

# TRANSCRIPT

## LEGISLATIVE COUNCIL ENVIRONMENT AND PLANNING COMMITTEE

### Inquiry into the Health Impacts of Air Pollution in Victoria

Melbourne—Wednesday, 11 August 2021

#### MEMBERS

Ms Sonja Terpstra—Chair

Mr Clifford Hayes—Deputy Chair

Dr Matthew Bach

Ms Melina Bath

Dr Catherine Cumming

Mr Stuart Grimley

Mr Andy Meddick

Mr Cesar Melhem

Dr Samantha Ratnam

Ms Nina Taylor

#### PARTICIPATING MEMBERS

Ms Georgie Crozier

Mr David Davis

Dr Tien Kieu

Mrs Beverley McArthur

Mr Tim Quilty



**WITNESSES** (*via videoconference*)

Ms Michele Goldman, Chief Executive Officer, and

Ms Angela Cartwright, Policy and Advocacy Manager, Asthma Australia.

**The CHAIR:** I declare open the Legislative Council Environment and Planning Committee's public hearing for the Inquiry into the Health Impacts of Air Pollution in Victoria. Please ensure that mobile phones have been switched to silent and that background noise is minimised.

I would like to begin this hearing by respectfully acknowledging the Aboriginal peoples, the traditional custodians of the various lands we are gathered on today, and pay my respects to their ancestors, elders and families. I particularly welcome any elders or community members who are here today to impart their knowledge of this issue to the committee or who are watching the broadcast of these proceedings. I would also like to welcome any members of the public who may be watching these proceedings via the live broadcast.

At this point I will take the opportunity to introduce the committee members to you. My name is Sonja Terpstra, and I am the Chair of the Environment and Planning Committee. Also appearing with me via Zoom today is Mr Clifford Hayes, the Deputy Chair; Ms Melina Bath; Dr Samantha Ratnam; Dr Matthew Bach; Mr Andy Meddick; Mr Cesar Melhem; and Mrs Bev McArthur.

All evidence that is taken today is protected by parliamentary privilege as provided by the *Constitution Act 1975* and further subject to 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 this 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 Parliament.

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

If I could just get each of you now for the Hansard record to please state your name and the organisation you are appearing on behalf of.

**Ms GOLDMAN:** Michele Goldman, appearing on behalf of Asthma Australia.

**The CHAIR:** Thank you.

**Ms CARTWRIGHT:** Angela Cartwright, also appearing on behalf of Asthma Australia.

**The CHAIR:** Great. Thanks very much for that. So with that, we will get underway now. If I could ask you to make your opening remarks of 5 or 10 minutes, then that way it will allow plenty of time for committee members to ask questions of you. I will give you a 1-minute warning as we approach the end of the 10-minute mark. So over to you.

**Ms GOLDMAN:** Thank you very much, and I will probably use close to the 10 minutes because I am sharing some comments from a consumer that was unable to be here.

Thank you very much to the whole committee for the opportunity to present to you. By way of introduction Asthma Australia is a national consumer peak organisation representing people with asthma, and our purpose is to help people breathe so they can live freely and reach their full potential. We support the community in doing this through education, training, funding research and advocating on their behalf on issues which impact their ability to breathe freely and maintain good health.

Asthma is a chronic respiratory condition which affects one in nine Victorians—I am sure many of you either may have asthma yourselves or family members or friends with asthma—and that is more than 714 000 people in Victoria. Asthma does not discriminate. It affects both the young and the old, and you can develop asthma at any age, and asthma is partly genetic and partly environmental. The prevalence of asthma is higher in regional Victoria, at 14.2 per cent, compared with the greater Melbourne region, at 11.2 per cent.

Exposure to air pollution can exacerbate both respiratory and cardiovascular conditions. It can lead to hospitalisation and premature death, and it has significant economic impacts. So it is really critical that we put measures in place to ensure Victorians have clean air to breathe, the same way we ensure that they have clean water to drink, and to empower individuals to protect themselves when air pollution occurs. Exposure to environmental hazards is both a risk factor for the development of asthma and it is also a trigger for asthma symptoms in people who have asthma, and we saw that particularly with the thunderstorm asthma epidemic in Melbourne in November 2016.

We often describe people with asthma as the metaphorical canaries in the coalmine when it comes to air pollution, because they are among the first people to feel the direct health impacts of air pollution, and the impacts can be immediate, involving respiratory symptoms and asthma flare-ups, which can lead to hospitalisation and even death. There are also significant mental health impacts, and the issues of air pollution and in particular smoke weigh really heavily on the minds of people with asthma, particularly after the traumatic experiences of the 2019–20 bushfires and the associated smoke that blanketed our cities and towns for weeks and months on end.

Air pollution is harmful to everyone, yet the most vulnerable suffer the most harm, and this includes people living in low socio-economic areas, who often have higher levels of air pollution, or those who are more vulnerable because of their age. So children and young adults with asthma are more at risk of the effects of air pollution, because they have faster breathing rates and their lungs are still developing. So the impacts of air pollution are really significant. It is clearly linked to premature deaths. Research shows even a small increase in fine particulate matter is associated with an increase in the daily total number of deaths, and it also has a significant economic impact.

A New South Wales study conservatively estimated the health costs of air pollution in the greater Sydney metropolitan region were between \$1 billion and \$8.4 billion annually. So that is really considerable, and I think investments in reducing the level of air pollution and its toll on the health of our community will provide large returns in reducing future health costs and the toll on our healthcare system as well as, very importantly, improving and saving lives.

I just wanted to share some comments from our asthma champion Karen, who would have liked to be here today to share her experience. We can talk to facts and stats, but it is really important to understand the real-life experience of many people. So just to tell you a little bit about Karen: she lives in Melbourne's inner suburbs, she was diagnosed with asthma when she was eight and she has become increasingly sensitive to wood smoke over the past five years. In our submission to this inquiry we included a quote from her which just illustrates how strong the impacts of air pollution are on her day-to-day life, and I would like to share that. So I quote:

[QUOTE AWAITING VERIFICATION]

Although COVID, lockdown and the resulting lack of freedom and fear caused some distress in the community, for me having the very air I breathe taken away was way worse. I would be happy to live in lockdown for some years at a time, rather than have such polluted air to breathe. In lockdown I had my house and I could go for a walk. During the bushfires, even my bedroom was unsafe and brought no relief.

Now, Karen is not only impacted by bushfire smoke. Every winter she deals with a self-inflicted curfew to be home by 5.00 pm to avoid smoke from her neighbours wood-fire heaters, and she asked us to share a few points with the committee in relation to wood-fire smoke: firstly, to share how wood-fire smoke triggers asthma and compromises the freedom and quality of life for people with asthma; secondly, the issue of equity, that all Victorians should have equal access to and the right to fresh air; and thirdly, she just wanted to share a discussion she had with her local council.

So the EPA recommended she speak with the council regarding wood-fire smoke pollution in her home, and the council explained she would need to report on which house was causing smoke in her home, which she found to be an impossible task because there are so many homes in her street who use wood-fire heaters. Not only this, but asking her to do in her neighbours made her feel extremely uncomfortable, and she said the onus really needs to be on the government, not on those who are already trying to manage various chronic illnesses. And in her own words she said, and I will share one more quote:

[QUOTE AWAITING VERIFICATION]

On a bad night at home, when there is a lot of smoke in the air, if I step out of my sealed bedroom (with an air purifier and double-glazed windows) I instantly feel my lungs seize up, it feels suddenly tight and as though someone is sitting and crushing my chest. I need to quickly take medication and go back to the bedroom. It is scary to feel like this in my own home.

...

For me it has led to reduced lung function, more attacks, more cortisone (and unfortunately osteoporosis possibly because of the cortisone) and it has also had a significant cost to my mental health.

I share Karen's sentiments with you so you have an understanding of the personal impacts of air pollution for some people, particularly from wood-fire heaters, and how they are inhibiting people's basic liberties.

Unfortunately Karen's story is far from uncommon. Every year Asthma Australia hears from many people with asthma who are struggling to deal with wood-fire heater pollution. We fully appreciate the right to heat a home, but we think it should be done in a way that does not impact on the physical and mental health of your neighbours and other people in our communities. We should be able to have both warm homes and clean air to breathe.

So addressing air pollution really does require a whole-of-government approach, and Asthma Australia's submission to this inquiry made recommendations which we believe, if implemented, would minimise these impacts and in fact benefit the whole Victorian community. And I am more than happy to answer any questions that you have around our submission.

**The CHAIR:** Great. Thanks so much for your opening remarks, Michele. All right. We will go to questions, then. So perhaps if I can start with Dr Ratnam.

**Dr RATNAM:** Thank you so much, Michele and Angela, for being here and your submission and all the work you do and I know have done for years, trying to advocate for better air quality. I have got a range of questions, but I might start with this one. I am happy to come back, should we have time for some more, as well. I am really interested to know—because I know that you have been doing lots of work to advocate for increased regulation, minimising pollutants that are released, regulatory change et cetera—what has been your experience advocating for that change. I am particularly interested to know: where are the roadblocks, because we are hearing very compelling evidence which confirms everything you have said. And it is quite obvious now to us, I think, what the drivers of pollution are, what some of things we need to do are to actually improve air quality, and I am interested to know what is going wrong—like, what is stopping that change from happening? So I am interested to know, from your experience, have you been able to kind of access key decision-makers to be able to make the case, and if so, what are you told about what can and cannot happen to improve air quality?

**Ms GOLDMAN:** That is an excellent question. Where do I start? So in response to your question around our access to decision-makers, particularly in the last couple of years since the summer bushfires I think we have found great receptivity across different governments—more so the environmental arms of government than the health sections, but that is understandable given their strong focus on COVID at the moment. And it is unfortunate that we had not yet recovered from the bushfires before we faced a global pandemic, so the focus kind of did switch to COVID. We undertook a survey during the bushfires to understand the experiences of people with asthma, which was responded to by over 12 000 people, and when we launched that and developed policies based on the insights, we found very receptive audiences across different governments to that.

I think air pollution is complex, so whilst it is quite clear and we understand what the key contributors are, the solutions are complex. They are not simple, and they require a multifaceted response by different agencies. We need to be able to do different things. We need to be able to monitor and report on air quality. We need to be able to have measures in place to be able to enforce policies and regulations. We need to critique existing policies and regulations and improve on them based on new information that is coming to the fore.

There are new research studies all the time which are building our understanding just around the significant impacts. In fact earlier this week you may or may not have seen the article in the *MJA* around the study done in Armidale looking at the impact of wood-fire heaters and the number of premature deaths caused as a result. So I think it is a complex issue.

I also think, regarding different elements or different contributing elements, there are strong voices of resistance. So whether it be around coal, whether it be around wood-fire heaters, whether it is in the vehicle industry, there are always going to be interests that want to protect the status quo.

**Dr RATNAM:** Great. Thank you very much. Thank you. That is really informative and something that the committee has to grapple with in terms of our recommendations as well, because it seems like we have had inquiries at the federal level, we have kind of known some of this data for a while, and yet the reform is quite slow and very frustrating, and we have certainly heard that from a number of witnesses as well.

Just moving on to a more technical question: in terms of the drivers of asthma and the air pollutant exacerbators, what are the pollutants that are the most impactful on asthma development?

**Ms GOLDMAN:** Great question as well. So the small particulate pollution is a major concern, and the research clearly substantiates their contribution both to the development of disease as well as exacerbating already existing disease. And so small particulates particularly from smoke—so whether that be uncontrolled fires or hazard reduction burns or wood-fire heaters—there is research that has been done in WA over 16 years comparing smoke from hazard reduction burns to wildfires, showing that the smoke from hazard reduction burns actually is a greater contributor to health impacts and the cost of health to the community.

Ange, jump in if there is anything that I am forgetting to mention.

**Ms CARTWRIGHT:** Yes. We could possibly add in addition to fine particulate matter also large particles, known as PM10, are problematic for asthma symptoms, and another major concern is NO<sub>2</sub>, nitrogen dioxide, which is typically more of a localised pollution problem. So I am sure you have heard from people in Melbourne's inner west area around the impact of industry and heavy vehicles. Nitrogen dioxide is an issue in terms of onset of asthma and again with symptoms particularly in children.

**Ms GOLDMAN:** That is right, and there is substantial research to show that schools and childcare centres located near high-traffic roads have higher rates of asthma than those that do not, so those would be the key pollutants of concern to us.

**Dr RATNAM:** Thank you very much. I am happy to come around if there is time at the end, but thanks very much for that.

**The CHAIR:** Great. Thank you. Mr Melhem.

**Mr MELHEM:** There we go. I thought I had pressed the button, but I did not. Michele, you mentioned the smoke is the biggest problem and talked about wildfires and back-burning and then wood heaters in the homes, so I am trying to—if you can break it down for me, are there some we can control obviously and some we cannot control? So maybe I will start with the last one: with wood heaters at home, especially in the metro areas, it seems to me that is your biggest problem because it is a houses-next-to-each-other type of thing, so what sort of solution would you be proposing? I mean, do we go as far as banning that? There will be the issue of cost, but I was doing some sums earlier. I do not think it is actually that cheap. I mean, there would probably be similar costs if you wanted to buy firewood—similar to gas—if you were purchasing that, unless you are getting the firewood from the side of the roads or whatever. So that is that part, which can be controlled—if we want to control it.

The second one is in relation to natural fires and backburning. What is the answer to that? Because I have been really wracking my head about how we can control that. That is always going to be the debate. I am interested in your thoughts on that.

**Ms GOLDMAN:** Thank you. I will start with wood-fired heaters. I think we both know that smoke from wood-fired heaters is one of the major contributors to air pollution, particularly in winter months. It is also something where there are practical steps that we can take. To be clear, we are not proposing an outright ban on wood-fired heaters, but we think there are some easy, practical steps that can be taken to start to reduce the number of wood heaters that are in circulation.

We really welcome the announcement from the Victorian government to move towards cleaner heating options by introducing subsidies for low-income households. We think that is a very necessary and good first step. We

would encourage there to be a focus on making sure that that scheme is promoted to encourage uptake. We have seen other schemes that have ranged from being quite successful in reducing the number of wood heaters due to the subsidies and the level of air pollution and the health impacts to other schemes that have been less successful because there has not been much take-up. So we would just encourage that there is as much a focus on promoting the scheme to ensure its uptake.

But we also think that additional efforts are needed in areas where wood-fired heater smoke is particularly problematic. That would look like removing the heaters from homes when they are sold and prohibiting their installation in new homes. It is not about taking heaters away from homes. We are concerned about urban areas where the use of heaters is having a significant impact on a large number of people, and we think the three measures—the one that the Victorian government has already taken with the subsidy scheme and prohibiting new heaters and removing them when homes are sold—are a good first step to reduce the number of heaters in circulation.

I also just want to mention a survey that Asthma Australia conducted, a national representative survey with over 25 000 people, just to explore people's experience and feelings around wood-fired heaters. Most people do not feel that they are able to reduce their exposure to smoke. I think in our survey more than three-quarters of the general population—let me just find the specific facts—agreed that wood heaters should not be allowed in urban or built-up areas, and over half agreed that they should be phased out. Those figures were even higher amongst people with asthma—so 84 per cent supporting regulation of wood-fired heaters in urban and built-up areas, and 71 per cent supporting a scheme to phase them out. I think that also goes to your question, Dr Ratnam. I can appreciate that government needs to consider the concerns of their local community, but in our wide, nationally representative survey there is strong support for these measures.

They also communicated—and I am just trying to find the exact facts; sorry, I won't be one moment—that they felt that they were unable to protect themselves from smoke. Only 28 per cent of the general population and 18 per cent of people with asthma felt that they were able to protect themselves from the smoke. So in summary in relation to wood-fire heaters, they are a major cause of air pollution and an area where we can take some simple steps. And there are precedents to show how Launceston, for example, significantly reduced the number of heaters, the level of air pollution and the health impacts that resulted.

If I come to your question about hazard reduction burns, I think as we see longer fire seasons and more adverse weather events we have also seen that the windows for hazard reduction burns are shrinking, and that is sometimes meaning that hazard reduction burns are quite intense and go on for a number of days in duration, which can be really problematic for the community, and exposure to high levels of hazardous smoke causes people to have symptoms, to have asthma attacks and to need to seek emergency care.

I talked about the research in WA that found that the health impacts of hazard reduction burns were actually greater than those of bushfires. There was also research into the impacts of a five-day hazard reduction burn in Sydney in May 2019, which resulted in very hazardous conditions, and it was estimated that it led to 14 premature deaths from respiratory and cardiovascular disease. We conducted a survey at that time where four in five people reported difficulties in breathing and one in five reported experiencing an asthma emergency.

The Royal Commission into Natural Disaster Arrangements noted we need to do better to balance health impacts of burns with the risks of fuel loads when we are considering and planning burning activity. The New South Wales bushfire inquiry found non-burning approaches to fuel reduction particularly important around community, so I think it is about a nuanced approach to burns.

I think as time goes on, and particularly following the summer bushfires, we have a greater knowledge and understanding about the impacts of smoke. We understand the importance of burns in terms of reducing the risk of uncontrolled fires, but we need to weigh that up with the risks of health impacts both in terms of adverse health impacts but importantly premature deaths that are a result of smoke—and weigh up that in highly populated areas there may be cases where the cost of the burn does not justify the reduced risk of uncontrolled fires, for example.

So there is a range of things that we would recommend having and we have shared in our submission to the committee—having consumers as part of that decision-making so that those health impacts can be considered

and staggering burns so that we do not have high concentrations with many days, which we know exacerbates health impacts. Those would be some of our recommendations. Ange, is there anything you wanted to add there?

**Ms CARTWRIGHT:** Look, I agree with everything Michele said, and I think the other point to make is: while we really appreciate efforts to reduce sources of wood smoke and we think they are really important, we recognise that when it comes to wildfires and to some extent hazard reduction burning, these are not things that any of us can solve. We wish we could, and we can certainly do things that will reduce the frequency and severity over a long time, but I think in the climate change space there is talk around adaptation, and I think it is quite relevant to air pollution that whilst mitigation of pollution sources is one side of government action that we need, the other side is around empowering individuals to protect themselves. And we have a number of recommendations which go to government support to improve the quality of people's homes so that they do not let in as much smoke from any of those sources that you have mentioned and also around public education. So air pollution is quite new for some people. Others in Victoria have been dealing with it for longer, but we have been working on an AirSmart public education campaign, which is one of the big recommendations that came out of a number of inquiries into the catastrophic bushfire season of 2019–20, and we would really encourage the committee to consider any ways that it could support that sort of public education.

**The CHAIR:** Great, thank you. Mr Hayes, a question?

**Mr HAYES:** Thanks, Chair. Something has caught my attention. Thanks, Michele. Thanks, Angela. I want to direct my question to Michele. Your obvious main concern is over wood-fire smoke. I am just wondering where pollutants such as smoke from petrol and diesel come in your concerns—obviously not as great a problem to you as wood-fire smoke. Is that because the particulates have been taken out of diesel—well, quite a few particulates have been taken out of diesel? Or are they still major concerns that you want some action on?

**Ms GOLDMAN:** Thank you. Look, there are so many different sources of air pollution, and we are a relatively small organisation. We have got less than 60 people on our team. So whilst we would love to focus on the broad range of areas which contribute to the air pollution issues that we face, we cannot cover everything, so we have to make some choices. And we are also led by: which are the issues that are most concerning to the community? And so wood-fire smoke and smoke from wildfires and hazard reduction burns have been something that continues to be a source of real angst and frustration for the community and on which they seek our support to help give them voice to see strategies put in place. But that is not to negate the importance of these other areas, and we do work very closely with other agencies. In this regard I would just say that we support the Environmental Justice Australia *People's Clean Air Action Plan*, and we have reviewed and we work closely with them and with other agencies, like Doctors for the Environment, and we would support their recommendations to the committee on those issues.

**Mr HAYES:** Thank you.

**The CHAIR:** Great. I might have a question, if I can, at this point. In your submission you make a recommendation to the government to implement an 'AirSmart' public education campaign. What would be the guiding principles and key messages of this campaign, and would it be targeted solely at the community? Can you unpack that for us a bit more? Thanks.

**Ms GOLDMAN:** Yes, absolutely. Thank you. So I think there is a big job for us to do to help the community understand the impacts of air quality on health. There are obviously those that understand them very strongly, but it is also a risk in terms of developing and exacerbating disease. So the fundamental premise of AirSmart is to do for air quality what SunSmart did for UV. No-one understood the dangers, no-one understood what UV was, let alone the dangers, and just as that helped build the community's understanding around ultraviolet rays, the risk to health and the strategies that you could take to protect yourself, we are seeking to do the same with AirSmart so it can build the environmental health literacy of the community, they can understand what is in the air, they can understand its impacts on health but more importantly they have got tools and strategies to help them minimise their exposure when there are high air pollution events. So it would include a public education campaign, and it would also include an app which enables people to tell what the local air quality is at any point in time, and over time, if they are recording their symptoms, using smart algorithms can provide them with personalised notifications to warn them before they are symptomatic that they should take steps to avoid being outdoors when pollution reaches certain levels.

**The CHAIR:** So whilst on the one hand it is raising people's awareness in the community more broadly, also people who suffer the ill effects of air pollution personally can take steps to manage their symptoms or protect themselves from their conditions deteriorating, yes?

**Ms GOLDMAN:** Exactly. And through the work that we have done and the consultations we have had with the community, they struggle to navigate the existing mechanisms that are available. They know they can go to government websites and look up what air quality is, but they struggle to decipher it, and so this is about providing the right localised information at the right time into their hands, so they can take steps to protect themselves.

**The CHAIR:** Sure. Okay. Thanks very much for that. Ms Bath, a question?

**Ms BATH:** Thank you. I would just like to thank what was once upon a time called the Asthma Foundation, which was established in the 60s. It was established because medical understanding of asthma was rudimentary at best and desperate in those early days, and it was established by people in the community who fundraised. And at many a good country hall there was a dance in order to fundraise to go to the Asthma Foundation, and there were programs by grassroots country people—and city people, I am sure—to support their children, and I speak from experience, in things like learning to swim to increase the oxygen capacity and breathing capacity of your lungs by swimming lessons in hot-water pools.

Now, I am interested in your submission, and I say this with an overlay of—I want to unpack one aspect of it:

Asthma was the cause of death for 117 Victorians in 2019, at a rate of 1.3 per 100,000.

I just want to understand: have you got figures about the age demographics, who and how? You know, what were some of the actual deaths caused by? Because we know—and I will just finish: a third ingested environmental triggers, cat pet hair; cold and hot differentiation; cigarette smoke has been seen, and you know that quit smoking is hugely important in that; airborne pollens et cetera. So what do you know about those deaths?

**Ms GOLDMAN:** Thank you, and I really appreciate your understanding of the history of the organisation, which is quite remarkable. What I can say about deaths in general is the causes are wideranging. Asthma is such a complex disease and there are so many things that can trigger it, as you explained. Whether it is pet dander, pollen, dust, tobacco smoke or viruses, there are a whole range of things. But what we do know in relation to deaths is 70 per cent them are considered to be avoidable. So in this day and age we should not have the number of Australians dying from asthma as there are. And unlike other chronic conditions, this is not something where we do not have the knowledge, where we have to continue to invest millions in research to try and figure out how to combat it. We have great knowledge and we have great treatments available, and we have got a good healthcare system. I think, as the *National Asthma Strategy* articulates, we just have not done a good job at translating the evidence into practice.

People with asthma, because of some of the advances that have taken place, sometimes do not have the knowledge and education to understand their own disease and how best to manage it. So they put themselves at risk. A big problem is the overuse of reliever medications rather than being on a preventer medication. Relievers only reduce muscle constriction and provide instant release, but it is a bandaid solution. Preventers reduce the inflammation in the airways and can help to prevent symptoms and attacks going forward in the future.

So a big part of the solution needs to be education. To come back to your question, the causes of deaths are wideranging but the principles are the same. If we can educate the community so that they better understand the triggers—but they have to be able to navigate them as well. We have a helpline service, and we will spend lots of time with individuals—sometimes around an hour, which is more than a doctor has the time to afford—to be able to help them to understand the disease and the role of the medication and to encourage compliance. But if they come into contact on a regular basis with those things that are triggering the disease, they are still going to have symptoms and they are still going to be at risk. So it needs to be a multipronged approach: education for the individuals; education for health professionals so we can better leverage the capacity that we have in our healthcare system to educate people with asthma as well; and then we need to confront all the environmental things that are triggering asthma so we can help to reduce exposure to these triggers

**Ms BATH:** Thank you. And, Chair, one follow-up question, I guess, and I mean this in a very nice way: I think we have heard from other fire experts—for example, Indigenous fire practitioners—that speak to if what we call preparatory burns or cool burns are done in the correct manner. The window is not actually shrinking but actually can be conducted over a wider period of time. So when I say it is important to understand that there are alternative positions or comments from experts as well, I just seek your response on that.

**Ms GOLDMAN:** Well, I would support that comment. We think there is a lot we can learn from Aboriginal people who have been managing the land and stewarding it very well for so many years—so very supportive of that comment. It is not that we are suggesting hazard reduction burns do not have a role to play at all. I think it is about the nuanced approach. In some cases they are critical, and they are reducing risk for very populous areas—reducing the risk from uncontrollable fires. In other cases, based on the evidence that is starting to emerge through some of the studies I mentioned, the health impacts are greater than the risk that is being reduced. I will just ask Ange because I note her hand is up.

**Ms CARTWRIGHT:** Thanks, Michele. Just to provide a little bit of clarity around the sources of those statistics, the number in our survey is Australian Bureau of Statistics data around confirmed deaths from asthma, but I would also point the committee's attention to research by Associate Professor Fay Johnston and her team, who have conducted health impact assessments into wood smoke events. So with the 2019–20 bushfires they conducted an assessment that found there were in excess of 400 deaths as a result of the smoke from the bushfires. I believe that Associate Professor Johnston has appeared before the committee already, and I believe her research has a breakdown for Victoria. Those are not confirmed on the death certificate deaths as the ABS data is. What they are doing is making an estimate based on their epidemiological models. We would like to have better clarity around those causes, but I think it is really clear between that research and the recent research released this week into deaths in Armidale from wood-fired heaters that wood smoke is deadly, and where those causes of death are not only avoidable but things that could have relatively straightforward policy approaches, they seem like a really good place to start, whereas there are many other triggers for asthma that are harder to address.

**Ms BATH:** And one last one on notice. In terms of smoking in homes and also bystander smoking, because people still smoke in their homes, which is an atmosphere of its own—my time is used up, but—could you provide a response to the committee on what Asthma Australia is doing in respect to that? What is their education and the work you are doing behind there, because that is still a really important trigger for asthma?

**Ms GOLDMAN:** Should I take that on notice, Chair, or do you want me to respond to that?

**The CHAIR:** Yes, sure. It is up to you. If you prefer to take it on notice, that would be fine.

**Ms GOLDMAN:** I think we know it is very clear tobacco smoke is both a major trigger for asthma symptoms but also a significant contributor to the development of asthma. So for pregnant women who are exposed to tobacco smoke, their unborn child has a greater chance of developing asthma, and exposure to second-hand smoke is a real problem, especially for children. There is a high prevalence of asthma in children in homes where they are exposed to tobacco smoke, so the evidence around that is clear. We would love to be able to have sufficient resources to focus on all the different things that are causing asthma. We note that our kind of sister organisation, Lung Foundation Australia, has tobacco smoking as a very strong focus, as does the Cancer Council, and so we work very closely with those organisations, and the Heart Foundation as well, to support their advocacy efforts in those regards and to lead on other areas where there might be a gap and where there are not any other agencies focused. Ange, would you have anything to add to that?

**The CHAIR:** All right. Great. Thank you. Mrs McArthur, a question?

**Mrs McARTHUR:** Thank you, Chair. Yes, I would just like to follow on from Ms Bath about passive smoking and smoking. You pointed to premature deaths. How many premature deaths are caused by smoking in a household? You did point to the fact that the lower socio-economic communities have a higher incidence of asthma. Is there a correlation between smoking in those communities and the higher incidence of asthma? Deal with that first.

**Ms GOLDMAN:** So I do not have evidence to support any definitive statements in that regard other than we know that exposure to passive smoking increases your chance of both developing asthma and assisting asthma to be exacerbated. We also know there is a significantly higher rate of asthma amongst Indigenous

Australians—more than double the rate of the general population—and a greater risk of dying from asthma as well, and there are higher rates of smoking amongst Indigenous Australians too. I am unsure about the cause and effect but you could make some assumptions.

**Mrs McARTHUR:** But you are very sure about the effect of wood heaters and asthma and deaths from wood heaters but not from the incidence of smoking and asthma deaths?

**Ms GOLDMAN:** I think we are confident there is substantive research in both cases to support that exposure to smoke, whether it be from cigarettes, whether it be from wildfires or whether it be from wood-fire heaters, all exposure to smoke, is harmful to health, not just for asthma, for a range of different conditions, and it can lead to both illness and premature death.

**Mrs McARTHUR:** Okay. So if we are going to ban wood-fire heaters—and I imagine you would not want gas heaters as well, because that is a fossil fuel. Or do you support gas heaters?

**Ms GOLDMAN:** So we have spent time advocating against unflued gas heaters because very strong evidence exists. It has been a really big issue in New South Wales public schools as well as in homes. We want the community to be informed so that they can make wise choices. So in terms of gas heaters we would encourage a flued heater rather than an unflued one. We also educate people who are using unflued heaters. We recognise some people rent; some people do not have a choice in their heating. So our approach there is to make sure that they can take the means to reduce their exposure to the harmful emissions from unflued heaters, making sure there is adequate ventilation, not using them in really small rooms, not placing them in bedrooms, for example, where there have been deaths as a result of unflued heaters used in rooms.

I just want to clarify one of your comments. We are not calling for an outright ban on wood heaters. We recognise that in some areas it might be the only option for people heating their homes. We do not think that that is actually a case in many instances. We also understand that from an affordability issue if you are buying your own wood, using energy-efficient reverse-cycle air conditioning could actually be more affordable. We really applaud the Victorian government subsidy scheme so at least those people who would like to transition to healthier alternatives can. Our focus is not on all wood-fire heaters. Our focus is on those wood-fire heaters that are being used in urban areas, where the impact of a few heaters being burnt is causing polluted air for everyone in the neighbourhood and local community.

**Mrs McARTHUR:** Okay. So if we are all, or many of us or everybody in the urban community, to switch to reverse-cycle air conditioning, we are going to have to have a much greater increased supply of base load power. So would you be in favour of nuclear energy, which of course is emission free?

**The CHAIR:** Mrs McArthur, I am not sure that question is in line with the terms of reference of the inquiry. So Ms Goldman, you do not really have to answer that. But Mrs McArthur, could you please rephrase or redirect your question to something that is—

**Mrs McARTHUR:** Well, it does go to the point of emission-free pollutants.

**The CHAIR:** No, it does not. There is nothing in the terms of reference about nuclear power, so perhaps if you could rephrase your question. I will give you one more crack at it before we move on, because I have another question as well, so if you would not mind.

**Mrs McARTHUR:** If we are to move to reverse-cycle air conditioning, you would agree that we are going to have to dramatically increase the supply of energy. We are already at a decreased supply and we are already at a high cost level of energy, so how would you propose that we increase the supply, making sure there are no emissions? And what are the alternatives? And would you rule out nuclear energy?

**The CHAIR:** I still do not think that is relevant to the terms of reference, Mrs McArthur, so we will move on to another question. I have a—

**Mrs McARTHUR:** The witness can have a go at answering.

**The CHAIR:** No, Mrs McArthur, that is not relevant to the terms of reference.

Ms Goldman, if I could just go back to my earlier questioning around education—and it is an area that I think you have touched on earlier in your commentary—around wood-smoke heaters, there is a range of people who definitely use wood-smoke heating for warmth. You touched on earlier in your earlier answer that some people do not have a choice of heating—if they are renters and the like—and a fire is literally their only source of heating. But of course then in other areas you have got other people who have a very nice heritage house and who might have a fireplace in their home. Of course it might be a very old fireplace or one that is a little bit more modern. And depending on how they were built too, some people built fireplaces very well and they were very efficient, but others are terrible. Do you think education is part of this? How can we encourage people to understand that transitioning to other forms of heating is more beneficial? But also some people have concerns around the heritage value of their particular house and their fireplace, for example. I am not trying to be particularly a devil's advocate, but this will be a reality for some people—saying, 'Well, I don't want to pull a heritage fireplace out of my house'. So how could we look at perhaps different options around how we could meet everyone's needs—by transitioning to, say, better forms of heating that do not put pollutants in the air but addressing people's concerns around heritage aspects? It is a very big question, I know, but I am interested to hear whether you have given any thought to those sorts of challenges in educating people.

**Ms GOLDMAN:** Yes. Well, I think education is key because I think we find a lot of people are surprised or even shocked to learn about health impacts from different sources of pollution, be they indoor or outdoor sources of pollution. So education needs to play a big role in helping people understand the things that they are inadvertently doing without understanding the health impacts so that they can make informed choices. In relation to wood-fire heaters, it is such a major contributor to our air pollution. It is clear it is causing illness and it is causing premature deaths and it is providing a very significant economic cost, so we would be doing ourselves and the community a disservice to ignore it. We recognise it is not an issue that can be solved overnight, which is why our policy suggests a phased approach. For those people who are interested in transitioning to other alternatives, especially if they do not have the means to, let us provide subsidies so that they can. In those instances where we can remove heaters from homes without it being a major issue for anyone, prohibiting them being built in new homes—so at least going forward in the future in 10 years time we are not finding ourselves in an even worse predicament than we are now, with a significantly greater number of wood-fire heaters than we have now.

**The CHAIR:** Do you also think too that—one of our earlier contributors also suggested, just as an example or as a suggestion, that at the point of sale of an older house, when that house is sold, it then gets pulled out at that point in time. But if that was something that was looked at—and again, I do not know the number of houses that actually have fireplaces in them—do you think that would actually make a meaningful difference, to do it that way, so that only at the point of sale of a house you pull it out? And then what would replace it? Would people have to board up their fireplaces? I guess, practically, how would you see that working?

**Ms GOLDMAN:** Angela, do you want to answer that one?

**The CHAIR:** You can take it on notice too. I know it is a big question. I am probably asking a question you are not necessarily qualified to answer, but it is good to explore these things so we can sort of get an understanding of your views on it as well.

**Ms CARTWRIGHT:** We are in the territory of anecdote for our organisation, but I can provide two examples from family members who live in heritage homes in Sydney. One has converted a heritage fireplace—it has got an electric burner in it—and the other has had it kind of sealed off. It actually looks really nice. It is beautiful; you would not notice it. They have got two in bedrooms. My family member has lung disease and would not want to be burning a wood-fire heater in their own home; their child has asthma as well. So I think there are many options for people to convert wood-fire heaters. I think it is also a question of aesthetics and home value against what Karen has said, which is about equity and the right to fresh air to breathe. I would really hope that we would put that right, people's health and wellbeing, above the concerns that people might have about the aesthetics of their home. I think when it comes to saleability, if there is government regulation in this area then it is an even playing field. If all wood heaters in urban or built-up areas have to be removed on sale, then it is not disadvantaging one home owner against another, because it is impacting everybody—as long as there are clear criteria for which are the areas that would be covered.

**The CHAIR:** Okay. It goes back to your point about education, though. If there is a structured education campaign so that people can understand the impacts of a fire locally and how that impacts people, then perhaps

people might come around more to the idea of why they need to move their fireplace out of their home. That would be part of your education campaign, would it, as well?

**Ms GOLDMAN:** Absolutely—and not just about the issue. It is not just about informing people about the potential health impacts; it is also about giving them solutions. I guess it touches a little bit on the question earlier. We need to be able to provide people with options and alternatives so that they can make a choice that is right for them and their circumstance.

**The CHAIR:** Sure. Okay. Well, thank you. We are just about out of time. So, look, thank you all very much for coming in and giving your presentation today. We really appreciate it. Thank you for everything you do in our community as well—for advocating around asthma. I know it is a condition that affects many people in our community.

**Witnesses withdrew.**