deliberations today.

Much as the coalmining industry has innovated to make progress in safety, automation and efficiency, we believe the industry can now play its part in contributing to the emissions reductions required to help achieve the State's legislated targets, being 50 per cent by 30 June 2030 and 70 per cent by 30 June 2035, all within the Climate Change (Net Zero Future) Act, which was accepted with bipartisan support back in 2023. We're very happy to speak to the report today and provide a further briefing at any time to you in the Committee. I'd really value the opportunity to do that, and I'm sure our staff would as well, and then we can have a rich conversation about the report, what we know, what lies behind our findings and how useful they can be. We take the work and deliberations of this Committee seriously, and we look forward to your questions today and supporting your work into the future.

The CHAIR: Thank you very much, Mr Rowley. We will take you up on that offer of a briefing regarding the *Coal Mining Emissions Spotlight Report*. It's comprehensive, great work, and there's a lot in there. We're going to digest and then we will do that in the new year. Do you want to say something as well, Dr Rayward-Smith?

WILL RAYWARD-SMITH: Yes, please. The climate change Act 2023 gives effect to the Paris Agreement commitment. In enacting the climate change Act, the New South Wales Parliament recognised the scientific consensus around human-induced climate change and that action is urgently required to reduce greenhouse gas emissions. Existing coalmining operations generate 12 per cent of New South Wales' emissions, and while emissions have reduced since 2004 through closure of several gassy underground coalmines, more can be done to abate emissions onsite across existing mining operations. There are 17 proposed extensions and expansions to existing coalmining operations, and these threaten to reverse the trajectory of reducing emissions from coalmining in New South Wales. The commission's 2024 annual report found that New South Wales is not on track to meet its legislated emissions reduction targets for 2030 and 2035, that all sectors must play their part, and that potential emissions increases from one sector may require other sectors to make greater reductions.

The Joint Standing Committee's inquiry into our annual report recommended that the commission provide a further report on the resources sector, including methane abatement technology and fugitive emissions, as a matter of urgency. Accordingly, we examined emissions from coalmining, releasing our *Coal Mining Emissions Spotlight Report*. Regarding our process to produce the report, the commission established a list of issues to

robustly and objectively explore coalmining emissions. Evidence was gathered from comprehensive stakeholder engagement, industry data, regulatory information, expert input and scientific literature. We directly engaged with more than 40 stakeholders, including coalmine operators, the NSW Minerals Council, government agencies, civil society groups and international equipment suppliers. We received more than 110 submissions on the resources sector and visited underground and open-cut coalmines. We thank all those who engaged with the Net Zero Commission to inform this report. All eight commissioners contributed to the Spotlight Report and its findings culminating in today's release. The Spotlight Report has five findings, supported by evidence presented within the report. Finding 1:

> In order for NSW emissions targets to remain achievable, on-site abatement at existing mines is essential, particularly to reduce fugitive emissions. Additional regulatory measures will be required to achieve measurable on-site abatement.

Finding 2:

> The Commonwealth and NSW Governments are working to improve the accuracy of fugitive emissions reporting at open cut coal mines. Collaboration across these efforts could accelerate and strengthen outcomes.

Finding 3:

> Consistent with the objectives of the Climate Change Act, NSW consent authorities need to meaningfully consider greenhouse gas emissions and their impacts in all planning decisions, including those for additional coal mining.

Finding 4:

> Continued extensions or expansions to coal mining in NSW are not consistent with the emissions reduction targets in the Climate Change Act or the Paris Agreement temperature goals it gives effect to.

Finding 5:

> NSW Government will need to prioritise its consideration of policies that systematically prepare for the decline of coal extraction and provide for a just and orderly transition for coal-producing communities and impacted regional economies.

The commission has produced this first evidence-based Spotlight Report to support New South Wales in its progress towards the legislated climate goals. The commission is not a policymaker; it is the role of the New South Wales Government to determine its policy response to our advice. We thank you for the opportunity to be an invited witness in this inquiry and look forward to working with this Joint Standing Committee in 2026 and beyond.

Ms TRISH DOYLE: Thanks to our commission who are here today. We appreciate the work you've done on the Spotlight Report. I might note there have been a number of recent articles and questions relating to the commission's knowledge and professional experiences of the resources and coal sector. Can the chair inform the Committee of the Net Zero Commission's credentials in this regard, please?

NICHOLAS ROWLEY: Are you up there in the Blue Mountains?

Ms TRISH DOYLE: I am in the beautiful World Heritage listed Blue Mountains.

NICHOLAS ROWLEY: I don't think Hansard needs to note, but a dear friend of mine has just moved up to Blackheath. That's just by way of context. Thank you for your question. Following on, largely, I think, from budget estimates, there has been quite a few comments made in relation to the credentials that we have as a commission—that we are a waste of money. I'm fully happy to accept that. We're a pretty lean organisation. I was clear in budget estimates what our budget was: just over $6 million a year. I would invite any member of Parliament to look at other equivalent spend. I think we are a very professional and lean organisation employing only 25 people.

The people who work with us, who are very fine professionals who care deeply about the climate problem, didn't just start caring deeply about the climate problem when they walked through the doors of the Net Zero Commission—surprisingly enough. Much like people who work in the department of health, who know a fair bit about health and care deeply about human health, or people who work in the Department of Education, who have serious qualifications in terms of them caring about public education, the people who work for the New South Wales Net Zero Commission also care deeply about reducing the risks of global climate change. I am very proud of our staff, all of them, including Will, who might want to talk to his credentials in a bit.

In terms of my credentials, I've been experienced at working on the energy transition and the policies required to achieve it in the most effective and equitable way here in Australia, the UK and indeed I've worked internationally. This work has included my time working in the Downing Street policy directorate from 2004 to 2006. If you ever see Downing Street, I had the office right above the black door. As I was working there, I was leading efforts to align energy, economic and climate policy by the UK Government and Prime Minister.

I was also part of the team working on the UK's 2005 G8 presidency, bringing together energy, economic and environment Ministers from all the G8 countries for the first time to look at what was an adequate policy response to reduce the risks of global climate change. More than that, we included economic Ministers, energy Ministers and environment Ministers from the "plus five" nations beyond the G8, including China, South Africa, India, Mexico and Brazil. I'm also very proud, in my time of having worked in Downing Street, of helping initiate the seminal review into the economics of climate change undertaken by Lord Stern of Brentford, a former economist of the World Bank, whose father was a *Dunera* boy who was interned just outside Hay. Nick is a very eminent international economist, but he's also an extraordinarily good man and someone who has a very deep connection with this part of the world.

In my time at Downing Street and subsequently, I've drawn on and worked with the senior leadership, as you would expect, of several of the world's largest energy companies. I noted you had Greg Bourne here earlier, who used to lead BP here in Australia. I've known Greg for many years. He's gone through quite a transition—an epiphany—as some men do. Some go that way; some go another way. He's gone one way. He used to head up BP, then went to WWF, and now works with the Climate Council. When I was at Downing Street, I worked directly with the global CEO of BP, being Lord Browne of Madingley, who indeed did commence Beyond Petroleum, which was a really important moment in time. Offline, we can discuss quite what BP has done in subsequent years. I did work directly with Lord Browne. I also worked directly with the non-executive chair of Shell, being Ron Oxburgh, one of the world's leading geologists and a world-renowned energy expert, who's still gunning at 91 years old, and he's truly wise.

As strategic director of the Copenhagen Climate Council for three years prior to the 2009 COP in Copenhagen, I worked directly with the CEOs of major energy companies, including the US-based Duke Energy; China-based China Light and Power; Statoil, which is now called Equinor, the largest energy company in Norway; and DONG Energy, now called Orsted, which is Denmark's largest energy company. When it comes to the specifics of coal, it's not a major piece of my professional experience or career but I have played a modest role working with other advisers in the UK advising Drax, which was formerly the largest coal-fired power company in the United Kingdom. 2GB hasn't made anything of that, but I don't know if they will in the future. That's my best to try to give you a sense that my credentials probably are broad and deep enough to show that I have more than a crude perspective in relation to how we respond to the global climate problem. Will, did you want—

Ms TRISH DOYLE: Excellent, thank you very much, Mr Chair of the commission.

NICHOLAS ROWLEY: It actually feels rather strange to have to do that, to be honest. I thought about how we'd do that. I thought, "Oh, maybe I should talk about Will and Will should talk about me," because it just seems like somebody crowing, but I do actually want to get on the record my credentials. Other people can talk for themselves. Will, I know that you wanted to say a little about your background.

The CHAIR: Dr Rayward-Smith, would you like to crow?

WILL RAYWARD-SMITH: Thank you very much. I've spent much of my career supporting the decarbonisation of the resources sector. I studied my PhD at the BP Institute at the University of Cambridge. My research received funding from the European Union to advance understanding and techniques for safe, long-term carbon capture and storage in deep geological formations. In Australia I pioneered work to reduce the emissions of the resources sector by founding a business to provide reliable renewable energy to resources projects, in particular overcoming the mine life barrier by making solar redeployable. My first project was at AP LNG, where we developed and deployed a solar farm to power a remote worker village, lowering costs and reducing emissions. I manufactured that asset with a factory in Newcastle that was previously manufacturing conveyor belts for the coalmining industry. That asset was recently relocated to a mine in South Australia, where it is lowering costs and reducing emissions there.

My second project was at the South32 Cannington mine in Queensland. That's the very first hybridisation of an off-grid gas-powered mine with solar. That solar farm has reduced emissions by more than 15,000 tonnes of CO2 equivalent. So I have rolled up my sleeves and have deep firsthand experience of commercialising, engineering, financing and safely delivering emissions reduction projects at resources projects in Australia. I've delivered keynote addresses at the energy and mines summits in Perth for my work at the intersection of the resources sector and decarbonisation. As a partner at a professional services company, I advised the resources sector on pathways to decarbonise.

Examples of my work include abatement technology, landscape reviews for a global mining giant, advising a multinational gas company on its journey to becoming a clean energy company and investment opportunities in New South Wales, and a decarbonisation road map for Australian alumina refining with Alcoa, Rio Tinto, South32 and the Commonwealth Government. I also supported the establishment of the Climate Leaders Coalition, which includes various resources companies such as Woodside, Santos and Fortescue, all supporting Australia's

commitment to the Paris Agreement—much like the commitment made by the Minerals Council of Australia and their members who, within their climate action plan, commit to their support of the Paris Agreement.

Ms TRISH DOYLE: Thank you both so much for that very comprehensive reply. I do think it's important to have that on record, and it's seriously impressive.

The Hon. JACQUI MUNRO: Do you think New South Wales should establish a specific methane reduction standard for the resources sector?

NICHOLAS ROWLEY: It is not something we have found or presented in the report itself. As chair of the commission, I have the pleasure of working with my fellow commissioners, who have broad experience in relation to how we best respond to the climate problem and develop adequate policy and regulation with regard to it. An ex-officio member of the commission is Hugh Durrant-Whyte, who people may know. He is the chief economist and scientist here in New South Wales and—well, it goes without saying, but an extraordinarily impressive man with real background. I would be referring that question to the commission in terms of getting his perspective on it and whether or not—given the work that the team has done in all of the time that it's taken to put together such a detailed report—they could actually reflect on that question and think. Or is it actually something that's well beyond a State of this size, and is there another way that we can advocate for how it is we might more effectively regulate methane in New South Wales, drawing on experience further afield? Will, did you want to add something?

WILL RAYWARD-SMITH: We've found that in order for New South Wales emissions targets to remain achievable, onsite abatement at existing mines is essential, particularly to reduce fugitive emissions. We've highlighted that additional regulatory measures will be required to achieve measurable onsite abatement. Current policy settings under the safeguard are unlikely to deliver strong enough signals to progress onsite abatement with the urgency required to achieve the legislated targets within the climate change Act. The commission welcomes the EPA's work to better regulate emissions from operating coalmines. However, as outlined in the spotlight report, the commission considers that an outcomes-based approach to regulating emissions from coalmines will help increase the certainty of achieving emissions reduction outcomes. The outcomes-based approach should prioritise highest emitting mines first, have clear time frames for abatement requirements and strongly limit the use of exemptions and offsets.

The Hon. JACQUI MUNRO: Have you had any interaction with the new Investment Delivery Authority?

NICHOLAS ROWLEY: I haven't. Will?

WILL RAYWARD-SMITH: We have not.

The Hon. JACQUI MUNRO: Would you proactively engage with them, given they've got this rather opaque approach to development applications and planning, to assist them with any new energy requirements and potential for fossil fuel emissions growth?

NICHOLAS ROWLEY: I think it's an interesting question. It's very new. That's the first thing to say. I think that the thinking behind it is, "How can developments be fast-tracked?" Of course, there are always tensions in government in relation to existing regulations, existing processes and then the will for greater speed et cetera. I know that you know and care a lot about the impact of data centres, for example, here in New South Wales. There is a tension there, and there's a question there about part of government actually wanting to examine the impact of these things and a part of government actually wanting more of these things. I think that that's under active consideration and you will have heard the questions, and there will be some on-notice questions that will be answered in relation to that question.

It's an easy thing to say, I know, but I think it's a really genuinely good question. We're always cognisant of, in terms of our internal relationships in New South Wales, how can we not just be the finger-wagging, "Don't do that; can't do that" because of our emissions reduction targets? But how can we work with you to better understand quite how you can help contribute to measurable, reportable and verifiable emissions reduction given the tasks that you have? We want to be more than a naysaying agent and more a useful contributor to how we can learn together and do these things well.

WILL RAYWARD-SMITH: I think the specific role of the Investment Delivery Authority is not a matter the commission has considered in depth at this stage. However, in line with finding 3, the commission has found that, consistent with the objectives of the climate change Act, New South Wales consent authorities need to meaningfully consider greenhouse gas emissions and their impact in all planning decisions, including those for additional coalmining.

The Hon. JACQUI MUNRO: Given finding 3, is it your intention to make proactive representations to the IDA to actually follow up on that finding and try to make that finding have a concrete representation?

NICHOLAS ROWLEY: I think it's an excellent suggestion and I think we need to consider it, but it's not something I'm going to sit here as a chair of a commission and say yes to, because it will have to be—

The Hon. JACQUI MUNRO: Is that because you need Minister Sharpe to advise? Because my understanding was that given you've got the powers of a commission, you can be quite separate if you want.

NICHOLAS ROWLEY: Yes. But you see, Hugh Durrant-Whyte is Chief Scientist but I'm not chief climate commissioner. I'm just chair, so it's really a question—

The Hon. JACQUI MUNRO: So who would make that decision?

NICHOLAS ROWLEY: We can, as a commission. But it would be a collective decision.

The Hon. JACQUI MUNRO: I see what you're saying. I understand.

NICHOLAS ROWLEY: But it's not something I can respond to here.

The Hon. JACQUI MUNRO: I understand. So will you take it to the fellow commissioners?

NICHOLAS ROWLEY: Absolutely. We've got a meeting on Monday, so we'll make sure that we do.

The Hon. JACQUI MUNRO: If you do take that to the commission and a decision is made, is that decision then made public in some way, or that communication between the commissioners and the IDA made public?

NICHOLAS ROWLEY: It depends what the nature of it is. We as the committee may be aware we've already written in terms of how our function relates to the decisions that are taken by the Independent Planning Commission, also the department of planning and housing—and whatever the rest of the words are in the long acronym. We've already written, clearly indicating to them the considerations that they should be taking into account given New South Wales legislation. If we were to do the equivalent with any other agency in New South Wales, I am pretty sure that would have to be open, clear, on our website and readily available.

The Hon. JACQUI MUNRO: Just finally, because I know other people want to ask questions as well. With finding 5 and the idea of an orderly transition for coal-producing communities and impacted regional communities, is that finding saying that there is not really anything in existence at the moment that delivers that?

NICHOLAS ROWLEY: On the detail, I'm going to ask Will to respond, but I will just say something prior: There is plenty of work going on in terms of how to think about that transition. That work happens at a variety of different levels, as well as at a local level. It also happens at a national level, so if you look at the Net Zero Economy Authority, they're absolutely tasked with how to assist communities in relation to that transition, and they're doing work across Australia with regard to that—David Shankey, John Connor and his team there. They're also quite a young organisation. They're a rather bigger, wealthier organisation than little old Net Zero Commission, but they're doing the work on the really important management of the social impacts of transitions, and this is a very major transition.

I was speaking to someone just the other day who said, "Yes, but Nick, you shouldn't overplay the nature of this transition because when were we talking about a just transition for people who worked for Kodak?" I said—and I won't name the person—"You completely misunderstand the nature of the transition." It's so much more fundamental than a transition relating to how it is we use chemicals to create photographs. It's absolutely intrinsic to our economy and our energy system. Our energy system in New South Wales or anywhere else is deeply linked to the wealth that we can generate within society. It's something that we should never take lightly. It's enormously important and something we as a commission are very cognisant of. That transition isn't just minimising risk for people living in regional areas; it also needs to really speak to the benefits of it as well. Will, did you want to answer?

WILL RAYWARD-SMITH: Certainly. Our report identifies that there are certain things in place already. But we, within finding 5, highlight that these need to be prioritised. We find that empathetic leadership and coordination is needed to ensure a just and equitable transition, and that coal producing communities in the Hunter, the Central West, the Illawarra and the North West regions have significant generational connections to coalmining, which should be understood, acknowledged and respected in the design of transition policies, and that achieving a just and equitable transition requires engagement between all levels of government, affected communities and industry. This is not the first large-scale industry restructure Australia has faced, with deep experience in restructuring industries.

The Hon. WES FANG: Mr Rowley, this is the second time in eight days we've been sitting opposite each other tackling some of these issues. You would have heard some of the themes that have come out of this morning's hearings. You would have had staff watching, or you would have been watching yourself, the Committee doing its work this morning.

NICHOLAS ROWLEY: I haven't, actually. The reason why not is not that I don't take the deliberations very seriously. I think that you've had a really—I don't know how you're feeling at this particular point in the afternoon.

The Hon. WES FANG: I'm on two calls, so it has not been a great day. But that's a whole another thing.

NICHOLAS ROWLEY: But the general breadth and quality of the people who have fronted up here today will be able to give the Committee a very clear understanding with regard to the contribution that coal and mining could make to achieving emissions reduction, and that's across the board. It is a really impressive group. That's something to be applauded, actually. I don't want to go into this in great depth, but it's to be applauded in a democracy that a Committee like this can interrogate not only us but others in terms of the perspective. I might just be a little bit of a policy wonk. I will go back into the transcripts of today and I will make contact with people in relation to some of the input that they will have given you as a Committee and go, "I didn't realise. What lies behind this?" I know some of the people, but I don't know all of them, by any means. Rather than just sitting there, I've been much more focused on how Will and I can be as effective as possible here and now rather than observing through the day.

The Hon. WES FANG: So you're wargaming instead of watching. That's okay. That's all good. The reason I was asking was that multiple times today there has been a question—and, I'll admit, I've been putting that question—about how and why a report that was so critical to the hearing today was released to the public at 6.00 a.m. this morning. We were provided an advanced copy so that we could look at it overnight. Obviously, it was leaked to the media as well. *The Newcastle Herald* has it on their front page. How is it that the commission releases a report, say, three hours before the first witness, being the Minerals Council, is able to effectively read it and respond to what is, fundamentally, the main document that has made up the majority of the questions today?

How does the commission not view that in any way other than through a prism of political interference? Why not release it a week ago so that people could absorb it and understand it? Then we could all come at it with an informed view. Why release it three hours before the first witnesses, who were the industry that were actually the target of this report, were actually able to read it?

NICHOLAS ROWLEY: It's a long question, and it's a good question. I understand why you would frame the question and may have been asking these questions through the day. Before I go to Will, who can answer in great detail in terms of the process and the decision, can I just ask what you meant by "political interference"? I didn't understand that.

The Hon. WES FANG: It seems to me to be a political hit job. Not only was the report from the Net Zero Commission released at 6.00 a.m. this morning, giving the Minerals Council no time to effectively understand and respond to it before they appeared this morning, but there was also—I keep forgetting their name. It's one of these small companies—Common Capital. Common Capital released their report last night as well. It seems to be a coordinated hit job. The fact that you've got the Net Zero Commission—I quite like you. You appeared before me eight days ago, and you're here now. You're very personable. You seem like you're the right person for the job. That's all great. Credit where credit is due. When you do something like this, it severely undermines the work that you're going to do, because it looks like a coordinated political hit job by your organisation and other third parties on an industry. Why not provide it with enough time so that people can actually digest it, understand it and respond to it appropriately?

NICHOLAS ROWLEY: I think I understand what you mean by "political hit job". It certainly wasn't a political hit job in that sense at all. We were very keen, as a commission, not to just come here and say this is a work in progress and a report is coming—then it will be "it's too late" or "it's too long" et cetera. We really undertook this report with great seriousness. It's been a very challenging piece of work for us to do. It's the first cab off the rank in that you're going straight into the world of political economy in New South Wales, and that is really hard. I understand that it's a contested space. Wes, I know you're using rhetoric here. There is absolutely no sense that myself, as chair of the commission, or fellow commissioners were thinking, "Ha-ha, how can we be particularly clever about how it is we put something into the public domain and ensure that it is out there prior to the deliberations of this Committee?" We absolutely want to brief this Committee in relation to the detail of it further to today.

The Hon. WES FANG: I genuinely believe you. That is why it surprises me that you would do this and actually release it—

The Hon. MARK BUTTIGIEG: Point of order—

Ms SUE HIGGINSON: Just before we go to the point of order, I indicate that we've only got a few minutes left. I haven't had the chance to ask any questions yet. What is the point of order?

The Hon. MARK BUTTIGIEG: The point of order is that the member attempts to make a polemical or political point which, to his credit, the witness has answered directly. Now the political point is being made again. Is there a question or not?

Ms SUE HIGGINSON: Mr Fang, if you wouldn't mind, because of time, if you have another question, would you be able to put it so we can afford some more questions?

The Hon. WES FANG: Was there any coordination between the Net Zero Commission and Common Capital in relation to this, given that Katerina Kimmorley is one of the people that is involved with Boundless Earth that commissioned the Common Capital report? There are a lot of linkages and ties here that would suggest that the timing of the release of these reports wasn't accidental but that it was coordinated and that it was, in fact, a political hit job.

NICHOLAS ROWLEY: I was going to go to Will to answer in detail. I fully respect that you have concerns about the manner in which this report was released. I think that your perspective is wrong. Rather than taking up time now, I am very happy to go through all of the questions that you have regarding this process. I can absolutely guarantee that to describe that process as a political hit job is simply wrong. It's easy for me to say, but I'm very happy to write back. I think probably, in terms of process, the best thing to do is to write to the Chair directly. I can write to the Chair directly.

Ms SUE HIGGINSON: If you'd like to take that on notice and provide that further, you're very welcome to do that as well.

NICHOLAS ROWLEY: Either way, in terms of Mr Fang's perspective, I'm very happy to get back to him with the detail in relation to why the report was released at this time and in the way that it was.

Ms SUE HIGGINSON: Thank you. When you previously gave evidence about taking an outcomes approach to methane reduction, particularly in relation to specific mines and mine projects, and that that is perhaps the best way that we will achieve what we're all striving to achieve together, does that suggest—or am I reading too much—that you think that one of the ways to do that is to impose methane limits through the licensing scheme that we have now?

NICHOLAS ROWLEY: I've probably spoken too much, and I respect all of the work that Will has done.

WILL RAYWARD-SMITH: I might just provide some commentary with regard to Safeguard and then how that links through to what additional regulatory measures may be required.

Ms SUE HIGGINSON: Can I ask you, when you're doing that, just to bear in mind that we heard quite clear evidence today that individual mines—big ones—relying on the Safeguard Mechanism are, in fact, going to be increasing emissions for quite a long period of time.

WILL RAYWARD-SMITH: The Safeguard Mechanism incentivises, but it does not require onsite abatement at covered facilities. Additional regulatory measures will be required to achieve measurable onsite abatement. Current policy settings under the Safeguard are unlikely to deliver strong enough signals to progress onsite abatement with the urgency required to achieve the legislated targets within the climate change Act. This is because Safeguard baselines are set on the basis of emissions intensities, which is the amount of emissions produced per unit of production rather than total emissions. This means if mines increase production, total emissions can increase as long as emissions per unit of production decline. New South Wales targets require absolute reductions in total net annual emissions.

Secondly, while the Safeguard incentivises facilities to reduce onsite emissions, there are various alternative compliance options. To meet declining emissions limits, Safeguard facilities can borrow from the following year's baseline, apply for a five-year combined baseline allowance instead of an annual allowance, and purchase and surrender carbon credits. There are currently no restrictions on the use of carbon credits, so those are either Australian carbon credit units or Safeguard Mechanism credits for a facility to meet its baseline. While ACCUs and SMCs can support carbon storage and actions to reduce or avoid emissions, the source of the credit may not be in New South Wales and, in those cases, would not count towards New South Wales emissions reduction targets.

With regard to the outcomes-based approach, the commission's view is that it must prioritise highest emitting mines first. The top five emitting mines in New South Wales account for 44 per cent of coalmining fugitive emissions. Also, the outcomes-based approach should have clear time frames for abatement requirements

and strongly limit the use of exemptions or offsets. We've heard very much from industry that different coalmines have varying geology and emissions profiles, as well as other characteristics, which affect the choice of abatement technology, and an outcomes-based approach allows operators to choose the option that best suits their mine's characteristics. In addition, new regulatory requirements should be coordinated between the EPA and the NSW Resources Regulator to address regulatory barriers raised during the commission's stakeholder consultation regarding installing regenerative thermal oxidisers—RTOs—for example.

Ms SUE HIGGINSON: Thank you. That's all very clear and very helpful. We're very desperately coming to the end of the session, unfortunately, but I just want to ask two things. I think you suggested—it might have been in the previous hearing—that the Net Zero Commission was considering giving advice to the NSW EPA on its draft coal mitigation guide. I'm just curious, did that ever happen? It may be something publicly available. If it did happen and it's not available, is it available?

NICHOLAS ROWLEY: I only started in September, so it may well have happened prior to that. One thing I can say, and I note that Tony Chappel will be appearing in short while, is that it's very important that we have a very clear and positive working relationship with the EPA in New South Wales.

WILL RAYWARD-SMITH: The Minister for Climate Change has written to the commission to request our advice on the NSW EPA *Proposed Greenhouse Gas Mitigation Guide for NSW Coal Mines*. Our spotlight report provides some commentary on the EPA's approach, but the commission intends to write to the Minister for Climate Change with our advice on the EPA coal guide, which will draw upon the findings of the spotlight report, before the end of January. That is subject to endorsement from the eight commissioners.

Ms SUE HIGGINSON: Finding 4 in your report is that the continued extensions or expansions are not consistent with our legal obligations, essentially—the emissions reduction targets in the Act. In terms of leading to that finding, was there concern that it might seem too controversial, or was that a finding that was, literally, ipso facto you would have to find that given the circumstances? Is there any extrapolation you can give to us, beyond this report, in terms of that finding?

NICHOLAS ROWLEY: I can maybe talk to that. I do feel very much like a chair when answering, because I need to think back to the conversations that we've had together as a commission and also the deliberations of our resources working group, which was very ably led, by the way, by Katerina Kimmorley, who is one of our commissioners. There absolutely was a sense that there are those who would regard that as really quite a controversial finding. But if you really just go back to the basics of climate science, it would be very strange if we didn't, in a report of this nature, have a finding that would indicate what that finding does.

Ms SUE HIGGINSON: I'm sorry to say that our time is up. It seems to have gone incredibly fast. At this point, I thank you very much for your evidence, for your time, and of course for the report and the timeliness of the report. While some may think there was some plan behind it, we deeply appreciate the timing. If there were any questions taken on notice, the secretariat will contact you with the time and the process around that. Once again, I thank you on behalf of the Committee. We look forward to our future engagement.

NICHOLAS ROWLEY: Thank you so much. I really hope we can organise a briefing in the new year. That would be great.

(The witnesses withdrew.)

Mr MATTHEW RILEY, Director, Climate and Atmospheric Science, NSW Department of Climate Change, Energy, the Environment and Water, affirmed and examined

Mr TONY CHAPPEL, Chief Executive Officer, NSW Environment Protection Authority, sworn and examined

Ms SHAGOFTA ALI, Director, Policy and Strategy, NSW Environment Protection Authority, sworn and examined

Ms SUE HIGGINSON: Welcome all. I'm sorry we're starting this session a bit late. Thank you very much to all three of you for making the time to give evidence. Would you like to make a short opening statement?

TONY CHAPPEL: I do have a short statement. Thank you for the invitation to appear before the Committee. I acknowledge the traditional owners of the land where we're gathered, the Gadigal people of the Eora nation, whose ancestors have cared for country here since deep time and continue to share custodianship here, and I acknowledge Aboriginal and Torres Strait Islander people attending the hearing. As the primary environmental regulator for New South Wales, the EPA has a statutory duty to protect the environment and the community from the causes and consequences of climate change. Fossil methane is a particularly potent pollutant that the EPA has identified for immediate focus. Reducing fugitive methane emissions from coalmines is a priority for the EPA, because methane warms the earth much faster than carbon dioxide. Over the life of methane in the atmosphere, which I understand is about 12 years, it's over 100 times more potent as a heat-trapping gas than carbon dioxide. Over a 20-year time frame, it's approximately 82½ times more effective in trapping heat.

Methane's short atmospheric life and high potency means any reductions over the next few years will result in immediate climate benefits, and this makes reducing methane one of the most effective interventions available to reduce the rate of atmospheric warming and its impacts. In discharging our statutory obligations, the EPA is initially focusing on climate change requirements for its licence holders before broadening our focus to other parts of the economy. The coalmining sector is the largest source of methane emissions licensed by the EPA, making up 60 per cent of the methane emissions from our licence holders. It's also one of only two sectors where emissions are projected to increase in the years ahead. In the mining sector, fugitive emissions are expected to increase from 2023 to 2027, primarily due to increasing production in the short term. The other sector projected to increase emissions in the near term is the transport sector.

As with other environmental and safety risk management frameworks, we encourage businesses to take steps to avoid generating greenhouse gas emissions first and then reduce their emissions or substitute inputs, and only turn to offsets having completed those steps. This is particularly important for methane, where, as I've mentioned, reductions in the short term can have immediate benefits for the climate. While most New South Wales mines are covered by the Commonwealth Safeguard Mechanism, the Safeguard Mechanism is not delivering significant onsite methane reduction at New South Wales mines in the short to medium term. The Safeguard Mechanism places no limits on the use of offsets. It does not require the reduction of methane, and in the last reporting year approximately 40 per cent of the sector's emissions covered by the Safeguard Mechanism were below baselines. This essentially means that those mines generated credits and were not incentivised to take additional action.

Given the value of reducing methane, the EPA has recently consulted on a range of regulatory actions to complement the Safeguard Mechanism and help drive onsite abatement at New South Wales coalmines. These included requirements around ventilation air methane abatement by 2030, pre-drainage and flaring of gas by 2027, and the minimisation of methane leaks from old mine workings by July 2027. The EPA has received a broad range of submissions on these proposals and is in the process of reviewing those submissions before finalising our regulatory approach. Thank you.

Ms SUE HIGGINSON: Thank you very much. We will now move to questions.

The Hon. JACQUI MUNRO: You can start. You very generously gave me time earlier.

Ms SUE HIGGINSON: We heard evidence a little bit earlier—and it's in one of the submissions that we've received—that there is a perception that New South Wales is not applying the large emitters guide to the extent that we could and we should. There was some analysis provided that showed six coalmine expansion projects with assessments since the guide was released, but none of those actual projects had met the key, most important requirements of the guide. Have you received any of that feedback or criticism, or are you aware of that?

TONY CHAPPEL: I am aware of it. There's a couple of points to make in terms of the major emitters guide. The guideline is intended to guide proponents in how they characterise, quantify, estimate and deal with the climate pollution that their project will potentially create. It's important to understand that the EPA is not the

consent authority. We provide advice, and we'll provide advice as to whether that guide has been applied, and in a rigorous way. But, ultimately, it's the various consent authorities who make those determinations. The guide is really about enabling those consent authorities to have the appropriate information to make the right considerations and come to a decision on what's before them. The guide was intended to apply to projects that had not completed the EIS stage, so a number of projects in the system had moved progressively through.

The key distinctions in the guide, including the requirement for proponents to work through a hierarchy of measures—that first seeks to consider what emissions may be avoided by redesign or recalibration of a project, then seeks to look at effective mitigation measures on the site, and then moves through various steps before looking to offset the residual impacts as required—that's something that is a core consideration in how the EPA proposes that proponents address this issue, and it has shared that advice with our colleagues in planning agencies to help them address it. As we look at projects that are now coming through the system, I think you will see, very much, that guide in application.

Ms SUE HIGGINSON: How do you reconcile that, though, with the finding in the new report from the Net Zero Commission that any continued expansions would be inconsistent? Do you see what I'm saying? I think this idea that we're just going to keep going and keep having these new projects assessed, and that we'll apply these new standards—it almost seems that that ship has already sailed, or is that something that you don't necessarily see happening?

TONY CHAPPEL: Our role is to regulate pollution and reduce it to safe levels. Projects get approved or not approved, or they're approved in various modified forms through the appropriate pathway, and the EPA then licenses the operations to manage pollution down to safe levels. Just on your point, I think it's important to acknowledge that mining of various kinds is likely to be a critical part of the New South Wales economy for centuries to come. Just as the sector has now developed world-leading safety practice and expertise and safety records, we see that future for the sector in terms of net zero mining as well. It's not an easy thing to do, but—

Ms SUE HIGGINSON: Is that not a controversial statement? Obviously we're looking at fossil fuels here, and the emissions from the fossil fuel sector . Do you not think that's a controversial perspective for the regulator to hold when the Net Zero Commission is finding that continued extensions or expansions are inconsistent with our legal obligations?

TONY CHAPPEL: We'll certainly look carefully at those findings, and we need to unpack that report in detail. My comment was about mining more broadly.

Ms SUE HIGGINSON: I understand that.

TONY CHAPPEL: But I do think there's an opportunity for Australia to develop world-leading expertise in, essentially, zero carbon mining as well. My colleague Ms Ali might have a follow-up comment.

SHAGOFTA ALI: The only thing I would add is that what we're looking to do is really to try to drive onsite abatement and reduction of the greenhouse gas emissions from some of these proposals as well. That is intended to help support the various different findings in the Net Zero Commission's report as well.

Ms SUE HIGGINSON: I am very much seeing this in two tranches. There are clearly all the things in the pipeline that are not yet approved. Many people have been thinking that any new project seems a bit silly given our ambition and our collective goals. For the first time somebody has actually said it properly, rather than it just being in our thoughts. The other part is that we've got all these existing mines that are going for years and years, and they're a big problem. On that, Mr Chappel, you mentioned the word "licensing". I want to understand where we are. Obviously, the draft climate change licence requirements that were released state that you're not intending to impose greenhouse gas emission limits on facilities via EPLs in the short term. Where are we now in terms of what the EPA is planning and what you understand is being planned in terms of placing licence limits on methane, carbon and these GHGs? Is there anything you can provide to this Committee to help us?

TONY CHAPPEL: We've laid this out in our climate action plan as well. Foundational to any effective regulation of a pollutant is accurate measurement, validation and verification. One of the other actions that you didn't mention, but which is in that suite of proposals that the EPA has been consulting on, is the expansion with our colleagues in the department of the air monitoring network in the mining provinces to inform, by world-leading research that we've commissioned from CSIRO, and develop much more rigorous monitoring and reporting of actual emissions so that we can be confident—people say they're under-reported; people say they're over-reported—on the agreed facts. That's really foundational, before you can go to any sort of more specific regulatory setting.

I would also say that the measures we've proposed that we're working through are not easy things to implement. We don't shy away from that. We're looking for practical, feasible, effective onsite abatement. We've

had over 40 sessions with stakeholders engaging on this, with providers of technology of various kinds from all around the world that have come to workshops here in New South Wales, and with the industry, of course. We're considering all of that feedback as we bring this package to a landing in the new year. Is there anything you want to add about the network, Mr Riley?

MATTHEW RILEY: Supporting Mr Chappel's points, for a strong regulatory framework, we have to have strong, robust evidence that supports the imposition of any licensing or fee-based structures. There is uncertainty around the measurement and estimation of, in particular, methane emissions in our coalmining regions—most largely with open-cut or surface mines. The commitment that the Government has made—and the department, working in partnership with the EPA, will help us close that gap, reduce that uncertainty and provide a more sound footing to be able to take, if the Government decides, firmer action to regulate emissions. The program is designed to reduce the uncertainty that we have in some of the estimates of greenhouse gas emissions from mining. I know the Committee has heard about that uncertainty through submissions and evidence today.

Ms SUE HIGGINSON: I have a couple of short questions. We've got time. What do you think, in terms of your planning and mapping with your agencies, about the timing of this? I know that you've got your time frames of 2028 and then by 2030. It's 2025. Apparently, every minute matters in terms of what we're emitting at the moment. Is there any scope to make that ambition come forward? Is there evidence before you that we might have more accurate measuring of emissions that you require in order to regulate? What does that timing look like?

TONY CHAPPEL: We understand the value of expeditious action in reducing any pollutant. That's certainly true in the case of climate pollution. There is a series of technical and operational challenges that need to be solved for some of these proposals. Others can apply more quickly, which is what we've suggested.

We have had a variety of feedback on the time frame—some suggestions that it might occur sooner, others that it's just too soon to be feasible—and that's why we've engaged quite deeply with the technology providers and the broader industry to understand each of the different perspectives. They do vary side by side. There's a project that will progress in the new year for ventilation, methane capture and destruction which is going to be an important step, but we can't impose requirements until they've passed all of the technical and operational hurdles.

Ms SUE HIGGINSON: Are you able to elucidate that project?

TONY CHAPPEL: My colleague, Ms Ali, can reference it.

SHAGOFTA ALI: Yes, there's the Appin trial that I think was discussed earlier today. There's also some trials overseas in Wales that will potentially have some similar characteristics to New South Wales coalmines as well, particularly in terms of the level of methane. That will also help provide additional data and evidence to support the regulatory framework that we're looking to progress.

Ms SUE HIGGINSON: Thank you. Mr Riley, I'm reminiscing about when we were introducing this legislation, the Climate Change (Net Zero Future) Act, and we were talking about the setting of targets and so forth. What is your understanding at the moment in terms of where we are on the spectrum of heading to our 2030 targets?

MATTHEW RILEY: We've been quite clear in noting that we are not on track to meet the legislated targets in either 2030 or 2035. We are falling quite a sizeable quantum short of that. It's why the Government has made the commitment to bring forward a new net zero plan and to assess all of the options on the table to help us close that gap. What I would say is in closing that gap, it is not reliant on a single sector. For us to meet the targets that have been legislated requires sizeable action across all sectors. Indeed, Mr Chappel, in his opening remarks, commented that there are two sectors that are projected to increase emissions between now and 2030: fugitive emissions from coalmines but also transport. It just reiterates that there is no silver bullet. We've seen and are on track to bank sizeable reductions in emissions through the Electricity Infrastructure Roadmap and the changes that are occurring in moving away from a fossil fuel-dominated grid to a renewable-dominated grid, and there's been strong action in that sector that has reduced emissions. However, there is much to be done in many other sectors as well, and for us to meet our targets, all sectors have to contribute. All sectors have to reduce if we're to meet our targets.

Ms SUE HIGGINSON: What do you say, though, about the fact that the evidence that we seem to have had consistently, and obviously I'm relying on other forums too at this point—I think it was Mr Bourne today who very clearly said that the reality is when you look at all the matrix, coal is the one that goes up and it's one of the only ones, across all of the sectors. It was Mr Bourne, because I asked him about the coal industry lobby group, the Minerals Council, suggesting that I was being juvenile for talking about coal, and he was saying, "We're being singled out," and felt bullied about that. Mr Bourne provided that very logical, obvious reason, and that is because their projected emissions go up in their perfect world. What do you say to that?

MATTHEW RILEY: It is important to note that emissions from the sector have reduced compared to 2005.

Ms SUE HIGGINSON: But that was my cigarette argument.

MATTHEW RILEY: When we're projecting forward from now, there are a number of variables that we need to take into place. I think previously I've given evidence that we take a conservative approach for some sectors. We don't want to be accused of overestimating abatement that will occur in sectors. I note in the submissions that NSW Minerals Council stated that our emissions projections were more than 20 per cent higher than they expected. This is reflective of some of the uncertainty in projections. In the coal sector, we do see increasing emissions tied to increasing production.

There is some uncertainty and they may reduce between now and 2030, based on a range of different reasons. Partly, it will be global economic trends. I have noted statements from our trading partners in South Korea, for example. Partly, it will be due to changes in the way that mines operate, the impact of the Safeguard Mechanism and, indeed, the EPA's hierarchy of abatement. There is scope to reduce. Our projections are not saying that those emissions are locked in. There is scope to reduce emissions. Those emissions reductions may come from a number of different parts.

You asked Mr Chappel a question about the impact of the guidance. My net zero emissions modelling team undertakes technical assessments for coalmine proposals. We've already seen adjustments in mine plans coming forward. I note that when we originally assessed the HVO—Hunter Valley Operations—Continuation Project, emissions were projected to be much higher than they are now. We've worked with the proponent to investigate ways that they could reduce emissions. They identified part of their tenement that had higher methane content in seams. They've elected to adjust their mine plan so that they don't target those seams, hence reducing emissions against what we had projected. I use that as an example to say that we are seeing positive movement off the back of the EPA's guidance. I'm also seeing movement within the industry wanting to reduce emissions for multiple reasons, including EPA guidance and the Safeguard Mechanism.

I'm also seeing demonstration that it can occur. Adjusting mine plans can reduce emissions. Taking up new technologies for ventilation air methane can reduce emissions. Fuel switching can reduce emissions. Indeed, taking an integrated gas management approach at a mine can reduce emissions. As Mr Chappel said, the coalmining industry has shown that, over time, with good direction, it can lead the world, whether it's through health and safety initiatives, whether it's through the management of air quality or whether it's through remediation. The coalmining industry in New South Wales often states its world-leading approaches. It can be world leading when it comes to reducing emissions from the mining of coal.

The Hon. MARK BUTTIGIEG: I have a question about the calculations regarding emissions projections. Do they factor in abatement technology?

MATTHEW RILEY: Yes, they do. We estimate in our projections that some abatement can occur through treatment of ventilation air methane. Generally, we break it down into three or four different sectors. If I think about gases from fugitive emissions, we look at what can happen to treat the ventilation air methane. Ms Ali mentioned pilots. You would have heard about regenerative oxidation methodologies and technologies, but there are also other things that can occur and are occurring. Pre-mining drainage of methane often occurs to improve the safety environment in underground mines. There's also post-mining drainage of the goaf in an underground mine. These are all things that can work together to reduce emissions. It's why I make the point about integrated gas management. If we work on all of these, we can reduce emissions.

Interestingly, with underground mines we have much better measurements, so we're more certain of what those emissions reductions can be. In open-cut mines and surface mines, it's a little bit different. We use different methodologies to estimate emissions. There are perhaps not quite as many technological options on the table for abatement now. I'm sure the industry, with the right levers, can come up with that. Indeed, an open-cut mine can undertake pre-mining drainage, if the conditions are right, and reduce its emissions as a result. I mentioned the HVO project about changing mine plans.

The Hon. MARK BUTTIGIEG: Where are we among comparative jurisdictions in that space in terms of abatement technology? Is there this oversight process that goes, "Germany has done this; we should be adopting this"? What's the process for ensuring that technology transfer happens?

MATTHEW RILEY: We're at a level of maturity that is more advanced than many other competitors, and I think that provides us a position where we can execute some competitive advantage by having the industry work to develop new technologies. Ms Ali mentioned trials occurring in Wales and elsewhere around the world. We are at the forefront. We do have great research coming out, through CSIRO, into new technologies that can be used, particularly ventilation air methane, so there is an opportunity for us to do this. If I might—I've been

working this space for quite a while—I might take a little look back. We, in New South Wales a long time ago through the Greenhouse Gas Reduction Scheme, GGAS, supported additional work to drive abatement in the sector, in particular from underground coalmines. Some of the first mines to have flaring on pre-mining drainage and goaf drainage occurred here in New South Wales, so we actually have progress in this area. Some might argue it's slow, but what the industry has demonstrated is that, with the right levers pulled, progress can quicken and we can actually deliver good technological outcomes. We're certainly towards the front of the pack.

TONY CHAPPEL: It might be worth, Ms Ali, outlining—because we've been engaging with suppliers of various technologies from around different parts of the world where they do operate. Do you want to share some of that detail?

SHAGOFTA ALI: Thank you. VAM abatement technology is happening and occurring in different parts of the world. At US mines and at mines in China it's already in place. The difference with the New South Wales context is often around the level of methane that comes out of the ventilation air shafts, which is generally lower than what's happening in China. However, the suppliers that we have been engaging with, who have supplied and installed this technology many times over across different parts of the world, do guarantee the application of that technology at some of those lower levels of methane as well. Our challenge, or what we're trying to do, is really to encourage the application of this technology and see how it can be demonstrated in a New South Wales context within the New South Wales regulatory framework.

The Hon. JACQUI MUNRO: Can I ask, some of the evidence that we've heard so far is that there's basically a first-mover disadvantage in this space. Are you finding that companies are hesitant or reluctant to get involved with this if they are considered something like a first mover?

SHAGOFTA ALI: Yes, it is a complex process. There are those additional risks or additional costs associated with the first mover, but the New South Wales Government has had funding on the table for a while through the high-emitting industries fund. The Appin trial is also being supported by a government grant through the Coal Innovation Fund. So some of that has been supported through funding and other incentives by the New South Wales Government. We have heard that mines are really keen to understand how this trial will go, and the evidence from that to then move, either as a fast follower or do the work to understand whether it's feasible at that site. But there has been support on the table for a while.

The Hon. JACQUI MUNRO: One of the proposals that we heard earlier was that there might be considered a levy to apply to different companies and then have a fund that essentially funds the new technology uptake for those earlier movers. Is that something that you think is necessary or actually unnecessary because that work is already been undertaken through existing pools of money through grants?

TONY CHAPPEL: There are lots of different ways. This is the tragedy of the commons. It's the typical issue with our market economy, where there's an externality that is a cost borne by society rather than the individual polluter. There will always be businesses, for different reasons, that do want to move faster to address that, and others who don't. We need to also have a level playing field. We need to make sure we're balancing carrots and what you might consider regulatory sticks. That's very much informing the integrated thinking that I think is occurring inside government, and the EPA's regulatory approach is informed by that. That's why we're consulting so deeply to be rigorous and understand that each mine does have a different context and each seam is different. There are challenges around the capital cycle and obviously companies have a duty to maximise shareholder returns, and thus they need to look through that lens. We need to have a system that is effective, feasible, practical and cost-effective.

The Hon. JACQUI MUNRO: Have you provided any advice to the Minister around something like a levy, which would address, to some extent, the tragedy of the commons?

TONY CHAPPEL: No, not specifically.

The Hon. MARK BUTTIGIEG: Just on that point, we've obviously legislated for net zero. Part of the rationale, I suppose—the raison d'être—is actually trying to internalise those negative externalities by legislating. What's our enforcement mechanism, then, to make that happen, short of a levy?

TONY CHAPPEL: The regulatory tools the EPA uses for other pollutants have a lot of application, but there will also need to be new regulatory tools, and each sector will need different approaches. I mean, the Commonwealth Government has introduced vehicle efficiency standards, which is a measure that applies across the whole fleet over time and aims to drive that shift. But there are lots of complementary measures that New South Wales is trying to take in the transport space to enable the uptake and maximise the benefit of electrification. Similarly, in mining, we're trying to complement the Commonwealth's rule set and do that in a way that maximises abatement and benefit, both through pollution reduction here, but it's a different set of tools.

We can use our environment protection licences, and about 60 per cent of emissions in New South Wales are captured by one of those, but there's another 40 per cent where we need different tools. So there are protection of the environment policies and there are other regulatory tools that can apply to ensure there is that level playing field over time. But our fundamental approach is to try to give industry a long enough runway to make those adjustments to ensure that we're not shifting production outside the State simply to comply with the New South Wales rule that won't necessarily benefit the climate. We want to decarbonise, not deindustrialise. In fact, we want to use it to reindustrialise, to the extent we can do that here in a viable way. It's a really systemic approach that needs to be taken, and the update of the Government's net zero plan that Mr Riley referred to is where we will see a lot of that come to life.

The Hon. MARK BUTTIGIEG: You touched on this before, but what's the view on the uptake of technology vis-a-vis other jurisdictions? In an ideal world, if you were to have this independent arbiter look at all the jurisdictions and say, "Who's employing to the fullest extent the full suite of available abatement technologies?", where would New South Wales sit?

TONY CHAPPEL: For coalmining?

The Hon. MARK BUTTIGIEG: Yes.

TONY CHAPPEL: Specifically on abatement, probably some of our North American and Asian colleagues are ahead of us, and we're probably moving in tandem with where the UK is. Would you like to add to that?

SHAGOFTA ALI: Yes, I think that's correct. Some of the abatement technology, like drainage of gas and then the flaring or the utilisation of gas, that has been applied in New South Wales for a while and we're keen to apply that good standard across the board. But then with things like VAM, there's probably still opportunity for us to bring forward and implement some of that technology in New South Wales.

The Hon. MARK BUTTIGIEG: Is that expensive?

SHAGOFTA ALI: Yes, it is expensive.

TONY CHAPPEL: The interesting thing about this technology is—and this is where our complementarity with the safeguard comes in—for a mine that can reduce its emissions through something like VAM, they can monetise that because they're acquitting their safeguard obligations without having to buy offsets. So the payback can be quite fast, but the technology has to be fit for purpose, safe and demonstrably effective, and each mine has a different context. Of course, you think about the mine life as well, and what the payback over that period is, and there are other commercial factors that have to be considered by boards of these companies too.

The Hon. JACQUI MUNRO: Just on the levy idea, the same question to the department—have you provided any advice to the Minister about something like a levy mechanism?

MATTHEW RILEY: I'm not aware, specifically, but I know that through the review of the Net Zero Plan, we're discussing a range of different options that might be available. But I'm not aware of that specifically being raised with the Minister.

The Hon. JACQUI MUNRO: I know we met last week and I asked some questions about your involvement with the IDA processes. That was more related to data centres. But on a similar line of questioning, for projects that might be related to increasing fossil fuel emissions, have either of your organisations been engaged with the IDA to provide advice, whether it's proactive, whether you've been asked to be engaged or whatever that process is?

TONY CHAPPEL: In terms of specific sectors, or are you talking about the priority sectors?

The Hon. JACQUI MUNRO: In terms of potential for fossil fuel-emitting projects.

TONY CHAPPEL: I'll take that on notice just so we can give you a complete answer, because I'm not, off the top of my head, familiar with specific advice we've given. But let me take that on notice.

The Hon. JACQUI MUNRO: Thank you. Mr Riley?

MATTHEW RILEY: I'll take that on notice as well. I'm not aware of the discussions that have been had. That's not to say they haven't occurred, so I'll take that on notice.

The Hon. JACQUI MUNRO: If there were projects—and we heard evidence before from one of the mining council representatives that probably at the moment there weren't any such projects going through the IDA, but that perhaps a process would be being decided upon at the moment. It's a little unclear, but how would you factor in the IDA's potential projects and proposals in your own modelling?

MATTHEW RILEY: We take a facility-by-facility, proposal-by-proposal approach. Again, we do technical assessments of what was there. The IDA are more aligned to streamlining processes. That wouldn't necessarily impact our technical assessments. We would still undertake those technical assessments. We're required to undertake those technical assessments. It may impact the timing of that and how quickly they need to occur, but we would still provide the same level of rigour in technically assessing those proposals.

TONY CHAPPEL: Similarly for us, in terms of issuing licences or other instruments, we have legal obligations that need to be met regardless of who the ultimate consent authority is, so that wouldn't change.

The Hon. JACQUI MUNRO: Do you know if there's any suggestion that those requirements would somehow perhaps occur at a different stage of the approval process, or that there would be any difference to the ways that you engage already with planning?

TONY CHAPPEL: We published a number of documents, including the major emitters guide, which is a useful insight into how we would consider our advice. I don't think that would necessarily change through the IDA, but we're always open to refining and improving how we do that. Did you want to add something, Ms Ali?

SHAGOFTA ALI: No, I think that's correct. We'll continue to provide the analysis and the advice. Ultimately, a number of these projects will still need environment protection licences, so we still need to work within that regulatory framework, too.

The Hon. JACQUI MUNRO: We heard evidence earlier with regards to modifications and extensions—rather than new mine approvals or applications—that a change would be required to the SEPP (Planning Systems) 2021 regulation. Are you familiar with that regulation and how that would need to be amended to ensure that modifications were treated in a similar way to new applications?

TONY CHAPPEL: I think that's really a matter for the department of planning. I couldn't speak in detail to how that particular SEPP operates or might be adjusted in the future.

The Hon. JACQUI MUNRO: My understanding is that it would require similar planning approval processes to what occurs through the IPC for new mines rather than extensions.

SHAGOFTA ALI: In terms of language, are you talking about the difference between a State significant development application versus a modification?

The Hon. JACQUI MUNRO: Yes.

SHAGOFTA ALI: A State significant development application process, which could be for an extension of an existing mine as well, that ultimately will need to go through to the IPC, and then modifications have a different threshold. If a project reaches a particular threshold, then it goes into the SSD bucket, otherwise it can go through the modification pathway.

The Hon. JACQUI MUNRO: Your involvement with the modification process—how does that work?

TONY CHAPPEL: Based on the quantum of emissions, we'd provide the same advice. The ultimate planning pathway through the kind of a government policy question—I think we probably can't give you the detailed answer that maybe our planning colleagues could. But our advice, in practical terms, wouldn't be different. It's based on the quantum of the potential impact. That goes for climate pollution, as with any other kind of potential pollution, in a development process of any kind.

Ms TRISH DOYLE: I really don't have any questions. I just wanted to take the opportunity to thank you all, Mr Riley, Mr Chappel and Ms Ali. Thank you very much for the work that you do and for appearing on a Friday afternoon when we're this close to Christmas. In all seriousness, our departmental folk and the work that you do in your teams deserves to be recorded here in our Committee hearing today. I just wanted to give a shout-out to you, and please pass on that appreciation to your teams.

TONY CHAPPEL: We absolutely will do that.

Ms SUE HIGGINSON: That brings us to the end of this part. I, too, echo the comments of my colleague on behalf of the whole Committee. Thank you, as always, for appearing. We know matters require preparation and all of that, so thank you very much for your evidence. As always, if there were any matters taken on notice, the remarkable secretariat staff here will be in touch with you with the timing around all of those processes. That concludes the hearing. We will now finish for the day.

(The witnesses withdrew.)

The Committee adjourned at 16:30.