T R A N S C R I P T

LEGISLATIVE COUNCIL ENVIRONMENT AND PLANNING COMMITTEE

Inquiry into Climate Resilience

Melbourne – Wednesday 20 November 2024

MEMBERS

Ryan Batchelor – Chair
David Ettershank – Deputy Chair
Melina Bath
Gaelle Broad
Jacinta Ermacora
Wendy Lovell
Sarah Mansfield
Rikkie-Lee Tyrrell
Sheena Watt

PARTICIPATING MEMBERS

John Berger
Ann-Marie Hermans
Evan Mulholland
Rachel Payne
Aiv Puglielli
Richard Welch

WITNESSES

John Bradley, Secretary, and

Carolyn Jackson, Deputy Secretary, Regions, Environment, Climate Action and First Peoples, Department of Energy, Environment and Climate Action; and

Natalie Reiter, Deputy Secretary, Strategy and Precincts,

Andrew McKeegan, Deputy Secretary, Planning and Land Services, and

Stuart Menzies, Executive Director, State Planning Policy, Department of Transport and Planning.

The CHAIR: Welcome back to the Legislative Council Environment Planning Committee's Inquiry into Climate Resilience in Victoria, and we welcome representatives from the departments of energy, environment and climate action and transport and planning.

All evidence we take is protected by parliamentary privilege as provided by the *Constitution Act 1975* and the provisions of the Legislative Council standing orders. Therefore the information you provide during the hearing is protected by law. You are protected against any action for what you say during the hearing, but if you go elsewhere and repeat the same things, those comments may not be protected by this privilege. Any deliberately false evidence or misleading of the committee may be considered a contempt of the Parliament.

All evidence is being recorded, and you will be provided with a proof version of the transcript following the hearings. Those transcripts will ultimately be made public and published on the committee's website.

Welcome. My name is Ryan Batchelor, Chair of the committee and a Member for the Southern Metropolitan Region in the Legislative Council. I will ask the committee to introduce themselves.

David ETTERSHANK: Hi. David Ettershank, Legalise Cannabis Victoria, Western Metro Region.

Sarah MANSFIELD: Sarah Mansfield, Member for Western Victoria.

Melina BATH: Melina Bath, Eastern Victoria Region.

Gaelle BROAD: Hi. I am Gaelle Broad, Member for Northern Victoria.

John BERGER: John Berger, Member for Southern Metro.

The CHAIR: For the Hansard record, could you please introduce yourselves and the organisation you are here on behalf of.

John BRADLEY: Thanks. Good afternoon. John Bradley. I am the Secretary of the Department of Energy, Environment and Climate Action.

Carolyn JACKSON: Good afternoon. I am Carolyn Jackson. I am the Deputy Secretary, Regions, Environment, Climate Action and First Peoples, within the Department of Energy, Environment and Climate Action.

Natalie REITER: I am Natalie Reiter. I am Dep Sec, Strategy and Precincts, at the Department of Transport and Planning.

Andrew McKEEGAN: Andrew McKeegan, Deputy Secretary, Planning and Land Services, Department of Transport and Planning.

Stuart MENZIES: Stuart Menzies. I am the Executive Director, State Planning Policy, Department of Transport and Planning.

The CHAIR: Thanks very much. I might invite you each separately to make an opening statement. John.

John BRADLEY: Thanks very much. Thanks for the opportunity to be with you. I want to begin by acknowledging the traditional owners on the land we are gathering on today, the Wurundjeri people of the Kulin nation, and pay my respects to elders past and present and of course recognise that all of the issues we are discussing in relation to climate resilience occur on the country of the First Peoples.

We are really grateful for the opportunity to be with you. I am just going to make a few opening remarks that speak to DEECA's roles and responsibilities and how they align with the terms of reference for the inquiry. The department brings together Victoria's energy, environment, water, agriculture and forestry resources and climate action functions into a single department to maximise connection with the environment, community, industry and economy. Naturally, climate considerations are embedded across our functional areas. In each of the groups of the department, whether it is our dedicated climate action area, our water, energy or forestry groups, DEECA staff are tackling questions about how to manage the impacts of climate change and build a more resilient future. Climate change impacts how we design and build infrastructure and assets, it is impacting how we are designing and delivering our programs and services, and it is changing how we think about the sustainability for future generations. While climate change is bringing great challenges, like more frequent and severe emergencies, we are also seeing opportunities to innovate and to invest in technologies and build a stronger and more resilient future for all Victorians, so many functional areas play a part in intersecting with the inquiry's terms of reference.

The climate action portfolio aims to enable Victoria's path to a net-zero emissions and climate-resilient future by 2045. That area is responsible for developing the climate change strategy and Victoria's climate science report, coordinating the seven statewide adaptation action plans and administering the *Climate Change Act*. DEECA is also responsible for advising government on statewide climate action policy; as part of this we have developed whole-of-government strategies, advised the government on setting targets for emission reduction and provided both the government and the public more broadly the latest climate science.

In the environment portfolio we are undertaking work to protect and preserve our native landscape through a range of biodiversity, wildlife, sustainability and climate change and community programs, such as the natural environment adaptation action plan and the implementation of Victoria's bushfire management strategy and the marine and coastal strategy.

The coastal portfolio includes critical monitoring protection and adaptation planning for communities vulnerable to erosion, inundation and sea level rise. Other responsibilities in this portfolio include environmental protection and the management of natural and built assets on public land. We were delighted to receive recognition through the Australian Institute for Disaster Resilience for the resilient coast project, which is supporting communities to adapt to the impacts of coastal hazards and climate change. It is a program co-developed with over 100 representatives from 48 agencies and interest groups with coastal management roles in Victoria.

Our energy portfolio is working with industry and the community to build a secure and sustainable energy future, including recent rule changes to embed network and community resilience in economic planning and the implementation of the energy resilience solutions community microgrid programs. We have also completed two independent reviews focused on how to improve preparation for and the response to extreme weather events and prolonged power outages. The first was the network resilience review as a result of the 2021 storms, and committed-to government response actions are well progressed. The second was the network outage review completed earlier this year, and I understand that you have had some engagement with the panel on that review, which published its report in August. We are currently preparing a response to that final report.

In the water portfolio our responsibility is to make sure that Victoria has safe, sustainable and productive water resources, and we have improved resilience through the water cycle adaptation action plan. We are engaged in work across government to also consider the recommendations of the parliamentary inquiry into the 2022 floods.

Finally, in the agriculture portfolio we are trying to leverage world-class research expertise and works in partnership with farmers to address a secure future for agriculture, and we are working through the primary production adaptation action plan, the drought preparedness and response framework, the farm business resilience and regional drought resilience planning programs, the carbon farming outreach programs and the on-farm emissions action pilot program. There is a significant amount of work going on there, which we are

undertaking through our SmartFarm network. Even with all those efforts to reduce emissions, the reality is we are facing the impacts of climate change, and we will need to adapt to these. We recognise the significance of natural disasters and have been improving our capability in emergency management accordingly.

I have might leave my comments there, Chair, in order to allow us to get into the discussion earlier.

The CHAIR: Thanks very much.

Andrew McKEEGAN: Thank you. I would also like to acknowledge the traditional owners of the land on which we are meeting today, the Wurundjeri people of the Kulin nation, and pay my respects to elders past and present.

The planning and building systems support the resilience of settlements and communities to climate change by influencing where and how land use and development occurs. Well-established planning controls are in place to respond to bushfire, flood, erosion and coastal hazards. Under the natural hazard and climate change state planning policy, planning decisions must minimise the impact of natural hazards and accommodate climate change through risk-based planning. Decision-makers in the planning system, including local councils, are required to apply the best available climate data and science when identifying at-risk areas. This is an all-hazard responsibility.

The planning system is also playing its part in minimising greenhouse gas emissions and reducing urban heat exposure through requirements for environmentally sustainable development. Most significantly all planning schemes have been amended to support Victoria's transition from fossil gas to renewable energy sources and to introduce responses to climate change as a new purpose of the planning scheme. The government has amended the *Planning and Environment Act* to introduce mitigating climate change and emission abatement as a new objective of the planning framework alongside social, environmental and economic objectives. The amendments to the planning legislation mandate the consideration of climate change during the preparation of planning schemes and amendments to planning schemes. They will come into effect by no later than March 2025.

The building system also plays a critical role in ensuring the construction standards are continually improved over time and are based on developments in technology and on new information about climate change and hazard exposure. The building system deals with building performance and construction requirements at the site and building level. The system describes minimum construction standards and performance measures that take account of site-specific constraints and risk. Periodic updates to building standards are aimed at enhancing the resilience of structures to the impact of natural hazards such as bushfire, flood and severe storms.

From 1 May 2024 new Victorian houses and apartments are required to achieve compliance with the increased energy efficiency standards set through the National Construction Code. The new energy efficiency requirements will increase the minimum thermal shell's insulation and glazing requirements from 6- to 7-star under the nationwide house energy rating scheme. Modelling undertaken by Renew for the *Future Climate Impacts on Home Energy Standards* 2024 report indicated that homes in Melbourne built to 7-star standard continue to perform effectively through a range of model climate scenarios right through to 2090. Updated energy efficiency requirements will result in a range of benefits to household occupants. Primarily these will be felt through reduced energy bills, increased resilience during hot and cold weather events but also more generally as Victorian average temperature changes over time as a result of climate change.

To respond to recommendations made through the Royal Commission into National Natural Disaster Arrangements in June 2024, the state and territory building ministers meeting agreed to including a new climate change objective in the National Construction Code. Building ministers agreed to expand the objectives of the national building standards to include resilience, in recognition that Australia's buildings need to be more resilient to extreme weather events resulting from climate change. The impact of that new objective will allow the National Construction Code, which sets minimum building and plumbing requirements for new residential and commercial constructions, to consider the impact of climate change as part of its periodic amendments and updates and for new standards to be developed that directly address the impact of natural disasters on housing and other community facilities.

The CHAIR: Thank you very much. I might start, John, with your department. We heard evidence earlier from Powercor and AusNet about the effect on their infrastructure and assets from various climate-related

disaster events. Obviously we had the network power outage review earlier in the year. From the department's perspective, what are you most concerned about with respect to the impacts of climate change on our energy networks in the states?

John BRADLEY: Thanks very much. As you will have heard from the discussions you are having the networks and also with the network outage review panel, there has been a significant body of work. Unfortunately, we are developing insights more frequently due to the more frequent occurrence of severe and extreme weather events, as we have seen through the June and October 2021 storms, the October 2022 floods and then the February 2024 storms. The network remains vulnerable. It is the case that there is probably no way you can operate a distribution network of the scale that we operate in Victoria and ensure that there is perfect reliability and there is no impact in times of these storms. The cost of undertaking measures to remove all risk would be prohibitive to the community, so what we are trying to do is make sure through the insights we have got through that network resilience review that networks are appropriately prepared for and taking account of risk. So with the 2021 event, we undertook a review after that that led to rule changes that put in place requirements for the AER to take into account the value of resilience, and that work is progressing through those regulatory reforms, and there are range of other changes that were put in place at that time.

In response to the 2024 storms, we did see some of the improvements in AusNet's practice that had occurred from the 2021 learnings. But even over the course of 2024, through AusNet's engagement with the network outage review panel, we saw the deployment of things like the EMMA vehicles providing those community hubs and access occurring over the course of 2024 as they learned the lessons of that. Probably our most significant concern is that we are prepared for extreme events like storms but also prepared for the increasing prevalence of bushfire and bushfire risk as it increases in our landscape. Members will be aware that there was a very significant undertaking through the powerline bushfire safety program that was implemented after the 2009 bushfires. That has seen a range of measures, including the replacement of 734 kilometres of bare-wire overhead powerlines with underground insulated or standalone power system solutions. We have also seen through those investments about 61,000 kilometres of powerlines being protected through rapid earth fault current limiters, or REFCLs as they are known, which were world-leading technology at the time, and the use of automatic circuit reclosers, and the delivery of backup power generation in around 343 vulnerable residential care facilities as part of a $750 million package.

So there has been a history of preparing for bushfire risk, for extreme storms, and you have got at the moment significant programs like the 100 neighbourhood batteries program, which has a resilience focus, and there is $42 million being invested in the deployment of those 100 batteries, and the community microgrid and sustainable energy program. The community microgrid and sustainable energy program was introduced after those 2021 storms, and it saw the deployment of energy-resilient solutions in Mallacoota, Omeo and Corryong with a mix of solar batteries and other distributed resources. The final phase of the program will install a town-wide centralised microgrid in Corryong, which is going to be islandable – able to be separated from the grid in an extreme event – and it is intended to provide up to five days of town-wide backup. So there is a fair amount of effort as we have been responding to and learning from extreme weather events. But we also know that the forecasts are that we are going to have to prepare for more in the future.

The CHAIR: Energy is an interesting sector because of the regulatory framework and government is not an owner of these transmission systems. How well do you think that regulatory system is responding to these needs? There have obviously been some rule changes that have followed previous outages, but that regulatory system is what guides investment and what determines what the network companies can spend money on or not, and what consumers in the end pay for. As things constantly change, how well do you think the system is responding?

John BRADLEY: There are two forms of the regulatory model. One is the safety regulator and the work of ESV, which is looking at issues around power pole maintenance and fire risks from power pole failure. That has been an issue in significant fire events in the past. Then there is the work of the Australian Energy Regulator, which is regulating the spend of the distribution businesses, and one of the things that has been a challenge with that regulatory framework in Victoria is that it has had a focus on probabilistic performance in relation to average duration of outages and an overall performance based on averages across the network. One of the things that the network outage review panel, chaired by Rosemary Sinclair, identified was the benefits of making sure that you have got a focus on the tail – the worst performing tail of the network as well, and the 10 worst performing feeders concept that they recommended as part of that is really desirable. But one of the

other things that will drive the regulatory incentives in the right way is that other rule change I referred to earlier where the value of network resilience is something the Australian Energy Regulator will formally need to take account of when it is assessing the proposals so you do not end up with a system that is focused on the average, and the average performance for the majority of customers, and ignores the regional and worst performing feeders.

The CHAIR: Thanks. Mr Ettershank.

David ETTERSHANK: Thank you, Chair. Thank you for attending today; it is much appreciated. A question to John or to DEECA first. In doing the homework for this thing, obviously you have got these seven climate adaption action plans. I guess a lot of us have had this experience of trying to read into this and actually have a sense of where you are up to. You are three years into a five-year window. On the webpage and suchlike there is not much. There is a bit of stuff out of PAEC, but if you have got to get to that level, clearly you have eliminated most of the community. Why is it so hard to understand where it is up to, and how are you actually monitoring progress on the implementation of those action plans?

John BRADLEY: Thanks. I will make some comments, and Ms Jackson might want to add to this as well. There is a reasonably formal process – the statutory requirement – to prepare the seven adaptation action plans and then to update them again, with the next review being required in 2026, and there is a formal requirement to report on the implementation of the climate change strategy which the actions plan sit under that is due in 2025. As you say, we are about halfway through the adaptation action plans at the moment. Each of them is being delivered under the leadership of the minister, and the minister is responsible in each of the action plans as they were released. There is also a coordinated oversight of the delivery of those occurring through reports to the Victorian Secretaries Board.

We do look at the overall health and progress of those action plans, but they represent a fairly broad suite of measures, with some of things being changes to systems and processes and some of them being quite practical. From the PAEC questionnaire responses you can see quite specific things in relation to the delivery of the energy efficiency and social housing program, the residential efficiency scorecard program or the work that the Department of Government Services has done to introduce a basic requirement for all rental properties to have an energy-efficient heater with a minimum of 2 stars – that was introduced in 2023. We do acquit, if you like, specific measures that are speaking to the built environment action plan and the natural environment action plan –

David ETTERSHANK: Sorry, when you say you 'acquit', that is not in the public domain, though. We have already chased down the rabbit hole of the secretaries board and I think got none the wiser at the end of it. Why is it so opaque?

John BRADLEY: I would say that it is mainstreamed into the delivery activity of the department. All of these things are being funded through budgets, and I can give you, if you like, a series of measures that are being delivered under the health and human services plan or the education and training plan. But they are there and transparently identified as resilience and adaptation and actions in relation to climate. It is touching every part of mainstream government activity. If you think about where I was going with my opening comments about the breadth of what we touch, it is not a new activity to bolt on climate action and adaptation into the work of the department. It is fundamentally changing every investment proposal we put up. Every asset we are investing in has to have regard to climate risk, and you can see that being reported in a holistic way in our climate risk disclosures which are now coming out as part of our annual report. You can see in the budget papers as we are funding these initiatives. But I think to your point, when we complete the climate change strategy assessment in 2025 there will be a thorough report about the effect of the cumulative measures. There are 127 separate measures.

David ETTERSHANK: I think we all understand that. I guess there is a concern that sometimes whole-of-government can become so amorphous that it is almost lost. I think we all agree on the primacy of this as a social priority, but there is that sense that perhaps it has got lost. I know people are doing things, but then also when we drill into particular things – we looked at the decision to demolish the 44 housing towers, what was the assessment of the carbon impact of that and the embedded carbon in knocking over 44 towers? Clearly that work was not done. We are trying to understand how you know those 127 areas are actually happening.

Certainly for the community as a whole there is no prospect of seeing that. I think to wait until the end of 2025 is a long time for people to hold their breath and wonder how we are going.

John BRADLEY: I do not think we are waiting for the end of 2025 to tell people about the action that is being taken or the commitments that are being made by government or to disclose climate risk in our annual reports with an increased level of transparency than we have before, but it does recognise that there is a very significant array of measures. We also have within the framework, if you like, statutory obligations for climate risk to be taken into account in decision-making, and that is reasonably formal in legislation through the climate legislation but then also through other legislative requirements, including the *Public Administration Act* and the *Financial Management Act*, which require the consideration of risk. This is, I guess, my reflection, which is that it is based on mainstreaming the activity into the kind of core functions of government, so the way we operate under the *Financial Management Act*, the way we take account of risk in the *Financial Management Act* and the way we undertake investment proposals that are put forward for asset development, as well as specific things we can point to and discuss with you like resilient coast investment or the upgrade of electricity infrastructure or water infrastructure in the water entities and progress around adaptation action plans. There is a significant body of progress being made in each of those cases that we are happy to talk to the committee about, but it is very broad because it is being mainstreamed into the functions of government.

The CHAIR: Ms Bath.

Melina BATH: Thank you very much for your attendance today. It is a week of public hearings, I think, isn't it – one of many. First of all, to DEECA, to Mr Bradley, there are a number of renewable energy projects occurring across the state. Ms Broad and I of course come from regional Victoria, and much of that is happening in regional Victoria. I am interested to understand the locations that the government has identified to host renewable energy projects and/or whether that is – you have got to have some sort of land position, so maybe by LGA or region would be important. It would be good to get an understanding on a map of these projects across Victoria.

John BRADLEY: We can give you existing information – I think the planning portfolio can provide that in relation to where the existing projects are in a mapped format. I will let my transport colleagues speak for their ability to do that, but I am pretty confident that that can be done.

In our case, we also have the work being done by VicGrid, which is progressing the Victorian transmission plan, which is doing strategic land use assessments and guiding the development of where it should occur in the future. In the past we have had, with some exceptions, more of a proponent-led process for determining how renewable energy projects are developed. There have been some reforms over time, including things like the solar farm guidelines that started protecting key areas of the irrigation districts and other things and made sure that there was clarity about the protection of key conflicts in land use. But the purpose of that VicGrid Victorian transition planning process is to make sure that we have got much better front-end engagement with community around the land use allocation.

Melina BATH: It is happening in Gippsland, so I am aware certainly of the VicGrid proposed corridor. But yes, I would be really interested if you could provide identified energy projects by LGA, which is probably reasonable, and a breakdown, of solar and wind if that is possible.

John BRADLEY: Do you mind, Ms Bath, if I just check with Andrew if he agrees with that?

Andrew McKEEGAN: I am happy to provide that.

Melina BATH: Thanks very much. My next question goes to roads as a built environment. Again in regional Victoria we need our roads in good shape. I note that road maintenance, resurfacing and rehabilitation by area has diminished in the budget papers this year. It was 0.4 million metres squared – I think it is 0.42 million – as opposed to 9 million metres squared last budget. I read in the papers, so correct me if I am wrong, that a government spokesperson said that the discrepancy was due to a lot of directional funding for road rehabilitation due to flood-impacted roads. Can you elaborate on that? Is that true? Then my next question is if it is not true, where has it gone? But the question is: if we are going to get these environmental impacts on a regular basis, how can government departments redirect funds that are there for potholes of a normal nature, not flood-affected infrastructure?

Natalie REITER: Yes, it is true. Essentially with the floods, they take out the road base in many instances so there is a significant multiple of cost per square kilometre or per square metre to undertake the work to remediate from significant flood compared to a lighter touch, if you like, and skimming across the top of the road. That is the reason for the reduction in the area of road that has been either remediated or maintained. But to your point, we need to be looking at – and we are looking at and need to continue look at – innovative models for road maintenance that have regard for the fact that these events are likely to continue to occur, not just on a more frequent basis but at a greater intensity and methods to resolve these problems in both a more cost and time effective manner than we have in the past. As a result of identifying and acknowledging that need, we have changed our approach to road maintenance whereby traditionally we have had the old VicRoads offices spread out across the state and each doing their own road maintenance program. We have now consolidated that into a single function, lifting the smarts, lifting the identification of new opportunities in technology to do these things better.

Melina BATH: Thank you. I guess it is unsustainable. I see that if there is a flood in northern Victoria, overwhelmingly it is a reduction of 90 per cent of the rest of the state in that resurfacing. That is unsustainable from a human safety, driver safety, productivity et cetera perspective. What is your strategy if your budget continues to be constrained? Does there need to be a larger budget on these?

Natalie REITER: If I want to take a really high level strategy, at the upper level we are trying to move people out of cars and onto public transport and the reduction in fares has been really effective.

Melina BATH: I understand that, but when you live in regional Victoria quite often you may get a bus if you are lucky, and you certainly do not get a train, so that is virtually impossible in certain areas in regional Victoria.

Natalie REITER: In certain areas, yes, but the number of people taking public transport, in particular trains, has surged phenomenally in regional Victoria as people are instead driving to a train station and catching the train. It is one part of the puzzle, but we also need to be taking advantage of some international technologies for road construction and maintenance and our team are looking at those, because to your point you can only see an ever upward trajectory of road maintenance budgets if we do not work out how we can do some things differently.

Melina BATH: Build back better. Thank you.

The CHAIR: We will come back. Dr Mansfield.

Sarah MANSFIELD: Thank you. I might start with DEECA. You mentioned before that your department is really charged with driving the whole-of-government response to climate resilience adaptation. We have heard evidence in other parts of this inquiry that the response is quite patchy across government when it comes to climate adaptation and resilience. For example, in Treasury, where if you really had climate change integrated as a consideration and resilience and adaptation throughout the work of Treasury, you may have different decisions being made around, for example, procurement. I am wondering what your assessment is of how effective it is having a department where your primary focus is environment and climate driving that whole-of-government response to something that is I guess bigger than one single department.

John BRADLEY: Yes, thank you. I should not understate the role of the central agencies, including Department of Premier and Cabinet and DTF, in any of this whole-of-government action. While the policy capability and the scientific process of producing the climate science report and that regular cycle is led by my department and we undertake that coordinating function, specific things including the valuation of emissions, the assessment of climate risk, the asset management frameworks that are prepared, the budget guidance that is given to departments when they are producing budget bids, that is coming out of the core work of central agencies. Again, that is being mainstreamed into the way Treasury provides existing guidance in relation to budget processes and those whole-of-government financial management issues, including risk management, with climate risk being a state-significant risk in the framework that DTF helps to coordinate. So my suggestion would be that while there is certainly plenty of coordination work for us to do in the division that is led by Ms Jackson, that still has a lot of work being done by individual departments in, say, the transport portfolio, in relation to health and human services, or in the case of DTF, in the whole-of-government financial management systems that they administer.

Sarah MANSFIELD: You talked about it being mainstreamed into other areas, but we had it mentioned by the Planning Institute just before you came in here today that climate change is not a consideration in the work that has been provided there on the new activity centres, for example, which is pretty extraordinary. If you have got a new development program that is being rolled out, climate change is supposed to be mainstreamed and be considered in all the things that we are doing, yet climate resilience has not been factored into some of that work from the planning institute's perspective. So –

John BRADLEY: Can I just say one sentence and then pass to my colleagues? There is a statutory requirement for climate change and climate risk to be considered in the work of our departments, but I can absolutely confirm to you that it is being undertaken in that process.

Natalie REITER: Absolutely. It is quite fundamental to the whole philosophy of the program, so it is a shame that it has been missed by the planning institute. Indeed the reason for trying to intensify the number of people living around transport nodes, and most particularly train stations, is multilevel sustainability: (a) it is to sweat the assets so that we do not have to build new road and other assets and (b) it is to locate people so that they can minimise their requirement for car use so that they have not only the benefit of not having the cost-of-living pressures of owning a car but they actually are not emitting, they are enjoying the public realm and all of the ongoing benefits of that that lead to sustainable communities generally. Whilst it might not have had a little postage stamp saying 'This is sustainable', it is fundamental to the rationale.

Sarah MANSFIELD: Thank you. I might move on to some other issues that have come up. One is around the issue that the planning process has often been quite slow, lacking agility when it comes to responding to the rapid changes that are happening in our climate, the SBO process being one that is quite cumbersome. It has been suggested that perhaps when it comes to flood modelling, state government take over that function. I am wondering what your thoughts are on that.

Andrew McKEEGAN: That matter has been put in relation to the recent flood inquiry that you conducted within this committee as well, and we are currently looking at that and looking forward to coming back in response from a state government perspective. The position at the moment has been around the value of the local catchment authorities and the councils and us as a state government providing greater support. That is sort of the position we have taken at the moment, but we do acknowledge sometimes the fact that these natural hazards do not sit within a council boundary and therefore the ability for either a regional or state approach to looking at how these things are moved within the system quicker. It is certainly under active consideration, and we can understand why that matter has been raised by a number of councils and local government areas. As I said, we do provide a significant amount of support. I think the information in the planning system is very good at identifying hazards. As you point out, though, things are rapidly changing at a rate much faster than what the planning system was initially able to keep up with. It is not an instant change that happens within those things. You need to get that data, you need to check it, you need to work through those implications. The speed with which it gets into the system is something that we are certainly looking at, and we will come back in response to how we might think of ways of addressing that or thinking about the state's role in that process.

The CHAIR: Thanks. Mr Berger.

John BERGER: Thank you, Chair. Thank you, all, for appearing this afternoon. John, my question is to you. Looking at the adaptation action plans as a whole, what are the actions or themes that you would assess as the highest priority for making an impact in Victoria in terms of the climate resilience?

John BRADLEY: Thank you. There is a reason why each of the seven domains has its own focus in terms of those adaptation action plans, and it is recognising that while they are all related, each of them require their own specific focus and dedicated attention. In relation to our focus around the natural environment, we have got 20 adaptation actions within the natural environment, and they include the way we are using things like our strategic management prospects tool and the Arthur Rylah Institute to assess the potential risks to biodiversity as we see the changing climate and what might happen then in terms of the migration of species and what might happen in terms of the increased incursion of invasives and other threats in the natural environment.

If I think about our primary production adaptation action plan and some of the things we are most focused on, of course we know that about 60 to 70 per cent of our emissions come from livestock. Emissions from livestock is the work we are doing with the dairy industry and the Gardiner Foundation around DairyBio and Dairy

Feedbase where we are looking at breeding more climate resilient pastures and more climate resilient dairy cows particularly, getting a methane breeding value that we can identify that improves the productivity, creates faster profitability for the farmers and also helps to de-risk the operation from climate change. There is also some significant and incredible work going on in relation to our AgriBio and SmartFarm research centres where we are looking at the developments around more climate resistant species of grains, and we have developed a significant grains gene bank based at Horsham which is of national and international significance in terms of some of the work being done there to protect the resilience of the primary production sector.

In the built environment we have talked a lot about electricity networks. There is an equivalent piece of work that needs to be done in relation to the resilience of our water infrastructure, particularly as we start to see things like sea level rise and the risks for saltwater incursion in some of our water infrastructure over time. That is a significant piece of work that needs long-range planning and careful investment decision-making because of those regulated models in the water sector that are similar to the electricity issues we were talking about before.

Then maybe, if I recognise areas like the health and human services adaptation action plan, there is a significant amount of work going on through Ambulance Victoria, which has recently done a climate risk assessment of its operations guided by climate science that came from the climate action team in DEECA to help it to do an assessment about its resilience as we start to see the increased risks of ambulance operations including heat-health events and other things that are going to increase with time.

They are probably just a few of the things that are front of mind as priorities, but there are about 120 activities in those action plans that are each getting their own dedicated attention.

John BERGER: Okay. Thank you.

The CHAIR: Ms Broad.

Gaelle BROAD: Thank you very much for appearing today. Public transport is mentioned in here, and we are talking about climate resilience. Recently I was travelling on the train from here to Bendigo, and it was considered – over the loudspeaker – extreme heat conditions, so there were speed restrictions applied. But it was only 21 degrees in Melbourne and a day of 30. I just want to know your thoughts on how resilient our public transport system is, particularly the train network in regional Victoria.

Natalie REITER: Speaking not as an expert in this particular matter but with my understanding of the work of V/Line, they are working actively to increase the resilience of the network through improved rolling stock that is more contemporary and able to withstand extreme events. I too have noticed the fact that we are calling low 30s extreme events and have reflected that I think we can all remember the old days when it had to be mid-40s before it was called extreme. But nonetheless, V/Line are actively working to improve the resilience of the network. Indeed that was a question put to them this morning at PAEC.

Gaelle BROAD: Right. Okay. My understanding is it was actually the gauges as well, not the stock itself. But I am happy for you to take it on notice if that is okay.

Natalie REITER: Yes, I will take that on notice. Back in the day they would frequently buckle. You do not hear that so much these days, but I will take that on notice and come back to you.

Gaelle BROAD: And why the change in that drop in temperature, because it seems very low to be considered –

Natalie REITER: Extreme.

Gaelle BROAD: Yes, extreme. I am just interested too: the climate change action plan talks about supporting hazard-exposed communities with resilient energy solutions and temporary measures like generators. Do you have a list of hazard-exposed communities?

John BRADLEY: Thank you very much for that question. There was, after the 2021 storms and that electricity distribution network resilience review that I referred to earlier, an assessment of which communities would be identified through the historical records of the distribution businesses as having most frequently had significant outages, particularly thinking about those communities where, if they are at the edge of the network, they can be off for a more significant period of time and how to make them as resilient as possible. There was a

process that identified priority communities to see hardening of the network and direct investment by the network businesses. It also led to that community microgrid and sustainable energy program I was referring to earlier that saw microgrids for Mallacoota, Omeo and Corryong and particular towns there. But equally, as we know in the ranges around greater Melbourne, there are particular communities that have frequent experience of outages that tend to take a significant period of time to restore because of the difficult terrain.

We have seen some increasing signs that the kinds of storm systems that are coming through are at least very unusual, with more twisting winds that tend to be bringing down great swathes of trees at the same time and also having an impact on our transmission towers, as we saw six transmission towers brought down again because of the nature of the storms that we are seeing. The networks are getting better at identifying those communities. We are encouraging them to take localised solutions, and we also earlier this year changed the regulation, through the initiative of the Victorian government, to allow for network businesses to propose standalone power system solutions instead of typical poles-and-wire solutions so that they can actually use the right tool for the job in these communities that are facing increased risk of storms. So that has been built in in the last 12 months.

Gaelle BROAD: I am just interested too, because we have heard a bit about the need for backup generators. Other witnesses have talked about telecommunications towers needing to have that backup generator. We have heard about regional communities having something at the power station or the supermarket very quickly to enable the towns to get up and running quicker. Who do you see as being responsible for having those backup power generators?

John BRADLEY: One of the things that has been done as part of the Network Outage Review Panel, which was chaired by Rosemary Sinclair, who has appeared with the committee I think, was a recommendation which was to have a formalised role for those network businesses in using those hubs and backup generator responses. That is consistent with a regulatory reform the government has put in place which requires them to have effectively a disaster response plan as a formal requirement and that those plans will be assessed by Energy Safe Victoria as well in future to make sure that they are actually happening and being deployed.

In terms of the local community use of backup generators, we have had a small fleet that we have deployed, made available, for prolonged power outages where customers are getting over seven days and they want access to it. Generally, it is a fairly kind of compromised solution in that it can operate some appliances but not support the whole house. That is why we are looking at more grid-based approaches to hardening the grid with those techniques that we were talking about earlier.

The CHAIR: Andrew, you mentioned in your opening statement some changes to the NCC dealing with climate change and having an objective of understanding how the climate is changing. Can you provide the committee with a bit more detail on what that is, whether it has come into effect yet and what the impact of it is likely to be?

Andrew McKEEGAN: Certainly. What it will mean is that when the NCC consider future changes to the construction code, that will be a core part of their consideration. One of the critical discussions that is going on at the moment, for example, is embedded carbon, going to the point you made earlier around the opportunity lost when decisions are made in relation to existing built form versus new built form. Currently the economics of that are stacking up in such a way that it does tend to lead to people looking at a new construction rather than considering the embedded carbon value that sits within the existing building. The Minister for Planning – actually there was due to be a national building ministers meeting coming up. I think it is within the next month that there will be another one. It has actually been raised, from a Victorian perspective, the need for that to be discussed at the next forum. Those types of matters – now that we have climate as sort of part of the consideration of the National Construction Code, it will mean that there will be more focus on looking at what is the way in which the various states and jurisdictions and the Commonwealth will address matters such as: can we have a consideration for embedded carbon? One of the challenges is around how we might put a financial value, for example, on that embedded carbon to make the value of that consideration stack up when people are doing their feasibilities in relation to built form. So it is just making sure that whenever the construction code comes up and is reviewed – and that is done periodically whereby we work with industry, we work with jurisdictions and we think about all the potential changes that can happen – and whenever they are making those reforms, they are thinking about climate as a key part of that consideration.

The CHAIR: So that objective is now in the framework, and it is the future revisions of the code that will need to take that into account. Am I correct in that understanding?

Andrew McKEEGAN: That is correct. Noting that the last two iterations of the National Construction Code have gone very significantly to matters that relate to climate in many cases with the changes in the star ratings for residential buildings, which are starting to roll out, plus a significant amount of commercial environmental matters happening in the next sort of form of the construction code. So these things are already being captured in changes, but this really just embeds it to make sure it continues to happens continually going forward.

The CHAIR: One of the things that came up in earlier discussion today was the difference, I suppose, between the energy efficiency of the building itself and other matters related to siting and other planning and related factors. Where are those issues best dealt with in the broad building and planning framework? Is it in the construction code, or is it in the planning scheme?

Andrew McKEEGAN: I actually think it is a combination of both. It needs to be able to come to that. There are the environmental design standards that need to be thought through within the planning system, and we are currently consulting on a range of those that have been brought into the planning scheme through the work that has been done looking at the residential design standards. I also think there is a critical part in relation to the built form and how you actually then flow that through into the building system. I do not think it is one or the other, I think a combination of certain elements of that will sit within each of those systems.

The CHAIR: We heard some evidence earlier today that there had been an ESD standard submitted a couple of years ago for consideration. Have you got any update on where that consideration is up to?

Andrew McKEEGAN: Yes. There has been some really good work done within local governments in relation to those standards. The approach we have taken within the state is to look at all of those from the local government perspective and approach that from a statewide perspective, rather than sort of accept each of those standards within a particular planning scheme for one or a group of councils.

The CHAIR: So instead of doing it council by council, the intent is to do it at a statewide level in one go. Is that right?

Andrew McKEEGAN: That is correct.

Stuart MENZIES: There were 24 councils that proposed amendments for new ESD provisions in planning schemes. That was auspiced through the CASBE arrangements. That has got a lot of good quality work and ideas about the provisions. What we are working through is state standard provisions to apply across all 78 municipalities. A draft of those ESD provisions and how they interact with other residential design standards was recently released for consultation, and we are working to the finalisation of that.

The CHAIR: So instead of just applying to the 24 who asked, it can apply to everyone, which seems like a better outcome, and the draft that would do that is out for consultation.

Stuart MENZIES: It has been since September, yes.

The CHAIR: Okay. Thank you. Mr Ettershank.

David ETTERSHANK: Thank you, Chair. In terms of the climate change issues, I guess one of the things that has really struck us over the last two years or so since we have been doing the flood inquiry is just how rapidly things are changing. With the Maribyrnong, it went from 'It's all sweet; it's just a bit of a flood, just the weather' to the new flood modelling, which was pretty shocking. Now we understand that that flood modelling is also going to be out of date, because we have got a new ARR that coming out and that is going to change again. How do you keep pace with this sort of stuff? I think the council were talking about it being two years that they had put it, those proposals, and it is only just happening. How do you deal with that sort of pace of change and the fact that clearly every day there are more and more issues that are emerging?

Natalie REITER: We are going to have to have a more contemporary approach to the way we embed the flood modelling into our planning scheme. That is what we are discussing at the moment. Rather than having the actual flood levels in the planning scheme, does the planning scheme instead point to the best science available, as agreed by whomever, such that it remains real time, live, in line with that most recent flood

modelling and best science? Clearly, a model that relies on years of contemplation is not setting us up to make the best decisions or for people to have greatest awareness of their flood risk.

David ETTERSHANK: So would, for example, DTP look at the prospect of simply adopting the principle that prevention is better than cure? It the department contemplating simply prohibiting the building of residential properties on flood plains, for example? That would seem to me to be pretty simple.

Natalie REITER: My team are currently looking other jurisdictions for how they have modified the requirements for building in flood-prone areas rather than preventing because of the amount of land that may be denuded from being able to be built. If you have a look at – I am not sure if anyone else has brought it to this committee – the Brisbane River precinct, there they map, on a scale of one to five, various levels of inundation expected over time, and depending on that level of inundation there are varying rules around what you can build and how you build. But none of them preclude building, so that is a jurisdiction that we can look to to provide a strategic view that would then be sent over to Andrew's team to actually have enacted.

David ETTERSHANK: Okay. I think the NEMA superintendent was talking about Brisbane as an example of best practice for putting together catchment management plans. Picking up a point that was raised earlier, looking again, for example, at the Maribyrnong, where we have got I think four or five LGAs, if you can put a dyke around Maribyrnong township you will effectively move a lot of water out of the Maribyrnong LGA into the Moonee Valley LGA. Is it realistic to expect that individual councils can do catchment management plans, or does it actually require state coordination to make that happen given the sheer number of players and the timeframes?

Andrew McKEEGAN: I think, as I said earlier, there is no doubt that the state does play a role in working with each of those municipalities. The current system does require that in the sense of each council being accountable for their planning scheme. But you are right about the speed at which that change needs to occur, the fact that that goes over multiple council boundaries and the fact that working with local government in partnership is maybe taking longer than we would like because you want that information in and available, because the best thing the planning system can do is to make sure that the most up-to-date information is there so that when people are designing the built form response to that, they know the information is available.

It certainly, as I said earlier, was one of the recommendations of this committee in relation to the flood that the state look at its role in relation to those things, and we are certainly actively considering that right now as to how we might find a way that allows the best data and information to go in. For example, at the moment there is consultation that occurs, you know, at the catchment decision when that is done, whether it be by Melbourne Water or any of the other catchment authorities, and then is done again as part of the planning system. There have got to be better ways of efficiently – you know, still having people's right to be able to see and understand that information but to have it in the system in a much quicker way.

David ETTERSHANK: What are you proposing in that regard, and when is it going to happen?

Stuart MENZIES: In May 2023 we established the flood-related amendments program to assist and facilitate councils with the process of flood-related amendments, either through assisting with the direct work on the preparation of the amendments, and the cost of working those through the exhibition and finalisation process. That has given some insights of how to have a more streamlined approach, and certainly the response to the flood inquiry, the recommendations around the implementation of studies within two years and a state-facilitated process, will be responded to as part of that response to those recommendations. We are actively working on how that could work through the planning system, which has the powers and the structure to put in place such a regime.

David ETTERSHANK: Thank you.

The CHAIR: Ms Bath.

Melina BATH: Thank you. Thanks very much, Chair. I am interested to understand in DEECA whether there is a strategy around rationalising regional offices and closing regional offices or reducing their hours as sort of consolidating some knowledge back into more a metropolitan workforce, because I have certainly seen in the past, we will say, three or four years a reduction of opening hours in regions and also sometimes some of those offices being closed. Is that a strategy that the department is taking?

John BRADLEY: I might let Ms Jackson, who is responsible for the regions part of the department, speak to that.

Carolyn JACKSON: Thank you. There is definitely no strategy like that. You are right that there have been some changes to the reduction of office hours. Some locations might close on a particular day or the hours might be reduced. That is simply because the way that people interact with the department has changed. Previously people would go into offices and they would get their licences processed or get their questions answered face to face, but what we have found in a range of different office locations is that people are going online to get the information that they normally or previously would have gone into an office for, or they are contacting our customer contact centre. So the way that people are engaging has changed.

We do still have regional offices. We have got a significant number of them across the state. But in terms of that front of house where members of the public can go in, that has seen a significant decline. I know, to provide a particular example, at the Traralgon office on a particular day we are seeing one person or less attend that office.

Melina BATH: It is interesting. We have just heard about some of the initiatives that the government is doing or the department is doing in terms of agriculture et cetera. When someone needs a spontaneous discussion around these things, how is that managed to the better outcomes of, say, the farmer or the ag sector or the like?

Carolyn JACKSON: Obviously with regional offices we do not necessarily have a representative from every particular area at that location, so you will have particular areas at that location, but certainly the customer contact centre is open every day – I think 8 to 6 are the hours – and there are also emergency contacts outside of hours. But if people – and they do – call that number, they get connected straight through to the relevant person, so it is actually far quicker than getting in your car and driving to an office to get on the –

Melina BATH: Or getting on the train, if one exists.

Carolyn JACKSON: Or getting on the train. It is far quicker and more efficient.

Melina BATH: Great. We heard from Mornington shire this morning – 10 per cent of the coastline. We heard about damage to their infrastructure in the immediate term – over $8 million, $22 million and $70 million – if there is not action taken around coastal inundation and coastal erosion. These are real issues that are facing all of my Gippsland communities. How is the government balancing the needs of community? I would hate to think that the department is making the science fit the policy because there is a whole lot of policy work being done and the cape-to-cape resilience project et cetera et cetera. But then the community I think on many occasions feel that their needs are not being listened to or there is a retreat philosophy before all other options are assessed and workshopped. I want to understand what the government is doing and what the department is doing to support communities to stay in community and stop these vital assets being washed away. What is happening in this space? Because there are some very concerned people, and they are rightly concerned.

John BRADLEY: Thank you. It is a really important issue. I think it has been an area of focus for us since 2020 through to 2022 when we delivered the marine and coastal strategy. As part of that overall piece of work, there is Victoria's Resilient Coast plan, which is providing a direct guide for regional level coastal hazard assessments, but then there has also been significant support for individual programs as you mentioned, the cape-to-cape resilience project. There has also been the Port Phillip Bay coastal hazard assessment, which we invested $2 million in, to try to provide a more fine-grained localised understanding of that coastal risk. So there is direct funding for projects. There are 30 Victorian resilience coast projects that have been funded as part of $2.8 million to communities to help them navigate their way through thinking about the risks of erosion –

Melina BATH: How is that navigated and what is the best science available, not just in Victoria but in Australia to inform that?

John BRADLEY: Do you want to speak to the process?

Carolyn JACKSON: Yes, thank you. We absolutely do take into account the best science and international science. With things like sea level rise, that is an international process that then gets taken down into a

Victorian context. We are also taking advantage of technology. Previously we would have relied on slower methods; we now have drones that we can get up in the air and monitor the impacts on coast in real time and over time. So there is significant work that is happening. In addition to the planning piece that the Secretary has talked about, we do have annual budget allocations that are for on-ground work. We currently have 25 separate projects underway to respond to impacts on coast, so that might be renourishment, that might be groynes, seawalls et cetera. So there is very much on-ground activity as well as some of the longer term planning and risk assessment that is underway.

Melina BATH: Thank you very much. From the department's point of view, groynes and hard infrastructure protection as well as adaptation are not off the list as a philosophy?

Carolyn JACKSON: That is absolutely correct. In my group we have a team of people and they are running the on-ground works on a yearly basis. We are obviously doing adaptation works as well and sort of that longer term thinking and planning, but there are absolutely on-ground works occurring at the moment.

The CHAIR: Dr Mansfield.

Sarah MANSFIELD: Thank you. I might just continue with one more question on coastal erosion. Who has responsibility for managing that? A couple of years ago there was some indication that maybe CMAs would be given that responsibility.

Carolyn JACKSON: It is up to the land manager, so that will vary depending on which piece of land you are talking about. But the state government, and my group as an example, has a responsibility and so we are certainly undertaking works to address coastal erosion at the moment.

Sarah MANSFIELD: Okay. Under the *Marine and Coastal Act*, part of that was to bring about the transfer of some of the responsibilities to the CMAs and I think Melbourne Water. Is that something that did end up occurring? I think there was a delay to that being implemented.

Carolyn JACKSON: Not that I am aware of, but I am happy to take it on notice and come back to you.

Sarah MANSFIELD: Thank you. In terms of urban tree canopy – I might come to that issue – it is something that has come up quite frequently through this hearing. The urban tree canopy across Melbourne has, if anything, declined over time. In regional areas like where I am from in Geelong it is at best staying static despite goals to substantially increase urban tree canopy. Do you think we need mandated targets?

Natalie REITER: The short answer is probably yes, and we are hearing exactly what you are talking about through our plan for Victoria consultation. There are a range of reasons that the canopy is being eroded. In the greenfield areas one of the biggest criticisms is that the nature strips are being used to house all of the services. They are being called service strips, and they are not then providing an environment in which a tree would thrive. The City of Melbourne have been working very, very hard on their green forest strategy for more than 10 years and have had significant success, particularly in terms of the diversity of the species planted as well as the extent of the canopy, but many other councils are struggling to achieve the same level of success. We are looking at the LIDAR data to check and monitor the extent of the canopy, but it is a space where you will see a lot more action from us in the future. Do you have anything to add?

Carolyn JACKSON: I might just, if I can. There is the government initiative in relation to the 500,000 trees for a cooler, greener west. That is obviously, as the name suggests, planting 500,000 trees. We have planted just over 410,000 as of a few weeks ago, and the last stage is underway now. I think the applications for interested parties, if I can do a promotion, close early next month, and that will deliver the remaining 90,000-odd trees by the end of 2026. So there are definitely government projects that are looking to address some of those concerns.

Sarah MANSFIELD: Great. I think one of the issues that often comes up is – and it is challenging – protecting trees on private land. Rather than planting in new areas and new planting, it is existing trees on private land.

Natalie REITER: The City of Ballarat around 10, 11, 12 years ago started a significant tree register, and I was looking at the number – there are a lot of trees on that significant tree register over time. So that could be something that could be promoted more broadly.

Sarah MANSFIELD: Thank you. Another issue I think that has come up has been around housing that has been built in high-risk areas, whether it is new housing being built there or it is in an existing area where, say, flood risk changed overnight, like in Kensington Banks, and then people are left with challenges around insurance or costs associated with moving, retreat, all that sort of thing. Do you think there is a case for establishing a fund similar to what exists in Queensland that would help – I am not sure which department this might be best directed to – to deal with things like supporting the cost of, say, if it is flood risk, elevating, retrofitting and modifying it to be resilient to that potential future flood risk or even buybacks where required?

John BRADLEY: I do not know, Andrew, if you are closer to this than I am, but I think the short answer would be that we are certainly aware of the experience in Queensland and the approach that was taken there and the approach that was taken in New South Wales with their buyback fund in relation to Lismore. I think one of the questions as you look at the changing flood risk and the nature of the current incumbent properties that are at risk is just how to mitigate the most acute risks and what the overall cost of a program would look like for the community if you were to look at a fund based around those kinds of principles. There has not been any decision to progress a model like that, but again DTP might have a different lens or want to add to that.

Andrew McKEEGAN: John, I would probably echo that. I think one of the challenges is that we love being around natural environments, which does mean that that consideration would need to go across a very significant number of properties and areas. I think again that was put as one of the matters for consideration in relation to the flood inquiry. But I think John is right, it is looking at the quantum of that and other things that you could do in relation to that. I know one of the things we have been doing historically and one of the problems we have is around what the material information is you can provide to people to ensure that they know how to do adaption and actually manage the changes. If they are doing a small extension or changes or updates, they can do things like get power points to the right level or manage other things within a design context and look for ways in which we can try and address the problem you are talking about but not necessarily have a significant fund to be able to look at buybacks and do other things.

There are certainly steps being taken. As soon as that information is known, things change. That existing built form is much harder obviously than new built form. Obviously we can inform new built form, but within those existing environments, how do we give people as much information as we can around how they might adapt, the ways in which they might do that and the types of things that they would seek from their builders when they are looking at that investment and that property to try and get those things resolved?

The CHAIR: Ms Broad.

Gaelle BROAD: I have already –

The CHAIR: We are going around again if you have got any further.

Gaelle BROAD: That is fine. Excellent. I can add. I guess I am just interested in how the action plan talks about reviewing and improving energy infrastructure resilience to handle more frequent and severe storms. I know with solar panels there is the risk of a hailstorm, and we have seen wind turbines damaged and falling apart as well. There has been talk about the need for wind turbines to have that fire-extinguishing equipment within them. What work is the government doing in that space to make sure that the energy infrastructure itself is more resilient as well?

John BRADLEY: Thank you. If you are happy for me to speak to that, I think probably the most significant program of reform was that powerline bushfire safety program that I was referring to earlier that went through and looked assiduously at the acute risks in the electricity network, particularly in relation to fire starts. I mentioned earlier the solutions that were used in that program, and that included regulatory changes to make sure that there was appropriate management of the grid in relation to bushfire risk. But as we transition to a grid where there is the potential by 2050 for something like 40 per cent of power to come from the edge of the grid rather than coming from large centralised power stations, we are going to see the deployment of a lot more devices like solar panels, battery storage, vehicle-to-grid charging and other solutions, which are great for resilience where there is an opportunity for those assets to operate in an island mode and maintain supply.

There has been a lot of interest around the energy sector, including internationally, in how a more resilient grid can come from distributed resources, but equally then there will be new risks that come with the deployment of all of that new technology, including things like the confidence in the cybersecurity of software that is used in

those devices, issues around lithium ion batteries and making sure that they are well regulated and the battery disposal and recycling is appropriately managed and then looking at issues around, you know, the particular issues that you referred to in relation to the solar panel potentially having vulnerability to storms itself. We do need to kind of evolve the consumer education, the support for consumers and the regulatory framework as we see this incredible transition that is happening in the way energy is delivered, but overall a more distributed grid should provide opportunities for more resilience, particularly as we look at microgrid solutions and standalone power systems at the edge of the grid or local solutions for households.

Gaelle BROAD: Okay. Thank you. The regional community led adaptation plans – there is one that includes Loddon Murray. Are they available on the internet or are you able to share those?

John BRADLEY: Yes. The regional strategies were published. There were six of them, from memory.

Carolyn JACKSON: Six. Yes.

John BRADLEY: They should be available. We can get you a copy of them if they are.

Carolyn JACKSON: Or the link at the very least.

Gaelle BROAD: Thank you. That is great. Also, I have a particular interest in levees, because they are brought up with me so regularly. In northern Victoria there are a lot a lot of towns that do rely on levees for flood mitigation as we think about infrastructure and building resilience. I was at Barmah yesterday, and they were saying if they had left it would have been completely flooded, so they are certainly keen for a levee. And I know in Seymour it has been discussed; it has been discussed there. Echuca needed it, and around assets like the hospital in Rochester, for example. Infrastructure Victoria – I did bring it up with them – did a big report into infrastructure in Victoria, but it does not mention levees at all. Because they are so crucial in regional areas and at the minute there are a lot that are like Swiss cheese – you know, one break in a levee, rabbit warrens or whatever, it can cause huge damage. I am just interested in what work the state government is doing to inspect or maintain those state-built levees.

John BRADLEY: Thank you. I will make some comments, and again, DTP, feel free to add if there is anything you would like to. There are 4000 kilometres of levees that have been established over a hundred years, and many of them are in different standards of condition. The obligation to maintain the levee usually sits on the landowner, but we recognise that there are really significant levees that are providing important roles for community. There was a process where we funded the four northern catchment management authorities to undertake some studies and work through which of the levees are valued by the community and should be maintained, which of them are not appropriate and no longer need to be formally managed. We think they are going to conclude that process in 2025, and councils will be effectively the recipient of that advice through the work of the catchment management authorities as flood plain managers who prepare the regional flood management strategies. That hopefully gives us a systematic way of thinking through the myriad of different circumstances and will allow councils, as they meet their responsibilities, to take an informed decision to that funded program.

Gaelle BROAD: Thank you.

The CHAIR: Thank you. That brings us to the conclusion. Mr Ettershank wanted to put a question on notice.

David ETTERSHANK: If I could, please, to DTP. Clearly the built environment AAP is pretty central to everything we are doing here, and I gather it is your gig, you are the responsible department. I went back through the PAEC questionnaire, and there was actually no mention in the DTP questionnaire response to the built environment AAP. I am wondering, by way of a question on notice, if you could provide the committee with basically the progress update on the implementation of the built environment AAP. Thank you very much.

The CHAIR: Ms Broad.

Gaelle BROAD: Thank you. I just have a question on notice as well. In *Building Victoria's Climate Resilience* it talks about a case study partnering with Dja Dja Wurrung to advance self-determination and climate change adaptation. It refers to:

> The framework is a cross-cultural tool to support the Dja Dja Wurrung and government water managers to work in partnership on ensuring climate change adaptation initiatives align with Dja Dja Wurrung rights, obligations and Country objectives.

I am just interested to know if you could expand on what that is and give a bit more background about what has been shared.

John BRADLEY: Yes, very happy to.

The CHAIR: Wonderful. With that I want to thank you all for participating today. Obviously, you will get copies of the transcript for review before they are made public.

With that today's proceedings are closed.

Committee adjourned.