



COMMONWEALTH OF AUSTRALIA

Proof Committee Hansard

SENATE

COMMUNITY AFFAIRS REFERENCES COMMITTEE

Reference: Social and economic impact of rural wind farms

TUESDAY, 29 MARCH 2011

MELBOURNE

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SENATE COMMUNITY AFFAIRS

REFERENCES COMMITTEE

Tuesday, 29 March 2011

Members: Senator Siewert (Chair), Senator Moore (Deputy Chair) and Senators Adams, Boyce, Carol Brown and Coonan

Participating members: Senators Abetz, Back, Barnett, Bernardi, Bilyk, Birmingham, Mark Bishop, Boswell, Brandis, Bob Brown, Bushby, Cameron, Cash, Colbeck, Cormann, Crossin, Eggleston, Faulkner, Ferguson, Fielding, Fierravanti-Wells, Fifield, Fisher, Forshaw, Furner, Hanson-Young, Heffernan, Humphries, Hurley, Hutchins, Johnston, Joyce, Kroger, Ludlam, Ian Macdonald, McEwen, McGauran, Marshall, Mason, Milne, Minchin, Nash, O'Brien, Parry, Payne, Polley, Pratt, Ronaldson, Ryan, Scullion, Stephens, Sterle, Troeth, Trood, Williams, Wortley and Xenophon

Senators in attendance: Senators Adams, Boyce, Fielding, Moore and Siewert

Terms of reference for the inquiry:

To inquire into and report on:

The social and economic impacts of rural wind farms, and in particular:

- (a) Any adverse health effects for people living in close proximity to wind farms;
- (b) Concerns over the excessive noise and vibrations emitted by wind farms, which are in close proximity to people's homes;
- (c) The impact of rural wind farms on property values, employment opportunities and farm income;
- (d) The interface between Commonwealth, state and local planning laws as they pertain to wind farms; and
- (e) Any other relevant matters.

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Committee met at 8.47 am**McALPINE, Mr Ken Andrew, Director, Policy and Government Relations, Asia-Pacific Region, Vestas Australian Wind Technology Pty Ltd**

CHAIR (Senator Siewert)—Today the Senate Community Affairs References Committee continues its public hearings in its inquiry into social and economic impact of rural wind farms. I welcome Mr Ken McAlpine of Vestas. I understand the information on parliamentary privilege and the protection of witnesses' evidence has been provided to you.

Mr McAlpine—That is correct.

CHAIR—Thank you. We have received your submission as No. 712. I would invite you to make a brief opening statement and then we will ask you some questions.

Mr McAlpine—Thank you, Chair. Vestas Australian Wind Technology Pty Ltd has supplied more than half of all the wind turbines installed in Australia. So for the purposes of this inquiry, we are well placed to cover many of the issues that are in the terms of reference. Our parent company in Denmark is the world's largest manufacturer and supplier of wind turbines. At last count, we had 23,000 employees worldwide in over 60 countries. Again, our experience in the area of wind turbines is probably unequalled around the world. Wind farms in rural areas in Australia have contributed many jobs and boosted the prospects of many towns and regions across Australia and, with the Australian government's 20 per cent renewable energy target, this is set to continue. I am very pleased that the Senate is giving the industry the chance to put a few facts on the record, because we know that wind farms have been in the media and there has been quite a bit of debate over the past year in particular. So we welcome that opportunity.

I thought I might touch on a few of the issues that have been raised in the hearings to date and in a number of the submissions. Obviously the one that is of most interest to us and closest to our heart is safety. Vestas has safety as its No. 1 priority. The wind industry generally is a very safe industry. If you compare it to coal or gas or any other sort of production of electricity, you are going to find that wind energy is one of the safest around the globe, and we are proud of that. As I mentioned, we have thousands of employees and they work in and around wind turbines every day; so, if there is something about them that is not safe, we want to know and we want to fix it. Thankfully, that is not the case. There is nothing about wind turbines that is unsafe. There is nothing about them that is unhealthy.

Well over 100,000 wind turbines of various sizes have been installed around the world but this just keeps growing and growing. The biggest markets for wind energy are China, the US and of course Europe. Australia has been taking some small steps in this regard and hopefully, with the 20 per cent renewable energy target, this will continue. We are not the first to go down the path of wind energy and, in some countries, wind energy is already cost competitive with coal and gas.

Many of these wind turbines that I mentioned have been installed in Europe, which is Vestas's home continent and Denmark its home country. So, of course, when health concerns were raised, I checked with my colleagues in Denmark and Europe and asked what their experience had been of this. There has been a lot of research done on wind turbines over the years. In Denmark in

particular, in Germany and in many of the other countries in Europe where thousands of wind turbines have been installed, old ones and modern ones, there are not any health claims. Most of the health claims that you heard yesterday and that are in some of the submissions seem to come from Australia. They come from the north-eastern states of the US where Nina Pierpont comes from. There is a little bit of coverage of the issue in some regions of Canada, and of course the Country Guardians group in the UK has also raised the issue in amongst many of the issues it raised in trying to stop wind turbines being built.

In the other countries in which we operate this is a very rare thing. As I mentioned before, there is a lot of experience of wind turbines, both ones that have been there for 10, 20 years, and modern ones. I can tell you again that there is nothing about the wind turbines that we are installing that would be unhealthy or harmful to people's health and wellbeing. So of course, naturally, the claims made during this inquiry concern us greatly because they affect our reputation and affect community support.

I was encouraged yesterday by Senator Boyce asking many of the people who appeared to focus on the evidence, asking them did they have any evidence for many of their claims. I think that is a good approach to take. What we are talking about here is eventually a set of recommendations that will be made by the committee, and we would want those to be evidence based. As an industry, we do not do things unless we have evidence of what might happen or what has happened, and we would urge the Senate to do the same here.

On Friday, we had the appearance from Nina Pierpont via a phone call and she said many things about the wind industry, things that really you could only say under parliamentary privilege. She was asked about her evidence and the process of peer review and why she avoids it. Peer review is an important and time-honoured scientific practice that ensures quality control in science. Her response to why she did not have her work peer-reviewed was that it was too long for a scientific journal. She published her work in a book, though. The editorial committee for her publishing company features herself and her husband. The company has published two books. The other one is a book by her husband. So let us be frank: this is self-published work. This is not widely accepted academic work. She is a paediatrician making claims about hearing and acoustics and about wind energy, yet she has the temerity to attack Dr Geoff Leventhall, who is one of the foremost experts in this field and the author of numerous pieces of peer-reviewed work, as if he is a mouthpiece for the wind industry. We completely reject that.

Later today you will get the chance to ask questions of Sarah Laurie, who calls herself a doctor, calls herself the medical director for the so-called Waubra Foundation. Nina Pierpont said on Friday that, in many respects, Sarah Laurie had already undertaken research that was beyond what Pierpont herself had undertaken. Sarah Laurie has no peer-reviewed research on wind turbines available either. Why would she, when Nina Pierpont never bothers with this? Sarah Laurie has been calling herself a rural GP but, in fact, she is not actually registered to practise, and you will get the chance to ask her why she chooses not to register as a health practitioner. In a recent TV interview, she conceded this publicly.

The other thing that I intend to address, because I know you have got the CFA appearing later, is fire risk. Some of the submissions from the landscape guardian groups raise the question of fire risk. We would say that the risk of fire from wind turbines is very low, and the evidence bears that out. This was noted yesterday by all of the local councils that appeared before you.

Many of our staff, in fact, on all of our wind turbine sites, are CFA volunteers; so we are in the community making sure that the fire risk is low and stays that way. Fire risk of course also needs to be put in context when people are suggesting that wind turbines cause fires or bushfires. They need to look at some of the other things that cause fires. If the Senate committee wishes, I can provide numbers on fire risk for the wind turbine industry later, on notice.

I will leave it there because we only have half an hour and I welcome your questions.

CHAIR—If you could provide that information, it would be useful. Senator Fielding.

Senator FIELDING—Thanks, Chair and Mr McAlpine. You said that there is nothing about wind turbines that is unsafe. So, if you had a residence that was very close to one and there was a lot of shadow flicker, people living in it would not have any effects on their health at all?

Mr McAlpine—No, that is not what I am saying at all.

Senator FIELDING—You said there was nothing about them—

Mr McAlpine—I said there was nothing unsafe about our wind turbines. You are talking about a situation there, a hypothetical one perhaps, of shadow flicker. That is all to do with the location of a wind turbine and not about the wind turbine itself. There is nothing about the machines that we produce, supply and install that would make people sick.

Senator FIELDING—I understand that your parent company in Denmark have announced that there will be binding limits that will be legislated on all wind turbine infrasound.

Mr McAlpine—Who is ‘they’, sorry?

Senator FIELDING—Is that correct? I understand that there would be binding limits legislated on wind turbine infrasound.

Mr McAlpine—You are talking about whom? You are talking about the parliament?

Senator FIELDING—From what I have been told. I am interested to know: are you aware that they are looking at legislating?

Mr McAlpine—I am not aware of what you are referring to. You might want to provide that later and I could respond, but I cannot respond now when you are not telling me who is providing that.

Senator FIELDING—You want me to double-check the information I have got?

Mr McAlpine—That would be good.

Senator FIELDING—A state owned electricity company called DONG Energy has announced that it is abandoning the development of onshore wind turbines as a result of concerns about human health.

Mr McAlpine—No, they did not announce that.

Senator FIELDING—I will need to—

Mr McAlpine—They have said they are going offshore and focusing—they are a customer of ours. They said they are going offshore.

Senator FIELDING—Do you know why?

Mr McAlpine—They said there is better return offshore and, indeed, they also made reference to complaints about noise. There is absolutely no doubt about that. But you just said health, and that is quite another thing.

Senator FIELDING—I need to double-check.

Mr McAlpine—I am telling you right now that they never mentioned health. I do not think you should take them out of context. I do not think you should misquote them in a situation here.

Senator FIELDING—Have any of your turbines ever caught fire at all?

Mr McAlpine—Yes. I discussed fire risk and put it in a context, and fire risk is very, very low.

Senator FIELDING—When you say that there is nothing about them that is unsafe, I think that statement would not be a hundred per cent correct.

Mr McAlpine—That is drawing a bit of a long bow. Lots of things catch on fire. Are you going to call everything that catches on fire unsafe?

Senator FIELDING—You say that peer review is important. Are you aware of the National Health and Medical Research Council report? Do you know whether that has been peer-reviewed at all?

Mr McAlpine—The NHMRC report—

Senator FIELDING—The one that the industry relies on for claiming it is safe.

Mr McAlpine—That you are referring to, yes. I include it in my submission. That is a rapid review of all of the peer-reviewed research around the world. What the NHMRC did was examine all of the evidence, which I suggest that you do as well. The NHMRC has not been called before this inquiry, as I understand it, but I think it would be a good thing if it did.

Senator FIELDING—Can I correct that. We have asked them to appear. They had not agreed to appear until I think late yesterday.

Mr McAlpine—Do you not have the power to compel them?

CHAIR—I am the chair and, as the chair, I am telling you we have asked them to appear and they have conceded. They said yes, they will appear.

Mr McAlpine—Okay.

CHAIR—It would be appreciated if you did not argue with the senators.

Mr McAlpine—I am just asking the senator a question. To go on with the point about the NHMRC, if you have any questions about the way in which they produced their report, or about the evidence they considered when they did that report, I suggest that you ask them about it if they are going to appear. I was not involved in the production of that report of course.

CHAIR—Senator Adams, do you have any questions?

Senator ADAMS—Yes, I have. I would just like to continue. Thank you for your opening statement. I have a question about the NHMRC publication. I have had colleagues that have approached the NHMRC about the authors of their report, which was the rapid review of the evidence. Unfortunately, NHMRC have just come back and said that there are numerous authors. They will not name them. Really, the evidence that they have come up with includes the American and Canadian wind energy associations, which have come in as expert peer reviewers. These people are actually involved with the wind industry. As far as the report goes, I note that in your submission you have several quotes and you have really linked your health claims and the evidence to use that as your main issue against any health problems. But once we do get NHMRC in, it will be interesting to see what their evidence is. This document is not as watertight as was first thought, and a number of our submitters of course are using that as their evidence.

I have a question for you. You have said that none of your wind farms are causing problems. I wonder, with your community consultation, whether you have done any surveys of people outside, not the people that are actually putting turbines on their properties but neighbours. Have you done any sort of survey of those other people around the perimeter of any of your wind farms at all?

Mr McAlpine—I should clarify that Vestas is not a developer of wind farm sites. We are a supplier to the industry. So the industry uses our equipment but we do not seek planning permits. We do not do the community consultation. Our customers, such as AGL, Pacific Hydro and others, do that work. We are a supplier to the industry. We are not out there doing all of those roles. That is the developer's job or the generator's job.

Senator ADAMS—You did make the statement that none of your equipment would cause health problems—

Mr McAlpine—That is correct.

Senator ADAMS—That was the reason I was asking. I was thinking, if you can come out and say that, has your company done any surveys to see whether people have been affected, despite the fact that your company is not the actual contractor? But to come out and make a statement like that, I presume you have some evidence behind that to say that this is the reason why.

Mr McAlpine—Sorry, you said ‘surveys’. What you mean is health research.

Senator ADAMS—That is right.

Mr McAlpine—The industry more broadly, which we fund and participate in, has done work on this. You have mentioned a couple of the studies that have been conducted in some of our biggest markets, Canada and the USA. I understand that work is also being done in Denmark and in the UK as to, I guess, not only noise but also health. As you have probably seen, both through the submissions and in the hearings that you have had to date, when people are making claims that wind turbines are making people sick they are never quite clear about why they say that is so. Whether it is noise or whether it is annoyance, whether it is shadow flicker, as Senator Fielding mentioned, they are never actually clear about what it is about the wind turbine that they are blaming for making them sick, what aspect actually does make them sick. So we have looked at the issue of noise of course, because we are always trying to reduce noise from wind turbines. But we have found no evidence of any direct link to health impacts.

I do say, in the submission that we have lodged, that we are very concerned about stress. Stress is real, and stress has health impacts. We reference this and so does the NHMRC in looking at all the evidence on the table. Stress is something quite different to any aspect of the machines that we produce and stress has a health impact. Stress can result from all kinds of thing. I do not pretend to be an expert in it, but stress is a widely accepted medical condition and a lot of, I guess, the testimony yesterday and the submissions and claims that have been made would seem to me to be consistent with stress. But you are getting the NHMRC in and they can respond to that.

As I also mentioned in the submission, Victoria’s chief medical officer, John Carnie, has put a statement on the record about health; so too has WorkSafe Victoria. And that is important to us for the safety of our employees as well. There is plenty of research out there and the NHMRC has done a review of that evidence, that research. We have participated in it in jurisdictions such as the US and Canada. I think that is all I can say.

Senator ADAMS—Have you actually seen the report that the chief medical officer has produced or the WorkSafe report?

Mr McAlpine—In the case of WorkSafe, I believe they made a submission to a panel hearing in Victoria. It was not a report as such, not a big volume. It was a communication they made when they were asked by a planning panel in Victoria over the last year or the year before. I can produce that for you on notice if you would like.

Senator ADAMS—It would be good if you could.

CHAIR—If you could make that available.

Mr McAlpine—The comments by the chief medical officer in Victoria were made on the record in a media interview and were reported widely during 2010. Again, if you like, I can produce that for you, but it is publicly available.

Senator ADAMS—We will follow that up anyway and see if the chief medical officer has actually done a report to back up his statements.

Mr McAlpine—I am not sure what he reviewed in coming to that conclusion, but it is likely that he has looked at much of the publicly available evidence out there.

Senator ADAMS—I have one question on employees. How many people do you employ in Australia?

Mr McAlpine—In Australia it is just over 200. We are expecting that to increase. We are currently building a couple of wind farms in Western Australia and Victoria, and construction in Victoria is yet to reach its peak. We are building the Macarthur wind farm through the rest of this year, in conjunction with Leighton Contractors for AGL and Meridian Energy, and construction will take place through the rest of this year and next year. We are expecting our employee numbers to rise significantly because that will be a very large wind farm when completed—420 megawatts, the largest in the Southern Hemisphere.

Senator ADAMS—What about Western Australia?

Mr McAlpine—In Western Australia we are currently building the Collgar wind farm. We are supplying the turbines and installing them for Collgar. I am not sure of the exact numbers but I can provide them on notice to you. I am going to be in Perth observing the hearings on Thursday so, if you like, I can bring that information.

Senator ADAMS—What is the other one?

Mr McAlpine—Sorry, to finish on that, I understand that Collgar wind farm, our customer, will be appearing before the committee as well.

Senator ADAMS—And the second one?

Mr McAlpine—When I said ‘two’ I was referring to one in Victoria one in WA.

Senator ADAMS—I am from Western Australia, as is Senator Siewert, and I was wondering where the other one was.

Mr McAlpine—We would love to build a second one in Western Australia.

Senator ADAMS—Thank you.

CHAIR—Senator Boyce.

Senator BOYCE—First off, how many people does Vestas employ in Australia?

Mr McAlpine—I was just asked. It is a little over 200 but we are expecting that number to rise.

Senator BOYCE—About 200?

Mr McAlpine—Yes.

Senator BOYCE—Thank you. As the manufacturer, you may be able to answer this: in the event that there is a bushfire in a wind farm area, what would the procedure be in regard to the turbines?

Mr McAlpine—I can provide our material on that, our briefings for staff. That is a document that I am happy to provide. I am not sure of it myself because I am not a site employee. We work closely with the CFA or CFS, the relevant authority in each state. There have been turbine fires in Australia and, where that has occurred, they have not spread, mainly because the area is cordoned off. Usually the fire has occurred in the top part of the wind turbine, which is known as the nacelle. At that height it is not safe for anyone to approach the fire or to try to put it out. So the area is cordoned off. Typically, wind farms are built in open grassland where the grass is maintained at a low level. So there is very little risk of the fire spreading anywhere else. All the power lines are underground as well. Unlike Black Saturday, where there was conjecture over whether power lines had contributed to fires there, with the wind turbines we make it our practice to put the power lines on the site underground. So we take a number of steps to reduce and mitigate fire risk. As I said, I can provide that sort of material on notice to the committee. I would be happy to do that.

Senator BOYCE—You refer to the Waubra Foundation as secretive. Why do you say that?

Mr McAlpine—They have a website and they have statements in the press, yet they do not disclose their funding or their shareholders. They seem to have appeared from nowhere. They describe themselves as independent. On their website there is a list of principles that they set out as to what they are involved in. They talk about wind farm research and describe themselves as independent, yet funnily enough down the bottom of the web page they have a post office box in South Melbourne. That is their only physical address. It is no coincidence that that is also the post office box of the Australian Landscape Guardians. You will see supplementary submission 6 by Peter Mitchell of the Australian Landscape Guardians also has the very same post office box. I say they are secretive but they are also a little misleading too because they say they are independent yet they share digs with the Australian Landscape Guardians. So I am not sure how independent the Waubra Foundation could ever be.

Senator BOYCE—You have written at length about groups such as the Landscape Guardians and their concerns, which you dismiss. This has to be based on something. The reason they are doing this has to be based on something. Presumably, investors have thought quite long and hard about what it is that is prompting these organisations. If you do not think it is adverse health effects, what do you think is prompting the opposition to wind farms?

Mr McAlpine—That is going to take longer than half an hour. I really do not know what motivates these people. I certainly do not know who funds them. There are a lot of people in the landscape guardian groups that do spend a lot of time attacking the wind industry on all kinds of bases, and the latest one seems to be allegations about health because they think that will concern people more than anything else. It seems to be almost their best tactic to date, but they have tried a few over the years. I do not know where they get their money from and I do not

know why they are coming after us. All we are trying to do is help Australia get to its 20 per cent renewable energy target and reduce its greenhouse emissions. We have never set out to do any harm, yet it seems to be their stated purpose to stop us going ahead with our projects.

They sometimes talk about a two-kilometre buffer but in the next breath they will talk about people having heart attacks 10 kilometres away from wind turbines. These people are incredibly inconsistent and they will use whatever is convenient to stop wind farms. We do not meet with them. They do not seek to meet with us. Their communications with us are through the media. So it is very hard to understand where they are coming from and why they would do this. We definitely feel like we are in the gun, as it were. They are a committed and well-funded group of people that are seeking to attack us. It is unfortunate but that is what we are dealing with.

Senator BOYCE—Thank you.

CHAIR—Senator Moore.

Senator MOORE—I am on the same track as Senator Boyce. You spoke in your evidence about the reputation of the industry. What role do you take as a turbine producer to be part of the general public perception of the industry?

Mr McAlpine—We work very closely as part of the Clean Energy Council in Australia. I will restrict my comments to Australia. When we are building projects, we work with our customers very closely to integrate within the community and promote wind energy and ensure that the community is supportive of the projects too. Where wind farms have been built, in our experience they have been very successful. A good example of that is in Western Australia at Meridian, where we are building the Collgar wind farm. The community response has been terrific. In terms of tangible things, most of our employees live in and around the communities. A certain level of staff is required to operate a wind farm, maintain it and keep it going. Those people either buy or rent houses. They set up camp in these towns. They bring their families and they send their kids to school locally. So they become part of the community. As I mentioned, our staff typically, if they are on a site, will also be members of the local fire service and get involved in the community in other ways. So even though typically the bulk of our role, I guess, is in the construction stage, we always have employees left behind who stay there and operate and maintain the wind turbines too where we have got the service contract for each site. We have built wind farms in a number of states. I think the only one we have not built a project in to date is New South Wales. So we are very proud of our role within the community, and we want that to expand, as the renewable energy target would hopefully encourage.

Senator MOORE—You are very much aware of the evidence that we have had from people who have concerns. You have also indicated in your evidence that similar concerns have been raised in some other countries. It is not unknown that people have raised issues about difficulties with the whole process. In the panel this afternoon, I will be talking to Clean Energy and to other providers. I am trying to find out whether there is any process to develop a best practice approach for engaging with communities and identifying the kinds of issues that we heard about yesterday. It was not from small areas. It was a response from across a whole range of organisations and areas in Victoria which raised very similar things.

If those things are on the table, I want to know, from your perspective, as a member of the industry who takes a high-profile role in the industry, is there a best practice way that is a model that clients of yours and various providers have a process of providing? Comments you have made about your concerns about transparency and openness from people who oppose the industry were put clearly on the record yesterday by people who have concerns about the industry. One of the common statements was that big businesses are not being open and transparent and have got secret motivations—all that rhetoric. Is there an agreed way of how you engage, how you put evidence into the situation and how you ensure that people are not damaged in any way? You are never going to stop people having concerns, but is there a process for discussing the extra damage in the concerns we saw yesterday?

Mr McAlpine—There has been since 2006. Those were the best practice guidelines that the industry developed together with stakeholders back in 2006. It is available on the Clean Energy Council website, so you can get a copy of that.

Senator MOORE—We have that.

Mr McAlpine—As I understand it, most developers in Australia stick to that. Some of them go above and beyond that. I think some developers are quite proud of the efforts they make in community consultation and the role they take, and it is almost intellectual property to them. You will get the chance later today to ask a number of developers what things they do above and beyond what is in the best practice guidelines that are on the CEC website. So I will leave that to them to answer. Yes, there is a model to follow, and that is the one initially developed by Auswind, as it was then, and now the Clean Energy Council. It is available publicly and everyone can have notice of that.

Senator BOYCE—Is that the same as the best practice guidelines that the department of climate change developed in the COAG process or—

Mr McAlpine—No, that is something quite different.

Senator BOYCE—That was what I wanted to clarify.

Mr McAlpine—The draft that the department of climate change referred to on Friday is something quite different and its fate is unknown, because there does not seem to be a lot of stakeholder support for it across the board. I think in the end, with wind farms, as Senator Moore was heading down this road, people want to know the rules and want to know how they will be treated. There is nothing special about whether the guidelines are industry guidelines or whether they are national guidelines, state guidelines or New Zealand guidelines. I think people just want to know what to expect. For most people in communities—

Senator BOYCE—Consistent guidelines are always a good thing.

CHAIR—Senator Boyce, we have run out of time, so we will finish here. Thank you very much. We appreciate the evidence. Also you have been given some homework, I think.

Mr McAlpine—I have.

CHAIR—Or you have taken on some homework. If you could get that to the secretariat within the next couple of weeks, that would be appreciated.

Mr McAlpine—Great. Thank you for the opportunity.

[9.20 am]

BRAY, Mr Andrew Phillip, Community Campaigner, Ballarat Renewable Energy and Zero Emissions

CHAIR—Welcome. I understand the information on parliamentary privilege and the protection of witnesses' evidence has been given to you.

Mr Bray—That is correct.

CHAIR—We have your submission, which is No. 720. I would like to invite you to make a brief opening statement, and then we will ask you some questions.

Mr Bray—Firstly, I would like to thank the committee for the opportunity to appear today. You heard a number of voices yesterday in Ballarat speaking against wind farms, but I would like to assure the committee that there are many people in Ballarat who support wind farms and their further development. BREAZE is one of the strongest public voices of support in Ballarat. To give you an idea of why a bunch of greenies like us—and go on, you are thinking it—would put in a submission that dwells so heavily on economic opportunity—

CHAIR—You have not got a sign over your head.

Mr Bray—You just get used to it, I guess. I would like to take a moment to describe who BREAZE is and give you a sense of why we talk about the things that we do. We are one the largest climate and sustainability groups in Australia, of which there are around 200—probably more. Their main purpose is to bring together people to demonstrate support for a more sustainable way of living. We aim to demonstrate that support to our communities, and engage our communities thereby, and also to governments.

We are a community based group that formed around four years ago and our aim is to energise our local community to make big achievements locally that inspire bigger changes further afield. We do not care who does the work and who makes the changes, but it certainly does not have to be us. We only really care that the work gets done. In those four years we have developed quite strongly and now have a financial membership of around 600 people, and our newsletters go out to about 2,000 people each month. We have assisted in the installation of about half a megawatt of photovoltaic panels on homes and schools and around 250 solar hot water systems. So our business is to help and assist the community in those projects.

We have run education forums and supported people interested in things like local food and retrofitting their houses. We participate in community debates around sustainability and climate issues. Why do we go to all of this effort? It is because the people of BREAZE really care about the long-term future of the planet. That is what drives us and our members.

Financially, we turn over around \$2 million each year from solar income, grants and membership fees, and we employ 11 people. We have daily contacts with local businesses and, through our sustainability activities we have become a notable player in our local economy. And

like every one of our members, we contribute to Ballarat's economy and we depend upon the prosperity of that economy for our own prosperity.

Ballarat is a proud city with a diverse regional economy and strong employment in retail, in health, in manufacturing and in education. It is home to innovative and award-winning companies like Gekko Systems, who supply mining equipment internationally. BREAZE understands that, like Australia, we are a kind of microcosm. Ballarat must be able to survive in the low-carbon economy of the future. So being ready to embrace renewable energy in new ways of doing business is crucial to that.

Senators, when you voted for the renewable energy target legislation—or the RET—in the last parliament you helped kick-start the transformation of Australia's energy generation system from fossil fuels to renewable energy. The RET is really an unprecedented stimulus for a single industry and it is the primary economic reason we are discussing wind turbines here today. As I have no doubt that you foresaw when you voted this way, you have put regions like Ballarat in an excellent position to capitalise on the investment flows that come from the RET, which are estimated at around \$20 billion until 2020.

Western Victoria is the logical location for the wind industry. We have excellent wind resources, we are close to the backbones of the electricity grid and we have skills and the business base to capture this investment and add value. You heard a lot about the Waubra wind farm yesterday, of course. The one thing you did not hear was that the construction of the wind farm provided a one-off boost of \$58.4 million to the local economy just through the economic activity associated with the 160 jobs that were sourced locally. Ongoing employment at Waubra adds a further \$7.79 million to the local economy each year just from the jobs. These were figures that were generated by the City of Ballarat, using REMPLAN modelling, and I am happy to table those later. Other benefits accrued to local businesses such as Ballarat City Mazda, who enjoyed almost half a million dollars of business from Acciona, and Hip Pocket Workwear and Safety, who have been an exclusive supplier of uniform and protective equipment, and those submissions were made to the inquiry.

All the money that finds its way to one business carries on through to the numerous other businesses in the town. Troy Beaston, the general manager of Eureka Concrete—and it is not every day that an environmental group gets behind a concreting company—eloquently describes that in our submission:

... the continuous work after construction is never ending. It embarks into many industries such as transport, maintenance, hire of plant, professional people, finance companies and others. It helps businesses to grow thus giving more employment not only directly to the wind farm industry but these businesses indirectly involved.

You also heard a lot about Stockyard Hill yesterday, but you did not hear the voices of the good people of the Skipton Progress Association. From yesterday's claims, Skipton is about to be overrun by wind turbines, yet the Skipton Progress Association says in a letter to the Victorian planning minister, which again I am happy to table, that they are 'in no doubt that Stockyard Hill will have a financial input into the township. We believe this will come not only from direct money investments but also from the creation of jobs, development of infrastructure and the boost to local businesses. From this perspective, we support the development of the Stockyard wind farm.'

But it is not all dollars and cents, of course. The submission from the Waubra Football-Netball Club describes how Acciona has supported the club in a number of extremely positive ways. Chances are that income from turbines has allowed families to remain farming in the area that may not have been able to remain there. This will give a better chance that there are enough kids to keep Waubra's primary school open and that the Waubra Football-Netball Club can continue to field teams into the future. This is something that we see in farming land, which is becoming increasingly marginal across the country.

Did I mention that building more wind farms in western Victoria is an excellent way to cut greenhouse gases and reduce our dependence on Victoria's appallingly dirty coal-fired power stations? That would be a local achievement that brings bigger impacts further afield.

The economic and social benefits that I have described here are real, and they make real differences to people's businesses and real differences to people's lives. Yesterday you heard a number of grievances that were raised, but BREAZE believes that, on balance, the substantive problems hinge around proper process and procedural issues and, because of that, these problems are fixable. They are problems of process; they are not fundamental problems. Unlike yesterday, BREAZE would like to leave you with a really positive taste in your mouth as you contemplate your findings. I would ask you to consider the economic future of regional centres like Ballarat in your deliberations, and potentially wind is a real economic boon for our city. It strengthens existing businesses and stimulates new ones. The future of energy needs to be a renewable one. The fact that the renewable energy provided by wind stands to bring untold and diversified economic benefits to the Ballarat region is a stunning opportunity that we really should not be letting go by. So I hope you will settle on arrangements that allow regional cities like Ballarat to benefit to the fullest from these economic opportunities.

CHAIR—Thank you. Before I forget, can I say that, yes, we would appreciate you tabling those documents. Thank you. Senator Fielding.

Senator FIELDING—Mr Bray, I cannot remember whether you were there yesterday or not and whether you heard a lot of the residents—

Mr Bray—I was.

Senator FIELDING—What do you say to those people that come forward with the claims that people who live close to the wind turbines in that region have had adverse health effects? What do you actually say to those claims?

Mr Bray—No-one who was there yesterday when the Stepnells were giving evidence could have been unmoved by their story. In fact, I did go and speak to them afterwards and thanked them for sharing what was obviously a very painful story they have to tell. I thought they did it with great dignity. Clearly that is a family that is going through a lot of distress and dislocation, and that is a huge problem. But BREAZE is not a group of health professionals and it is not really our place to get into the details of that. It is far better to accept the weight of evidence that has come to the inquiry already through the submissions from Dr Geoffrey Leventhall and the National Health and Medical Research Council report that we know. The Australian Psychological Society submission is a very interesting one and presents strategies that will allow wind farms to be incorporated into local communities in a way that minimises those kinds of

community disruptions. BREAZE is a community group, so cohesion and health of communities is something that is important for us.

Senator FIELDING—If there were some link between living close by the wind turbines and adverse health effects, would that concern you? It is not a matter of just jobs at all cost or the socio-economic benefits at all costs. If there were adverse health effects you would then—

Mr Bray—If there were a clear link demonstrated between the wind farms and health effects, of course we would be calling for changes to the planning procedures that would minimise and eradicate those. At this stage, as lay readers of the evidence that is before us, there really is not anything to suggest that we are in any way sure that that is the case.

Senator FIELDING—Like a lot of people, I have read the National Health and Medical Research Council report. I have also read a lot of the footnotes that make it clear that it relies very heavily on papers that were funded by the wind industry. That is the reason why I still have some concerns about everybody relying on one paper which relies on a lot of papers from wind industry experts. Earlier on, everybody was claiming, even for things like the tobacco industry, that it is about jobs and it is all safe. I get very nervous about living close to wind turbines from the stories that I have heard. We are trying to get to the bottom of whether there are actually adverse health effects. That is the issue. You have done no scientific research, have you, from that point of view?

Mr Bray—No. As I say, we are not health professionals. We are not scientists. As I said before, our driving motivation is that we accept the virtual scientific consensus on climate change and the dangers and health effects that that poses. Essentially we see the science as it is, and we act on that. At this stage, the science does not suggest that there is a genuine health issue to be grappled with.

CHAIR—Senator Adams.

Senator ADAMS—Thank you for your opening statement. I note that you said you have 600 members. In the background to your organisation, you are saying you are representing over 2,000 residents within the municipality and the surrounding districts. If you have got 600 members, how do you represent the other 1,400? What gives you the right to represent them?

Mr Bray—The 2,000 number refers to our email list. The 600 are financial members.

Senator ADAMS—Have you got any members that are currently having health problems with the wind farms being in close proximity to them?

Mr Bray—There are none that we are aware of, no.

Senator ADAMS—So at your meetings or whatever, the attendance of your members, you have never had any complaints whatsoever?

Mr Bray—No. We have members who live around the Waubra area. Further south there are proposed developments around Lal Lal and those kinds of places and we have members in all those different places. No, we have not had specific complaints from our members.

Senator ADAMS—I note in your overview that you say, ‘We believe there is room for Community Engagement processes to be improved.’ Would you like to tell me a little about why you think the community engagement process should be improved?

Mr Bray—We heard a number of the problems yesterday from people. They had someone come up to them in the paddock and say, ‘This is what we would like to do.’ Then they agreed or did not agree and something happened on their neighbour’s land and they were unaware of it. I think they generally felt in those instances that they had been kept in the dark and that later on things would change. For instance, in Waubra, the lighting requirements around the airport were added later on. I think those things took people by surprise. I think it is just being a bit clearer in the opening stages as to what developers are asking of people who live there, following up and taking note of and acting on any objections or discussions that take place as part of that.

Senator ADAMS—As a group, you are very keen about clean energy. Do you see your group becoming involved in this community engagement process?

Mr Bray—The Hepburn Wind model, which you of course got to see firsthand yesterday, is a fantastic community engagement model. What they have done is really got down and talked. They were in the main street of Daylesford for weekends on end, talking to people, anyone who came by, about the benefits of wind. They bussed them out to Challicum Hills so that people could see firsthand and hear firsthand that the turbines themselves were fairly quiet. They did all that kind of groundwork. They raised capital and allowed people to share in the economic benefits of the turbines that were going up next to them. At some stage in the future, that is something that BREAZE would consider being involved in. It is a huge undertaking. For instance, there is a three-turbine proposal at Chepstowe, which is just to our west. That is something that could work as a community owned model. But at this stage, it has proceeded no further than ‘it is a good idea’.

Senator MOORE—I have one question in two bits because we are running out of time. You were there yesterday. People said one had no right to comment unless one lived in the region and actually was part of it and heard it and lived there. That was one thing.

Mr Bray—James Nancarrow said that to me.

Senator MOORE—And the second point is in terms of some of the expressions that were made yesterday that communities had been destroyed sociologically by the division that had been caused by the actions. There was also an underlying element, in some places, of violence. I felt that in the room yesterday, that there could have been physical violence, with people being so upset. Are you aware, your local community group, of elements where there has been any kind of violence in terms of fighting, graffiti, damage and family breakdown? I am wondering whether, through the wider network—this is a question I am very interested in generally—there has been that degree of dislocation. When you have a lot of people who are upset, that sometimes can occur.

Mr Bray—The only examples I know of are the ones that I read in the *Courier*. There were some examples of graffiti, I think, and signs that were put up in places, in some farms, and taken down again. But in terms of violence, I am not aware of any, no.

As I mentioned, when I spoke to Sam Stepnell after the Stepnells gave evidence yesterday, yes, she said to me, 'If you do not live here, you have no right to talk about it.' My response to her was that BREAZE will carry on engaging in the debate and talking about it, because it is a very wide- and broad-ranging issue. It gets to the heart of how Australia makes its electricity generation and what kind of economy we have, whether it continues to be high carbon or it moves to low carbon. There are all sorts of issues that are in it, lots of them that are big. I would never presume to say what it feels like to live near them. That is for those people to do and I would not presume to speak on that.

CHAIR—Senator Boyce.

Senator BOYCE—Thank you. How is BREAZE funded?

Mr Bray—As I mentioned, it is predominantly income from solar panels and solar hot water sales, government and philanthropic grants and membership fees. We have publicly available annual reports, so that is all there.

Senator BOYCE—Roughly, what is your annual turnover?

Mr Bray—It is a little under \$2 million, I think.

Senator BOYCE—I am just following on from Senator Moore's comments. This is part of that statement that rural residents are suffering, for the sake of urban residents, because of the development of wind farms. What is BREAZE's response to that claim?

Mr Bray—One of the more creative responses is from a group in St Kilda, 'How about we have a whole row of wind turbines through the middle of Port Phillip Bay?' That would be something to put the cat among the pigeons because, quite rightly, people are saying, 'How come we are bearing the brunt of the electricity generation, when most of it is going to Melbourne and being used there?' Equally, you could say, 'How come the people in Traralgon or in Morwell have to deal with health problems, which are documented and genuine, to supply electricity?' As our electricity generation system evolves and moves towards a more distributed and renewable thing, this is an issue that is going to come up more and more.

Senator ADAMS—Thank you.

CHAIR—I know Senator Adams wanted to ask about planning, as did I. One of the issues that came up yesterday and has come up previously is the issue around planning. From listening to the shires yesterday and all the witnesses, I have to say that it seemed to me that planning was one of the very significant issues. Have you thought about that, and what comments do you make about it?

Mr Bray—We have thought about it, but I would not say that we had strong opinions on how it should be upgraded or whether you move to a federal uniform system. I think one thing that was clear was that devolving it to individual councils to manage is peculiar. Certainly something that is at least at state level, so that the people enforcing the compliance and assessing the planning have the proper experience and resourcing to do it, I think, would be crucial. Moving it

down to the council level in that sense, in maybe smaller applications with only a handful of turbines, I think, would be more appropriate.

CHAIR—I certainly got the sense from witnesses yesterday that there was a call for or there was support for a more national approach. There were different rules within shires or in local government areas and then nationally as well. What is your opinion on that?

Mr Bray—I would not say we had a valuable opinion to add to that. You would be better to go to the councils and get their thinking.

Senator FIELDING—I have one further question.

CHAIR—Okay, if it is pretty short.

Senator FIELDING—I was not sure, but were you saying you would support wind turbines in the bay in Melbourne? Was that what you are saying?

Mr Bray—I think it is an interesting proposal. I think a bit of a discussion on that in the bayside suburbs of Melbourne, where incidentally I grew up—

Senator FIELDING—But you would not be against it, though, would you?

Mr Bray—I can see you are leading me down a path that you know the end point of, and I am not sure I do yet.

Senator FIELDING—I am interested to know, though, given that you say wind farms are safe and there are no health problems, whether you think having a wind farm on the foreshore in St Kilda or—

Mr Bray—I think it is definitely a proposal that would be worth some exploration.

CHAIR—I should note that in Western Australia there is a proposal for at least one, if not two, in Fremantle.

Mr Bray—I think you would find there would be quite a bit of support for it, actually.

Senator MOORE—Subject to appropriate community consultation.

CHAIR—Let us not go there.

Mr Bray—And a bullet-proof planning guideline.

CHAIR—We have not got the rest of the day to talk about that. Thank you very much. You have a bit of homework, I think, to table some documents. If you could do that now or within the next couple of weeks, that would be appreciated.

Mr Bray—Okay.

CHAIR—Thank you.

Mr Bray—Thank you.

[9.46 am]

MARSH, Mr Russell, Policy Director, Clean Energy Council

WARREN, Mr Matthew John, Chief Executive Officer, Clean Energy Council

CHAIR—Welcome. I understand the information on parliamentary privilege and the protection of witnesses' evidence has been given to you.

Mr Warren—Yes.

CHAIR—We have copies if you need a little update of that information. Thank you. We have received your submission as No. 67. I invite you to make an opening statement. You know the drill. We will then ask you questions.

Mr Marsh—Thank you. We would like to thank the committee for the opportunity to present before it today. The Clean Energy Council is the peak body representing Australia's renewable and clean energy industries. We have more than 500 members across Australia. It is a national organisation. We are committed to coordinate the development of clean energy technologies and deployment of clean energy technologies and to facilitate effective legislation and regulation to encourage the development of these technologies as quickly as possible.

In relation to wind energy, which is one of the technologies we represent, we recently commissioned modelling by Sinclair Knight Merz-McLennan Magasanik Associates. They project that, under the mandatory renewable energy target legislation, we expect to see the equivalent of 17,000 full-time jobs in construction in renewable energy projects over the next decade and 1,600 full-time jobs, many of these in regional Australia.

Our research shows that there is extensive support for wind farms across Australia, including in regional Australia and the regions where they are deployed. More than 90 per cent of Australians surveyed indicate their support for the technology. The New South Wales government recently commissioned similar research and found strong support in regions and communities where turbines have been deployed.

Just to clarify that, wind farms displace fossil fuel generation and do provide greenhouse gas emission abatement. An average sized wind farm of 1,500 megawatts will displace from 150 to 450 kilotonnes of CO₂ per annum, which is 98 per cent. Only two per cent of the embodied energy in a wind farm goes to its construction; the rest is abated.

The wind industry currently complies with standards and guidelines that are among the most stringent in the world. We have learnt from the experiences out of Europe and adapted and developed planning approval processes that are world's best practice, and our member companies adhere to those standards.

We have recently, with other companies, conducted and collated research on modern wind turbines. That has shown that the levels of low-frequency noise and infrasound are within

acceptable thresholds. Testing has shown that there is no peer-review scientific data to suggest that the levels of low-frequency noise or infrasound emitted by wind turbines make humans sick.

Finally, just to clarify that, the National Health and Medical Research Council recently found that there is currently no published scientific evidence to positively link wind turbines with adverse health effects. Thank you.

Senator FIELDING—So what do you say to those people that are suffering health problems and are living near wind turbines?

Mr Warren—It is quite clear, from seeing their evidence and the complaints they make, that they are sick, that what they are feeling is real for them. But we need to be clear about that causal relationship. There is no evidence to suggest that that is caused by wind turbines. There are relationships with stress, and there are relationships with a range of other social phenomenon and other concerns that are related to this, but we have no evidence that it is caused by the turbines themselves.

Senator FIELDING—You have not done any research on that yourselves directly, have you, at all on the health impacts?

Mr Warren—We commission research and collate it. This research is not new. This technology has been around for 30 years. We collated all the scientific research conduct around the world to provide it to the Australian public for the debate. There is no evidence, in 30 years of research.

Senator FIELDING—In your submission, you oppose any minimum setback or distance from wind turbines in relation to a person's home. How did you come up with that position?

Mr Warren—There are a few things to understand about wind turbines. The first is that there are already planning approval processes in place. The second is that, if you think about a wind farm and a community, in every situation it will be slightly different. There are different prevailing winds. There are different setbacks and different distances. There is different geography and topography. So to mandate, say, two kilometres assumes that every location for a wind farm is identical, and that is not the case. So they need to be assessed. Rather than setting them on kilometres, they need to be assessed on audible noise, which is what they are currently assessed on. You need to be able to set the wind farms back far enough so that they are below the thresholds required under the guidelines.

Senator FIELDING—What factors would you use to determine what the setback should be? I know you are saying it should be on a case-by-case basis. What factors would you use?

Mr Warren—Measured audible noise.

Senator FIELDING—Why measured audible noise?

Mr Warren—Because that is the measurable, known standard by which a wind turbine can impact on a household. You cannot hear it.

Senator FIELDING—What about non-audible noise? Would you use that as a factor? You just told me it was just going to be audible noise.

Mr Warren—That is right. We have done research on non-audible noise. The inaudible noise, the infrasound emitted by a wind turbine, is lower than or the same as you would hear from a main road and lower than or the same as you would hear from an ocean. If infrasound caused people to be ill, then everybody living on the esplanades of the major cities in Australia would be suffering from the same complaint that people living near wind farms claim.

Senator FIELDING—What about shadow flicker?

Mr Warren—Shadow flicker—that is audible noise.

Senator FIELDING—Shadow flicker; is that audible noise?

Mr Warren—It is either audible noise or inaudible noise.

Senator FIELDING—So shadow flicker should not determine setbacks?

Mr Warren—If can you hear it, it is audible noise and it is measurable.

Senator FIELDING—Okay.

Senator BOYCE—Shadows going over.

Senator FIELDING—I did not want to really state the bleeding obvious, but yes.

CHAIR—Can we finish that?

Mr Marsh—We have not got a position on shadow flicker itself. The point is that there would be a number of variables that you would want to set into the guidelines for setting the wind farm. You cannot necessarily mandate that it should be two kilometres or it should be this or it should be that. But do it on a case-by-case basis. We do not have a position on what a setback or what a reasonable standard for shadow flicker would be. You may want to include that within the guidelines. You would say, ‘Okay, these are the things you might need to measure and be looking at when you are setting the planning approval.’

Senator FIELDING—Do you know what level is considered unsafe for someone’s health for audible noise and inaudible noise and for shadow flicker?

Mr Marsh—For audible noise, we know the World Health Organisation are setting 40 dBAs as around the level, and we know that at the moment the standards in Australia set noise below that. I do not have the figures for inaudible noise on me. We can certainly come back to you on that.

Senator FIELDING—Do you know why those numbers are set anyway? Are they for health and safety issues or are they because people are worried about the ambience noise?

Mr Marsh—As I understand it, obviously the audible ones are set at about the level you can hear it; so it is to do with what can you hear from a certain distance away.

Senator FIELDING—No further questions, thank you.

CHAIR—Senator Adams.

Senator ADAMS—I would like to carry on with that, thank you. As far as your members go, do you have guidelines relating to the audible noise? For every home that is in close proximity to your members' turbines, can you tell me the process that is used? Who has actually checked the noise?

Mr Marsh—We do not. Obviously each individual planning application will have those figures in there and it will be up to the individual companies to conform to those standards and to do the measurements.

Senator ADAMS—As we have gone around, we have had a number of submitters say that the noise unfortunately has not been measured during the night. Some of it has been very ad hoc, the way it has been done. You are telling us that that setback should be X. These people are members of your organisation. What proof have you got that it has been done properly? How do you govern that? What do you do?

Mr Marsh—It is not our role to govern that. The role is obviously that of the individual planning jurisdictions to set those standards, to monitor them and to take action if they are not being complied with. It is not a role of the Clean Energy Council to monitor any of those issues.

Mr Warren—We are not a regulatory authority; we are an industry association.

Senator ADAMS—I realise that. I am fully aware of that. You have just come out and told us. We have asked about the setback and you have said, 'This is what it is.' We have had evidence that it is definitely not being carried out in that respect. We have certainly had evidence against a number of the organisations that you have listed here as your members. As an organisation, what are you going to do about it?

Mr Warren—An individual household who has those concerns can raise the complaints through the planning approval process and have that tested and checked. Audible noise is relatively straightforward. There are mitigating measures that can take place within individual wind farms if that is found to be above the required thresholds.

Senator ADAMS—We will move on to the planning. As far as planning goes, are you satisfied with the guidelines, and could you comment on the national draft plan guidelines?

Mr Warren—I would start by saying the guidelines are amongst the best in the world. I think the frustration with the debate that we are having before this committee is that we are debating an issue about health and the health effect of wind farms, when I think the real debate in this is about the social impacts and the social and community relationships in those communities.

These wind farms have been developed in Australia in the last decade behind the coalition's mandatory renewable energy target. There has been mostly broad support for the projects that are developed, with a few individual cases of householders and individuals who do not like them. They are entitled not to like them, and there are a range of reasons why that may be the case. It frustrates us that we are having a discussion about something and, no matter how much evidence we put forward based on the science, there is no proof that it exists. But there is a real issue going on in some of those communities and it is being manifested and heard before this committee.

Senator ADAMS—You are saying 'based on the science'. What science are you talking about?

Mr Warren—Noise science: the science of what you can hear and what you can measure.

Senator ADAMS—What are you using as that base? You are saying it is scientific evidence. Can you give us an example?

Mr Warren—The body of literature in all science in relation to human health has found no relationship between this technology and human sickness. That does not mean to say—

Senator ADAMS—Sorry, what are you using?

Mr Warren—The National Health and Medical Research Council collated all the best available evidence around the world and found there was no relationship.

Senator ADAMS—Unfortunately in that particular document, of course, the authors are not named, and the peer reviews are just not there for it. You are basing all your evidence upon a document that later we will get, hopefully, some evidence from the NHMRC on. Certainly there are a lot of questions associated with that particular publication. A number of the Canadian and American peer reviewers that are quoted are actually involved with the wind industry. When you delve into the depth of it, you do wonder whether all these issues are right. You are just basing your scientific evidence on that.

Mr Warren—We also commissioned noise experts Sonus to review it. That report has been available to the Senate. These are experts in the field of measuring noise generally—wind noise and its application. Professor Geoff Leventhall made a submission to the Senate. He is from the UK. He is an expert in this area, a noise expert, and he has found no relationship either.

Senator FIELDING—I understand his stuff is also funded by the wind energy industry, like yours is. They are not independent studies.

Mr Warren—I see.

Senator FIELDING—To be fair, they are not independent studies.

CHAIR—I will ask a question around this. Do you know the mechanism for funding? Is it put into a fund that then commissions research, or is the research that is done commissioned directly by the industry? In other words, is it one step removed?

Mr Warren—This is a bit of a catch 22. If there are complaints made about wind noise and its effect on human health, the industry responds by commissioning experts in the field to test the hypothesis. If they do that, you are then accusing the individuals and the experts being hired to do that job of being on the payroll of the industry. How are we supposed to test those claims that are being made? We are not in the business of trying to convey any particular outcome. We are in the business of trying to find out and interrogate what the problem is and to find solutions for it.

CHAIR—I see the point you are making. Having sat on the other side of the table, where you are sitting, in the past and having tried to find that information in the past, there is a degree of cynicism, as you can probably appreciate, as you are hearing here. The reason I was asking that question was that I wanted to know: was the research that was done one step removed? Do you give it to a research foundation that then conducts the research, or do you fund it directly? Have you thought of that as being one step removed, so you get away from the inferences that the community will make?

Mr Warren—We funded ours directly but I would have to take on notice the chain of command for all the different research around the world.

CHAIR—I appreciate that that would be quite a bit of work, if you could give us examples perhaps of where the research has been conducted by a body one step removed and whether it is funded by the industry or not. I very much appreciate the point that you are making: you are damned if you do and damned if you don't. That is the point that you are making, is it not?

Mr Warren—Absolutely. At the end of the day, we rely on experts. The body of evidence that we are calling upon is substantiated by the scientific literature in this field. It is not a small group of hand-picked experts to say certain things. It is the standard science on this. You can infer some sort of control of that process by suggesting mechanisms to fund it, but ultimately we just interrogate the same science and get the same answer, which suggests that something else is happening.

CHAIR—I appreciate what you are saying. But the issue still stands. Whether it is this industry or any other industry, that argument is levelled at industry. I have, in fact, levelled that argument.

Senator MOORE—You have.

CHAIR—So that is why I am asking: has the industry looked at being one step removed from it?

Mr Warren—I am happy to take the advice. We have responded to this current debate by getting some experts to give us some advice. We did not hand-pick them. We went to somebody who was known in the industry and was credible. Frankly, whether you go through an independent agency to commission the same research or not, it does not change the quality and the integrity of that work.

CHAIR—I am not for one minute suggesting that it does. The point is that that accusation can be made. It is the appearance that has to be right. If you could give us some examples of how it was funded et cetera, that would be really useful.

Mr Warren—Okay. We will have to take that on notice.

CHAIR—Sorry, Senator Adams, I interrupted you.

Senator ADAMS—That is all right. I will continue. You stated in your submission that there has not been any devaluation of land around wind farms. Yesterday we heard quite a lot of evidence given by people whose land had been devalued. Could you tell me where you got your evidence from and what surveys you have done of people that are living on or have tried to sell land in close proximity to a wind farm or a proposed wind farm?

Mr Warren—Certainly. The first evidence we tabled with our submission was from the New South Wales Valuer-General who did an assessment of 45 property sales within a 10-kilometre radius of eight wind farm sites in New South Wales. They found that there was no negative effect on property values from those projects.

Senator ADAMS—Have you done any on Victoria?

Mr Warren—No, we have not. That was done by the New South Wales Valuer-General.

Senator ADAMS—I realise that. I am asking you about Victoria.

Mr Marsh—We have not—no, not yet. We have not done any work on Victoria. There are obviously some cases where people have said that their values have gone down. We are also looking at places where there is wind development and house prices are going up. There is not necessarily a direct cause and effect between wind farm development and house prices.

Senator ADAMS—As I said, we have had quite a lot of evidence from individuals who have been trying to sell their property about how it has been devalued. Yesterday was certainly a very good example of that.

Mr Marsh—For example, in the Bridgewater area—

Senator ADAMS—So you are saying that there are none?

Mr Marsh—I did not say that. I said there are areas in Victoria where wind farm development is proposed and house prices are not going down.

Senator ADAMS—As an organisation, seeing you have so many developers involved, would you consider doing a survey on Victorian land prices or contact the Victorian Valuer-General, as far as that goes?

Mr Warren—I think, given the recent discussion we have had, that would make more sense. We have already had one independent assessment, but I think the Victorian Valuer-General would be the appropriate channel for that.

Senator ADAMS—What about South Australia? Have we heard anything in South Australia as far as land prices go?

Mr Warren—Nothing either way.

Senator ADAMS—You have based your whole argument on the New South Wales Valuer-General?

Mr Warren—No. There is also research from the United Kingdom and the US which supports that there is no impact on land values. That is from independent research conducted in those two countries as well.

Senator ADAMS—I am more interested in what is happening in Australia than in the UK. As I said, we are getting local people coming and giving their story. I do not think they are making it up. There is one last thing I would like to talk about. Probably one of the biggest complaints we have had throughout the Senate inquiry is community consultation and how that could improve. If you are a national body and you have all these organisations as members, have you done anything about community consultation when a wind farm is proposed? Do you have any guidelines on how these companies should proceed?

Mr Warren—We have been discussing that issue because we think that issue is the nub of this problem. We are all used to dealing with industrial development in regions as well as in metropolitan areas. Traditionally they have tended to be point sources. Whether it is a mining project or a factory or other infrastructure, they tend to have a highly localised impact that radiates outwards. Wind farms are different. They have a much lower impact but it is more diffuse and spread out across a region or a community. That suggests that applying the traditional rules of community consultation may need to be adjusted and evolved to suit that purpose.

We also hear anecdotally that some of the division caused among landholders in communities is where a landholder is offered leases to lease the wind turbines and their neighbours are not. In small communities, that can create frustration. Those landholders feel disenfranchised because they are proximate to where the turbines are going to be set up but, because they do not host land for that wind farm, they feel the frustration that they were not direct beneficiaries of that process. There is scope already and provision for community funding and support in wind farm development, commensurate and similar to what we have seen with other industries and other project development. The feedback from communities and the nature of some of the problems that arise with individuals and households being frustrated and opposed to the turbines suggest that we need to rethink and do better at the way that we engage with communities in the future.

Senator ADAMS—Is this an issue that is discussed? I do not want to be privy to what you discuss on your board, but for us it seems to be the No. 1 issue coming up.

Mr Warren—It is clear. We have discussed it. I have worked in different industries and companies genuinely make an effort—most companies, most of the time, make a genuine effort—to get this right. We need to learn to share that experience and improve and learn from those shared experiences in different parts of Australia on different projects. I think it is something we can always do better as an industry, just as other industries would say the same thing.

CHAIR—I understand that the ABC will be coming in shortly. It is standard practice for us to check with witnesses whether that is okay.

Mr Warren—That is fine.

CHAIR—It was okay with senators yesterday, so I presume it is okay with senators today.

Senator BOYCE—You talked about how you might have to change community consultation because of the different sorts of layouts or the different footprints of wind farms. Could you flesh that out a bit more. What do you mean?

Mr Warren—The industry does already consult. They consult with the communities in the regions where the projects are developed.

Senator BOYCE—We have agreed it is obviously less than ideal or there would not be quite as much opposition.

Mr Warren—If I had the answers, we would be developing them. It is evolving the way we do it, I think. It is about understanding the feedback from some communities. We should say that, by and large, most of the communities are very effective in community consultation and work very closely with the communities. Some of this feedback from individuals suggests that we need to evolve that process and be smarter and share those experiences and those issues that arise as we develop projects.

Senator BOYCE—How do you balance the commercial need for secrecy with community consultation? That would seem to be an issue.

Mr Warren—That is exactly an issue. It is a challenge. The requirement of commercial confidentiality for the contracts being negotiated with landholders and project developers is two ways. The landholders want that confidentiality as much as the project developers do. At the same time, we need to be cognisant that the practical reality is that a wind farm has a different impact on a region than a mining project, for instance. It is much quieter, it is much safer, but it affects visual impact. There are no standards and rules applying to visual impacts. It tends to be a personal preference. Some of the frustration that is manifested from individuals living in those communities relates to frustrations they cannot really exercise. They can say they do not like the wind farm or they do not like the way it looks, but there is not much relief for that process, so they tend to find relief in issues around noise and other more measurable complaints.

Senator BOYCE—With regard to lifecycle assessment of turbines, it is being suggested that, in fact, they are not as green as might be considered if you take in the whole lifecycle of a turbine. Has the Clean Energy Council done any work on that topic or do you have any evidence around lifecycle assessments of turbines?

Mr Warren—It is in our submission. About two per cent of the energy generated by a turbine in its life is required to manufacture the turbine, so 98 per cent of the energy generated is clean energy.

Senator BOYCE—Have you given us the reference for that? I must admit I missed that.

Mr Warren—That is okay. It is in there. They are making a clear and substantial contribution to reducing greenhouse emissions.

Senator BOYCE—Yesterday there was quite a lot of evidence from councils suggesting that they simply do not have the resources to go about dealing with the planning of wind farm developments. What is Clean Energy Council's view here?

Mr Warren—Planning approvals tend to be a state jurisdiction, especially for major infrastructure. We tend to think that is appropriate because councils do not have the resources to make these decisions and, like other infrastructure and the debate that we have about this type of development, you need to take a broader view about the local community requirements and the local conditions and the broader need for a certain project or development. Equally we would say that, in relation to uplifting that to the national level, the national government has no jurisdiction over this process. You can have national guidelines but, ultimately, the state level is where this should fall.

Senator BOYCE—The Clean Energy Council would prefer that the state government undertook the planning. There was also the comment made that there simply were not enough resources or expertise outside the industry any longer. The comment was made that all the experts that a council might use to check a planning proposal were working for the industry. What is the response of the council to that claim?

Mr Marsh—I had not heard that point directly but that may be the case. Clearly, if the councils need the resources to manage the planning applications, those resources need to be found from somewhere. Our view is that the state level is the best place for the assessment of planning approval for wind farms to occur.

Senator BOYCE—Thank you.

Senator MOORE—Mr Warren, in terms of your role as the industry council, it seems that you are often the public face for the whole industry, as opposed to representing an independent proponent. Do you agree with that?

Mr Warren—Yes.

Senator MOORE—There is now a body of community response, and we saw one slice of that yesterday where the people came because they had a forum to talk about why they hated the industry and what the industry had done to them. We had a wide range of people from people who had documented evidence that wind farms do not work, and a book to prove that, to people who spoke about their individual health impacts, which were tragic, absolutely—and no-one doubts that. Has there been a public process to bring together organisations like yours that represent the whole industry and those people who do not to have an open discussion?

One of the other issues raised consistently was the lack of transparency. It was being portrayed as big business versus individual, healthy citizens, and that was the dynamic that we were getting. That is a very difficult thing to respond to. In an attempt to be part of the public debate, how does the industry organisation respond to that?

Mr Warren—First of all, I note with some curiosity that the renewable energy industry is being portrayed now as big business and big industry.

Senator MOORE—Absolutely.

Mr Warren—It is, in a sense, an important step forward. It reflects that the industry is stepping up to the scale that is required to deliver on the challenges facing us in the 21st century. That is a responsibility we do not shy away from. We are going to have that increasingly over time and that is something we need to live with.

Your point was well made. There have been individual local forums where companies and project developers have met with community members but there has not been a broader stage where that has been played out, to my recollection.

Mr Marsh—I want to say two things. Firstly, we have thought about it for a long time. Going back to your point about when we commission research, it is quite difficult for us to try to set up some kind of meeting between, effectively, the pros and the antis. We are not the right organisation to do that, as we will sit on one side of the fence. What has worked very well in another state, New South Wales, is that the previous government set up their renewable energy precincts. They identified six areas in New South Wales which were going to be prime sites for renewables generally but winds specifically. Through that process, they basically had meetings in every precinct. I actually went to represent the Clean Energy Council at those. That was the New South Wales government's attempt to try to pull together the various views. It worked at one level.

One of the difficult problems with all these—and I think some of the people who have done community forums before find this—is that they are always inevitably dominated by a very small amount of antis. I did six events in New South Wales and pretty much you could guarantee that you would know two or three people in the audience. The same people would turn up.

It actually ended up not necessarily being a discussion with the community about the pros and cons of a particular project or the technology, but effectively a fight between those who had evidence that they thought proved that wind farms did not work and those who had evidence that proved that wind farms did. Whilst I think there may be a desire for a better discussion on these issues, it is quite difficult to construct a forum to make sure you are getting all the people in the community who may have an interest, be they pros or be they antis. It tends to be that if you are against something, you turn up to say you are against it. You very rarely get people actually turning up to say they are in support of something. It is a very difficult discussion to try to construct in the right way.

Senator MOORE—It follows in the role of many others. The negative process which we have now is because of the pain that is out there. Very negative comparisons are being drawn publicly. We heard yesterday comparisons to tobacco, comparisons to asbestos, which press all the buttons. What we are trying to struggle to get some process that actually allows people to have information so they can make up their own minds.

Your guidelines, the guidelines which I asked a previous witness about, are dated 2006. That, in itself, is a bit concerning. There has been significant activity in this country since 2006, yet

the guidelines to which we are directed about community engagement and planning, and the role of industry, have a date that makes little bells ring. I am from Queensland, where this debate has not been in the field as much yet. There still is this great gap in terms of knowledge and information.

Yesterday, people gave evidence that they were originally supportive. At least two people gave evidence yesterday that, when the first project was announced in their region, they were supportive, thinking it was a great thing. Their evidence is that since they have been living with the turbines their minds have changed. To me, that is a really significant issue. People yesterday said to us, 'Unless you have lived here, you should not have an opinion.' That is a very big gap for industry to cover. I do not know whether you want to respond to that. I would love to have something on record about it.

Mr Marsh—In terms of the guidelines, we are in the process of looking at those and how they can be updated to reflect the fact that they were written in 2006 and things have moved on. We are in the process of looking at how we can do that.

Mr Warren—I have two observations. Firstly, I was in the US last year and states like California are progressing very quickly with large-scale solar projects ahead of or faster than wind now. They are finding the same community issues arising with large-scale solar. There are different issues arising. As to the shock of the new, change drives resistance by communities, particularly in some regions. This is not unique to wind, and it is something we need to address if we are going to de-carbonise the economy as quickly as possible.

Secondly, there is a lot of emotion in this debate. There are a lot of people being made afraid. We have evidence of people living near wind turbines and wind projects who are quite supportive of it and who very recently, because of some of the fear and some of the concerns being raised by individuals in this debate—which are not based on any science or evidence, nevertheless it is compelling to some people and makes them feel anxious—complained that they are now ill when they were not ill before. The effect of having this discussion can instil concern and divide communities even further. One of our deep concerns is that there is a lot of misinformation out there. There are a lot of claims and statements, which are not backed by science, by individuals who claim to have scientific pedigrees and backgrounds that we do not think are substantiated. There are people who genuinely feel sick and genuinely have concerns about this, and they are real. We need to address those concerns.

The problem is that it is being exacerbated by the way that this is being executed. That is a great frustration for us. We are not having the discussion we need to have about communities and what their expectations are. In some places, individuals have chosen to live in a region or community because of the way it looks, feels and acts and that has been changed by the presence of a wind farm. We need to acknowledge that. It does not mean we sterilise the entire south-eastern corner of Australia because every time someone does not like them we do not proceed. We need to acknowledge those changes and think about how we are going to address them. We are going to have this challenge repeatedly with different technologies over the future.

CHAIR—You made a comment that the planning and decision making should be at a state government level. Yesterday we heard about the new process operating in Victoria where all wind farms are now going to be assessed at local government level rather than the previous

situation, as I understand it, where 30-megawatt was the divide. I understood yesterday from our local government representatives that they were not consulted on that recent policy decision. Was your organisation consulted? What level of consultation was undertaken or enacted before that decision was made?

Mr Marsh—I am not aware of any detailed consultation. The position that the current government have taken was in their manifesto. It was known that that was going to be their position and we, as others did, wrote in and responded that we did not like it, for various reasons. There was no formal consultation with us on that particular policy.

CHAIR—You would be aware that the evidence that was given yesterday was that local government did not have the resources or the expertise to make those decisions.

Mr Marsh—We heard before the new policy was announced that local government would have been concerned about taking it back because they did not have the resources to deal with it.

CHAIR—Has that been your experience?

Mr Marsh—Certainly that is what they have been telling us.

CHAIR—I want to go back to the infrasound issue. Mr Warren, I think you made the comment that it is the same infrasound levels for roads or oceans. We received similar evidence last Friday. I am wondering who did those measurements. Have you, as an organisation, done the measurements? Have you commissioned measurements to be done? We had evidence last week that infrasound is the same for a wind farm as an ocean.

Mr Marsh—The work that we are referring to was commissioned from Sonus.

CHAIR—The Sonus work?

Mr Marsh—Yes, a number of pieces of work from Sonus. This was commissioned from Sonus. It looked at infrasound specifically and took measures of infrasound in different places.

CHAIR—My last question is about the planning issue. You made a comment about state level decisions. We had a lot of evidence yesterday that suggested that people wanted national guidelines or a nationally consistent approach, because it is different between state governments and, in fact, between local governments. Have you got a response or any thoughts on that?

Mr Warren—A nationally consistent approach is appropriate. Ultimately, the most appropriate place for planning approvals for all infrastructure, including wind farms or other major projects, is at the state level. That is where we think it ideally rests.

CHAIR—So national guidelines or a nationally consistent approach, but decision making at the state government level?

Mr Warren—We have that already. What we do not want to see is an overlay of two different sets of guidelines, one on top of the other. National consistency at the state level is the ideal approach.

CHAIR—I think it would be a fair reflection to say that the evidence we received yesterday would suggest that, while we are developing national guidelines and have a national approach, in fact it is not being implemented consistently.

Mr Marsh—I think that will always be the case. You will know, as well as most, how these national things have to work. It has to go through a process of being approved by the states. The states last year agreed that they wanted to have these national guidelines consulted on for another year—until later this year. The difficulty is always going to be that the states will always have the final say and to get agreement across all of the states that they all want to go in the same direction on this issue is going to be incredibly difficult, if not impossible.

CHAIR—Thank you. I think you took a little bit of homework on board. I think you were going to table some further documents or get us some further information. That would be appreciated. If you could get it to us in the next couple of weeks, that would be great.

Proceedings suspended from 10.30 am to 10.48 am

COX, Mr Andrew Robert, Private capacity**LAURIE, Dr Sarah Elisabeth, Medical Director, Waubra Foundation**

CHAIR—I would like to welcome Dr Sarah Laurie and Mr Andrew Cox to today's public hearing. I understand that information on parliamentary privilege and the protection of witnesses and evidence has been given to you. If not, there is a brush-up copy available. Do you have any comment to make on the capacity in which you appear?

Mr Cox—I am a solicitor with Pointon Partners, and I am here today to support Dr Laurie. I am the chairman of the advisory committee to the Waubra Foundation.

CHAIR—We have your submission; it is numbered 390. I would like to invite you to make an opening statement and then we will ask you some questions.

Dr Laurie—I would like to thank you for giving me the opportunity to present to you in person. I began this quest for knowledge when I was made aware of the proposed wind development near my home, almost a year ago, and was asked by my neighbour to comment on a study by Dr Amanda Harry, a Cornish rural GP. It was only after reading this study that I really became concerned and decided to look into the matter further and find out what patient research had been done. Prior to this, I had been reassured by the official pronouncements from government health bodies that there was no evidence of health problems.

Like Dr David Iser, the Australian GP from Toora in Victoria who investigated this a number of years ago, I did not want to find a problem. Locally, it has made things awkward for me with longstanding friends, former patients and farming neighbours who have been through some very difficult years. It has also made things very awkward with longstanding friends who are Greens, or who are passionate environmental advocates.

Dr Iser and I have both compared notes on our reluctance to accept that a technology in which we had invested so much hope for the future of the planet could possibly be making people sick. But it is. We urgently need to find out why, in order to site turbines safely so that they will not seriously harm human health.

As I have listed in my submission, there are numerous doctors now, both in Australia and overseas, who have either conducted small studies on their patient populations or conducted larger studies on patients who have developed the same health problems since the wind developments had started operating near to their homes. We are all very concerned that these serious and mounting health problems are being ignored by our respective governments and health research institutions previously held in high esteem.

I realised very early on that any research I did would be immediately seen by others to be tainted, and besides, some of that work had been done and had been ignored. Hence, my acceptance of the position of medical director of the Waubra Foundation and the objectives of the foundation, particularly to collect field observations and use those to ascertain what research

is needed, and then to ensure that the best independent researchers in the particular scientific fields were encouraged to investigate the problems.

I have been privileged to get to know and now work closely with researchers around the globe who are trying to help identify and describe the problems, and to work out the scientific mechanisms for the damage being done to health. These include medical practitioners from a variety of disciplines—acousticians, physiologists, physicists, psychologists and others. We are all united in our determination to find scientific answers to these questions.

We all have limited time and resources and we need to ensure that any research which is done can be trusted by all parties, who are now very distrustful of each other. There is a lot at stake for all parties. I am advised by Dr Bob Thorne, one of the independent acoustics researchers who have submitted a research proposal to the foundation, that some very useful information and data could be gathered within six months. If our original request for funding had been granted six months ago, when we asked, we could have had some results by now. There is no more time to lose.

There is absolutely no doubt that these turbines, particularly at some developments, are making nearby residents very sick, and that their symptoms worsen over time. This is resulting in people abandoning their homes and farms, if they can afford to. A recent example of this aired on South Australian ABC *Stateline* last Friday night. I was told by a local from Waterloo in South Australia yesterday that there are now five households who have left or are leaving Waterloo, primarily because they cannot sleep and because of the resultant health problems they are having.

That wind development seems to be particularly damaging to the local residents' health but it is not the only one. We need to find out why some developments seem to be worse than others. We need to find out what the mechanism for their symptoms is. We have a strong hypothesis that one of the mechanisms is low frequency sound and infrasound, but these need to be formally tested, with concurrent measurement of infrasound and other indices such as sleep and blood pressure, in the homes of the affected residents while the turbines are turning. We then need to compare this to what happens when the turbines are not turning, which will require cooperation of the industry. Alternatively, we can measure what happens to those residents when they are away from their homes, if such industry cooperation is not forthcoming.

Interestingly, I have been made aware of a number of other sources of industrial low frequency noise which have reproduced exactly the same symptoms as many residents adjacent to wind turbines are reporting, including the elevated blood pressure, the severe sleep disturbance from waking up in a panicked state, and what appear to be the Takotsubo heart attack episodes. One of these is listed in submission No. 389, which is from the Parkville Association.

There is an urgent need for more basic primary physiological research, particularly with respect to blood pressure. The connection between chronic, severe sleep deprivation, which is commonly reported in adjacent residents, and a multitude of illnesses, is well established in the medical literature.

An attachment to my submission clearly establishes that chronic sleep deprivation from whatever cause is directly implicated in significantly increased illness from heart attacks and strokes. This is in addition to the increased risk of accidents, suppressed immunity, mental health disorders, high blood pressure and diabetes. There is an urgent need for the sleep studies across multiple sites, and on a number of occasions, as not every night is a problem and this cannot be predicted in advance.

Similarly, the effect on blood pressure appears to be widespread and alarming. It needs to be properly measured with a gold standard method of doing so—that is, a 24-hour halter monitor, and, again, over multiple 24-hour periods. We have the subjects ready and waiting. We need the funding and we need the best independent blood pressure researchers we can find to go and do the work.

These Takotsubo heart attacks that I have mentioned, where people adjacent to turbine developments are having heart attacks but are then shown to have normal coronary arteries, also need to be properly documented and analysed. The mechanism for Takotsubo heart attacks has already been identified by some Japanese researchers as a surge in stress hormones, particularly adrenaline. This surge in adrenaline is also suspected with episodes of acute hypertensive crises, being described by residents adjacent to wind turbines both in Australia, in Canada and, I am hearing, in Europe.

It is also suspected because it has been shown in animal studies and it fits with the clinical descriptions of people waking up in a panicked state, anxious and frightened, which is happening all over the world, and it is only happening when these people are in their homes adjacent to turning turbines. We suspect that the body's fight-flight mechanisms are being abnormally stimulated and it is provoking the body to release substantial amounts of adrenaline, probably even while people are asleep. This needs to be properly investigated. I should add that these episodes of sleep disturbance and nocturnal waking in a panicked state are being experienced by people living up to 10 kilometres away from existing wind developments in South Australia and New South Wales.

Mental health disorders are widespread, at times life threatening, with acute suicidal ideation, and they need urgent description and analysis. But most importantly, they need prevention, by siting turbines appropriately. This burden of illness will inevitably place more demands on already stretched rural mental health services.

The effect on children is unknown in terms of peer reviewed evidence, because yet again, the proper studies have not yet been done. But the observations from parents and teachers are alarming, and need urgent and proper further investigation free from politics and spin. Our children's long-term health and development is at stake because of the particular risk to them from the chronic cumulative exposure while their bodies and brains are developing.

These are just a few of the studies which, in my view, must be done urgently in order to protect rural residents' health. We have a unique opportunity in Australia. The warning bells are loudly ringing right now. We can learn from what has happened overseas, and we can learn from what has already happened in Australia. If we do not investigate these issues urgently and thoroughly, and decide instead to proceed with the status quo, we are inevitably going to be

making large numbers of rural residents very sick and drive them out of their homes and off their farms.

In closing, I want to quote from an interview which a prominent Australian scientist in the climate change debate, Tim Flannery, did with Phillip Adams on ABC Radio National's *Late Night Live*. These comments are as relevant now as they were when he did the interview in 2005. It was recently replayed, on 4 March:

Phillip Adams: Before you leave the Lodge and we get you into the White House ... any other policy ...

Tim Flannery: I would make sure every piece of legislation I was putting in, was put through a humanist sieve ... microscope ... to reflect ... that every individual is a valuable person to be respected, regardless of who they are or where they are from. First and foremost, you've got to have that right, otherwise you won't have a healthy society that will allow you to maintain democracy, and all those other things you need to do ...

... ..

... make sure that all of your policy and all of your pronouncements are really focused around that fundamental recognition, that there are a group of human rights that we all possess, and that there is a level of respect we need to accord every single individual, regardless of where they're from and regardless of whether we are fearful of them or whatever else, we just have to make sure that those things, they're the underpinnings of our society, are reflected in everything you do. I think if you lose that ... if you start breaking down that fundamental respect, then you have lost something that really is your future.

That is exactly what I can see happening around me across rural communities where turbines have been installed, and people are getting sick, through no fault or choice of their own. My perspective, one year on from my previous ignorant position, is that current wind industry practices and government reports, decisions and actions at all levels of government in Australia have directly resulted in fundamental abuses of human rights occurring because the health concerns of rural residents have been ignored until this Senate committee.

This underpins much of the rural backlash globally against wind turbines. Ultimately, I believe the wind industry has an important role to play in the sustainable energy mix for the future—but if, and only if, it is safely sited. By ignoring and denying the current problems, I believe it is doing itself a serious disservice, and risks damaging the brand irreparably.

Individual decision makers in each of the institutions previously mentioned are directly responsible for this situation, and now need to share in the solution to clean up the carnage they have been responsible for, and help some of the shattered lives and rural communities to rebuild.

In closing, I ask the committee to convey the urgent need for immediate funding for independent research to the Australian federal parliament, and to recommend an immediate hold on any further approvals and construction of wind turbines closer than 10 kilometres to housing, until the results of such independent studies are available. Also, when the results of such independent studies are available, there needs to be an appropriate, consultative and fair solution developed to solve the problems which have been caused by the currently constructed but unsafely sited turbine developments which are making people sick.

Australia could lead the world in the safe implementation of this technology, rather than blindly following the mistakes that have already been made, both here and elsewhere.

CHAIR—Thank you. Mr Cox, do you have anything to add?

Mr Cox—Very briefly, Madam Chair and members of the committee. I became involved with the Waubra Foundation after acting for objectors in planning tribunals. In preparation for those matters, I visited the Waubra area and spoke with about 15 people from nine different properties over the course of a weekend, and I stayed overnight in Mr Dean's house, that he has abandoned. After visiting those people, I was convinced that they were genuine, and that there was a problem. I then looked into what was being done about it at a regulatory level and at a governmental level and was appalled that nothing seemed to be being done.

As a result, I have accepted the invitation to become a member of the advisory committee, and I support and second Dr Laurie's request and submission that studies need to be done in order to ascertain what levels of sound people are experiencing and why they are falling sick.

CHAIR—Thank you. Senator Fielding?

Senator FIELDING—Thanks, Chair. Dr Laurie, you have conducted around 60 interviews with residents affected by wind developments in New South Wales, Victoria and South Australia. Do they exhibit similar sorts of problems and can it be linked to the wind turbines or is it linked to something else?

Dr Laurie—Good question. Yes, it can be absolutely linked to the turbines. What people have started to do is actually fill in personal health journals. When I first looked at the list of symptoms that Dr Harry described, I thought they were all pretty vague and non-specific. But what is striking is that, when you actually sit down and listen to people, these symptoms are occurring when the turbines are turning. There are periods of time when, for example, the wind is not blowing or the turbines are turned off for maintenance, and people feel well and they are not getting the symptoms. There is a very direct correlation between symptoms experienced and the turbines turning.

I think the other issue is that over a period of time we are finding that some people who, for example, did not experience symptoms to start with go on to develop symptoms later on. Some people describe a situation where they appear to become sensitised, if you like. They do not notice any symptoms until one particular event where they feel very unwell and, from that time on, they seem to develop the symptoms more rapidly. There is so much we do not understand about what is going on, but we do understand that there is a very direct correlation between turbine operation and people getting sick. Again, not everybody gets sick. There are some people who have been there for some time and do not seem to get any symptoms. But that is quite normal. We expect that, with any disease process, some people are going to be susceptible and others are not.

Senator FIELDING—It appears that most of the industry claim there are no adverse health effects at all from wind turbines, and most of them point to and rely heavily on the National Health and Medical Research Council report that concluded that there are no direct effects from wind farms and that any potential impact on humans can be minimised by following existing

planning guidelines. How do we reconcile the two? You have a whole bunch of people. We heard from a lot of them yesterday and it looks pretty real to me. Then you have the industry relying on the National Health and Medical Research Council saying, 'Look, there are no problems.' How do you reconcile the two? You are a doctor.

Dr Laurie—My personal response to this was to actually start looking for the evidence. As I have said, I did not want to find there was a problem; I really did not. But where is the data? Where is the data that shows that patient studies have been done that show that these turbines are safe? There is not any. There is no primary data that shows that these turbines are safe and that people are not affected. There is, however, emerging research and a landmark peer reviewed study by Dr Nina Pierpont, which shows clearly that there are problems. There is her work, Dr Harry's work, Dr Iser's work and that of Dr Michael Nissenbaum and Dr Robert McMurtry. There is plenty of evidence out there that there are problems. Everybody is saying that we need to do the research. We have to do it. I just do not see any other way forward given the competing interests. I must admit that when I read the NHMRC document not only was I disturbed; I was a little appalled. There was a lack of recognition about the conflict of interest and the issues which were emerging even then, back in July, particularly in Waubra in Victoria. There were reports emerging then. To just ignore people I think was unconscionable.

CHAIR—I do not know if you were in the room earlier when I asked about the media. Media want to come and film. It is the practice that we ask witnesses if they are happy with that.

Dr Laurie—That is fine.

CHAIR—Thank you.

Senator FIELDING—I will come to this peer review issue. It appears that the research that has been done showing that there are no adverse health impacts from living near wind turbines is absolutely credible, or has been peer reviewed, and any research with a differing view, which says that there are adverse health impacts from living near wind turbines, is not peer reviewed, is discredited and is just pushed to one side as if it really should not even be considered. What do you say about that?

Dr Laurie—My concern is, again, I am yet to see data from patient interviews and studies that have been peer reviewed that show that wind turbines are safe, because there is none. There are plenty of reports but there is no peer reviewed study of primary patient data that shows that wind turbines are safe. An epidemiological study on that has not been done anywhere in the world, and it needs to be. But there are difficulties with doing it because of the gag agreements and also, I believe, because of the bias that inevitably creeps in when there are financial considerations. I have had first-degree family members of people who are hosting turbines come to me privately and say, 'Members of our family are getting sick but we're in a really difficult position because we rely on the income.' It introduces bias. It is very hard.

That is why my position is that the common problems that are being experienced that are, to my mind, the most serious are the sleep deprivation and the blood pressure issues. The exposure to children and the psychiatric issues are also important. We need to target the research into the areas that are clearly emerging as problems rather than trying to do a population health study,

which is going to be problematic because of the gag agreements and because of the other confounding issues.

Senator FIELDING—It would be nice to think that both sides could get together. The energy companies are quite happy to do research. It would be good to give you some money to do that research. That way we get both sides really involved in the same study.

Mr Cox—It is important to distinguish between literature reviews and empirical studies. The literature reviews, which the NHMRC report and the CanWEA report in North America were, are studies of what the literature says, and the literature does not have any studies. So the conclusion is that, because there are no studies saying it is dangerous, it is not dangerous. That is medieval thinking. We really need to do the empirical studies and not rely on the literature reviews to tell us that people are not getting sick when we see that they are.

Senator FIELDING—Who would be the best body to ask about adverse health impacts from infrasound? Is it someone like Australian Hearing? How does this committee get the expertise that is unbiased or independent in some way?

Dr Laurie—There are two different academic groups who have submitted research proposals to us which I have forwarded on to the environmental health committee, which met back in November last year, at which there were NHMRC representatives. It was on 24 and 25 November in Sydney. There were representatives from state and federal health bureaucracies at that meeting.

CHAIR—Could you clarify? That was a meeting of whom?

Dr Laurie—Yes. It was the enHealth committee; I think it is the environmental health committee—

CHAIR—Of which body?

Dr Laurie—It is a national body. Dr Liz Hanna from the ANU presented on this topic to that meeting, and Liz told me that all the people at that meeting agreed there was a need for research. Nothing has happened since. We have two research proposals ready and waiting to go, and have done since October or November last year. One was from Professor Colin Hansen's group at the University of Adelaide, which is to measure infrasound and audible sound and measure concurrent sleep and blood pressure as well. The other proposal is from Dr Bob Thorne from Massey University and his three colleagues Dr Daniel Shepherd, Professor Philip Dickinson and Rex Billington. That has been ready and waiting to go. That study is the one that could have data within six months, Bob has told me. We have got the subjects ready and waiting to go. They are independent academics who are experienced in their fields and who are just desperate to do the research. The independent academics are there. The subjects are waiting. We just need to get the money to them. If industry is able to contribute to it, I think that would be fantastic—perhaps through the NHMRC. It is a chance for the NHMRC to actually commission some research.

Senator FIELDING—Is there a link between exposure to infrasound and adverse health impacts? Is there a link between the two or not?

Dr Laurie—I believe there is. It is not just a matter of belief. There is some peer reviewed experimental study evidence, particularly in the document from the National Institute of Environmental Health Sciences in America. There are a number of studies that indicate that infrasound does have pathological effects, in animal studies particularly. There is very little data in humans but there is a bit. There was one in particular that I referred to in my submission, the Qibai and Shi one, which was a blood pressure study done in China. They subjected Chinese engineering students to different levels of infrasound at different frequencies for an hour, I think, and found that there were changes in blood pressure and heart rate. There was individual variation and variation depending upon the amount of infrasound, but there is no doubt that the effects were there.

The animal studies certainly show that there are effects on heart muscle and on blood vessels supplying blood to the heart. There is also evidence about increased adrenaline and cortisol secretion from infrasound. There are a whole lot of clues there that infrasound has something to do with this. We need to get out there and measure what is actually in people's homes when they are getting sick.

Senator FIELDING—For this research that you have suggested be undertaken, what amount of money do you need to get that research done?

Dr Laurie—For Bob Thorne's study, the quote that includes the work in New South Wales is approximately \$500,000. It might be a little bit less than that. That would give results ideally within six months but in a maximum of 12.

Senator FIELDING—That would then put beyond a doubt whether there are adverse health impacts from living close to wind turbines?

Dr Laurie—It would substantially improve our knowledge of the distance that we need to be concerned about at a number of different locations. It is not the only research that needs to be done but it would be a really good start and it would help. There is no doubt that it would help in terms of what the setback distance needs to be.

One of the critical things that the acousticians have taught me is about the setback distance. Talking about fixed distances is useless. What happens is that the length that the sound waves travel varies according to wind direction, obviously, but also the terrain, the height of the turbines, the blade lengths and the climatic conditions. It is fascinating. People's symptoms are far worse on cloudy days or on the really cold, frosty nights where you have got what they call the temperature inversion effect. It is absolutely classic. All over the world people are describing this. I do not have to ask them; they write it down in their journals, and it is very clear that there is that pattern going on—that the symptoms are worse. The acousticians tell me it is because of the temperature and the cloud acting as a bit of a blanket. At different times, the sound waves are going to travel further. You have to do the studies over a long enough period of time to work out where the issues are.

Bob said six months. That is for that study. Colin Hansen's work is different and more involved. His recent proposal has asked for, I think, \$200,000 or \$300,000 over three years, but to more thoroughly study this at the couple of sites in South Australia where there are demonstrable problems.

CHAIR—Can I suggest—I am just conscious of time and we have other senators who have not asked questions yet—that if you have any more suggestions for the funding issues that Senator Fielding raised, you could maybe give them to us?

Dr Laurie—Certainly.

CHAIR—Thank you.

Senator MOORE—Dr Laurie, it is certainly important to always have the research going on. I am just concerned, and you said in your statement, that people are waiting, ready to be tested. My reading of your evidence and some other medical evidence is that the symptoms are very vague and often linked to things like heart and blood pressure and concern. How do you mediate, in a professional study, people's pre-existing stress, upset and worry? I reckon that if I had put some monitors around that room yesterday, their rates would have been so high that you would not be able to even make an assessment, because there is already such concern and emotion around.

You might want to take this on notice, from a medical perspective, because I am not a practitioner. If you are trying to get data about the cause and effect and the impact over a period of time, the baseline stuff is really important. The kinds of studies that you have been talking about tend to be with people who are already knowledgeable. They have already found out about what could be happening and are already upset. That is what I am struggling with.

Dr Laurie—I understand what you are saying, but the critical thing is: are the turbines having an effect or are they not? That is really what you are asking.

Senator MOORE—Yes.

Dr Laurie—If you measure what is going on with people's sleep and blood pressure in their homes when the turbines are turned off, and then compare it to what happens when the turbines are turned on, the only difference is going to be the turbines turning.

Senator MOORE—I do not agree with that just simplistically, on the basis that if people are already significantly upset and concerned, and are wondering about 'what ifs', just taking a measurement saying they are off now—

Dr Laurie—Let me make myself clear. There are houses where people do not know whether the turbines are turning. They are blinded. They do not know. All they have are the symptoms that they are experiencing. I was really struck by how clearly they could correlate their symptoms with what we subsequently found out was happening with the turbines. It was absolutely characteristic. It is possible to blind people as to whether the turbines are operating or not. There is no doubt about that. Their anxiety is going to be there, whether the turbines are turning or not. In other words, with the blood pressure effects and everything else, the only difference is going to be between turbines on and turbines off. It is the same people, same houses. That is where, if we could get industry cooperation on this, I think we could actually get some really good data and help solve the problem.

Senator MOORE—Over a long period.

Dr Laurie—Yes.

Senator MOORE—That is the other thing in terms of any research in this area at the moment. To do any immediate research over a short period and then draw results from that would possibly create even more stress. This has to be an extended, long-term research process. Is that built into the proposals you have?

Dr Laurie—The proposal that Dr Thorne has would give instant results, within six months, about exactly what is being measured, particularly in terms of infrasound, and about a correlation with the symptoms and the health problems that people are experiencing. Colin Hansen's proposal is longer term, and some of the work that he wants to do with the physiologists and the sleep physicians would be over a longer period of time. I agree: there is no instant solution to this. However, the longer we delay it, the more the problems are going to mount up.

One of the critical things for the industry is that we need to get cracking and make sure that renewable energy is built and implemented. We have just got to make sure we are not doing it in a way that is going to make people sick. As an interim thing, I think Bob Thorne's study would help enormously to sort out a setback distance, with the proviso that I have given and the qualifying remarks about the usefulness of that.

Senator ADAMS—Thank you, Dr Laurie, for your opening statement, which was very good. I would like to go back to a comment you made about a moratorium being held while the research is being done. We have planning guidelines and states are doing some planning and local governments are being landed with the planning as well. How do you see that that would work? We have the national guidelines, which are in a draft form at the moment, and then some states are doing something completely differently, and other states still have local governments doing the planning. I know that in Western Australia the state takes over the planning on 1 July.

Dr Laurie—I do not think it matters who is doing the planning. I think the important thing is that the planning regulations are informed by science.

Senator ADAMS—That is right, but to get the moratorium, how are you going to get all the states to agree that they will not approve any more planning applications before the research results are in?

Dr Laurie—I really do not know how that is going to happen, but it needs to. If it continues the way it is, people are inevitably going to get sick. Clearly, this is something that involves all levels of government and the wind industry. I think there needs to be some discussion about how to move forward in a constructive fashion rather than persisting with the disinformation, shall we say, that is being put about.

Senator ADAMS—Something that is worrying me is that I do not think the research dollars are going to be available in quite the way they were in the next budget. I am not trying to be political, but that is just a comment that I am making—how we as a committee get the research dollars or suggest that we should spend the dollars needed to do the research.

Dr Laurie—I am a practical person. I think it is in the industry's best interests to get this research done. I would be strongly suggesting that industry members who are keen to see a resolution to the problem might actually decide that it is in their best interests to put forward some money that can then be channelled through to independent researchers so that it is not tainted with bias, and we can just get on and do the work.

Senator ADAMS—The community I come from in Western Australia is undergoing quite a traumatic time at the moment. There is a 74-turbine wind farm proposed between two shires, and unfortunately the community consultation has not been done the way it should have been done. Hence my questions about community consultation and why it is so important. So we have neighbours versus neighbours. The whole town is split. There have been death threats. It has got very nasty. These people will be giving evidence, of course, in Perth.

Some of the comments that have come out are that the people who are having the turbines on their property are inflicting health problems upon their very close neighbours. I think this research has got to be done as soon as possible because we just cannot have these little communities being torn apart. The NHMRC document seems to be the only thing that everyone is relying on, and you can really drive a truck through that. I will not hold the committee up on that at the moment because I made my comments before. I will certainly do it when they appear before us. The research in every direction is so flimsy. We have GPs with a very small cohort of people that they have had as patients. Some have moved away; some are there. It is such a frustration not to have that research here. As wind farms develop, and they are developing so quickly, we are creating so much chaos. Would you comment on that?

Dr Laurie—I completely agree with everything you have said, Senator. I could not agree more. Unfortunately, what you have experienced locally is being replicated across south-eastern Australia. I have direct knowledge of it in each of these communities—and not only in the communities where the turbines are already built; as you referred to, it is a huge problem in communities where there are turbines proposed. It is tearing rural communities apart.

Senator BOYCE—Another witness has referred to the Waubra Foundation as 'secretive', and made the point that whilst you say you are an independent organisation, you share a post office box with the Landscape Guardians. Would you like to comment on that?

Dr Laurie—Certainly, I will. The reason we share a post office box—it is actually Peter Mitchell's post office box address. The reason we do that is because Peter is the Chairman of the Waubra Foundation and until fairly recently we actually had no money at all. My husband has been funding my activities and various farmers who were grateful for my public speaking efforts paid for travel expenses, put me up for the night and fed me. But apart from that, I personally have not received any money from anyone for this work. We had a need, as a national organisation, to have a post office address that was not my rural one in South Australia where I get mail three times a week. Peter very kindly made his office available. I am very lucky to have the services of a longstanding personal assistant of Peter's who helps me with certain material, but at the moment that is it. We are slowly building a board, and we are very happy that some very influential people have accepted those positions. Shortly we will be going public with the composition of that board. That is why the postal address is shared.

Peter Mitchell was chairman of the technical advisory committee on the Landscape Guardians. He has, I understand, as of yesterday resigned from that position and he is now concentrating full time on the efforts of the Waubra Foundation, and we are absolutely independent of any group that is pro or anti wind.

Senator BOYCE—Thanks, Dr Laurie. There has been a fair degree of evidence around the fact that people are asked by manufacturers, developers in the wind industry, to sign confidentiality agreements around health problems. We have people telling us that, but we have no evidence. Are you able to give us any evidence in that area?

Dr Laurie—I can in camera. Alternatively, I suggest that the Senate committee might like to consider subpoenaing some of the agreements from the companies.

Senator BOYCE—Chair?

CHAIR—We can either go in camera now or we can talk further with the industry. We did ask on Friday, and the industry said that they did not gag—when I say ‘the industry’, we had a number of representatives of various companies, who all said they did not put gag motions on health related issues. Their confidentiality agreements were all related to commercial-in-confidence issues like payment on leases and things like that, but no health gags.

Dr Laurie—I am happy to go in camera, if you would like me to.

CHAIR—Okay.

Senator BOYCE—Could I perhaps ask one question, which would be my last question, and it does not need to be in camera.

CHAIR—I have some as well that are not in camera, and then we will go in camera.

Senator BOYCE—My other question related to the personal health records that were raised yesterday. Is there any way for that material to be supplied to us in a de-identified way?

Dr Laurie—I am sure people would be only too happy to supply it. I suspect, as they have told me that I am to take it to discussions with health bureaucrats with their names on it, that they would be delighted to have their names on it. They want to be recognised as people.

Senator BOYCE—That was part of my question. What is happening with those health records now? They are just being kept?

Dr Laurie—They are being kept. Primarily, it was to help the people themselves to understand what was going on and to see if in fact the symptoms that they were experiencing were related to the turbines, because not all symptoms are. It was really to help them to understand what was going on, and to help their general practitioners understand what was going on as well. I understand from a number of people that as a result of that their GPs have certainly come around to saying, ‘Yes, we believe there is a problem now,’ having not believed it previously. We are also using that to work out what areas of research we might need to target. It is out of that that we realised that there really is a big problem with blood pressure that needs to

be looked at. That is where that is being looked at, and people are quite happy for that information to be used in whatever way it can be.

CHAIR—I have several questions I would like to follow up on. One of those was raised this morning. To me, it relates to an adverse comment, so you are afforded the opportunity to respond; you can do it now or take it on notice. That was the issue about whether you are a registered medical practitioner.

Dr Laurie—That is fine. I am currently not registered. I am a legally qualified medical practitioner, and I obtained my degree from Flinders University in 1995. The other details are in my submission. I am actually in the process of reregistering. One of the issues that I have is that I actually have to put out a return to work study plan. At the moment I am furiously doing this work, and I have not actually got time to read the latest in whatever drug changes have been made in the last seven or eight years. When some research is underway, I will be in a better position to put forward a return to study and paid, practising clinical medicine. I, quite frankly, cannot wait to do it.

CHAIR—My other questions—I will run through them very quickly—are: in the studies that you have been undertaking, have any workers in the sector been affected?

Dr Laurie—That is a really good point. I have had some workers say to me that yes, they have developed some symptoms. I have not had a chance to look properly at it, but I believe it is an issue that needs to be looked at. It may well be that there are individuals' susceptibility just as there is with residents. Given that they are not exposed for as long and they are not exposed overnight, you are not getting the sleep deprivation issues, but I am concerned about the blood pressure issues. I have certainly heard that people have had issues with vertigo and dizziness. I think it needs to be looked at.

CHAIR—I understand some workers do live on site, so I would be interested to know if you have done any studies on workers that actually live on site and have had symptoms.

Dr Laurie—No, I have not. I certainly have had information from people who have worked in the industry who have become unwell and left. But, as I said, there are so many other people that I have not yet had a proper chance to look at. It is an area that needs investigating.

CHAIR—The issue of peer review is as long as a piece of string, to a certain extent. We are going backwards and forwards. You said that Dr Pierpont's work had been peer-reviewed.

Dr Laurie—Yes.

CHAIR—We have had claims that it has not been, and I am wondering who you are aware of who has peer-reviewed Dr Pierpont's work

Dr Laurie—If any of you have a copy of Dr Pierpont's book—in fact, I have it in my handbag—it is clearly in her book who the peer reviewers are.

CHAIR—The point that has been made to us is that it is comments around the work, not actually scientifically peer-reviewed.

Dr Laurie—No, that is incorrect. It was peer-reviewed. Her peers looked at her work, critiqued it, and made certain suggestions. Some of those suggestions she incorporated, but it is peer-reviewed.

CHAIR—Thank you. The other issue, and it is slightly off what we have been talking about here, is that a number of people, when we heard evidence yesterday, raised the issue of wind power and coal-fired power stations. You have made a suggestion or a recommendation that there be a moratorium on wind farms. I am wondering whether you would propose the same thing for coal-fired power stations. For example, in Western Australia, there is a proposal for at least three more coal-fired power operations to proceed, and we are aware of the health impacts of that. Would you make the same recommendation for the installation of coal-fired power stations, for example?

Dr Laurie—You raise a very important point. There is no doubt that there is extensive illness related to coal, in both mining and the operation of coal-fired power stations. To my mind, that does not make it acceptable to then impose another technology on another group of people who are going to get unwell.

CHAIR—I did not ask that question.

Dr Laurie—I know you did not, and I know you probably think I am avoiding the question. I am not saying, ‘Stop building turbines’. I am just saying that when we build them, between now and when the research is done, make sure they are not going to affect new groups of rural communities. Make sure they are at least 10 kilometres away from housing. They might be a little bit further away from the grid but there are plenty of places in Australia where turbines can be put in those locations. I understand the point that you are making, but I just cannot accept that imposing a technology on communities knowing that it is going to make them sick, and have the consequences that we are already seeing, is a sensible way to go.

CHAIR—I understand very fully the point you are making, which is why I was asking about coal and where it has been imposed on new areas. Would you apply the same to all technologies? Let us take coal out of it. Would you apply the same moratorium to any technology that you think is going to have a health impact?

Dr Laurie—We live in the real world. I guess I do not know enough about the particular proposals in Western Australia that you are talking about, or the issues to do with how far away, for example, the coal-fired power stations are in terms of causing a health effect on the population. I am not across that literature at all, so that is why I do not want to commit to that. I do not know enough about that particular area.

CHAIR—Thank you. We will go in camera now. That means everybody else has to vacate the room please, including the media.

Evidence was then taken in camera but later resumed in public—

Proceedings suspended from 11.38 am to 11.55 am

CONWAY, Mr Geoffrey Bruce, Deputy Chief Officer, Emergency Management, Country Fire Authority Victoria

CHAIR—We will resume the public hearing. Welcome, Mr Conway. I understand that information on parliamentary privilege and the protection of witnesses and evidence has been provided to you.

Mr Conway—It has.

CHAIR—Thank you. Do you have any comment to make on the capacity in which you appear?

Mr Conway—I am representing the chief officer, Mr Euan Ferguson, today.

CHAIR—Thank you. We have your submission, which is numbered 564. I would like to invite you to make an opening statement and then we will ask you some questions.

Mr Conway—Thank you, Madam Chair and Senators. Firstly, thank you for the opportunity to appear this morning. CFA has a charter and a statutory duty in relation to the prevention and suppression of fire in country area Victoria, and also a statutory duty to protect life and property. There are a number of instruments available to the authority and to the chief officer to enable us to do that, in particular regulation, provision of advice, provision of guidance, input into planning processes and also subsequent suppression of fire, should that be needed.

CFA is aware that there have been fires occur as the result of failure in wind turbines in the past. I wish to stress our understanding is that the likelihood of this is very low and that these occurrences are quite rare. However, with the increasing number of wind turbines being introduced into the landscape, CFA has an interest in order to fulfil its charter and its statutory duties.

We will be continuing to monitor the development of wind farms throughout Victoria and, where we can, we certainly will be having input into the planning processes for the approval of those wind farms. As we indicated in the submission from the chief officer, we have in place a set of guidelines for wind farms at the present time. I do have copies of those available for the committee members, Madam Chair. Those guidelines are currently under review. Their focus, when they were prepared in 2007, very much relates to the management of the landscape and the design of the layout to enable firefighting equipment to gain access to the wind farm and to suppress any fires that may be burning in the vicinity of a wind farm. The view of the chief officer is that there is scope, based on further research that needs to be done, to have further guidance in relation to the operations of the turbines themselves. That was the point that was made by the chief officer in his submission.

The other point that we would like to flag is that there is scope for further involvement of fire services, particularly our own organisation, in the planning processes for wind farms. At the present time, unless the site is impacted by a wildfire management overlay, CFA is not engaged

in the planning process. We believe that there are circumstances where it would be appropriate for us to be involved, even though a wildfire management overlay does not exist.

They are the key points that were made by the chief officer in his submission and they are the points that I wanted to reiterate for committee members today. I am certainly happy to take any questions that the senators may have.

CHAIR—Thank you. Senator Fielding?

Senator FIELDING—Thanks, Chair. Some of the questions that came up yesterday related to whether it impedes the fire authorities in some way in getting into the area or fighting a fire if there are turbines and maybe aerial requirements for getting into an area, Is it something you have considered? I do not think it was in your submission about getting in to fires; it was more about whether wind turbines have a risk of catching fire and then creating a fire. Some of the evidence we heard yesterday was about accessibility—getting into an area because wind turbines may limit the area for fighting fires.

Mr Conway—I will take that in two parts. The first point, as to what is the likelihood of a turbine generating a fire in the landscape, our view is that the likelihood is very low but it does exist. The issue in relation to access for firefighting personnel and equipment if there is a fire burning in the vicinity of a wind farm is the key point addressed in the existing guidelines. Our organisation makes observations in relation to access tracks, provision of water supplies for firefighting, and it also identifies issues in relation to aerial firefighting, which is probably the key point.

Pilots operating aerial firefighting equipment are acutely aware of hazards of their occupation. Whether it be wind turbines and rotors, whether it be high-voltage transmission lines, whether it be trees or any other issue in the landscape; they are well aware of it and they are well versed in it. The current guidelines, as we understand it, allow for about a 300-metre spacing between installations for firefighting aircraft, particularly rotary winged firefighting aircraft. That is fine and we do not have any concerns in relation to that. We are quite confident that the pilots and the people on the ground managing the aerial firefighting capacity have that awareness and are able to manage it.

CHAIR—Senator Adams?

Senator ADAMS—Just another issue to carry on from that, we had evidence yesterday about concerns with the raised bed areas—I think it was probably more down in the southern area of the state—and how to deal with that problem. Could you help us there?

Mr Conway—I am not sure that I am familiar with the raised bed issue that you are identifying.

Senator ADAMS—I gather it is something to do with the way that the lava flows have come and the terrain is quite difficult to get into. The firefighters have been told, ‘If there’s a fire in there, just don’t go,’ because of the proximity of how the fire can come across, and the access.

Mr Conway—I understand your point. The issue with firefighting in that country, particularly where there have been lava flows and what we generally refer to as the stony rises, has been an issue that firefighters in Victoria have been dealing with since European settlement. It is incredibly complex and we do have to develop unique firefighting tactics and strategies for that area. That would be regardless of any other pieces of equipment in the landscape. I would not suggest that wind farms would have any additional adverse impact on that. The complexities of firefighting in that environment are well understood by the people who work there and have been dealt with over many years. The strategic and tactical approaches we have are well established.

Senator ADAMS—Okay. Thank you.

Senator MOORE—Mr Conway, following on from Senator Adams, we had a number of statements yesterday from people raising issues around fire and issues about their terrain and so on. If we got that evidence and gave it to your organisation, would you be able to give us a comment back?

Mr Conway—Absolutely.

Senator MOORE—Certainly the lava bed one was raised quite passionately, and people did not seem to have the same information that you gave Senator Fielding about aerial firefighting either. As they were raised publicly, it would be very useful to have them specifically responded to. Would you be able to do that for us?

Mr Conway—Yes. If you could refer those to the chief officer in the first instance, we will address those.

Senator MOORE—Thank you very much.

CHAIR—Senator Boyce?

Senator BOYCE—You talked about wildfire management overlays and not being involved in planning for wind farms where this might be the case. Could you explain to us what would be different if you were?

Mr Conway—The wildfire management overlays are a tool used by CFA to identify where there is a heightened risk of bushfire—firstly if it is starting and also the consequence of a fire occurring in areas. It is driven predominantly by the vegetation cover on the land. The state of Victoria is not covered entirely by wildfire management overlays because of the variation in vegetation cover. Open grasslands are less likely to see wildfire management overlays in place.

Senator BOYCE—It is almost a risk assessment tool, basically, is it?

Mr Conway—Very much so. The wildfire management overlay is one of the triggers that engage CFA in the planning process for any new development, whether it be a subdivision or industrial development within the landscape. Where a number of wind farms are being developed, the vegetation cover does not warrant a wildfire management overlay. Consequently, there is not a trigger to involve CFA in the planning process for this particular type of

development, where that is the case. The view of the chief officer and the organisation is that there would be benefit, both to the community and to our organisation, in fulfilling our charter if we were involved in the planning process at an early stage.

Senator BOYCE—You would be aware that planning on wind farms is to be given to councils rather than at the state level. Does that make CFA's job any more difficult?

Mr Conway—No. We have well-established processes for working with municipal councils in relation to planning processes. The success of our involvement with municipalities varies from one municipality to the next, as is the case in any circumstance. Certainly, there is no concern on the part of our organisation that the planning approvals process may move from state to local government. We are able to work quite effectively in both arenas.

Senator BOYCE—Thank you.

CHAIR—I have several questions. I want to go back to the issue of being involved in the early stages of planning. I have to say that planning has come up repeatedly during this inquiry. Would you suggest that the guidelines be modified so that CFA is engaged in the early stages of planning?

Mr Conway—We would see great merit in being involved in the early stages of planning, yes.

CHAIR—The other issue I wanted to go back to is the issue of low risk. Are there examples of where a turbine has started a fire?

Mr Conway—There are, but they are very few. I made that point at the commencement of my evidence. Very little statistical evidence has been gathered either nationally or in Victoria in relation to the number of instances where a turbine failure has been the cause of a fire. There is still work being done by our agency in looking at the data we have available to make a judgement in relation to that. At the present time neither the chief nor the organisation are aware of any specific study to identify statistical instances where turbines have been a cause of a fire.

CHAIR—You have said it is very low risk. Where would you rate it compared to other agricultural activity?

Mr Conway—A difficult call, Madam Chair. I am not sure I am in a position to do that. Certainly, it would be lower than some of the more intensive agricultural activities that occur. We are well established in our understanding of the impact, for example, of harvesting in cereal crops. The main reason is that harvesting happens at the most vulnerable time of the year, where the fuels are fully cured and we are in the hottest and driest part of the year. In making a comparison between those two, it is certainly far less. But it is hard, given the early stages of the research that we are involved in at the moment, to make a qualitative judgement on that.

CHAIR—In terms of bushfire management, I am aware that when there is high wind, high heat days, there are vehicle movement bans et cetera. With a wind farm obviously you are still going to have them operating. Have you looked at how you would deal with that particular issue? You have put bans on other things in agricultural areas—I have lived in the bush; I know

what happens on high wildfire risk days. What have you put in the guidelines or how do you deal with that specific issue?

Mr Conway—At the moment there is nothing in our guidelines that looks at either the operation or the maintenance of the turbines. It is all focused on access, egress and dealing with the fire that may have occurred already. The chief officer is certainly very interested in looking at the operating parameters of turbines to determine whether or not it is appropriate to establish some sort of regulatory control over their operation. At the moment we have not formed any view. We want to do further research about the impacts of ambient temperature on the performance of the turbines themselves and also wind speeds.

At the present time, we have information to indicate that a number of the turbines being used are paused if wind speed exceeds 90 kilometres per hour. We are aware of that. We need to know a lot more than we do at the present time before we are in a position to pursue a regulatory regime, but it is certainly something we want to research and investigate. We will have further discussions with both the state and the industry in relation to that.

CHAIR—Can I go back to the issue of the restriction on being able to use rotary aircraft in a potential bushfire. That was raised extensively yesterday. I must say your evidence is very different from what was said yesterday. I want to check that a bit further, in terms of your experience to date being that there have been no problems in being able to use that type of aircraft near towers. Do you not see that as a problem? Because there was such a strong point made yesterday, I want to be really clear.

Mr Conway—I am happy to clarify. Using a rotary winged aircraft in close vicinity of wind turbines is not a good idea. The pilots simply will not do it. However, I want to put that in context. Wind turbines are not the only obstacles to the operation of either fixed or rotary winged aircraft in the landscape. When we are using that sort of resource for fire suppression, we make very certain of the safety parameters. There are certainly options available to the pilots and the people managing the firefight on the ground to ensure that aircraft are kept safe if there is a fire in the vicinity of wind farms. The observation we would make is that the distance between installations at the moment does give us scope to operate those aircraft, to a degree. But in the same way that any other obstacles in the landscape would give a pilot or a fire manager cause for thought about how they deploy those aircraft and how they apply them tactically, the installation of wind turbines would be one more consideration.

CHAIR—So if I understand it correctly, it is another risk that you manage.

Mr Conway—Absolutely.

CHAIR—Thank you. That is the end of my questions. Senator Fielding has some more.

Senator FIELDING—Are you aware of the fire in the Cathedral Rocks in around February 2009 where there were some spot fires caused when a wind turbine caught fire?

Mr Conway—I am not familiar with the particular incident, Senator, but I am certainly happy to examine it and provide observations in relation to the detail.

Senator FIELDING—And at Lake Bonney on 22 January 2006, at Starfish Hill, there were some other fires from the turbines.

Mr Conway—No, I have not got specific details of those incidents. As I said, I am happy to offer comment on them if we are provided with detail.

Senator FIELDING—Were there any concerns about getting in close to those and controlling the spot fires—certainly the one in Cathedral Rocks?

Mr Conway—Certainly no more than with any of the other issues in relation to the tactical suppression of a fire in those particular environments. The geography of that particular area is quite challenging, regardless of the nature of other installations that might be there.

Senator ADAMS—On the actual planning of proposed wind farms, are you involved with that at all? When a wind farm is being proposed at any stage, do the proponents call the fire authority in just to discuss the issue with them—the fact that they are going to build it and how it can be dealt with?

Mr Conway—As I indicated before, if the area that is being proposed as a site for a wind farm is affected by a wildfire management overlay, we are involved as a referral authority, and we do get involved in the planning process. If there is not a wildfire management overlay in place then it is very much at the discretion of the proponents as to whether or not they consult with us. On occasions we have been consulted; on other occasions we have not.

CHAIR—It goes back to the issue of being involved early in the planning stage.

Mr Conway—Exactly.

CHAIR—There being no further questions, thank you very much for your attendance today. We have given you some homework. If you could get that back to us within a couple of weeks, that would be appreciated.

Mr Conway—No problem at all. We will work with Sophie to get that organised.

[12.14 pm]

HOLMES a COURT, Mr Simon, Chairman, Hepburn Wind

CHAIR—Welcome. I understand that information on parliamentary privilege and the protection of witnesses and evidence has been provided to you?

Mr Holmes a Court—It has. Thank you very much.

CHAIR—We have your submission, which is numbered 732. I would like to invite you to make a short opening statement and then we will ask you some questions. Are these documents that you wish to table?

Mr Holmes a Court—Yes, they are.

CHAIR—Okay, thank you.

Mr Holmes a Court—Madam Chair and senators, thank you very much for this opportunity to address you today. As you know, our community has just built its own wind farm—the ninth wind farm in Victoria and the first in Australia to be initiated and owned by a community. It was a great pleasure for me to show it to you yesterday, just outside Daylesford in Leonards Hill, Victoria. Sixteen hundred people, mostly local, have contributed \$8.7 million to build this 4.1 megawatt wind farm. Just two turbines are projected to generate 12,200 megawatt hours per year, more than is used by the 2,000 homes of Daylesford.

Ten days ago, 300 people came to watch and cheer as the first tower was lifted into position. After a week of delays due to strong winds, the final piece was lifted into position just last Sunday. In just six weeks we will begin generating clean, safe power into the local electricity network.

Our project enjoys overwhelming but not absolute support in our community. When our project went before council, there were 325 letters in favour and just 18 against. Our supporters have made more than 1,066 submissions to this inquiry, lending support for the community ownership model. I have submitted a list of those submissions as my first paper for today. So far, more than 40 communities from around the country have informed us that they wish to build similar projects in their own area, based on what we have learned from the Hepburn Wind project.

On 28 April 2010, we held our AGM in Daylesford—150 in our community came together. We had just signed our construction contract and our members heard that the wind farm was going ahead. It was the end of five years of mostly volunteer effort that had paid off and the positive energy in the room was palpable as people cheered. The very next night, I attended a meeting in the Ballan Mechanics Institute, just 30 kilometres away—our next shire, only 400 metres from our project. The Moorabool council called a town meeting to discuss two proposals in front of them. I was one of the four who spoke in favour of wind energy, amongst an aggressive crowd of more than 200. The difference could not have been starker. It was incredibly

moving to hear the negative experiences of the few who came with genuine concerns and their genuine medical issues. I do not discount these at any time. But I was disgusted by the thuggish behaviour of so many who verbally and physically intimidated those identified and pointed out as ‘windies’. I remembered the story of former energy minister Peter Batchelor having his leg slammed in a car door at a similar gathering, and I did not hang around after the meeting.

How is it that most of one community can embrace the opportunity of wind energy while most of another vilifies it with thuggery and intimidation, reminiscent of the Salem witch trials? There has not always been such a welcoming reception for wind energy in my own community. In late 2004, the developer of the proposed Clarkes Hill wind farm held a community information session in Dean. Like many such meetings, an angry mob of 200 negative voices drowned out the five voices in favour of the proposal. Driving back from the meeting that day, the founder of Hepburn Wind, Per Bernard, was disappointed at our community’s first response to the prospect of a local wind farm. Per grew up in Denmark where wind farms are all around. There are over 5,000 turbines owned by over 2,100 communities.

There is not a person in Denmark who would live more than 10 kilometres from a wind turbine. Per Bernard committed himself to educate the entire community. He spoke of a vision where we could own and operate our own wind farm for the entire community’s benefit. Per formed a steering committee, and together embarked on the most thorough community engagement process that I believe has ever been held in this country. They started with a card table in the main street with flyers explaining their vision. They were out there almost every week in the early stages—rain, hail or shine, loud and proud, open and transparent.

We started running these street stalls some six years ago and now we have held more than 120 across the shire. We ran bus tours to visit nearby wind farms and we have taken more than 250 people to experience wind turbines firsthand and to speak with landowners nearby. We held town forums and met with local community groups. We spoke of our vision and we listened to a range of opinions.

Interestingly, in the days before our site was chosen there was only one local objector. He was invited to join the steering committee and, to his credit, he did attend one or two meetings. Of course, once the site was chosen there was significant concern in that neighbourhood. We worked hard to address these concerns with more than 80 home visits. We have sent thousands of updates to our mailing list. We use social media wherever possible to get out our message and show that we are loud and proud, and open and transparent with our vision.

Despite all of this engagement, we cannot say that we have universal support. Even though more than 95 per cent of submissions to our planning application were positive, it was our mayor’s casting vote that granted the permit. The permit was immediately challenged at VCAT, where we were accused of everything under the sun. A Melbourne university professor, who should know better, produced a flawed report understating our energy estimates by a factor of eight—a document that you can still find on the Spa Country Landscape Guardians website. The objections included the non-viability of wind turbines, electronic magnetic interference, light pollution, human health, distraction to passing drivers, hazard to overflying aircraft, impact on social fabric, interruption of spring water flows, groundwater contamination from underground power cables, leaching from concrete foundations, blasting for foundations causing vibration and other unknown impacts, concern for soil stability, proximity to gas pipeline, lightning strikes,

burial of human remains, blade flicker effect on cattle, denial of natural justice, and violation of human rights.

VCAT upheld our permit, but not before giving significant concessions to our neighbours. We continue to work hard to ensure that the whole community benefits from our project. We have committed to give \$15,000 per turbine per year to a community sustainability fund. That is 30 times as much per turbine as the closest wind farm. It will add up to \$1 million over the next 25 years. We employ three locals and we have engaged the services of dozens of local firms. Of the \$7 million of Australian content in our project, the majority has been spent in regional Victoria. We have offered a gift of share ownership in the project to all those living close to the wind farm, and we are currently working hard to arrange for electricity at a discount to our neighbours.

Some of our neighbours are quite excited. Some are taking a wait-and-see approach and a handful are hostile. We are proud that we play by the rules of civil society. We tell the truth. We follow the law. We comply with our permit conditions and we treat all with respect. But this has not always been reciprocated. Just two weeks ago, we were taken to VCAT by an objector. Apparently, our turbines were in the wrong location. It cost just \$37 to make this complaint but it cost our project \$2,000 of community funds to prove that the turbines were within one inch of their permitted location—one inch.

Late last year, WorkSafe received a complaint that we were working too close to the gas main. We are more than 400 metres from this pipe. Neither of these complaints was made to us in the first instance. Our staff and voluntary directors have received threats by telephone, had stones thrown at them and received verbal abuse in the main street. Just five minutes ago outside I was given verbal abuse from someone I have never met before.

Signs accusing us of lying and greed were posted for months on end in one of the busiest thoroughfares in town, but through this whole period we have never fought back once—not once. Fortunately, all these actions stem from just three people in our shire of 10,000.

The objectors have refused preconstruction noise monitoring—an irony, as this measure was ordered at our expense by VCAT to protect the rights of those concerned. We have tried hard to meet with the few remaining objectors, but our requests to meet have been repeatedly rebuffed and our letters childishly returned to sender or simply ignored.

I am sure we have made some mistakes along the way but I think we have run one of the best community engagement processes anywhere in the country. While some developers are going to get a pasting in this inquiry for their mistakes, and perhaps deservedly so, let it go on record that it is very difficult to engage with everyone in the community when a very small minority do not play by society's rules. Personally, I think it will be fascinating to see how the Baillieu government intends to implement its right of veto against this backdrop.

We have only ever had one protest. On 8 October last year, 40 people turned up for a very aggressive rally. At most, four of these were local—four from 40. I have submitted a photo to the committee. In the photo, you will see some signs and some very angry people. Again, as I say, in that photo you will see one or maybe two locals.

I further submit an email sent from the cynically named Australian Environment Foundation to the Landscape Guardians, including Peter Mitchell and Kathy Russell—from one extremist group to another. The email is basically a run sheet for the protest and includes the artwork for the signage held by the rent-a-crowd you will see in the photo. It was an ugly protest, very similar to the one that we all sadly witnessed last week in Canberra. Cars were beaten with placards. Cars were shaken. My children heard a man yell, 'I hope you all die of cancer.' A woman who has been a pillar of the central Victorian community—whose her sister-in-law is here today and who abused me earlier—was stood over as the vile words were spat into her face, 'F off back to Melbourne you sanctimonious middle-class C!'

We were there to celebrate one community's achievement and positive contribution to the challenge of climate change. It is very hard to see what was achieved by the Landscape Guardians and the Australian Environment Foundation's protest. Against this backdrop, I have to ask you: is it really wind farms that divide communities?

Perhaps the saddest thing I have seen to date was the wind farm information session held by the Landscape Guardians in Sunbury on the eve of last November's Victorian state election. Amongst the speakers were Randall Bell and Kathy Russell of the Landscape Guardians and their shiny new secret weapon, Sarah Laurie. The meeting was bizarre. A local landowner had got terribly upset that a monitoring tower was erected some two kilometres from his home—a 10-metre monitoring tower. He was paranoid that his property values would plummet so he organised an information session. Randall and Kathy produced a litany of rubbish that varied between misinformation and downright lies denigrating wind farms' economics, efficiency, effectiveness and environmental credentials. I really did not know whether I was at a witch trial or a political rally to vote out the Brumby government; perhaps both.

Sarah scared the wits out of this community. Although she very carefully never made the direct link, by the end of her talk members of the audience believed that wind farms would give them heart attacks or even cancer. Since Sarah's name is preceded by those two letters that spell 'doctor', the good people of Sunbury hung off her every word. As she recounted the symptoms of so-called wind turbine syndrome—headache, dizziness, nausea, rapid heart rate and irritability—I realised that I too had developed this new syndrome right there in that room that night. I too had 'Sarah Laurie syndrome'.

A local woman, Lynne Hovey, deserves to go on record as the only one to speak out that night against deliberate misinformation and planned hysteria. Lynne spoke for perhaps 30 seconds before she was shouted down. It was as if she was advocating infanticide.

CHAIR—Mr Holmes a Court, I am conscious of time, so if you—

Mr Holmes a Court—I am very close to the end. This is played out in towns across Australia. Sarah has assisted those extreme groups across the country. Presumably not bound by the code of ethics of a practising doctor, she has contributed to a mass hysteria sweeping regional Australia. And she knows it but she does not mind because, despite not having done the research, she knows that she is right.

After hearing from Sarah that people as far away as 10 kilometres are getting sick from turbines, a prominent businessman recently met with a wind farm executive to accuse his

development of endangering the life of his pregnant daughter's child. The daughter lives some 10 kilometres from the proposed wind farm.

Senators, you will be aware that there are more than 100,000 turbines globally, spread across 70 countries. More than 100 million Europeans live within 10 kilometres of a wind turbine, and most have done so for a decade or two. Does it not speak volumes that there is not a single national academy of science, national health institute or recognised medical journal that is singing from this hymn sheet?

Is it ethical to spread hysteria before a link between turbines and ill health has been scientifically established? Good people around Australia are being made to worry themselves sick as a result of an orchestrated campaign run by extreme groups. Isn't it ironic that the groups that are so quick to spread unscientific mumbo jumbo about infrasound are often the ones so firm in their rejection of the rigorous body of climate change science?

Back to Hepburn Wind. Our project has earned its social licence as a result of years of communication in both directions. In fact, the only people who do not like our project are the ones who refuse engagement. It took two years for us to build the first 200 supporters of our project and it took the Landscape Guardians and Sarah Laurie just two hours to destroy any social licence for wind energy in Sunbury for many years. How much easier is it, I ask, to destroy than to build? Is it wind farms that divide communities? Sure, some developers have done a major disservice to regional Australia and to our clean energy future. But in 2011 I put it to you that it is extreme groups such as the Australian Environment Foundation and the Landscape Guardians, with their campaigns of fear, uncertainty and doubt, that currently are the most divisive force in regional Australia. At Hepburn Wind we are close to generating clean, safe electricity into the local network—our two turbines for a town of 2,000.

Our job is not done. We are working with Embark, a non-profit body that I chair, to spread our message and our model to other communities. We are already working with more than 40 other optimistic communities. We see a big role for community energy projects, and Embark in particular, in educating Australia and building social licence for a clean, safe, renewable energy future. I believe it is partly up to community efforts like our own to undo the past decade of damage done by a handful of developers and the extreme antiwind groups. Thank you.

CHAIR—Thank you. Before I go to Senator Fielding, I would like to clarify that email that you have tabled.

Mr Holmes a Court—That was an email sent out about three days before our ground-breaking event where we had been advised that the environment minister and the Premier were going to be in attendance. That email was intercepted by a member of our own organisation.

CHAIR—Somebody was sent it?

Mr Holmes a Court—Yes.

CHAIR—Thank you. I wanted to clarify where it came from.

Senator FIELDING—Mr Holmes a Court, with the people that we heard from yesterday—you would be aware of some of those people whose health has deteriorated—are you saying they are experiencing those health effects because they are listening to people who are scare mongering?

Mr Holmes a Court—I do not believe there is a direct relationship between the health effects that you heard yesterday and the turbines, or that any such health effects have been established. I am certainly informed by other submissions, such as the Australian Psychological Society's and the testimony of Dr Wittert, who you will be speaking to on Monday. I see no conclusive evidence from the turbines. Personally, I believe that the fear campaign that we are seeing is significantly responsible for a large amount of the stress and genuine health effects that you saw yesterday on display in Ballarat.

Senator FIELDING—I will leave it there. You have said what you think. That is a statement; I will not put my views on that. That is your statement. How many houses are within a two-kilometre and five-kilometre radius of the two wind turbines that have just been constructed that we saw yesterday?

Mr Holmes a Court—Within 10 kilometres, I can say we have about 8,000 people.

Senator FIELDING—Within five kilometres?

Mr Holmes a Court—Within five, I would say we probably have many hundreds. Within two kilometres, we have about 40 households, and within one kilometre we have 17. The closest house we have to the turbines is 520 metres.

Senator FIELDING—I think it is those within two kilometres—17 within two kilometres, was it?

Mr Holmes a Court—Seventeen within one.

Senator FIELDING—They are the 17 houses that VCAT put a requirement on you to monitor; is that correct?

Mr Holmes a Court—Correct. As I mentioned, strangely, it is only the six objectors that we have in our area who rejected the preconstruction noise monitoring: the very people who that condition was set down to protect.

Senator FIELDING—Could we get a copy of the noise monitoring that you have done on those 11, I think it would be?

Mr Holmes a Court—We did more than 11. We chose sites that we believe are representative of the houses that refused monitoring, and I am more than happy to make that report available to the Senate.

Senator FIELDING—That would be useful. Is it a summary report? I would not mind seeing from one site the exact measurements rather than just a summary report. Is this a summary report or is this the actual report from each site—the actual measurement?

Mr Holmes a Court—What I have is the preliminary summary of the preconstruction noise monitoring.

Senator FIELDING—Would you be able to table—

Mr Holmes a Court—Yes, absolutely. Within two months of construction, we must complete post-construction monitoring and then submit a final report to the responsible authority. I am happy to submit that too, when the time comes.

Senator FIELDING—Okay. Can I just confirm that you will supply the summary and the detail of it? I want to see the actual measurements.

Mr Holmes a Court—Sure. I can give you a zip file of several hundred thousand measurements.

Senator FIELDING—It will be very long, I understand, but a zip file would be good.

Mr Holmes a Court—I am very happy to give that. One aspect about our project is, I guess, radical transparency. If you want our wind data, come and get it. If you want our production data, come and get it. We will have a sign on the front gate for people in our area. People have said, ‘Oh, wind farms don’t make any energy.’ I will happily put a couple of electrodes on the front gate and you can hold on to them if you think it does not.

CHAIR—I might not take you up on that offer, thanks!

Mr Holmes a Court—There is really nothing to hide with our project. Any document that you want whatsoever is available to anybody.

Senator ADAMS—We have had a bit of criticism about the monitors once they do get going, and that they have not left them there for long enough. They have only been there for a short time. With your preconstruction monitoring, how long were they in the houses to get the—

Mr Holmes a Court—The monitoring was done to the relevant standard. We did them in two tranches: one for about 2½ weeks and one we had to do for about five weeks because we had construction noise and unseasonal weather which had to be filtered out. I believe 2,000 times 10-minute periods without construction noise and without weather events were recorded at each of the sites.

Senator ADAMS—This was at night as well?

Mr Holmes a Court—Yes, 24/7. And it was correlated with wind speed.

Senator ADAMS—When you go back, what do you have to do then?

Mr Holmes a Court—When we go back we have to repeat the analysis and we have to show that there has not been an increase in sound levels above the standards.

Senator ADAMS—That will be the same—it will be continuous?

Mr Holmes a Court—Yes, exactly the same procedure.

Senator ADAMS—I just could not understand—

Mr Holmes a Court—I am very happy to make all of this data available.

Senator ADAMS—Some of the criticism was that they were only there during the day, the turbine had only just started, they were not there at night and all these sorts of things. It is very hard; we are not involved in this.

Mr Holmes a Court—I understand. It would be good, if possible, to speak to one of the noise monitoring companies that do this. They are following the standards. There are very strict guidelines as to how the monitoring is to be done, the placement of the receptors et cetera. It is an exact science. I could put you in touch with the experts in that field.

Senator ADAMS—Good, thank you. I note that you are saying that the nearest house, which we saw yesterday—and thank you very much for your hospitality; that was good—

Mr Holmes a Court—My pleasure.

Senator ADAMS—You have one that is owned by the people who own the farm that the towers are on, is that correct?

Mr Holmes a Court—The nearest house is owned by the landlord but it has a tenant who has been there since 1985, so I think he pretty much considers it his house.

Senator ADAMS—The next one is 519 metres away. Is that person happy with the wind farm or not?

Mr Holmes a Court—I am not sure which house you are referring to.

Senator ADAMS—I am just going back through the submission.

Mr Holmes a Court—I know there is a house—

Senator ADAMS—The submission says:

The nearest house to our turbines is 509 m, and the nearest house not in the ownership of our landowner is 519 m.

Mr Holmes a Court—Yes, I think I know the landowner. Yes, that landowner is not happy about the project.

Senator ADAMS—Is not happy?

Mr Holmes a Court—Yes. Interestingly, that landowner is the first cousin of our landowner. I think these issues started long before we came on the scene.

Senator ADAMS—You made the comment that this is safe energy and all the rest that goes with it. I am just looking at your Embark pamphlet, which you gave us yesterday. As a community, because of all the perceived health issues, are you going to do any research once the turbines start and see if people are being affected? Is that in your program or not?

Mr Holmes a Court—No, it is not in our program for a couple of reasons. Firstly, I do not think it is in our remit and, secondly, I do not personally think it is a fruitful scientific endeavour. I think it might be a very useful social endeavour for us to do this research. I do not want to trivialise the pain that was heard about yesterday in Ballarat and I reaffirm my respect for what those people have been through. But this assumption that we need to prove that something is right in the absence of proof that it is wrong seems to me no sillier than someone saying, ‘Muffins will kill you and there’s been no scientific research that muffins make you better, so let’s have a moratorium on muffins.’

Senator ADAMS—I will not start debating. What worries me, as we go around, is that this whole inquiry has been based on whether there is a health problem associated with wind energy. You are going around talking to communities with your Embark program and building up the same sort of—

Mr Holmes a Court—I think I know where you are going. Our group has been doing this for five years on the main street of Daylesford. We have been addressing these concerns for a very long time. In other communities, we will be doing the same when they launch their own initiatives. Mount Alexander, Woodend, Armidale in New South Wales—these communities are all facing the same issues we faced at the beginning. They are all facing reflexive opposition and they are all trying to bust through it by busting the myths.

Senator ADAMS—That is the reason that I ask—because you are saying that it is safe energy but you have not got that research. I just felt that it might be easier, with you doing all of this community consultation, which seems to be the biggest problem, and I have already cited what is happening in Western Australia at the moment, and we will have evidence on Thursday on that. If there was any way that we could have research into whether these things are safe or not, would it help?

Mr Holmes a Court—With respect, Senator, I mentioned the list of objections we had. Four years ago, we were talking about the insulation on underground wiring poisoning the groundwater. Then we were talking about blasting of rock. Then we were talking about leaching of concrete. If it is not one thing, it is another. You will finish this research and those who would want to undermine the industry will move on to the next objection. Health is currently the issue de jour. We have dealt with 20 before. When this one is behind, there will be another one.

Senator ADAMS—So my question is: if there was research done to prove one way or the other that health is not an issue, it would certainly help your community consultation, I would think.

Mr Holmes a Court—Absolutely. If a definitive report said it and it was a report that everyone could stand behind, that everyone agreed was independent and was constructed by proper epidemiologists, people without barrows to push, by all means. But start talking to the epidemiologists and understanding it. I have spoken with Sarah Laurie. One of the things that is

the greatest problem in doing research in this area is: how do you cancel out the Sarah Laurie effect? How do you find a community that has not been scared witless by the claims that Sarah has been making? Unfortunately, I think the activism that we have seen from Sarah Laurie has undermined the ability of anyone to do research in this country on this issue.

Senator ADAMS—So you do not think there are any independent researchers out there that could do it?

Mr Holmes a Court—I think you would have to find a community that has not been tainted with the hysteria that has been on display. I submit to you that I am not aware of one.

Senator ADAMS—Thanks.

Senator MOORE—Mr Holmes a Court, I have a similar range of questions as Senator Adams. I take your point and I raised these issues with Dr Laurie when she gave evidence earlier. In terms of the ongoing credibility of the industry, what has occurred because of the emotion around it is that very dangerous precedents have been quoted in the process around the aspects of tobacco and also asbestos. People have raised that in the debate, saying, ‘If people had acted years ago.’ Certainly, I agree with the point about independence in terms of focusing. From your perspective as a provider and a proposed proponent of the industry, is there a way that there could be some form of research done that would engage with all parties? I know that is a big question. Have you thought about that? In the work that you have done over the last five years have you thought about that?

Mr Holmes a Court—I will pick up the point I made before. I am not sure that there is scientific merit in pursuing the study, but I am convinced by the argument that there may be social benefit in performing that study. Finding a way to get these groups together and agree would be about as difficult as getting Australia to currently agree on whether climate change is real. I think it is actually a very similar issue. By all means, get the best people in the room, get the epidemiologists, try to find a community that has not been scared witless and try to design an experiment. But I do not think on one hand we can say we are going to get the scientists in to study this and solve it when half of the debate here does not care about the science.

Senator MOORE—I take your point, but I am struggling myself. I expressed it to the committee about where we move it forward.

Mr Holmes a Court—I would dearly love a report that says—with all these other issues we can dismiss them all so easily. When it was claimed at VCAT that our hill was an Aboriginal sacred site we got two local cultural representatives and a representative from Aboriginal Affairs Victoria at VCAT—all three of them, to say, ‘No, it’s not.’ I can point to about 10 other examples. We did a very extensive bat study on site that shows that, although our forest near us is teeming with bats, there are no bats on the hill and our turbines will pose no threat to them. Each one of those things we can put in a box and put those objections aside.

Health is a very tricky issue, especially as there is a significant psychosocial dimension. If you can find an expert who can design a study and could help us put that objection in a box so that the Landscape Guardians and the Australian Environment Foundation come up with their next

objection, I would be very happy to have that, and I look forward to finding out what that next objection is.

Senator MOORE—Thank you.

Senator FIELDING—Mr Holmes a Court, you obviously get another company involved to monitor the noise. Which company is it that you engage?

Mr Holmes a Court—We have engaged Marshall Day Acoustics, which I understand have done the majority of wind proposals and pre- and post-construction monitoring in Victoria.

Senator FIELDING—Could you provide the methodology that they are using, please, for those reports as well?

Mr Holmes a Court—Yes. The methodology is the relevant standard, which is—

Senator FIELDING—I would not mind knowing what that company is actually using, what methodology.

Mr Holmes a Court—So you would like the data from our preconstruction monitoring?

Senator FIELDING—Yes. The raw level data as well as the summary.

Mr Holmes a Court—And the methodology. Senator, may I ask: what is the basis of your interest?

Senator FIELDING—I think we could possibly learn from it. I am just interested to know what methodology it is; that way I can understand exactly what is being measured.

Mr Holmes a Court—I will very happily present that to the secretariat.

Senator FIELDING—Thank you.

CHAIR—There being no further questions, thank you very much for both your evidence today and showing us around the wind farm yesterday. It was much appreciated. We have given you some homework. Could you be in contact with the secretariat with that within a couple of weeks? We have a fairly tight deadline on when we are reporting. That would be much appreciated. Thank you.

Mr Holmes a Court—Thank you very much, Madam Chair and fellow senators.

Proceedings suspended from 12.49 pm to 1.44 pm

BURN, Mr Phil, Project Developer, WestWind Energy Pty Ltd

CROCKETT, Mr Lane, General Manager Australia, Pacific Hydro Pty Ltd

EYES, Mr Craig, Director, Wind Pacific (Australia) Pty Ltd

GEIGER, Mr Tobias, Managing Director, WestWind Energy Pty Ltd

RUSSELL, Mr Kyle, Group Manager Development, Origin Energy Ltd

THOMSON, Mr Andrew, Director Development, Acciona Energy

UPSON, Mr Jonathon, Senior Development Manager, Infigen Energy

WICKHAM, Mr Brett, Director Generation, Acciona Energy

CHAIR—Welcome. I understand information on parliamentary privilege and the protection of witnesses and evidence has been given to all of you. We have your submissions Nos 650, 652, 591, 653, 655 and 467. I invite each of your organisations to make a fairly short opening statement. We have lots of questions and there are many issues we want to raise. I want to keep this moving fairly well. I would also prefer—if senators are okay with this—to follow specific issues. For example, if we start with a particular issue, I will make sure that everyone on the panel is happy with having dealt with that issue and then we will move on to the next issue. Otherwise, we would be jumping around a bit and would not make satisfactory progress. When you make your opening statement, if you could give us an indication of the size and the scope of your operation, specifically in Australia, that would be really helpful and save us asking that question later. Who would like to start?

Mr Crockett—Thank you. Pacific Hydro appreciates the opportunity to present to the committee. Pacific Hydro is an Australian company, being 100 per cent owned by industry super funds which manage the investment of five million Australians. Our six operating wind farms, with a total generating capacity of 250 megawatts, meet the annual power needs for 136,000 homes and avoid up to 670,000 tonnes of greenhouse gas emissions each year. Our oldest wind farm at Codrington has been operating for over 10 years now.

In our experience, wind farms play a highly valuable and valued role in the regional economies in which they are located. It is also our experience that once a wind farm is built it becomes part of the landscape, with not just acceptance but significant community support. Pacific Hydro recognises that wind farms may have impacts on some nearby residents and that there needs to be robust planning processes, coupled with clear and honest community consultation. Introducing any large-scale infrastructure into an area will have impacts, and these impacts should be understood and limited.

At Pacific Hydro we do our very best to establish positive relationships with communities around our wind farms. We know that we will be there for the long term and will typically work with the community for two to four years before lodging a planning application. We aim to work

closely with everyone and, where there are concerns, we do our best to accommodate or mitigate them.

During construction, we have thorough processes to minimise disruption to nearby residents and we continue to consult during this period. It is during construction that we start to explore opportunities for the company to partner on community projects. This process includes grants for community festivals, health and wellbeing programs, culture, the arts, Indigenous programs and socially sustainable opportunities. Our staff volunteer their time to assist local clubs and often help with specialist skills. In addition to our team working closely with the community, we have a documented and formal complaints process. This includes our personnel sitting with residents to make sure that we fully understand their concerns. In some cases, it is actually helping to document those concerns.

We recognise that some people do not like wind farms, and it is our experience that in many cases this dislike can colour their perception and attitude towards wind turbines. By way of example, I would draw senators' attention to submission 81 from Mr Geoffrey Tonks, who owns a B&B which is approximately 1.5 kilometres from the Codrington wind farm. We believe the following sums up what, for many people, is an issue of perception. I quote:

We had one case of a person being distressed due to the noise which he believed was coming from the wind farm all night. When he told me this at breakfast I went outside with him and he 'pointed out' the noise to me, it was actually the sound of the ocean beyond the wind farm. For this individual the noise changed from offensive to desirable in the blink of an eye.

In relation to possible health impacts of wind farms, while we recognise some people who are clearly distressed, Pacific Hydro relies on advice from reputable health bodies both in Australia and overseas. The consistent finding is there is no credible or peer reviewed evidence that wind farms can cause direct health problems. But we do take the claims of possible health effects very seriously. To better inform communities and ourselves, we have gone out and measured infrasound emissions from two of our wind farms as well as from other natural sources. The measurements show that the measured levels of infrasound are higher at the beach, they are higher in the city and they are higher near a gas-fired power station than from our wind farms.

Earlier I touched on the relationship that Pacific Hydro has with communities around its wind farms. What we note is a significant change in attitude towards wind farms since claims have been made about health problems. I refer to the statements made by the medical director of the Waubra Foundation, Dr Laurie, that if you live five or up to 10 kilometres from a wind farm you will likely become ill and you should wear a heart monitor. Dr Laurie recently advised the community of Portland that there is a link between early morning high blood pressure, heart attacks and the turbines at wind farms. Since these claims were made, Pacific Hydro has received several calls from worried residents nearby our wind farm asking if they are likely to become ill. We note that in recent community consultations a number of residents showed considerable anxiety about a wind farm being built in their area. The anxiety was so acute that it was difficult to have a rational discussion about the proposed wind farm. In our opinion, Dr Laurie's actions are irresponsible and create unnecessary fear and anxiety in communities.

In the interests of full transparency, Pacific Hydro suggests that the Senate should initiate an inquiry into the full impacts of all forms of energy generation. There is well-established,

long-term evidence in peer reviewed, published scientific literature of the significant detrimental health effects associated with the mining, transportation and combustion of fossil fuels for electricity generation. We believe a more comprehensive inquiry would provide policymakers and the public with a complete picture of energy generation impacts and would facilitate a more balanced discussion than what is currently occurring.

In reality, wind power is good news for health. It is a safer industry, as the risk of death or injury is much lower than for those working in coal mining and fossil fuel extraction. Wind power reduces air pollution, thereby reducing the risk of chronic diseases such as respiratory diseases. Wind power has the ability to reduce health risks. Pacific Hydro expects that this is one of the reasons why wind power was preferred over new coal and new gas fired power stations in a recent independent poll in Victoria.

In conclusion, we submit that wind generation is safe, efficient and clean, contributes to lower wholesale energy prices and is by far the lowest cost, most deployable form of renewable energy that can make a significant contribution to the reduction of greenhouse gas emissions in Australia.

Mr Thomson—Acciona Energy is one of the largest renewable energy companies in the world. With respect to wind power, we have installed over 7,700 megawatts of wind energy capacity—around five per cent of the total capacity worldwide—in 271 wind farms in more than 14 countries. Acciona Energy has been operating in Australia since 2002, has invested over \$650 million and has employed more than 500 people locally. Our business is the development, construction and operation of renewable energy generation facilities. Our Waubra wind farm is the largest wind power project operating in Australia today.

Our projects bring real benefits to communities and regions, as you will have seen yesterday on your visit to Waubra. The wind farm is the largest single ratepayer in the Shire of Pyrenees and will contribute in the order of \$3.5 million over the life of the project. Acciona contributes \$64,000 each year to the Waubra Community Benefit Fund, or \$1.6 million over the life of the project. The fund is administered by the community, for the community, and focuses on a wide range of social and environmental initiatives that are relevant to the community.

We support community festivals like the Waubra wind farm festival, which is organised by the community each year, local environmental and education programs and sporting teams. We also invest significant time and energy in hosting tours of groups wishing to learn about the wind farm and renewables more broadly. We also play our part as a local member of the community. On two separate occasions, for example, we have dispatched our own firefighting teams to put out fires on local properties. As we have heard earlier today, there are substantial regional, economic and business related benefits that flow—payments to landholders, for example, along with local businesses.

As a result of a wind farm project, the local region, as well as the state in general, experiences economic benefits in terms of additional output and direct and indirect employment. Rural wind farms also enable the diversification of the region's economic base. Acciona's Waubra wind farm sourced approximately 80 per cent of the jobs from the region during the construction, operations and maintenance phases of the project. There are around 30 permanent positions in

operations and maintenance roles and there were 200 jobs during the 18-month construction period.

On a national scale, the wind industry provides 2,184 full-time equivalent jobs, which is expected to increase to over 19,000 by 2020. We expect our share of this employment total to be significant. We have an ongoing pipeline of projects to be delivered, worth in the order of \$1.5 billion over the next three to four years, and we expect to employ more than 500 workers during construction of these projects and 60 during operations.

With respect to noise, to some, noise at a particular level might be annoying, but this is a subjective reaction. Noise standards and guidelines applied in Australia are amongst the most stringent in the world. By way of example, the World Health Organisation recommends a limit of 30 decibels inside a bedroom to prevent potential sleep disturbance effects. Thirty decibels equates, more or less, to 45 dB outside a house. By comparison, the typical baseline limits of Australian wind farm standards and guidelines are 40 dB. They are significantly more stringent than the World Health Organisation recommends.

With respect to adverse health effects, it is our opinion that wind farms are a safe form of technology to work and live around. We have built more than 270 wind farms over two decades and have our people working and living in amongst operational turbines in 14 countries. You would have seen yesterday some of the houses where our people live with their families. The only locations in which we have encountered allegations of health impacts have been in the US and Canada, following the self-published report by Nina Pierpont, and now in Australia. In every other country we operate, this is not an issue. It is worth noting that wind turbines have been in use for more than 20 years around the world.

We operate in a highly regulated environment in which the pathway to successfully developing a wind farm project is long and slow. In addition to this, as a nation we have committed to the goal of transforming our energy sector to include a significant proportion of renewables—20 per cent by 2020. That has bipartisan nationwide support. This is certainly an ambitious objective, but it is one that can be delivered. We would hope that the findings of the Fielding inquiry do not threaten this objective or add to the cost of green electricity to Australians.

CHAIR—I should just say, for accuracy's sake, that this is a Senate inquiry. The Senate determines what each of its committees investigates. Who is next?

Mr Upson—I work for Infigen Energy. We are Australia's largest owner of wind farms, with wind farms in the United States, Germany and Australia. We are headquartered in Sydney and are a publicly listed company on the ASX. I would like to start my statement by reading the first paragraph of the editorial in the *Age* today, which I think is quite appropriate:

Geography has always isolated Australia. Rarely, though, is the effect so obvious as it is in the debate on climate change. Globally, the need to cut greenhouse gas emissions is widely accepted. Visitors to Australia are surprised to find that—

—this is in dispute. I would say the other area where Australia is isolated is where we are in the world with wind energy. I think it is very important to set the stage with what is happening overseas. In our submission, in the first chart there is a graph showing the worldwide growth of

wind energy starting in 1996 at merely 6,000 megawatts. It doubles every three years, rising over 25 per cent year-on-year growth for 15 years. I would challenge the senators to come up with any other industry that has anywhere near that consistent growth rate: 25 per cent for 15 years. This is despite the global backlash that we heard about from Sarah Laurie early today. This global backlash has been, I have to say, fairly unsuccessful and that is partly because it really consists of four, five, maybe six doctors spread throughout a couple of countries.

Another chart in our submission is the pie chart of new investment in electricity generation worldwide. In Europe the investment in wind energy in 2009 was 39 per cent of investment in new electricity plant. Gas was only 25 per cent, and all of the other technologies were below that. In America, gas-fired generation just pipped wind energy at the post. If you add them together, more money was spent in that year, 2009, on investment in electricity plant generation powered by wind than any other technology. We are not an alternative technology. Perhaps in Australia it could be considered that, but it is No. 1. More money is spent building wind farms than any other form of electricity generation.

There are over 100,000 wind turbines in the world. If even one per cent of what Nina Pierpont and Sarah Laurie are alleging were true, we would be facing an epidemic of so-called wind turbine syndrome of truly biblical proportions. Sarah Laurie said that people are affected 10 kilometres from a turbine. Let us be generous and say that three people are affected per turbine. You are talking about a quarter of a million people being affected by wind energy today and somehow or other governments, health organisations and science organisations have not noticed this. A quarter of a million people—it is just ludicrous.

The US has tens of thousands of turbines operating for any number of years or decades and they have 700,000 doctors there. You have listened to one—I will be generous—of three or four doctors in the entire country where I was born who subscribe to the theory that infrasound from wind turbines is to blame for a wide variety of symptoms. Why has not the committee heard from any of the 699,996 US doctors who do not share Nina Pierpont's view? Hearing from a doctor who represents 0.0006 per cent of the medical profession in the United States does not provide the committee a very representative view of medical doctors in the United States.

If Australia were at the leading edge of the industry and installing the first large turbines in the world, then further study besides the ones already taken, like the excellent study that Sonus engineering did which measured infrasound in turbines, might be needed. It might be a reasonable quest. But we are less than one per cent of the market, growing at 25 per cent a year, year-on-year for the last 15 years. If Australia were connected to Spain, instead of being halfway around the world, I would venture to say we would not be having this inquiry. Such inquiries do not exist in Europe. There are no ex-doctors being flown around the country to tell people they are going to get sick. Wind turbines are so prevalent and the objections so few that such health concern arguments would be dismissed out of hand. In the committee's deliberations, I would respectfully suggest that you keep in mind the successful, fast growing and industry-leading position that the wind energy industry has worldwide and continues to have. Thank you very much.

CHAIR—Thank you. Mr Geiger.

Mr Geiger—I would like to start just by letting you know that WestWind Energy is a small Australian company that is dedicated to the development, construction and operation of wind farms. We really welcome the opportunity to submit to this inquiry today. Today we have nine staff employed in our office in Gisborne, north of Melbourne. WestWind Energy was invited by Invest Victoria and Invest Australia in 2004 to establish a business initially in Australia. Due to the invitation and a very supportive state government in Victoria, in particular, we were attracted to setup shop in Victoria.

The previous Victorian government's planning policy was very supportive for renewable energy. That attracted us to come here in the first place. The Victorian renewable energy target scheme, which is now superseded by the bipartisan Commonwealth mandatory renewable energy target, and the excellent wind resource and extensive grid infrastructure, convinced us to come to Victoria to start developing wind farms here.

To date, WestWind has secured the approval of 235 multi-megawatt wind turbine locations in three projects in the Ballarat region of Victoria: the Mount Mercer, the Lal Lal and the Moorabool projects. WestWind Energy, to date, has no operating wind farms in Australia. However, the WestWind group of companies, which is headquartered in Germany, currently owns and/or operates and manages over 140 wind turbines within Germany and is also developing projects in Turkey, Poland and Romania. We are investigating the feasibility of further wind projects in other markets with similarly favourable conditions. I hand over to my colleague now.

Mr Burn—The fact is that wind energy is the safest and cleanest of all forms of electricity generation with regard to its manufacture and ongoing operation. Wind turbines and wind farms do not pose a public health and safety risk. We refer to advice from the National Health and Medical Research Council, the Victorian Department of Health, the Victorian Chief Health Officer and WorkSafe Victoria. Infrasound is not an issue for wind turbines and wind farms. The standards and guidelines used for the assessment of environmental noise from wind farms in Australia and New Zealand are amongst the most stringent and contemporary in the world.

Wind energy will result in a dramatic increase in regional investment and employment in Australia. WestWind's projects alone in the Ballarat region of Victoria will result in over \$1.3 billion in capital investment. The flow-on effects from such an investment will be significant. Once construction starts on WestWind's approved projects, farm businesses on over 11,000 hectares of land in the Ballarat region will have an additional non-rainfall dependent farm income of over \$1.7 million per year for the next 25 years at a minimum. This additional farm income will be achieved by hosting wind farms which will occupy well under one per cent of the total farm area. Once operational, WestWind's projects will generate over \$900,000 in municipal rates each year for the next 25 years at a minimum and most of those rates, in our case, will be directed to the Moorabool Shire Council.

We expect WestWind Energy's projects will result in approximately 60 full-time ongoing jobs and a further 200 construction jobs over four years. These figures, we believe, are quite conservative. Based on a number of studies referred to in our submission, we do not accept the fact or the suggestion that wind farms will cause a long-term reduction in property values, and in any event we do not believe that property values are a relevant consideration when assessing land use change, particularly wind farms.

WestWind Energy is employing people, engaging consultants and contractors and spending millions of dollars of private investment in developing projects across Australia. Investment will increase significantly once construction begins on our projects. Wind energy is the safest and the cleanest of all forms of electricity generation. The natural energy in the wind turns rotor blades, which in turn spin an electrical generator. There is no water used to generate steam and provide cooling, and there is no heat source from the burning of fossil fuels or from nuclear fission. There is no hole in the ground that is too big to ever be filled.

In the assessment of wind energy projects, identified significant landscapes, aircraft safety, communications, effects on local flora and fauna and audible noise and shadow flicker in the immediate vicinity of wind farm proposals are the only relevant considerations. In our view, all of these issues are adequately addressed through wind farm design and appropriate assessments, and are well and truly addressed by the current guidelines.

CHAIR—Thank you. Mr Russell.

Mr Russell—Thank you for the opportunity to appear. I am the national project development manager for Origin and, as such, I am responsible for developing wind farms in Australia for Origin. I will focus these introductory remarks on the social aspects of wind farms, though I am happy to take questions on any other aspects of our submission that you have. Origin is an Australian integrated energy company. We have interests in gas exploration and production, electricity generation and retail. To meet our customers' demand for green power and also the renewable energy target, we initially purchased renewable energy certificates—the RECs—from the market, but the demand for renewable energy is such that we decided a few years ago that we needed to develop our own wind farms. So far, we have built one at Cullerin Range wind farm in New South Wales, which was commissioned in 2009. Beyond that, we have nearly 3,000 megawatts of wind energy projects at various stages of development in South Australia, Victoria and New South Wales.

Origin is used to working with communities around rural and regional Australia, not just in wind farms but in developing energy assets such as gas fields, gas processing plants and power stations. We are committed to becoming part of the communities in which we operate and to engage honestly and transparently to ensure that we make a positive contribution to those communities. We have a network of community relations advisers attached to our projects and assets, and we also set aside funds for community investment groups. We believe the story of wind farms in regional communities is overwhelmingly positive and that there is no justification for additional regulations or restrictions. The processes that are in place give ample scope for developers to engage with the community and to allow decision makers and government to make informed judgments.

Government risks choking wind farm from development just when Australia needs a strong pipeline of projects to meet the 2020 renewable energy targets. The consequences of squeezing that pipeline of projects would include higher costs to consumers of electricity. In respect of infrasound, which we have heard about, I want to make it clear that we take any risks to public health very seriously. We therefore look closely at the available literature and particularly the advice from relevant public health bodies, such as the aggregation of expert research that we saw from the NHMRC. The thrust of that advice is that there is no physiological basis for concern. We are not a medical organisation so we are guided by that advice.

We believe this issue is best addressed, firstly, by those reputable public health bodies reaching out to individuals in the communities who may have concerns. They are the ones with the scientific expertise and the independence to do so. Secondly, developers need to undertake high-quality stakeholder engagement to ensure community issues are identified and addressed. That is what Origin does and it is the industry's position. We look forward to creating positive economic and social impacts through the development of wind farms in Australia. Thank you.

CHAIR—We will go to Mr Eyes.

Mr Eyes—Thank you for giving me the ability to present at the inquiry. Wind Pacific is an Australian company. It supplies megawatt sized wind turbines from Ming Yang Wind Power. That company is one of the largest privately owned wind turbine manufacturers in China and was listed on the New York Stock Exchange in 2010. In China, in 2010, there was an investment of over \$45 billion in wind farms. Wind farms are the lowest cost, safest way to produce low-carbon energy. In terms of development of wind farm projects, probably the way that we have seen that happen is by balancing the environmental, social and economic factors. This has been able to produce a number of the wind farm projects that we are seeing, particularly here in Victoria and around Australia.

On achieving the 2020 target, wind farms will return around \$25 million to \$30 million per year to regional and rural communities. That is an amount of \$600 million in today's dollars, when that target is achieved. In addition to what is happening with the development of wind farms, there is the voluntary purchase of energy through green power. There are over 800,000 users in Australia—that is, people paying for renewable energy, predominantly wind power, in a voluntary scheme. That is a measure of the support for renewables. Thank you.

CHAIR—Thank you. I am going to throw to Senator Fielding. We will pursue the line of inquiry that we start with, finish that one and then move on to the next one.

Senator FIELDING—Obviously, I have read your submissions and heard what you have just said. With regard to the adverse health impacts that this committee heard about yesterday—and we have had plenty of people present to this committee—you are saying it is not from the wind turbines; it is from something else. Is that what you are saying—that quite clearly there are adverse health impacts but you would claim they are not coming from the wind turbines? Is that what you are saying?

Mr Thomson—Perhaps I could speak to that. I cannot speak on behalf of the group, but I would make the point that at Acciona, at least, we do not believe that there is a direct causal link. We have that position. As a number of my colleagues have said here, we base that on reputable medical advice. That is the best we can do. That is not to say that we do not think there are legitimate health issues that people are experiencing in communities.

At Waubra, for example, as you would know, there are people that seem to be having medical issues. We accept that, but we do not believe that it is caused in itself by the turbines. If you go back to Sarah Laurie's evidence earlier on, she raises a lot of things—disturbed sleep, stress, depression, anxiety. I must confess I suffer from many of those things. I wake up at two o'clock in the morning regularly with elevated heart levels and high blood pressure. These are things that

are commonplace. Suicide rates amongst rural Australian men are the highest in the land. I think you have to try and distil some of this information and make sense of it in that way.

CHAIR—Has anyone else got anything?

Mr Crockett—I would add to that by saying that we also went the extra step of trying to understand whether infrasound existed at levels that could cause a problem. I think I mentioned it earlier. We did not do a study, as such. We simply went out and had an independent acoustic expert measure it. Nothing has been manipulated or calculated at all. It is just simple measurements done the same way in different locations. If you take the extension of that, if it is the case that infrasound is making people ill, then people who live by the beach will become ill and people who live in the city will become ill. It is very difficult for us to reconcile that there is any physiological effect from the turbines.

Mr Russell—At the risk of repeating the same sort of thing, as a major company, Origin would be very concerned if there are health issues. Obviously, we have looked at the sorts of claims that Dr Laurie has made. Within our own review, and looking at the available information, there has been no support for that being as a result of the wind turbines.

CHAIR—Has anybody else got any questions?

Senator FIELDING—Could I just finish the follow-up for that? Mr Crockett, could you provide the committee with that testing that you did, or the research that you did, please?

Mr Crockett—It was attached to our submission.

Senator FIELDING—There was not any further detail to that, was there?

Mr Crockett—No.

Senator FIELDING—Thank you.

Senator MOORE—Is it QDOS?

Mr Crockett—No. It is the Sonus report. The QDOS is an independent survey.

CHAIR—Senator Boyce, you had a question on health?

Senator BOYCE—I just have a follow-up question. Mr Crockett, I gather Codrington is one of the oldest wind farms in Australia of significant size.

Mr Crockett—That is correct.

Senator BOYCE—What follow-up have you done at all in the community around any issues related to the existence of the wind farm?

Mr Crockett—The wind farm has been there for 10 years, well before I joined Pacific Hydro. We run a sustainable communities fund there, so we interact with the community on a regular basis. We have never had a complaint near the Codrington wind farm.

Senator BOYCE—Of any sort?

Mr Crockett—No. So we have never had to deal with anything.

Senator BOYCE—Is there a formal complaints process that is overseen by a regulator?

Mr Crockett—No. We have a formal complaints process at Pacific Hydro. We have a person in our business who is responsible for managing any complaints that we get. As I said, there have been no complaints in the whole 10 years that Codrington has been operating.

Senator BOYCE—Not even related to a noisy truck or anything?

Mr Crockett—I honestly cannot tell you about construction because that was 10 years ago and I—

Senator BOYCE—I would be amazed if there has not been one complaint at all about any aspect of the operation of Pacific Hydro in 10 years.

Mr Crockett—I can come back to you on whether there have been any complaints from the construction of the Codrington wind farm, but I am not aware of any complaints in relation to the operation of the wind farm, which has been over 10 years. We have a nearby resident who runs a bus tourist business that takes people through the wind farm. He often comes to us and says, ‘Look, it’s really interesting just listening to the questions and what people think about wind farms. But they always tend to go with a slightly different view, because they don’t see what they’ve necessarily heard.’ It is our experience that there has never been a problem—until Dr Laurie went and made some public statements in Portland. Now we are starting to field a few questions from people who are concerned. It does seem odd to me that 10 years go by and then suddenly people are asking questions. They are not asking questions because of the wind farm; they are asking questions because of what they have been told.

Senator BOYCE—Thank you.

Mr Upson—Perhaps I could follow on in answering your question. I would like to draw the committee’s attention to submission No. 815, submitted by Frank Brennan, the Chief Executive Officer of Wattle Range Council. Wattle Range Council has four wind farms operating there. Three of them are ours and one is from another company. I will read a couple of excerpts:

The impact on property values has not been significant, however there has been flow-on increases to farm incomes due to the lease/rental arrangements between landowners and the windfarm operator.

The windfarms constructed in our Council region have provided significant employment opportunities during the construction phase ...

More importantly:

Council has received no complaints or advice of concerns about excessive noise and vibrations being emitted from the wind farms operating in the Council region ...

Lastly—

Council has received no complaints or advice of any adverse health effects suffered by people living in close proximity to the windfarms operating in the Council region.

We are talking about over 100 turbines, almost 140 turbines, operating there. Very interestingly, we completed Lake Bonney stage 1, Lake Bonney stage 2—99 turbines up and running for years. We proposed a third stage, another 13 turbines. Do you know how many objections the council received? Zero; not one objection to another stage of the wind farm. Interestingly enough, we are in the planning process for another wind farm nearby, called the Woakwine project. Sarah Laurie came to town a couple of months ago and told everybody who would listen that they are going to get sick from being near wind turbines. Now the Woakwine project has got 10 objections, solely based on health concerns. To me, there is only one inescapable conclusion from that—that is, there is a much higher correlation between wind turbine health concerns and Sarah Laurie visiting than there is between wind turbine health concerns and over 130 turbines operating near neighbouring residences. Thank you.

CHAIR—Senator Adams has questions on health related issues.

Senator ADAMS—Mr Burn, you were talking about the fact that there were no health related issues, and your evidence was based on the NHMRC publication. Could you tell me who the authors were of that?

Mr Burn—I cannot. Just to clarify, I was mentioning that wind energy is the safest and cleanest form of electricity generation. In terms of the health effects, I am not a medical professional. That is the next best report that we have got from the advisory group, who, I understand, advises the federal government. I am not familiar with the authors of that document.

Senator ADAMS—That is the evidence that has been put before us in a number of submissions. Because you brought it up, and we have a panel here, can anyone tell me who the authors of the NHMRC publication are?

Mr Thomson—I do not know the names of the specific authors. We just take the fact that the report is produced by the NHMRC. But I would note that their review is based on papers and reports by a number of other organisations and individuals, the World Health Organisation included. There are reports from groups that were engaged by the wind industry but are represented by at least, in the case of the American wind industry's report, six independent experts, including Geoff Leventhall. The Canadian government has contributed to the report.

Going to Senator Fielding's question from earlier this morning as to whether the NHMRC report was peer reviewed, it is not in itself primary research and, therefore, is not required to undergo peer review. Peer review is applied to primary research when it is generated.

Senator ADAMS—It is an assessment of literature that is available, of course. I think most of the members of the panel are fully aware of that. It just worries me that other people have put

forward research and are opposed to wind. I am trying to stay in the middle of this. I am a nurse and I am looking at everything in the best possible way, as neutral, but this particular publication does concern me a lot. It has been quite severely critiqued and has not stood up. The NHMRC were not prepared to come before the committee. They have now changed their mind, which is good, so we will be able to follow it up. It is just that a number of the submitters, especially from your organisations, have been quoting that. I thought that Mr Burn might have some more information that I did not know about.

Mr Burn—Others are quoted there as well, in terms of WorkSafe Victoria and the Victorian Chief Health Officer.

Senator ADAMS—We are trying to get those reports.

Mr Thomson—Senator, can we clarify one thing? For example, if you look at the work that Sarah Laurie is doing, that is not medical research. She has collated anecdotal evidence.

Senator ADAMS—Yes, she has.

Mr Thomson—It is not based on clinical diagnosis. It is not based on doctor-patient relationships. It is not medical research, and neither is the work that has been done by Nina Pierpont.

Senator ADAMS—Were you at Ballarat yesterday?

Mr Thomson—No, but a number of my colleagues were.

Senator ADAMS—The people who gave evidence there were not medical people. They were just people who were suffering from what they considered were problems from living too close to the turbines. It is much the same. This is the sort of evidence that we, as senators, have to go through and look at. Just in the way that Mr Burn said that, I thought, ‘Right, now I’ve got someone who really knows a little bit more than the evidence we have had.’ That was the reason. As far as research goes, obviously this issue is not going to go away. We have got a wind farm just starting up in Western Australia. I want to ask Pacific Hydro about some proposed ones they have there. These are the issues that are going on. How do we fix it? Would your companies be prepared to put forward dollars into research—if we cannot get any research dollars out of the government—to go to a completely independent researcher just to try to put this thing to bed, as to whether it does affect or does not?

Mr Crockett—Going a little bit back to where you were before, I suggest that, to some extent, in terms of asking us about the health impacts, we have to rely on reputable bodies like the NHMRC. I am not sure that knowing the names of the authors is really here nor there. This afternoon—at five o’clock, I think—you have some senior health professionals who should be able to advise you. I think Pacific Hydro would say that, if there are reputable health bodies saying that there needs to be further research, then of course we would be happy to help in any way.

Mr Upson—I would call the committee’s attention—and Lane probably did not want to blow his own horn—to the fact that this report, and I know you have probably had over 1,000

submissions, is one report you should read. Sarah Laurie said that we need to have the research done and the wind energy community should front up and pay for some independent studies. That is exactly what has happened.

CHAIR—Can you name the report? Hansard does not do visuals!

Mr Upson—*Infrasound measurements from wind farms and other sources* from Sonus Pty Ltd in Adelaide.

CHAIR—Thank you. I just need it for the *Hansard*.

Mr Upson—Sonus is a very well qualified acoustical engineering firm. Sarah Laurie has asked for the studies to be done. They have been done. This report shows two things: (1) the infrasound recorded 300 metres from a turbine. No-one is putting turbines 300 metres from a neighbouring house. So this is much, much closer than any neighbouring house would ever be—as Lane said, less than the infrasound levels in the Adelaide CBD and at the beach and, more importantly, way, way below the World Health Organisation limit of 85 dBG. It has shown that infrasound, which seems to be what Sarah Laurie and Nina Pierpont are about, is the actual thing that is causing the problems. That is (1) way below natural occurring levels and (2) way below the World Health Organisation's limits. The work has been done. I notice Sarah Laurie did not try and rebut this report. I wonder why?

Senator MOORE—To be fair, Mr Russell, we did not draw it to her attention. That is something we will do now. To be fair, in terms of the evidence, we did not ask Dr Laurie that question. We will follow up on that.

Mr Upson—I would say she is probably aware of it.

Senator FIELDING—We did not ask her.

Senator MOORE—We will follow it up.

CHAIR—Senator Moore, you wanted to follow up that particular question.

Senator MOORE—I am just following up from Senator Adams's question. In terms of the evidence that we received yesterday, you are all aware—most of you had people in the room—that there are extraordinarily negative contrasts being made between wind energy as an industry and things such as asbestos and tobacco. In my opinion, it is important for the industry, in all the stuff you put on record about what you are doing for the Australian community and the economy, to actually have some process to respond to that. Our job is to try to balance the information we have. I asked a previous submitter much the same question as Senator Adams asked about having independent research and the difficulty of doing that—now that people have gone into camps in terms of agreeing what is independent—and the importance of having long-term research. It is my view that a snapshot does not do any good for either scope, in terms of getting a result. I asked whether anyone has any idea of what genuinely constitutes 'independent', how you would actually do that and whether the industry as a group, as opposed to individual proponents, as we have, has any idea about how you could have something that would be able to be on record to the community saying that Australia is actually taking a leadership role in this

area. A previous submitter did give a response to that before lunch. Do any of your group have a response to that?

Mr Thomson—It might be worth your exploring what is happening in Ontario, Canada, at the moment. I understand there is a three-year research project underway. It is funded by the government of Ontario. It is being run by Queen's University and it is based at a large wind farm that has been constructed. To my mind, that would seem to be a useful starting point, where you have a government led initiative. It is completely independent in that, as I understand it, there is no direct industry involvement other than by the owners of the wind farm that they are basing the study on, and there is a reputable university behind the work.

Senator BOYCE—You are all members of the Clean Energy Council, except—

Mr Eyes—WestWind.

Senator BOYCE—WestWind. Thank you.

Senator MOORE—Help me out, Mr Thomson. Did you refer to that research in your submission?

Mr Thomson—No, we did not. I can contact colleagues in Canada and see if we can get some information for you.

Senator MOORE—That would be very useful. Does any other provider have any comment about an independent process of looking at an issue which, whether or not you like it and whether or not I like it, is now in community debate and, through the internet, available to everybody? We will follow that up, Mr Thomson. Does anyone else want to look at whether there is such a thing as an available independent source to have such a study?

Mr Geiger—We will endeavour to do that through our German network. Given the number of turbines there, there is a high likelihood that research in that area may have been done. We will follow that up.

Senator MOORE—Let us know. Thank you, Mr Geiger.

CHAIR—Or is being undertaken. I think Senator Moore was asking about research that you are aware of that is being undertaken.

Senator BOYCE—The way it is being done to ensure independence.

Mr Geiger—We are not aware of it, but we will look into it. If we find something, we will provide that.

CHAIR—Mr Crockett, you looked like you wanted to say something.

Mr Crockett—You have a public health expert on, I think, at five o'clock this afternoon. I assume you will ask them if there is a way of doing this.

Senator MOORE—Thank you, Mr Crockett. The same question will be asked of them, yes.

CHAIR—I propose that we move on, because we will run out of time. We have a lot of issues. I wanted to clarify something with Acciona. I think it was the Waubra issue that came up yesterday where people were saying that, when you were doing monitoring, you were not doing it at night, when it is quieter. Could you quickly address that issue?

Mr Wickham—That is incorrect. The monitors are put in place. We go through a very stringent process of complying with the standards. The pre-construction monitoring was done. At 23 locations, we placed the monitors for a period of time to get a representative sample of data at different wind speeds and so forth. And then, post construction, the monitors were put in place in the exact location as they were pre construction. The monitoring, again, is done 24 hours a day, in two-week blocks, to obtain enough data. Periods of rain and periods of malfunction could cause the data not to be recorded.

Senator BOYCE—That is noise level data?

Mr Wickham—Yes.

CHAIR—Is that done in people's houses at night?

Mr Wickham—No. It is done in the same locations as it was prior to construction.

CHAIR—So the point there then is: when people are complaining around noise, do you go into the houses and monitor at night?

Mr Wickham—No. We monitor in exactly the same locations at night—24 hours a day—as they were located pre construction.

CHAIR—We will move on to complaints then, because this is shifting into the issues around complaints. You will be aware that it came up a lot yesterday. What do you do when someone complains about noise at night?

Mr Wickham—We go and locate a monitor outside their property so that we can then use—

Senator BOYCE—When you say 'outside their property'—

Mr Wickham—Adjacent to their house, in the same location as it would be for a representative house, because, as you are obviously aware, we did not record background data at every house. We recorded it at 23 locations pre construction. The best way to measure apples with the best possible apples—it is not exact—is to actually measure in an adjacent location at the property where the complaint has occurred, outside the property, and then use a representative property, which is the same distance from the turbines, or has similar conditions, and compare those situations.

CHAIR—So when somebody complains you do not actually go into their specific house to monitor the noise levels?

Mr Wickham—No.

Senator MOORE—Why not?

Mr Wickham—Because the best way to compare is against the pre-construction noise levels, and where we have that is at locations outside the houses. Every house is different—different insulation, different properties, double brick, weatherboard.

Senator ADAMS—Every person is different too.

Mr Wickham—That is correct.

Senator MOORE—This may apply to other companies as well, but I want to ask Mr Wickham: if a person is actually making a claim that in their bedroom they are so discomforted and made unwell that they have to leave their house—and that claim has been made, as you well know—what is the scientific reason not to actually monitor what is happening in their bedroom? You are talking about the contrast in going from a model spot but—

Mr Wickham—If we are able to achieve the standards that we must outside the house, there will not be any issue inside. That is simply the fact.

Senator MOORE—But from a perception point of view, if it were my bedroom or my kitchen—but the issue is sleeping at night and it comes up consistently—I would feel more confident if the measurements were taken where I was making the complaint than if it was outside. That is just a personal perception. Is there any reason that you would not do that? Does it screw up the measurements in some way?

Mr Crockett—Could I possibly help out there?

Senator MOORE—Certainly, Mr Crockett; help me out.

Mr Crockett—The noise standards require that you record more than 10 metres away from a house. As soon as you go inside the house, you are effectively breaking the noise standards, so you are not able to use the data. When they record the noise, the noise specialists go through and sift out the rubbish—if it has rained right on the microphone and those sorts of things. If you put a microphone inside the house, suddenly you are in a zone where they do not know what to do—because someone has come and turned the radio on. How do you deal with that? It is a very prescribed process. If you move away from that process then immediately you are in an area where you cannot defend what you are doing.

CHAIR—It came up a lot yesterday—and you will be aware because many of you were there or you had representatives there—that ‘people haven’t come and monitored where I sleep in my house’. Has anybody ever explained to the community the issue that you just raised around the noise standards? Do you see why I am asking it?

Mr Crockett—Yes, sure.

CHAIR—No-one understood that yesterday, as far as I am aware.

Mr Crockett—I cannot speak for other companies but, if we get a noise complaint, we will go and talk to the person and explain all of that in absolute detail at their house. If they are not happy or they do not believe us, even if it is not an area that has had pre-construction monitoring, we might still monitor and then tell them about the results that we have got. But there is no point in putting the microphone inside the house.

Mr Wickham—Certainly, in our case, prior to us entering into the post-construction monitoring, we had that information on our website. We generated newsletters. We went and spoke to everyone who was going to be involved in the program. As Lane has indicated for Pac Hydro, before we go and monitor at someone's house, if they raise an issue we will go and sit down and talk to them about it and why we do not monitor inside, why we monitor outside, and the fact that it is in compliance with the standards.

CHAIR—Has anybody else got any other questions about complaints?

Senator BOYCE—It is common in a number of industries that complaints have to be reported to EPA or some other regulatory body. What would your view be if that were the case with complaints for wind farms?

Mr Wickham—I can talk about that. Currently, in accordance with our planning permit, we have to record all our complaints and so forth. The state government has a right to review those at any time they like.

Senator BOYCE—That relies on the state government having the resources and a reason to do that. I am talking about switching that around so that you are obliged to report, say, quarterly all complaints. What would your view be?

Mr Wickham—We are completely transparent about the issues we are dealing with, so I do not think we would have a problem with that at all.

Mr Crockett—I have the feeling that in some jurisdictions we already have to. That is not burdensome at all.

Mr Wickham—Certainly, depending on whether it is a local council approved wind farm or the state government, the rules can be slightly different as to what we have to comply with.

Senator MOORE—Mr Wickham, I spoke with you briefly yesterday about some of the evidence we had on record. I am not going to take the whole committee through it. Can I just remind you on notice that there was quite a detailed complaint in the evidence from one of the people in Waubra, including a chronological list, that no-one got back to them when they alleged they were being bullied. Can we get a response from the company about looking at that list for the public record? The complaint is now on the public record and it would be useful to see the company's response to what happened.

Mr Wickham—I have certainly asked our community relations team to generate some data on that out of our consultation database.

CHAIR—And you will provide that on notice?

Mr Wickham—Yes.

CHAIR—Thank you.

Senator FIELDING—Just on that issue, there was a concern that you started giving reference numbers to complaints at a certain stage, but before a certain stage you were not giving out reference numbers. I would not mind some background to that as well. That was the key to it.

Mr Wickham—Certainly, there was some discussion about our post-construction compliance program, so the noise monitoring that was conducted as part of the planning permit. We completed that program in October last year and submitted our report to the government. Once we had submitted that report to the government we then provided all people who had made complaints about noise with their individual noise data and the reports that had come back for their locations. We wanted to complete the process for the Victorian government. We only had very limited numbers who had complained at that stage. But now, every time we go and conduct noise monitoring at someone's location, at someone's house, the data is then sent to MDA or MDA source the raw data. They conduct the analysis and an independent report from MDA is provided to the person who has raised the issue about noise.

Senator MOORE—I have one subsequent thing on complaints. This is for all the witnesses. I do not know exactly which wind farm we heard evidence from yesterday that it relates to, but a number of people expressed the view that they were bullied when they made complaints. I do not expect any provider to say, 'Yes, that happened,' but if someone makes a complaint and then they claim that they were bullied, does your complaint mechanism now have a subset as to how you continue to operate in that way? The bullying issue was raised by a number of people in the room yesterday. They did not feel when they made a complaint through the process, be it by phone or letter, that they got a response back from the provider. It was not just one; it was across the board. Can we get a copy from each of you of your models of complaint-settling mechanisms? That would be useful. Thank you very much.

Mr Burn—On that point, not having any operating wind turbines as such, it will be our proposed—

Senator MOORE—Absolutely.

Mr Burn—There is also an Australian standard on complaints management which we base ours on.

Senator BOYCE—We are aware of that.

Senator MOORE—We would like to see, under your headings, what your company has committed to publicly as to how complaints are handled. Thank you.

CHAIR—Has everyone finished with complaints? I was thinking of going to the issue of confidentiality. It was raised this morning, and you will be aware it was raised at the hearing. I think people touched on it yesterday, but particularly last Friday it was raised at a hearing in Canberra. I asked industry, because it has come up in a lot of the submissions, about the issue of confidentiality agreements that people with turbines sign with various companies and what is

and is not in there. There are claims of gag orders. Claims are made that people cannot talk about health impacts et cetera. Could we hear from each of you around what sort of confidentiality agreements people are required to sign?

Senator BOYCE—Could we do that for both people with turbines and people affected by turbines?

CHAIR—Particularly, do you have non-disparagement clauses and what do you understand those to mean?

Mr Eyes—So any agreements would be a confidentiality of commercial arrangements. I am not aware of any gag orders. I do not know what a gag order is.

CHAIR—Let us call it a non-disparity comments clause.

Mr Eyes—No, there is nothing like that.

Mr Thomson—We have two scenarios in which we will negotiate an agreement with individuals. One is with our project landholders. The nature of the contract that we establish with project landholders is no different to the type of contract you would see in any other walk of business. It is standard fare. It contains confidentiality clauses, or a clause which goes to the heart of the agreement. Really, it is an agreement that both sides take on. We are just as much bound by the confidentiality of the agreement as the landholder, and it is really around the nature of the commercial terms of the agreement. We have, in one or two instances, had agreements that have been put in place with the owners of houses that have sold the properties to us. That agreement has had a confidentiality clause in it, but it does not prevent that individual from speaking about issues of health or any other matter on their experience with the wind farm.

CHAIR—Do you have a clause about non-disparity comments in there?

Mr Thomson—We have a clause which asks the individual not to provide public commentary on their experience with Acciona. We would be happy to provide, out of session, that clause so that you can have a look at it.

CHAIR—That would be appreciated. Thank you.

Senator MOORE—You would like to keep that confidential?

Mr Thomson—Yes, we require that to be confidential.

Senator MOORE—Absolutely. I just wanted to pick that up.

Mr Thomson—I reiterate that it does not go to issues of health or their experience of the wind farm. The person in question has spoken publicly about their experience of the wind farm and health, and we have not tried to stop that.

CHAIR—That would be appreciated. Thank you.

Senator BOYCE—Presumably, we are talking about the Godfreys there.

Mr Thomson—Yes.

Senator BOYCE—I understood they had spoken because they had been subpoenaed by a court; is that correct?

Mr Thomson—Yes, but they did not have to turn up. We had the opportunity to argue the case with them. We did not. We saw no point. We have not asked them to be confidential about their experience with the wind farm. Trisha Godfrey spoke publicly. We are not concerned by that.

Mr Crockett—All our contracts are commercial-in-confidence. When we enter into a contract with a party who is a landholder, or somebody who is nearby, we pay for them to get a lawyer of their choice to act on their behalf. We do not choose who that person is. We always try and give them the comfort that they are entering into a fair contract.

Mr Russell—We have, obviously, lease agreements with our landholders and a small number of other contracts with neighbouring landholders where there might be an issue or an impact we need to deal with. Those would have our normal confidentiality clause in them, which is confidentiality of the terms of the agreement.

CHAIR—That is around the commercial negotiation.

Mr Russell—The commercial confidentiality of the agreement itself. The pricing or whatever might be in there. That is what we normally do, in the same way that we make sure that all the people who enter into these agreements get legal advice, which we pay for.

Mr Upson—Only some of our landowner agreements have a commercial confidentiality clause. Some of them do not even have that. We certainly do not have any clauses—a non-disparaging clause or anything about health concerns.

CHAIR—Why do some of them do and some of them do not?

Mr Upson—It is just the choice of the project manager as to whether it is seen as being necessary.

Mr Geiger—We are pretty much the same as the others. The terms around the commercial arrangements are commercial-in-confidence, but that probably goes more to the protection of the landholder than to us. Obviously the landholders that we talk to nearly always ask us, ‘What are you paying others?’ We generally give that figure, but we do not disclose it specifically. That is really to protect them. Nobody here in the room would like others to know what is in their salary package and other things; it is just normal commercial practice. Other than that, we encourage all landholders that we work with to get the contracts that we present to them reviewed independently by the legal adviser of their choice. We pay for their legal advice and make that assistance available. Quite clearly, our landholders are not subject to any gag orders with regard to health or any other impacts. We simply do not have that in our contracts.

Senator ADAMS—I have an issue I would like you to help me with: contracts are drawn up; it is confidential as to the siting of the turbines and the landholder, or the host person, has to sign a confidentiality agreement not to tell the neighbours where the turbines are going to be sited. This has caused a terrific lot of angst. Is that something that you do normally?

Mr Wickham—No.

Mr Geiger—We have no such clauses.

Mr Burn—No clauses like that.

Mr Crockett—I do not quite understand that, because normally, if anyone asks us where the location of the turbines are going to be, we would just tell them anyway. I would not understand why you would even have such a clause.

Senator ADAMS—This is a proposed wind farm in WA. The lack of community consultation is probably the thing that has really upset people. They have been offered the opportunity to host a turbine or a number of turbines on their properties and the final crunch was, ‘You sign this agreement, but you can’t tell so and so who have adjoining properties where these turbines are going.’ That has really backfired. I just wondered whether that is a process that goes on or whether it is just peculiar to this particular company.

Mr Thomson—I do not know of any examples like that. I would reflect on the general experience in developing wind farms. It is, as I said in my opening statement, a long and slow process. There is a period at the beginning where it is very difficult to define what the wind farm is going to look like. When we plan the siting of a wind farm and the locations of turbines we have to go through quite a complicated process, which is not just about the wind resource and understanding where the best wind resource is; it also has to assess constraints around flora and fauna. It might be issues related to birds or the natural environment generally. There are issues that go to cultural heritage. So we have to understand what constraints exist on a site in that respect. We have to do comprehensive noise modelling to understand whether the siting of turbines is likely to allow us to comply with whatever the state guidelines may be, if it is the New Zealand standard here or the South Australian standard. That process will normally take most of us somewhere in the vicinity of 18 months to two years to really bed down. During that initial phase, it can be a complicated process in trying to talk with communities about what the wind farm is going to look like. Going back to the initial question, we do not know of any examples that you refer to.

Senator BOYCE—I just want to continue on the confidentiality side. We had evidence this morning which will become public, or it has been agreed to be public, from a solicitor who has seen three contracts—one signed, two not signed—which he said precluded people from making any adverse comment whatsoever about the wind farm and had non-disparagement clauses that were so broadly worded as to make the people with the wind turbines, the people who had signed the contracts, concerned that they could not speak about health effects. Can I have comments from you on that statement?

Mr Thomson—We have already responded to that question, so I guess I would just repeat what I said before: we would be happy to share with you the confidentiality clause for the Godfrey contract in confidence, so you can have a look for yourself and you can—

Senator BOYCE—This is not necessarily related to the Godfrey contract.

Mr Thomson—Our practice at Acciona is not to put in place so-called ‘gag’ clauses.

Senator BOYCE—Can I just ask that question in a different way? There is comment, I think, in the Pacific Hydro report on the fact that the New Zealand standard that provides protection against sleep disturbance, noise levels and health and amenity is used by a lot of planning panels. Do any of you have contracts that would prevent people from raising issues with planning panels around sleep disturbance, noise levels and health and amenity? Can we have some words?

CHAIR—Shaking heads does not get recorded.

Mr Thomson—No.

Mr Upson—At Infigen Energy, no, we do not.

Mr Burn—We do not have anything like that—except that there is, I guess, standard land use planning practice that assumes that landholders who are hosting turbines and receiving a financial income from those turbines are subject to a higher standard, being the European standard. Other than that, which is standard planning practice and across all planning panels of Victoria—

Senator BOYCE—The noise standard you are talking about?

Mr Burn—Yes.

Senator BOYCE—But nothing would prevent people who had signed these contracts from taking complaints to planning panels—is that correct?

Mr Geiger—Complaints are probably not directed to planning panels because complaints arise when it is operational.

Senator BOYCE—Concerns.

CHAIR—There are two different issues. There are complaints that would not necessarily go to planning panels. That is where you are actually discussing the planning decision.

Mr Geiger—Our experience is that those landholders who do have concerns do not sign contracts with us. Why would they? If they are concerned and they do not want to have wind turbines on their property, why would they sign a contract with us?

Senator MOORE—We had evidence yesterday from a couple of people—I do not know whether they had turbines or not—who said their views had changed, that originally they really welcomed the process, because they were trying to support alternative energy, but then once the

program had started they felt that they had been affected in different ways. The people on record did not identify whether they were hosts or not, but they put on record yesterday concerns that they had originally welcomed the process and then their views had changed once it had started. It could well be that someone originally felt really good about it and then later felt that they had been poorly impacted. That could well be an issue.

Mr Russell—We have agreements with a number of landholders who may have been impacted by a wind farm. We have signed up agreements whereby we have compensated them for that and they have accepted that as compensation for the level of impact that they have seen. Certainly, those do appear. We do have those contracts—a small number of them, I might add.

CHAIR—I want to move on because we are going to run out of time.

Senator FIELDING—Changing the topic to shadow flicker from the blades rotating. I take it from each of your perspectives that no-one should have blade flicker on their house or their backyard. There would be nothing worse than cooking a barbecue and the shade coming over, rotating through. I assume that that does not happen, that no backyard or house has shade flicker in any of your installations. Would be that correct?

Mr Geiger—I should add to that, if we follow the New Zealand standard on noise, then the setbacks due to complying with the noise standards are generally greater than the setbacks required to avoid shadow flicker. So that is an issue that we do not expect to occur in Australia. With our German operations, the noise limits are much less stringent. We go as close as 300 metres to the closest house with some of our installations there. At that distance shadow flicker would be an issue. However, in those installations, we have sensors attached to the turbines that measure the conditions that would cause shadow flicker, like the direction where the sun is, where the shadow is heading, whether it is sunny or cloudy. In those circumstances the turbines actually shut off, so shadow flicker does not occur there. Again, it is not an issue we expect in Australia, because the setbacks due to complying with noise are such that shadow flicker is a non-event.

Senator FIELDING—Is that the same for everybody? I think we heard yesterday from some saying that there was some shadow flicker, certainly in their backyard.

Senator BOYCE—One witness.

Senator FIELDING—I am not talking about a kilometre backyard either.

Mr Wickham—There are instances. Certainly, when we design wind farms we take all the modelling into account. You will infrequently have a situation—and I know we have had one at Waubra—where we have had a house impacted by shadow flicker. Currently we are working through ways of either providing screening or offset planting to be able to protect the house so it is not impacted by shadow flicker. It is a very rare event. We are certainly looking, through the normal complaints process, to have a resolution to that issue.

Senator FIELDING—Just with that one case, would it not be resolved to the agreement of both of you? They may not want trees. What I am saying is that you have imposed on them and

you have made a mistake. Should they not agree to what should be done, rather than you just saying, 'This is what we're going to do'?

Mr Wickham—No. I am just saying that an opportunity for a solution is to put up screening and so forth.

Senator FIELDING—If they did not like that you would stop—

Mr Wickham—I am not saying that we have completed that process of working through that resolution and that complaint. It could be screen plantings or it could be putting up a pergola or something to stop the impact of the shadow flicker. In that circumstance, I believe the shadow flicker is very minimal hours per year. We just need to work through that process in accordance with the other complaints that we have for other issues.

Senator FIELDING—What happens if they do not want trees or a pergola sitting there and they want it left open? Would you shut just that one turbine down?

Mr Wickham—It is not for me here today to come up with a solution. We will look at all the options.

Mr Burn—Could I also add that shadow flicker is not something that is completely prohibited by the current planning guidelines in Victoria. There is a must-not-exceed limit of 30 hours per year for shadow flicker. That is under the current planning and policy guidelines for wind energy facilities.

CHAIR—Thank you. Mr Thomson, did you want to say something?

Mr Thomson—I was going to say exactly that. The planning guidelines require no more than 30 hours per year. That is normally what we work to. We try to have either no shadow flicker or less than 30 hours per year.

Mr Russell—That would be evaluated during the development approval process and assessed by the panel as part of the requirements of the performance of the wind farm. Developers of a wind farm have no incentive to go beyond that and not to get the modelling correct, because we have to live with the wind farm subsequently, as well as the community, obviously.

CHAIR—Let us go to planning.

Senator ADAMS—Pacific Hydro, I was interested in the fact that you said in your opening statement that you allowed two to four years with your planning and with your community consultation. I am from Western Australia, so I am looking at these proposals and thinking, 'I don't know where they are.' Forgive my ignorance, but Crowlands WA—whereabouts is that?

Mr Crockett—Crowlands is in Victoria and it has planning approval.

Senator ADAMS—It has 'WA' beside it on our book. That is why I was—

Mr Crockett—I am sorry.

Senator ADAMS—That is all right.

Mr Crockett—That is an error.

Senator ADAMS—What about Nilgen?

Mr Crockett—Nilgen has planning approval.

Senator ADAMS—Is that in WA?

Mr Crockett—That is in Western Australia, yes.

Senator ADAMS—Whereabouts?

Mr Crockett—I am having a mental blank about the nearest coastal town.

Senator ADAMS—Is it down south?

Mr Crockett—No, it is about halfway to Geraldton.

CHAIR—Is there one going north?

Mr Crockett—Yes.

Senator ADAMS—And Yaloak South?

Mr Crockett—It is also in Victoria.

Senator ADAMS—Something has gone wrong here! I was thinking I was a bit ignorant. Anyway, what I would like you to explain to me is this: the two to four years planning that you are doing before you lodge an application is quite interesting. What is the process, when you first move into an area that you are thinking might be all right, as far as all the scientific evidence goes, to establish a wind farm?

Mr Crockett—I will give it a shot. It usually starts with a local farmer or someone from the area giving us a call and saying: ‘This is a really windy area. Do you guys want to have a look at this?’ It starts from there. We do an initial screen just to see whether it has the right sort of parameters to be a good project. If that is the case, people on the ground go in and talk to the council, meet some of the people around the area and determine whether it has the right sort of outlook, not just from a resource point of view but socially and environmentally. They look for a bit of a screen of what is good and what is not so good about potentially having a project there.

Then at that point, if it passes that very coarse screening, you will enter into a discussion with potential landholders to negotiate a land option—because no land, no project. It is as simple as that. Normally, once that is done, with one of the landholders you will have an agreement to put a measuring mast up. Even though there is data that says there is wind in the area—and we would look at a coarse sort of wind map—you have to do local monitoring. You will usually

monitor at least a year before the data is useful or useful in a way that, for example, a bank would lend on it. That is the minimum. What you tend to do is monitor it for a while. You have a relatively quiet period then when you are not really doing too much in the area.

After that, once you have got a fair bit of data in and you are starting to think that the project is commercially viable in the long term, you start to look at what this project could look like. You will start to consider some studies, your flora and fauna, your cultural heritage—all of those sorts of things. That is when you start to mosey into the community, as it were. You will get in touch with council and local experts and you will talk to people around the community. At this point it is not formal; it is very informal. That goes on for quite some period of time while you figure out how it is going to look and whether there are any surprises going to pop up.

Quite some way down the track—you will have gone through all those studies—you go into the formal process where you start to do the community consultation. You are setting up information centres around the area. You are writing to everybody. You are telling them all about it. You are putting it on the radio, ‘We’re coming to tell you we are considering a wind farm here.’ Then people come in and you put all the maps up and they say: ‘So and so lives there. You haven’t got a house marked there. There’s a house there. So and so was a shepherd. There’s an old story that he died and he’s buried over there.’ You get all the stories and everything comes in and people ask questions about the wind farm and what is going on.

I have to say, in the past—for example, when we did Crowlands about three years ago now—when we did the consultation it was all very much about the issues that relate to wind farms: ‘Will I get shadow flicker? What will the noise be? I hear birds will get killed. What happens there?’ They just asked all the questions about the impacts of the wind farm. What we find now—and the most recent one that we did was Yaloak—is that it is all about, ‘This is going to make me sick.’ In some ways it has diverted away from what we believe to be the real impacts of the wind farm—the things that will affect people, like their TV coverage; some farmers are worried about their GPS systems for their tractors when they are driving through and doing the cropping and whatnot; there is a whole myriad of things—and now it has just become about one issue. When we try to consult, it is really hard to do it about all those issues because everybody is just worried about health. That is where I think it has become very difficult now to consult on a rational, sensible basis with people about the real impacts of wind farms. I am sorry; I digressed a little bit there.

That formal process finishes and then out of that there is usually a lot of discussion that goes on. There will be some people who say, ‘I’m sitting on my veranda and I’m going to see it but I don’t want to see it.’ We say: ‘Okay, fine. Let’s talk to you about some visual screening, or whatever. Oh, you don’t like visual screening. What else can we do?’ All of those conversations just go on and on until you lodge the application. Did that answer the question?

Senator ADAMS—Yes.

CHAIR—I have a planning question and then we want to move on to property values. I am conscious we are running out of time. If we can move fairly quickly, that would be appreciated. On the planning issue, you have all seen, I think, the board that was presented yesterday to us at the inquiry in Ballarat. It had south-west Victoria, with lots of wind farms, marked on the map. The point that the community made to us is that the overall planning approach does not seem to

be coordinated. The first they hear about it, they said to us, is when a letter lands on their doorstep that there is another wind farm. There were a couple of people who then said, 'Well, I've got one on this side of me and one on this side of me.' In terms of enabling the community to find out before something drops on their doorstep—I appreciate the points you just made, Mr Crockett, about the process that has developed into planning—have any of you given any thought to how you could do a more effective planning process in a particular region so that people have more confidence about where wind farms, or anything for that matter, may be developed? I am sure the issue has been raised with you that to the community it seems to be a fairly ad hoc process. That certainly has been raised yesterday and in submissions.

Mr Burn—In terms of how we deal with it in our own projects, we are constantly refining our consultation processes to make them better and also to deal with misinformation and so on. At that really high strategic level, I think it was in 2003 that Sustainability Victoria produced a wind atlas for Victoria. Part of the role was to look at that as a very high-level strategic planning tool to identify areas of high wind speed, grid infrastructure and so forth. I guess it was largely used by companies such as ours to investigate areas, rather than, say, various shires looking at using that and saying, 'This area is very windy, but this area is of particular landscape significance,' and then filter down some planning policy from that. I do not think that filtering down of planning policy has not occurred, no.

Mr Russell—There are two parts to it, though. One is that there is a structure set up which clearly looks for the market to come up with the best projects to meet the requirements on time and at the lowest cost to the community. That is the structure that is put in place. That is what we get in terms of wind farms. The second one is that, in the approval process, what happens is the evaluation is in terms of what projects are approved. If you are getting an approval for a project, it will take into account other projects that have come before you. If it is a marginal project, if there are going to be too many, the last one will not succeed.

CHAIR—I can see that from a commercial reality that happens, but from a community perspective I think what they are looking for—certainly what I picked up yesterday—is a bit more certainty about where they can expect development to happen.

Mr Russell—I understand that. It is pretty difficult in terms of the structure that we are actually operating under here, which is a market structure for delivery.

CHAIR—I appreciate the commercial realities and the market realities.

Mr Geiger—If I may add something to this: our company is used to a completely different structure. The councils declare in Germany certain areas where they want wind development to occur. Essentially, the shire becomes a planning overlay in certain areas: this is the wind farm development zone. The councils do not do that deliberately. They get told by government. Government says: 'This is our target. You set aside X per cent of your shire area for wind farming purposes.' And they do. As an industry, we can work under both frameworks, but it is not up to us to say, 'You, government, should do this or you, government, should do that.' It is government that sets policies and principles, so I ask you to direct that question to government and not to us, please.

CHAIR—Industry would probably come down on us like a ton of bricks if we just directed you as well. My supplementary to that one is: is there a community planning process that happens when local government says, 'This is the zone'? Is there a community planning process that undertakes that, or a community discussion process?

Mr Geiger—At a much lower level than in Australia. We go through a lot more community consultation in the process that we develop wind farms as it is now than happens under the German system.

CHAIR—Okay.

Mr Geiger—There is community involvement. People make submissions and there is planning, advertising and the like, but there is not the same level of scrutiny that we go through in Australia.

CHAIR—I might put a question on notice for a bit of detail, because I do not want to continue running on the line. I think we might have been a bit at odds about where the level of community consultation comes in. I might follow that with a question on notice. Senator Moore, you wanted to go to property values. I think this will have to be the last round of issues.

Senator MOORE—We heard considerable evidence yesterday about concerns with property valuation. We have seen the response that the New South Wales government has done a survey that indicated there was no impact. A number of people are prepared to put evidence before us, and will do so, about their own personal experiences that show that, since wind farm development has been put on, properties have lost value. I am just wondering, from your perspective, about land valuation. Mr Burn, I think you said in your opening statement that you did not think property valuation was—and I have a secondary question before you answer that—something which should be taken into account by the industry, or something along those lines. I may be verballing you, but I thought you said something of that nature.

The second point, which is of particular interest in Queensland, on other forms of alternative energy, is the use of arable land. If you have wind farm development, does the planning process impact on the host people being able to continue to operate whatever farming activity they have? We saw yesterday in Waubra that the grazing aspect seemed to be completely at ease. The grazers looked very happy. But in terms of other forms of farming activity, is that something you take into account when you are doing it? They are the two questions. Have I verballled you, Mr Burn?

Mr Burn—I did not want to sound like I was coming across as flippant in that. Certainly, it is an issue for the industry. It is an issue for our communities, because obviously it is their key investment that they will make in their life. I want to be quite clear about that. I guess where I was going with that is the equity of wind farming as a land use and other land uses in a planning context. It is a pretty established planning principle that land values are not considered in that assessment process. That is where I was going, basically on the basis that land value is something which can go up as well as down and there are various drivers that can impact on land value—land use and otherwise.

In terms of the arable land question, we touched on that a little bit in our submission. Certainly, the infrastructure on our farmers' farms makes up less than one per cent. Most of the time we are reusing or rationalising access tracks. They will be required to be upgraded as part of the project. To the extent that we can operate a wind farm and so forth, there is also the placement of turbines to a limited extent, in terms of a cropping paddock and going five metres. We have those commonsense types of discussions with landholders as well.

I guess if you were to look at the argument of a reduction in arable land because of wind farms, you are only considering the one parameter in terms of a farm business—that is, the land itself. In terms of an operating farm business, the income from a wind turbine or two would be a pretty good crop. In terms of that as a business, I would suggest that, individually and regionally, farm businesses would do significantly better.

Mr Crockett—In terms of property values, our experience of 10 years of operation with our oldest wind farm is that maybe you would not put your property on the market during the middle of construction. But once the wind farm is settled into operation, we do not see that problem at all. We have the Challicum Hills wind farm out near Ararat. We do not see any property value problems there. That is what we are told by real estate agents. In fact, even recently in Cape Bridgewater, down near Portland, prices are rising rapidly. Both capes, Cape Bridgewater and Cape Nelson, have turbines on them.

CHAIR—I am sorry, Mr Crockett; how many?

Mr Crockett—There are 58 megawatts, so there are 26 turbines at Cape Bridgewater and 22 on Cape Nelson. The way I see it is that more than 80 per cent of people in Australia, as you poll, view wind farms positively—or did, maybe. But it is still pretty high. My understanding is that, even at Cape Bridgewater, sometimes wind farm views are seen as a benefit, not a problem. Just to finish on the cropping, we have a range of landholders who do all sorts of different things with their land. From grazing to cropping, no-one has ever come up and said, 'I'm having problems with my cropping because of your turbines.'

Mr Wickham—I was just going to discuss our experience of land use at Waubra. We have worked with the landowners in that case to make sure that impacts on their properties are minimised. We have worked to actually overlay our access tracks, where there are existing tracks, and upgrade those. All the sheep farming that occurs up there basically goes on unhindered. We have worked with the farmers who grow potatoes in the area. They do deep ripping and so forth to ensure that the cables and so on are at a depth which is not going to be impacted by any deep ripping. We have also made sure that the turbines are not located where they are going to be impacted by the centre pivot irrigation that goes on up there. The senators would have seen yesterday that a large number of properties have centre pivot irrigation. We have the experience of Waubra and our experience in New South Wales. We have a wind farm at Gunning, which is a fine merino wool sheep property, and it is completely unimpacted by the wind farm. We also have the Cathedral Rocks experience where the farmer there has continued to operate the farm completely unhindered by the wind farm's operation.

Mr Upson—Getting back to the issue of neighbouring properties, I would like to call the committee's attention to the Cullerin Range wind farm and the Land and Environment Court decision where Commissioner Tim Moore responded to the Landscape Guardians group's

argument that neighbours should be compensated for the blight and perceived loss of property values by stating:

Such a proposition faces a number of insurmountable hurdles.

The first is that the wind farm, as earlier noted, is a permissible use on all of the parcels of land upon which it is proposed to be located ... If the concepts of blight and compensation, as pressed by the Guardians, were to be [adopted and] applied to this private project (a proposition which I reject) then any otherwise compliant private project which had some impact in lowering the amenity of another property ... would be exposed to such a claim.

Creating such a right to compensation (for creating such a right it would be) would not merely strike at the basis of the conventional framework of landuse planning but would also be contrary to the relevant objective of the [Planning] Act ... for the promotion and co-ordination of the orderly and economic use and development of land.

In other words, if every proposed infrastructure development—a rail line, a hospital, a power line, a shopping centre, a freeway—were subject to every neighbour being able to put their hand out for compensation according to their perceived amenity impact, clearly the planning system would descend into chaos and few, if any, development projects would ever proceed. We believe that wind farm projects are just another infrastructure project and we should be treated with the same rules and regulations that other infrastructure projects go by.

Mr Thomson—Senator—

CHAIR—Please make it very short.

Mr Thomson—perhaps I could just add to that by challenging this notion that it is carnage out there, as Sarah Laurie is suggesting, and community uproar. If we just quickly distil some of the results of the submissions, the inquiry received 838 submissions—I am doing this in the context of the Waubra project, which is ours—from people and organisations in Australia. The remainder came from overseas. Overall, 62 per cent of the submissions were in support of the industry, 29 per cent showed concern about the industry and eight per cent gave no position. Sixty-nine submissions—eight per cent—made specific reference to the owner; 52 of these related to the Waubra wind farm and 47 of the 52 expressed concern about the wind farm. Of this number, only 23 came from people who live in the area and the remainder came from people who live in other parts of the state or in other states altogether. Furthermore, the 23 submissions from local residents that expressed concern about the wind farm are from 12 individual households; in other words, each family has sent in multiple submissions. Each of these households and their issues are well known to us.

Lastly, to put this into context, the Waubra population—so those people living within approximately five kilometres of the wind farm—is around 700 people. On Sunday, this weekend, the second Waubra wind farm festival will be held. At the first Waubra wind farm festival, which the community named and organised, 800 people turned up to celebrate that tiny community and its new identity. I suggest, if you have the time, it might be worth heading out to Waubra for the weekend for the festival.

CHAIR—Thank you. We are running out of time. In fact, after getting back on time, I have managed to take us off time again. We might as well go until half past now and take any final questions from the senators.

Senator FIELDING—Yes, I have one. I think someone had taken on notice the detailed complaints process. Could each company provide their detailed complaints process, if they could. Also, is there any difference if it is a noise complaint? In other words, could you please make those two statements? You can say, ‘No, there’s no difference,’ but I am interested in knowing the details.

CHAIR—Can you document all your various complaints processes, and that will cover that? I know that Senator Boyce has a question.

Senator BOYCE—Yes. There is just one that I neglected to ask earlier. The majority of you have mentioned that you fund potential lessors to get legal advice. Who do you pay? Do you pay the solicitor that they choose or do you give the money to the landowner?

Mr Russell—In our case, we pay the solicitor.

Mr Thomson—We pay the solicitor as well.

Mr Upson—We pay the solicitor, but we offer the landowners the option of having us not pay them, if they object to that.

Mr Crockett—We also pay an invoice. If the landowners paid a solicitor’s invoice, we would pay them.

CHAIR—Senator Moore, I know that you want to put a question on notice.

Senator MOORE—Yes. I have a follow-up to Senator Boyce’s question that I want to put on notice: are you aware of any legal firms that are beginning to specialise in this area, in that you are beginning to get the same solicitors? That question can go on notice. The second one on notice is: people talk about the length of their projects—planning for how long the projects are going to be. What happens to dead wind farms? We have had a number of people say that they continue to be a blight, even when their period is over. Is there a process for dismantling and whatever? I put that on notice as well. Also on notice is this: you would be aware that at yesterday’s meeting Mr Mitchell provided the committee with a book which categorically proves that wind farms and wind farming are dead and are a failed energy. We will be able to provide the name of that book—

Senator BOYCE—We thought that perhaps you needed to be told!

Senator MOORE—Regarding that particular book which he put on notice yesterday, I just wonder whether there is an industry response. It is just so you are aware of this. It is something that he gave to our committee yesterday that we had not seen before.

Mr Upson—I think my opening submission made pretty clear the facts of the wind energy issue overseas.

CHAIR—You did. If anybody wants to add any other comments on notice—

Senator MOORE—They are the ones on notice.

Mr Thomson—Last year, \$US250 billion was invested into renewables, the bulk of which went to wind. So, going to Jonathon's comments from earlier on, it is not a dead industry.

CHAIR—If anybody wants to add anything else, please feel free to put it on notice. Thank you very much. Your time here is appreciated. You all have got homework. If you could respond within the next couple of weeks, that would be appreciated. We have a fairly tight time line in which to report. Thank you.

Proceedings suspended from 3.30 pm to 3.49 pm

[3.48 pm]

WALKER, Mr Cam, Campaigns Coordinator, Friends of the Earth Australia

CHAIR—Welcome. I understand that information on parliamentary privilege and the protection of witnesses and evidence has been given to you. The committee has before it your submission. For our purposes, it has been numbered 325. I am sure that you know the drill. I invite you to make an opening statement and then we will ask you some questions.

Mr Walker—Thank you, Madam Chair and other committee members. I would like to start by looking a bit ‘big picture’ before I bring it back to the very local issues around health that we have been grappling with over the last few days. In approaching the conversation around the costs and benefits of wind energy, we need to remember that climate science tells us that we have to reduce our greenhouse emissions as soon and as fast as is humanly possible if we want to have a chance of avoiding dangerous climate change. As a wealthy nation, with one of the largest per capita carbon footprints, Australia must show leadership in this regard. We believe that wind power, as the cheapest form of commercial-scale renewable energy that we have available to us, must play a key role in replacing our current reliance on fossil fuels.

Having said that, we understand the fears being raised around health issues that were made very clearly yesterday. We are not health specialists; we are an environmental organisation with a social justice perspective. I am not going to pretend to be able to give you the fine-print detail of the science for or against the concept of wind farm syndrome. But I want to outline how we approach our campaigning, because it is important to understand the nub of the question around health. Our model for campaigning is to go to a community first, to engage with it, to ask its opinion and then to start to work in support of it. More often than not, we find ourselves standing with communities against large-scale developers. As we speak here today, we have people at Tara in south-east Queensland working with blockies against the coal seam gas exploration that is occurring up there. So that model makes us inherently distrustful of what corporations have to say.

When we entered this space of wind energy about eight months ago, we started to go to rural areas across Victoria—our work at this point in wind is primarily in this state. We wanted to ask communities what they felt about wind energy and what the story was around health. What we found both surprised and heartened us. First and foremost, we were struck by the very high levels of support that we found across central and western Victoria. Our experience was that in most areas there was a small and vocal group of people opposed to wind farms but that the majority of people in these regions had quite a different approach to the industry. I live in regional Victoria and am working particularly in the area from Bendigo through to Hamilton. So they are primarily the areas we are working in. Many people I have spoken with—and this is many hundreds of conversations in the last few months—have said that they have lived with turbines for years without health or other problems. A considerable number of them have said that they believe that the health concerns are being substantially overstated. A common term that has been put to me is that there is a ‘pandemic of fear’ being created by anti-wind campaigners. That certainly has been my experience of attending public hearings around wind farm projects.

It is obvious to us that ideology drives a lot of the organised campaigning against wind farms. This is different from average people in communities who may have concerns around health impacts of turbines. The engine room, if you like, behind the anti-wind campaign, to our mind, is very ideological. A number of the key people in organisations like the Landscape Guardians are well documented as being climate sceptics. So immediately the conversation becomes more complex, because we are not talking about the issue at hand—be it health, planning or the right to be heard—we are, in effect, having a de facto debate around climate science.

When we launched a pro-renewables website mid-last year, I was overwhelmed by the response we got from regional Victoria. The main response was people saying to us that they were grateful for our intervention—the website was pro-renewables and pro-wind—because many people felt uncomfortable with speaking out in favour of wind energy for fear of being shouted down. I even had a number of people ring me last night to apologise for not coming to the hearing yesterday; people said that they did not feel up to going to what is potentially a highly charged and high-conflict situation to express their support for wind energy. Many of the people I have spoken with, even in places like Waubra, point out that wind energy brings substantial benefits to communities.

We do take the concerns of ill-health very seriously; however, we keep coming back to the fact that the research shows that there is no peer-reviewed research at this point that proves a connection between wind farms and ill-health. On the question of health, given that I am not a health professional, I refer you to some of the key submissions that you have received: the work of Peter Seligman, submission No. 353; the work of Geoff Leventhall, submission No. 465, who has substantial experience in the realm of infrasound and low-frequency noise; Doctors for the Environment, whom I understand you will be hearing from later; and the Australian Psychological Society, submission No. 801.

If you think further research into the matter of ill-health is needed, we urge you to be careful about who does that research. I heard Dr Sarah Laurie today mention the name of Bob Thorne as someone who would be suitable to do that research. In my understanding, he is one of the people who have very clearly aligned themselves with the anti-wind campaign. If this research is once and for all to get to the bottom of what is going on, it needs to be absolutely cleanskin and independent. That is important for us all to be able to move on. Some outlandish claims are being made about the wind industry. I do not have time to go into them, but I would certainly hope and trust that you can see through some of those outlandish claims.

I turn to the other issues. As outlined in our submission, we believe that it is necessary to keep the health debate in context. We know that there are major health problems already with fossil fuel production. Respiratory death rates are high in regions where coal is burnt to produce energy. If you do want to consider, as you need to, the health impacts of wind farms, I urge you to be mindful of the very real existing risks that people in the Latrobe Valley, the Hunter and the other coal areas face every single day of their lives. If we are to propose stricter controls on the rollout of wind energy, what alternative renewable sources are available to us? We need to transition away from coal; we need to remove the health risks that these communities face day by day.

We also need to remember that globally it will be the poor who suffer the most from climate change. The World Health Organisation—and there is a wealth of data out there, but I pick them

as one example—say that already 150,000 people die every single year from the impacts of climate change. Women and children are greatly overrepresented in this figure. It is the poorest who die first from things like drought and changed weather conditions that impact on agriculture and the spread of vector-borne disease. These people also deserve our attention and our care. In considering our response to climate change, wind energy provides us with one of our most viable pathways to dramatically reduce our emissions now and therefore to reduce our contribution to climate change.

While the media debate around wind farming focuses strongly on fear and ill health, there is another side to the story, and I hope that the committee is hearing this; Mr Holmes a Court gave part of that story this morning. Firstly, employment benefits and downstream benefits are substantial. Having wind farms in regional areas provides lots of opportunities for young people in a range of skill sets. As you would know, that is important for regional towns that are seeking to hold on to their younger populations. Unlike coal production, wind farming is compatible with continued use of land for agriculture—we heard that in the last panel. It complements rather than competes with most types of farming. The submission by the WA Farmers Federation, No. 657, has some interesting data on the benefits to rural communities.

Just an observation from here in Victoria: you will be aware that we have had a decade of drought. That has cut agricultural output. It has placed massive emotional and financial stress on farming communities and families. Tourism has suffered partly because of natural disasters—the fires, droughts and floods that we have had. Regional manufacturing has suffered even more than tourism. Against that backdrop, the regular income that goes to farmers for hosting turbines becomes even more important. To give the example of Victoria—you have to extrapolate for national figures—once all the currently approved wind farms are up and running, they will generate \$16 million a year for the length of their operation for rural landholders and \$4.6 million for local councils annually—not an insubstantial amount of money.

Substantial greenhouse abatement benefits come with the rollout of the wind industry. The Clean Energy Council talks about the fact that present turbines produce energy for about 700,000 homes. That is equivalent to two cities the size of Canberra—again, not inconsequential. Wind farming uses far less land than any other commercial energy production system other than rooftop solar. Unlike coal, it does not use water in the production phase; that is important in a time of drought and climate stress. Finally, we need to remember that wind energy is well supported in rural Australia; polling continues to show between 80 and 90 per cent, even in areas where wind farms are planned or up and running. The current media debate around wind farms is focused strongly on the negative side of the story. It is important that we do not allow that story to eclipse the positive news story that it is for many people.

I just want to finish by making a point about something I heard earlier today. One of the beauties of living in a democracy is that anyone with an opinion can put that opinion to a Senate hearing—and that is a very good thing—but there is an onus on us all to be reasonable in our statements. I was quite disturbed to hear the wind industry compared with the tobacco and the asbestos industries. I see this as part of a dedicated campaign to demonise this industry. We need to remember that, at this point, wind disease or turbine syndrome is anecdotal. We need to remember that Cancer from tobacco and illness from asbestos was proven, but it took decades to ensure adequate regulation of these industries; in that time, many companies falsified research and destroyed evidence. If anyone were seriously prepared to compare the wind sector with the

tobacco and asbestos sectors, that would have the potential to be defamatory. I certainly suggest that it would be unfair and incorrect. We can do better than that. I urge you, in the strongest possible way, to make sure that your findings from this hearing are based on science and facts and not anecdotes, innuendo and fear campaigns. Thank you.

CHAIR—Thank you.

Senator FIELDING—Page 17 of your submission is to do with the health impacts of wind farms. ‘Noise and vibrations’, I think, was the section. At the very end, it states that the Victorian Planning and Environmental Law Association has concluded that it would be desirable for an independent epidemiological study to be conducted. You may have different reasons for that—I suppose the concerns that have been raised and the debate that has been going on. It would be nice to get to some conclusion on those issues. It would be great if both sides could agree on the research and the terms of reference and who should conduct it. I do not think anyone likes knowing that there are people out there who have real concerns. They presented to us yesterday with serious health issues, which they really believe are coming from the wind turbines. The companies are here, within their rights, saying that they are not coming from the wind turbines; it is scaremongering. We need to get to the bottom of it. You are saying that you think it is a good idea to try to get to the bottom of those issues as well from the perspective of health impacts?

Mr Walker—The health concerns are not going away. I would reiterate that we need truly independent researchers to do this work. There is a danger, if names being bandied around now are clearly aligned in their opinions. The bottom line will be who makes up that panel and controls the research. In those circumstances—if they were truly independent people—we would be happy to see an end to this conversation. I was just reading some research by an academic from Queensland called Richard Hindmarsh, who did some work on community consultation around wind farms. His work focused on planning issues because he was writing a couple of years ago. If he were writing that project now, it would be on health. There have been issues before—the current focus is health—there will be issues in future. The reporting in *The Australian* at present focuses on minority rights and human rights around wind farms. We need to get to the bottom of the health issue, but the people who are ideologically opposed to wind farms are using health at present, piggybacking on legitimate concerns. There will be another problem tomorrow. So we need to deal with health but we also need to be ready for the next reason that will come up for knocking off the wind industry.

Senator FIELDING—Thank you, Mr Walker.

CHAIR—Can I follow up a comment that has been made several times today and, I think, in other hearings. Are people opposed to wind because they do not like turbines in the landscape or is it more ideological than that?

Mr Walker—I see a clear wedge based on doing stalls and talking to people. You get the people who are for wind who come and talk to you straight away. Then you get the people who are against wind who come and talk to you straight away. Then there are the majority of the people, who will wander over eventually and ask you questions: What about health? What about birds? What about fire? They probably are the majority of the people and they are amenable to supporting wind farms. They are not ideologically committed. But we need to remember that the

groups that are active in this space opposing wind farms tend to have a particular ideology. So I see a very great difference between average punters—people who are paying attention to the news and wondering what is going on—and the antiwind activists who are very prominent in a lot of the campaigns.

Senator ADAMS—Coming back to community consultation, I come from a very small community that has a proposed wind farm. People feel that rural communities are being imposed upon by these wind farms just arriving—they will be there whether you like it or not, there is nothing you can do about it. As far as I am aware, there has not been any of what you have seen here going on in this area. It is just that, unfortunately, the community was not informed to start with about what was going on. It has been word of mouth. It has blown up bigger than *Ben Hur* now unfortunately. It has split the community completely. For those people who have said today that it does not split communities, I can assure you that it certainly does. Property rights have now been raised. A neighbour is going to have turbines—and that is fine; that is their choice—but the neighbour across the road feels that their property rights are being impinged upon. I see that you do not think there is any problem with the sale of property. But, in an area that probably has some of the best productive land in Western Australia, it is a concern to the community as a whole and to those people who own the land that abuts the place where the wind farm is going to go. Could you comment on that?

Mr Walker—Certainly there is some discussion around community benefit models, where it is not just immediate landholders but also people within a specified area who might get an annual allocation. That might be something to consider. Certainly some models in Europe would be worth investigating. I have to echo what I heard from the industry representatives, which is that, after all, they are just another form of infrastructure. If a neighbour's amenity is impacted, would we expect a freeway proponent to provide recompense to people who look out on the freeway? We need a fair go for the wind industry, which is to treat it as other sectors are treated.

I cannot pretend to explain what is going on in Western Australia, but here in Victoria we have recently found out that very large areas of our most productive agricultural land are subject to coal exploration. Until recently, communities did not even know that it was going on and they certainly have no right of veto; whereas with a wind farm, under the Victorian guidelines that are being put through at present, a single household can stop a project from occurring. So we would argue that there is a very unlevel playing field here. Wind is being pulled out from all the other industrial players in the landscape and treated very differently. That is wrong and should not be allowed to continue.

Senator ADAMS—This committee is looking specifically at wind. That is the terms of reference, which you are fully aware of. Unfortunately each state seems to have a different planning system. The department appeared before us with draft national guidelines. Could you comment on how you think that might be implemented, seeing that the states have their own constitutional rights, and how the national guidelines work?

Mr Walker—The planning group that is speaking after me could perhaps answer that more effectively. But, from my limited observation of the national rules, they do seem quite unwieldy. I am not sure whether the best bet is to harmonise the state-level guidelines that we currently have or move to a single model. I do not have a strong opinion either way.

Senator ADAMS—On the resale of property and the problems associated with that: yesterday a number of examples were given to us at Ballarat. That is one of the concerns from the area I come from. The land is highly priced and they are worried about resale if they have turbines going right along their boundaries.

Mr Walker—I suppose it depends on whether you are selling land for agriculture—in which case it should not have an impact, because your agriculture can continue—of whether you are selling it for the lifestyle aspects of that land. It is certainly a mixed batch of information. As we heard, the situation down past Portland is that they cannot sell properties fast enough—and that is even looking out at wind farms. Here in Victoria, at Kilcunda—I do not know whether you have been down there—there is a wind farm right along the coast in a major coastal village environment and there are no problems there with selling properties, and that has been there for a decade or more. So it is a mixed bag, but my experience is that it does not necessarily impact negatively.

Senator MOORE—Mr Walker, the comments about asbestos and tobacco were made by people who lived in the regions themselves; they were not made by professional advocates. So I draw your attention to those comparisons made yesterday.

Mr Walker—I am aware of that; yes.

Senator MOORE—My understanding of their comments is that they were arguing that, if there is no independent scientific evidence in a process, people need to speak out. So I think to threaten defamation for people who make those arguments is a step too far.

Mr Walker—Yes; sure.

Senator MOORE—If that can be done by one community organisation to another, it is very worrying. Just remember what those people said. In terms of the process, they were talking about things that were impacting on their lives in their communities and they were seeking independent research. My understanding from the evidence you have given today is that you support trying to find independent evidence to ensure that people are safe. Is that right?

Mr Walker—My reading of the data is that it is not required. But many people are saying that it is, so we are happy to support an independent process to get to the bottom of the problem. I should point out that I certainly was not threatening legal action against these people; I was just noting that I thought it was a very long bow to draw to compare the wind sector with sectors that are so badly tarnished in the public realm. I did not think it was very helpful to the debate.

Senator MOORE—That debate is already there, in terms of process.

Senator BOYCE—I have a couple of questions relating to the interface, as you have called it here, between Commonwealth, state and local planning laws. Changes are going to be made by the Victorian government. We had evidence yesterday that the councils felt they did not have the right resources to undertake the work that was needed to go through a real approvals process, and you have raised some concerns here. Could you outline how Friends of the Earth think the planning processes should be handled?

Mr Walker—Our experience is just at the state level in Victoria, so I cannot comment out of state. Our feeling is that the process works quite well. We would cite a number of examples where proposals are put forward and, when they finally go through the process, they look quite different to the original idea. That is because developers often attempt to do the right thing but they are also forced to do the right thing through the panels process or however it may work. In a number of instances, clusters of turbines have been removed in final outlines because of perhaps the impact on broilga populations or heritage concerns. We think the system is not broke and so it does not need to be fixed. Certainly we hold grave concerns around the Victorian government's plan to give all the planning powers back to councils. We are hearing clearly that, in spite of promises for resourcing for councils, many of the councils do not have the skills or the ability to intervene with large-scale projects, in particular.

Senator BOYCE—Councils also commented that there were virtually no independent experts around to hire because most of them were currently working for the industry. Would you like to comment on that?

Mr Walker—No, I do not have an opinion on that.

CHAIR—Have you seen examples of where you think the community consultation process works and where it does not work?

Mr Walker—My experience has been that many developers go into communities quite early and start to engage. So they get ahead of what they are forced to do in the planning process. This is a relatively new industry here in Australia. It is much further down the track in Europe. Here the industry has been learning as it goes. We can all cite examples of where some of the earlier projects perhaps were not brilliantly done in terms of community consultation, but we have to give credit where it is due: the industry is evolving and adopting better practices. I refer you to the work by Richard Hindmarsh. He has done some interesting work around what he calls 'collaborative consultation' as opposed to 'consult and inform' or 'consult and engage' consultation models. I can send through that link. He believes that there are several levels of consultation beyond the current practice in the industry that would greatly build community support for projects when they are in the final planning phase.

CHAIR—If you could send through that link it would be appreciated. Amongst other issues, Landscape Guardians have brought up one issue in particular. have not tested it that much, but I will test it as much as I can from now on. It is an assumption about the modified landscape. I get the sense that what they are saying is that they want the landscape to remain as it is. It is already a modified landscape, so how do you have a discussion around it? It relates to the issues of amenity. Some people obviously like the rural landscape as it is. So one of the issues—I am not saying it is the only issue—is that people do not want the landscape changed in an already modified landscape. It also relates to consultation about the environment that the community wants to live in. Are there examples elsewhere where there have been these community discussions? Did they occur in Europe? Have they occurred elsewhere in Australia?

Mr Walker—I am aware of conversations in Ontario, where there has been a rollout of wind energy in quite modified landscapes in recent years, as to how we mesh the intrusion of industrial landscapes into deeply agricultural, mixed, small-scale agriculture. Some of those models have been really good, where people talk about what their connection is to their place

and how the imposition of a turbine might influence that. I cannot give you any paperwork on that; that is just my experience of having sat in some community meetings. It sounds a bit harsh, but in some ways we have to accept that the world is changing. It will certainly change a great deal more under climate change if we do not get that under control. Wind energy, by definition, is being placed in modified landscapes—it is not going in national parks. There has to be a degree of reasonableness around where people are prepared to have wind farms placed.

There is also a risk that in our society we turn on the switch and here, in Victoria, that power will be coming from coal. We are not aware of the cost of that. There is a certain value in having wind farms visible from population centres where people are reminded of where their energy might be coming from. One of my fears is that we set in place a boundary around populated areas that means that any future wind farm operations occur offshore or in very underpopulated areas and we lose the benefit of reminding people about where their energy comes from and that they need to be frugal and careful with their energy use. It will also knock off any opportunity for community wind farm operations, because they will only occur in areas with relatively dense populations. As Mr Holmes a Court said before, there are already 40 projects around Australia that are being put forward by community members. It would be terrible to lose the future opportunity to have great locally owned wind enterprise.

CHAIR—Thank you. You have a bit of homework. If you could send that in during the next couple of weeks, that would be appreciated.

Mr Walker—I will. Thank you.

[4.17 pm]

O'FARRELL, Mr Peter, Board Member, Victorian Planning and Environment Law Association

SHARP, Ms Jane, Executive Director, Victorian Planning and Environment Law Association

CHAIR—I welcome representatives of the Victorian Planning and Environment Law Association. Information on parliamentary privilege and the protection of witnesses and evidence has been provided to you, I understand.

Ms Sharp—It has; thank you.

CHAIR—Do you have any comments to make on the capacity in which you appear?

Ms Sharp—I am one of the board members of the Victorian Planning and Environment Law Association and I am a barrister by practice.

Mr O'Farrell—I am in the same position as Ms Sharp.

CHAIR—We have your submission before us, which is No. 654. We invite you to make an opening statement and then we will ask you some questions.

Mr O'Farrell—Senators, in our written submission we have explained what VPELA is. It is a professional organisation which does not hold a position; it brings together professionals in the field and fosters debate on topical matters. It has various training arms—continual professional development and those sorts of things. It holds seminars. On the front page, the bullet points outline the range of professions that form the membership. We then set out the primary purposes of VPELA and go into the substance of the submission. We intended today just to go through three key topics: the relationship between the Victorian and Commonwealth systems for the assessment, the health impact of wind farms and then the social and economic impacts of wind farms. Since making the submission, amendment VC78 has been gazetted. That is now part of the planning system here in Victoria. I expect the committee has heard submissions about this recently. So we are in a position to assist you with that. When we get to it in the submission, we might point out the key parts of that amendment and how it affects the submission.

On page 2 there is discussion of the responsible authority, or the planning authority, which is the authority that assesses an application here in Victoria. Until amendment VC78, it was the minister for planning when a farm was above 30 megawatts. But that is now not the case. Councils, as you have probably heard, have that role now for all wind farm applications. One thing that you might find of use is the way the Planning and Environment Act works here. Even though the local councils now have the role as the responsible authority for all wind farms, the minister retains the ability under the act to call in applications. It is typically done if a project is of state significance. So that ability is still there. When amendment VC78 was gazetted, the government here introduced a paper which said to the councils that, if they wanted to put their

hands up for a particular project and ask the minister to call in an application, the minister would be willing to do so if the councils indicated a lack of resources or a lack of expertise.

On page 3 there is a reference to the EPBC Act and the bilateral agreement. The bilateral agreement, as currently drafted, still deals with councils as the responsible authority; so nothing needs to be changed there. Throughout the submission we say how the majority of wind farms have been assessed by Planning Panels Victoria. That will now change. It is likely that, going forward, the majority of wind farms that are challenged will go for assessment to the Victorian Civil and Administrative Tribunal, unless the minister calls the project in; in which case the minister will refer it off to an advisory committee, which is a similar body to Planning Panels Victoria. We then make some comment about public participation. VPELA's position is that the process has extensive third-party rights of participation, both at the council level and on review. We have commented on the way the planning policy is set up in Victoria. Generally speaking, the policy encourages wind farm proposals, subject to a rigorous assessment process covering the sorts of topics that one would ordinarily expect to be assessed when talking about a wind farm.

Page 4 of the submission refers in the second last paragraph to a 2009 version of the policy and planning guidelines for the development of wind energy facilities in Victoria. That has now been overtaken by VC79, and the current document is dated March 2011. The next paragraph, at the bottom of page 4, comments on the 2009 version. So, where there is '2009', update that to 'March 2011', but generally speaking the same concepts are captured.

Within the planning schemes in Victoria, there is a specific clause, known as 52.32, which relates to wind energy facilities. That has a number of assessment criteria. Page 5 sets out the key issues in terms of the assessment criteria and what matters need to be considered. We then do a commentary on the interaction with other Victorian acts—the Environment Effects Act, the National Parks Act, the Flora and Fauna Guarantee Act—and then we go into a commentary on the interaction with the Commonwealth acts. The key one is the EPBC Act; discussion on that starts at page 7 of the submission. There is some commentary on the EPBC draft national wind farm guidelines. At the bottom of page 8 and the top of page 9 we observe that, because the guidelines have no statutory force here in Victoria, typically in planning panels or hearings both sides of the debate are conducted under the draft guidelines but, when it gets to the decision, the decision maker cannot attribute any weight to the guidelines because of their status. So the guidelines can tend to be unhelpful by lengthening hearings. But the subject matter sometimes fosters debate on topics that are otherwise covered within a relevant policy or a relevant guideline. So, although it sometimes increases the length of a hearing, the debate is sometimes prodded along by those sorts of guidelines.

In terms of emerging Victorian policy, this submission was written just before the election in Victoria; the Liberal-National coalition had made some policy comments about wind farms. That is now manifested in VC78, so there are some necessary changes required—through pages 9 and 10 of the written submission. In substance, the councils have now been given the responsible authority power. One change was that the policy seemed initially to be suggesting that turbines would be placed no less than two kilometres from the nearest home. As we understand the outcome of the amendment, proposals need to have a map that shows where homes are within two kilometres of those turbines; and that is just assessed. So it is not set up as a prohibition; it seems to be an assessment tool or criterion.

There was some discussion in the policy about a shared payment system, which we will come back to later, but that does not seem to have found its way into the current planning scheme. On page 10 we discuss health impacts of wind farms, primarily related to noise and vibrations. On pages 11 and 12, hopefully there is some useful information for the committee about the types of noise levels and how they manifest in terms of our common experiences as to what we can hear. There is a commentary on the debate about community noise concerns—infrasound, low-frequency noise—the concept of ‘wind turbine syndrome’. We hope we have assisted the senators with a summary of international and Australian studies into health effects. We have tried to pick out all the matters that are relevant and of use to you.

At page 16 we have done a summary of how planning panels and VCAT have approached complaints and potential health impacts associated with wind farms. There has been no evidence to date to disprove or prove that there is a health impact. That has put decision makers in the position of making their decision on that basis. A number of panels have observed that some form of independent study would assist their assessment of wind farms. VPELA notes that on page 17, and suggests that it would be desirable for an independent epidemiological study to be carried out in relation to proposed and operating wind farms to try to give the wind industry, regulators and the community a greater insight into, and certainty on, these issues. In hearings, the topic tends to take a lot of time. Both sides of the debate are presented, but VPELA suggests it would be desirable if there were a study to provide some evidence on the matter.

The submission then comments on both sides of the debate about the social and economic impacts of wind farms. One of the key things that come out of this is the debate that relates around social division. It is sometimes described as the ‘winners and losers debate’—there are those who get the turbines and those who do not. That social division can sometimes start the debate. There has been some discussion about whether some sort of fund should be set up to fund the community, rather than there being those who get the turbines and those who miss out. VPELA’s submission to you on that is that the consequences of it should be seriously considered, in the sense that wind energy facilities are a relatively new industry in this country. VPELA thinks there is some merit in the thought that the industry should not necessarily be separated from other industries or other developments that have amenity impacts. VPELA has some concern about what precedent that might set up for other industries. But, aside from encouraging the committee to consider the consequences if such a fund were set up, in terms of what it might do for wind farms and the industry, VPELA’s position is that it could be significant. In general terms, the impact on property values at the planning and assessment stage is rarely substantiated and is given very little weight in planning debates. VPELA’s position is that, until evidence can be produced to show a conclusive link between wind farms and a decrease in property values, that issue should not carry any weight in considering the merits of applications.

We then go into a discussion of broader economic benefits and social impacts. There is some comment on social perception studies. These studies indicate that the majority of the community, whether in the city, a regional area or a rural area, support wind farm development. Opponents of wind farms typically say that there is some bias in the perception studies, that they represent a minority community view, or that they do not reflect the people who are living next to the farm. VPELA’s position is that they tend to be an unhelpful exercise in hearings and should not be given considerable weight. There is then a discussion in the submission about whether wind farms should be considered as being different from other infrastructure projects. That is just a commentary on both sides of that debate. Stakeholder consultation is discussed in the

submission. VPELA's position is that the current framework allows extensive third-party participation in the process.

At page 24, there is a discussion about setbacks of wind farms; that is the two-kilometre issue, which has probably now been overtaken by VC78. Wind farm proponents need to put forward as part of their proposal where the two kilometres are. It is unknown how that will be assessed because it has not been done yet. But, presumably, because it is one of the assessment matters that need to be brought to the attention of the planning application, that will form part of the assessment criteria from now on. The issue of compensation I think I have touched on, but VPELA is concerned about whether that introduces a concept in the planning process that may just pick out the wind farm industry as compared to all other industries which might have an amenity or development impact. They are the matters that VPELA wants to bring to the committee's attention.

CHAIR—Thank you.

Senator FIELDING—At this stage I would like to look at the health impacts of wind turbines. There is a range of issues in that regard to shade flicker and the lights that flash. The noise is the subject of huge concerns and question marks. There is some sort of theme revolving around the issue of whether or not there are adverse health impacts from wind turbines, but something we may all have in common is the desire to get a final study done to bring it to some conclusion that we can rely on. What are your thoughts about having such a study done that may be acceptable to both groups as a way of getting to the bottom of the issue?

Mr O'Farrell—If a conclusive, independent study can be done that will decide the debate, it is hard to resist the sense of that. If there is a health impact, it should be responded to through the assessment criteria. At the moment, we are in the position where there is no independent study. VPELA's position is that it would be desirable for that to be done.

Senator FIELDING—Given that your organisation looks at a lot of issues where there is always a proponent for and someone against, how would we come up with such a study? It is the process of getting to where both sides could agree on a study. How would we go about doing that? It is one thing finding the funds for it; there is another issue about getting two opponents agreeing to the one sort of research and test. I thought that you may have some ideas about how to progress that process from here. We need to have this done in Australia to get to the bottom of it. I am not convinced that around the world enough may have been done so far, but I could be wrong. I am interested to know what your thoughts are.

Mr O'Farrell—I do not think either Ms Sharp or I am in a position to express VPELA's position on it, so I will tell you my view on it and Ms Sharp might tell you her view on it. I understand that scientists have protocols in place by which to have work tendered out—people can bid on it. It is a question of who commissions the work. When you have two sides of the debate, the government—whoever that is—needs to be the one that commissions the work so as to avoid, 'This side of the debate is paying for this work to be done.' I know the government often gets handballed a lot of things, but my view is that that is the way criticism of this sort of study and this sort of work goes—'such-and-such did this work; therefore it is biased', and the other side of the debate says the same thing. However, if the government commissions the work

from a body like CSIRO, that would overcome the perception of bias based on who is funding the work.

Senator FIELDING—I am not sure that would satisfy groups. I am not saying that this is the case, but the following claim could be made on the basis that the government is such a big driver of renewable energy, and there is a belief even by CSIRO—I do not want to put words in its mouth—that 30 per cent of renewable energy by 2020 will be from wind. There may not be much incentive for the government to say that it is not safe to live close to wind turbines because that may mean there would be fewer of them around and it could influence heavily that 2020 target.

Senator MOORE—In that case, no-one is going to fund it.

Ms Sharp—I agree with Mr O’Farrell. Any party—for example, a government body—that might suggest that a study be done could say that the study is, in itself, biased. There may be some merit in ‘hot tubbing’ experts. It is a horrible term we use in planning. It is a terrible expression. But, when you get opposing experts in a planning panel or a VCAT hearing, they can sit with each other and at least come up with areas of agreement and areas of disagreement. If you can get parties or experts who perhaps work for either side of the debate talking to each other and working out exactly what the points of disagreement are, at least then both sides of the debate feel that they have become involved in the process.

CHAIR—I think we might have come up with the name of the report—‘*The Hot Tub*’!

Senator ADAMS—I noticed that when you were going through your summary you did not mention the NHMRC publication, but you certainly have a lot about it in your submission. NHMRC are going to give evidence to the committee, so I am a bit worried. We have had people call NHMRC and ask them about the authors of their rapid response document and, unfortunately, they have not been forthcoming with the authors of the document. It is a bit difficult, but it is getting late in the day and we have had a pretty good argument on that, so I will leave it. My question to you, because you have quite a lot about it in your submission, is: why didn’t you mention it when doing your summary?

Mr O’Farrell—No reason; it was just for the sake of brevity. I did not mean to exclude it. We have tried to write this submission in a way that does not put a position forward but that hopefully is of assistance to the committee as to both sides of the debate.

Senator ADAMS—Thank you.

Senator MOORE—In your report you talk about the role your organisation has in terms of information sessions and newsletters. Have you had information sessions or newsletters on this topic for your members? If you have, particularly newsletters, can we get copies of them?

Ms Sharp—We did have a seminar last year. We run regular seminars about once a month and they are published, I think, in our newsletter. I can certainly get a copy of the submissions made to that seminar and forward them to you.

Senator BOYCE—Getting back to the changes in planning processes in Victoria, yesterday councils gave evidence that they do not have the resources to go about the approvals processes they are now being asked to undertake unless they are given extra resources. You have basically echoed that view in your submission. What do you think is required there if this is going to not be a David and Goliath situation?

Mr O'Farrell—Often at these hearings the independence of the experts that are presented by both sides of the debate is questioned and that applies in nearly all proceedings where expert evidence comes forward. It becomes a task for the assessor—the panel member or the VCAT member—to attribute weight. So they might think that a person is truly independent or they might form the view that they are part of the project team, effectively, and give their evidence less weight. But absent of there being a central government body which has expertise in all of these fields, in the assessment process both sides of the debate need to lock horns and bring forward their expert evidence. Then it becomes a question for the decision maker as to what weight is given to a particular expert over another. I am not sure whether that answers your question.

Senator BOYCE—That answers probably the stage 2 question. The stage 1 question was about the councils saying, 'We do not have resident experts or the funds to get outside experts to properly assess what the proponents are telling us.' What is your response to that?

Ms Sharp—It is true that many of the rural councils run on a shoestring. They often have three or four planners who are assessing big applications and doing a lot of work.

Senator BOYCE—I suspect some of them would say it would be a luxury to have three or four planners.

Ms Sharp—I agree. Some rural councils also experience quite a turnover of staff. Local councils are well positioned to do the community consultation side, given that they have accessibility to the local community and are a good meeting point.

Senator BOYCE—Who should fund that, in your view?

Ms Sharp—In my view?

Senator BOYCE—Or the organisation's view—whichever.

Ms Sharp—I cannot say. Certainly in the planning process generally, the consultation process is funded by the council. It is not funded by the developer. A planning panel process and a VCAT process are public processes and obviously are funded by the state government. There is also the opportunity for people to make submissions. VCAT at the moment, for example, have introduced an extensive sort of mediation process, so the funding is now, as well, with the state government. I am not aware of situations where developers are funding the consultation process. Peter, are you aware of any?

Mr O'Farrell—No, other than a standard permit application. If, say, 1,000 letters have to be sent out, the council can send the bill to the developer for that. But, in terms of the time and

labour resources of dealing with the public, that is not funded other than through the council budget.

CHAIR—That is what we were told yesterday. They make very little money from the wind farms.

Senator BOYCE—If anything.

CHAIR—If anything, and yet it costs them a lot of money to do the assessment process.

Mr O'Farrell—There is some commentary in the written submission about the rate revenue over the life of the project, which the committee might find of use or interest in relation to this topic, and whether that balances out over the life of a project in terms of the intensity up front.

Senator BOYCE—That suggests that you need numerous wind farms to keep your cash flow going.

Mr O'Farrell—With the referral authority process in the state, bodies like the Department of Sustainability and Environment, the Country Fire Authority and other power authorities are given status above other objectors. So, if DSE comes forward in a permit application and objects to a proposal, the act says that it has to be refused. That can be challenged, but other expert bodies are part of the planning process as well.

Senator BOYCE—I think the Municipal Association of Victoria is the local government body. This issue only arose yesterday. Are you aware of any moves by your membership or by the municipal association to talk to the state government about resourcing councils to undertake this planning appeals process?

Mr O'Farrell—Yes. Last June or July, the MAV, in connection with a number of the councils, particularly those throughout western Victoria, as I understand it, met with the government of the time with a view to coming up with a funding pool—additional funding for councils to resource the assessment process. But I do not know how far that has progressed.

Senator BOYCE—I have asked this question in a couple of areas where I thought there might be some expertise on the topic. Does the association have a view or any information about what might look like an ideal ownership structure for the wind power industry in Australia? We have had comments around community ownership and corporate ownership. Is there a balance between those ownership structures that make one better than another?

Ms Sharp—We do not have any view as to the association's opinion about that. We have not thought about it.

Senator BOYCE—The reason for asking that question is that we are told that the Danish industry is basically community owned; in other places it is not. I am interested in anything that might have come out of planning research in Australia on the topic.

Mr O'Farrell—I am not aware of any research or any paper.

CHAIR—I want to follow up on the comment you made about local government being able to refer it back to the state government. What process would trigger that?

Mr O'Farrell—We could send it into the committee. A paper was released with the amendment—I think it was called a practice note or something like that. There are a couple of paragraphs saying that the minister maintains his or her ability to call in permit applications. If a council does have concerns about resourcing a particular project, it can put its hand up to ask the minister to call in a proposal. From there it would be referred off to an advisory committee to the minister.

CHAIR—Is it correct that the panel system, which seems like a fairly rigorous process of 14 or 15 days—and that is a new thing for us from Western Australia because we do not have the same sort of process—and which a lot of people talked about yesterday, is not going to happen any more?

Mr O'Farrell—Unless the minister calls in a proposal.

CHAIR—When you say it goes up to the advisory panel, is that a similar sort of process or the same process?

Mr O'Farrell—Basically the same, except that a panel is where you have a planning scheme amendment where you need to change the zoning. An advisory committee is where the minister has called it in and referred it off to what is effectively Planning Panels Victoria to advise him or her about how the proposal should be assessed, or make a recommendation to the minister.

CHAIR—But that will be dependent on the minister or the local government calling it in. If it is a big one, for example, local government could say: 'This is a really big proposal. We don't have the resources. We want to send it off to the minister.' The minister would then set up a panel.

Ms Sharp—Yes. The trigger would always be that there is a planning permit required. At the moment, the trigger is a planning permit or a planning scheme amendment. There are two different processes. Through the planning permit process, which is the council process, that then goes on to VCAT has elements of public consultation, evidence et cetera. The panel process is a different process but it still has a level of public consultation, evidence et cetera.

CHAIR—It is different in each state and that panel process seems to be quite rigorous. I am not saying that the community has been happy with the outcomes, but at least it is a process that people have been able to access. Are you aware whether concern has been expressed that people are not going to be able to access that process any more or that it is going to be more difficult potentially?

Mr O'Farrell—I am not aware of that. Aside from the trigger point above the 30, that was automatic. People will now have to go to VCAT for the assessment. In Victoria, since the Planning and Environment Act came into place, projects of state significance have nearly all been called in by the minister. So, when projects get to a certain size and significance, generally speaking, they are called in by the minister for planning.

CHAIR—Are we talking about any project here?

Mr O'Farrell—Yes.

CHAIR—Not just a wind farm?

Mr O'Farrell—Yes—a desalination plan, the Nowingi waste facility—

Ms Sharp—Channel deepening.

Mr O'Farrell—Yes, and large towers around town—that sort of significance.

CHAIR—The new government has made this change to the approach, handing it all over now to local government. Is that an indication of an intention that even the big projects will now be handled by local government, seeing that that is what has been handed over?

Mr O'Farrell—I do not know. The only observation I can make is that there have still been a number of call-ins since the change of government—not of wind farms but of other projects.

CHAIR—I am specifically focused on wind farms now. I appreciate that approach still happens for other projects. But on this issue, they have now made a decision to hand it over to local government. On the face of it people like having local control, but we have now had a lot of feedback from local government expressing concern that they do not have the resources to do it.

Senator BOYCE—You make the comment in your submission that local government might be less able to resist 'irrational' community concerns—I am trying to think of the right word there. I am not suggesting that local government should not react to very rational community concerns but that they might be more the hostage of popular sentiment than a state body would be.

CHAIR—That comment has been made in a number of the submissions.

Mr O'Farrell—With both forums—the advisory committee or VCAT—there will always be a debate available to people by an independent decision maker.

Senator BOYCE—When you say 'people', do you mean individuals?

Mr O'Farrell—Yes. There is ability for third-party participation. One individual could take an enormous project to VCAT, for example.

Ms Sharp—The planning process in Victoria is open to individuals. It is not one where you need—for want of a better word—high standing to become involved in the process; you just have to be somehow affected by the application or the project. I understand that sometimes in other states you have to have a direct interest. In Victoria, it is open a lot more broadly than that.

CHAIR—Thank you very much. Your appearance is very much appreciated.

[4.55 pm]

BURKE, Dr Susie, Board Member, Climate and Health Alliance; and Senior Psychologist, Public Interest, Environment and Disaster Response, Australian Psychological Society National Office

CHAPMAN, Professor Simon, Expert Adviser, Climate and Health Alliance; and Professor, Public Health, University of Sydney

REALE, Ms Elizabeth, Board Member, Climate and Health Alliance; and Federal Professional Research Officer, Australian Nursing Federation

Evidence from Professor Chapman was taken via teleconference—

CHAIR—Welcome and good afternoon, Professor Chapman. I understand that information on parliamentary privilege and the protection of witnesses and evidence has been given to all of you—is that correct?

Prof. Chapman—That is correct; I understand the procedure.

CHAIR—We have your submission, which is numbered 605. I invite each of you or one of you to make an opening statement and then we will ask you some questions.

Dr Burke—I am happy to make an opening statement. The Climate and Health Alliance is a national alliance made up of organisations within the health sector that are concerned about the grave risks to health, biodiversity and human civilisation from climate change and other environmental threats. We have made this submission to the inquiry on the basis of our key concern that we need an urgent transition from fossil fuels to clean renewables as a way of reducing climate risks and the risks to human health. So in that context we have made a submission. We can talk to a number of different points. One point that we would like to make is that there is always a relationship between energy supply and health, but these impacts are different depending on the type of energy supply. For example, there are obvious health effects from nuclear, that we are seeing played out in Japan at the moment; we are not going to spend time talking about them today. Coal, which contributes a lot of the current energy supply, makes a definite contribution to death and disease. Then we can look at renewables, like wind, which have the least impact of those three and a very small health impact compared to the others. So we can talk about the direct and the indirect contribution that coal and gas and the burning of coal and gas to produce energy have on health, on disease and on mortality. We can also talk to the alleged adverse health effects of wind. We have examined the literature and made some conclusions on the basis of the evidence that exists. We concur with the conclusion that there is no published scientific evidence that there are any direct links between adverse health effects and wind turbines. We can also talk about the psychological and physiological responses to stress that may be implicated in the development of perceived health effects of wind turbines. We can also talk about the ways in which negative and positive attitudes to wind power and wind turbines can be affected or developed. That is some of what we can talk to.

CHAIR—Ms Reale, in terms of an opening address do you want to add anything to that?

Ms Reale—The Climate and Health Alliance is a coalition or alliance of healthcare organisations and individuals with an interest in participating in the debate on climate change, coming from a perspective of the effects of climate change on human health. The basis of our submission and our public statements is scientific and evidence based. We have a panel or a group of experts from the academic and scientific community from whom we seek advice when we make statements and submissions. That is the basis of our submission.

Prof. Chapman—I am a sociologist by background and I have worked in the public health area of scholarship and research for about 32 years. One of the issues that I am intensely interested in is the nature of perceived risk of new health hazards in communities. I am very interested in the phenomenon of why established health risks which are of large magnitude are often ignored by communities and why infinitesimally small or non-existent health risks are sometimes responsible for causing widespread alarm in communities. With that background, over the years I have published papers in areas like why people are afraid of mobile telephone towers being positioned in their neighbourhoods in the light of the scientific evidence about the dangers of telephone towers compared, for example, to the posited risks of actually using mobile telephones. The towers have a very small risk, yet a lot of people are concerned about them; whereas the same people will often use mobile phones extensively and heavily. So I have published in that area.

What caught my interest in this area were earlier reports that there were groups of people in certain communities, including in Australia, who were suggesting that wind turbines could cause disease and illness. When I started reading these reports, I thought it sounded, *prima facie*, as though this was another example of something where the scientific assessment of risk was basically that there was very low to zero risk, and yet there were people in communities who were suggesting that they were being made ill by exposure to this. So I put in a submission to the National Health and Medical Research Council, which I would be pleased to summarise for you. More recently I have taken the trouble to read the self-published book by Dr Nina Pierpont, who I understand addressed your committee last week. I have a number of important criticisms to make of the statements and the claims she makes in that book which might be of interest to your committee.

CHAIR—I am happy for you to continue with those comments. Also, any further papers that you have would be useful for us.

Prof. Chapman—Sure. Let me start on Dr Pierpont's book. I have not seen a transcript of the evidence that she gave to you, so I am assuming that she summarised some of the statements in her book. The first thing that strikes you when you see this book is that it is a self-published book. It is not a book which has been handled by a commercial publisher. You can look at the peer-reviewed literature—people in universities are able to go onto extremely large databases and look up all the published work on particular subjects, including all the work by particular authors. I have taken the trouble to do that, and Dr Pierpont has no publications at all about wind turbine syndrome, which is a concept that I understand she coined herself—she has certainly been the person who is most responsible for that concept gaining currency in the media. So she has not done any research which has been published in peer-reviewed journals. She may well

have submitted some that has not been published, but we do not know that. So most of her views, beliefs and 'research' are contained in that book.

When you start looking at the book and seeing what she has done, you will see that she has produced case reports on just 10 families. The data is a little hard to work your way through but, as far as I can see, these 10 families involved 38 people, among whom are 21 adults. They are scattered across five countries—Canada, United States, Italy and some other nations. These are all people who once lived near wind turbines and are convinced that the turbines made them ill. My understanding is that there are something like 100,000 turbines worldwide. So the first observation I would make is that interviewing 10 families is a sample of such low representativeness I am tempted to even call it 'homeopathic-strength' representativeness; it is incredibly small.

The next point I would make is: how did she get onto these people? There is no description in the book about how she located them, but there is considerable material in the book about her period of activism about wind turbines before she wrote the book. So it is highly suggestive of these people knowing about her and her knowing about them through her activism against wind turbines. So what she has done is selected, in her own words, people who had strong symptoms, who had complaints that they were making a lot of noise about. This is not how you go about investigating whether or not a phenomenon or an agent causes disease. What you do in epidemiology is to engage in cohort studies where you take a bunch of people who would be exposed to an agent which is said to possibly cause harm. You would follow those people over time and you would see how many of those people faced with that exposure—ideally different levels of exposure, different distances and all that sort of thing—became ill and whether there were any characteristics in the people who became ill or who said that they became ill which may be what we call 'confounders' and had nothing to do at all with the fact that they were exposed to the wind turbines. There is none of that in this book at all. She just has a sample which we would probably describe as a self-selected sample of people who believe earnestly that the wind turbines had made them ill. She also states that she has chosen an articulate group of subjects. Again, you would not normally, in doing research, choose only people who were able to be very articulate about what was happening to them or what they believed was happening to them. You would approach people randomly and put every care into trying to ensure that the people that you involved in your study were people who did not exhibit any kind of selection bias, either from your side or from their side, to get into the study. So none of that is there.

Amazingly, Dr Pierpont, who is a medically qualified person, did not medically examine any of the people. Nor, as far as I can see from the book, did she access any of their medical records. So her entire study is based upon her rather aggravated informants' accounts. Even here, she does not describe whom among the 10 families she actually interviewed. She says that she interviewed them on the phone. Remembering that many of them lived in other countries, not the United States, she does not consider for a moment questions about the accuracy of people giving reports about other people's health in their family. That sort of stuff is very, very sloppy and, if that sort of material were submitted to a proper research journal, it would not get past first base—and I can say that with the authority of having been a medical editor for 17 years.

She provides interesting material summarising the prevalence of various health problems which these people say they had prior to the arrival of the turbines in the neighbourhoods that they once lived. These are particularly revealing. A third, for example, of the adults had past or current mental illness; a quarter of them had pre-existing episodes of migraine or permanent hearing impairment, and a large proportion also had permanent tinnitus. These rates I have just quoted are much higher than those in the general population; it is simply not the case that a quarter of the population would have migraine headaches or a third of adults would have mental illness. So the subjects that she interviewed were obviously quite unrepresentative of the general problem. One would want to ask whether there were characteristics of some of those subjects which may have been relevant to their description and their understanding of the illnesses that they said they had.

The other issue that particularly interests me is this: as far as I can see and as far as I have heard—and I have conversations with several of the wind energy companies—the people who claim to have been made ill or to have symptoms from wind turbines have never included any individuals who have those wind turbines on their own land. When you think about it, people who have turbines on their own land are going to include people who are living most closely to those turbines. So, if there is any relationship between the proximity of these turbines and the idea that they cause illness, you would expect to see illness expressed in people who live most closely, including residents who had the turbines on their land. Interestingly, no-one has put up their hand and said, ‘I’ve got them on my land and I’ve been made ill by them.’ One of the reasons for that, I suggest in my submission to the NHMRC, is that people who have these turbines on their land are given, I understand, approximately \$7,000 to \$10,000 per turbine each year. So, if you have, let’s say, 15 of these turbines on your land, you might be waking up each morning knowing that you have already made \$150,000 that year and that the land that you own has probably greatly increased in value. Not so the land around you. So, if you were a neighbour and you do not have the correct topography to have a wind turbine or wind turbines put on your land and you can see down the road that your neighbour who does have the correct topography has \$150,000 worth of earner each year, you would understandably perhaps feel annoyed. You might feel that it was unfair and you might feel that perhaps the value of your land had depreciated because of the advantage of the surrounding land—these people’s land is worth a lot more than yours because it has the wind turbines on it. These sorts of feelings may build resentment, they may cause stress. So, indirectly, one could argue that perhaps wind turbines make people upset, even ill—but it is perhaps not the wind turbines themselves; it is the effect of not being able to cash in on them.

Some of the people who are the activists in this movement who say that wind turbines cause illness go around saying that people are gagged from talking about their illnesses if they have entered into deals with the wind farm companies. My understanding is that, firstly, if you enter into any contract with somebody and, as part of entering into that contract, you suffer negligence, your common law rights are not extinguished, no matter what you have signed. So, if you were a landowner with turbines and you felt that you were ill and you had that illness diagnosed by a medical practitioner, you would not be precluded from taking a negligent action against the owner.

CHAIR—Professor Chapman, we are going to have to ask you to conclude very shortly because we are going to run out of time.

Prof. Chapman—They are probably the main points I would like to make. I think that a lot of this hue and cry about wind turbines is basically people living in sometimes-depressed rural circumstances where they see some of their neighbours becoming well-off as a result of having them, getting resentful and perhaps expressing symptoms as a result of that.

CHAIR—Thank you.

Senator FIELDING—I have just been online and read that 59 minutes ago you were on ABC Online with the arguments you have just presented. Some people could argue that you are an activist writing op eds on the ABC Online. We have to be careful about who is an activist, on which side of the camp, and the arguments. Who wrote the submission for the Climate and Health Alliance?

Dr Burke—The convenor of the Climate and Health Alliance, Fiona Armstrong.

Prof. Chapman—Yes. Fiona Armstrong.

Dr Burke—It was a collaborative effort of members of the Climate and Health Alliance.

Senator FIELDING—What is Fiona Armstrong's background?

Dr Burke—She is a policy analyst and the convenor of the Climate and Health Alliance. Members of the board of the Climate and Health Alliance also contributed to the writing of the submission. We also have an expert advisory committee, which Elizabeth talked about before, that reviews what we prepare and comment.

Prof. Chapman—Senator Fielding, in relation to your comment about whether I am an activist: for many years, I have been an academic who does not believe in just parking my work in obscure research journals which are available on subscription only to other researchers and nobody ever gets to read those articles or to understand what sort of research is going on. I have always made it my business to not only publish work in the scientific literature—and I have over 400 papers in scientific journals—but also to write things for the popular press and try to explain science and medical issues to the community whenever I can, which is why I put the article online today.

Senator FIELDING—Would you folks be opposed to some research being done on the adverse health impacts? Claims are being made by both sides of the debate, and we are trying to get to the bottom of those issues.

Prof. Chapman—I think it would be a wonderful idea. The only caveat I would put on that is that the research would be very expensive and it would need to go on for quite some time. It is not the sort of research where you could walk in and have it completed within a week. It would not be quick and dirty research. Ideally, it would involve cohorts who would be followed over time and it would need to involve sufficient numbers of people to get sufficient statistical power to show any differences between people who were exposed and non-exposed.

Senator MOORE—My only question is about the form of research that would be undertaken. We have heard general agreement that there has not been an independent research process done

on the issues of health around wind farms in Australia or overseas; there is consensus around that process. Professor, you have just said that it would have to be long term. Do any of the people here or on the phone have any ideas about whether and how such a research process should happen? You have not had the advantage of hearing the evidence at yesterday's hearing in Ballarat; many people came forward talking about their concerns about their health as a result of the process and they are calling for independent assessment.

Prof. Chapman—Yes. What they mean presumably by independent are people who are not affiliated in any way with the energy companies. There are many scientists in the Australian community who could be involved who have no affiliation at all with the energy companies. I do not have any relationship with them at all. I have never been to any of their meetings. I have never received any money. I have never received any research funding—nothing like that. There are many epidemiologists who are employed in Victoria, New South Wales and all over the country—Australia has an excellent reputation in the epidemiological study of disease—who could be involved. But I would caution that there are individuals who have made careers almost out of aligning themselves with claims that wind turbine syndrome is a real phenomenon. Those people ought to be viewed with circumspection when the time comes to appoint people to independent investigative panels.

Dr Burke—Our belief is that any examination of health effects from wind should also consider the adverse health effects from existing energy generation. There is already a lot of evidence of the significant contribution made to mortality and disease burden across the world from burning coal and other processes involved in the extraction, mining, transportation and so forth of coal. So, when a study is done examining the health effects of wind, it also has to take into consideration the considerable known and existing health impacts from our existing energy supply.

Ms Reale—I concur with Susie that, while there is negligible evidence of negative health effects caused by wind farms, there is evidence that demonstrates significant health effects from the burning of fossil fuels, both indirectly and directly from particulate matter that is released in the burning of fossil fuels and in the longer term of its contribution to climate change and the negative health implications associated with that, which we are beginning to see.

Senator MOORE—A number of contributors today have made that comment. I am concerned that there is some inference that, because there are known dangers with one form of energy, we should not investigate another. I want to give you the chance to make it clear that there is no causal linkage there. This particular group is charged with looking at concerns that have been raised about wind energy. We have heard evidence from people who claim that there have been health concerns. It is documented that there has not been an independent investigation through epidemiological processes to investigate that. That was the question. We thank you for your comment about coal and we acknowledge that, but the question was about wind.

Dr Burke—Fine. I concur with what Simon said.

Senator BOYCE—I am somewhat intrigued by the idea of a psychological condition called annoyance, which was mentioned several times. Could someone explain to me the basis for the evidence around such a condition?

Dr Burke—No, there is no psychological condition called annoyance. Annoyance is not a health problem; annoyance is annoying. The three major reviews that have been done looking at the health effects of wind, which have all concluded that there are no direct causal links between wind turbines and pathological adverse health impacts, have also noted that there is some evidence that annoyance levels increase in close proximity to wind turbines for some people and that protracted annoyance can increase stress, which can lead to a number of stress conditions that can manifest in a number of different responses that a person can have. Curiously, they are very similar to the symptoms that are described by wind turbine syndrome. For example, a stress condition can include dizziness, nausea, drowsiness and so forth. So, no, annoyance is not in any way a psychological health problem.

Prof Chapman—Perhaps I can come in there with an analogy. I live in Sydney in the suburb of Stanmore, which is directly under the flight path on the way to Sydney airport. You will recall that a few years ago the government put the levy on arrivals and departures into Sydney to pay for a noise insulation program. At the time the department in which I worked, the School of Public Health at the University of Sydney, was commissioned to undertake a study as to whether people living under the flight path were being made ill by the sound and the vibration of the aircraft coming in. Certainly there were a lot of expressions of annoyance. I would have put my hand up and said that I was very annoyed by it as well. I have had an uncounted number of conversations stopped by noisy aircraft going overhead. But as to whether it makes you sick—one could identify a noise-induced syndrome in people living underneath those aircraft, which are much, much louder than anything emanating from wind turbines—was not found to be the case in the investigation that was undertaken by our department.

Senator BOYCE—The question for me still comes down to whether annoyance, as some people have suggested, is because some people are annoyed that their neighbour is getting an income stream from the wind turbines and they are not or whether it is caused by non-stop sound. Some people yesterday were talking about vibrations. How much of a cause and effect are we talking about here? We cannot simply dismiss annoyance altogether, if the cause of the annoyance is leading to people being so stressed that they become ill.

Dr Burke—Annoyance is also associated with fears. Media focus on alleged adverse health effects is one example of something that can exacerbate a person's perceived discomfort or annoyance from wind turbines. So there are a number of situational and contextual factors that will also increase a person's subjective experience of annoyance, because annoyance is a subjective effect. There is also an association with higher annoyance levels in relation to wind turbines from negative attitudes towards wind turbines. I would like to talk about negative attitudes towards turbines because I think that is an important part of this discussion. There is also the visual factor. The visual aspect of the wind turbines in proximity will also be related to annoyance. That has nothing to do with sound; that is only visual.

Senator BOYCE—No, it is just the sight.

Dr Burke—Yes, which is a different issue altogether. Most of the research that has looked at these alleged health effects has looked at the issue of sound, both the audible sound and the infrasound, but not the sight of the turbines.

Ms Reale—Annoyance is surely relative, too. I live on a busy road with trams and trains nearby. They are not going to stop the trains or the trams because I get woken up at five o'clock in the morning. It is an annoyance, but it is relative—

Senator BOYCE—I suggest that what you perceive to be the level of choice you had in that annoyance would be very relevant to how annoying you found it.

Ms Reale—There are factors; it is not entirely a matter of choice.

Senator ADAMS—You knew you were going there and those roads and things were there. I would like to ask the three of you whether you feel that rural communities are being imposed upon by wind farms

Dr Burke—That is a good segue to what I did want to talk about, which was people's perception of wind farm developments in their communities. I am now talking a bit about the Australian Psychological Society's submission that we made to this inquiry as well, where we looked at the research done into positive and negative attitudes to wind farms. Certainly, where people feel as if a wind farm has been imposed on them, they have been brought in late to the picture, and there is a sense that they have not had much control over the process, they are more likely to have a negative attitude to the farms.

Another very important way of understanding people's negative attitudes is around this concept that environmental psychologists call 'place protective factors'. We all have a place identity and people feel that in different ways. We are attached to our place. So when there is a perception that a wind farm coming into a community threatens the identity and the meaning that the place has to you, it is likely to be perceived more negatively than if it fits within your perceptions of place. But it very much depends on the type of place perception a person has.

A person might have a perception of place as an economic entity, or they might have a perception of a place to do with their local ownership of the area, in which case they would like to be consulted early in the picture and have a lot of say in what happens there. It might be associated with nature, in which case the visual impact might be a very significant factor. Or their place identity may be associated with their place as a resource, in which case the economic and local benefits that come to the community from having a wind farm there might be perceived in a very positive way. So there is a lot of research that environmental psychologists are doing which looks at place attachment and place protective behaviours in association with people's attitudes about wind farms.

I have just talked about the negative perceptions. I could also talk about the factors that have an impact on individuals and communities having a positive perception of wind farms, because that is a very important question for the inquiry to consider. If a wind farm is seen to be bringing direct benefits to the people in a community—and we have heard how landowners often receive those direct benefits—by bringing local jobs and stimulating the local economy, it is going to be perceived more favourably. If the developers are held in high trust, if they are seen as good citizens and if the community is engaged in the process from the outset, they are more likely to have positive perceptions. Also, if the placement of the wind farm is not at odds with people's conceptions of their place and identity, if the local construction impacts and the impact on the natural environment are reduced or minimised, and if it is not too large and too close to other

wind farms or series of wind turbines, that is also associated with more positive attitudes. All of those factors are associated with individual and communities having positive attitudes.

There is an association between negative attitudes towards wind farms and annoyance levels. Protracted annoyance can lead to stress related conditions that can lead to a number of distressing symptoms for people, but these are not pathological health effects.

Senator ADAMS—Have any of you been to a small rural community that is undergoing the consultation phase of having a wind farm in it and with no other wind farm within cooee? It has all of a sudden arrived, nobody knew anything about it and a lot of the planning has been done. Have you been to those sorts of communities to talk to people?

Dr Burke—I live close to Hepburn where a very different process was engaged in and where the community was involved.

Senator ADAMS—We visited that yesterday, so we are fully aware of the background to it.

Ms Reale—I was going to say the same thing. I have been around the Daylesford area and the process, I understand, was quite consultative and encouraged by the local community.

Prof. Chapman—In 2006 I lived in France. Wind turbines are very common in France. Because I had not seen them before, I often used to ask my friends and associates about them. I did not hear anybody talk about any community concerns regarding them at all. They just seemed to be part of the landscape and very well accepted in the French community.

Senator ADAMS—They would be part of the landscape because there are a lot around. But that is different when you have a very small, isolated community that has not had the experience of something like that and all of a sudden it is coming and nothing can be done about it. If you had a wind tower in close proximity to where you had bought your property I know I would not be too happy. It is fine to be able to review papers and talk about the academic side, but I think we have to get back to the grassroots feelings of the people who have an income and an investment and all of a sudden they see that threatened. There are a lot of different sides to this and I feel that those people are being ignored.

Dr Burke—You are right. Within their concerns are an enormous number of issues that can be addressed in proposed developments that will meet their concerns and address their needs. That includes their being involved, it being a participatory process, for the benefits to be felt in the local community and for it also to be considered what their place identity is—what the place means to people, because it differs within a community and from one community to the next. They are important considerations, I agree.

Senator ADAMS—One of the things that stood out from this inquiry is the fact that community consultation has been very poor. The Hepburn project is a very different project, but that is the only one where we have had community consultation in the way it has been done. But with the others, unfortunately, the problem is that they have been secret societies. We have had that come back and back and back to us. People have invested in property and are feeling quite hurt because they were not involved and all of a sudden it has been imposed upon them.

Dr Burke—Yes, and within that there are lots of keys as to how to do it better and bring them along with it.

Senator ADAMS—I am a nurse as well, and yesterday I was quite concerned about some of our witnesses who came forward to the panel with their health problems. They were stressed—that is fine—but there definitely was a problem. Just from the description of what they were hearing and what they had been suffering from, those people need some help. I would like to come to the conclusion somehow that we can do the research and find out what is going on. As far as the measurements go, a number of them were upset because the noise within their homes was quite considerable, with the vibration and the other issues that went with their concerns. We have been told that now the monitoring is done at least 10 meters from their home—it is done 24 hours a day—to determine whether the turbines are working or not working. So the data is being collected like that, but the sounds that occur within the confines of their home are not physically being collected from where those people live. I know that is difficult if the radio is on and all the rest of it, but I do not think the research has been done well enough to completely dismiss it as an annoyance factor.

Dr Burke—A lot of research has been done in the UK because there are lots of proposed wind developments there. One of the colleagues we have referenced in our paper, Patrick Devine-Wright, who is an environmental psychologist there, is studying community perceptions of wind turbines, wind and other renewables. A lot of the work I was talking about with place-protectiveness comes from his work. Certainly looking at the stress impacts and how to minimise those impacts is an important part. They use the term ‘NIMBY-ism’, which we often understand as a pejorative term to denigrate people who are opposed to having wind farms in their backyard. But from an environmental psychologist perspective, it is considered to be a derogatory term because it minimises the genuine concerns people have about the need to be consulted and to be able to protect the place they live in. That is not to say that the wind turbines are having a direct health effect on them, but it is to take into consideration, in the ways in which they are planned and put into place, the needs of the community.

Prof. Chapman—Your concerns, which you expressed so well then, Senator, underline the need to do the sort of research that we were asked about before. In a proper study you would put these monitors and this reading apparatus next to or adjacent to the houses of people who had the turbines on their land and who were being paid. Then you would be able to ascertain whether the fact of being paid is what we would call a ‘protective factor’ from expressing wind turbine syndrome and some of these conditions that you saw with your witnesses the other day. If objectively this noise is capable of hurting people, why does it tend to hurt or harm only people who do not have them on their land, if that is indeed a finding that could emerge from this?

Senator BOYCE—The Department of Climate Change has developed some best practice guidelines around the topic of wind farms, including community consultation. I do not know whether the alliance has had a chance to look at them. If not, would you mind doing so and giving us your comments in terms of how you think they might be improved or changed. These have been developed by the Department of Climate Change at COAG’s request, so you will appreciate that they might be a consensual guideline in some cases.

Dr Burke—Yes. It would be a pleasure for us to do that.

CHAIR—Thank you very much. You have a bit of homework, or questions that you have taken on notice. If you could get it to us within a couple of weeks, that would be much appreciated because we have a fairly tight reporting deadline. That concludes our hearing today. We will reconvene on 31 March for a public hearing in Perth.

Prof. Chapman—Thank you.

Committee adjourned at 5.41 pm