

REPORT ON PROCEEDINGS BEFORE

STANDING COMMITTEE ON STATE DEVELOPMENT

BENEFICIAL AND PRODUCTIVE POST-MINING LAND USE

CORRECTED

At Macquarie Room, Parliament House, Sydney, on Tuesday 17 December 2024

The Committee met at 9:00.

PRESENT

The Hon. Emily Suvaal (Chair)

The Hon. Mark Buttigieg

The Hon. Scott Farlow

Ms Sue Higginson

PRESENT VIA VIDEOCONFERENCE

The Hon. Wes Fang (Deputy Chair)

The Hon. Stephen Lawrence

The Hon. Peter Primrose

The CHAIR: Welcome to the sixth public hearing of the Standing Committee on State Development inquiry into beneficial and productive post-mining land use. I 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 Emily Suvaal 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 their evidence at 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.

Dr PETER WHITBREAD-ABRUTAT, Co-Author of *102 Things to Do with a Hole in the Ground*, and Founder and Director, Future Terrains, before the Committee via videoconference, affirmed and examined

The CHAIR: I welcome our first witness. Thank you for making the time to give evidence. Would you like to start by making an opening statement?

PETER WHITBREAD-ABRUTAT: Yes, thank you. First of all, thank you for inviting me to participate in this inquiry into an important and challenging subject that is close to my heart. I am an independent mining, environmental and sustainability specialist through my niche consulting company, Future Terrains International, which I founded to address the global challenge of degraded mining lands. I'm a UK-based chartered environmentalist and an IEMA lead environmental auditor with more than 30 years of international experience in mining, ESG and sustainability, mine closure and post-mining regeneration. I'm also an adviser to enviroMETS Qld. During my career, I've worked in academia, the NGO sector and the private sector, and I've also been part of a declining post-mining community.

I was deeply involved in the early days of the development of the UK's Eden Project and remained there for 12 years. Constructed in a 160-year-old china clay quarry, Eden opened in 2001 as a state-of-the-art botanical visitor attraction and sustainable development educational charity. To date, it has generated over £2 billion of value to the local economy and has been an engine for socio-economic change. But it isn't easy. Amongst other things, I managed Eden's engagement with the mining industry, which ultimately led to the 2009 book *101 Things to Do with a Hole in the Ground*. I'm also a Churchill Fellow for my 2011 travelling research project exploring world-class landscape restoration. This strove to understand the common challenges in a diverse range of large-scale landscape restoration programs, the key lesson being that the mining industry can learn much from other parts of the regeneration economy.

In July this year, the Eden Project published a book, *102 Things to Do with a Hole in the Ground*, which I project managed and co-authored. This not-for-profit book showcases post-mining possibilities with the aims of influencing mine closure or transition practice, raising awareness for both non-specialists and experts, promoting responsible mining, and challenging the mining sector to do better. Some key considerations for improving closure or transition outcomes are introduced in my formal submission to this inquiry, but can be summarised as taking a landscape narrative perspective, changing the language from closure to transition, thinking beyond the boundaries of convention, introducing creative approaches as the norm, engendering a sense of place in the post-mining landscape, focusing on participation and collaboration rather than engagement and consultation, and involving the "unusual suspects". Finally, I'm looking forward to the discussion. Thank you again for inviting me.

The CHAIR: We'll now move to questions from the Committee. I believe we're doing it free-flow so I'm looking to my colleagues.

The Hon. SCOTT FARLOW: Thank you very much, Dr Whitbread-Abirutat, for joining us this morning our time but, I know, very late in the evening for you. Thank you for that privilege that you've afforded us today. I have a copy of your book. Unfortunately, I don't have it with me here today but there are lots of innovative uses that people around the world have been able to employ when it comes to holes in the ground and particularly post-mining land uses. I note from that book as well there are quite a few in Australia as well that you've highlighted. You were talking very much about that transition and that landscape mentality when it comes to what we do proceeding into the future. I would imagine, in terms of taking on that path, no mine is the same and all of their uses would lead to potential different impacts on different landscapes. I'm interested in what your understanding is of the Australian terrain and some of the innovative things that you think could be applied to some of our situations, particularly in New South Wales and the Hunter.

PETER WHITBREAD-ABRUTAT: Yes, that's a good question to start. You mentioned the mining context. We always say in the mining industry, that every mine is different and the mine itself is a reflection of its political socio-economic and environmental context. The same applies, therefore, to every mine closure project, or every mining regeneration project. They're also unique, although when we undergo conventional mine closure planning, a conventional approach is to develop a closure plan focused on the same ongoing issues each time in terms of waste management, pit lakes and all the rest of it, without sometimes thinking about the wider context and how it fits in with that surrounding landscape and society.

In terms of Australia, I was looking last year to visit very many sites across Australia while I was researching for this book. I think virtually all the ones that are in the book I visited and spent some time there, speaking to people on the ground. What was really interesting from my perspective is that, going back to 2009 when the first book came out, in that 15-year period—or more than that because the research was done before 2009 for the first book—there has been an awful lot of development of ideas and approaches in Australia, and quite progressive in many respects, certainly as progressive as anywhere else on the planet in many respects. How

would those apply to the Hunter Valley? I was also fortunate enough in August this year to visit the Hunter Valley but only for a day, so I don't have a deep understanding, but the wider context of the Hunter Valley is it's not just coalmining. You also have these other industries running along very successfully, tourism, wine, agriculture, the military, and all the rest of it. That context is actually much more promising than a lot of other post-mining contexts. There are lots of other mining regions around the world.

In terms of what could be done with those long term, particularly the coalmines, I don't think it'd be right for me to give specific ideas or concepts, because I don't know enough about the situation. I do know some things have been postulated, and they have been seriously considered as outcomes as well. But I think what won't work is producing pit lakes and grassy mounds, given that the society and economy of that area is completely different now to when those mines started. Those mines have to be used in a way that supports and benefits other people and the region but also meets environmental and ecological requirements as well. As you know better than me, some of those sites are huge, so there's space to do a range of different things there as well.

The Hon. SCOTT FARLOW: That's the main tension that we've found through this inquiry as well, in terms of post-mining land use—the productive land use. Many people would advocate that these have been productive industrial sites for, in many cases, upwards of 50 years and that there's infrastructure in place in many of these sites that could be leveraged and developed into the future into other uses that would also be productive employment lands that would be producing for the economy.

Then, of course, there's that tension in terms of being able to rewild these areas and rehabilitate them for environmental benefit. Going through your book as well, there's a great diversity of some of those options that have been used, where you have gotten potentially some more industrial uses out of some sites, or some more innovative uses—I shouldn't necessarily say industrial; let's say active uses—and then others where you have huge parts of nature that are used in some of these sites and they really become tourist attractions in themselves. I think of potentially some of the German examples and the like. Have you done any research at all in terms of the benefits of both approaches, for instance, in terms of a nature positive approach, and then maybe the tourism and economic benefits that have come from those rehabilitations, compared to some of those which are more active uses?

PETER WHITBREAD-ABRUTAT: Have I done any formal research into that kind of approach? In academic terms, I would say no. I left academia for a reason. I like to think of my research as much more empirical. You go to a site, speak to the people, understand what's happening on the ground and compare that to other sites in other places and other contexts and try to bring out generic things that work—and generic things that don't work sometimes. Like I said before, it really depends on the context for that location and the size of the site itself as well. Some of those German examples—for example, the Lusatian Lakeland—we're talking hundreds of square kilometres there, so there's scope there for doing myriad different things.

If you're talking about an individual site itself that might only be a couple of hundred hectares, you'll have seen some of the other German examples, and the Eden Project in the UK is another example, where you can build commercial activity and recreational tourism-related activity, create lots of jobs and all the rest of it, while at the same time recognising the cultural value that remains at that mine in terms of the structures or the buildings, and provide an opportunity for nature to return—either rewilding, left alone, or by actively gardening, for want of a better word, to promote ecological restoration. You could do all those things on many sites. The key thing is connecting them into the wider landscape context.

The Hon. SCOTT FARLOW: Thank you. To that point and to the point you made before, often it's not just one. It's often a case of "one and". You can have multiple uses on these sites as well, depending on their size.

PETER WHITBREAD-ABRUTAT: Absolutely. It depends on the size and the context. From what I've seen in the Hunter Valley, those mines are enormous, so there's scope for doing a bunch of different things, really.

The CHAIR: I might just jump in with a few questions now. Doctor—I'll just call you Dr Pete, if that's alright. Dr Pete, in your experience, whether it's internationally or locally, with the Eden Project, what's been the biggest barrier to beneficial and productive post-mining land use?

PETER WHITBREAD-ABRUTAT: That's a good question. I've thought about this a lot. We always get told regulations are the biggest barrier and the biggest hurdles. I'm sure you've heard that before.

The CHAIR: Yes.

PETER WHITBREAD-ABRUTAT: However, just in Australia alone I've seen, I don't know, many tens of sites in Australia, with a wide range of different modes of mining regeneration and transition projects. They've all managed to get around, adapt or circumvent those regulatory barriers. So what's stopping that

happening in other circumstances? What's stopping that process of innovation and creativity happening more commonly? Why isn't that the norm? There are lots of different things that feed into this, but I'll group them into three different headings: perspective, will and communication.

By perspective I mean seeing the opportunity in a place rather than the conventional closure practice—which is making a safe, stable, non-polluting site and an ecologically sustainable land cover—and seeing the wider opportunity to create jobs, in probably even better ecological circumstances, and also seeing the mine as part of a landscape narrative rather than just as a moment in time on a specific area of land where the mine starts and operates then stops and closes, and that's it. If we think of that piece of land, that society and that landscape as a story, then we start thinking about mine closure differently.

The important thing is, when the mine closes, that chapter of the landscape story is finished, but it shouldn't be the end of the story, right? The closure has got to provide some basis for the next chapter. That's what I mean by perspective—thinking about the opportunity and thinking about the landscape narrative. The other one is 'will'. We can do these things if we want to, if we can be bothered to go out and find how to do it, if we want to be properly collaborative and participative with other stakeholders, give them a meaningful voice, build trust—all those things we can do if we have the will.

Finally, communication is one of the things that upsets me a little bit. I'll go from one project to another project somewhere else, sometimes in the same country, or a mine in the same country, and we've got the same problem. But we're trying to fix it from first principles rather than realising that the problem's been solved, sometimes in the same multinational company. It's been solved somewhere else, but communication streams aren't available for transmitting that knowledge. How do we get around that? We have to find out a way of working through our institutional and disciplinary barriers, and working collaboratively, really. Finally on this point of communication, there's a whole regeneration economy out there beyond the mining industry, a foundation of knowledge and a whole host of talented people and organisations that deal with urban regeneration, post-industrial regeneration, all over the world that the mining industry isn't really plugged into, in a lot of senses. I think there is scope there for bringing some of those players in and learning from some of those experiences.

The CHAIR: I want to ask you now about the Eden Project. That's obviously an example of post-mining land use that you've already spoken about but that, as I understand, you were involved with along the way.

PETER WHITBREAD-ABRUTAT: Yes.

The CHAIR: It is a really interesting example of a successful use of land, and it just happens that it was mined previously, obviously. Could you talk to us a bit about some of the positive, particularly environmental, legacies that were enabled to be realised as a result of this project but also what would have happened if it was just left to the status quo?

PETER WHITBREAD-ABRUTAT: Eden was built in a 160-year-old china clay quarry. It was an open pit site, and it reached the end of its life. It was environmentally and chemically quite benign, but it had unstable slopes, was liable to flooding, and water management is an issue. The mining company—its best option for what it was going to do with that site was turn it into a landfill site. You create a couple of jobs, and that would be it. The value in that site was the fact that it was a derelict, devastated piece of land, and the story of the Eden Project is about—fundamental to its story is regeneration, renewal and new ways of thinking. There, we were looking for a piece of land where we could build this big, shiny thing to tell that story about renewal. The fact that it was an old mine, as you say, is probably incidental, but it was quite a powerful basis for that story.

The environmental legacies that were addressed—it's probably one of the most biodiverse mine sites in the world, if you include the non-native species in there, because it's a big global educational garden with crop plants and plants from all over the world as well as the outer area of the site being restored to native vegetation and managed for wildlife and ecology as well. So, ecologically, it's pretty well looked after and, critically, it's an environmental education charity that attracts a million people a year to this big, shiny thing where we tell stories about how other people live and deal with plants and the environment in other parts of the world. In terms of environmental legacy, that's quite a powerful one.

Ms SUE HIGGINSON: Hello, Dr Pete. Thank you for joining us from the UK. I was born in Cornwall. I know the place very well, but I've got a full Aussie accent now. I have been here a long time, but it is a place dear to my heart, obviously. I am super interested in two points. In the Hunter Valley in particular and also the Gunnedah Basin a little bit, we have had evidence before us that what we have really done is create a nature deficit, because so many of these mine sites were sites high in biodiversity or rich in natural grasslands as well as vegetation communities. Obviously, now, we've made them jobs rich, with really good high-paying jobs and communities focused around the mining exercise.

I think you touched on it a bit earlier, but the social licence that is required and the journey that is required if the ultimate, highest, best social use of the land is to return, as my colleague mentioned, back—not back but forward into a nature positive story. What lessons have you learned, incidentally and directly, in terms of that social licence and bringing communities that are used to this big economic return at the individual, family and community scale, heading forward to a nature positive journey of regeneration, whether it's lakes and the things that you've talked about in some of these massive sites? How do you bring communities along on that nature positive journey?

PETER WHITBREAD-ABRUTAT: What we're talking about and what you're trying to do in this parliamentary inquiry is actually really, really challenging and really difficult stuff to do sometimes, and there are no easy answers, especially when you're talking about major structural change in a region of a country. The nature deficit aspect can be addressed relatively straightforwardly. That's a technical problem about how to establish high-value ecology on derelict sites. That can be addressed, but I would argue that the nature deficit exists in other parts of the Hunter Valley as well because of other types of land use. If we want to take a holistic approach and maybe consider the Upper Hunter Valley or the entire Hunter Valley as a zone of nature improvement or nature positive restoration, I wonder if that might be a way of raising the profile of what's possible and trying to attract local people into this thing.

How do we get social licence from where we are with high-paid jobs, and many of them, into—from what I've read, I think we're talking about land uses and things like renewable energy. They might provide high-paid jobs but not that many compared to coalmining and other agricultural uses. I don't know. It's really, really difficult to do. I would say that whole thing about trust and how you build trust between the different stakeholders—particularly communities, companies and government—on this kind of issue is critical, and that comes down to language. It comes down to giving people power to be involved—empowering people to be involved in discussions and decisions that are going to affect their lives. That's critical.

There are many examples in the book—for example, the German example around the lignite lakelands, this huge landscape in eastern and central Germany, trying to reconnect local communities that have been excluded from huge tracts of land and trying to reconnect them to a landscape that doesn't yet exist, but you want their input into how it might turn around. It's really, really challenging. There are some examples in the book where exactly that problem has been addressed by creative approaches. They're really quite intricate and forward-thinking approaches by people far brighter than me on creative and social engagement. I can put you in touch with the German people that do this for a living, and they can talk with much more knowledge about how you can do this kind of thing of building that social licence and getting people involved.

Ms SUE HIGGINSON: Beautiful. Thank you. The other question I had was—and you did touch on this briefly—about the idea of looking beyond the local or State jurisdiction for the task in front of us. To what extent can you do that and have further engagements? For example, the fact that so many places throughout the world have benefited from the extraction and the access to the coal through the export market—and I know that we normally identify that through the corporation that happens to be holding the mine tenure at the particular time of closure. Are there ways of actually engaging cross-jurisdictions through the international community because of the social good of regeneration or the beneficial future use of the land? Is there any scope for looking at those communities or jurisdictions that have had the direct benefit of, ultimately, the kind of harm that we're seeking to remedy? I'm just curious if you've got any views or experience in relation to that.

PETER WHITBREAD-ABRUTAT: You mean in terms of international organisations or bodies that will help transfer knowledge? Is that what you mean?

Ms SUE HIGGINSON: Yes, or dare I even go as far as saying some form of reinvestment. Are there any pathways for looking at those international relationships through the regeneration more broadly than the multinational corporation that holds the tenure?

PETER WHITBREAD-ABRUTAT: I'm not sure Australia would be eligible but, if this kind of thing were happening in a poorer country, it would probably be—well, it happened in eastern Europe as well after the fall of the Soviet Union, for example, and the restructuring of the mining industry in places like Poland. There was World Bank funding available for helping to restructure those economies and help clean up some of the legacy sites. That kind of thing does exist, but I would have thought we probably wouldn't be eligible in Australia.

But you're right. I think there is scope somewhere for some kind of international body to be set up that helps with the transfer of practice and ideas between different mining regions, because what the Hunter Valley is going to be going through over the next couple of decades is going to be happening in very many other mining regions across the world, and you're all dealing with the same issues: unemployment, large-scale environmental degradation—all that kind of thing. I'm not aware of any international body that's placed to do that. Maybe there's a scope there for trying to facilitate something like that—some kind of forum. There's the IGF, the

intergovernmental forum that's based out of Ottawa. They have done some things with government around post-mining regeneration and mine closure and those sorts of things. That might be one avenue that could be pursued.

Ms SUE HIGGINSON: Now I'm super curious about the big lakes. I've been obsessed for many, many years with our government's—I call it a "free pass" to leave these massive final voids. Ultimately, the corporations have maintained from the outset that the only reason they have to leave these final voids is because they can't afford—and it would be prohibitively expensive—to refill the voids in some way, manner or form. I'm curious about the experience in terms of equilibrium, the quality of the water in those lakes, the transferral from a final void to a lake, and any experience, knowledge or expertise that you can provide us in terms of lessons learned and the difficulties and joys of leaving these massive lakes.

PETER WHITBREAD-ABRUTAT: There's a lot of joy to be had from more lakes, I think. The problem with backfilling is it is prohibitively expensive, especially for these huge mines. If you've been digging out seams of coal that are 10 or 20 or 30 metres thick, you're still going to be left with a void that will fill up with water anyway, and there's a huge carbon cost in trucking all that waste back into the void, which, again, isn't great. Lake Kepwari in Western Australia—I think you might have come across this one before—has recently been through this experience where they did develop a pit lake, and they were concerned about water quality. It's a story that's in the book. The nearby river—I can't remember the name of it. Is it the Collie River? In a flood one day, it burst through its bank into the pit lake, which was suffering from poor water quality, and flushed the water through and helped the water quality improve. Now that lake is connected into the Collie River, as I understand it, and the water quality is pretty good because it was allowed to turn over.

What they did in Germany in the Lusatian Lakeland—this huge network of lakes are all connected together. There's a slow turnover because at each end of the chain they're connected to the river systems. So there is a slow turnover of water that goes through these that helps maintain a semblance of good quality. For the lakes where water quality is problematic, they've developed some bespoke boats that go out and spread limestone into the lakes, as required, to neutralise the pH. They'll continue to do that until the water quality stabilises and, eventually, an ecological response will probably take over as the lakes develop over time.

The thing with mine water is that everybody always thinks mine water is toxic or problematic, but in the vast majority of cases it isn't acid. In the vast majority of cases, it's not even toxic. It might need managing for things like sedimentation within fine margins, but we tend to focus on the bad news stories rather than looking at the good news stories and seeing that, actually, in a lot of cases, those lakes are fine for swimming in without any treatment. But it is a good idea to connect them together, if that's a possibility at all.

Ms SUE HIGGINSON: With the German lakes, what's the expectation in terms of the time frame that they will get to, for want of a better term, an ecologically stable, self-sustaining system?

PETER WHITBREAD-ABRUTAT: In terms of water quality, a lot of them are already sustainable. Ecologically, they're not mature yet, and it will probably take decades because they're huge. We're talking hundreds of square kilometres of water. It will take many, many years, or decades, for the vegetation and the aquatic life to re-establish over time. But the critical thing is that the water quality is of the right range that life can come back.

The CHAIR: On the topic of the German lakes, the submission that you gave to the Committee—which I thank you for—talks about the scale of that area: 207 surface voids, 43 industrial complexes decommissioned and 31 mine service areas. In terms of the scale of that project, how would you say that stacks up compared to, say, the likes of the Hunter Valley, or what you know as the Hunter Valley region?

PETER WHITBREAD-ABRUTAT: It's comparable. We're talking about hundreds of square kilometres of land affected by mining, either directly or indirectly. The Hunter Valley is different in that it's more hilly and the coal is deeper in a lot of cases. Like I said, it comes back down to context, ultimately. But the general approaches of what they did in developing that regeneration program from scratch and the 10-year what they call international building exhibition, which I write about in the book, to try and generate new ideas and connect communities to that land—they could apply anywhere with that kind of approach.

The CHAIR: That 10-year program—which I was going to move to next, actually—offers an interesting solution and concept that I think we could learn from here in terms of bringing local communities along with you and seeing the future. How effective or crucial was that program to ensuring the success of what was able to be realised in that area?

PETER WHITBREAD-ABRUTAT: There were about 30 projects over 10 years to test new ideas around what they could do with new lakelands and what they could do with reconstructed land, cultural heritage and how to reconnect communities that had been marginalised in the coal industry. That's still a work in progress.

If you get the chance to visit the area, you will be amazed at some of those lakes. They look like completely natural systems. They've got ferries going across to take people to work across the lake and back again. They've got marinas and they've got holiday parks. They've actually got beaches where people go in the summer. There's a network of hundreds of kilometres of traffic-free trails that go through the forests and round the lakes on post-mining land. It's still a work in progress and it will be for another few decades. But I think that 10-year program formed the basis of the foundation blocks for what this place will become.

The CHAIR: In terms of the transition of a mine throughout its life, your submission talks about catalysing mine transmission and references the ICMM's Good Practice Guide. That was mentioned in a couple of other submissions to this inquiry. I am curious about your thoughts about us needing to go further than even those good practice guidelines. There is an argument here that we have quite a linear process in New South Wales at the moment. How effective that is has been canvassed across the course of the inquiry. In terms of referring to "transition" as the length of mine activity that includes economic and environmental imperatives, how important do you think it is that we here locally and countries around the world really shift the way that we think about these landscapes?

PETER WHITBREAD-ABRUTAT: There is a paradigm shift that needs to happen for the industry as a whole. We—when I say "we", I am talking about the mining industry—often talk about being custodians of the land and stewards of the land and that kind of thing. But, in practice, in most cases, we put a fence around the patch of land, build a mine, operate a mine, close a mine, take the fence down—sometimes—and walk away. That's it. The critical thing about mining is that it turns mineral value into financial value and social value. Too often, those new values aren't realised by the people who live most closely to that mine site in those regions. If we start thinking differently, using a mine to generate new environments with social, economic and cultural value for the surrounding people and surrounding landscape, while at the same time generating economic benefits for investors and governments, we would remove some of the problems we're talking about now—the purpose of your inquiry.

That's not to say that mines or mining companies have got all the answers, which is why we need collaboration and why we need participation. We need to bring in experts on regeneration. We need to bring in experts on how to turn that geological value into new future values. There is a really nice example from South Africa in the book. It's an Anglo American mine—a big, big iron mine. They realised—many, many years before anticipating mine closure—that the industry in that part of South Africa was the dominant if not the only economic feature on that landscape. The local community of tens of thousands of people is utterly reliant on it.

So, at this moment in time, they've started to look at how they can diversify that community and that economy away from mining. What they're doing is literally catalysing transition that's starting to happen now and will be fulfilled before the mine closes, developing agricultural commercial and business sectors at all kinds of scales—large scale, small scale. They're looking at growing crops and tree crops on huge waste rock dumps. They're using their financial capital and convening power too—they're not the experts in agricultural development, but they bring the right people together and say, "We want to sort this problem out. Can you help us?" It's a huge, multi-year piece of work involving hundreds of people. But that's the kind of thing that can be done if you have enough lead time. If you've got a decade, or even quite a few years, you should be able to do something like that. If the mine's going to close imminently then a different approach might have to be taken, because the company won't be around to catalyse that activity.

The CHAIR: Unfortunately, that's all we have time for, Dr Pete. We really thank you so much for making the time to give evidence to our inquiry and probably having a later night than you ordinarily would have. If there are any questions that members have on notice, the Committee secretariat will get in touch with you with regards to those. We thank you again.

PETER WHITBREAD-ABRUTAT: Thank you for having me. It's been a pleasure. Good luck with what you're doing, as well. It's really important, as you know.

(The witness withdrew.)

Dr SIMON WRIGHT, Senior Research Fellow, Energy and Circularity, Gulbali Institute, Charles Sturt University, sworn and examined

The CHAIR: I now welcome our next witness. Would you like to start by making a short opening statement?

SIMON WRIGHT: I would, thank you. What I wanted to do today was really offer slightly different perspectives from the ones that you've had so far. I'm a social scientist. I was fortunate enough to receive a Churchill Fellowship last year, which allowed me to travel to Canada and the European Union to look at coal regions in transition. My 52-page report—I was hoping it was going to be available today, but it's going to be available in the next few days, so you'll have some more reading.

The CHAIR: We wait with bated breath.

SIMON WRIGHT: It's done, but the Churchill Trust is just working through it and will publish it. Apologies for that. But I guess I'll just offer a few strategic insights from my report and try to summarise it in two to three minutes. The key recommendations from the report are slightly more strategic—on a higher level, perhaps, than just focusing on post-mining land use, but post-mining land use is a big piece of this. Indeed, some of the conversations you've just been having are very pertinent to that. To inform this conversation, my research shares the wisdom of more than 60 actors from coal regions in Canada and the European Union already immersed in the coal transition, albeit at different stages.

Key insights for our own coal transition are as follows. Governments must act urgently and at scale to support a coordinated transition process in each of Australia's coal regions. Obviously, here in New South Wales, the Hunter is the primary focus, as well as my own region in the Central West. The major output should be a transition plan for each region that is holistic in nature. The energy transition, regional economic development, environment and community all go hand in hand. The nature of place-based innovation necessitates leadership and governance from a regional governing entity. Trust building takes time and money, hence an exponentially larger investment is required than currently allocated by both Federal and State governments to implement this transition process.

Industry investment needs to support small to medium-sized enterprises as much as it does large corporations, alongside industrial diversification, community infrastructure and workforce development. These initiatives must be community led. Local communities must be at the forefront of this process, co-creating the vision, owning the plan and shaping the outcomes, yet they must be government enabled. Communities need to be supported by government throughout the entire process, to give them the knowledge and power to engage equitably at the negotiating table. Collaboration is the most cited determinant of transition success, due to the complexity, urgency and scale of the transition opportunity in coal regions.

Number nine—young people emerge as perhaps the most important stakeholder group. Programs need to be developed to engage and support them through the transition, retain them in their home communities and acknowledge that they have the biggest stake in the regions' future. Communication about the transition must be frequent and constant to educate and inform all stakeholders, remove uncertainty and ambiguity, and retain transparency. Technical assistance to coal regions, particularly around environmental remediation, is critical. This has been particularly successful in the European Union.

Number 12—government must acknowledge and celebrate the industrial heritage of the coal regions by incentivising the re-usage of former mine and power station sites for energy generation, industrial development or environmental remediation or cultural heritage. Post-mining land use obviously emerges as a key economic opportunity. There exists more than 80,000 hectares of mining land to be rehabilitated in the Hunter Valley alone, something I'm sure you're all very aware of. A post-mining regional and restoration plan should be created as part of the transitions process overseen by a public authority and prioritising social environmental benefits.

The last few: Regulatory change is urgently required to support this long-term transition and ensure that communities are endowed with enduring benefits from this transition; government and industry must provide a safety net for workers that is customised to the needs of each region; governance approaches have proven to be a key determinant of successful transitions—better practice suggests a multi-level approach involving government, community, industry and unions; and, finally, a mechanism for monitoring and evaluation of these transition plans needs to be established from the outset, ensuring that economic, social and environmental objectives are realised and industry, in particular, is held to account, either by government or by NGOs. A final point I would make is that we do, albeit in different contexts, have some really excellent examples in Australia of communities, industry, government working together on regional transitions that we can draw on to shape our approach in the Hunter.

The CHAIR: We will now move to questions. The Committee has just adopted to have free-flowing questions. I'll look to my colleagues to start.

The Hon. SCOTT FARLOW: I'll kick off. A question that came straight from your last sentence was about the great examples that exist already in Australia and whether you could outline some of those, and what you think has been critical in those examples as well that have made them potentially something that is good for the community but also good for the economy.

SIMON WRIGHT: Sure. One of the points that I made was that collaboration is absolutely critical to the success of these regional transitions. Collaboration is at the heart of those examples. There are two that I would cite, one from New South Wales, one from Victoria. Down in the Riverina, in Hay—Hay has very much taken the opportunity that it has in terms of being inundated by energy developers and potentially, like other communities, not being really at the table to saying, "We want to lead this conversation and we really want to shape this process."

Hay, largely led by the local council, have created collaboration across industry, particularly with wind and solar developers. There are a whole number looking to develop assets close to Hay and in that part of the Riverina. NGOs, community groups and a few key local consultants have said, "This is a great opportunity but we, as a community, want to be able to share and experience not just token community payments but also create an arrangement with the developers that delivers enduring benefits to the communities so we can address the issues that are really big in this community." Like most regional communities, the big issues are workforce, housing, infrastructure—I'm sure you're familiar with the list. They are very much driving that process and facilitating that conversation. They have built a methodology to ensure that conversations, targets and aspirations around those key indicators are emerging.

The ultimate goal is to make sure that the energy developers can build credible social licence. Social licence is an area I spend a lot of time researching. They can build credible social licence, and the way to do that is by engaging deeply and consistently over the life of the project with the community, through this community forum, and with enduring benefit. Long-term, enduring financial benefits will be experienced by that community from this transition. It's a really great example of a multi-stakeholder collaborative process that has been built for the long term—a long-term conversation where community is at the table. I love the expression—it's not mine, I might add—that if you're not at the table, you're probably on the menu. The community is making sure that it's at the table and not on the menu.

We've seen pockets of dissatisfaction in regional communities around this energy transition process, and quite understandably in some instances. The other example that's really good is in Wimmera and Southern Mallee. They have taken a similar approach. I won't go through the detail there, but it's broadly similar in terms of bringing people together, identifying the big issues for the community and essentially saying to industry, "If you want to build in this community, you need to work with us to help us solve some of these long-term challenges that we, as a regional community, face." So they are two very similar approaches where collaboration is absolutely at the heart of it and where there is a long-term, ongoing conversation with the community, and where the community feels that they can be part of the solution and benefit from the conversation and thereby build in enduring social licence.

The Hon. SCOTT FARLOW: Going through your recommendations, you have quite a large role for government to play in terms of working with communities, and facilitating and enabling that. I'm interested, in terms of your perspective through that process as well, about the companies that are leaving these communities and the role that they have to play. We've heard of different examples throughout this inquiry. Certain companies—I always get the name incorrect in my pronunciation—including Idemitsu, have played a very positive role in terms of developing a plan with the community for what should occur on that site and engaging with the community and stakeholders, as you were talking about as well, like unions, local government and State and Federal governments. In terms of that experience you've had internationally, what have you found from how we can keep companies involved in that transition, and what are some mechanisms that have been successful in being able to leverage them into still playing a role in the future?

SIMON WRIGHT: It's a great question. This doesn't fall, again, to any one party; this is all about collaboration. These are complex issues that need collaborative minds applied to them. Probably where I can add most value is to talk about very specific examples. I'd draw on two or three that are all driven very much by the local context. Asturias is the biggest coalmining region in northern Spain. It's a beautiful part of the world. In Spain, industry, government and the union signed a tripartite agreement, which essentially underwrote the transition. A big part of that was land remediation. The companies are very much engaged. They're engaged in terms of funding some of that transition. A lot of the funds are coming from the European Union's Just Transition

Fund, which is absolutely enormous, the Spanish Government and, indeed the regional government in Asturias is also providing money. A lot of money is being thrown at these opportunities.

The corporations are involved throughout the process. Asturias is really an amazing example of where former mineworkers—the mining industry there shut down in a period of six years. It was very abrupt, mostly because of the corporations. The coal there had become very marginal from an economic perspective, and most of these corporations were busy transitioning to renewables. They wanted to be seen to be moving quickly, so they very much led the process, which, obviously, made it a lot easier. They have stayed with the process. Now, for example, many of the mineworkers who were made redundant with the closure of the mines were offered salary guarantees and then they were offered new jobs as part of the remediation process of the former mine sites—restoring them back to their former glory, adjacent to a lot of national parks in that area.

I heard some really powerful stories from miners who had spent their life there. They were justifiably proud of the economic value that they had added over the years and were still as proud to be involved in the remediation of that site. It continued their legacy, and many of them were doing that and hoping to work there until they retire. Many of them were older workers. The profile, the demographic, of the miners up there was a lot of older workers that had worked in the industry for 20, 30, 40 years—so slightly different to the Hunter where you have more younger workers. It was a really great example of how mineworkers have been involved in the remediation process very much led by the corporations and government, and underpinned by the tripartite agreement between government, unions and industry.

A very different example of the role of industry was one that I saw almost exactly this date last year, funnily enough. I was in Slovakia, and the mine there was primarily there to feed a power station that provided energy for the municipal heating system. The whole town where I stayed—a town about the same size as Orange, so 45,000 people—relied on the mine for its heating. On that mine site, the mining company HPB—the largest mining company I think in Slovakia—they had worked with local and regional governments and created a new entity, which was 51 per cent owned by the community, to transition that site from dirty coal to a clean energy site.

Really, referring to your previous speaker, what they used primarily was the mine water. They built a plant in two years that is on the old mine site, retaining many of the workers and using the old mine water as a source of geothermal power to run that through the municipal heating system. The mine site was quite extensive, so they built a large mid-scale solar array on the site. Because it is quite sizeable, they've also planted rapidly growing trees, and they are using and harvesting those trees on a rotating basis as biomass. They are now heating the town on geothermal water from the mine and biomass. It gets pretty cold in Slovakia in winter.

The Hon. SCOTT FARLOW: I can imagine.

SIMON WRIGHT: When I was there it was minus 15. So when they have those really deep troughs, they have the contingency of gas as a bridging fuel. But, to all intents and purposes, it's probably around 75 to 80 per cent renewables and about 20 to 25 per cent gas. So there they created a new entity—as I said, 51 per cent community owned. The mine company retained 49 per cent of that company, and they are moving more and more now and looking at more opportunities to use geothermal. They're looking at hydroponics and extending some of the land to bring in farmers, horticulturalists to grow tomatoes and similar crops using the geothermal water—so really diversifying the site, maximising the opportunity in the site and changing the business model but, again, playing a really very, very active role. So it's sort of two very different examples of where the corporations have pretty much led the charge in the opportunity of the transition.

The Hon. MARK BUTTIGIEG: Can I just jump in? You mentioned—was it Spain, where they have the transition?

SIMON WRIGHT: Yes.

The Hon. MARK BUTTIGIEG: This transition problem is fascinating and rolls off the tongue very easily. I'm interested to know where it's been successful, and it sounds like it has been here. You said that they would guarantee salaries and offer new roles. I'm assuming that match and the synchronisation of that match is not seamless, in terms of it's difficult to create the volume of jobs to cater for people seamlessly straightaway. Was there a transition arrangement where people were given redundancy opportunities or they were told, "You have a job for life", or anything like that? I just want a bit more detail on how that was managed.

SIMON WRIGHT: Sure. There's a lot of detail in my report, but I'm happy to talk to that. One thing I would say is that the transition pretty much everywhere is still ongoing. So when you talk about success, it's hard to talk about success because all of these regions are still very much in transition. Many of these new industries are quite young, being established and yet to be proven. In terms of the remuneration process, Asturias was lucky because, as I mentioned earlier, it had a high profile of older workers. Many of those workers that were

impacted saw retirement as a reasonable option. They were very well remunerated and given early access to retirement, and they were given some bridging finance.

Indeed, in other regions, in Poland, for example, and Silesia—Silesia is very comparable to the Hunter. It's a massive coal region, as I'm sure you're aware, with a very large number of workers—way more than the Hunter, actually. I think 80,000 workers are still in the in the coal region in Silesia. To aid that transition, the workers were essentially guaranteed 80 per cent of their salary for two years when the mine started to shut. So they were given a two-year window to find work. Again, perhaps economic serendipity has played a part, in that, like in regional New South Wales in Australia, there is a workforce shortage, so there are plenty of opportunities. But of course some reskilling needed to be done.

There are different scenarios in different regions. Many, because of the older profile of workers, have been able to offer many of those workers early retirement. But other initiatives have been necessary. In Spain, they have a jobs bank. Essentially the jobs bank is the unions and government working together where they offer—it's like a very sophisticated, sort of the Tinder of job matching. I was hoping that would bring a smile to your face. They bring together miners and employment opportunities, not necessarily from that region. There is a real focus on matching people with opportunities and identifying skills deficits. There's lots of reskilling and retraining. In some regions—

Ms SUE HIGGINSON: A recommendation for Tinder—is that where this inquiry is going to end up? Sorry!

SIMON WRIGHT: I might change that analogy and move on. It's that sort of thing where they're really working hard. In the interim, as well, the EU created some job exchanges. People from Spain went to Romania in the old Eastern Europe. Real challenge is there in transitioning workers because of a lot of old industries. They did some knowledge exchanges, where one region could look at how other regions were addressing their transition strategies. But, essentially, no two regions are the same; every region is at a different stage. Different tools are being used. Equally, I wouldn't shy away from the fact that a lot of money is being thrown—and Germany is no different. Germany, in fact, is probably the most generous in terms of the benefits being given to miners who are being made redundant, not just in terms of remuneration and early access to super but also through the social security system as well. There's a lot of financial support for these workers.

The Hon. MARK BUTTIGIEG: Did any of these jurisdictions retard—for want of a better word—the transition until you could synchronise the new jobs? In other words, you keep the coalmines open until the new jobs appear, rather than putting the cart before the horse, so to speak.

SIMON WRIGHT: Yes, sort of. As I said, this transition is ongoing, so many mines are still operating. But the "just transition" funding is for a very defined time period, and it's extraordinarily generous. My interpretation is that, in most instances, the size of the carrot is too great for countries to stall. There have been one or two instances where a lot of the action is at a regional level through a regional government. They're very much the custodians of the cash and the custodians of the transition plans, but there have been some instances, certainly complicated by the recent European elections, where the federal government, politically, is not as aligned with the transition and hence is not giving the level of support to the regions that the regions would like. So whilst it hasn't slowed it, it's certainly making life more challenging. Poland and Hungary are two good examples of that.

The Hon. MARK BUTTIGIEG: Just finally, to the extent that you can do this, because you have just pointed out that it's horses for courses, would Germany be the exemplar, cutting-edge example you'd lead with if you had to pick a jurisdiction of success?

SIMON WRIGHT: Germany is a massive country, and there's a real divide between the east and the west. As your previous speaker was alluding to, Lusatia in former eastern Germany is really struggling with the transition because they've got some really massive issues, politically and economically, whereas there are other examples within Germany that have gone very well. Spain, in many instances, is a really good example, and there are good examples, I think, from within each country. Poland has some great examples. Down in the south-west of Poland, parts of Silesia are cracking on. Slovakia has some great examples. It depends on if you're looking at jobs, retraining, infrastructure, and cultural heritage. When I was in Katowice—Poland has some amazing examples of how they've restored former coal sites and turned them into these amazing community hubs and cultural centres. I'd say there's a bit of a toolkit approach and that no country does everything really well, but there are some great examples that we can learn from in each of those spheres. And again, with the post-mining land use, Asturias in northern Spain is a great example. I quoted the one in Slovakia. There are a couple of good ones in Poland. Case by case, I would say.

The Hon. SCOTT FARLOW: You mentioned at the beginning the importance of engagement with the youth. I guess we're having this discussion in terms of those who are working in the mines as well and their

transition plan. But there is that broader question of those who aren't engaged in employment yet and their aspirations for the community and their aspirations for their future. How have you found that done successfully, in terms of engaging younger people as part of that post-mining land use planning?

SIMON WRIGHT: I've talked a bit about Asturias; I won't dwell on that one. I would say that youth is certainly an area that is prioritised by the European Union, and there is a real recognition that young people are in most of these coal regions. I would say that many of these coal regions, quite understandably, have become monocultures. The research tells you that where an industry has such a strong overall percentage of GDP generation, that change happens very slowly, and a lot of young people are leaving those regions. Lusatia—we talked about—in eastern Germany is struggling because the young people do not want to stay in those regions, even though there is a massive investment. I saw some really exciting innovation hubs around Leipzig and Dresden—money being invested across four or five different industries generating new jobs for young people and innovation hubs that are essentially free of charge, where under-25s can bring their business ideas. Since 2015 they've managed to launch 126 different companies, all from young entrepreneurs. They're very powerful programs in terms of trying to retain the youth, but it is really challenging.

In many of those regions, young people are leaving. There are lots of examples where regions are trying to retain their younger people through employment programs and through innovation programs, just encouraging them to have a seat at the table in the conversation, because the just transition planning process in Europe mandates that you have this period of social dialogue, which is essentially a fancy way of getting everybody around a table and making sure that people are involved, and young people have to be included in those conversations. But that is a conversation that often takes 12 to 24 months, and that's why the funding in the EU runs for another three-plus years. In the first two years, there has been a lot of talking because the funding mandates that they have this period of social discourse. That's where it has been really critical to involve young people, and they've been involved in the conversation. What materialises from those conversations, in many instances, is still to be seen.

The Hon. WES FANG: Thank you for that answer that you just gave about children and young people. I'm always fascinated about the voices of children and young people. I think they deserve to be promoted and to have some prominence in these debates. Just in relation, though, to the issue around hydronic heating and geothermal heating by using water from mines et cetera—I've always had a bit of a fascination around geothermal heating, cooling and the like—when that was looked at in relation to the project overseas, what were the regulatory barriers that were in place? Did anything need to be removed? Were there dispensations that needed to be implemented for a project like that to be harnessed and to be progressed? I could imagine that doing something similar here in Australia would be met with any degree of red tape and with—

Ms SUE HIGGINSON: Green tape. Call it green tape, Wes.

The Hon. WES FANG: Green tape, indeed. I am just curious as to what happened overseas. Was there a dispensation-type process or was it that the regulation was a lot easier?

SIMON WRIGHT: That's a really great question. I spent a day with the chief engineer at the power plant, and he took me around, and we talked a lot about this. It's not something that I've researched for myself, but he explained that, because they were working with regional government, they were able to accelerate the planning processes for the region. They did have to get special dispensation. It was a whole new project—I think the first of its kind in Slovakia—but obviously, because they are working so closely with regional government and funding tied through regional government, they had the relationships. That's the extent of what I know about that process, I'm afraid.

The Hon. WES FANG: Would it be fair to say, then, that if we were to do something similar here and try to exploit a ready-made resource that ultimately is providing renewable, I'll say, or harnessing effectively a waste or a used site for another purpose and doing so quite effectively, we could expect that there would be a number of regulatory barriers that are currently in place that we might need to look to change if we're going to adopt this philosophy, moving forward?

SIMON WRIGHT: One of the points of my research that I made was that the regulation needs to support these sorts of innovations, and it needs to be more nimble. I can certainly draw on my experience around—I'm involved in a few biomass projects around the State and very involved with the Bega circular project down in the South Coast of New South Wales; I'm on their steering committee. Certainly part of an innovation process, particularly using natural resources, inevitably means that you're challenging some of those regulations. So, certainly, yes, we have to be more nimble and adapt where it makes economic, social and environmental sense to support these new opportunities.

The Hon. WES FANG: I'll ask an opinion of you. Do you think that the current governments, both State and Federal, would operate with the culture that you indicate would be required—i.e., looking to be nimble

and responsive to what industry and communities might need—if we're to progress these sorts of projects into the future? Or do you think that the current regime of environmental planning and assessment of environmental offsets is likely to be a handbrake on the nation and State progressing innovative land uses to the maximum extent possible?

SIMON WRIGHT: If you're asking if our planning process is too slow, then I think it's pretty evident that the pace that we are moving in terms of—if we just focus on renewable energy, for example, and the pace that we are moving, the single biggest delay in New South Wales is the planning approvals process. Again, I just put some caveats on that. I think it's quite appropriate that those developments are bound by the same environmental and community obligations as any other project, so I wouldn't want to see those compromised. But, equally, we have a fairly ambitious climate and transition goal, and at the moment we are running well behind schedule. A major part of that is the planning process.

The Hon. WES FANG: My last question is in relation to issues in Australia and New South Wales versus overseas. Obviously we've got the EDO, the Environmental Defenders Office, who effectively like to wage lawfare on projects outside of the narrow band that they're prepared to support. I'm glad I can't see Ms Sue Higginson at the moment because I'm sure she's mouthing things—actually, I can hear her.

The CHAIR: Focus on the question, Wes.

The Hon. WES FANG: Do they have that sort of lawfare—organisations that seek to abuse the legal process to wage environmental lawfare through the courts—overseas? If so, how does their government deal with it?

SIMON WRIGHT: Maybe I'll just draw on my experience from the EU. Canada is slightly different but, drawing on the European Union, the transition process was all about action: go, go, go. There wasn't a lot of monitoring and evaluation set up up-front. Because of that deficit, we've seen some very large, powerful and pretty effective NGOs step into that gap. You have organisations such as WWF and Bankwatch, who are essentially evaluating the—again, this is included in my report. Their data is really quite insightful. They evaluate the economic, social and environmental aspects of each region's transition plan for effectiveness. They monitor and report back on that. That has been highly effective in prompting regions to act. I think it's probably fair to say that, in Australia, we don't have that scale of NGO in terms of the power and networks of the Bankwatches or the WWF, but they have a seat at the table. They are an equal partner, and the European Union takes their reporting very seriously, as do the regions.

Ms SUE HIGGINSON: You were talking about the seat at the table and how, if you're not at the table, you're on the menu. I love that. One of the things I'm curious about is that there is no one table, so to speak, when it comes to community. Sometimes there has to be a bunch of tables because there are all sorts of different views.

SIMON WRIGHT: Yes.

Ms SUE HIGGINSON: In terms of lessons from other places, how can the New South Wales Government—particularly looking at the Hunter—best encompass all the different tables and help everyone feel that they are part of that conversation? I think you said trust early on—that's the only way you garner it. I think that possibly there is a view out there that we may not be doing that very well at this point in time. I think there's a view that we're trying—we're engaging, we've got transition authorities happening and we're starting—but I'm genuinely concerned, and I'm hearing voices, that there are different tables and that we're not finding cohesion. I'm very curious about your views on that.

SIMON WRIGHT: I would say I think you're right. Part of the reason for that social dialogue is really to spend time with people building trust and building relationships, because trust is the currency of action and collaboration. If you don't have that, you can't collaborate. Again, I would perhaps cite a couple of examples. I saw up in Brandenburg, which is adjacent to Lausitz in Germany—and there was a similar process in other places—that there were indeed multiple tables. Actually, I'll set that to one side.

Let's talk about something different. Let's talk about Slovakia. Slovakia was really interesting because they had a particularly charismatic mayor of a local town who saw the writing on the wall, convened a community group to start talking about the transition in the region and ended up getting some funding from the EU. They brought in Deloitte. Deloitte came down from Bratislava and started these conversations with multiple community reps. Then—just to really zip through this process—they essentially built a bit of a community plan, identified what the priorities were and then they created little working groups on each of those plans. So they really broke it down and they had working groups of community, industry, government, NGOs, all facilitated by Deloitte. Deloitte was the common element of those conversations.

They took ownership of those particular areas and they started developing strategies and projects, because essentially this is all about building projects for investment by the European Union. These aren't just glorified talkfests and kumbaya moments for communities to feel better; they're very much about generating a list of projects that the Just Transition Fund can invest in, supported by federal and regional governments of that country. These committees would generate projects and then they would come together and they would collectively assess those projects. Again, Deloitte facilitated that process. That's how they determined priorities. A not dissimilar approach was used in Brandenburg in north-eastern Germany, where, again, they devolved these conversations to groups and they came back to the community. I remember one of the fellows, who is the CEO of the local innovation hub, a company called SpinLab, he said—sorry, it may not have been him. But anyway, one of the senior officials there said that of all the projects that had been recommended to the regional government from these working groups, not one had been declined. I think that's quite reflective of the quality of the process, but also the sheer amount of funding that's available in Germany.

Ms SUE HIGGINSON: In terms of the sort of funding that we have here that is available in terms of having that resource to invest, I think you identified that you need to invest in these early trust building processes and they need to be government enabled. Obviously, the EU transition fund is, and was, enormous. We're allocating particular money now through the budget and through Treasury. There are criticisms that that's not enough and that we need to build that fund more. Is your advice from what you've seen that that investment is fundamental early on for that trust-building exercise and those processes?

SIMON WRIGHT: I think in the last few years we've seen a desire to move quickly on regional energy transitions, and, in many instances, it hasn't gone well. A big piece of that, I would argue, has been that there has not been any trust building in those communities. There was an assumption, "Okay, let's crack on with this. Let's just do it. These communities will be happy to host." One of the lessons from that process has been that if you don't spend time and money upfront building trust with communities, you're confronted by angry landholders and community members who don't feel they've been engaged properly by governments or, indeed, industry.

Regional people don't want a leaflet in their letterbox, which is 2½ kilometres from their house. They want people to knock on their door, shake their hand, look them in the eye and say, "This is what we want to do. What do you think?" Those conversations didn't happen. A key learning for me is that, sure, you can try to do without those, but the probability of success is very low. It's much better—despite having ambitious targets for energy, climate, economic development and all of those things—to spend time and money upfront, engaging with those communities and building trust, because that is your currency of action and collaboration. Without that, you simply can't operate.

The CHAIR: Unfortunately we are out of time. Thank you so much again for making time to give evidence. We look forward to the report and anticipate its release. If there are any questions on notice, the Committee secretariat will be in touch with the details.

SIMON WRIGHT: Thank you very much. Have a great Christmas.

(The witness withdrew.)

(Short adjournment)

Mr **BOB HAWES**, Chief Executive Officer, Business Hunter, sworn and examined

The CHAIR: I welcome our next witness. Thank you for making the time to be here today for this inquiry. Would you like to make a short opening statement?

BOB HAWES: I would like to commend our submission to the inquiry, firstly. Secondly, I note that since July 2024, when submissions were given, some important things have happened in the region that are worth emphasising and have some importance to the subject of this inquiry. What that drives at is the need for data; understanding the capability and the capacity of the economy that we have in the Hunter to support the outcomes of what this inquiry could deliver, which are very exciting but will be challenging; and also understanding the business ecosystem that needs to be in place to support that. I do note that the agencies that have been established since then, or are now well up and going, are the Future Jobs and Investment Authorities at a State level and also the Net Zero Economy Agency at a Federal level. They're running around doing what they should be doing—making the community aware of their existence and their terms of reference as well as making their own inquiries in relation to understanding better how the economy ticks.

But I think it is worth noting that, since July, some of the data that we've seen, particularly in employment, are leading to becoming trends. That is, first of all, a skills shortage does exist in the region; and, secondly, some employment rates are historically low and seem to be continuing to be low, as well as a stickiness in the job ads that we have in the region—that business is looking for people. It's shown up that there are some significant disconnects in what we currently have in our economy. We have some serious ambition to move forward, to morph and change. But if these statistics keep on growing the way they are, some of those disconnects are going to be a constraint on our ability to achieve our ambition, and that of the State and the nation, for that matter.

In terms of the geography, we're still seeing that businesses are telling us that moving people across the region to fill those employment opportunities is also constrained by the lack of housing and the lack of transport connections, which I know is not a matter of subject for this inquiry but once again goes to the problem of fulfilling that ambition should some opportunity be realised. I think one of the other important things to note in terms of the skills gap is that at the moment and over the last 20 years, the region has grown substantially in terms of its capacity to provide professional services, high-skilled jobs, particularly jobs that are after graduate or bachelor qualifications to be able to fulfil those qualifications or those job opportunities.

At the moment, based on the number of job ads that we have out there in the Hunter, about 30 per cent of those are requiring bachelor qualifications to fill those positions, which is about 1,650 ads. If we look at the Jobs and Skills Australia cohort of people of the pool of unemployed, there's 25,000 roughly in the Hunter currently on income support. Of those, around just over 19,500 are actively looking for work. Seven per cent of those have graduate qualifications, which amounts to about 1,350 of the people who are in the pool of unemployed. It does suggest that where we're looking for the higher paid, higher skilled jobs, we not only have a gap now but we will have a gap into the future to think about how we fulfil that, if we're going to realise some of this ambition.

Just by way of background, I appreciate it's not in the terms of reference of this inquiry, but I think it's worth bearing in mind that the "build and they will come" type attitude that sometimes prevails may have some serious constraints and challenges that lay before it, but I do commend the inquiry for the task before them. I'm excited about the opportunity ambition might bring, notwithstanding these constraints. Thank you.

The Hon. SCOTT FARLOW: Thank you very much, Mr Hawes, for being with us here today and for turning your mind, and Business Hunter's mind, to the big challenge that we have ahead with the transition. I'm interested in terms of your submission that one of the areas you highlight—and I won't say that you're alone in highlighting—is the challenge in the planning system in terms of adaptive re-use. While you've talked about the two bodies set up, have you seen any improvements in that area, or what do you see as the prescription for what we need to do in changing the planning system to allow for adaptive re-use in many of these sites?

BOB HAWES: We're not seeing a pattern of change at the moment. I appreciate that it's still early days and the minds and the interests that are turning their attention to looking at life after mining is still early days, but we would still advocate that that whole system of where there are a number of disconnects that show up as a consequence of overlapping in different regimes that apply through different agencies will need to be addressed. We're certainly supportive of other submissions that have suggested that looking at a State-based system where the State Government has authority to bring all that together is going to be very, very important.

I think the opportunity for uncertainty, the opportunity for that overlap between what residual responsibilities there are under mine leases before another, and probably unrelated, company takes on the next course of action with whatever is proposed on some of those mine sites is going to be significant. That connection or that overview, oversight, bearing in mind the outcome, what the end game is in terms of what is envisaged for

that particular piece of land or parcel of land, and then working out a way or system to best get there as opposed to starting at this point and saying, "There's an end point up there. How do we accommodate that within the existing system?"—I don't think that sounds very efficient and I think, in hindsight, if we did do that, we'd find that there's probably a better way of doing it.

The Hon. SCOTT FARLOW: One of the discussions we've had often is about tripartite agreements when it comes to post-mining land use, and that often is a case of the Government, the community and business. But largely when it's discussed about business, it's the holder of that land, which I take it would typically not be your members, although they might have some membership, but your membership is much broader in terms of those who support the extractive industries, in particular. I'm interested in what you found in Business Hunter as being successful models that have involved the broader business supply chain when it comes to mining and their role in any adaptive re-use as well.

BOB HAWES: It's a good question. Our membership—we're a very broad church—does encompass a lot of different businesses and a lot of different sectors. I think it's fair to say, from a business point of view, that is part of the risk in that entire journey that we could experience in the adaptive re-use of some of these sites. I say that by virtue of the capacity and capability of an individual business to take on a significant project and deliver it. That's no different in anything now in land development across the region or, for that matter, the State and the nation—or any other property project that someone takes on. You have the best intentions of fulfilling that task and fulfilling the ambition or realising the dream but, for one reason or another—be it change in interest rates, change in market conditions, or the identification of a constraint that wasn't was initially underestimated or whatever—it can slip up a project of any nature in that capacity.

As far as the existing businesses are concerned within some of these areas, they're not, in and of themselves—particularly the small to medium-sized businesses—of a capacity to take on a project. They might be able to take on part of a project, or contribute or participate. One of the things—I wanted to make the point, in terms of our submission—is understanding what the ecosystem and the DNA, if you like, of the businesses that are in these communities currently is. What are their interests? What do they do if there is a sudden mining downturn or if mining closes? In cases where you might have a small business that facilitates production or supply to just one mine, what are they intending to do?

It's always the case that we see in some of these small communities that the flow-on effect from one significant business who may make a discrete decision to close down might take another four or five with them. That supply chain stuff I don't think is well understood at the moment. We have a lot of data out there in the Hunter at the moment that is expressed about employees or individual community members, but we don't have any data and we don't have a clear and full understanding of what the businesses would think or what they intend to do if the ambition of the region changes as a consequence of the work of this inquiry, for example.

The Hon. SCOTT FARLOW: I think that's a very well-made point in the sense that we often do spend—and rightly so—a lot of time thinking about the transition of the workforce, but there is a broader ecosystem that supports those operations as well. There's a transition task not just for one workforce but for many workforces that support it as well, and those businesses and how they pivot as well. I'm interested in one of the points you made in your opening statement as well about how the "build it and they will come" mentality doesn't necessarily work. Have you got some pitfalls that you've seen and maybe some case studies in that regard? How do you think we overcome that in terms of working with the community and local businesses to make something a success?

BOB HAWES: At the end of the day, we're a significant regional economy and a diverse regional economy, but we're not bulletproof. I think a good example of how things can change, in looking at that diversity, is that up until 2019, employment growth in the mining sector was moderate. They took on technology and they took on other systems of production to keep their productivity up because they were having trouble, and they are still having trouble, getting employees. In Newcastle and Lake Macquarie, however, the growth was quite phenomenal between 2004 and 2019, leading up to COVID. And why is that? It's probably because the Hunter Expressway was built. What the Hunter Expressway did is it allowed people who used to formerly have to live up towards the mine because of particular controls around their employment—it meant that they were only going to be able to travel so far or so wide to get to their job.

The opening of the Hunter Expressway brought the valley closer to the coast. I still think that is a challenge, and it's going to be an ongoing challenge for the region. Making an opportunity available somewhere up the valley does not automatically mean that we're going to get all these footloose businesses suddenly realising that I should be there and here I go. That's why we keep coming back to that point about understanding that existing ecosystem—that existing DNA for business structures and how those communities are fed in or supported by their businesses—to understand what those risks might be and what those opportunities might be.

It's a bit of a chicken and the egg. If you don't do it, you don't know. At the moment, the strength or the gravity of the development wave within the Hunter Valley is definitely moving west. We've seen areas like Huntlee take off, and they're well west of Maitland, and now industrial areas down in the lower Hunter basically being quite full. That does allow for opportunities where you get land-constrained LGAs or suburbs within the area to look further west as that goes. We're certainly sceptical about just putting a blank plank out there and—apart from a project that might be fully supported by government or fully subsidised by government—going there on its own under market forces. We'd be very careful about that.

The CHAIR: I want to ask you some questions now about the planning system as it relates to businesses in the Hunter from your perspective. What changes to the planning system, and the current arrangements, do you suggest could facilitate the better use of post-mining land, particularly in the Hunter?

BOB HAWES: At the micro end, one of the issues that keeps coming up under our Business Conditions Survey that we have been doing for a long, long, long time—quarterly—is government charges, government red tape; the ease of doing business, for want of a better description. I think this folds into that. We have heard stories or anecdotal reports of people wanting to do things, quite small by scale, but encountering issues in the planning system, particularly around things like the environment, the Federal Act and working in with the State requirements, as well as just the time it takes to get things done.

I do note that it should be regarded that a lot of the businesses that take this on, that isn't what they do for a core activity. If they don't employ the services of planning advice, or they don't employ a multidisciplinary consultant to help then run through that, it's probably going to be new to them, and it's always going to present problems. We've got no doubt—having looked at what some of that feedback is—and reiterate that we believe that that system should be holistic, even though the likelihood that the participants or the players in that future activity will change. So the mining company at some stage will end what it's doing because it's just interested in mining; a development company or development interest that may be prospective, in other words, then going out looking to the market for other back-end uses; then an end user, which could be a third party again, needs to be encompassed by a planning system that can look at that holistically, not a piecemeal approach where we're waiting for something to stop before something else can start. We believe that just produces too much uncertainty.

The CHAIR: Having a more whole-of-concept or more integrated approach, as opposed to the quite linear process that we have currently, that would provide flexibility for potential investors or proponents to investigate or access the opportunities that might be there. Is that something that you think would assist the business community?

BOB HAWES: Absolutely. Going back to what I said earlier about getting that outcome focus, it might be fraught. Some of the investigations that will be required for re-use of some of this mining land could be time-consuming and expensive in and of themselves, particularly where you've got land that's being filled, rehabilitated or lacks infrastructure. Some of those investigations are going to take time and may be costly. But if they're wrapped up in one process where someone can start and see where they can end off, where they're getting those concurrencies on the way through, as opposed to getting to a particular staging point within that process where they could be tripped up is not going to be conducive to people wanting to start the investigations in the first place.

The CHAIR: You mentioned gaps in the data in terms of business. Do you have a view as to who is in the best position to collect and publish that data? Are there any other States that you can point us to that are doing well in that regard that may assist us?

BOB HAWES: Good question. I'm not quite sure of anyone else. I suspect some of the other communities around the country—whether they've done this in Collie. I certainly know that down in Latrobe they did a lot of investigation, and that's probably a good place to start. But the issue with the Hunter is its diversification. Those areas have been relatively single dimensional about the industry activity they have, which has been around the power station, and then the coalmine that services the power station and ancillary industries that work off that. What we've got, particularly as you move to the eastern end of the Hunter Valley, is a much more diversified economy, where right up the extremities of the mining areas, there will be a large representation of companies that are more dependent on that activity than other activity.

But as you come east, we've seen it—we've seen areas that used to be pitheads for mines, and the community existed solely to support that mine. That's now not the case. The mines have moved on. The communities are still there. The business and industry around there has diversified. That's part of that story that we need to investigate. I don't think it's going to be easy. It'll be a combination of looking at ABS data, looking at business data, but also a lot of wearing out shoe leather to go and knock on doors and talk to some of the businesses to find out what makes them tick and what their ambitions are for the future.

The CHAIR: In terms of other witnesses to this inquiry from the Hunter, of which we've had several, the local councils—Lake Macquarie council and Muswellbrook, and I'm sure the others mentioned it also—talked to us about the lack of industrial land, or commercial land, and that being a barrier to investment in the region. When we look at a mining lease, for example, there are areas within a mine—it's not a uniform site, whether you've got buffer land or whatever the case may be. If we were to, hypothetically, make it easier to access some of this land that is, for all intents and purposes, undisturbed, how confident are you that the business community, those investors or potential markets might respond or would respond?

BOB HAWES: The conditions now are as good as they've ever been. It's certainly up there with other good times we've had in the Hunter. The price escalation in industrial land over the last five years has been quite spectacular, sort of going from a nominal rate of around \$200 a square metre, generally speaking—I mean, there are differences across the region—peaking at around \$600 a square metre. I understand that's coming back a little bit now. In some of those areas speculators or prospective users moved in but don't need the land. They're putting it back on the market. In terms of historical supply and demand, the amount of industrial land that we have, looking at the region and then looking at the regions within the region, so the eastern portion and the western portion, the eastern portion is definitely well short of what it has typically had as buffer stock of industrial land across the region.

Areas around Lake Macquarie, Newcastle, Cessnock, Maitland and Port Stephens—where you've typically got demand around some of those diversified industries that I talk about, be that in transport, logistics, defence, manufacturing and a whole range of other things—is quite significant compared to what it has been in the past. Where those mines are, within the context of those areas, geographically, I think they would be well regarded and well sought after. If that opportunity to pick some low-hanging fruit and get some land redesignated and onto the market, I think that would help that relative shortage of land and shortage of opportunity that has been apparent in the region, particularly given the growth that we're forecasting, not only to get back to business as usual in some of those industries, but also growth pulses that are coming from the new energy economy, growth pulses that are coming from defence industry and growth pulses that are coming from medtech, advanced manufacturing and so on.

The CHAIR: In terms of the business opportunities for the Hunter, if we were to look at a system whereby there were—one of the things that witnesses have spoken to us about is the risk and the liabilities that may lie within these sites. I just wonder if you have any suggestions around possible remedies for that or what role we could play in that regard?

BOB HAWES: Yes, it's a difficult one. If you look back to when BHP left Newcastle, the Steel River Project and other land holdings, and now we've got Pasmaenco, which is not much different, whereby the opportunity for land to be re-used, while there is a contingent liability on it that's beholden by somebody else and not the project proponent that wants to take it on, doesn't work. That disconnect mostly happens within the finance industry. So you go to get finance and, unless you can show that it's very, very clean, there's going to be no institution or bank that's going to lend you any money when there's a contingent liability that you can't describe and you can't define. We've had it also with mine subsidence in the region, where old mines haven't fully collapsed. I think you probably know the story fairly well about that, Chair. That is a significant issue, and the only rescue or the only way those situations have been addressed or remedied is whereby there is someone that takes on that umbrella liability.

In the case of Steel River, BHP came back in. In the case of Pasmaenco, the Government has become the developer and has finished the remediation of the site. In the case of mine subsidence, there have been funds developed to protect developers so that they can define that liability or, if there is an issue, there's a fallback. I think that where you've got degraded mine sites that have been rehabilitated—and, as I said, one of the things is going to be about how they've been filled, what sort of infrastructure is in place and what sort of condition it is in—the advantage is that there might not be environmental factors to worry about. But you've got to be able to define those issues around the development imperatives to redevelop the site, to build roads on it, to put in services and whatever. If you can't, I suspect that continues to drag on, particularly on the finance sector, to want to get involved and lend people money to do so.

The CHAIR: That's an interesting point.

The Hon. SCOTT FARLOW: Can I just pick up on that. You are outlining one of the big challenges in that the person who is responsible for the remediation does not necessarily have skin in the game in terms of the future of the site. How do you see an incentive being in place? I know—I won't say necessarily out of corporate goodwill or the like—there have been some very good examples where they have come to the party, and I will say, as a shout-out, that all indications with BHP at Mount Arthur, for instance, are that they have a significant plan for the future of that site. In saying that, how do you see an incentive effectively being there for those who

do not really have a responsibility for the site into its future, apart from its remediation, to actually be looking at what is a productive asset for the community?

BOB HAWES: Yes, I think there's going to have to be some innovation in the way that some of the remediation and some of those liabilities are addressed. Particularly where a development imperative becomes the norm for a piece of land that's well located adjacent to an urban area, for example, it can be re-used. But understanding and getting engineers on board to say, "How do we think laterally about this? What else can be done?" I know there have been other parts of older mines going back to perhaps the '90s and the noughties, and if they had their time again, because of where they are located, they might have done some of that remediation differently. We've got a start point, and what happened has happened, and you're not going to dig up metres and metres and metres of ground to then recompact it, for example, to get it right. But there might be other engineering solutions that could be come up with or could be developed that could look at that.

I think the region has a lot of skills and talent in that regard. Remediation isn't something that we're scared of. With some of the biggest projects we have up there that we've had to contemplate, with contamination remediation—and that's also combined with disturbed earth, as it were, to get to a point where you can then think about and justify a subsequent use for that land. I don't think there's one easy answer for it, but it would be a case-by-case basis to understand what that constraint is and see if there is an engineering or some other innovative solution to try to not overcome it but to accommodate it so that that next use can occur.

The Hon. SCOTT FARLOW: I guess the great incentive in terms of that next use that's already on the table is often the infrastructure that's existing in those locations, which is why people look at those sites and say, "Well, we can make something of this", because there is either the electricity infrastructure or the road infrastructure that's in place there to leverage off. What sort of threat do you see to losing some of that infrastructure in place in the Hunter as we move forward?

BOB HAWES: It's a big cost because, at the end of the day, the subsequent users are going to be doing their sums backwards: "What's the market prepared to accommodate here? What use can I justify on the basis of either a sell or lease or a re-use?" or, if it's a business that wants to own and operate, to keep within context their property costs. If they've got to re-establish infrastructure links that could have been otherwise used and pay for those, it's just going to dent the feasibility and send it backwards. We've already got land up in the region that's case in point, where it has gone to a point where it just isn't yet feasible to do anything with it because the market is not there. If you've got the head start by having some savings on infrastructure costs or remediation costs or whatever it is, you'd be mad if you didn't do your darnedest to take advantage of it and try to make it worth your while.

The Hon. SCOTT FARLOW: But are you seeing delays in the planning system, for instance, or what people see as the potential permissibility leading to some of that infrastructure being removed on some sites today?

BOB HAWES: We've only heard the stories. I've only heard the stories anecdotally that investigations are being made in this context about trying to finish off one section of an approval before you start the next and not, as I said, have that thing—you made the point earlier and the Chair made the point—to try to get that to carry on through so that you don't get that clunkiness in the system and the potential for it to fall off stage by stage simply because you're going to rip things out, and then come back and have to put them back in again in the next stage. It doesn't make sense.

The CHAIR: It has been put to us, Mr Hawes, in terms of the evidence given to the inquiry, that we should be rethinking the way that we currently look at mines and consider the post-mining land use at all stages throughout the mining cycle. Now, that's all well and good for the Hunter Valley to say that, but a lot of our mines are obviously historical, are operating and have a life span existing. What would you say would be some of the benefits for business in starting to look at and encourage a conversation around what those post-mining land uses are? Is there anything that you would recommend that the State Government do to better facilitate some of those conversations to fully realise the opportunities that may exist in some of these sites?

BOB HAWES: I think the advantage of doing it through the life of a mine would be that it could add additional step-off points that might become available as a consequence of change in that industry, in and of itself. That's not to suggest that someone says, "Look, we've got a hole that's 300 metres deep. We think we can stop here now, and someone else will come down here and build a factory and start making things." I'm not quite sure it will reach that point. But I am aware of the width and breadth of many opportunities that people are talking about for the re-use of some of the mine sites, some of which could be accommodated by that physical characteristic and others that don't. To the use, there are a lot of things that have been suggested. There's a lot of talk out there about what it can do to facilitate activity in the renewable energy industry, for example. We're talking about pumped hydro, solar—a whole bunch of other things on some of those sites. That'll reach a point where it either will or won't work because of access to the grid, saturation in the market and so on.

I think the other components come back to that point I made initially, which is about understanding the ecosystems within and of those communities that are around these sites. I don't foreshadow that, in the case of sites that have to be remediated, that land is going to be able to be produced cheaply or necessarily more economically than other land that exists within the market, particularly undisturbed land that's adjacent to existing urban areas that councils or the State Government may have already identified for future urban opportunity. So you've got to bear that in mind. If there aren't advantages from an economic point of view, you've got to ask yourself, "What will the market do?" If two pieces of site are equally characteristically favourable because of their location or their infrastructure characteristics, and one's twice the price of the other, I think I know where a market economy is going to send its energy. Those sorts of things will come into consideration, as will what those communities and the businesses that are there now—and the businesses that we foreshadow are coming—are capable of supporting.

The CHAIR: Thank you very much, Mr. Hawes, for making time to give evidence and for your submission to the inquiry. If there are any questions on notice, our Committee secretariat will be in touch with you with the details.

BOB HAWES: No problem. Thank you for allowing me the time to talk with you today. Good luck with the rest of it.

(The witness withdrew.)

Mr JAMES PURTILL, Queensland Mine Rehabilitation Commissioner, sworn and examined

The CHAIR: Welcome to our next witness. Thank you so much for making time to give evidence in the inquiry today. Would you like to start by making a short opening statement?

JAMES PURTILL: I start by acknowledging the traditional owners on whose lands we meet, and give my recognition and respect to their ancestors and Elders. I thank the Chair and the Committee for the opportunity to speak with you today. A suite of mine rehabilitation reforms was introduced in Queensland in 2019 and 2020. These reforms included the establishment of a financial provisioning scheme and a financial provisioning fund, whereby Queensland's largest mining projects are subject to a comprehensive risk assessment and may meet their financial assurance requirements either by way of a contribution to the fund if deemed sufficiently low risk or by accessing financial assurance from the market; secondly, requirements for large mines to prepare "life of mine" plans that are known as progressive rehabilitation and closure plans; also, the introduction of new forms of surety, such as insurance products as well as bank guarantees that were traditionally used; and, finally, the establishment of a Mine Rehabilitation Commissioner.

My role as commissioner reports directly to the Minister responsible for the Environmental Protection Act 1994. The commissioner's functions include to provide advice on rehabilitation practices, outcomes and policies; develop technical reports and documents on leading practice rehabilitation; report on rehabilitation performance and trends across the State; and engage with stakeholders on rehabilitation and management matters. An annual report must be tabled in Parliament by the Minister, outlining the operations of the commissioner and supporting office during the year.

Priorities for our leading practice advice are established in consultation with stakeholders and we consult on scope when required. We commission subject matter experts to assist with preparation of technical papers and then use independent peer reviewers. The technical papers are reports we commission experts to write. We set the scope and we have rigorous input along the way, but the final paper is their professional output. While we seek feedback on errors of fact or omission, these technical papers are not policy documents and their contents are not a negotiated outcome.

The environmental regulator in Queensland is to have regard to our work but is not bound by our work. To date, the Office of the Queensland Mine Rehabilitation Commissioner has published leading practice guidance on aquatic and terrestrial ecosystem rehabilitation, grazing as a post-mining land use, void water modelling—those voids being the open-cut pits left after open-cut mining—void post-mining land uses, topsoil deficits, and transition of water rights from active to closed mines. We're currently preparing guidance on landform evolution modelling and erosion control on large mine waste landforms. We report annually on trends and performance in progressive rehabilitation and closure planning across the 200 largest mines in Queensland. Metallurgical and thermal coalmining contribute approximately 80 per cent of the land disturbance in Queensland in the mining industry, and, as such, have a strong influence on the resource industry's progressive rehabilitation performance.

As a non-regulatory advisory entity, we are able to hold candid and constructive dialogue with both industry and other interested stakeholders. This is essential, as many of the technical areas we seek to provide leading-practice advice on are highly contestable and highly contested topics. While the office has a primarily technical focus, mine rehabilitation and post-mining land uses inevitably arrive at a junction between technical solutions and matters of policy. As commissioner, I participate in a financial provisioning scheme inter-departmental committee that seeks to provide advice to government across portfolio interests in mining, petroleum, environmental management and risk management to ensure community confidence in mine rehabilitations and transitions to post-mining land uses.

The current regulatory settings in most jurisdictions seek to render mined lands safe, stable, non-polluting and able to sustain a productive post-mining land use. Large, complex, multi-decadal operations can host complex environmental, social and economic challenges for the communities in which they operate. Cross-portfolio engagement is essential to ensure the benefits of resource extraction can provide enduring value. I look forward to answering any questions the Committee may have.

The CHAIR: Thank you very much, Mr Purtill. We'll now move to questions.

The Hon. SCOTT FARLOW: Mr Purtill, thank you very much for coming down here to address the Committee today. As the Committee looks to make recommendations, and if we were to contemplate potentially creating a role like yours in New South Wales, what do you see as the advantages of having a commissioner role such as the one that you have?

JAMES PURTILL: I'd start by reflecting on the advantage of the role being non-regulatory in nature. Its origin was steeped in a concept of the commissioner being the regulator of the regulator, if you like. That is

not unlike the US example of the federal Surface Mining Control and Reclamation Act. The Office of Surface Mining Reclamation and Enforcement is a federal authority that, effectively, walks around tapping on the shoulder of each state jurisdiction about the way they go about their coalmining. I believe, and I mentioned in my opening address, that the ability to have very candid conversations about what works and doesn't work without, if you like, any spectre of regulatory intervention has been incredibly helpful. The industry has been able to host us.

I have visited more than 100 sites, both in Queensland and elsewhere, and have been able to have very constructive dialogue and then feed that back to government in a systemic way. Rather than the specifics of a particular issue at a particular site, we are able to then look for the systemic issues that keep appearing and what might be some of the structural changes that could be made to improve the situation across the board. Sometimes it can be frustrating to keep the commentary at a sectoral level or even at a broader industry level. Typically, it is at the sectoral level because the idiosyncrasies of particularly thermal and metallurgical coal versus, say, metals mines are very, very fundamentally different. I see a lot of parallels here in New South Wales as well. There is a very, very strong coal industry in relatively more sensitive environments than the metals mines—very similar to Queensland.

The ability for progressive rehabilitation to be a reality is there for open-cut, strip mining techniques, whereas for typical hard rock, stable, vertical ore bodies, the ability to progressively rehabilitate is far more limited. They have those differences. They're definitely some of the advantages. Being able to collate information at a sectoral level and provide advice to government on the performance of trends—not just around progressive rehabilitation but also, hopefully, some of those technical issues and perhaps where those technical issues start to butt against policy issues—has been very, very useful. New South Wales is in the process—and you'll hear from the Resources Regulator this afternoon. New South Wales will have a much more sophisticated way of identifying the progressive rehabilitation performance of the industry when that system sees the light of day. At the moment, Queensland is the only one that has a system like that, but it is very crude.

The Hon. SCOTT FARLOW: Mr Purtill, in terms of your staffing and the like, is it a standalone position? Do you have an office to support you in your activities, or is that provided by the department?

JAMES PURTILL: The role is independent of the department. I report directly to the Minister. I have a staff of only six, hence the vast majority of our work is done in partnership with either universities, consultants or other experts. So we will shop out work to industry experts and have that peer reviewed. We're really, if you like, project managing those technical experts into those positions. Most people will put out a plaintive cry for more resources, but I like the fact that it's tight. It makes us very judicious around what subject matter we pursue but also what technical experts we go after. And I did mention it is highly contestable and contested. Everything that we put out, there are people that are happy and people that are unhappy. It's just the nature of the beast.

I've definitely referred to the whole progressive rehabilitation and mine closure, post-mining land use task as a wicked problem. Because of the plurality of stakeholders and the differing aspirations right across the spectrum, it's very, very hard to ultimately land on some satisfying end position. I think "satisficing" is probably the best description of the way that these decisions need to be made. You have very strong advocates. I'm sure you've had witnesses who would like to see, if you like, nature positive be progressed 100 per cent—everything back to ecological rehabilitation. You have other people who see that resource communities need to see an economic future. I'm certainly an advocate for a healthy mosaic of post-mining land uses, looking at the constraints and opportunities of every mine—they're all different; they might look the same, but they're all different—and being able then to create a setting in which those various post-mining land uses can logically find their fit without it being sort of forced.

The Hon. SCOTT FARLOW: We've heard lots of evidence throughout the inquiry in terms of—I shouldn't say evidence, necessarily, but advocacy for those discrete transition plans for each mine. Do you or your office have any role in terms of working for transition plans for existing mines throughout Queensland?

JAMES PURTILL: Our relationship to the progressive rehabilitation and closure plans is to provide those technical papers, and the environment department is to have regard to them. I also mention that they don't have to follow them. But the Chair mentioned in the last session, and it's spot on, that, conceptually, the idea of starting with the end-of-mine is a wonderful concept, but we're all where we are with the legacy of mines that have operated for many, many decades. The ability to retrofit leading practice advice into existing legacy assets can be very, very challenging, hence the comment around contested views. If we could all start again with a clean slate, we might be able to produce landforms that are more stable in different ways. But we are where we are, in all jurisdictions.

The Hon. SCOTT FARLOW: Finally from me, in terms of recommendations that you've made to government, what are some of the key ones they've actually taken up since you've been in the role?

JAMES PURTILL: It's a combination of not only my role but other parts of government, so if I can give you a composite answer—

The Hon. SCOTT FARLOW: A composite example or a composite answer is always great.

JAMES PURTILL: Because they're always highly integrated views. We each come with our own, I suppose, little slice of the equation, but it's having to put those together. We're trying to shine a light on the performance of progressive rehabilitation, particularly for those strip mining operations, both open cut and underground. Our underground coalmining, where it's longwall mining—so there is surface disturbance for the longwall mining, in particular, but also other bulk commodity mining in Queensland, particularly bauxite, silica sands, phosphate et cetera, those mines that that lend themselves to progressive rehabilitation. So being able to shine a light on that performance and then encourage the industry to do its fair share of progressive rehabilitation while they're operating on the site and not to accumulate a liability that's unmanageable, that's on one hand.

On the second hand it is—I suppose this is where you move out of my area and into the financial provisioning scheme—to ensure that the State has adequately provisioned for the contingent liability of the outstanding rehabilitation task. It is putting those two together. Having companies accelerate their rate of progressive rehabilitation is a noble pursuit. Sometimes it operationally doesn't make sense. Sometimes there are other techniques being used—backfilling of existing open voids where you have no net increase in the rehabilitation but you're actually doing a good thing to backfill, but offsetting that by ensuring that the liability of the industry is adequately provisioned for. That's where the goal of the Financial Provisioning Scheme and the fund come into place. It's still in its nascent stages, five years old. It has approximately \$300 million in the kitty. The Western Australian MRF has \$400 million. I think both of them are way south of where you'd want to be for the community to feel comfortable that we're adequately provisioning for it, but it's a great place to start. If you couldn't start 20 years ago, start as soon as you can and put those together in a combination.

The other part of the fair share of progressive rehabilitation is to ensure that those companies, particularly while they're cash flow positive, continue to invest in those communities to make sure that the day they're no longer there or the day that they're no longer producing free cash flow and things get, if you like, logically—from a business sense—more difficult, that a fair share of that work has been undertaken.

The CHAIR: Thank you, Mr Purtill, for making time to attend in person. It's really appreciated. I was very excited when I learnt that Queensland had a mining rehabilitation commissioner. Noting, obviously, the infancy of the commission in relative terms, is there any advice that you would impart to us in terms of recommendations we could make to our Government about what has been necessary to make sure that your role is effective and, indeed, further to that, is there anything more that needs to be done to make the role of rehabilitation commissioner a more effective one?

JAMES PURTILL: Every quango in government wants to report into central agencies, and I'm no different. Reporting to the environment Minister is excellent, but the nature of post-mining land uses and mine rehabilitation is across so many different portfolios, particularly when you start to talk about the dislocation of resource communities. It's obviously very alive for you in the Hunter. It's alive for us in Ipswich, in the Bowen Basin, Collie in Western Australia, and the Latrobe Valley. You see plenty of examples coming through. The ability of the Environment portfolio to embrace that full breadth, I believe, is quite challenging. I mentioned in my opening statement that jurisdictions might use different language, but most jurisdictions in Australia and elsewhere have an expectation that mined land will be rehabilitated to a safe, stable, non-polluting condition and able to sustain a post-mining land use.

Most environmental protection legislation, even though they articulate those four elements of mine rehabilitation, they're not particularly well designed for that and sustaining a post-mining land use—a bit of that equation. So it really stretches the object of the Environmental Protection Act in Queensland specifically, but even more generally. Most environmental protection Acts don't encompass that, if you like, social or socio-economic element. I'd say that's certainly a challenge. Luckily for me, we have that interdepartmental committee and the new Government that's been formed has established a resources Cabinet subcommittee, so I look forward to seeing how that pans out. It's obviously very good for the types of objectives that I'm trying to achieve as rehabilitation commissioner.

The CHAIR: At the moment you don't have the capacity to direct a whole-of-government response or coordinate agencies, if you like? You're just reporting to the environment Minister.

JAMES PURTILL: Yes, and I'm not for a minute thinking that I'm wanting to expand my remit. It's just the complexity of cross-portfolio challenges. Having a mechanism to do that, whether it's a position like this but in a different context, it's probably better that there's skin in the game from all of the relevant portfolio agencies.

The CHAIR: We have heard that from previous witnesses, so that does correlate with some of the industry witnesses and also some of the other actors in this space. There are 17 different government agencies that they have had to engage with, even in developing a plan for post-mining land use. There was obviously underpinning legislation that had a broader suite of reforms, and the commissioner role, as you outlined, was one of those. How much are we looking at? Was there a sum of money for seed funding to start this up and then go on further?

JAMES PURTILL: I couldn't really give you an accurate estimate of that. The development of the original discussion paper from 2017, called *Better Mine Rehabilitation for Queensland*, was undertaken by the Queensland Treasury Corporation. It certainly had consultants assisting with the development of that and then the construct of the Financial Provisioning Scheme. In terms of dollars, it's very hard to nail, but it was a multi-year initiative. Originally kicking off in 2016, a discussion paper in 2017, the Mineral and Energy Resources (Financial Provisioning) Act 2019, followed by consequential amendments to the Environmental Protection Act in 2020—it was quite a gestation period. The requirement for progressive rehabilitation and closure plans reached its fifth anniversary on 1 November.

The CHAIR: Wow. You've got quite an extensive statutory guideline around progressive rehabilitation and closure plans. Do you have a role in that guideline in terms of any enforcement or advising the sector?

JAMES PURTILL: The Minister has the capacity to ask or direct me to undertake work for him or her. For example, I have facilitated the development of the progressive rehabilitation and closure planning audit program, just to provide guidance to industry. They're effectively ad hoc directions that are provided to me. I did one originally around devising a scheme to report on progressive rehabilitation across the sector.

The CHAIR: That's certainly something that we have had a couple of witnesses requesting of government—to provide that information—because there is a gap in terms of the data that exists here in New South Wales that is at least readily available, and we are trying to build a repository of that. But knowing where mine sites are in terms of progressive rehabilitation is also considered an important factor. How have you been received by the business community and the mines in general?

JAMES PURTILL: Originally the Queensland Resources Council was deadset against it. I've got a lot of empathy for that, because whenever you're presented with another layer of bureaucracy or some new entity, it's like, "Thank you very much!" I hope we've added value. We've tried very hard to have no surprises in the type of advice that we're providing. We socialise all of our technical work across the board, plus our annual report, and particularly the reporting on progressive rehabilitation. We try very hard to explicitly outline the limitations on measuring anything, in any way. There are always limitations around that, and I mentioned some, like backfilling existing voids. You'll have zero per cent progressive rehabilitation, but you're actually exhibiting leading practice if you have the luxury of being able to backfill those voids.

I'm hoping that we've been able to be as constructive as possible, with no gotcha moments. We're not looking to out any individual companies if we can avoid it, to the greatest extent practicable. Some of the performance data lends itself to anyone in the industry knowing who might be the laggards and who might be the best performing. If I gave you an example in the thermal and metallurgical coal sector, the rate of progressive rehabilitation of individual companies spans from 59 per cent of all disturbed land having been rehabilitated—that's very good—to less than 10 per cent. It's a very large spread, even though the average for the sector is 24 per cent. In Wyoming, a similar jurisdiction—some would say not; they've got some idiosyncrasies. They've got very benign conditions for coalmining but about the same size as the Queensland and New South Wales industries. The average rate of rehabilitation is 53 per cent. That gives you some idea. You've got to always be cautious with those sort of numbers. They're not exactly apples and apples, but they're not apples and oranges either.

The CHAIR: It's a legislative requirement now for all mine sites to have a progressive rehabilitation plan in Queensland. Is that the case?

JAMES PURTILL: The 200 largest. There are 5,000 other mining authorities across Queensland and 1,000 of those are called small-scale mining activities. They're administered solely by the department of mines. Then there are another 4,000 which are deemed to be eligible mining activities and they're subject to a suite of standard conditions. These are all the scratchers—the small operations. Then the top 200 are required to have the progressive rehabilitation and closure plans.

The CHAIR: How would you say you've been received by the community? Do you have a role in terms of community participation and making sure the community is brought along?

JAMES PURTILL: The community, typically for us, is defined by either councils in their resource communities; a very limited level of engagement with Aboriginal organisations, particularly those who are

engaged with the industry; specific landholders; and then the peaks, looking at any peak bodies. Obviously, one of the things we're very interested in—this Committee might be as well—is the deployment of post-mining land uses, or uses onto mined land, that are causing conflict with the ag sector. There's great opportunity to be using some of these lands, let's say, for utility-scale solar. It almost seems a no-brainer but there are structural impediments to that which, obviously, we might talk about in this session.

The CHAIR: Obviously, an issue facing many communities—many mining-impacted communities are now also facing what they see as an onslaught of renewable energy infrastructure that's looking to invest in their local areas. In terms of some of those structural barriers—because I agree, it seems like a no-brainer that some of these sites should and ought to be used—has there been a role for you to play in addressing some of those barriers? Are there powers under the legislation for you to be able to do anything about that?

JAMES PURTILL: The role was originally envisaged to provide that technical advice. In the first three years we've largely confined ourselves to that. In my comments, I mentioned that you eventually end up butting up against policy decisions. For example, the barriers to innovative post-mining land uses getting onto those mine sites—particularly multi-decadal operations, so before they're finished mining—are quite substantial. In most jurisdictions, it's pretty obvious why that is. The regulatory regimes that we've all established to confer the rights to extract our sovereign mineral resources, they're conferred to an organisation in exchange for a suite of responsibilities including having environmental responsibilities. They were never devised with a view towards what would happen next. It's just put it back to the standard that we require, and we'll go from there. The concept of being able to sustain post-mining land use is almost like a retrofitted concept to that—hence some of those challenges. It's not a criticism of the regulatory regimes we have; it's just that, hopefully, it's time for us to evolve them.

The CHAIR: One of the things that a number of witnesses who have given evidence to this inquiry have called for is—for lack of a better term—a mining concierge service. Whether it's the mining company or others looking to innovate and do something differently, there is one agency that they can deal with as opposed to having to deal with the 17 different departments I mentioned earlier. Is that something that your role, would you say, does or could do?

JAMES PURTILL: In Queensland we have a role called the Coordinator-General. The Coordinator-General would be more appropriate for that role and would take on that concierge role. But I would say to the Committee that, regardless of whether there's a sort of one-stop shop or a single point of entry into government for this stuff, it's the systemic barriers underneath. People will be talking about how residual risk is managed, how contingent liability is managed, how does a mining company fulfil its requirements for safe, stable, non-polluting—so not keys under the mat at midnight but walking away, head held high. It can take decades to get there. If we want to move these lands into their next post-mining land use in a timely fashion so that not just the land moves to a productive use, but all of the intellectual and social capital of the workforces that are in town—they haven't left by the time that happens.

Somebody in the previous session mentioned the linear model that we have at the moment, and that's the problem. It's mine, mine, mine then do some rehab—stop mining, do the rehab and think about what happens next. In that interim period, which can be decades, if you're a mining engineer or any type of skilled person, you have to go looking for work. When that next post-mining land use comes along, the town might have lost a significant amount of its intellectual and social capital by the time that happens. The imperative to be able to get those post-mining land uses to dovetail into healthy mining communities is, to me, really essential.

The role in government, though—eventually we have to really seriously look at tenure, and we have to look at the way that the liability, the residual risk is managed. It's one thing to have a residual risk framework or a residual risk calculator that can do it. But if the bill at the end of that calculation is so extraordinarily high, it's very difficult for companies to exit. The magic balance for government—to be able to ensure that the industry, while it's healthy and strong, is paying its fair share on the way through, but not crippling economic activity by imposing extraordinarily high residual risk costs—is definitely a challenge.

Ms SUE HIGGINSON: The costs were something that I would love to ask you some things about in terms of rehabilitation bonds and holdings; what the Queensland experience has been and whether that has been ample; and, if so, what the Queensland increases to bonds and whether the calculator is similar to what we have in New South Wales—if you're aware of that. Also, I know Queensland went quite heavy, some thought, in terms of its mining royalties increases a few years ago. Could you give us any context around what that looked like from where you're sitting and whether you think we're looking at shortfalls, or you're looking at shortfalls in Queensland for the task in front of you?

JAMES PURTILL: I'll start with the royalties part. The royalties and royalties policy are completely separate from the estimated rehabilitation cost in the fund; they operate separately. The estimated rehabilitation

costs, which is the calculated liability of rehabilitation yet to occur in Queensland, is \$13.7 billion at the moment. It's in my annual report, and you can see the growth in that. The growth in that over time has many constituent elements to it. It's not only an increase in the area of disturbance; it also has a contingency that's been placed, the discount system was removed, there's been escalation in calculated costs—there's a whole raft of reasons why that might happen.

The other part of the estimated rehabilitation costs, which is never reflected in just the raw numbers, is if your growth in your liability is 10 per cent and the growth in your economic activity from the industry is 50 per cent, then you'd say that it's a reasonable expansion. The relationship between that liability and the economic activity is not part of what the estimated rehabilitation cost looks at. It's just raw numbers. That's how much is there. Just under 50 per cent of that \$13.7 billion is held by way of contributions to the fund, and the remainder—now about 55 or 56 per cent—has to go to the market to get traditional bank guarantees or insurance products for the funding.

The adequacy of those funds—it's always a very difficult one to question. The likelihood of a call on those funds that exceeds the amount held—the \$13.7 billion held—is extraordinarily low. It's a matter of whether there is a particular event that puts strain onto that fund—a black swan event for the fund. There's \$300 million in the fund. If there was an event that was worth \$350 million, well, we're in trouble. But while that fund grows and gets stronger, I think the likelihood of that—the fact that the contributors to the fund are risk assessed is, I think, a prudent risk management response. Obviously, you can tell I'm a huge fan of the fund.

Ms SUE HIGGINSON: What would you consider as a black swan event? What is your threshold for something that—

JAMES PURTILL: I don't really have a dollar threshold because, obviously, if there was to be—

Ms SUE HIGGINSON: Not necessarily the dollar threshold, but the kind of event.

JAMES PURTILL: A large mining company that files for chapter 11—it goes bankrupt.

Ms SUE HIGGINSON: And you think that is just very remote.

JAMES PURTILL: It's very remote. Abandonment of mines is not remote, of course.

Ms SUE HIGGINSON: No. I was going to say, it is a massive issue.

JAMES PURTILL: All jurisdictions have them but, typically, of course, they're smaller, less capable, weaker-balance-sheet-type entities that get themselves to that point where they're on that edge. The companies that contribute to the financial provisioning fund in Queensland are risk assessed by a risk consortium. They're assessed 80 per cent on their balance sheet strength—their financial strength—and 20 per cent on the operations. For example, do they have a resaleable mine, and so forth? It's a fairly conservative view of who gets to contribute to the fund and who has to go out to the market. Many of the people in the market—the 50 per cent—would be looking for cashback guarantees, so if they have a \$30 million liability, they've got \$30 million in the bank.

Ms SUE HIGGINSON: So that fund—you're saying you can do a clear analysis that it will pay for the cost of the rehabilitation that is currently expected of each mine, but where we're looking at the moment and what we've had presented to us as a Committee here is that this is the current mining rehabilitation obligation. What if we want to pivot or somebody wants to use this land and pivot to something else, and then that becomes a much more expensive liability to pivot? Say a current operation is then going to look at doing a pumped hydro project and develop more intensively or something like that, have you ever contemplated or have you had the circumstance in Queensland where you're having to contemplate that, and what then happens to that rehabilitation bond requirement if the nature is changing? Would you anticipate you would need to then relook at the costs of the money that is being held and so on?

JAMES PURTILL: I think, in the first instance, for the new project, you could partition off that part of the calculated liability that was—say, for example, an open cut goldmine is going to use the pit as the lower reservoir for a pumped hydro project, the cost of the liability that's being calculated for the pit versus, say, the tailings dam or the waste rock dump or other infrastructure could be partitioned and then allocated to the new project. Those proponents could then take on that liability. That works when you have large, capable counterparties. If I looked at one of the very best examples, and it comes from New South Wales at Woodlawn, where you have Veolia, you have a company that is a large, capable entity, so the community can have confidence that that counterparty has taken it on.

When the entities become smaller and less capable, it becomes difficult. Listening to the examples from the Hunter experience just previously, I just thought I might contextualise it. Say, for example, there's a shed and it's worth \$250,000. It would be a really useful piece of infrastructure for someone to use in a post-mining context

for an industrial setting. That \$250,000 liability on the mining company's books, if they're producing 10 million tonnes a year of thermal coal at \$150 per tonne, that's a \$1.5 billion per annum operation. That shed is a 0.016 per cent value on their financials. It's very, very difficult for that company then to engage and spend a lot of time, if you like, facilitating access to that 0.016 per cent of the business. The general manager on the site has got a job to do. Again, one of those things I think we need to be very realistic about is the role of mining companies in post-mining land use.

Ms SUE HIGGINSON: I know this is not necessarily really in your remit, but I'm sure you're seeing it. Is it your State's contemplation that the jobs that existed and exist just simply will not be able to transfer job for job that has come out of the mining boom that we've—I mean, it has been king, hasn't it, mining coal? Is that something that you can see, from where you sit?

JAMES PURTILL: I think, at face value, to look at the economic benefit per hectare of land that comes from Hunter Valley coal versus, say, broadacre pastoral activity, then, at face value you're going to say, no, it'll never be the same. It'll never make that same sort of money. As we see industries evolve—if I took, for example, the development of, say, the renewables industry, I know there are very few jobs in an operating solar farm. But when we look at the demand for all of the technology that makes it possible to introduce intermittent renewables into our national electricity market, you start to see the jobs growth quite phenomenal—transmission infrastructure and, hopefully, the manufacturing of all of that infrastructure. The jobs change. They're just not like for like.

The 40-year coalminer may not be able to readily transition. The 40-year coalminer is probably ready to look at caravan brochures. The 15-year coalmine worker we really want to see transition into those new opportunities. Like every economic diversification initiative that has ever happened, whether it's from wool to resources, there will be a transition. If we can facilitate that being just and being well structured, then I'm not as worried about it, but I think we should keep a weather eye on those resource communities and what it takes to keep vibrant communities. Queensland is lucky. About 50 per cent of its population lives in regional centres, so it's a very strong driver. It has a lot of political momentum as well; I'm sure everywhere does. So it's being able to see those transitions.

When I talk about, say, utility-scale solar going onto a mine, it's not so much the jobs that come from the very presence of that utility-scale solar, but the opportunities that it creates for those, if you like, value-added products that demand green electrons. In Queensland, for example, green aluminium—in fact, in New South Wales, green aluminium as well—is an absolute opportunity set that's just waiting for that to happen and all of the attendant smarts that need to go with that to make it work. I think it's challenging, but I think there's really good opportunity if we can plan it right and look at some of those systemic barriers and see how we facilitate getting them out of the way.

The CHAIR: Mr Purtill, one of the issues we have here in New South Wales—it may or may not be unique to us here—is the fact that we have two pieces of legislation that are involved with mining and mining leases: the Mining Act and the EP&A Act. Across the course of the inquiry, we've heard evidence that sometimes those Acts are at odds or may conflict. I wonder, in your experience in Queensland, whether you have had similar issues and, if you have, how you have addressed them.

JAMES PURTILL: I think the exact same tensions exist and will continue to exist. Particularly when we then introduce the idea of "Let's do something novel and innovative on that mine land", it brings in a third dimension. In New South Wales, you've already got the planning regime involved in mining but, in Queensland, mining is exempt from the Integrated Planning Act, so it's even one step more complicated. At least, in New South Wales, you've made planning decisions for that mine to be there and then can have a look at what those post-mining land uses are that are consistent with the planning. But, back to your question, between the Mining Act—there will always be a tension. I mentioned before about the backfilling of open-cut voids. History shows, particularly in metals—the argument holds less for coal—that new technology and demand drive innovations that have reduced the cut-off grade for all sorts of in-demand commodities.

My favourite's copper. If we have a look at copper, 100 years ago, in the 1920s, the cut-off grade was 4 per cent. If you'd said to a copper mine manager 100 years ago that we'd be mining copper at 0.4 per cent, they'd say, "You're mad. That's never going to happen." Just like today if you said to a mine manager of a copper mine, "We'll be mining copper at 0.04 per cent", they'd say you're mad, but it just lacks imagination. The idea that we backfill the pit and then sterilise future resources is a tension with prudent environmental management. You're trying to make sure that you don't have impact offsite, and you're still trying to make sure that you are maximising—once you've disturbed that area, you want to actually maximise the economic benefit from it. Those tensions will always exist, and they'll exist between any legislations that overlap that have different objectives.

The CHAIR: I'm interested to know if you have had any role or any workings with the Federal Net Zero Economy Authority that has been set up.

JAMES PURTILL: No, not yet.

Ms SUE HIGGINSON: I also had one last question. Actually, there were two things. One, there used to be in Queensland—and I don't know what happened, but I think the University of Queensland or QUT had a sustainable responsible mining—

JAMES PURTILL: Yes, the Sustainable Minerals Institute at UQ.

Ms SUE HIGGINSON: What happened to that?

The CHAIR: It's still there.

Ms SUE HIGGINSON: Is it still there?

The CHAIR: Yes, they did some of the research that we've got in our—

Ms SUE HIGGINSON: I'm sure that it used to have a different name. Has that academy helped you and informed your work? Is there a relationship there?

JAMES PURTILL: Full disclosure: I'm a PhD student with the Sustainable Minerals Institute. We have contracted technical experts out of there. I've recused myself from that procurement. They're part of, if you like, that community of practice that we draw on for technical expertise.

Ms SUE HIGGINSON: That's what I was getting at. We have the University of Newcastle and there are other bodies—

JAMES PURTILL: We use them too.

Ms SUE HIGGINSON: —that do incredible work. What I'm trying to understand, and what I think you're confirming, is how essential that research, collaboration and work of the academies is to the practical realities of rehabilitation—and the success of the project, ultimately.

JAMES PURTILL: Yes, 100 per cent, particularly because you need institutions that are able to undertake research that takes a long time. Companies are needing problems solved. We would like to provide answers in a timely fashion as well, but you need those researchers who are looking at longer-term issues. I was just up at Gladstone looking at the Queensland Alumina refinery's bauxite residue—the red mud—and trying to turn that into a growth medium. That's work that's been going for 10 years, and it will likely go for 15. If it can produce what it aims to achieve, it's a game changer. So it's worth it, but someone has to stay the course. Credit to Rio for supporting that for that decade.

Ms SUE HIGGINSON: Finally, the other thing that you provided evidence around earlier but just touched on was about not so much engagement with Aboriginal organisations. We heard earlier from Dr Wright about how important community-led rehabilitation and transition is. I'm curious about the opportunities your role has had in relation to community trust building and community engagement, including with First Nations, and if there is anything you would be doing differently.

JAMES PURTILL: There are a couple of things there. Firstly, many of the Aboriginal organisations, particularly the prescribed bodies corporate that are in resource areas, have an extraordinary demand on their time. They're incredibly busy, so it's always challenging for them. The second one for all communities, including First Nations, is I think it's important for a role like mine to provide as much guidance around the reality of what can occur on mined land. These are heavily modified environments. People look at a pit lake and they see a beautiful blue lake. It looks very exciting and they think, "I could irrigate with that", but there are limitations around the water quality and the volume of water. Even though it looks like a lot, it's not a replenishable supply. All of those factors need to be brought in so that when the, if you like, community aspirations are brought to the table, they have a fully informed view of what the capabilities might be.

There are examples from around the world. I use the example of the Old Dominion mine in Arizona, where a community-led program led to wonderful outcomes. BHP had taken on a legacy mine—they never mined it—and turned it into a historic park with jogging tracks and walking tracks and so forth. Then it had a shaft collapse in the middle of it and for safety reasons they had to close the park, after investing significant funds and, I think, doing everything they could have possibly done. The community was very hostile towards that—saw an agenda that they were looking to recommence mining. They're heavily modified environments. They have limitations and they have to be very realistic about what goes onto them and how it's managed into the future.

The CHAIR: I'm sure it's agreed that I could pick your brains all day, Mr Purtill, but we are out of time.

JAMES PURTILL: I hope that was useful.

The CHAIR: It's extremely useful, actually. I don't believe you took any questions on notice, but if the Committee has additional questions, the secretariat will be in touch with you in due course. Thank you so much again for making time to appear today. We really appreciate it.

JAMES PURTILL: Pleasure. Good luck with the deliberations.

(The witness withdrew.)

(Luncheon adjournment)

Mr ANDREW ANDERSON, Acting Assistant Auditor-General, Performance Audit, Audit Office of New South Wales, affirmed and examined

Mr BOLA OYETUNJI, Auditor-General, Audit Office of New South Wales, sworn and examined

Mr AARON GREEN, Acting Deputy Auditor-General, Audit Office of New South Wales, affirmed and examined

The CHAIR: Welcome to our next set of inquiry witnesses. Thank you for making time to give evidence today. Would any of you like to start by making an opening statement?

BOLA OYETUNJI: Thank you for the invitation to provide evidence to this inquiry. As you may be aware, I commenced a performance audit on mining rehabilitation in August 2024. This audit will report on whether the Department of Primary Industries and Regional Development is effectively regulating mining rehabilitation requirements. It will also assess whether the department effectively monitors rehabilitation progress and ensures compliance with rehabilitation requirements. This audit is planned to be tabled in June 2025. I also want to draw your attention to the recommendations of the previous performance audits by the Audit Office that may be relevant to the inquiry's terms of reference. In 2017, we tabled the performance audit on mining rehabilitation security deposits. The audit assessed whether the then Department Planning and Environment maintained adequate security deposits to cover the liabilities associated with mine closures, including rehabilitation.

The audit found that mining rehabilitation security deposits were not likely to be sufficient to cover the full costs of each mine's rehabilitation in the event of a default. The security deposits did not include sufficient contingency given the substantial risks and uncertainties associated with mine rehabilitation. There was limited independent verification of mining company claims of rehabilitation tasks and associated risks. The department could not ensure it was monitoring mine sites effectively to gauge progress with ongoing site rehabilitation and management of closure risks. There was no financial assurance held over the risk of significant environmental degradation in the long term after effects of mines that were deemed to have been rehabilitated.

This 2017 report made recommendations, including improving the quality of rehabilitation and closure plans, collaboration with relevant agencies to establish a financial assurance mechanism and improving assurance that security deposits are sufficient. I should say that this report was several years ago and we understand there have been changes in the way the department regulates mining rehabilitation since there. The scope of our current audit, which we will table in June 2025, will enable us to explore what progress the department has made in implementing the recommendations from our last report. We are happy to take any questions.

The CHAIR: I read with interest about the planned audit. It's something that has come up over the course of our inquiry in terms of the rehabilitation of mining sites. You may not have heard one of our previous witnesses, the Queensland Mine Rehabilitation Commissioner. They mentioned that part of their role was to provide transparency or at least publish where some of the major mines are up to in terms of their rehabilitation. Do you envisage part of this audit that you're doing in the department would have the same impact? Would that be able to produce that level of transparency? That is something that we've heard is really needed in order to move New South Wales forward and realise the beneficial and productive use of post-mining land.

BOLA OYETUNJI: I'll ask Mr Anderson to take that question, Chair.

ANDREW ANDERSON: Part of the scope of our audit will look at to what extent the department is effectively monitoring the rehabilitation progress by the mining operators. We'll be looking at what frameworks, processes and systems they have in place to make sure that they're getting regular reports from the operators on progress, and also the adequacy of those reports and to what extent they're verifying that information. That's definitely part of the scope of our current audit. We made findings about that particular aspect in our previous report, so we'll also be looking at what's happened since that report was published and what action has been taken. I note that there have been some quite significant reforms since that report, so we would be looking at how they've been implemented.

The CHAIR: In terms of the rehabilitation requirements, we've also heard that there is obviously this requirement for it to be safe, stable and non-polluting under the legislation. But there appears to be a gap, if you like, because the social and economic factors are not considered as a part of the site or the legacy impacts of the site. I'm just curious as to whether, in looking at the monitoring of compliance and the enforcement of mining rehabilitation requirements under the Act as it currently stands, you will also then look at what other States—or countries, perhaps—are doing in terms of best practice in this regard.

ANDREW ANDERSON: As part of scoping of the audit we've looked at what's happening in other jurisdictions. Our report probably won't directly make those comparisons. I would say as well that our focus is on looking at how effectively the department is monitoring the implementation of current requirements. We wouldn't be commenting on whether those requirements are right or not, but certainly we'd be looking at how the department also works with operators if they're putting in requests to change requirements, or, if the department's changing those requirements, how that process is working.

BOLA OYETUNJI: To add to that, Chair, we also look at international standards, because now international standards that cover mining reclamation are there. So looking at what happens internationally and whether, in designing the framework, the department has considered any international standards that would be useful to support their obligation.

Ms SUE HIGGINSON: The last report had requirements to achieve certain improvements by quite a long time ago—they had to have certain performance measures in place by January 2018. Is that something you've looked at already or is that something they have to do by themselves? That's kind of an instruction from the Audit Office and we don't know until this other performance review is complete. Is that right?

BOLA OYETUNJI: That's correct. Once you have our recommendation, usually then the Public Accounts Committee will take over monitoring that recommendation. Usually what then happens, though, is now we have follow-up audits and they will look at whether our recommendation has been implemented. Having said that, there are some areas where, if we think are significant—just to give an example, the child protection audit we did—we then follow up audits to look at the implementation of our recommendation. We do that on a case-by-case basis.

ANDREW ANDERSON: Just to add to that, this audit was followed up by the Public Accounts Committee as part of an inquiry around 12 months after we published our report. That report is public. I did have a look at it. I think a number of the recommendations at that point hadn't been implemented.

Ms SUE HIGGINSON: Yes. I didn't think they had.

ANDREW ANDERSON: I think a lot of the reforms came in around 2021.

Ms SUE HIGGINSON: With the finding that there really weren't adequate assurances for environmental protection or rehabilitation going forward, given we are looking at potential changes or how we look at beneficial re-use of mining land—and that may see applications that would be looking to change what the current obligations are or what the current framework is, or the framework that you've recommended that would set up those assurances—how do we make sure that anything that we are recommending as an inquiry as to what is potential for changes to the current system for beneficial re-use of land with that environmental lens on and assurance are not jeopardising frameworks that you've suggested or performance standards that you're recommending through your reporting?

ANDREW ANDERSON: We did make, if I'm understanding correctly, one recommendation in our report that went to those longer term environmental risks, which was around a financial assurance mechanism to cover the risk of long-term environmental degradation after mines are closed and security deposits returned. I mean, obviously, that was some time ago that we made that recommendation.

Ms SUE HIGGINSON: I suppose what I'm asking is, from your perspective in terms of your assurance, is the real matrix or the measure that there just has to be enough money? Is that what ultimately it will come down to? The money will have to guarantee the quality of the environment that we leave behind. I can see Mr Green's nodding. Is that the kind of extent to which your office, the powers or the levers that you have to ensure those environmental outcomes and guarantees for communities into the future—it is actually coming down to a financial matrix? If there is harm, you pay to fix it up.

AARON GREEN: When you read the recommendations that are made, what we're highlighting is there's a risk. There's a real risk here around the long-term environmental degradation after the mine. It's not really necessarily the Auditor-General's role to say, "This is how you would implement an assurance framework to address that risk." Our role is to highlight the risk and then suggest the relevant agencies need to work together to identify a framework that would address those risks. I think it's really in the hands of government as to how you would design it. Ours is more a broader perspective of, "Here is the risk."

Ms SUE HIGGINSON: And your role seems to be—and I don't know what else you would do—guaranteeing that residual risk has an insured price to it of some sort for future generations, and that we're not holding legacies that we can't afford to fix up, but there's this assumption that money can fix the kind of risks that we leave behind.

BOLA OYETUNJI: I think at a higher level, it's risk management because, when you look at the complexity of some of those long-term environmental issues, some are under 200 years. You could actually wonder whether it is the continuous risk assessment and risk management and the skills in risk assessment and risk management that will start bringing out the emerging risks to fix. I think one of the things in that report that we did in 2017 is how complex some of the parameters and some of the assumptions are to even get how much is enough. To answer your question, I think the consistent risk management and risk assessment by the relevant department and experts—and that's why I referred to international standards. There are some recommendations in the international standards about governance and about capacity capabilities. Those ones are where, again, we will be directing or we could be directing another recommendation for the department to look at.

Ms SUE HIGGINSON: One of the things we received evidence about is that some mines are already closing and doing their rehabilitation, and their workforce is getting sucked up by other mines that are carrying on—that kind of thing. Do you think the settings are right for those big mine operators that will exit the landscape last, so to speak—the big ones—and that we will have the right residual risk frameworks to deal with that? We have had evidence and we're talking about these permanently disfigured landscapes and these massive things that we've never really had to contemplate at this scale before. Do you think, from what you've looked at, we can get the assurances we need?

ANDREW ANDERSON: We are still in the middle of this performance audit. All I can say is that we will be looking at how the department assures itself of those things. We'll be looking at those risk management processes, like the improved ones that they have put in place, and those kinds of things. Our focus will be more around how the department is assuring itself of those matters.

BOLA OYETUNJI: Also too, just to be aware, with technology and the technological changes that we see now, I think I've read somewhere that the department is also looking to technology, with GIS in some sophisticated way, where you can actually start assessing some of those problems. Again, technology could be something that will help so that the risks are not exacerbated.

Ms SUE HIGGINSON: Finally, with the current system of bonds, receipts and guarantees, are you certain or do you have a high degree of confidence that the arrangements are that if companies liquidate, disappear or hand over to others, the department is holding the moneys in the best framework that is available in the financial system?

BOLA OYETUNJI: To the best of our knowledge, yes, because the security guarantees are between the department and the banks. If there's any insolvency or if any of the moneys disappear, the department still has a direct link to the banks. What we try to assure and look at, and what is important for the department to do, is to make sure that the security guarantees are current. That's part of what they do. In our audits, we also make sure that we look at some of those in our assumptions. If it's cash, we will get direct confirmation from the banks. If it's bank guarantees, we will look at the register and test-check some of those security guarantees on a sample basis.

Ms SUE HIGGINSON: In relation to the financial, environmental and social lens, do you have a way of factoring climate change into the way you look at things? Is that playing into your review at all?

ANDREW ANDERSON: One of the things we'll be looking at is how the department is factoring in climate change risks into their overall approach and processes, and their risk assessment. It's something we are starting to look at in many of our performance audits where it's relevant, which, in most cases, it is.

BOLA OYETUNJI: The international standard, again, talks about the social, economical and associated impacts of climate change in that environment. Hopefully, the department is looking at that and making sure that they have systems to ensure that, if there's any risk, they can capture it.

The Hon. WES FANG: I just wanted to ask a couple of questions in relation to findings around issues of preparedness for eventualities where a company might fall over and then the rehabilitation of land—how do we go about ensuring that, where we've got a post-mining land use that's also going to require rehabilitation at a future point, we're capturing that? For example, we might have a post-mining site that's going to be reconfigured for a renewable energy project. It might be a solar farm, or wind farm, or even pumped hydro that will have a limited life span and will require further rehabilitation at another point. Is there a way to capture that change of use that still requires a rehabilitation?

BOLA OYETUNJI: We can take that on notice. The aspect we would then look at is there's a requirement for the legacy and derelict mines, so we will take that on notice and look at that, Mr Wes.

The Hon. WES FANG: Thank you. There's a lot of concern in the community around the post-mining land use, but also in relation to renewable energy projects where there's perhaps going to be a legacy requirement.

Where we've got a capturing of funding and commitment from those mining companies to have the land rehabilitated, I imagine that there's going to be additional captures later on. You've identified there are some risks there. I'm just wondering how those risks might be managed through other projects then coming onto the land.

If I'm looking at that issue, have you done any work in relation to some of those issues around renewable energy projects and the way of ensuring that those companies that do put those projects on land don't just cut and run when the projects have reached their end of life, and that there's a way of uninstalling thousands upon thousands of solar panels and wind farms that have blades that we have to amend roads to get the things in there—how are we going to get them out et cetera?

ANDREW ANDERSON: I don't think that is something that specifically we've looked at in recent years, but it's certainly something we can consider as part of our audit program.

BOLA OYETUNJI: Yes, what we'll do, just from the annual work program, when we design the next lot for 2025 and 2026, that's one of the things we can also incorporate. We can do some work on some of the renewable energy zone issues.

The Hon. WES FANG: I'm probably pushing the terms of reference very, very towards the edges of the question, but it is an important issue, so I just wanted to get it thrown in there before I got cut off. Thank you very much, and I'm happy to hand over now to the Chair.

The CHAIR: I just wanted to follow up with regards to that 2017 audit. Whether it's been initial works or otherwise, has anyone from the Audit Office looked at where those recommendations are at, and what the current landscape is in terms of what was put forward in that report? It is obviously some time ago, and some of it still strikes me as being quite relevant.

BOLA OYETUNJI: That's right. Chair, we haven't. That's why in this current audit—and we've incorporated it in the scope, as Mr Anderson mentioned, to make sure that we then look at how the recommendations are being dealt with, or whether they've been implemented or not. In our June 2025 report, we'll be able to comment on that.

The CHAIR: Beautiful. So you will, through that process, evaluate. One of the ones that was of particular interest—I mean, it was all of interest to me to read—was around the care and maintenance, and there being no clear time frames around care and maintenance. This was an issue that has been canvassed over the course of the inquiry, and the fact that some of these companies aren't incentivised at all to relinquish the site. It is easier to sell it off to a smaller company to keep it in care and maintenance. As we sort of only half joke about in the Hunter Valley, you pay someone to come turn the lights on and shovel some dirt around every now and again. Do you know if there's been any work done to progress that particular aspect?

BOLA OYETUNJI: No, not currently, from my knowledge. I've also travelled to a lot of the local councils. There's a lot of concern from them. As part of this audit, we will look at, again, that specific recommendation and determine how it's been dealt with or implemented, or not.

The CHAIR: In terms of the cost calculation tool, again, is that subject to the findings of what you're doing at the moment, in terms of whether that new calculation tool that was recommended has been taken up and is indeed effective?

ANDREW ANDERSON: Yes. I know there's been updates to that tool, so we'll be looking at those changes and how effectively that tool assists the department in determining accurate rehabilitation costs.

The CHAIR: You mentioned looking at international examples. One of the international examples that's been mentioned in a couple of submissions to the inquiry is the ICMC integrated mine closure. I'm not saying it's a one size fits all, but it's been put forward as an example of good practice. There are some gaps that are identified in what it has put forward. At least from the submissions we've received, it seems to be one that is consistently mentioned through the course of the inquiry. Perhaps you could take on notice whether or not you'll have regard to that in particular.

BOLA OYETUNJI: Yes, we can do that.

The Hon. SCOTT FARLOW: Looking back to your former report on the security deposits, I think one of your findings out of that was there weren't sufficient security deposits. My apologies—I was a little late in for your opening statement, so you may have dealt with this as well. I'm always reluctant to ask questions when I haven't listened to an opening statement. In terms of the initial work you're doing as part of this audit, are you looking at the security deposits issue? Have you seen any noticeable improvement since 2016, when you made that assessment?

BOLA OYETUNJI: Yes, we are. In 2016, in that report, we talked about \$2.2 billion. I think, currently in our financial audit for June 2024, it's \$3.9 billion. Again, that's part of what we'll be looking at. When we look at the recommendations, too, we specifically zone in to make sure that we get what the department has done since that recommendation. So, yes, we will.

The CHAIR: The Hon. Wes Fang, did you have any further questions in relation to the terms of reference for the inquiry?

The Hon. WES FANG: I have plenty of questions about the renewable energy zone and the lack of rigour around what this Government is doing in relation to ensuring that the land can be rehabilitated afterwards. If that's what you're asking then, yes, I'm happy to ask plenty of questions about that. Certainly I trust that the Auditor-General will perhaps look at the way that the Government is failing to protect prime agricultural land in relation to the issues of security deposits around renewable energy projects, but I'm not sure that's part of the terms of reference. On that aspect, Chair, unless you give permission, I am happy to perhaps ask that at another point.

The CHAIR: I will take that as a comment. Thanks, Wes.

The Hon. WES FANG: It was definitely a comment.

The CHAIR: Did you have any final remarks or observations for us before we conclude this session a little bit early?

BOLA OYETUNJI: No, I think we're fine. I think the audit we're doing will complement what the inquiry is doing, and some of the comments we've heard from you—we'll also make sure that, if within our remit, we will include in the scope so that we have a full balanced report.

Ms SUE HIGGINSON: Can I just make one comment?

The CHAIR: Please do.

Ms SUE HIGGINSON: I do not know the extent to which it is relevant to the report or the remit over the mining and rehabilitation sector, but we heard some really strong evidence about how mining has generated a nature deficit because so many of the mining projects have been very intensive land uses, and they were often on sites that were of high biodiversity to regions for all sorts of various reasons—just because of their proximity. I am wondering whether there is anything in your remit in terms of nature capital, nature positivity and this nature deficit approach.

As I say, we got some really good evidence about how it is incumbent on the State because part of the licence for the mining to take place in the first place was the promise of rehabilitation back to landscapes or, into the future, improved regenerated landscapes that would provide those nature benefits back to all of Australia and New South Wales. We have heard in this inquiry that it is often referred to as returning the land back to sticks and grass. Obviously, we are charged with the responsibility under the terms of reference to look at beneficial land uses. I am wondering if there is anything in your review and the performance that will address this issue of nature deficit, nature repair and nature positive, but also with this new lens of really needing to have jobs and economic continuation from the land use and whether that is something which is in your scope.

BOLA OYETUNJI: That would be outside my mandate, but one of the things that we're also aware of is the Dr Ken Henry report that talks about nature positivity strategy. If you look at the list of the recommendations—hopefully, again, if that is something that someone has looked at. But, from the Audit Office, from our own mandate, I don't think we can go there because, as you would be aware, auditing would look at the past and, unless of course there is a specific angle that, during our audit, we'll come across that becomes important for us to look at—I think we can do that—but from the scope we have now, it's not—

Ms SUE HIGGINSON: I suppose it is in the rehabilitation requirements and the conditions of approval and so is part of your performance matrix, how well the department is overseeing those requirements, ultimately.

ANDREW ANDERSON: Yes, it will be. We'll take that away, I think.

BOLA OYETUNJI: If we can link it to the scope, yes, because we're here to help.

The CHAIR: On that very cheery note, thank you so much for your evidence. The secretariat will contact you in relation to the questions that were taken on notice—I believe there was one—and we eagerly look forward to reading your report in June 2025. We will be sure to send you a copy of ours, too.

(The witnesses withdrew.)

Mr TONY CHAPPEL, Chief Executive Officer, NSW Environment Protection Authority, on former oath

Ms GEORGINA BEATTIE, Deputy Secretary, NSW Resources, on former affirmation

Mr PETER DAY, Executive Director, NSW Resources Regulator, on former affirmation

Mr TOM LOOMES, Executive Director, Strategic Planning and Policy, Department of Planning and Environment, affirmed and examined

Mr CHRIS RITCHIE, Acting Executive Director, Energy, Resources and Industry Assessments, Department of Planning, Housing and Infrastructure, affirmed and examined

The CHAIR: I welcome our next witnesses. Thank you very much for making the time to give evidence. Would any of you like to start by making a short opening statement? No? We'll go straight to questions. You may or may not have been paying attention to some of the submissions and evidence that we've had through the course of the inquiry. I'm interested to hear what changes to the planning system you think could better facilitate the use of mining land.

TOM LOOMES: I'll take that question, I think. Mines are a type of development that's—I don't want to say unique, but it's probably one of the more unique forms of development that the planning system deals with because of its impacts to the environment, both as it's operating but also the impacts that may occur in the long term as well. It has significant economic benefits, as we know, locally, regionally and nationally, and those are all things that have to be taken into account. There's a lot of regulation wrapped around mines, and there's a lot of thought that has to happen at the start when it comes to mines, and that can be both a good thing and a bad thing as well, as you're evaluating here through the Committee.

I think that the amount of regulation that is surrounding mines is appropriate, given their intensity. At this table, you have a number of people who are responsible for that process, and there are others as well. But when we take into account the historical decisions that have been made on mines, you are required to consider the future uses right up the front, which you know. If those consents are granted decades ago—maybe even half a century ago, in some cases—it becomes really hard to think about what the appropriate land use could be, especially when you then see the cumulative impact of places where there are a number of mines and that those local economies and those places, like Singleton and Muswellbrook, really heavily rely on as towns and cities rely on those industries that are going on around them. So it is hard to do that planning up-front, and those historical consents do create some challenges for those future land uses, which you will identify through this process. They vary as well, based on how old they are—what is the appropriate future land use. In some cases, it's pretty simple and it goes back to native vegetation, or it goes back to agricultural land.

But, to my earlier statement about the environment changes around and you need those towns and those cities to continue to operate, we have other government decisions that are made incrementally over those decades. For instance, we have things like the renewable energy zones, which are proximate to some of these sites. They give pause to reflect on what the appropriate land uses could be in some of these mines as they start to come offline. Some of the processes you have to go through to change a land use from what's already prescribed under a consent can sometimes be quite flexible. I'm sure that Chris could talk through some of the things that he's seeing in the development assessment stage of former mine sites moving to other land uses. But, in other cases, it can be quite complex. We try to predict what that future land use is through the zoning of those mines at a very early stage. That can sometimes curtail those uses.

In terms of opportunities to streamline the system to allow for more flexible land uses, the zoning is one of those places where things could be reflected upon. Maybe that's something the panel wants to look into. The Government has taken a role in State significant rezonings more recently—and has done in the past, particularly for the types of land uses that perhaps are being considered for post-mining sites. They can be industrial and manufacturing. We've seen that across Greater Sydney and in other parts of the Illawarra-Shoalhaven and the Hunter. There is potentially a role there.

Without dipping too heavily into Chris's area of development assessment, one of those other challenges for adopting more flexible or alternative land uses on mining sites can be that requirement to adjust the existing consent. It's often seen by landowners as being quite difficult. They don't want to reopen that consent. I think that requires them to have strongly considered what they want that land use to be, and so there may be an opportunity there to streamline what the future use could be alongside some of those existing conditions of consent in the existing consent as well. Chris, maybe you want to talk about some of the other uses we're seeing on existing mine sites?

CHRIS RITCHIE: Sure. Thank you, Tom. We are seeing a number of development activities on mine sites but also former power station sites, so I think there is a level of flexibility that we are seeing in the planning system. We've seen roughly nine projects determined, from a range of solar farms to pumped hydro. We've got a number of proposed projects that are close to being determined and a couple of projects that are in the pipeline to be assessed. Going back to some of what Tom was saying, one of the things that's key is the mine sites are quite large themselves. There is opportunity for a range of developments, particularly in the renewables space, where the zoning does allow, through a permissible pathway, these types of projects to be assessed and determined. The other option is through rehabilitation processes. There are opportunities to utilise infrastructure. That's why we're seeing a bit of interest in pumped hydro with some water storages. There has been a level of interest and development activity as well as, probably fair to say, a number of discussions that companies are starting to have about options moving forward.

The CHAIR: These nine projects, are they sites that currently have a mining lease in place?

CHRIS RITCHIE: A lot of them are on former power station sites, so you've got a lot of battery storage.

The CHAIR: They're not subject to the terms of the Mining Act is what I'm trying to get at.

CHRIS RITCHIE: In terms of some of those particular projects, I'd probably need to take that on notice. I can come back and clarify. But definitely one of the big things that we've seen is the battery storage, because a lot of those power stations have that connecting infrastructure to facilitate power delivery.

The CHAIR: In terms of what needs to change in the planning system, there is a level of flexibility. We have heard that, but then we have also heard at length throughout the course of this inquiry that that linear process of mine lease relinquishment and then another person coming in and using the site at the moment is not allowing the full beneficial and productive post-mining land use to be realised. Are there different levels or aspects of the planning system that would need to change? How would those changes be made in order to better facilitate that?

TOM LOOMES: I think what Chris has talked to is site-by-site changes that have occurred rather than a strategic approach. I understand that some of the previous witnesses—places and councils as well who have come before the Committee—have recommended a coordinated approach, a strategic approach.

The CHAIR: A regional approach has been thrown up a lot.

TOM LOOMES: Yes, exactly. I think the Hunter Regional Plan—which, Chair, you would be more familiar with than I am in a lot of ways—really took that first step towards trying to take a more strategic approach in evaluating, particularly in the Upper Hunter district, where, as they describe, there are areas of interest on those former mine sites and power stations, and trying to collect and understand what's possible. It's really a matter for government to decide whether it wants to take a strategic approach. There are obviously benefits to doing so, but I think there's also a bit of a reality that there are lots of mine sites, particularly in the Upper Hunter, and I think there's probably only a handful that can realise a post-mining land use that will contribute significantly to that regional economy.

Some of them will be able to, as predicted, return to agricultural purposes or are better off playing a role in their biodiversity offset, but there are definitely those that are strategically located that have access to road, rail and freight infrastructure and have freight corridors running through them, both existing and proposed, those that have enabling infrastructure, like Chris has described—rail loops, hardstands—that allow us to consider what they could accommodate onsite. In terms of something that could be done, the strategic approach is something that government could consider.

We would probably want to reflect on how the Hunter Regional Plan is going, what it has learnt from its work, how we could adopt that elsewhere, what the barriers would be on those sites that have opportunities in the planning system, and whether there is a systemic issue that needs to be resolved or whether it is better off playing within the system that exists around site-specific rezonings. But government would have to consider those opportunities. I think the development assessment phase—without speaking out of turn—is probably pretty robust and flexible, as Chris has described. It is really making sure that the zoning doesn't curtail any potential future use, if that is the primary area of concern.

The CHAIR: Does the development assessment phase take into account now the use of the land post-mine?

CHRIS RITCHIE: Often in a mining approval, one of the requirements through a condition is to have a rehab strategy. That will look at things like ensuring the post-mining land is safe, not polluting and stable. It sets broad objectives in terms of some future activities that might occur here. It looks at developing a conceptual plan of what that might look like moving forward. That generally forms part of a high-level consideration the department does as part of that process. There is often a review process every few years to review that and check

that. Then there is a bit more of a detailed Resources Regulator process more for the nuts and bolts and details of that process.

The CHAIR: This is a question for all of you. At what point during the life cycle of a mine should the conversation about post-use occur?

The Hon. SCOTT FARLOW: Do you mind if I jump in with one question before we go to that?

The CHAIR: Sure.

The Hon. SCOTT FARLOW: Mr Ritchie, in your answer you said most often it happens as a condition of consent. Is there anything that governs that it has to happen as a condition of consent? Is there a legislative requirement or the like or is it just typically guidelines within the department that you would issue it as a condition of consent?

CHRIS RITCHIE: Typically it is in an MA conditional requirement of the consent. It has been like that for some time. I think there is more of a Mining Act requirement to have a bit more specificity around some of those requirements. But in terms of the implementation, that is through the consent process. Going to some of those previous points, often the rehab strategy will look at things like potential future uses, which obviously can evolve over time. I know that in some instances, some of the discussions are happening now where mines are looking at the end-of-life period and are starting to have some of those discussions around ideas for post activity, such as what we have seen with renewables and, as Tom touched on, utilising infrastructure that might be existing, such as rail infrastructure or hardstands.

Ms SUE HIGGINSON: From understanding the actual systems approach, is it more that the Resources Regulator is the first place to go to talk about changing from what is existing in the requirements on a site? The planning system kind of comes in after, in real terms. Is that correct?

GEORGINA BEATTIE: Not exactly. If you think of a systems approach, at the very beginning, as Chris and Tom explained, the planning system sets out the final end land use. Then the Mining Act requires rehabilitation in accordance with that final end land use. We require—to minimise financial risk to the State—that there is progressive rehabilitation occurring every year to get to that final end land use. When a mine closes, it can take many years after that before the title, under the mining legislation, can be relinquished. Where there is, along the way, an intention to change or modify or look at alternative uses—and I agree with Tom's comment that there is really only a small number of sites that provide excellent opportunities. Being able to focus on a few sites and do them well is really an exciting opportunity for some of these coal-reliant regions. On those particular sites, it does require a change to the planning consent.

There are some—to pick up on the earlier question—that do have mining titles. There is the Stratford operation. There is Muswellbrook coal. Mt Arthur is looking at alternatives. There are a few. That requires a change to the planning process. It is after that that the work that we do under the Mining Act can change in terms of assessing and requiring rehabilitation in accordance with that final land use. It really starts with planning and for a change it goes back to planning. But we work very closely together. We're very collaborative in the way we work with the proponents and the companies.

I understand that you've heard through this Committee that for those sites where there is a real opportunity to do something different—where it's located with access to road and rail infrastructure; there's a willing landholder, which obviously makes it easier as well; we think the investment might be attractive for new investors for new uses that could be job creating for that region—any opportunities to streamline and make it clearer for those particular projects in terms of timing, but also tenure, because the timing to sign off rehabilitation can take some time after closure, and that is linked to the title holder. But any decision to change that, we need to manage very carefully the risk that that may impose in terms of environmental and safety risk. That would need to be a consideration in any reform.

PETER DAY: I think also, to go back to the question around engagement, what I'm observing through the processes now is that companies are getting a lot better at engaging early. If I could name the projects that I see as a success out there, they're the ones that have really grabbed it and are running with it. They're coming to see Planning early, they're coming to see the regulator and they're coming to see all the other agencies that can have bits and pieces of involvement in that process. That's certainly the advice that we impart to companies now: Engage early, run through your proposal. As Georgina said, it starts with Planning. I'd like to think of it as that they set the outcome; the regulator, through the rehab work, sets the detail of how to achieve that outcome; and we work very closely together with that. But certainly, early engagement—and I think companies are getting better and better with that now as well.

The CHAIR: At what point during the life cycle of a mine should the conversation about post-use occur?

PETER DAY: You've heard from a lot of other people this morning—I've heard it there and also during this inquiry—that we're all wearing operations out there that have been around for 30, 40 years. We can't go back in time. But, as I said before, the earlier they can engage with the proposal and with the developers as well—whatever that plan may be—is never too late.

The CHAIR: But you can understand why, with some of these historical sites, there are real and genuine concerns around limitations around their engagement. Going back to some of what Mr Loomes referred to earlier around the conditions of consent and the reluctance that exists in the industry to have any of that impacted, is there sufficient flexibility in the mining lease to allow some these productive and beneficial post-mining land uses to be realised?

GEORGINA BEATTIE: Again, it really depends on what the development consent—so it starts with the planning consent. Then the rehabilitation requirements, which are through the mining lease, can change once the development consent has changed.

The CHAIR: So you're asking them to go back and open up the conditions of consent?

GEORGINA BEATTIE: At the moment, they have to. I think that's where there is an opportunity—

The CHAIR: But you understand that is not something that—yes, hence our issue.

GEORGINA BEATTIE: Yes, I think that's right. If there's an opportunity to streamline for those few—most of them will probably make sense to continue in a lot of cases.

The CHAIR: Yes, that's right.

GEORGINA BEATTIE: But for those few, I think that is where the opportunity exists.

The CHAIR: Tell me, in terms of the mining site itself—this may be a question for Planning, it may be a question for mining or it may be a question for Mr Chappel, sorry. In terms of a planning modification if a company was looking at doing something differently, would that be required for the entire site if it was for something post-mining land use or could it apply to a portion of the site? We have also heard throughout the course of the inquiry about the fact that no one mine is the same and they're not certainly not a homogenous operation, so looking at areas of opportunity within a lease.

TOM LOOMES: As Chris has already alluded to, these are very big sites. Without labouring the "no two sites are the same" point, there are opportunities to explore using different parts of the sites for different purposes, not too dissimilar to most master planning processes for any land, really. The regional plan for the Hunter, for example, identifies operational and non-operational land and then the areas of interest where things could occur in the future, if the ducks align. I think there is definitely an opportunity to look at the sites holistically and how they can achieve some of the rehabilitation requirements but also post-mining land uses. I think Mount Arthur is out there with a vision at the moment, which seeks to do that, and so absolutely you don't have to apply the same land use to the whole site. It can be, over time, nuanced and broken up into particular types of uses, even different types of zoning as well as time goes on.

PETER DAY: Certainly, by far, the most common form of rehabilitation sign-off or relinquishment is partial. Everyone seems to think it's either the entire site or nothing, but over a number of years we've had something like over 20 mine sites that have achieved successful partial relinquishment. That's probably going to be the way it'll be for some time as well because it'll suit the company to hive off that bit. They can do a discrete bit of work there, potentially freeing up some funds under our current framework that they can put into other rehab activities going forward.

The CHAIR: How does the planning system currently deal with proposals for development in buffer zones?

TOM LOOMES: Currently it treats each site as it's zoned and so it doesn't distinguish necessarily in every case at the strategic or zoning level between operational and non-operational land—operational land being where mining activity has occurred or there have been effects of that mining activity, whereas the non-operational land is generally the buffer zone area. I know that there have been suggestions from witnesses before us and landowners about using buffer zone land or non-operational land. That's absolutely something that could be explored on a site-by-site basis if there is that strategic merit for those particular sites. In some cases, I know in the Upper Hunter that buffer zone land abuts industrial land that's already developed, often not within a mining catchment but is existing, so there may be some obvious merit in those instances.

On the flip side, the buffer zone land, because it's not operational, may not necessarily have some of those benefits or opportunities that the operational land has, so things like that existing infrastructure, those rail loops, those hard stands and workshops, which generally occur on the operational land. Chris and I also dabble in the aerotropolis. There's this comment about serviced land out in the aerotropolis which is about your electricity, your water and your transport infrastructure so that you can actually unlock that land for development. It would be that on the non-operational land it may not have that level of service that the operational land has, so site by site it might be that a buffer zone's appropriate and in others it may not be.

The CHAIR: With the buffer zones, are they used by the mining companies for offsets, for example, or is that something that's not currently the case?

TOM LOOMES: Not too sure, sorry.

CHRIS RITCHIE: I'll probably need to take that on notice. That could be, but I think it's probably worth it if we take that away and come back with a bit more detail.

The CHAIR: That will be good to know. Sorry, I've monopolised the time. I've got heaps more questions, but I'll go to my colleagues.

The Hon. SCOTT FARLOW: One thing I found quite surprising from the Queensland Mine Rehabilitation Commissioner was that his remit was for 200 mines amid the reference that there were thousands of other smaller mines that fell outside his remit. Looking back to your submission and the mine closures, from memory there seems to be maybe about 20 or so in there. I would have thought New South Wales has significantly more mines but maybe not the same number as Queensland. What are we looking at in terms of the number of mines that may be closing in the next 10 years? I guess there's the point of those where there's an opportunity for those larger sites, but also smaller mining activity as well.

PETER DAY: I'll give you the numbers of sites and then Georgina can answer the ones around potential closure, but I mean we define a large mine under our legislation as one having an EPL through the EPA. We've got about 147 of those mines currently in New South Wales, and then we've got about 153 small mines as well. They're the ones without an EPL, but they've still got to comply with the rehabilitation requirements as well. They do everything the large mines do except submit spatial data that would go onto our SEED portal to progressively monitor how they're rehabilitating. We've also got other sites, but they're not mines as per the Mining Act; they're quarries and a whole range of extractive industries, but they're not defined as a mine under the actual Mining Act legislation.

The Hon. SCOTT FARLOW: Another question that has come throughout the inquiry as well has been—and I take the point before about how you all work very closely together in terms of how you navigate mine rehabilitation and closures. But in terms of what people are interacting with, whether it be the community or a potential proponent, we have heard frustration in terms of the merry-go-round of departments and the like that they have to deal with. Are there any moves within government to streamline that external-facing view, in a sense—I won't necessarily say the overused phrase of a "one-stop shop"—in terms of being able to streamline that process where you might be able to work closely in the background, but where they're just dealing with one port of call, so to speak, within government?

GEORGINA BEATTIE: Can I just clarify? Are you talking in terms of mine closure?

The Hon. SCOTT FARLOW: In terms of mine closures, yes.

GEORGINA BEATTIE: We have a concierge—

The Hon. SCOTT FARLOW: I should say, in terms of mine closures, but the opportunities that flow from that as well in terms of proponents looking to activate in the future.

GEORGINA BEATTIE: I think there are a couple of things to comment on there. The first one is that the Government has made a commitment to establish Future Jobs and Investment Authorities, which are about supporting coal communities into the future. As part of that, opportunities for land development and job-creating industries would be part of that proposal. Mining sites and power stations that offer those opportunities would fall into that remit. I think the other thing to mention is that we have a concierge service to support investors or mining companies looking to establish in New South Wales, and we connect across government.

Recently we were looking at a similar approach for mine closure along the lines of what you talk about, where they're considering alternatives and looking at the consensus and looking at what the mining lease and rehabilitation obligations are. But at this stage we're looking at the data analysis around what the opportunities might be. We talked to some of the criteria before about the location and interested landholder. There are probably only a few sites, but we are starting to consider what that might be and providing support so that when companies

talk to us around "What would I need to do?" we're connecting them and working closely with Planning around what that process is so that it's as clear as possible, under the current legislation, what the process is.

The Hon. SCOTT FARLOW: Another issue that has been raised throughout the inquiry as well has been—Mr Loomes, you mentioned this in terms of the Hunter plan as well—the plan for all mines across New South Wales. There have been some suggestions before the Committee that an audit should be undertaken to work out or identify where there are opportunities across all mine sites across New South Wales in terms of their rehabilitation or their adaptive re-use into the future. Is that something that is countenanced at all by any of the agencies in terms of what those plans could be, or is this something where, effectively, the view of the Government is that it should be market driven and the market should bring forward opportunities where they see fit?

GEORGINA BEATTIE: Again, I think it is a potential role for the Future Jobs and Investment Authorities to consider proactively supporting some of those regions.

Ms SUE HIGGINSON: I would love to ask about residual risk and where the system is up to in terms of how we are looking at that and how we are calculating it, particularly given this inquiry is now looking at potential different uses that have been anticipated from the experts sitting around developing these approvals and rehabilitation plans.

PETER DAY: That really goes to the heart of some of the reforms that we implemented as a result of the Audit Office audit a number of years ago. Certainly the system, with our current framework for rehabilitation, is very robust. It requires a lot of targeted operations out there on sites, a lot of technical studies to be done to really inform the future on how the company will implement their closure plan when it comes to that point. Where the system has changed over the years has been very much we're so much better informed as a regulator, but also the companies are better informed as well through doing these pre-planning studies. We do things on surface water, groundwater, subsidence and a whole range of studies out there to inform—and ultimately the company can inform what they need to do at an early stage around the rehabilitation processes.

The more we can do of that, the more we mitigate against residual risk into the future. There's always been some residual risk, but the scale of it, as opposed to what we were talking about some time ago, has certainly changed because of the robustness of the programs and the robustness of the regulatory framework in New South Wales as well as we speak around that process. So where we are now is certainly a lot better, in terms of managing that issue going forward. In terms of sign-off of the rehab, that's one of our critical things—to make sure that if there's significant risk identified, we've got to be satisfied that's been addressed before we can sign off that project itself.

Ms SUE HIGGINSON: Are there any particular mines at the moment in the Hunter that you're looking at which you anticipate will have—are there any outliers, in terms of that? I know all residual risk is a bit of an outlier, but are there any that you're looking at which have some big red lines around them?

PETER DAY: We look at all of them, and we look at them through a targeted process every year where we'll focus on an area to look at in terms of how they're operating from a rehabilitation point of view, but also to really focus on how they're achieving their requirements in terms of revegetation or groundwater control, tailings dams—a whole range of things like that. We look at all of them and then we'll put measures in place if we find any deficiencies, not to address an immediate problem but more so the company can then address that longer term. So I'd say there are no real outliers. There is a whole range of case-by-case differences in terms of each operation out there and what they've got to focus on. Our job as the regulator is to be proactive and identify that at the start of the process and during the process, not at the end of the process where the old system was years ago.

GEORGINA BEATTIE: Sorry, if I can add to that, that's why it sometimes takes decades before a site is relinquished—because the regulator won't sign it off until there's confidence there won't be ongoing environmental risks. For the sites that offer alternative potential, in terms of new investment, if there's a willingness to sign that off earlier, then that's where we need to look at how we would manage that residual risk, to avoid any situation in future that the State may be left with any liability.

The CHAIR: Can I ask a follow up for that? How do you envisage that to happen? It's fair to say that it is a process where there are decades for sign-off at the moment. But, given the scale of the shift that we're going to be seeing, particularly in the Hunter Valley, what would you propose would be a solution or a way around that?

GEORGINA BEATTIE: We would need to look at options, but the partial relinquishment model that Peter mentioned earlier is one of those options where we can work, if a landholder is interested in pursuing rehabilitation in a particular area, with the view of signing that off earlier than some of the other areas. There's an example of that with the Black Rock Motor Park, where part of that site was relinquished and is now being

developed for a different use. I believe part of that site is still under title and rehabilitation is still occurring. There would be other options as well, but they would require more detailed consideration and reform.

Ms SUE HIGGINSON: I was a little bit surprised about the—sorry, I shouldn't start like that. Are you suggesting that if the Government wants to take a strategic approach then it can do? I thought that there was a bit of an effort to be trying to look at taking a strategic approach. I'm curious to know if there is actually any work happening within the department of planning that is looking at what the strategic opportunities are, how they are working with all of the existing infrastructure and conversations with the resource sector department to say, "Actually, this works really well with this other infrastructure project." The question is, are you making approaches to these operators and these tenure holders to say, "Before you start ripping out all of this rail infrastructure and all of this, perhaps we should talk about future uses for that"? Is that sort of thing happening?

TOM LOOMES: I think the Hunter Regional Plan, which is one of the more contemporary strategic planning documents that the department has published, has taken that strategic approach. Reflecting on the Upper Hunter district part of that plan, it seeks to look at what the opportunities are within that broader area, amongst all of those mining sites. It is more contemporary, so the older regional plans haven't necessarily taken the same approach. There are nine regional plans in total at this point in time. Two are in draft; seven are published. Then there's obviously the Greater Sydney Regional Plan, but we'll put that to one side as there's not a huge amount of mining that we should probably reflect on today within that catchment as much. But, for instance, in the Central West and in the Illawarra-Shoalhaven we haven't, because they are older documents, taken the same approach.

If there is a view that we take a similar approach as we go to review—which we have commenced—some of those documents, I'm very open and willing. I think it's a great way to start to categorise and think about the future of that land. I would just say that strategic planning is something that occurs iteratively every five years, with that long-term vision. Harking back to the Chair's original question about when a company should approach the Government about what it wants to do with its site in a post-mining sense, strategic planning continues to review and reflect every five years. I think that's a great opportunity for us to reflect on changes to that locality, that region and the needs of that region, and then how those sites—and other sites as well, whether they're power stations or they're former industrial land sites or whatever—can help service those communities, looking at the whole rather than just certain parts.

Ms SUE HIGGINSON: On that, we heard earlier some really excellent evidence about when you are transitioning communities that have been so reliant on a particular sector—and land use obviously plays into that—how important it is that the changes have to be community led. I am also wondering, in any strategic planning, reflection and exercise, would you be looking at the Hunter Jobs Alliance work? I know there's the dialogue and all of those where the communities come together to identify what the opportunities are for them socially, economically and environmentally, and obviously how that ultimately lands on land use at some point. Is the department engaged?

TOM LOOMES: Of course. There are two key levels of strategic planning. There's the regional level, which the State Government takes the predominant role in. Of course we largely engage with councils and key community groups, business groups and others that have a stake in the region in the long term. Then you get to the local strategic planning statement level, which is an LGA-wide strategic plan. It's much more fine grained and then obviously leads to changes in the local environmental plan—the statutory planning side of things—which is your zoning and your controls that go around that. I don't need to explain it to you, obviously, Ms Higginson. That level, I find, is the bit where there's a real opportunity to truly understand town by town, city by city and suburb by suburb what the aspirations are for those areas.

Planning in the regions is very different to planning in the cities, obviously. The drivers are very different in the regions. Obviously it's very led by industrial and jobs growth. If there's a particular industry or a job sector that helps, that's where we then see population growth occur, whereas in the city it's very population driven, based on people's desire to live in approximation to certain parts of the city that they love. It's almost like a totally different strategic planning system. My regional planning team really does engage with the jobs, the business, the chambers and the dialogues quite regularly to make sure that we are planning in that way in the regions rather than in the cities, where you can see where that growth is going to occur quite naturally, because it's generally population driven and demand driven.

Ms SUE HIGGINSON: There was one statement this morning about how it's so important to have everyone at the table, and if you're actually not at the table, you're probably on the menu. I thought it was—I've never heard it before.

TOM LOOMES: Wow!

Ms SUE HIGGINSON: It was actually really powerful.

The Hon. SCOTT FARLOW: It's pretty common parlance.

Ms SUE HIGGINSON: Honestly, in my whole life, I have never come across it. I must have been on the menu many times because there are many tables that I haven't been at.

The Hon. SCOTT FARLOW: Maybe I have been. Maybe that's why I've heard of one.

Ms SUE HIGGINSON: The notion at the moment in the Hunter, because there is so much anticipation about the radical nature of the change that we're looking at over the next decade and the next half a decade, is this fear that some community voices won't be heard or aren't being heard, or maybe they're at a different table or not at the table. I'm just wondering, to the extent that all of the agencies that are looking at this are making sure that all those tables are—

TOM LOOMES: Yes. Maybe Chris can reflect on some of the renewable energy projects that you obviously see in the assessment phase, but the energy transition is something that is a very big change to particular communities. That's also the change away from mining in coal and resource-reliant communities, obviously, into that renewable space. My view is councils, particularly in the regions, do a very good job of their local planning. The region and the regional plans set really great outcomes. They set the framework. But if we go to the Upper Hunter as an example—I think you had Sharon Pope from Muswellbrook here when you went up to Muswellbrook—great strategic planning done up there.

Ms SUE HIGGINSON: It was pretty amazing.

The CHAIR: We had her twice give evidence. She was so good.

TOM LOOMES: Totally. That's a great council that's doing great community engagement and truly understands the crux of the issues that that community will face. My goal—and my team's goal and the other parts of my division's goal—is to work hand in glove with Sharon. There may have to be points of disagreement, as there always are, about certain sites or certain uses or certain futures, but I really do think that those council strategic planning documents are where we can see some of the richness of the engagement and the community aspiration.

The CHAIR: Ms Beattie, you mentioned earlier about Black Rock. That is obviously a very good example of an innovative and productive use of post-mining land. One of the comments from Black Rock—they gave evidence at the Lake Macquarie hearing to this inquiry—was around the relinquishment. I'll just read the quote for you. This was from Tony Palmer, the CEO, who said:

The incentive for the mining company to actually go through with the full relinquishment process is very little. It's very resource intensive and there's not a lot of win for them other than reputational gain.

He goes on to say:

If we'd received ESF2 sign-off—

a New South Wales mining regulator form of evidence of rehabilitation—

and were able to get on and start doing our development—which was approved through the DA process—while we're waiting for the final relinquishment paperwork to be done, and there was no penalty for the mining company in letting us get on their land or for us getting on there, then we would be four years ahead of where we are right now.

GEORGINA BEATTIE: Mr Day is probably best to answer that, because he's in charge of the ESF2 form.

PETER DAY: Thanks, Georgina. I think with Black Rock, it's an interesting one in terms of that site itself. I think I spoke about it at the first hearing I came to here. That was a site that had shut down in 1970. It had had spontaneous fires on the ground for something like 30 years. It was a heavily contaminated site. Most of the time we were talking about, therefore, rehabilitation. The site also changed companies a few times as well, in terms of the mining leases. It was really around monitoring. Part of that—the point Georgina was making before around building a sign-off—was us actually being able to recognise and reduce the monitoring time frame, which ultimately then relinquished that site for Black Rock earlier than what would have been anticipated under our plan.

The CHAIR: Yet they still experienced a four-year delay. Black Rock also told us about having to provide evidence of the grouting that had been done at the site, and stated that they had to provide that information twice, which adds to the delay and the duplication in the process. Mind you, that was grouting that we did.

PETER DAY: The grouting issue is actually something that occurred post sign-off from ourselves and involved Subsidence Advisory NSW in terms of subsidence risk, which is obviously a major threat around the

Hunter because of the historic mine sites there, and wasn't part of our sign-off process with that. While there's some connection there, they are different requirements in terms of that process around supplying the information for grouting.

GEORGINA BEATTIE: It really goes to the question around residual risk because to sign it off earlier, someone would have had to take on that risk of the potential impact. I think that is where we should probably consider if there are alternatives in terms of incentivising an earlier relinquishment. But how do you manage that risk for the community and the State more broadly? As you point out, it's an excellent use of a former mining operation. I personally worked very closely with the mining company and Black Rock to try to facilitate that within the existing framework. But the hurdles are there for a reason. If there's to be change, we just need to carefully consider what that would look like and how we manage the risks.

The CHAIR: In terms of the supporting infrastructure that currently exists in a mine site, we've heard about roads, rail, powerlines and sewer. There are lots of different supporting infrastructure—or services, as you've called them, Mr Loomes. They're usually approved through part 5 of the EP&A Act, as I understand. Does that approval allow for the future use of that infrastructure to support post-mining land uses, or would a modification be required?

TOM LOOMES: I'd have to take it on notice, I'm sorry. You are correct: In most cases it's through part 5. Some of that's enabled through the State Environmental Planning Policy (Transport and Infrastructure). I suspect—while I also take it on notice—that some of these will be consent by consent and what has been considered within those bounds, but I'm not sure. Chris, do you have examples of existing infrastructure being used for new uses?

CHRIS RITCHIE: I think it's probably worth taking that and coming back. But I would think, in terms of a mine site, for example, often what's within the mine site forms part of that consent. Because the Act has shifted a little bit over time, you can do part 4—it used to be part 5. It's not always a straightforward answer in planning, but I'll take that away and certainly have a look. But in terms of some of those discussions, as I mentioned, some of those mine companies are looking to utilise some of that infrastructure that we've referred to, such as the balloon loops and electrical infrastructure and hardstands.

The CHAIR: In terms of the rehabilitation requirements—it's probably best for mining with this regard. We've obviously got the rehabilitation management plan for large mines. That has been in place since 2021, I believe. You mentioned earlier the role that you have in making sure that those rehabilitation management plans are adhered to. One of the other things we've heard from inquiry witnesses is the need to have access to that level of information or data. Is it possible that could be made publicly available, much like our other mapping data is?

PETER DAY: There are requirements for the company to have that on their own website. But in terms of the transparency of our systems, we've been doing a lot of work in that regard. The SEED portal is a world first in terms of being able to see progressive rehabilitation at mine sites. I think that's been widely used by community groups and a whole range of other stakeholders out there. So that's a starting point. No doubt we'll look at enhancements to that over time, but to get that going was a major operation. We've also updated a lot of our website as well. We put on there assessed deposit levels for the mines. We've provided a lot of simple information so that the community can understand the steps and the process in terms of the rehab, approval and sign-off, and also what we do to monitor compliance with that. But, ultimately, if people want to see an individual company's rehabilitation management plan, that's required to be on their website.

The CHAIR: The rehabilitation management plan is one thing, but what I'm talking about is what is actually happening. Because the plan is a static document, but rehabilitation occurs continuously.

PETER DAY: Yes, so the SEED portal would be the site that you can—you can put layers on that and see the progressive rehabilitation from a time period and going forward as well around what their plans are. So it's quite advanced in terms of—

The CHAIR: So there is that capacity that currently exists.

GEORGINA BEATTIE: It's only just been released. It's fantastic.

The CHAIR: Great. I will have to look.

GEORGINA BEATTIE: You should look at it. It is really, really excellent. You can see rehab occurring over a mine site over time.

The CHAIR: But it's a mine-by-mine process, is it? What I'm trying to get at is there's not a regional perspective.

PETER DAY: No. It's mine by mine, because it's very much based on the spatial data that the mine submits.

The CHAIR: So the mine has to submit the spatial data. Your rehabilitation management plan for large mines lists examples of final land use domains, which can be selected in the Mine Rehabilitation Portal for the mining area when lodging the final landform. Then it goes on to list a number of items. Is that list exhaustive? It would seem to me to be perhaps somewhat restrictive in terms of not being able to realise some of the other beneficial and productive land uses that we have heard about over the course of the inquiry—and, indeed, are listed quite extensively in *102 Things to Do with a Hole in the Ground*.

PETER DAY: That would have been based very much on what was approved at the planning stage. Are you talking about native vegetation?

The CHAIR: Native ecosystem, agricultural-grazing, agricultural-cropping, industrial, water management areas, water storage area, heritage area, infrastructure, final void and other—they're the listed domains.

PETER DAY: That goes back to the point that often when the planning approvals were done—we're talking about a long period of time ago now—that was what was available in those times when the planning approval was done.

The CHAIR: But can you see how having a rehabilitation management plan, as it currently exists, may not fully realise the beneficial and productive post-mining land use, particularly if you're restricted to these final land use domains?

PETER DAY: Yes. But I think we've also got other projects now where it suits both parties and there's commitment and, I guess, benefits for both sides as well. We have got companies out there that are proceeding with that as well in terms of some of these renewable sites. We've got a range of projects that we're talking to companies about at the moment. I wouldn't say it's impossible, but it really depends on where the benefit is for the mining company particularly. That's a major issue in terms of where they would go with that as well.

GEORGINA BEATTIE: Do you mind me asking, just to clarify, which document is that?

The CHAIR: Rehabilitation Management Plan for Large Mines—a NSW Resources Regulator document.

GEORGINA BEATTIE: I may add that our website has recently been updated. It talks about a much broader range of potential final land uses at mine sites. We're shifting with the community expectation. We are in a transition phase with coalmining. We're expecting a large number of mines to close based on consent conditions, largely between 2030 to 2040. That is changing, but ultimately it still comes down to the consent. But there is that recognition that there are increasingly—even in the past couple of years—new alternative land uses and proposals for alternative land uses.

PETER DAY: I think there is a category there called "other", which is our general catch-all around things that we hadn't thought about some time ago. Certainly a good example of that is the Maxwell Solar Farm. That has been profiled under "other". That shows that there is some availability to use that—

GEORGINA BEATTIE: We probably need to update some of those older documents.

The CHAIR: It's a mandatory requirement, obviously, for a mine to have the rehabilitation management plan. But in terms of the best-practice model, the other one that's been mentioned a number of times in this inquiry is the ICM *Integrated Mine Closure: Good Practice Guide*. I'm aware of the time—and I know I have monopolised. You won't have seen this publication because it was only recently put together and submitted to the inquiry, but the Committee has been provided with four policy papers from Professor Roberta Ryan of the Institute for Regional Futures. They're BlackRock policy papers that were specifically prepared for this inquiry. There is a number of recommendations in those policy papers. I would like to hear your thoughts on those policy recommendations. If you could all take that on notice, that would be marvellous.

Ms SUE HIGGINSON: I have one final question. Mr Chappel, I am not just asking this because you've been quiet the whole time—this has been on my list the entire time. Given the EPA's work with climate policies and looking at sectors getting to net zero and transitioning and so on—and obviously the coal sector is a big one—have you gauged any unanticipated or potentially perverse consequences of looking at beneficial re-uses of land that could work to try to expand the life of existing projects or would be inconsistent with the EPA's policies on assisting the transition for the whole State to net zero on a sector basis?

TONY CHAPPEL: I'm not aware of any, but I'm happy to take that on notice and give you a comprehensive answer. There are hundreds of legacy sites where we have to work out and triage. Some of those

risks in terms of legacy sites venting methane, for example, probably haven't historically been captured. Those are considerations as we think about the whole economy and emission sources. I am not aware of anything around enabling beneficial re-uses that would be deleterious.

Ms SUE HIGGINSON: Thank you. It definitely wasn't a trick question. I'm thinking more about how the planning system and mine rehabilitation plans can sometimes have these consequences. We're learning all the time. We get great ideas from industry, community and all sorts. Then all of a sudden we are facing new, potentially wicked problems. I suppose that's what I am trying to anticipate: Are there any of those wicked problems? This inquiry would benefit from any insight because we're going to make all of these great recommendations on how to change the whole system or potentially make tweaks, and there are potential things that we haven't thought about in terms of that beneficial re-use. My particular concern is getting to net zero as fast as we can.

TONY CHAPPEL: I'll gladly take that on notice.

The CHAIR: Thank you all very much for coming in to give evidence again to this important inquiry. The secretariat will contact you in relation to any questions that were taken on notice. That concludes our hearing today.

(The witnesses withdrew.)

The Committee adjourned at 14:45.