T R A N S C R I P T

LEGISLATIVE COUNCIL ENVIRONMENT AND PLANNING COMMITTEE

Inquiry into Climate Resilience

Melbourne – Wednesday 6 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

Garnet Brownbill, and

John Englart, Natural Turf Alliance.

The CHAIR: Welcome back to the proceedings of the Legislative Council Environment and Planning Committee's Inquiry into Climate Resilience in Victoria. We are joined now by representatives from the Natural Turf Alliance.

Before we begin I will remind you that all evidence that 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. You will be provided with a transcript of proceedings following the hearing, which will be ultimately made public.

Welcome, John. Welcome, Garnet. It is great to have you here. My name is Ryan Batchelor. I am the Chair of the committee and a Member for the Southern Metropolitan Region here in Melbourne. I will invite members of the committee to introduce themselves.

David ETTERSHANK: Hi. David Ettershank, the Deputy Chair of the committee, and I represent Western Metropolitan Region in Melbourne.

Sarah MANSFIELD: Sarah Mansfield, Member for Western Victoria.

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

Wendy LOVELL: Wendy Lovell, Member for Northern Victoria.

The CHAIR: And online –

John BERGER: John Berger, Member for Southern Metro.

Jacinta ERMACORA: Jacinta Ermacora, Member for Western Victoria Region.

The CHAIR: Thanks very much. If you two could each state your name and the organisation you are appearing on behalf of for the Hansard record, then I will invite you to make a short opening statement.

Garnet BROWNBILL: Of course. Garnet Brownbill from the National Turf Alliance.

John ENGLART: And John Englart. I am a member of Climate Action Merri-bek, which is a member of the Natural Turf Alliance.

The CHAIR: Thank you. Do you want to make a short statement, and then move to questions?

Garnet BROWNBILL: I would, if I could. That would be fabulous.

Visual presentation.

Garnet BROWNBILL: Today the Natural Turf Alliance will address the evident and emerging risks posed by synthetic turf, artificial grass, rubber crumb soft fall, wet pour and other such synthetic ground-covering materials utilised within private spaces, community parklands and public recreational areas. The Natural Turf Alliance Incorporated – the NTA – has an understanding that the continued utilisation of synthetic turf and other synthetic ground-covering materials is a climate maladaptation that locks communities into plastics and fossil fuels and poses numerous human health and environmental issues that reduce the climate resilience of communities moving forward.

As a peak community-based organisation of over 30 community environmental groups and non-government organisations across Australia, the NTA have worked tirelessly in raising the awareness and understanding of the degenerative impacts that are brought about by the continued utilisation of synthetic turf or covering materials. Instead the NTA seeks for the utilisation of sustainable, ecologically sound natural resources and infrastructure elements within both our private and public sectors that provide greater climate resilience for future communities and strive to mitigate the main risks facing the built environment from climate change.

In removing the utilisation of synthetic materials in both public and private spaces and instead opting for more resilient natural infrastructural elements, there is an obvious understanding of how this would both mitigate and prepare the Victorian government in becoming more climate-resilient. The utilisation of natural infrastructure as opposed to man-made petrochemical products would remove evident barriers when installing, retrofitting and upgrading existing and proposed infrastructure projects as well as reduce the risk and insurance barriers faced by local governments.

The failure of existing planning regulations to identify the risks and long-term impacts generated by synthetic turf ground-covering materials such that they ensure the protection and mitigation of climate change impacts is easily identified. Increased urban heat impacts, rates of production of greenhouse gas emissions, vast generation of plastic pollution, increased flooding impacts, greater impervious surfacing, soil degradation, biodiversity loss, the removal of carbon sinks and loss of natural grassed parklands, as well as a plethora of other impacts, clearly need to be addressed within planning regulations.

In preparing the Victorian government's built environment and infrastructure projects the utilisation of more sustainable ecologically and naturally sourced resources would better protect and ensure greater safety for the community through future climate disasters. It is the belief of the NTA that given the far-reaching impacts of climate change on all aspects of life into the future, further investigations are needed and must be undertaken so that there is a greater understanding of the significant risks and impacts derived from and generated by the continued utilisation of synthetic ground-covering materials.

The Victorian government has an opportunity today to be at the forefront and lead in developing and implementing policies that could significantly reduce the harms generated from synthetic ground-covering materials and set a precedent for environmental stewardship and greater climate resilience for future generations. Thank you.

The CHAIR: Thanks, Garnet. John, do you want to –

Visual presentation.

John ENGLART: I have got a slide presentation that I sent through this morning. I am going to speed through some slides.

The CHAIR: Very quickly if you can, so we can get into questions.

John ENGLART: I come from a climate advocacy background. Over the last 20 years I have attended four UN climate change conferences as an NGO observer. I got involved initially in the problem of synthetic turf at Merri-bek, in which they had a sports surface needs analysis and a proposed pipeline of eight synthetic turf projects. I asked a question on how they would deal with the urban heat impact.

Then in 2020 they had a conversion about to go ahead at Hosken Reserve in Coburg North. It was a large campaign by the local community, and I actually spent the best part of four or five months researching the science of synthetic turf and its environmental and health impacts.

Next slide. I am not going to go through, but there is a whole list of what I think is wrong with synthetic turf. It is derived from the fossil fuel petrochemical industry; it produces greenhouse gas emissions during all stages of the life cycle; it is problematic to recycle; it produces microplastics pollution, both water-based and airborne; there is a heat health impact and it affects thermal comfort; it adds to the urban heat island effect; it replaces natural grass, soil organic carbon sequestration and oxygen production; it reduces soil biota; there is an impact on insects and the local biodiversity, especially birdlife; it compacts the soil, increasing stormwater run-off; and there are toxic chemical leachates from not only the rubber infill and the organic infill that they use but also in fibre. I have listed them there. There are more there.

The CHAIR: You can probably give us the slide deck. We will have the slide deck as well, so we can read it.

John ENGLART: You will have the slide deck to go through. I particularly became aware a couple of years ago that PFAS is used to manufacture synthetic turf. I emailed the Victorian EPA and asked them to test for the chemicals, including PFAS, and they declined. But they said, 'If you think there is an issue here, you should take all due precautions.' And yet they are not willing to test.

So I have become an accidental expert on artificial turf, not something I was looking to do, because I was trying to focus on the global climate crisis, biodiversity crisis and plastics crisis that are happening. So it is part of that, and I have been trying to raise this as not only a council problem; this is a state government problem. But it also needs to be regulated at the federal government level, because PFAS is a controlled substance that is imported to Australia that the federal government needs to regulate.

The CHAIR: Okay. All right. Thanks very much for that. I might start. One of the key issues we are looking at in the terms of reference of this inquiry is the way that our built environment needs to become more resilient to deal with changing climate. A couple of the things that we have heard evidence about from climate scientists are, one, that we are going to get hotter days and also that we are going to get more intense rainfall events. Obviously it seems to me that increased prevalence of artificial turf, particularly in residential contexts, might have impacts on those two. What do you think the biggest impacts of artificial turf in a residential context would be with respect to these changing climate norms?

Garnet BROWNBILL: To go to the first point, obviously the urban heat island effect. To give you some idea, Sebastian Pfautsch, who is a heat expert utilised by the DPE in New South Wales, recorded an artificial turf field at 88 degrees Celsius on a 28-degree day. In western Sydney he has recorded it at 93 degrees. This is soft-fall material as well as artificial turf. So the things that we are putting under kids' parks are in excess of 100 degrees Celsius. That is clearly unsafe. To give you an idea, in Western Australia there was a childcare centre that did a fire drill. The kids did not have their shoes on. They got second- and third-degree burns just by walking 4 metres across that surface.

The CHAIR: Across a soft-fall –

Garnet BROWNBILL: It was actually an artificial turf.

The CHAIR: Artificial turf.

Garnet BROWNBILL: Actually they had both, sorry. Heat is clearly going to be one thing that is catastrophic I think in terms of where we go, both public and private. Parklands are where you go to escape the heat. You go to the natural environment to cool down. All of that is being removed. In play areas with kids – 'Let's go out and play'– you are putting them onto a surface. We have had reports in Newcastle where a child came down the slide and started crying. The mother was going, 'Well, what's the problem? What have you done? You didn't bump.' The child's feet were actually being burnt by the surface which the child was standing on. So that is the level of unknown and the concern that I think exists with this product. It is hotter than bitumen, and it is hotter than concrete by 30 degrees.

The CHAIR: Currently what standards regulate its use?

Garnet BROWNBILL: None. There is absolutely nothing.

John ENGLART: Bunnings imports it and sells it, and anyone can put it in their backyard or front yard. We have sporting clubs that say, 'We need to increase the capacity of our sports fields, so we want to get a synthetic turf put in.' They go to council. Council have not got the knowledge or expertise to properly assess it, so they say 'Yes, it sounds like a good idea.' They ask for a grant from the state government, and there are some processes, but usually the grant is forthcoming. And so all this happens with a whole lot of knowledge gaps about the impacts of synthetic turf and its climate resilience.

Garnet BROWNBILL: To go back to your question, there are non-existent Australian standards for this product – absolutely nothing. Vietnam, Malaysia and China – it can come out in a container load. To give you an idea from our own work, we had a shipping container turn up. It was jam-packed to the top – no standard,

nothing written on the side of it. It just appeared; layers were falling out everywhere. There is nothing there to actually regulate this industry and to ensure that the chemical composition of this product is compliant with anything. So yes, I think that is one of the key features that needs to be able to be put forward here: this product has to be regulated. What is in it? We would have no idea. And that was supported actually by the chief scientist's report, which indicated that the knowledge gaps in the chemical composition of synthetic turf are something we really need to focus on.

The CHAIR: Mr Ettershank.

David ETTERSHANK: Thank you, Chair. Thank you for coming along today. I think everyone appreciates the convenience and potential low-water use of synthetic turfs, but personally I think they are a cancer and probably cause cancer.

Garnet BROWNBILL: Yes, possibly.

David ETTERSHANK: But putting that aside for a moment, could you elaborate just briefly – I want to get a couple of question in if we can – about the life cycle of synthetic turf and also its recyclability.

Garnet BROWNBILL: Yes. I am happy to take that one. Currently or only very recently – sorry, I will go back. In terms of the recyclability, that is again another area where we I think are failing, and that is internationally. Essentially there is one company that is claiming to be, and is probably recognised as, able to recycle the full componentry of the synthetic turf – the blades, the backing, the infill, the sand. That is claimed again to be undertaken in Australia through RE4ORM, a sustainability initiative, where the Victorian government provided $500,000 for a plant in Barnawartha. Everything we are hearing about that plant is that it is incapable of actually recycling the synthetic turf that is appearing. These plants overseas are running 250,000 hours a year. This plant is running 7500. They are starting up the machines, turning them off, so it is just unfathomable how this plant can be doing what it is claiming to do.

David ETTERSHANK: And for the rest of the product that is just not recyclable at all.

Garnet BROWNBILL: Not recyclable at all. Often what happened is 'recyclable' becomes 're-use': 'Hey, the hockey club have torn up their field. Come and grab a piece.' You know: 'Hey, there's a farm we can dump it off to here.' In the States there are massive cases where there is substantial landfill now being found. In Germany, even, they had cases where they were basically paying exorbitant amounts of money for it to be recycled, and they followed it, tracked it, through a documentary and found a mountain of synthetic turf just sitting in this backyard, effectively.

The claims of recyclability – because it is made of multiple plastics, it becomes incredibly difficult to recycle. It has PFAS material that they are only now becoming aware of, so that becomes, you know, nano and microplastics. Then I think some of the products that they are onselling are actually contaminated themselves. The sand will have plastic particles all through it. You rinse that all off, there is a rubber crumb – they are claiming to be able to – but the crumb breaks down. It is deteriorating. It is not like virgin product again; it is not just fresh out. It has all these other contaminants, and in urban settings you have got pollution, you have got diesel, you have got car particles landing on these surfaces and being absorbed. Studies in Singapore have indicated there are heightened chemical compositions – and they actually have no idea where they can find that material from; it was not there originally – being found on these fields.

David ETTERSHANK: Okay. So if we accept that it is a pox, could I just ask you, then, what you would like to see the state government do specifically to try and control this. Could you elaborate on that a little for us, please?

Garnet BROWNBILL: Definitely. I think for me personally, as we said, regulate the industry in terms of standards, ensuring that the product is there. In terms of where it can be placed and put, it needs to really be analysed and assessed. I think the government should be placing its focus on holistic natural turf practices. Let us look at the natural turf that we have – the cultivars, the soils, the drainage: all of these things just get swept aside. There was a report undertaken by DPE New South Wales that indicated councils are seeing this as austerity funding; they do not actually invest. 'Every year we're just going to chuck money at it. We don't really care. We know next year it's going to get trashed.' There is no long-term solution, no long-term ideology

of how we can maintain our fields to keep the hours of use that we need. I think those are two really specific areas.

I think other thing is education. I am the same as John: I fell into this, essentially, because my local park was plastified. What the heck? This is not acceptable. You have got a field 4 metres from people's homes. It is only through a dear friend of mine in the States having a child in their care who passed away due to heat exertion that some of these concerns started to be raised: 'What is this product? Why are we putting it in? Why are we ripping up the grass? Let's make garden beds and grow stuff.' Here in Australia, if we cannot grow grass, there is something seriously wrong. If we cannot do that properly and actually really invest our time and our energy into that, I think that is a real worry.

The other thing you have got to understand is these fields were designed for snow and ice – European winter and American climates. That is what they are designed for. Sure, you are probably not going to be able to grow grass while the snow is falling, so you are going to need a field. That is where they have come from. We have just embraced that technology thinking, 'Yeehaw, this is fantastic,' but we are not that climate. We are not that place where we need to have that. If we actually maintain our fields and look after them, I think we are going to be in a much better place.

The other thing I think that no-one every speaks about is: what information are we providing to our sporting groups and our associations so that they can look after and maintain and enhance their own facilities? You know: 'Let's take the field and move it 4 metres to one side.' Suddenly you do not have the wear and tear down the middle. 'Let's move it back to the other side.' There are obviously some space restrictions in that, but for the younger games you can reduce field size and you can adapt it fairly easily. That is a really simple, simple step. The studies indicate that you are going to get anywhere between a 56 and 70 per cent increase in its hours of use from that field before it gets damaged.

John ENGLART: I am going to add to that. The Victorian government needs to respond adequately to the parliamentary inquiry into environmental infrastructure for growing populations, which had a recommendation 4a, I think, to assess the environmental impacts of synthetic turf. I do not think that recommendation has been acted upon. So that is one. These three are in the Climate Action Merri-Bek submission that I made. The second one is that the Victorian government needs to urgently address guidelines for synthetic turf use in both sporting and educational environments. The sport and recreation artificial turf guide from 2011 is still up on the website, so it is still the current practice. It has two pages on the health and environmental impacts. It is missing the last over a decade of scientific research, so it is well out of date. The third thing is to develop a synthetic turf in public places decision-making tool based on triple bottom line factors incorporating the precautionary principle based on best available science.

I have been working in Merri-bek and with Merri-bek council. They developed a sports surfaces policy and decision-making tool which is based upon triple bottom line decision-making and includes the precautionary principle. So it is not an outright ban on artificial turf, but it means it needs to be well justified to be installed. That is what I would like to see happen at the state level, because I can work at Merri-bek council, my own area, but I know all these other councils around the state do not have people like me who are raising the issues and the profile of what synthetic turf does.

David ETTERSHANK: Thanks, John.

The CHAIR: Gaelle.

Gaelle BROAD: Thank you very much. We really appreciate your submission. It has been very insightful, the information that you have provided. I am just interested because we see synthetic turf being used in sporting facilities. I know at Greater Bendigo there is a big oval out there in Huntly that has it, and we also have it in residential homes. But how many local councils do you think are rolling out this synthetic turf?

Garnet BROWNBILL: If I can jump on that one, the New South Wales chief scientist's report indicated that in 2014 there were 24 fields; in 2018, 30 fields; when they did the study in 2022, over 180.

Gaelle BROAD: Okay. And where is that located – just in New South Wales?

Garnet BROWNBILL: That was just in New South Wales.

Gaelle BROAD: Okay. Do you have any figures for Victoria?

John ENGLART: No.

Garnet BROWNBILL: No, and the only reason that information became relevant and known is because of the work that the chief scientist did. The Office of Sport has no idea. The other thing you have got to look at is you have private schools and you have educational facilities – none of that was included within the chief scientist's reporting. This has been an absolutely prolific boom, and that has been in the public sector as well. Homes and all that sort of stuff have been basically taking this up in leaps and bounds. So it is literally exploding, and I think this is the thing. In the UK and the US – they are five, 10 years ahead of us – there are warning signs. You know, the landscapers are going, 'We can't keep doing this. We can't keep putting this in. We can't keep doing what we're doing because we're losing our pollen, we're losing our water, we're getting massive flooding risks – all of these things.' This is a chance for the Victorian government, or any government, and as I said, I think we accidentally fell into it. We are now learning the same thing is applying. Sporting bodies and government agencies are starting to understand, 'Wow. This is quite a complex area.' You know, 'This is something that we hadn't considered; we hadn't thought about it.' As I said, we grabbed hold of it from overseas and just dragged it down and went, 'This is going to be perfect for us,' without really considering some of the other elements.

Gaelle BROAD: I have heard that there is a local council that had a seven-year policy that it would be replaced automatically regardless of the surface itself. Are you aware of anything like those kinds of timeframes?

Garnet BROWNBILL: Well, I would say that is actually a necessity. The product only lasts seven to 10 years, so it is not actually a policy they have put in. You have to realise that you are now basically putting in something that is going to need to be replaced. And this is not cheap. To give you an idea, an inner-west council in Sydney, very similar to Merri-bek, spent $3.5 million in 2014 installing this field, putting it in – essentially like putting a fence around and laying a carpet. Ten years later, just now, they have spent a further $2 million to replenish that surface. They are costing them $200 million a year in sinking funds. That is the thing that a lot of councils and people do not realise, the cost shifting that occurs: 'Great, sign a grant – brilliant, excellent; install it.' It is now up to the council to be putting away the best part of $200,000 to $250,000 to ensure that they can replace that field. And the thing that we are doing really poorly over here is actually doing the service checks, doing the maintenance and ensuring that the field is actually safe. In the United States you have to have six months of GMAX concussion testing performed. Depending on what state or county you are in, you have to make those reports open to the public. There is not one council that I know of that I can find any information on that it is reporting and doing that reporting. Again, there is no regulation, there is no requirement. FIFA basically now is telling them they have to have every three years recertification, but that is someone virtually coming along and ticking a box. It is a very, very limited actual assessment of these fields. So there are these hidden costs as well along the way, and the FIFA certification could be anything up to $8000 to $10,000 to $15,000, depending on what level of field. So if it is a star 1 or a star 2 or a star 3 then it becomes – there is further information there.

John ENGLART: And it is not only soccer pitches, but it is also tennis courts being converted from en-tout-cas to sand-filled synthetic turf. So you have also got that issue with other sports – lawn bowls, hockey. I believe hockey is moving beyond the traditional synthetic grass, but I am not sure. I have not investigated enough what they are moving to. So it is a whole lot of different sports.

The CHAIR: Yes. Dr Mansfield.

Sarah MANSFIELD: Thank you. Thank you for bringing this issue into this inquiry. We have touched a little bit on the contribution or the potential contribution of these surfaces to urban heat islands and other heat impacts. I think you have mentioned the potential contribution to flooding risks as well. I just wondered if you could elaborate on that side of it.

Garnet BROWNBILL: Definitely. Thank you for your question. So flooding risk – it is an impervious service, so it essentially takes whatever lands on the field and because it wants to protect that surface, wants to protect the infill, there is a drainage cell directly below it that all that water then gets directed straight into, so flash flooding becomes a serious issue with these fields. My field in the back of my place – a 138-year-old

heritage wall was blown apart because of the force of the water. It has gone through storms that were four times the intensity, and that has managed to do it. This field has now then directed all that water into that channel. So you are now getting serious flash flooding. That is then obviously in homes, it is in sporting fields and it is in educational facilities. We are increasing our hard surfacing drastically by installing all of these products that we are talking about. Every single one of them that has synthetic ground-covering material is effectively an impervious surface. The rubber crumb soft-fall material at kids' parks is not 100 per cent impervious, but essentially the water does not soak in as it would.

The thing I think we also are really struggling to look at is, look at Spain – look at the recent rainfall events that we are having. They are becoming so much more intense, so much more forceful. Anything that can slow that water down, anything that can soak that water up, anything that can be not directing water into stormwater channels at such a speed is key. So that is for me one of the clear concerns here that again no-one seems to recognise. The priority is sport. The priority is getting these kids to play, but those sorts of factors are not really considered.

John ENGLART: The fields are often built in creek corridors with the potential to flood. Of course that will damage the fields but also cause a lot of pollution, washing the infill and some of the fibres into the creeks, out into Port Phillip, so it is contributing to the plastics pollution in Port Phillip, so siting is a definite issue. If you build a synthetic field, it should not be sited anywhere near a flood zone, first, but it will actually increase the potential for local flooding as well because the water goes down into the drainage and out into the drainage system, which is under pressure because of more intense rainfall of course. But because it is plastic it also has the potential to burn. So it is not good putting it in high-fire zones because often these fields are places where people gather when there is fire risk, but they are flammable.

Garnet BROWNBILL: Just to give you an idea, it is comparable to dry grass. That is how flammable this product is. The chief scientist report indicated that it is as flammable as, or comparable to, dry grass, as John was saying.

John ENGLART: They even put flame retardants in the plastics. There are a whole lot of chemicals, like flame retardants, included, which adds to their toxicity as well. So when they weather, wear and wash away they are going into our creek ecosystems. I have got recent research here saying the combined toxicity of PFAS substances and microplastics actually impacts fresh-water ecosystems and the aquatic life, and of course it then washes into Port Phillip here.

Garnet BROWNBILL: Sorry, we just spoke a lot in this hour.

The CHAIR: That is all right. Ms Ermacora, did you have any questions?

Jacinta ERMACORA: Look, I think it is largely all said. If I can round it upward rather than down into more detail – thank you very much for contributing. It is a unique perspective. So I guess what you are saying, if I can just sum it up, is there needs to be some work done on the health impacts, some work done on the environmental damage or impacts, and then that needs to be addressed in a policy response.

Garnet BROWNBILL: Definitely.

Jacinta ERMACORA: Is that it?

Garnet BROWNBILL: Yes.

Jacinta ERMACORA: That is one, two and three. So you recommend further investigation into the health, recommend further investigation into the climate impacts and then that some kind of regulatory or policy framework be developed as a result.

Garnet BROWNBILL: Yes, I would certainly agree with that.

Jacinta ERMACORA: Thank you very much. Great.

The CHAIR: Thanks, Ms Ermacora.

John, Garnet, thanks so much for coming in and giving us evidence. You can tell it has been very interesting to the committee, and we really appreciate you coming in. You will receive a copy of the transcript for review before it is made public.

With that the committee will take a short break.

Witnesses withdrew.