

# TRANSCRIPT

## LEGISLATIVE ASSEMBLY ENVIRONMENT AND PLANNING COMMITTEE

### **Inquiry into Tackling Climate Change in Victorian Communities**

Melbourne—Tuesday, 10 March 2020

#### **MEMBERS**

Mr Darren Cheeseman—Chair

Mr David Morris—Deputy Chair

Mr Will Fowles

Ms Danielle Green

Mr Paul Hamer

Mr Tim McCurdy

Mr Tim Smith

**WITNESSES**

Ms Kylie White, Deputy Secretary of Environment and Climate Change, and

Ms Sharn Enzinger, Executive Director, Energy Group, Department of Environment, Land, Water and Planning.

**The CHAIR:** Welcome to the public hearing. Before we begin there are some important formalities that I must outline. All evidence taken today will be recorded by Hansard and is protected by parliamentary privilege. This means that you can speak freely without fear of legal action in relation to the evidence that you give. However, it is important to remember that parliamentary privilege does not apply to comments made outside the hearing even if you are restating what you have said during the hearing. You will receive a draft transcript of the evidence in the next week or so for you to check and to approve. Corrected transcripts are published on the Committee's website and may be quoted from in our final report. Thank you for making the time to meet with the Committee today. Will each of you please state your full name and title before beginning your presentation. Kylie, over to you.

**Ms WHITE:** Kylie White. I am the Deputy Secretary of Environment and Climate Change in the Department of Environment, Land, Water and Planning.

**Ms ENZINGER:** I am Sharn Enzinger. I am an Executive Director in the Energy Group of the Department of Environment, Land, Water and Planning.

**The CHAIR:** It is a mouthful, isn't it? Terrific. Over to you, Kylie.

**Ms WHITE:** We might paraphrase it with DELWP, if you are okay with that.

**The CHAIR:** We would appreciate that. It will save us 20 minutes.

**Ms WHITE:** Thank you, Chair. We have a presentation to work through today, but I will be guided by you as to whether you would like to us to take questions during the presentation or afterwards. And if you would like stop me at any point, please do.

**The CHAIR:** No problems. The way we normally operate is we normally allow you to get through your presentation, unless there is a particular point that a member wishes to ask about, and they will simply jump in usually. But over to you.

**Visual presentation.**

**Ms WHITE:** Okay. Thank you for the opportunity to appear today before the Committee. As you would be aware, DELWP provided a detailed submission in September 2019 which included submissions from our portfolio partners of Sustainability Victoria, the Commissioner for Environmental Sustainability, VicWater, the Environmental Water Holder and Vic Catchments. The presentation I will work through today is informed by that presentation of September 2019 and has been updated with things since 2019.

To recap though, DELWP leads the Victorian Government's response to climate change, and that includes reducing emissions under government control and across key sectors to reach net zero by 2050; supporting communities and sectors to adapt to climate change impacts; and undertaking the transition to a low-carbon climate-resilient future in a way that is fair to communities and industry, minimises costs and risks and realises opportunities and shares costs equitably.

The presentation today will cover a number of factors, all of which are listed there on the slide in front of you. The brief presentation draws out the key focuses of working with communities to build resilience in climate impacts and participating in that transition to a net zero emissions future. Our slides today will cover the impacts of climate change already being felt in Victorian communities; the *Climate Change Act 2017*, which is our world-leading legislative framework to respond to climate change; the climate change adaptation program working with communities to respond to climate change; emissions reductions; and the renewable energies communities program, which is already underway.

Victoria is already experiencing the impacts of climate change, and this will continue into the future. *Victorian Climate Projections 2019* indicate decreasing autumn and winter rainfalls and higher average summer temperatures. In urban areas heat islands will exacerbate heatwaves, resulting in much higher—in some estimates, up to 10 degrees higher—temperatures in some higher density areas. Rising sea levels will also lead to greater storm surges and coastal inundation in low-lying areas.

Victoria is also contributing to the science in order to be able to better understand and then manage these impacts, and through funding over recent years has contributed to developing local-scale climate projections with CSIRO to inform decision-making and adaptation planning. These are publicly available.

Last year the climate science report was prepared and released; it gives an overview of observed and projected changes and a background of Victoria's climate drivers. And the Victorian Water and Climate Initiative, which is focusing on understanding how climate change will affect Victoria's water resources, is also underway. We have also conducted economic vulnerability assessments on the influence of heat wave events on sectors or regions across Victoria. So in summary, the impacts of climate change are already being felt by communities and DELWP is participating in and leading in the investment in climate science and impact assessments to better understand and be able to respond.

As I mentioned, Victoria is already experiencing the impacts of climate change. And in terms of bushfires, the significant impacts are those that we will be experiencing through frequency and likelihood—increased frequency and greater likelihood of bushfires; seasonality and duration, those longer hotter summers; fire weather, where we are more likely to see extreme weather events and more hotter days; and fire behaviour, which is the culmination of those things.

The fire season we are currently experiencing in Victoria is likely to become more frequent under a climate change scenario. The 2019–20 fire season in Victoria was influenced by an extended period of dryness and above-average temperatures. East Gippsland had already experienced three years of significant rainfall deficits, and forest types that had always been too damp to burn were dry enough to ignite and keep on burning. Fire seasons in southern and eastern Australia have been getting longer by starting earlier than they used to. Forest Fire Management Victoria, DELWP's partner agency fire agency, has been working on fires since July 2019, but this was then exacerbated when campaign fires commenced on 29 November—and they have only recently been contained.

There is now stronger evidence linking climate change to bushfire risk. A measurable and projected change in bushfire ignitions is now being seen. Increased fire season length, with that significant decrease in winter and spring rainfall and increased spring temperatures, have all combined to make for measurable and projected changes in fire danger days, which means that fire starts have an increased chance of being severe.

DELWP has a principal role in building resilience through the bushfire recovery process through delivery, coordination and collaboration with partners, including Emergency Management Victoria—more recently Bushfire Recovery Victoria—and with our other agencies and local government. Greater collaboration both within the department and across organisational boundaries with stakeholders and partners is a growing focus of our approach—to be able to form and contribute to the One-DELWP strategic framework and to work in closer collaboration with communities.

Our community charter remains central to what we do, and we will utilise our collective expertise across energy, environment, water, planning and local government to be able to respond to climate change and bushfire recovery processes. Our community charter, which I have just referred to, is a commitment to the Victorian community that we will be available and easy to contact, we will speak clearly and honestly, we will actively listen and seek to understand and we will be timely and consistent in taking action. And keeping promises to the community reserve is a necessary ingredient to building trust and delivering in partnership.

I mentioned we have a world-leading piece of legislation. The *Climate Change Act 2017* provides Victoria with a legislative foundation to manage climate change risks, maximise the opportunities that arise from decisive action and drive our transition to a climate-resilient community and economy with net zero emissions by 2050. It requires five-yearly interim targets to keep Victoria on track to meet this long-term target. It also requires the Government to develop a climate change strategy every five years which sets out how Victoria will meet its targets and adapt to the impacts of climate change, and that is from 2020; it requires adaptation action plans

from 2021 for key systems that are either vulnerable to the impacts of climate change or essential to ensure Victoria is prepared; it establishes a pledging model to reduce emissions from Government's own operations and from across the economy, also from 2020; and it establishes a system of periodic reporting to provide transparency and accountability and ensure community remains focused.

The policy objectives that are most relevant from the *Climate Change Act* are: promote and support the state's regions, industries and communities to adjust to the changes involved in the transition to a net zero greenhouse gas emissions economy and also to provide support for vulnerable communities and to promote social justice and intergenerational equity. The Act establishes those policy objectives and embeds them in government decision-making and also puts the community at the centre.

*Victoria's Climate Change Adaptation Plan 2017–2020* builds upon extensive consultation that was undertaken in 2015 and 2016 across Victoria's communities, and it enables us to consider how we could build and support capability and capacity within communities in order to be able to approach adaptation into the future. The plan intends to and does build a detailed understanding of Victoria's exposure to climate change risks and impacts, it catalyses partnerships for integrated and effective responses to climate change and it also intends to tackle those immediate priorities that have been identified to reduce climate change risk.

Community was at the heart of this plan, where priority support for vulnerable communities was identified as a key goal and community engagement as one of the six principles, and the plan recognises the central role of government in providing the tools and support for communities to adapt and help local communities build the capacity to manage risks.

Climate change adaptation occurs at the state, regional and local scale, and at the state scale we are required to deliver adaptation action plans by October 2021, being prepared for seven key systems—as identified there—that are either vulnerable to climate change impacts or essential to ensure Victoria is prepared. At a regional scale there are regional adaptation strategies to be delivered by December 2020 being developed to provide regional stakeholders with a framework to identify, prioritise, deliver and understand place-based adaptation action. At a local scale DELWP's local government capacity building program works with councils to provide training, guidance, support and resources to strengthen their capacity to deliver adaptation. The role of DELWP in this whole program is one of coordination, developing methodology, assisting departments and local governments and communities to understand the tasks, and working with stakeholders and with stakeholder engagement to look at these systems that are either vulnerable or likely to be impacted by climate change and to bring the full suite of levers that may be available and that could apply to those adaptation plans.

Just to note a couple of other significant areas that will also be impacted and in which communities will feel these impacts directly, the marine and coastal environment is a significant area and will be impacted by climate change matters. Climate change has been embedded inside the new marine and coastal policy that is the key and leading document of the *Marine and Coastal Act* introduced in 2018. We now have contemporary marine and coastal legislation which enables the consideration of climate change for all things that relate to marine and coastal environments. It will look at things such as coastal hazards—the built environment and planning for sea level rise, which will be in the order of 0.8 metres by 2100, and the combined effects of sea level rise on higher tides, storm surges, flooding, coastal processes—and how that will impact on local conditions, and of course how that will affect communities' use and communities' dependence on these areas. A recent report has indicated that thousands of kilometres of Australian beaches will be at risk from rising seas, and at the moment that will affect sandy coastlines—and we know that in Victoria our sandy coastlines have already been impacted.

We have a responsibility around emissions reductions and how we can achieve zero net emissions by 2050, and a number of ways have been worked through and are currently underway to be able to do that. Emissions reduction pledges are the primary mechanism that we have used to meet interim and long-term emissions reduction targets under the *Climate Change Act*. Local governments can choose to make voluntary emissions reductions under the Act. Currently 49 out of 79 councils, representing 83 per cent of Victoria's population, have already made pledges to reduce their emissions through Sustainability Victoria's TAKE2 program. The transition to net zero emissions will require action to reduce greenhouse gas emissions across all sectors of the economy, and we are currently working to identify policies and actions to reduce Victoria's emissions across all sectors. These policies and actions will be developed through the Victorian community and businesses and

need to be announced later in 2020. The TAKE2 program has over 13 000 Victorian businesses, schools, organisations and individuals who have contributed to that, and TAKE2 of course relates to keeping the global temperature rise to under 2 degrees.

There is a range of other programs, and a key one is community energy programs. Victoria's community energy transition is already underway, with the Victorian Government supporting communities to transition to a clean energy future. DELWP energy demand programs are supporting community capacity to transition to renewable energy through a range of programs, including the New Energy Jobs Fund, the Renewable Communities program and community power hubs. If you have questions about these, Sharn from our energy program would be able to help with answering these questions.

Significant funding has been put into the New Energy Jobs Fund, which is intended to support Victorian-based projects that will create long-term sustainable jobs, increase the uptake of renewable generation, reduce greenhouse gas emissions and drive innovation in new energy technologies. We also have a Renewable Communities Program to support community-owned renewable energy projects in local communities, and we have recently announced nine additional projects. There has been funding for pilot community power hubs in Ballarat, Bendigo and the Latrobe Valley, and those are situated on the picture of Victoria that you have in front of you, with many in regional locations.

Our future focus is around developing regional models for place-based climate change action and providing leadership for Victoria in emissions reduction, transition and adaptation to climate change. As outlined in our formal submission, DELWP is committed to supporting communities to be able to do both. Our future work is all about being able to recognise and support place-based climate action, working with local communities around capacity and capability and being able to work with communities to develop the actions that are relevant to them. We welcome the recommendations from the Committee and await the Committee's insights to build on our direction. And that is the end of our presentation.

**The CHAIR:** Terrific. Thank you, Kylie, for that detailed presentation. I have a number of questions, as I am sure my colleagues do as well. I just want to turn to the area of local government. We have heard some evidence that the *Planning and Environment Act* is somewhat dated, and within the context of that Act it does not actually mention climate change. What is your view with respect to the limitations of that Act with respect to the challenges of climate change?

**Ms WHITE:** The *Planning and Environment Act*, as you note, has been in existence for a number of years. You could see it as an Act that enables a whole range of considerations under that legislation, and I note that though the legislation does not acknowledge climate change in the document itself, the *Victoria Planning Provisions* that sit and underpin the *Planning and Environment Act* do consider climate change in a number of areas, and also significant planning documents such as *Plan Melbourne* also consider climate change principally and directly.

**The CHAIR:** Just within the context of those, you have noted some councils within their planning schemes are starting to consider those threats. Are there, either through rewriting the *Planning and Environment Act* or amending regulation or guidance notes or practice notes, ways in which we can encourage our local government to be more actively considering the consequences of climate change within the context of their planning schemes?

**Ms WHITE:** My understanding is local government have been quite active in considering climate change and have in some cases already provided information, and the *Victoria Planning Provisions* have already acknowledged it. I have got a couple of examples that I can refer to. There is a note around the *Victoria Planning Provisions* around the need to minimise the impact of natural hazards and adapt to the impacts of climate change through risk-based planning, for example, which currently sits in the *Victoria Planning Provisions*, so there are ways and means. I am not saying that it is complete, and I am also not making a comment around what would be the most effective or efficient. I am just acknowledging that there have been mechanisms put in place through a variety of tools that currently exist.

**The CHAIR:** Are there ways in which the *Planning and Environment Act* could be strengthened to encourage more councils to take up those opportunities?

**Ms WHITE:** I am sure there could be ways. I would have to speak to my colleagues if you would like a more detailed response. I do not believe that I am in a position to be an expert on the *Planning and Environment Act* today, but if you would like me to follow up on anything in particular around the changes or anything you would see—

**The CHAIR:** I think I would be, and I am sure many other Committee members would be, interested to see—you can take this on notice—what suggestions there might be from a department perspective about how we might strengthen the *Planning and Environment Act* to consider the impacts of climate change.

**Mr FOWLES:** And if I can give you some subheadings for your note: environmentally sustainable design; compliance with environmentally sustainable design—that is, determining that the built form is the same as the planned form in its environmental performance; and sea level rises, and how that is going to be accommodated within the planning scheme.

**The CHAIR:** Sea level rises, and I might just add an amendment to that as well: overland—like flood overlays and things like that.

**Mr FOWLES:** Yes.

**Mr MORRIS:** If I might interject on that point, the other thing, Kylie, is not so much in terms of sea level and appropriate siting and that sort of thing, but design issues and ratings and those sorts of things. There has been some debate in the evidence that we have heard as to whether the *Planning and Environment Act* would be the best vehicle for doing that or whether seeking amendments to the Building Code might be more appropriate, so I think it would be helpful if the department has done any thinking about that, that would probably be useful information to feed back into the process as well.

**The CHAIR:** And I have just one further question from my perspective in this particular space. We have heard evidence from council engineers in engineering departments that often when they are putting in place stormwater systems they are using one-in-100-year event flood modelling and all of those things, but it is kind of looking at the past as opposed to what climate change might mean for the future in terms of storm surges and in terms of less rain, but when we get rain it being more intense. It just seems that when infrastructure is being replaced, from a local government perspective, they are often replacing like for like as opposed to having an eye for the future. I am just wondering from DELWP's perspective whether there is guidance being provided to council as to what sort of engineering solutions might be put in place by a local government when they are replacing existing infrastructure or putting in new infrastructure to take account of climate change—whether there is any guidance around that or local government is making those assessments without any guidance from the State.

**Ms WHITE:** Can I take that on notice, please, so I can speak to my colleagues? That is a particular reference to engineering and other related matters, so I will take that on notice. In regard to information that has been made available, there has been the recent confirmation of things such as expecting sea level rise to be not less than 0.8 metres by 2100, and also the climate projections that have been done across all regions in Victoria in conjunction with CSIRO's data that has been provided in 2019. So there is more information becoming available, but I will have to confer with my colleagues about any advice that is provided to local government about futureproofing.

**The CHAIR:** Infrastructure, terrific. That is all of the questions I had in that space, so I am happy to throw it open.

**Mr MORRIS:** I have got a couple on the presentation, and I might go to one in more detail. On the third slide, headed 'Climate change impacts and Victoria's climate projections', what sort of temperature rise are we talking about to achieve these—1.5, 2 or more than 2?

**Ms WHITE:** It is 2.4 degrees.

**Mr MORRIS:** Two-point-four. So if we achieve Paris, we are going to be in a much better condition than what we are seeing here?

**Ms WHITE:** Yes.

**Mr MORRIS:** Okay. So that is obviously one of the challenges of the whole discussion, knowing we do not have that certainty of where it is going.

**Ms WHITE:** That is right, yes.

**Mr MORRIS:** The second question is on, towards the end of the slideshow, the slide headed 'Community energy programs'. There is obviously strong representation around the metropolitan area, and there are obviously some local government areas that appear to be embracing these initiatives enthusiastically, given the clusters there, but there are a whole lot more where there is simply no representation. What are the factors that are affecting that take-up?

**Ms ENZINGER:** I will need to take that on notice about why particular places have taken up the opportunity and others have not—so I will take that on notice.

**Mr MORRIS:** Whether it is a local government policy issue, whether it is incentives that may be more attractive to particular regional communities than others—I am not sort of looking at the map and reading something into it; I am just interested in what the factors are that are affecting it.

The other question that I wanted to go to—we met with a couple of small-scale agroforesters in the south-west of the state, just beyond Colac. They have done some terrific work, but they talked about a couple of key barriers to the potential for wider uptake. One is that Landcare funding cannot be used for planting trees that may be later selectively removed. I am not talking about planting a plantation and then clearing it in 20 years time; I am talking about one that we spent quite some time with particularly. It is a whole range of species. They are not necessarily indigenous; in fact they are not necessarily native. But it is a whole range of species, and they are being selectively harvested—you know, a tree here, a tree there. So the Landcare funding conditions were perceived to be a hurdle.

The other one is the native vegetation regulations, where in the case of at least one of these gentlemen the local council looked at an aerial photo and said, 'No, that's remnant vegetation. You can't take that out', whereas in fact he had planted the whole thing in the 1980s. Luckily for him, he had the aerial shots to prove that it had been a bare paddock at first. Is the department doing anything in terms of supporting small-scale agroforestry, small-scale tree planting, and do you have any thoughts on whether those barriers might be negotiable, whether there might be a way around them?

**Ms WHITE:** I think I would need to be able to expand the question and also speak to my colleagues in the Department of Jobs, Precincts and Regions to ensure that I get a broad response to your question about if there is any support around private land plantations or agroforestry development. So if I can take that part on notice, I will.

**Mr MORRIS:** Okay. To provide a bit more context, we are not at all talking about planting 40 hectares of blue gums or whatever. This is about just simply getting a lot more trees into the working landscape of a farm, so investing in vegetation along water courses, in windbreaks—

**Ms WHITE:** But then being able to harvest part of it?

**The CHAIR:** Not clear-felling the whole lot—selectively taking different species out and then rejuvenating so that you have got, over a period of time—

**Ms WHITE:** I am not aware of programs that currently exist. However, when it comes to the native vegetation regulations, for areas that have been planted for the purposes of timber production or other production, I believe there is no impediment to those being cleared. I acknowledge that there may have been a situation in one of those where it was not clear to the local government authority how that vegetation would be classified, but native veg regs do not preclude the harvesting of planted material.

**Mr MORRIS:** Yes, I think the issue here is that it is a different form of planting, if you like. It is working within the landscape. The second property that we saw particularly—I think he had got up to about 10 per cent?

**The CHAIR:** Yes.

**Mr MORRIS:** About 10 per cent of the farm was planted down, whereas in his grandfather's time there was virtually nothing but a few rows of cypress.

**Ms WHITE:** And then he has been—

**Mr MORRIS:** It improved the carrying capacity of the farm enormously. I think over on the right-hand side was the plantation of someone else on the next property; it was just chalk and cheese, entirely different concepts, but the regulations that we quite rightly have in place to protect native vegetation were threatened with imposition if not actually done. It is just a disincentive to the average farmer to undertake this sort of work if they do not have the flexibility to continue working the farm.

**Ms WHITE:** I understand, yes.

**Mr HAMER:** Can I quickly just ask a question about your map—I think it is on page 12—of the community energy programs. I am just interested that there is obviously a concentration in and around Melbourne. We have probably heard quite a lot through the Committee about some of the activities that are going through in regional Victoria but less so about the ones that are actually occurring in Melbourne. Certainly I am aware of ones that are happening in my local area. Would you be able to just elaborate on some of those ones that are happening in the metro area?

**Ms ENZINGER:** We will provide you with that list. We do not have that list here, but we can do that for you.

**Mr HAMER:** Thanks.

**The CHAIR:** So sea level rise—obviously there has been, I think, across the Victorian planning scheme a requirement for local planning schemes to reflect 0.8. Obviously in key parts of the coast there is a lot of publicly owned infrastructure that is built on coastal land that is below 0.8. It could be anything from water pipes, sewerage systems, stormwater systems, public parkland benches and all of that, to roads, power poles, telephone poles, gas lines—you know all that stuff. Is there a comprehensive database and a comprehensive understanding as to the value of that infrastructure, what will need to be moved, at what point, what communities at this stage might be in harm's way and what the costs might be potentially of engineering solutions to protect those communities? Is there a comprehensive understanding of that across the Government at this stage? And if not, what work might be undertaken to build that comprehensive understanding? It occurs to me that it is potentially hundreds of millions of dollars. How advanced is that work?

**Ms WHITE:** I am not aware of a comprehensive or collated centralised database of all that infrastructure. I am aware that particular owners or managers of the infrastructure have commenced or are in known stages of developing their understanding of infrastructure that is at risk. I am aware that Parks Victoria, for their coastal properties, have done some of that work. It may not be complete or comprehensive. And some of the entities that have those essential services or other infrastructure that may be impacted would have their own understanding or their own database of those assets that may be at risk. But I am not aware of a central one.

**The CHAIR:** From DELWP's perspective would it be useful, perhaps, through some supporting legislation, for a database like that to be built up over time? It is good to hear that some authorities might already be starting to undertake that work, but clearly this potentially has a significant liability on Government down the track. From your perspective, is that a piece of work that would be useful moving forward?

**Ms WHITE:** I think any database or data management system that you have that outlines key infrastructure and the risks would be useful. Local government authorities are probably also in that position of seeking to have an understanding of their current infrastructure that is at risk, but possibly also to be more useful it could be about understanding the replacement program or the new considerations around that infrastructure going forward. That is how I think that we would get best value from that kind of database.

**Mr FOWLES:** Kylie, can you tell us whether your area was part of the thinking or made a submission internally inside Government in relation to the establishment of the Great Ocean Road authority?

**Ms WHITE:** Our department now is the department responsible for implementing the Great Ocean Road [Coasts and Parks] Authority.

**Mr FOWLES:** And what view did you take about how our climate change objectives were going to be addressed by that authority and whether you think that is a positive measure in relation to meeting those challenges?

**Ms WHITE:** The creation of the Great Ocean Road [Coasts and Parks] Authority enables that whole region to be able to be treated as one comprehensive management area, which in the past has often been hard to do—looking at it, if you like, from end to end. It is not only about dealing with and understanding the pressures of tourists and being able to make tourism activities as enjoyable as possible, but how do we provide for infrastructure into the future? And I see there are great advantages in the Great Ocean Road [Coasts and Parks] Authority being able to do that in a comprehensive way and to think strategically about what the impacts of climate change are on that environment and how they can best manage it. I think there are real opportunities in being able to have that holistic look.

**Mr FOWLES:** So given the particular sensitivity of our coastal interfaces to sea level rises—given that much of that rise is already baked into the system—do you see that model as being something that might be explored beyond the Great Ocean Road?

**Ms WHITE:** I am not aware of other planning or other possibilities for other areas than the Great Ocean Road.

**Mr FOWLES:** But is it your view that that might be a useful way of addressing some of the infrastructure and other planning issues and other issues that are attached to areas like, say, Lakes Entrance?

**Ms WHITE:** Look, I do not think I am in a position to be able to comment about whether the application of that kind of model works in other locations, but definitely given the fragmented nature of the ownership, the management, the number of local government areas and the communities in the Great Ocean Road environment you can see that that collection or comprehensive approach works really well there. The East Gippsland area is different, and maybe it would be appropriate to consider a different model.

**Mr MORRIS:** Can I just jump in? Mr Fowles is essentially asking Ms White to comment on policy issues in extending that template. I know she cannot answer it, and I do not think we need to ask her.

**The CHAIR:** Point made. Can I just ask: we have not heard a lot of evidence yet in terms of Victoria's alpine regions. Obviously they are special places from a tourism perspective. They are significant economic generators. From my understanding of the science it is likely I think that we are going to see less snow.

**Ms WHITE:** Yes.

**The CHAIR:** What science has been undertaken and what planning has been undertaken from an alpine perspective?

**Ms WHITE:** We have the regional climate projections that were released in 2019, which give region by region the best information that CSIRO has been able to gather, in order to get each region advice about climate impacts and what they might need to adapt to over time. The alpine resorts themselves, though, are also undertaking a whole host of planning around the impacts of climate change, including reduced winter rainfall that leads to less snow, and about the impacts that they may need to manage, both growing their businesses outside of a snow season but also how they best manage the snow seasons they will have into the future.

**The CHAIR:** Okay. I might move to catchment management groups. We heard some evidence, I think from the north-east catchment management group, that they had undertaken—

**Mr FOWLES:** From the authority or one of the—

**The CHAIR:** No, from the catchment management authority, if my memory serves me correctly. They had more detailed heat maps and rainfall maps. I think they had been in receipt of some grants, and I cannot remember the details now, which enabled them, in partnership with CSIRO, the Bureau of Meteorology and I

am going to say Melbourne University—it was some university—to almost district by district across their catchment map that out. It occurs to me that that would be a useful tool for all of the catchment managements. Has DELWP undertaken that work? Are you looking to do some future work around that so that communities can literally drill down to their community to see heat change and rainfall pattern change? It just occurred to me from their presentation to us that that was really useful information. I think they projected out over a number of decades, so you could see the change over the coming years so that—and I will just use farming as an example—farming communities or vigneron or whatever could start to put in place change in their own landscapes, which will be more productive for 10 years, 20 years, 30 years or whatever. They could start to use that as a tool to assist them economically. I know that was a long question.

**Ms WHITE:** Let me start with the climate projection work that we worked on in collaboration with CSIRO, utilising of course the Bureau of Meteorology's data, that we released in 2019, which does include the most recent data around climate projections looking forward to 2100. I would just need to check that it goes as far as 2100, but it does look for the decades going forward. The regional scale plans did then come down to each region. As more data becomes available then of course it would be good to be able to provide that more scalable local data. I have not seen the north-east product, but I would consider that it has used the data that we have been able to also utilise in those regional plans and local plans.

**The CHAIR:** Certainly from their presentation it would enable vigneron and others to be able to predict where the climate is going to go and start planting crops that are more appropriate for 15 or 20 years rather than now, given that a lot of things, like vines—

**Ms WHITE:** It takes time.

**The CHAIR:** It absolutely takes time, and it has underpinned local decision-making. And yes, it will be updated, I hope. But is there a dataset, or do you think it would be useful if there was a statewide dataset, that every few years, as the science evolves, gets released across the whole of the state? It is a relatively confined land space.

**Ms WHITE:** I think there are some real benefits as I said in being able to, if you like, refine the analyses or the projections going forward as new data comes along. So we would be supportive of being able to do that. I also note, though, my summary, and the slides, where I talked about drier springs and drier winters, and when we do get rain it is more intense and more damaging—those impacts and how they will be spread across the state. If you like, that is Victoria as a whole—more storms, more lightning and dry lightning storms, which often turn into bushfires in remote areas. All of that data is in the current regional climate projections, but as more data becomes available, as we can make it more localised, I think there are real advantages in being able to provide that information to communities.

**Mr FOWLES:** Is DELWP the best agency to lead that work, to provide that granularity? Because whether it is siting decisions around dams or the width of drains or crop selection decisions—all of that—we need granularity in that dataset. Is that work best done by DELWP, do you think?

**Ms WHITE:** The granularity is best done in association with the experts, so that is with researchers, CSIRO, the Bureau of Meteorology around the data and making the data available, and then how landowners or landholders make decisions I think that is their responsibility—no, it is for them to make decisions. But there are a host of experts. Whether in our role, as we do now, we can coordinate the data and the information and be able to present it in a way that communities can utilise. I think that has been a role of DELWP, to be able to do that on behalf of Government.

**Mr HAMER:** DELWP also retains responsibility for *Plan Melbourne* and I guess all the future development of Melbourne over the next period of time—probably a different area, I suspect.

**Ms WHITE:** Yes.

**Mr HAMER:** And there has been a lot of talk about where Melbourne might be in 30 years time—the population, what that might mean for density. It gets back to what was raised earlier with ESD principles. I am wondering if there has been any work done by the department in relation to I guess the specific environmental impacts of what you might call a building form versus another building form. ESD I would say might be looked

at at the individual building level but more at a global level. I would have thought that the concentration of apartments, say, closer to the CBD or in my area in Box Hill may contribute to the heat island effect and those types of things. Has there been any work done in terms of some of the potential climate change or environment impacts of those policies?

**Ms WHITE:** *Plan Melbourne* has a number of actions that relate to climate change mitigation and adaptation. A number of them include things such as cooling environments, the use of vegetation and other forest cover, urban forests and so on and being able to incorporate emissions reductions as well in infrastructure and other related things. So there are a range of matters in *Plan Melbourne* and a number of actions. I can provide back to the Committee all of the things that are underway or all those that are pointed to as future actions that need to be undertaken, if you would like.

**Mr HAMER:** Yes, that would be good. Thank you.

**The CHAIR:** I have got a question on Victoria's water security from both an agricultural perspective and also for watering populations. Obviously over the last decade or so there has generally been a lot less water available going into our catchments and we have seen our catchments running relatively dry in an historic context. I am assuming that the climate science is suggesting that that is going to be a continuing problem—that we have less available water to harvest for our catchments to support our communities. We obviously also have Victoria growing historically relatively rapidly. We have a lot of water authorities that are doing a lot of local planning. I am just wondering from a climate change perspective what work the department is doing with respect to assisting water authorities in providing water security for our communities. That is the first part of the question. I might let you answer that and then I will turn to agriculture.

**Ms WHITE:** The water sector have been pretty active around working through adaptation to climate change. I can point to just some brief information, but more detail I will need to seek from our catchments and water group, if you would like that. They are currently implementing a whole range of actions—I understand up to 20—to address climate change, and it is under the *Pilot Water Sector Climate Change Adaptation Action Plan*. That plan recognises the need for the water sector to adapt to more likely intense and frequent emergency events and also to deal with matters relating to the change in climate and the change in our experiences of drier seasons. The ones that I know of that are of particular relevance now, there are three actions that relate to emergency management plans in the context of what climate change may mean and what they will need to do to adapt; how that would be for workforces and how they would need to gain new capability and capacity and training requirements, noting those changes in climate change and emergency-type events; and also an action to identify and manage the key risks between water and other critical service sectors.

But there is more that they are currently doing, and they have also worked in a collaborative way recently around emissions reductions where 13 of them have joined in buying power from a wind farm—from a renewable energy source; I would need to check if it was a wind farm or a solar farm. But they have also worked to reduce emissions of their operations as well, so not only doing adaptation works but also emissions. Further detail I would need to check with my colleagues.

**The CHAIR:** Terrific. Just on irrigation. Again, I suspect climate science is suggesting that we again will be capturing less water for our irrigation sector, because less of it is falling effectively. Obviously over the last couple of decades there has been a lot of investment made in upgrading our historically pretty old, leaky irrigation infrastructure so that we have got more of the water that we capture available to be used. It occurs to me, though, that a lot of the low-lying fruit in that space has been addressed. What work is the department doing around looking at how we can continue to see better use and more productivity out of the water that is available, given that there is going to be generally less water available for the agriculture sector?

**Ms WHITE:** I will have to take that one on notice, Chair.

**The CHAIR:** Okay, thank you. Colleagues, any other questions?

**Mr FOWLES:** I just had a question. If you would not mind I guess summarising for us—around the community engagement piece you said that vulnerable and marginalised community voices need to be heard and you said that you support vulnerable communities and promote indigenous intergenerational equity and social justice. My question is: how are you doing it?

**Ms WHITE:** There is a range of ways in which we are. One is around consulting with communities in general and being quite broad in our engagement. During 2015 and 2016 there was significant engagement right across the state in order to develop the [Victoria's Climate Change] Adaptation Plan 2017–2020. In addition to that, we currently have a partnership with VCOSS [the Victorian Council of Social Service] and we contribute to and support VCOSS in being able to develop and work with us around programs to ensure that vulnerable communities are not adversely impacted by the methods we use for adaptation planning and emission reduction but they are also able to engage in those community programs.

**The CHAIR:** I have exhausted my questions. You have obviously given an undertaking to provide some further work to the Committee, which we would appreciate.

**Ms WHITE:** My colleague, if you have got the time, Chair, can respond to a couple of those now.

**The CHAIR:** Yes, fantastic.

**Ms ENZINGER:** My apologies for earlier, but just in relation to the question that the Committee asked about the metropolitan cluster, I will just give an example of a couple of projects. One is the Moreland Energy Foundation, so that is funding that has been provided for solar panels for low socio-economic homes in the metropolitan—Moreland—area. Another example of a metropolitan project is Solar Owl, and that is a technology company that makes solar-powered lights stands for construction sites in the state. So they are two examples of funding that has been provided.

**Mr HAMER:** Okay, so it might be metro-based but applied across the regions.

**Ms ENZINGER:** But metropolitan-based project. Those are two examples, and we will provide the Committee with a further list of metropolitan examples.

In terms of the other question that was asked by the Committee around some of the clustering in regional areas of the state, if we refer again to slide 12 of the presentation that Kylie provided today, which had the heading 'Community in the Program', a question was raised around some of the clustering. We can see from the slide that some of the clustering occurs in those areas such as the Hume and Ballarat regions. That is really because the application itself, in terms of some of the funding under the New Energy Jobs Fund program, is very much based upon the applications that we have received, as you would expect, and assessment against the criteria for those projects, but they are influenced by activities at the community level, so some communities, as you would expect, are quite advanced in their engagement and thinking with the local community around energy projects.

That is spawned from the community power hub pilot projects, which are run by Sustainability Victoria. Those pilots have been run in Bendigo, Ballarat and also the Latrobe Valley, so again the interest in the local community is probably one of the factors that we would expect to see applications coming through and which may prove to be successful when matched against the criteria. We will provide further information though to support that as well.

**Mr HAMER:** Terrific.

**The CHAIR:** Thank you for your time.

**Witnesses withdrew.**