



COMMONWEALTH OF AUSTRALIA

Proof Committee Hansard

SENATE

COMMUNITY AFFAIRS REFERENCES COMMITTEE

Reference: Social and economic impact of rural wind farms

THURSDAY, 31 MARCH 2011

PERTH

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SENATE COMMUNITY AFFAIRS

REFERENCES COMMITTEE

Thursday, 31 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 9.02 am**PRENTICE, Mr Neil Anthony, Advisory Services Manager, Sustainable Energy Association of Australia**

CHAIR (Senator Siewert)—Welcome, everybody. Today the Senate Community Affairs References Committee continues the public hearings for its inquiry into the social and economic impacts of rural wind farms. I welcome the representative of the Sustainable Energy Association of Australia. Mr Prentice, I would like to double-check that you have had information on parliamentary privilege and the protection of witnesses and evidence.

Mr Prentice—Yes, I have.

CHAIR—Thank you. We have your submission; it is No. 56. I invite you to make an opening statement and then we will ask you some questions.

Mr Prentice—Thank you. Firstly, I would like to thank the committee this morning for the opportunity to provide additional information regarding our submission. Secondly, I would like to pass on the apologies of Professor Ray Wills, the CEO of the association. He was unable to make it this morning due to travel commitments.

As a little bit of background, the Sustainable Energy Association is a member based group of enterprises who provide commercial solutions to climate change through products and services that aspire to be more sustainable, and those who also aspire to be more sustainable in their own energy use. In terms of sustainability, we are of the belief that not everything that is renewable is sustainable. ‘Sustainable’ must address all three aspects of sustainability: economic, social and environmental.

The SEA constitution has objectives which include the following elements and which are of direct relevance to the committee’s inquiry: promoting the adoption of sustainable energy solutions to encourage protection of the environment to which existing traditional energy sources are damaging; facilitating the adoption of sustainable energy technologies and practices as a method for reducing greenhouse gas emissions in all sectors of the Australian economy across urban, rural, remote and regional Australia, both on-and off-grid; and, furthermore, increasing employment opportunities in a sustainable energy industry across all regions of Australia, contributing to a more sustainable future.

The SEA has over 400 members from diverse enterprises and industries from all states of Australia. This range of companies, businesses, organisations and individuals is involved in sustainable energy practices including energy efficiency, transport, energy generation, infrastructure, architecture and design, and the performance of appliances. We believe that a sustainable economy is the future for Australia.

We have a number of comments which we will break down based on the committee’s terms of reference. First, we will deal with the issue of adverse health effects of people living in close proximity to wind farms. We are of the view that this is a difficult area to objectively assess, not only because of the emotive nature of health issues in the community but also because, unlike

atmospheric and environmental pollution from other sources such as coal or nuclear power, sound and amenity can be far more difficult to quantify.

To summarise the SEA's position: first, the NHMRC in 2010 produced a meta review of the health effects of wind farms which concluded that there is no direct evidence of systemic health effects from wind farms. While this study is not authoritative, it reviews a number of studies on the matter. Further research must be encouraged in this area to ascertain if there are tangible, direct or indirect negative health effects.

Many of the claims purported in relation to impacts on health relate to that of sound, in particular low frequency and infrasound emission, and shadow flicker. In both of these cases the SEA contends that the scientific and medical information put forward in submissions offers no credible evidence for direct pathological health impacts from wind farms. Furthermore, SEA's assessment is that the popularised terms 'wind farm syndrome' or 'wind turbine syndrome' are not supported by rigorous and peer reviewed clinical evidence and in appropriately designed studies. We refer the committee to the research of Professor Simon Chapman from the University of Sydney, which was highlighted in his article on the ABC's *The Drum* on his views on the quality of the science involved in identifying wind turbine syndrome. SEA accepts his conclusion on the current quality of the proposition.

On the issue of the current lack of evidence of direct and documented pathological health effects, SEA accepts that such claims should be thoroughly and rigorously investigated. Sustainability also involves societal impacts on energy generation. In individual cases where health effects have been reported, these should be investigated to see how and why they have occurred and whether the wind farms may have played a role. SEA contends that there is no evidence to suggest that wind farms are solely to blame—as has been suggested and portrayed in the media—but accepts that, as a medical premise, this possibility must be explored.

Some groups who oppose wind power generation do not have a clear option on alternative low-polluting sources of energy. Internationally, some of these groups have been shown to have strong ties and have, in fact, been founded by the pro-nuclear lobby. These groups have had a long-standing opposition to commercial wind turbines for a commercial motive and have used community groups to further this.

Finally, on all existing data, the overall health impacts of wind energy are clearly much more benign than other forms of energy generation. Globally, the impacts of electricity generation technologies such as coal and nuclear have a far greater human health and environmental impact than those of the installation of wind farms.

Ultimately, the wind industry must act responsibly in addressing the concerns from the local community and, in return, community assessments must pay due regard to the conclusions of rigorous science. Health effects should be investigated and their root causes and effects understood. The greatest risk to creating a sustainable business environment is to enact restrictions or to undertake actions based on a lack of reliable and sound information. This would be the antithesis of the concept of sound evidence based policy to which I think all parties are committed.

I will now turn to the concerns about excessive noise and vibrations emitted by wind farms that are in close proximity to people's homes. The general nature of this issue means we can only rely on generalities and must make a number of assumptions as to what this may mean. Any proximity would be dependent upon the size and number of wind turbines in the farm, and all of our following comments should be taken in this context.

Based on the reviews and reports submitted to the inquiry and cited within the NHMRC report, we do not believe that other than transient and irregular occasions there is likely to be significant impact arising from excessive audible noise and vibrations generated by wind farms at distances under the current regulations which have been deemed acceptable. One should compare the impact of wind farms to living close to a train line, under a flight path of an airport or in a busy nightlife precinct. On an existing scale these are far more likely to have an impact on auditory amenity than wind farms. While rural communities are unlikely to face such noise loads, much of the significance of this issue we have seen appears to arise from a change in the noise environment and this change has had some amenity impact. Such concerns regarding noise levels are able to be dealt with under existing guidelines and regulatory regimes. The wind industry here in Australia and globally is well aware of the issues and is not of the opinion that these would constitute a significant issue.

Finally I will address the impact on rural farms, property values, employment opportunities and farm income. The SEA's assessment is that there are benefits to be derived by local communities from the existence of wind farms in regional and rural Australia. These include temporary and permanent employment, including indirect positions supporting new workers in the area, increased income to the area from land leases and improving the value of certain properties, which will have a trickle down effect on the local economy, and the support of local community institutions, such as sporting clubs, from wind farm owners and operators. A number of companies have such policies in place to support the local community.

Globally a number of countries have a large number of community owned and operated wind farms. These are based on community ownership, cooperative energy companies and those owned by the municipality. These are primarily seen in the European Union. There are two examples we would provide here. In Denmark by 2001 over 100,000 families belonged to wind turbine cooperatives, which had installed 86 per cent of all wind turbines in Denmark, which is a world leader in wind power. It should be noted that the population in Denmark has a very high acceptance of wind power as a generation opportunity.

The second example is in Germany. Thousands of small- and medium-sized enterprises are running successful businesses in a new sector that in 2008 employed 90,000 people and generated eight per cent of Germany's electricity. In the UK there are a number of community owned wind farms and this number is increasing but as yet has not reached the high levels seen in other parts of the European Union.

In relation to the interface of the Commonwealth, state and local planning laws as they pertain to wind farms, the SEA asserts that there needs to be a better process across the planning spectrum that recognises its members' support of best practice in the planning and development of wind farm assets for sustainable energy generation.

CHAIR—Thank you.

Senator FIELDING—I understand why you would say the adverse health effects are difficult to assess. The committee has heard over a number of days opposing views. Some say there are clearly adverse health impacts from living nearby wind turbines but other, predominantly from the industry, say there are no adverse health impacts from living close to wind turbines. There is a view that more research does need to be done on the issue, and I think you have acknowledged that as well. Does the Sustainable Energy Association of Australia support the Victorian government's move in regard to having buffer zones or setbacks of two kilometres?

Mr Prentice—I think a buffer zone should be entirely dependent on the actual physical characteristics of the wind farm, such as the number and size of turbines, its siting and location, and the acoustic factors in the area—these are used by the wind industry to determine what the zone should be. A blanket buffer zone does not face the realities of what is actually there. So we perfectly accept that there is a noise place and a noise amenity issue, but we do not believe a blanket zone is best practice either here in Australia or globally. We also recognise that we already have some of the toughest restrictions in the world on wind farms, so to put further restrictions on them without evidence or knowing what the effects are is probably a little bit a reaction that does not have a sound basis, we believe.

Senator FIELDING—So do you support the Victorian government's move in that area?

Mr Prentice—In terms of creating a specific two-kilometre buffer zone, no.

Senator FIELDING—Is the Victorian government's decision to look at the 2010 New Zealand standard something that you would support?

Mr Prentice—I am unfamiliar with the New Zealand 2010 standard and the current Victorian efforts to look at that, so I would not be able to make a clear comment.

CHAIR—Sorry, Senator Fielding; can I just go back to the issue of the two-kilometre buffer. My understanding of that, from the various interpretations during our two days of hearings in Victoria earlier in the week, is that it is not strictly a two-kilometre buffer; it is a requirement that any of the residences within two kilometres of the buffer need to be taken into consideration.

Senator BOYCE—It is not the buffer. The buffer is different.

CHAIR—Yes. The buffer is different. What they are saying is that, if you are within that zone, we need to then—

Mr Prentice—Consider them, absolutely. We agree with that, whether or not a dwelling later comes into that zone—which can obviously then become a problem for businesses because they have no control of later development—at the time, there should absolutely be consideration of what the effects will be within that zone. Whether out at two kilometres there are any audible or visual effects can be quite arguable. Certainly, we are of the view that people in noise affected residences or who construct dwellings within that zone should be aware that there might be impacts, and that wind companies should not be made responsible for things that are beyond their control.

CHAIR—Okay. Thank you. Senator Fielding. Sorry I interrupted.

Senator FIELDING—The Victorian plan is that people within a two-kilometre radius have to give consent. So it is a bit of a buffer zone, because if someone says no then there is a problem. Does that make sense?

Mr Prentice—Yes.

Senator FIELDING—Are you aware that in Canada there is a minimum setback of 550 metres?

Mr Prentice—I believe that all over the world there are various setback areas for noise affected area dwellings.

Senator FIELDING—But you do not agree with any sort of setback limits unless they are based on—

Mr Prentice—I think it is entirely dependent on the size and scale. Guaranteeing a specific setback could lump together a five-megawatt community farm and a 200-megawatt commercial farm. The idea of a blanket buffer zone really creates concerns within the industry that, with the stroke of a pen, that 550-metre or whatever setback could become a kilometre or two kilometres. While that may not be likely, there is concern within the industry about having the certainty to be able to continue their business.

Senator FIELDING—Also in Canada, as the number of wind turbines goes up, the actual setback increases as the noise increases, so they do have minimum setbacks in Canada. Are you aware of research conducted by Dr Pierpont at all?

Mr Prentice—Yes, we are aware of that.

Senator FIELDING—Before you mentioned Professor Chapman as someone to really look at. Do you know whether he is a sound expert?

Mr Prentice—He is a public health professor from the University of Sydney.

Senator FIELDING—What is his training?

Mr Prentice—I do not know if he is a sound expert, to be honest.

Senator FIELDING—No, he is not.

Mr Prentice—But in terms of public health issues and public science issues I believe his commentary on Dr Pierpont's work was quite valid. Certainly, having examined a number of the submissions, including those from sound experts—and I cannot remember the chap's name who worked on the cochlear project—on the infrasound issue, we would place greater validity on comments by him over those by Dr Pierpont, whose work we do not believe is scientifically credible because of the structure and nature of her study which would not be of a standard to be published in a peer review journal.

CHAIR—For the record, there was a bit of a side conversation here around Dr Pierpont and acknowledging that Dr Pierpont is not a sound expert either.

Senator MOORE—I would like to know how your organisation and clean energy Australia operate. You have both appeared as umbrella bodies. Do you have links? Do you work together? Do you have common membership?

Mr Prentice—Are you referring to the Clean Energy Council?

Senator MOORE—Yes. The Clean Energy Council has given evidence. I want to clarify where you all fit in the jigsaw.

Mr Prentice—We, like the Clean Energy Council, are a member based organisation. We have not been around as long as the Clean Energy Council. We have generally a broader member base in terms of the diversity of companies and organisations involved with the SEA. We do have some common membership. Some companies like what the Clean Energy Council do and some people like what we do. We do occasionally discuss policy issues with them, but on other things we do have our own views based on the views provided to us by members. In some cases we do not necessarily agree 100 per cent with the Clean Energy Council.

Senator MOORE—Sure. There is wider discussion in the community. I am trying to get a sense of the organisations that operate in this way in the community. You have some common members and you communicate?

Mr Prentice—We do communicate, absolutely. It would be rather counterproductive if we did not.

Senator MOORE—That is not always a deterrent.

Mr Prentice—That is true.

Senator MOORE—You made some strong comments about people opposing wind energy and raising issues about the effectiveness and health impacts of wind energy linked to people who may be linked to other energy sources. That was a comment in your evidence. I want to tease that out and see what the basis of checking is on such a wide comment.

Mr Prentice—While we are not saying that every community group is like that or not necessarily any in Australia are, it has been recognised that Sir Bernard Ingham—a very vociferous anti-environmental group proponent—who co-founded the Country Guardians in the UK, holds a very high position in the Supporters of Nuclear Energy. In the UK for a very long time there has been a commercial butting of heads between the nuclear and wind energy industries. This may recently have changed. We saw he did not necessarily have the environmental community interests at best heart because of his support and commentary on the environmental lobby, which at times was extremely derogatory.

Senator BOYCE—Can you relate that to the Australian scene please?

Mr Prentice—The Country Guardians, for example, in the UK provide information to people globally. There are groups which will refer to information provided by the Country Guardians, which we do not believe is necessarily an unbiased source.

Senator BOYCE—Are you saying for instance that groups in Australia are the unwitting proponents of anti-wind energy or that they have been established by groups who are opposed to wind energy or supportive of other forms of energy?

Mr Prentice—Without the personal knowledge, I would not say that they have been formed for that sole purpose. I think they are potentially utilising information which has ulterior motives, not necessarily with a considered knowledge of that—so they are unwitting, as you referred to.

Senator MOORE—This has been a part of this inquiry: the difficulty of identifying true independence. Any kind of report or evidence has been accused by people of either being supported or coloured by those who are pro-wind or against wind—all those kinds of things. From your perspective as a kind of energy group, is there any process by which you would identify independence? I am sure there are groups that are being formed locally on any side of the argument. What could we do to ensure that there is exposure of links or things like that? I am struggling with the same questions as Senator Boyce. When organisations form around a topic and there are people who are going to benefit either way, is there anything your group has looked at around what we could do to make the process more transparent so that there would be some kind of guideline, when groups are formed, to identify where their links are and where people come from?

Mr Prentice—We are a great believer in openness in that respect. We believe that if a group is being funded or has been formed in relation to any issue—whether that issue be wind, solar, solar thermal, geothermal or whatever—industry links should be identified. Support of a financial nature from independent think tanks et cetera should also be identified. It is a difficult thing.

Senator MOORE—It is very difficult.

Mr Prentice—It is something people are struggling with globally, particularly with—I do not know if you are aware of the term—astroturfing. It is seen as an issue within the industry. We make no bones about the fact that we are here to support our members but we do not only have members in wind; we have members who are in all aspects of sustainable energy. We do not believe that any one single thing is the panacea.

Senator MOORE—And you mentioned that in your submission.

Senator ADAMS—Thank you for presentation. You spoke about Denmark. I will be there next week, which is going to be very interesting, and I will be visiting wind farms while I am there. Denmark is now building its wind farms offshore. Could you tell me the reason?

Mr Prentice—Denmark has a lot less land. Offshore wind, we think, is a fantastic idea. Unfortunately, it is very expensive in Australia. In northern Europe it is much cheaper due to access to all the drilling equipment. For example, for drilling offshore in Western Australia we

would have to bring rigs down from Singapore. In northern Europe you have the opportunity to do so on a large scale with local assets. Also you can build much larger wind farms offshore. I am not sure if you are familiar with the round 3 Dogger Bank proposal, which is talking of about 9 gigawatts of offshore wind.

CHAIR—Who owns those ones?

Mr Prentice—The larger offshore ones are now tending to be commercial. They are beyond the scale of what a community wind farm would be able to afford.

CHAIR—But some communities are building offshore?

Mr Prentice—Yes, a small number. They tend to be the smaller scale ones. But the large-scale, obviously, are the commercial energy entities.

Senator ADAMS—Some of the evidence we have been given is that these turbines are a lot taller. And, as you said, the winds will be reliable but, being built on land, they have too much impact. The reason that is being given is that the generators are so much larger and the noise problem is so much larger.

Mr Prentice—Yes. That is certainly one aspect of it. If you are going to do it on a big scale you have to go off shore. Also, the economics over there work. Unfortunately they do not work here in Australia.

Senator ADAMS—That is just a fact. You mentioned Denmark. I will be going there next week. That was very much the flavour of the question.

We have had quite a number of complaints during our inquiries about the behaviour of wind farm developers. In particular, claims have been made about poor consultation, secrecy and intimidation. Have your members reported any of this back to you?

Mr Prentice—No. Certainly if any of our members were involved in such things we would be looking at whether or not they were fit and proper people to be members of the association. We do not have a lot of members in the wind space—particularly in the commercial wind space.

Senator ADAMS—No the question was: have your members had any complaints?

Mr Prentice—No. We have not—not that we are aware of.

Senator ADAMS—How closely are they working with people who are going to host wind farms or be part of the scene with the developers? I thought you would have had something coming back.

Mr Prentice—Certainly we have had no negative aspects. We have consulted with our members in relation to this to ask, ‘Has this been an issue?’ In some cases we are well aware that some of the consultation processes have been less than best practice. I am not sure whether you are aware of Richard Hindmarsh’s research from the university. I see that you are. Certainly some of the examples given in his research, we believe, are less than best practice. We are

unaware of any intimidation, which we would consider to be unethical at its minimum. That is not about sustainability. Unfortunately, people tend to forget that sustainability does involve the local community and the societal impacts. We certainly would not condone any such action. We believe that openness and transparency are important in respect of this because of the potential impacts on local communities. A lot of negative things can be said about wind proponents but it also needs to be recognised that that is not all of the industry and that certain entities within the industry—I refer to one of our members specifically: Pacific Hydro—are also involved with local communities where they have wind farms.

Senator ADAMS—Where there are proposed wind farms and community consultation you have not had any feedback on that?

Mr Prentice—No, we have not.

Senator ADAMS—That is unlike a number of our other submitters. As we have moved around I can assure you that that seems to have been the biggest issue.

Mr Prentice—We certainly recognise that community consultation at times has been less than best practice. But that is not always the case.

CHAIR—How proactive are you in terms of addressing that and setting best practice standards?

Mr Prentice—In terms of setting best practice standards we encourage our members to look at what is out there and what the potentials are. We cannot do everything; we would love to. Obviously we have limited resources and that is not an area which has been a key area of focus for us. For example, at the moment we are trying to work with our members in relation to best practice in residential solar in terms of the ethics and ethical conduct, because that is an issue that we are aware of in the industry here in Perth and nationally.

Senator ADAMS—Do you have members in rural areas?

Mr Prentice—Yes. We have members nationally—in urban, rural and regional areas.

Senator ADAMS—It has been suggested that wind farms are being imposed on rural areas. There is a terrific lot of wind farm development going on throughout Australia. This is often against the wishes of local residents for the benefit of those in metropolitan areas. Do you believe that this is the case?

Mr Prentice—I do not necessarily agree with that statement. I suppose one could ask the question: are they being imposed in spite of opposition? Is that opposition from the majority of people or just a few people within the community? Without specific statistics or information on that, it is very difficult to say it is against the will of the community. Is that half and half? Do half the people want it or does the whole community not want it?

Senator ADAMS—Have you had any feedback on it?

Mr Prentice—Not specifically against us. Because there is not a lot of wind farm development over here at the moment, we are really only getting second-hand information, and that is normally post the fact, after it has all happened.

Senator ADAMS—I would have thought that as a body with that number of members you would be looking at it from the national perspective as well, not just WA's.

Mr Prentice—We are looking at it from a national perspective. But, as I mentioned, we still have limited resources. We cannot do everything. We would love to do everything but we only have so many people to work on so many things at the one time.

Senator ADAMS—So, if you are going to get this research on health done, what process are you looking at to do that when you have so few people?

Mr Prentice—We would not undertake the research ourselves. We would be looking at some of our members, such as a number of universities, to see what opportunities there were to link them into the wind industry and the community to conduct the sort of research that needs to be done. Certainly, we are aware that the federal government has a number of different programs to fund such research which will probably be applicable. We are not a funding body but we are very much about creating collaborations between communities, the industry and research institutes to undertake the research to a suitable standard that has scientific credibility.

Senator ADAMS—Okay.

Senator BOYCE—I do not know if I missed you saying it, but when was SEA established, Mr Prentice?

Mr Prentice—We were originally established as the Western Australian Sustainable Energy Association back in about 2001. Last year, we changed our name to the Sustainable Energy Association of Australia to reflect the increased membership of companies and organisations outside of Western Australia.

Senator BOYCE—So nothing like it existed outside of Western Australia and you went national; is that how it was?

Mr Prentice—The Clean Energy Council existed, but we probably aim for businesses and organisations in a slightly different way from them and we do not necessarily agree with them on everything. For example, they are supporters of clean coal; we do not believe that clean coal is a long-term, sustainable solution. So there are philosophical differences. Also, we are working with different and broader sectors of the energy industry, and that does include consumers of energy. So we are working towards energy efficiency in that respect, for example.

Senator BOYCE—Do you have any community organisations or not-for-profits, so to speak, among your membership?

Mr Prentice—Yes, we do. I believe there are not-for-profits, industry associations, government departments and agencies, private businesses, publicly listed companies and research institutions.

Senator BOYCE—Does SEA have a code of conduct for members?

Mr Prentice—We do. Basically, the code of conduct is described within the constitution. We are looking at the issue of specific industry codes of conduct at this time, but there is also, we believe, work being done by specific industry sectors to address this, so we are creating relationships there to deal with specific sectoral things. A broad code of conduct is being of good character and acting in an appropriate manner that is sustainable.

Senator BOYCE—If someone were to come to you with a complaint about a breach of your code of conduct, what would the process be?

Mr Prentice—I have never experienced it personally. Basically any allegations are brought before the board and the board then requests a response. It is a process of assessment and investigation. The board would make a decision on whether or not there was substance and whether that breached the code of conduct.

Senator BOYCE—And the options then would be to—

Mr Prentice—The option would be the terminate the person's membership—

Senator BOYCE—Any other options?

Mr Prentice—We are not in a position to do anything else other than to say, 'This person is no longer a member because—

Senator BOYCE—As far as you are aware there have been no complaints brought to the SEA about members' behaviour?

Mr Prentice—There have been, at times. An example is, 'This person was doing this thing here; I don't agree with it.' It was more a personal point of view. There was nothing where there was illegality or—

Senator BOYCE—Or a suggested breach?

Mr Prentice—a breach of the requirements of the—

Senator BOYCE—So nobody has suggested unethical behaviour.

Mr Prentice—Yes.

CHAIR—I wanted to go back to the issue of Denmark and the community wind farms. Are 86 per cent owned by the community? Did I understand correctly?

Mr Prentice—I believe that that was in the 2001 statistics that we had. They are dated. Unfortunately it is not always easy to get the latest information. Certainly there is always a delay in the statistics. I daresay now that that has probably been diluted by large commercial enterprises entering the market as well.

CHAIR—I appreciate that the information is dated but I was wondering what the average size was of a community owned wind farm in Denmark.

Mr Prentice—I do not have that information. I could not tell you. Certainly I know that within Australia the hundreds of kilowatts to low megawatt scale would be what people are looking at for community wind farms. Most commercial wind farms, from comments we have received from the industry, will not look at anything unless it is 30-plus megawatts. It is just too small.

CHAIR—That is why I was asking. We visited the Hepburn community wind farm in Victoria. I have got to say I was pretty impressed with it but it is a much smaller size than one of the commercial sizes. Is there a different situation in Denmark?

Mr Prentice—To be honest I do not have that information to hand. It is something I could find out.

CHAIR—If it is not too much trouble, if you could take that on notice that would be appreciated.

Mr Prentice—I am more than happy to do that.

CHAIR—Thank you very much for your time. You have a little bit of homework.

[9.44 am]

HODGSON, Mr Anthony (Tony) George, AM, Inaugural President, Friends of Collector Inc.

Evidence was taken via teleconference—

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

Mr Hodgson—Correct.

CHAIR—We have your submission, which is numbered 836. I would like to invite you to make an opening statement and then we will ask you some questions.

Mr Hodgson—Firstly, thank you for this opportunity. In my view, it must be understood that these rural wind farms are not wind farms comprised of windmills, they are industrial facilities composed of industrial wind turbines. There is a compelling prima facie case that wind farms have adverse effects on human health and, in my view, that demands your attention and further investigation. Rural communities, except host landholders, do not welcome these industrial developments. In fact, the entire rural wind industry is premised upon the exploitation of a power imbalance between large developer corporations—acting in concert with complicit governments—and small, vulnerable rural communities.

Collector is a town deeply divided, and the bonds of the community are stretched to breaking point. Destructive social conflict of this kind is the reality of all inappropriately sited rural wind farms. As set out in our submission to the inquiry, we call for an immediate, substantial and scientifically valid investigation into the health, social and economic impacts of rural industrial wind facilities. In our view these investigations are necessary because the health of vulnerable members of the Australian community is at risk, because the fabric of rural life is threatened and because the entire wind experiment is currently conducted in a fundamentally dishonest manner. It is reminiscent of the deny-at-all-costs approach by big tobacco and big asbestos companies—deny the evidence, challenge any research, claim that nothing is wrong and no-one really believes the naysayers. That has got to change.

Already Denmark, the home of wind power, with the highest electricity prices in Europe, has flagged regulation of infrasound at wind farms; Japan last year started a four-year study into the health effects; and the UK government in February announced a major reform of the planning and approval process to address what they call ‘the democracy deficit around wind farms’.

It is Commonwealth government policies which are driving the wind rush. The Commonwealth government must bear responsibility for the consequences of its policies and should therefore fully investigate the emerging evidence both here and overseas of their adverse effects. Australia needs sober, principled leadership on this issue. I conclude this opening statement by repeating that a comprehensive government inquiry is an absolute priority. Thank you for the opportunity to attend.

CHAIR—Thank you. Senator Fielding.

Senator FIELDING—I am just wondering whether you know any more about the four-year study in Japan. I do not think the committee has heard about that from anyone, so I am interested to know if you know any more on that. We as a committee may need to find out more ourselves.

Mr Hodgson—I got my information from Maurice Newman, who has a son working in Japan who sent that information down to us about six weeks ago. I can get further details of that if you would like.

Senator FIELDING—That would be very good. Obviously the committee is grappling with very strongly held opposing views on this issue. The core question is: are there any adverse health effects from living near wind turbines? What do you propose as a step forward? Given what the committee has heard in the last few days it is difficult to really understand whether there are any adverse health effects or not. What do you propose that the next step should be?

Mr Hodgson—In all the discussions that I and my colleagues from the Friends of Collector have had with the proposed developer here, Transfield, and other groups with which I have been in touch, their standard response when we talk about health issues is to totally rely on the NHMRC submission—who, it is interesting to note, in their latest submission to your inquiry have increased their reservations about their initial report. In my view, that undermines the position of developers who are heavily reliant on this report. It is exactly the same when you start to talk about the impact on property values. They rely on the 2009 report by the New South Wales Valuer-General, which itself was very preliminary. To me it is quite clear that unless we are going down the track of the asbestos and tobacco industries, where it was allowed to go on until the damage had been done, there should be a halt to all these developments, a moratorium, pending a full investigation. It would be terrible to go ahead with these things and find that all the health impacts that people here and overseas have got are real. Why take the risk?

Senator FIELDING—I can understand the argument and I am very sympathetic to it. The issue is: how do we get some definitive research done on this given that there are two opposing views? Both sides are saying the reports are biased, that they are, or are not, peer reviewed, that the research is funded by the energy industry and that someone else's view should be discounted because it has not been peer reviewed. How do we get both sides together to agree on the terms of reference of some sort of study?

Mr Hodgson—In all the work that I did in my previous life, you would put people in the room until they sorted it out; you would just make it happen. But you need somebody in authority to lay down the rules and set the guidelines. In my view it is quite clear that the Commonwealth government must set up this inquiry and organise it.

Senator MOORE—Thank you for your submission; it is quite comprehensive. After reading it, I know more about Collector than I ever did before—and that is what we need. I am interested in your comments about the secrecy of the process—and, as you well know, that and the social impacts are aspects of our terms of reference. Can you explain to me exactly how you came to the conclusion that it was secret and clandestine—I think that was the word you used.

Mr Hodgson—I will if I may tell you about the experience my wife and I have had here at Collector.

Senator MOORE—That is the best experience; it is the one you know best.

Mr Hodgson—Exactly. We searched quite carefully for a long while to buy a property in a quiet rural location where we could build, in effect, our retirement and have our children and grandchildren—and grandchild No. 14 is soon to arrive—down here to spend time with us. We bought this property in October 2005. My lawyers did a good job—they did all the relevant research as to title checks and all that sort of stuff—and nowhere did they find any indication of even the potential for there to be a wind farm here. After we had bought the property and built this lovely home which we enjoy, we were invited to a community consultation to tell us about this wonderful development that is going to take place. And then we found out that they had adjacent landholders here signed up for a minimum of five years—and my wife was told by somebody at one of these community meetings that they had actually been signed up and paid money for 10 years. I think it is a wicked state of affairs when you do not know what is going on in your neighbourhood.

Senator MOORE—You now have proof that that is true?

Mr Hodgson—The problem is that you cannot prove it. All of the developers insist that anybody dealing with them sign confidentiality clauses. Even people who have sold properties in other parts of Australia are gagged and not allowed to talk about it—or else the contract gets unwound.

Senator BOYCE—So one of your main concerns, then, is that, when you do the normal searches that you would do when you are buying a property, there is no way of revealing these potential developments?

Mr Hodgson—Correct. From memory, I think I put in the submission that there should be a national register of potential wind farms.

Senator BOYCE—Yes. I am just thinking that, in general, those searches would look at public utilities and the likely effects of those on a property. This would be a new development, wouldn't it, to look at private property?

Mr Hodgson—Absolutely, because it has a major impact. If I can talk about our situation here, Judy and I could have bought anywhere within 2½ hours of Sydney. If I had had the vaguest idea that there was going to be an industrial wind turbine facility here, we would have gone somewhere else. It is quite clear also that, if we decided to try to sell, whatever this place is worth, say, X, in my view it would probably be worth half X—if you could sell it, because nobody in their right minds would want to live near one of these things.

Senator BOYCE—Thank you.

CHAIR—Mr Hodgson, if you are doing that for one type of development, surely you would want to be doing it for all types of development?

Mr Hodgson—That is obviously a logical extension.

Senator MOORE—That is exactly what I wanted to go to in terms of your knowledge—and we will follow up on planning, because one of the core aspects of our inquiry is planning—of whether the situation you describe in your own community is one that would apply to any development. You would have read the submissions—I know there is great interest—that the wind industry should not be subject to special conditions. If we are looking at development, we should look at development across the board. Are you aware, just from your own research, of any similar developmental process or any that could be similar?

Mr Hodgson—No, I am not.

Senator MOORE—We will follow up on that. Looking at the valuation aspect, I think you made it very clear in your submission and now in your evidence you have concerns about the valuation of properties should wind projects be proposed or actually happening.

Mr Hodgson—Yes. As I said, though, one of the problems when there are people having to sell out to these developers is that they are not allowed to tell you the numbers. They are just not allowed to tell you.

Senator MOORE—As part of a commercial process—because my understanding is that that is quite standard in commercial-in-confidence terms. But your argument is that there should be more knowledge? That is what you are claiming?

Mr Hodgson—Yes, absolutely.

CHAIR—When you say you have no idea of numbers, do you mean what they were paid et cetera?

Mr Hodgson—Yes.

CHAIR—Thank you. Senator Adams.

Senator ADAMS—I would like to follow on from that and ask you: when did you first become aware of the proposal for a wind farm and how did you find out?

Mr Hodgson—I think it was roughly in October last year, 2010. One of the neighbours here rang me and said, ‘Have you got one of these?’ and I said, ‘What are you talking about?’ He said, ‘We just got a coloured flyer from Transfield saying that there would be community consultations down in the Collector hall in three weeks,’ to talk about this wonderful development! That was it. Nobody in the district, other than the people who had already signed up to be host landholders, had any idea.

Senator ADAMS—Right. How many turbines are proposed for Collector?

Mr Hodgson—Sixty-nine. Transfield have not told us this, I might tell you. One of our members—we are now up to 81 members, I should say—checked with the Department of Planning and Infrastructure in New South Wales, and they are proposing that we have 69

turbines of five megawatts each. Now, that is 350 megs. These things are monstrous. They are going to be higher than the Harbour Bridge from the waterline.

Senator ADAMS—Do you know the actual height in metres?

Mr Hodgson—I am told, and I will try to check this out as to these five-megawatt things because this only came up on Monday, 28 March, that for the normal ones we can expect them to be 150 metres.

Senator MOORE—That is in their submission.

Mr Hodgson—That is from the tip of the turbine. It is as high as from the flag on top of the Sydney Harbour Bridge to the waterline. It has now been suggested to me that, to accommodate the five-megawatt turbines, they will have to be 183 metres tall. That is about an 80-storey building.

Senator ADAMS—Do you know if any of the aviators in that particular area have been consulted about this?

Mr Hodgson—Not to my knowledge.

Senator ADAMS—Were they at the meeting?

Mr Hodgson—We did not have any there. Dick Smith was coming but he got held up. I have been over to Bullewah, where they have had some meetings, and the aviators over there are appalled. There are potential problems with firefighting. This is why we need an inquiry. There are so many aspects of this that are a great unknown. Senator Fielding said on the one hand there is one side of the argument and on the other there is another. That is clear, but we need to have an inquiry to get to the bottom of it.

Senator ADAMS—I think this is probably the start. We have been able to uncover quite a number of issues with this. We have had some submitters who have argued that wind farms are being imposed on rural areas against the wishes of local residents for the benefit of those in metropolitan areas. Do you believe this to be the case? If you do, do you have any specific recommendations about how this could be addressed?

Mr Hodgson—The large majority of people in the metropolitan areas, I would imagine, think wind farms are lovely looking things over on the hills and it is free energy, so that must be good. Clearly, they do not understand what there needs to be. One of the things that we have suggested—and it is being discussed—is whether or not there should be, on the electricity bills that people get, an explanation of the cost of the supply of the electricity from the various sources: coal fired, gas fired, solar and wind. It would highlight what these things are costing.

Senator ADAMS—As far as the carbon footprint goes, something that seems to be missed out is this: it is fine when they are up but there is the actual production right from the start of these particular towers. Have you heard or seen any evidence of what amount of carbon emissions comes from that?

Mr Hodgson—No, I have not seen any evidence as to that. But when you think of it these things—all the turbines and what have you—are all made overseas and then they are carted over here on ships and then they are put on trucks and dragged down here. I was told that when the 15 turbines were put in on the Cullerin Range, which is 10 kilometres from here, there were 2,300 concrete truck movements from Goulburn to the site at Cullerin Range. The carbon impact of this, now that you have raised it, must be horrendous. In fact, it is horrendous.

CHAIR—We have had evidence that it is two per cent.

Mr Hodgson—There you go.

CHAIR—In other words, it is offsetting far more carbon than it is producing. Do you contend that there is any form of energy that would be totally carbon free in its manufacture?

Mr Hodgson—Not that I am aware of.

CHAIR—Have you seen any evidence that looks at the balance between wind, solar, gas or coal?

Mr Hodgson—Personally I am not of a scientific background but, as I understand it, in three or four years—on the evidence that I have been able to dig out—solar is going to be at least price comparable with wind and it is going to be a long while before any of those will get close to either coal fired or gas powered generation.

CHAIR—In terms of, you mean, energy generation?

Mr Hodgson—Yes.

CHAIR—In terms of capacity?

Mr Hodgson—Yes.

Senator BOYCE—I would like to go back to the balance between transparency and commercial in confidence. You have made the point that, in your view, wind farms are industrial developments—

Mr Hodgson—Quite clearly they are.

Senator BOYCE—and that the contracts are generally commercial in confidence, even when they are simply options. How do we balance that? We cannot have a special case just for wind industry developments; it has to be something that can be used across the board legally. How do we go about doing that in a way that maintains the right of industry to have private contracts with people yet gives property buyers the confidence of knowing whether or not there will be a development near them?

Mr Hodgson—That is a very good question. I will go one step back to the industrial wind turbine industry. As I understand that, there are organisations that have gone around Australia and mapped the appropriate places to put these wind turbines in relation to the wind.

Senator BOYCE—So basically what they have done is map high-wind areas?

Mr Hodgson—Yes, right around Australia. I cannot see any problem with that information being made publicly available. These people have mapped these areas and that information should be made available the public. The public has a right to know. Coming back to your question—

CHAIR—Have you tried to get that map and been told it is commercial in confidence?

Mr Hodgson—Yes, we have tried to get it.

CHAIR—Where did you ask for that?

Mr Hodgson—My lawyer is endeavouring to track it down with a company called Windlab but we have not had any success.

CHAIR—Okay. We will ask the industry if that is confidential and, if so, why.

Mr Hodgson—Please do. Returning to Senator Boyce's question: I have spoken about the specifics in relation to wind but on the general issue I think you would probably need a battery of lawyers to work that out.

Senator BOYCE—That was my concern!

Mr Hodgson—It will not be easy. I have been in commercial industry for a long while. It will not be easy.

Senator BOYCE—That is why I was hoping you might have a better solution that we on this committee already have.

Mr Hodgson—Sorry, I cannot advance it!

Senator MOORE—You explained that you moved to this area because you wanted to retire to a beautiful part of Australia. You said you had been in industry. Can you tell us a little about your own background in terms of the kinds of skills you bring to this community organisation.

Mr Hodgson—Ian Ferrier and I started Ferrier Hodgson, the corporate recovery and insolvency firm, back in 1976, so we have picked up a bit of knowledge along the way. He and I have since left that and we are doing other things. I was chairman of the Melbourne Ports Corporation for five years and I was on the board of the Coles group when we ultimately sold it to Wesfarmers. I was deputy chairman of Tabcorp Holdings for 15 years. I was on the board of the HSBC Bank in Australia. I am on the advisory council of JP Morgan and I am on the advisory board of the Pact Group, which came out of Visy Industries.

Senator MOORE—The reason I ask is it is clear that you understand systems and the way government and industry operate.

Mr Hodgson—Yes, I like to think I do.

Senator MOORE—Senator Siewert and other senators have been looking at the aspects of independence and knowledge. It is important when we have community organisation such as yours coming forward to see that people do have a wide range of knowledge and backgrounds. I was very keen to have that on the record.

Mr Hodgson—Thank you. If it had not been for me and another chap called Rod Pahl, Transfield pretty well would have had their way. They would have steamrolled through this small, beautiful, rural, unpretentious, undeveloped community. It is quite close to Canberra—it is 45 minutes to Canberra. A lot of people live here and work in Canberra. They would have just got steamrolled.

Senator ADAMS—I would like to talk about the setback. In your notes you said that you feel that it should be perhaps a 10-kilometre setback with respect to noise and any other adverse impacts. Could you flesh out that setback restriction.

Mr Hodgson—The simple answer is I do not know. It seems logical to me when I read all this information—and I have learnt more about wind farms and wind turbines in the last six months than I ever contemplated—

CHAIR—As have we.

Mr Hodgson—It has been a rapid learning curve. The simple answer is that I do not think anybody knows. All the anecdotal information I have received indicates that two kilometres, for instance, which has been adopted in Victoria, is not adequate. Whether is two kilometres, five kilometres or 10 kilometres, I do not know. It will take a far more scientific mind than mine to work it out.

Health is the huge issue here. For goodness sake, we do not want another asbestos catastrophe or a tobacco catastrophe. Let us stop this thing now. Let us put a temporary halt on it while we do the investigation. It might be that it is 20 kilometres. I do not know, I have not got a clue, but let us find out. Why take the risk with people's health? We have a daughter who has read a lot of this information. She is due to have her second child in August after much IVF. She will not come down here because the Cullerin Range is 10 kilometres away. She is not prepared to take the risk. Nobody knows. That is the problem.

Senator ADAMS—When is the proposed development supposed to start?

Mr Hodgson—I hope it never starts.

Senator ADAMS—I realise that, but what have you been told as far as time lines go?

Mr Hodgson—They have got their environmental assessment in with the New South Wales Department of Planning. It has not been put out for public exhibition. There is another problem. The Director-General says they have met his requirements so put it on public exhibition. Our small unsophisticated community gets 30 days to put in their response to Transfield's environmental assessment. Transfield gets to respond, as I understand it, and that is it. We do not get a second bite of the cherry, but the developer does. That cannot be fair.

Senator FIELDING—We heard earlier in the week from proponents of wind farms and wind energy that basically it is the negative nellys, who are anti wind energy and anti renewable energy, that are using the adverse health effects from wind turbines as just another way of trying to stop development of wind energy. What is your view of that? They are claiming that it is only the sceptics who are against the wind farms and they will use anything, even adverse health effects.

Mr Hodgson—I have heard all that stuff too. I am not against renewable energy in the right places. I can tell you that this place, Boorowa and all these rural places are not the right places. Go and put them out the back of Broken Hill or somewhere where the wind does blow—it does blow here, of course—but not where it is going to have a huge impact on people’s health. They rely on this NHMRC submission. As I said earlier, they have put in a second submission amplifying their reservations. To me that is shooting down the developers. Let us get an inquiry done; let us get it going.

Health is the most important thing that all of us have got. I am 71. I am at the end of the innings. But we have got our kids coming down here; we have got our grandkids. I want them to be able to enjoy this place and this beautiful part of Australia in peace and harmony and in good health.

Senator FIELDING—You mentioned again the NHMRC. Are you saying that their submission, which they have just got around to putting in, creates more questions?

Mr Hodgson—Yes. The developers just say, ‘There cannot be any health problems, because the NHMRC put out this preliminary review of the document’—they did not go and talk to anybody—’so we will rely on that.’ Full stop. That is the end of it and they will not discuss it any further. In the submission that you have received within the last few days, I think, which I read last night, they are expressing increased reservations about their initial report, which they said was very preliminary. As I mentioned, in my view it completely undermines the position of developers.

CHAIR—Sorry, Mr Hodgson. We have gone a bit over time.

Mr Hodgson—I have enjoyed myself.

CHAIR—Thank you for your evidence. You do have some homework. You are going to send some more information about the Japanese study.

Mr Hodgson—Yes. I will get onto that.

Senator ADAMS—You mentioned the projects in Denmark. Would you be able to send information about that as well?

Mr Hodgson—Yes, absolutely.

CHAIR—Thank you. That is much appreciated.

Proceedings suspended from 10.17 am to 10.30 am

PARK, Mr Dale, Senior Vice President, Western Australian Farmers Federation Inc.

CHAIR—Welcome. We have your submission, which has been numbered 657. I know that you have been given information on parliamentary privilege and the protection of witnesses, but if you have any questions we are here with the secretariat to help you. Would you like to make opening comments? We will then go into questions.

Mr Park—Before I do, I would like to put in the apologies of Mr Alan Hill. He has had a prior appointment. His mother is in the process of going into a home. He got the appointment from the health department and made the judgment that if he let that one go it would be another three months before he got another one.

CHAIR—Of all the committees of the Senate, this one would understand that more than most, so we totally understand. We have the evidence on *Hansard* anyway, so it means your organisation has contributed.

Mr Park—I also put in a personal submission as well. It is only a one-pager from DH and Jane Park from Badgingarra.

CHAIR—We will cross-reference those. If you want to give evidence to that one, you can in the same space, but identify that that is part of your personal submission as opposed to the one from the Western Australian Farmers Federation.

Mr Park—Trying to differentiate one from the other will be almost impossible.

CHAIR—We will just take it as you talk with us.

Mr Park—I will say that, from a farmer's point of view, we welcome the opportunity to have other income sources. As you are probably all aware, farmers for the last 150 years and certainly the last 50 have been battling the cost-price squeeze, and our terms of trade have definitely been going the wrong way, so we are always looking for opportunities to offset the decrease in returns from agriculture. Basically, we are supportive of wind farms and alternative energy in general.

Senator FIELDING—One of the key terms of reference for this inquiry was looking at the adverse health effect of people living in close proximity to wind farms. You may or may not be aware of what has been the concern about adverse health impacts. Is that something that the Western Australian farmers are aware of or had concerns about?

Mr Park—No. Pinning down what those adverse health effects are has been difficult. I listened to the last person giving evidence, and one of the things that I noted in his evidence is that he kept talking about the negative health effects. He never specified what they were. On listening to his evidence I have absolutely no idea what he is talking about as far as adverse health effects.

Senator BOYCE—His submission does set out the specifics.

Mr Park—The closest wind tower to me is 500 metres from my boundary. I am wondering whether I should be worried about where I am living. The experience I have with wind farms is that a wind farm that has 48 turbines on it over an area of around 2½ thousand hectares generates about 50 megawatts of power. That is the potential. When you look up you can see them on the skyline, but we have planted a lot of trees on our property, and most of the time when we get really strong winds our trees are much noisier than the turbines. We cannot hear them. So, yes, I would like to see some specifics on what the actual health problems are. The wind farm next to us has only been there for about five years. There is another big one that has gone in at Collgar, just south of Merredin. It is only just happening, so we have no experience of that as far as farmers are concerned. We will watch with interest.

We had one person in our district who was against the original wind farm, but lately they have been talking about extensions. Again, listening to the last speaker, my neighbour and I have signed contracts with potential wind farm people. I know of at least one other. Certainly they were looking to extend the present one. The one person in the district who was against it has come to the conclusion that all her fears were probably not so well founded.

Senator FIELDING—I was not going to enter this path, but I must as well. How far is your bedroom from the nearest wind farm? I am not going to ask how high you are or that sort of thing.

Mr Park—Our farm is about four kilometres by four kilometres. The farm that the wind farm is on is directly north of us, so from our bedroom it probably is around four kilometres to the nearest turbine.

Senator FIELDING—A lot of the people that we have been hearing from earlier in the week have health concerns. We have heard from some people with some serious health issues that they firmly believe are coming from living nearby to wind turbines in the two-kilometre range from them. It is a syndrome that they have labelled ‘wind turbine syndrome’. Probably after this inquiry you will do a bit of research on it yourself to see their perspective. Have you had any farmers come to you with issues to do with wind turbines?

Mr Park—No, we have not. We are quite early days. The one at Badgingarra is five years old. Walkaway is since then. So we have not had a lot of opportunities for farmers to be involved. From what Mr Hodgson was saying I take it that his area is a lot more populated than ours is. Even if you were to take a four-kilometre circle from the wind farm next to us, there would be probably four or five families.

Senator FIELDING—And the nearest home and bedroom to the wind turbine would be pretty small?

Mr Park—The nearest home would be the manager on Emu Downs. They moved one house further. He would probably be about 500 to 700 metres from the nearest turbine. We are very sparse. Originally all the blocks were around 1,600 hectares, and we have had population loss since then. We are certainly not a high-density population.

Senator FIELDING—Okay. I think my colleagues will cover some of the other terms of reference. Thank you.

Senator ADAMS—Thank you for your opening statement and your submission. I have read your other one. Some farms in Western Australia have been going a little bit longer. We have been doing a series of interviews as part of our inquiries in the Eastern States. Some submitters have argued that wind farms are being imposed on rural areas against the wishes of local residents—you heard a good example of that from the speaker before—and for the benefit of those in metropolitan areas. Do you believe this is the case, and would you like to comment on that?

Mr Park—I think that is probably a question about renewable energy and the generation of, in general. As I said before, the declining terms of trade for agriculture mean that farmers are usually pretty much welcoming to new sources of income. My vision of power generation into the future is a lot of smaller generators on the fringes of the network now. Things like bio-energy and those sorts of things that farmers could be involved in. In general we welcome the idea of being able to be part of energy generation. As to whether it is imposed on people, there are all sorts of different pressures that you could say are imposed—financial. Maybe if farmers were making lots of money from agriculture they would not be interested in doing it, but that is not the reality. I remember being asked by one of the Canberra radio announcers four or five years ago when the wind turbines went in on the neighbouring property what I thought about it. I said that the worst thing about those wind turbines was that they were not on my place. We might be forced into those things. In general farmers welcome the chance to participate in alternative energy.

Senator ADAMS—You have just said that you are looking to be a host in the next expansion. Have all the neighbours in your area been approached? Are they all fully aware of what is going on?

Mr Park—Probably not fully aware of ours, but there are other extensions—the extension of the present Emu Farm wind farm was touted 18 months ago. We have had meetings about that. In our case, our neighbours are national park on one side, unallocated crown land on another, the person who will be involved in our wind farm on another, and the Emu Downs wind farm on the other side. So there will not be too many people involved.

Senator ADAMS—Where this has arisen in the Eastern States, the witness before explained about going into a property, buying it, thinking there is not going to be any development and then suddenly being confronted with something like that. We have had a lot of this—that developers, because of commercial in confidence, are not telling neighbours what is going on until it is too late.

Mr Park—That is a difficult one. One of my wife's concerns about our contract with the developers is that they are not actually going to go ahead. You do not know when you sign these things whether it is going to go ahead. I do not think I should check with the developers that we are dealing with whether they are happy that people know. I do not think they would have a problem with anybody knowing.

Senator ADAMS—Your particular developer has not told you to keep it confidential.

Mr Park—Not at all.

Mr ADAMS—That is quite unusual, from the evidence we have been getting.

Mr Park—Maybe because we have got wind farms and chances of wind farms all around us—as you are aware, Badgingarra is a pretty windy sort of place.

Senator MOORE—You say you have not been told to keep it confidential. I just want to clarify that because there are different understandings of what people have been required to keep confidential. We have had discussion around not being able to make disparaging comments, issues around health, and then there are issues around the commercial side of things.

Mr Park—My understanding of the commercial in confidence is that they are trying to make sure that other people do not get in. We have signed an agreement with our company. Basically what that is doing is just saying that they have first dibs on our property to have wind farms on. I am trying to think back; it is five years since I signed it, and we are about to negotiate an extension on that. I do not remember any comment about having to keep it confidential or anything like that. In fact, when we go to the next stage some of our problems will be trying to work out what sorts of payments we are going to be made. We will have to try to find out what other people are paid so we know what the market rate is. That is a problem from our point of view. Certainly the people we have been dealing with have been quite open about what they pay other people—although we cannot check that.

Senator ADAMS—What about the siting of the turbines? When you read the evidence about this it might be something you need to talk to them about.

Mr Park—One of the things that Emu Downs did was actually move one of the houses on the property.

Senator ADAMS—What was their reason for that?

Mr Park—They thought the turbines were going to be too close. In this particular case there were going to be three turbines within 100 to 200 metres. That was a noise problem. When you stand underneath them there is a noise—you can hear a ‘whoosh, whoosh, whoosh.’ I have stood under quite a few of them. So they moved the house.

CHAIR—That would have been in shadow flicker range anyway.

Senator ADAMS—I want to ask about the lights and aviation. What is the story with the ones that are already up there?

Mr Park—Those ones that are already there are underneath the limit for having lights on. So there are no lights or anything on them. We get a lot more light from the mine that is next door. Thankfully, our house sits underneath the hill so we do not see that light. Certainly when you drive around our property at night it is the light from the mine that really hits you. But with bigger turbines—those lights are probably not going to be terribly offensive either. I grew up at Bulls Brook, which is next door to the Pearce Airbase. We have two beacons on our property there. We were never really worried by that.

Senator ADAMS—The federal government at the moment is doing national guidelines but the planning is being done by the state. What would you expect from your organisation when farms develop? WA is probably in its early stages of getting into areas where residents are. A lot of the wind farms are situated along the coast and they do not have the problem of upsetting people. Have you thought about how the planning should go? There are probably a lot of problems with the planning. In Ballarat the state has given the planning back to the shires, and of course the shires have not got the finances or the expertise to do the work that they really need to do. So have you thought anything about that? These national guidelines are fairly loose at the moment but because of constitutional arrangements it is a state responsibility.

Mr Park—We have not thought about planning in particular reference to wind farms. We have a few problems with planning in general. The rural senators would be aware of some of the legislation in the US that was called the ‘right to farm’ legislation. We have had real problems with the right to farm legislation. What tends to happen is that you get dictated to on what you can do on your farm. It becomes not ‘right to farm’ legislation but ‘recipe to farm’. It is usually not voluntary. You are then told exactly what you are going to do, and because you cannot predict new developments in agriculture, the right to farm legislation almost locked you into a time warp where you could not do new things, and you were dictated to on how you were going to farm and what you were going to farm. Therefore, we have some problems with planning per se on that. When planning is done, we would like to see areas like agriculture get a preference for agriculture.

One of the things we see, certainly in the outer parts of metropolitan areas, is the urban sprawl spreads and that affects agriculture. People move in thinking they want to be in an agricultural, country setting until they actually find out what happens in an agricultural, country setting, and then they say, ‘Oh, no, this is not what we signed up for.’ We would like to see that agriculture has precedence over that so we can say, ‘No, you actually moved in here; we are still practising agriculture and that is how we do it.’ That is not how it has happened in this state. Often the people who have moved in have been able to force agriculture to change its practice. The classic example is the people growing apples and houses were built right next to the sorting shed. The people who moved in said, ‘Oh, we don’t like them starting work at 6 o’clock in the morning,’ and that sort of thing. No, we haven’t thought about planning as far as wind farms are concerned. So far, we have not really been affected.

Senator ADAMS—There is also the aviation and spraying. With the wind farm there is turbulence from the turbines and the aviators have to have a buffer zone. The aerial people came and gave evidence to us; there are quite a lot of technical things. Those sorts of things need some consideration.

Mr Park—I understand you cannot do much aerial spraying between the turbines.

Senator ADAMS—No, it is not that. If you have turbines on one neighbour’s boundary and the other neighbour needs to spray canola they might not be able to get in that far to be able to spray their crops. So they are not able to grow whatever needs spraying because of the proximity of the neighbour’s turbines. These are the sorts of issues that have come up, and the turbulence from the towers creates a problem for the aircraft, so they have to go further away as well. Therefore it is limiting a neighbour from putting that paddock into crop because of what is next door.

Mr Park—You would all be aware of the problems we have had with GM canola at Kojonup. We really need a situation where farmers can farm the way they want to on their particular properties. So farmers next door have to keep in mind what effect they have on how their neighbours farm. This is just one of those examples. Certainly in our area we are very much animal production. Crop dusting has not affected us a great deal.

CHAIR—Is WAFF aware of examples where aerial aviators have been restricted because of wind farms in WA?

Mr Park—No, we are not, and it is something I had not even thought of until Senator Adams mentioned that. The one in Collgar is going to be interesting because that is right in the middle of a wheat growing area. We will certainly be keeping an ear out for that.

Senator MOORE—WAFF have not had any kind of discussion or complaint process on this issue. Is that right?

Mr Park—That does not usually stop farmers ringing up.

Senator MOORE—Your evidence indicated that amongst all the other issues that the farming community have, and you alluded to some of them, at this stage it has not been raised as an issue for the West Australian Fish Foundation?

Mr Park—No.

Senator MOORE—Are you aware whether the issue has come up nationally?

Mr Park—No, not at all. It will probably not get to NFF so much; it will be the other member organisations—VFF and NSW Farmers.

Senator MOORE—We will follow up on that. We have not had submissions from them. I am not aware of any of the other agricultural organisations raising it.

Mr Park—Certainly, I will be asking them whether the issue has been raised. Obviously, we are blissfully unaware of all this. Just listening today has given me some ideas.

Senator MOORE—We have explored the issue around secrecy because one of the areas that has come up in a number of submissions is division of social fabric at the local level. One of the core aspects is valuation. You gave us some preliminary discussion from your personal point of view and also from the industry's point of view about the tough times for agriculture and people seeking alternatives. Of the places you know in Western Australia that have gone into wind farms, have there been any valuation concerns—valuation of property pre wind farm and post wind farm?

Mr Park—I do not know whether you are aware, the Emu Downs wind farm was put up by Griffin Coal basically—Griffin Coal's owners owned the land. You are probably also aware that he got himself into a bit of financial strife and had to put most of his properties on the market. The Emu Downs wind farm properties have all been sold in the last 12 months. Given the climate in agriculture at the moment, it is very difficult to know what effect that is having. I

daresay, if you had a big enough cheque book, you could buy half the farms in Western Australia at the moment.

Senator MOORE—Is that drought related?

Mr Park—A bit is drought related; a lot of it is related to the age of farmers. I am about average age for a farmer. And most of our kids are not coming home to the farm. If the alternative was to have kids come home and farmers could go to being semi-retired, that would not be a problem. So there are farmers looking around for alternatives. But the other part of it is drought. And another part is the cost-price squeeze. So there are three things coming in to affect us all in one hit.

Getting back to Emu Downs; I am a little surprised that they have sold them as easily as they have. The wind farm is on only two of the blocks of the five that Griffin own in that small area there. The stipulation was that they wanted three of the blocks kept together. Although they say there are three blocks with towers, in actual fact one block is very close but has not actually got any towers on it. I think there was certainly some resistance from people looking and saying, 'I am not sure I want to buy a farm with wind towers on it.' The way I valued it was to try to pin down exactly what the income was from those wind towers, and that was not all that easy. I kept hearing different numbers from different people. The mid number that I heard, multiplied by about 10 times, was the evaluation I put on the wind towers. Regarding the land near it, I think they got about that value. I do not think there was a diminution of it—there could be a diminution in value of the property next door. That I do not know. But some of these blocks were next door and from the prices I heard they got for them I do not think that holds either.

Senator MOORE—It is always a difficult thing to find out, balancing privacy. It is an ongoing issue that we have heard about. My last question is about planning and the concern that we have had from a number of people that wind farms and the wind industry should not have a special planning process; it should be a general planning process that looks at any kind of change on land. You mentioned mining, and I am sure that is a significant issue over here—trying to ensure that the planning process effectively takes into account all the issues no matter what the development is. From your perspective, as an individual farmer as well as a representative of the farmers association, can you tell us about your understanding of planning processes in WA? Do they handle all these things the same way? Or are there different rules for different things?

Mr Park—At the risk of being wrong, that is my understanding. The development is put up. They have to jump through the EPA hoops like any other development has to. My understanding is that they were treated like any other development.

Senator MOORE—So it would not matter what you were trying to do in a community, you will still have to go through the same process.

Mr Park—You would still have to have the community consultation. I am thinking back to Emu Downs wind farm. There were two lots of community consultations. I think back again to when we had the prospect of a coal fired power station at Lezure. They virtually had to go through the same sort of processes. We actually got them on water in the end. That is another story altogether.

Senator MOORE—The health aspects of the proposed coal fired industry was part of the discussion in planning, the same way as you would expect?

Mr Park—Yes. It was very similar.

Senator MOORE—It is just people being open and transparent; that is the important thing. Thank you.

Senator ADAMS—There are a number of proposed wind farms—I have been quite surprised.

Mr Park—They are everywhere.

Senator ADAMS—Not at the moment; but they are going to be. We had evidence from five of the developers in Melbourne. They all listed their proposed wind farms, and where they were going. So WA is going to get quite a number of wind farms. Most of these are going to rural areas and WAFF would definitely have members in those areas. I notice in your submission you say that in preparing the submission you consulted widely with your members and that you received significant levels of feedback from members living in communities with wind farms. As this moves forward, what guidelines would you propose—because you are going to be pretty involved with wind farms—that the state government implements to oversee future workforce developments? As these wind farms multiply it is probably going to start to encroach on more urban-rural areas rather than being out on the fringes. You said it was four kilometres from your house. I guess that is okay; but what about when they get in closer?

Mr Park—It is something we are probably not going to get much of a handle on until it starts looking like it is happening. With both the Emu Downs and Collgar wind farms the populations are going to get fewer and fewer, if anything, and we are not going to get big numbers of people affected. My real worry is more to do with how it affects their neighbours and their ability to farm. That would be more of a concern for WA farmers. We certainly do not want to have any situation where actions of one farmer affect the way another farmer has to do agriculture. That is certainly something we would have to look at.

My experience with the consultation that went on with both the coal fired power station and the Emu Downs wind farm was that there was plenty of opportunity for the local community to talk about it and get involved. As I said, before Griffin got into strife, there was a proposal that they were going to virtually double the size of the Emu Downs Wind Farm. Again, they have done that community consultation already.

CHAIR—My question related to Senator Adams's question—that is, lifestyle. We had Mr Hodgson this morning and, while I am not saying that he did not have other issues, he was particularly concerned because he had moved down there as a lifestyle decision. A number of the submissions we have heard were about what they perceive as a lifestyle issue. You have not had much experience with that so far I would say from your evidence.

Mr Park—We do not have a lot of lifestyle farmers in Badgingarra.

CHAIR—I was not going to go there quite so clearly!

Mr Park—That gets back to what I said about planning before. From a planning point of view, that is where the WA Farmers Federation sees most of the problem. If you take it back to principles and say farmers should be allowed to farm the way they want on their properties, lifestylers come into that as well. If you move into an agricultural area, you have to be prepared to be agricultural.

CHAIR—Bearing in mind the comments that you made about impacts on neighbours, suggestions have been put to us that there should compensation, for want of a better word, to neighbours so that not just those people with wind farms on their properties benefit. It is not just the community fund because they are using those a bit differently as I understand it. Wind farm developers are establishing community funds that are spent on the community good. Basically what people are saying is that the benefits from the wind farms should be spread not just to those with turbines but to those with surrounding properties. Have you given any thought to that and, if you have not, what do you think about the concept?

Mr Park—I have some sympathy for that because, as I said, there were actually two people who were anti the wind farm when it was first proposed and one of them is probably living closer to the actual turbines than most. Probably what was getting up her nose a little bit was that she was closer than most. She has since found, unless of course we have some other evidence on the health front, that all her fears about living next to turbines were not going to be there. She was putting up with them and yet she was not getting any financial gain. I have some sympathy and I can understand how that might be. My understanding of Collgar, and it is nowhere near as intimate as is the Badgingarra one, is that some of the people who were going to have turbines on their property until for some reason they cut the numbers down are still being compensated. Maybe a little bit of that is starting to happen already.

CHAIR—You may not know anything about this, but I remember very clearly the debate around the Albany wind farm. A lot of that was about lifestyle. There are some farming properties around there.

Mr Park—There are. I am just trying to remember because it has been four or five years since I was there.

CHAIR—The reason I am asking is that there were some issues around community consultation. At the moment it seems to me, and I spend a bit of time down there, there does not seem to be any angst about it anymore. In fact, people see it as a benefit. That is how it seems to me when I go out there and look at it and things like that. I am wondering whether you have had any feedback through WAFF around ongoing issues, either the lifestyle issues that we have been talking about, because there are a lot of sea changers down there, or from the farming communities that are there.

Mr Park—As I said, there has been very little feedback and to be honest we usually only hear the negative. If someone has got a problem, that is when they ring us and tell us about it. We have had very little feedback about that. The experience around Badgingarra is that, since the wind farm has been operating, the level of acceptance has increased. People are nowhere near as worried about what might be since they have had to deal with it. I heard it before in Mr Hodgson's voice, too. There is a lot more concern about what might be rather than when you have to deal with the actual. Certainly there is a lot less worry about the extension of Emu

Downs wind farm than there was about actually putting it there in the first place. So, once you actually have to deal with it, people are reasonably happy with what they have to deal with. We have not had much negative stuff at all. Albany is a bit hard for us because most of our membership is north of Albany rather than right in around where those wind farms are.

CHAIR—As there are no further questions, thank you very much.

Mr Park—Thank you for the opportunity.

[11.14 am]

WITTERT, Professor Gary Allen, Private capacity

Evidence was taken via teleconference—

CHAIR—Welcome, Professor Wittert. For the benefit of the committee, would you give us some of your background details and area of expertise.

Prof. Wittert—Yes. I am a senior consultant endocrinologist at the Royal Adelaide Hospital. Originally I worked in stress research when I did my MD in Christchurch, New Zealand, having trained in endocrinology. I undertook some postdoctoral work at the Children's Hospital in Boston and Harvard Medical School, looking at some molecular biology related to stress. Since I have been in Adelaide—since 1994—I have been working in appetite regulation and obesity and various aspects of population health, in particular men's health, and on issues related to social determinants of these—social and environmental factors, cardiovascular disease, obesity, diabetes and so on.

CHAIR—I invite you to make an opening statement and then we will ask you lots of questions.

Prof. Wittert—My involvement in the question was because I was asked by a legal colleague to assist in participating in some court proceedings as an expert witness. The expertise was based on my understanding of epidemiology and the relationship between stress, depression, cardiovascular disease and so on and the issues around psychosocial practice and disease states and the interrelationships between biopsychosocial and environmental factors and disease. I had had no prior experience directly with the effects of noise on health, although I had had some interest in the issue but certainly no involvement in wind farms up to that point.

I spent quite a considerable amount of time evaluating the evidence. I guess that is pretty much what they were wanting me to do and then to comment on the issues in the environmental and land court during some recent proceedings in Adelaide. It was during that process that I was able to acquaint myself with and to evaluate—coming pretty much in cold—with some of the issues and some of the data. I also had the opportunity to evaluate some of the data that others had collected.

My impression is that the evidence that has been collected to date is largely anecdotal. Regarding anecdotal evidence, I could use the analogy that if we were going to believe in anecdotes then we would be having a Senate inquiry about aliens because there are plenty of anecdotes about aliens and spaceships and so on. That is not to say that there are not a number of very credible people who will present accounts of being unwell or having adverse health consequences. The issue is not the reality of their experience or the genuineness with which they present themselves but the cause and effect relationships and whether the symptoms and the distress that they experience can be directly attributed to noise, as in audible sound or infrasound, or whether there is some other effect, for example, a psychological stress as a result

of intrusion on the environment, or anxiety generated from some of the media storm that surrounds the issues relating to wind farms.

Some of the research that I think is of significantly higher quality than the anecdotes is predominantly that done by Dr Eva Petersen. There have been significant observations made that there is a psychosocial overlay to this that certainly alters the perception and any reaction that is experienced by individuals on exposure, not just to the noise of wind turbines, but this is true for any noise. For example, there were some studies relating to road traffic noise that are cited in my document where the relationship of the effects of the noise to hypertension are related to a whole range of other factors rather than the noise per se—predominantly anxiety, stress, depression and mood related factors. So, on that basis, certainly there was no evidence I could determine that noise directly, of the intensity being experienced by individuals where wind farms complied with the relevant legislation in terms of setbacks and decibel levels of audibility, was likely to be causing health effects.

What had been claimed by Dr Sarah Laurie was that there was an epidemic of accelerated hypertension, high blood pressure, in the Waubra area. She had had a series of people measure their blood pressure, presumably with devices she had supplied them with or that they may have acquired from somewhere; that was not quite clear to me. Five or six individuals had done that. As asked, they had measured their blood pressure on waking in the morning and at several other times during the day. I had access to that information from Dr Laurie in tabular form for each individual over several weeks, and in some cases months, along with a printout of average wind farm output in terms of the power of the turbines. That was done over a 24-hour period. What I did was take the average nocturnal wind turbine power output and plot it against the morning blood pressure to get a data point at each time for each individual. What that data showed—and again I believe this has been submitted—was that, if anything, the relationship was inverse; but, at the very least, no assertion could be made that there was any relationship between mean overnight turbine power and elevations of blood pressure.

This is the sort of notion where evidence can be used in one way or another but when it is properly and rigorously evaluated turns out to refute rather than support the evidence, and the extent to which some of the assertions relate to activism as opposed to objectivity of course would have to be questioned. Insofar as infrasound is concerned—and I have been quite clear that I am certainly no expert on infrasound—my understanding is that it is quite widespread in the environment and you get infrasound from almost anything that generates sound to a certain extent—to the level that, for example, if you are living on top of some cliffs where the waves are breaking on the shore below around 75 decibels of infrasound, or up to that, could originate from wave activity.

The reports from the acousticians that were independently contracted to measure infrasound at Waubra—these were not industry contracted people but individuals living in the district—in fact quite clearly stated that the levels of infrasound were, if anything, below the normally accepted levels for effect and concluded that it was unlikely that health effects described in any case reports could be attributed to that. I think it is rather unlikely that the health effects that are being experienced by individuals could be due to infrasound, given exposure to infrasound under other circumstances seems not to produce similar problems—I am talking about waves crashing and so on—and it is unlikely that the level of infrasound is in fact that, although of course I gather there is some dispute about how infrasound should or could be measured.

My assessment of this is that there is no consistent evidence about the effects of, for example, road traffic noise or many other noises—other than extremely loud noise in occupational circumstances or aeroplane noise which is extremely loud when people are close to the airport—and adverse health effects which can be separated from a range of other psychological issues, that there is no credible evidence beyond anecdotes that there is a cause and effect relationship between wind turbine sound and adverse health effects and that the issue of infrasound at this point would have to be considered moot.

Senator FIELDING—Professor Wittert, regarding the legal colleague who asked you to get involved, what case is that for and what side of the debate were you asked to comment on?

Prof. Wittert—The case was in the Environment, Resources and Development Court. It was between Richard Partridge, Thomas Partridge and Louise Partridge and the District Council of Grant and Acciona Energy Oceania Pty Ltd. I appeared for the barrister representing Acciona Energy Oceania Pty Ltd.

Senator FIELDING—Were you compensated in any way?

Prof. Wittert—Yes.

Senator FIELDING—Thank you very much.

Prof. Wittert—If there is an inference that that necessarily altered my opinion one way or the other, I indicate quite clearly that the arrangement I had was that, if they chose not to like the opinion that I came up with they would not use it, or they said that they would not use it, but I was going to write what I considered to be the appropriate opinion.

Senator ADAMS—I would like to continue on your relationship to Acciona now. Are you involved with them at all?

Prof. Wittert—I am not in any financial relationship. They have asked whether I would be interested in looking at any research proposal. I have said to Acciona that I thought there would be some interesting opportunities to acquire some data, and I have met with them on one occasion to discuss that. That is in the context of using GIS mapping techniques to look at a 10-kilometre radius around the wind farm, using whatever PBS data about prescriptions for anti-hypertensive medication I can acquire to do some mapping of changes in use of blood pressure medication, and that might give some clues to a different type of approach to solve the problem. But, other than that, I am no longer in a relationship with Acciona and have not received any funds from them in any way, shape or form.

Senator ADAMS—How are you going to do what they have asked?

Prof. Wittert—Let me say quite clearly that they have not asked me to do this. I have suggested this to them.

Senator ADAMS—That is fine. As far as privacy goes, and I guess the GPs and pharmacists in the area, how are you going to get around that issue if you do it?

Prof. Wittert—The privacy issue is significant because the methodology would require obtaining de-identified PBS data. PBS will supply a level at the statistical local area as the smallest unit but does not generally supply information at the level of postcode. However, in the case of a number of the wind farm areas, and this would be done over a number of areas—in fact the wind farm covers a number of postcodes, so it is unlikely that there would be any significant privacy issues because it would simply be a matter of saying, that the percentage of prescriptions has changed by X, Y or Z over a period of time in an area where there was a wind farm before the wind farm and in the years following the construction of the wind farm. It would be applied to two, three or four different areas where there are wind farms and compared with control areas where there are not.

Senator ADAMS—What is the nature of your relationship with NHMRC at the present time? Are you involved with them at all?

Prof. Wittert—Yes: as a recipient of NHMRC funding, as an applicant to NHMRC funding schemes and as a panel member on grant review panels.

Senator ADAMS—The NHMRC statement in July 2010 ‘Wind turbines and health’ and, then, the next one that they did, which was the rapid response—have you been involved with that?

Prof. Wittert—I have read the document but I have not been involved in the authorship.

Senator BOYCE—Professor Wittert, you will have read the NHMRC rapid review.

Prof. Wittert—Yes.

Senator BOYCE—What is your view of the rapid review? They have subsequently put in a submission to this inquiry perhaps more forcefully suggesting that further research is warranted into the topic of health and wind turbines. What is your view?

Prof. Wittert—The rapid review simply means it was a review done in a period of six months or less. I do not think it implies that it was cursory.

Senator BOYCE—I was not suggesting that. That is just its title.

Prof. Wittert—I am not suggesting you implied that. I am just indicating that sometimes there is an inference in the public perception that that is what it means. My reading of it was that they have accessed much the same literature that I was able to access. The nature of the evidence based review process means that they were accessing peer reviewed publications, of which there are very few. It is kind of interesting, given the enormous density of wind farms through Europe and Scandinavia, how little evidence there actually is of any adverse effects, in particular given how health conscious, socially conscious and sensitive to adverse health consequences people are in these environments. Notwithstanding that, what was produced was pretty much consistent with my own conclusions from the data, although I looked much more broadly into the effects of a whole range of different environmental sounds to reach my conclusions. On the extent to which there is an argument around further data, I think it would be true for many issues. My own feeling in the matter was that I was unable to generate an absolutely credible hypothesis or have

a very clear notion of how to test it outside the laboratory environment or using GIS mapping methods, which is an idea I have come up with subsequently.

Senator BOYCE—Thank you.

Senator MOORE—Professor, you had a couple of questions about your status in giving evidence in South Australia. I just want to clarify even further. You are a South Australian professor of medicine at the university who looks at process and methodologies in your work. Is that right?

Prof. Wittert—I am a researcher who uses epidemiological methods. I have a strong interest and undertake research in population health looking at longitudinal cohorts. I am very interested in social determinants of disease. I am involved in work in an institute in Boston that has a strong focus around social determinants and environmental effects on health.

Senator MOORE—And you were actually asked to give evidence in a South Australian court—

Prof. Wittert—Sorry, I cannot hear really.

Senator MOORE—I do apologise. I was yelling into something that had no link to the microphone system. It shows great intelligence on my behalf! I am just trying to clarify: you gave evidence in a South Australian environment court, and the major evidence you were asked to look at was by another South Australian doctor. Is that right?

Prof. Wittert—No, no, no.

Senator MOORE—I just want to get it clear.

Prof. Wittert—Oh, I see what you are getting at. There was a submission to the court that was generated by Dr Sarah Laurie, who has a medical degree but, as I understand it, is not a registered medical practitioner.

Senator MOORE—We spoke with Dr Laurie the other day and had that clarified. That is absolutely accurate. But what I am trying to place, in case there is this view that there is this great interference in who gave evidence for what side, is that we had a South Australian medical person who had the evidence come to the environmental court and you are a South Australian epidemiologist and that was the environment in which you were operating. Is that right?

Prof. Wittert—Yes, that is correct.

Senator MOORE—Good. I just wanted to have that on record.

Prof. Wittert—I also came to the thing looking at the evidence afresh. I have no background directly in this area at all, as is evident from my CV.

Senator MOORE—And it was a methodology process. I have read the evidence from the court and it was about methodology.

Prof. Wittert—Yes, I looked at methodology.

Senator MOORE—I am interested in the evidence you did give us about the 24-hour study you did. Is there any documentation on that project that you did?

Prof. Wittert—That was Dr Laurie's data. Dr Laurie collected the data and she indicated in the documents she subsequently submitted to the court, not in her initial evidence, that she had collected this data. I asked the court to request the data so that I could have a look at it. I then plotted the data. What was tendered to the court and what I hope you have is a series of graphs which were based on that data. What I have done in a series of numbered points under methodology is list the information that was provided to me and how I dealt with that information in producing the figures. I have sequentially listed the figures and at the end of that document I have then made a conclusion, which was that the data is inconsistent with any assertion that the output from wind turbines has an adverse effect on blood pressure. I was not involved personally in collecting any of the data.

Senator MOORE—I just wanted to get that clearly on record. We have got some of that but I wanted to get the whole process of what you did on record. Thank you very much.

Prof. Wittert—My pleasure. It was simply an analysis of data that we requested through the court from Dr Laurie.

Senator MOORE—One other point: in terms of international research around the area and the need for more research in the area, you did indicate that you would find that an interesting area to do work.

Prof. Wittert—I had a discussion with Acciona and said, 'You know where all your wind farms are. Can I get some geographic information help from you to map the areas around wind farms and control areas so that I can then contact the PBS?' I have written to the PBS formally and had some advice from them on how to go about acquiring the data in an appropriate way that does not tread on any legislation because of postcode-level analysis and privacy issues that have been raised. That is as far as it has gone at the moment, but it is something that I am very keen on looking at. I also was involved in a review of a centre of clinical research excellence in Sydney yesterday where they do sleep research and where they can generate sound in sleep laboratories. I had a very preliminary discussion about maybe doing something.

Senator MOORE—You would probably be aware that in the discussions we have had on this topic, a lot of focus has been on independence and how you actually ensure that any kind of investigation or evidence is independent. Would you like to comment from your background—you have given us your professional experience across many areas—about how you actually go about proving independence in research? It is a good question I know, but it is very important to this discussion.

Prof. Wittert—It is a very good question. The first issue is that the funder and the provider have to be, to a certain extent, at arms length. The protocol or the process by which the question is constructed and asked should be reviewed, which is why the NHMRC is such a good process. You prepare your grant application, which is really the business plan for your research, and that is submitted to what is an extremely rigorous review so that at the end of the day the public is

pretty confident that what they are funding is good research. There is an awful lot of rubbish in the literature that is believed for a period of time and turns out to be bad research. An example is the recent controversy about vaccination and autism in children where bad research led people to make very bad decisions and was subsequently shown to be bad research. By the same token, epidemiological methods that were rigorous in their conduct but perhaps not controlled clinical trials were sufficient to lead people to develop the conclusion that smoking caused lung cancer. That was done by the UK group many decades ago already using simple epidemiological methods but with extreme rigour.

So I think it is important to design a research study in accordance with good science, to conduct the study with rigorous methodology, appropriate power, appropriate review and oversight, to ensure that when the data is analysed and written up it is subject to review by peers who can critically look at the methodology and comment as to whether the study has or has not been appropriately undertaken and then to publish it in the journals so that it can be further discussed and debated and then, importantly, replicated by others. I can find it in my study, but one would like to see that someone else can do the same. One would like to see similar conclusions reached by doing research using a different methodology.

CHAIR—Senator Siewert here, Professor. I must admit I have not looked at every single one of the references for the NHMRC study, but do you know whether your data was referred to in the work that you did for the court case?

Prof. Wittert—No, the information that I generated was done long after the NHMRC review was produced. I did this pretty quickly and at relatively short notice and the evidence was tendered in court, I think, in early to mid-January.

CHAIR—This year?

Prof. Wittert—This year, 2011, and my document was submitted to the court in late December.

CHAIR—The study that you have been talking about has aspects that require study. Would you think that a similar sort of independent study was needed around the issues of infrasound or hearing specifically?

Prof. Wittert—This gets into a little bit more of a murky area for me because I do not know enough about infrasound to be sure. The acousticians that I was in contact with and whose data I read are acoustics people who were separately contracted by people from the Waubra area. It indicated that their measurements of infrasound were levels below what was generally legislated to be acceptable levels. Now I am hearing people say that the measurements must be wrong and that the levels of infrasound are much higher because people got the methodology wrong. Hang on a minute because, if you think about the density of turbines in some European countries, such as Germany and Scandinavia, one would expect that if there was that much infrasound causing people and animals to vibrate that you would notice some significant effects. There is no data coming out of Europe that there are any changes in lambing, in milk production, in the quality of beef or in any other form of agricultural products that involve livestock. Nor are there any reports of significant health effects coming out of any of those countries. I rather doubt that in Scandinavia, for example, this information would be suppressed.

CHAIR—Thank you. Senator Boyce has some questions.

Senator BOYCE—You point out that you had looked at Dr Laurie's data. Did you also look at the publication by Dr Nina Pierpont?

Prof. Wittert—The book?

Senator BOYCE—Yes.

Prof. Wittert—As in did I read all of the case reports?

Senator BOYCE—Did you analyse or critique her work?

Prof. Wittert—I was provided with a number of case reports that came out of Dr Pierpont's book that were tendered as part of Dr Laurie's evidence and attached. I did not read the book, but I read the case reports.

Senator BOYCE—And could you comment on the methodology there?

Prof. Wittert—They are case reports. I had no idea how those individuals were selected and whether they were selected in an appropriate way. If I am doing survey methodology I want to be sure that I select people without bias and that the questions that are asked are asked without bias. Normally, we would want to find a random sample of individuals. We would want to ask neutral questions. If there were people, who, for example, put up their hand and said, 'Pick me, pick me, I have a story to tell,' that is fine. The story is very real to those people, but you cannot infer cause and effect from that sort of information. I hesitate to use this example but I will because it crosses my mind: in the book about the witchcraft trials from Salem, Massachusetts, we saw mass hysteria and everyone came up with a similar story. These are all stress related symptoms. We talk about headaches, palpitations, elevation of blood pressure, irritability, sleep disturbance, mood, concentration and memory, which are said to be symptoms of wind farm syndrome or, equally, symptoms of any stress related illness.

Senator BOYCE—That leads me to the next question, which is about the personal health records that Dr Laurie used. They do indicate elevated blood pressure. If it is not caused by wind turbines what, in your view, is it caused by?

Prof. Wittert—There are many things that cause elevated blood pressure. For example, in my studies of men in the north-western suburbs of Adelaide, 60 per cent of men over the age of 35 had elevated blood pressure and only half were aware of it. The origins of high blood pressure are strongly related to obesity. People are highly reactive to stress under many circumstances, which can elevate blood pressure. Currently, related to the obesity epidemic, there is an epidemic of obstructive sleep apnoea or sleep disordered breathing. Some very early data we have got from undertaking home sleep study is that around 10 per cent of people have severe obstructive sleep apnoea. That is of a magnitude where we would want people to immediately get treated and not get back in a motor vehicle or go to work or do any other thing. We estimate from 30 to 40 per cent of people have mild to moderate sleep disordered breathing. This is a condition that is directly associated with quite marked elevations of blood pressure.

Senator BOYCE—Is the short answer you do not know?

Prof. Wittert—Is the short answer to what I do not know?

Senator BOYCE—What caused the elevated blood pressure? You would not have sufficient detail to know if obesity or whatever was the reason. Is that correct?

Prof. Wittert—There is not sufficient detail in the case histories to make any assertions about anything.

CHAIR—We had Professor Chapman giving evidence on Tuesday and he raised the issue of annoyance. There are two questions there. Firstly, is that a potential cause? Secondly, you could say that it is related to the wind turbines because people are annoyed at the wind turbines. Is that analogy or association valid?

Prof. Wittert—If you are asking if I agree with Professor Chapman on the issue, yes.

CHAIR—You agree with the term ‘annoyance’. We had people appearing before us on Monday who were clearly upset.

Prof. Wittert—No-one would deny that there are people who are extremely upset by this issue. But I would wonder whether there are two things. Firstly, the data I have seen from Eja Pederson, which is probably the only high-quality published data on this matter—or at least the best quality data—and it has its own problems by her own acknowledgement, states that about five per cent of people will experience annoyance. Annoyance may be due to some vague and yet to be determined individual psychological factor—by that I mean they are stressed in many other ways and therefore annoyed by the presence of the turbines because of some change in amenity and environment—or it may just be that they are particularly sensitive to the noise and therefore it annoys them, which is fair enough.

One has to wonder whether there is something that precludes accommodation. For example, I can sleep in a hotel room with a ceiling fan going but I know that my wife would go absolutely crazy if we had to leave the ceiling fan on. I do not know whether if we were there for six to eight weeks she would get used to it or would not get used to it, or whether it would start to annoy me after a while. The fridge is on in the house and it does not seem to bother anyone. There are other household noises. For example, if the air conditioner is on, there is a noise and it does not seem to bother anyone.

Whether there is some characteristic of the noise that some people cannot adapt to or whether there is some other issue around anxiety or worry that seems to overlay this, I do not think anyone knows for sure but it is probably true that there are a small percentage of people who get annoyed. What causes this annoyance in particular is a matter of some debate. Does that last part make sense?

CHAIR—Yes. Thank you.

Senator ADAMS—I note that at the moment South Australia seems to have the most turbines throughout Australia. Do you have a very good idea from your research of where those turbines are situated and where people live?

Prof. Wittert—I have a reasonable idea because I have been mapping it.

Senator ADAMS—Could you just give us a brief rundown of that please.

Prof. Wittert—By and large they are reasonably sparsely located along the Yorke Peninsula around towards the Eyre Peninsula. There are some towards Clare and Burra. Then there is that planned development that is part of Hallett 2, up around Mount Bryan, although the Mount Bryan development is already in existence. The Mount Bryan development will actually be closer to Hallett. Then there is another development planned which is closer around Crystal Brook. So there are a number of planned and a number in existence.

Senator ADAMS—Are these areas populated? I know some of them are remote. Are the planned ones going to go into a more populated area?

Prof. Wittert—I do not think so. Not that I can see. I am trying to get data at the statistical level area and I cannot actually do that because there are not enough people in the statistical level area near a wind farm. It is diluted by people who are very far from the wind farm.

There is a lot of legislation around this of course. The setback has to be 1.5 kilometres. I think in Victoria they have now changed it to two kilometres. I cannot hear a turbine when I am close to it pretty much. Sometimes I can hear it but sometimes I cannot. If I am in a motor vehicle sitting and looking, I cannot hear it. For the most part if I am a kilometre or more away I cannot hear it. It is variable I think.

Senator ADAMS—I think in Victoria and New South Wales wind farms are being put a lot closer. There are those around Ballarat of course.

Prof. Wittert—Certainly around the Waubra area, you can see them quite easily from the town and from a variety of residences. I think the interdigitation of populations and wind farms is certainly different to what it is in South Australia; I would agree with that.

Senator ADAMS—And Western Australia is very new, of course. Most of theirs are in fairly remote rural areas, not in built-up areas, as we have seen travelling around and heard in evidence. This is hypothetical. If you were asked to go to Waubra to do a study—and it does not matter whether you are working for Acciona or whoever—what other areas would you look at—you talked about blood pressure—if there were complaints about sickness and having to move away from their houses and live in Ballarat? Would you just rely on the blood pressure or would you look at other issues?

Prof. Wittert—We are doing a bit of work here on sleep restriction with a colleague at the University of South Australia and one in Sydney. We have just put in a grant to the NHMRC to look at the effects of sleep restriction on blood sugar control. There is a long known association between shift work, for example, and diabetes. People who have circadian rhythm disruption or circadian misalignment are more likely to get metabolic diseases, both diabetes and heart

disease. Our studies have been looking more at sleep restrictions: what happens if you only sleep four or five hours a night? Quite clearly that is very bad for you in terms of blood sugar control. Very quickly—within a matter of days—you start seeing elevation of blood sugars. Within four or five days people start to see blood sugars going up. The extent to which that is ubiquitous I do not know, but we saw that in all the volunteers we studied. They were by and large young, healthy men of college age. So I would almost consider that you would be more likely to see elevations of blood sugar with marked sleep restriction than elevated blood pressure, which I think is a more characteristic feature of sleep disorder breathing than simple sleep restriction.

Senator ADAMS—You were talking earlier about trying to get independent people. How would you go about that? You were talking about a 10-kilometre area for doing your PBS investigation. How would you find a cohort that was large enough within that particular area to do these other observations and have independent witnesses?

Prof. Wittert—That is why GIS methodology is probably the optimal way of doing it if you can get enough pool data. Let me give you an example. Let us say there were 2,000 dwellings within 10 kilometres of a set of turbines and I knew that the turbine was erected in 2007 or 2008. PBS could give me data over 4½ years. So let us say I can get data from 2006-07 and I know that there are a certain number of prescriptions being issued for blood pressure medication. Over the period of the next few years I could then determine whether there were any change in the provision of blood pressure medication. If I could do the same thing across two, three or four areas where there were turbines erected, I could compare those to other areas of similar demographics where there were no turbines erected. I would now be able to compare across time within an area where there is a turbine. I could compare across time in an area where there is no turbine. I could then compare between the two areas. I could do that across a range of conditions—assuming, of course, that there is a prescription issued for that condition and it is diagnosed. What you can then use is geographic information systems to overlay things like distance to the nearest doctor, a whole bunch of socioeconomic data, the age profile of the population et cetera.

Senator ADAMS—Thank you.

Senator BOYCE—To go back to a question I forgot to ask earlier about the NHMRC report which suggests that people who live near wind turbines and do not feel well should go see their GP and that that is a way of beginning to have the data collected and assessed, I was somewhat surprised at that suggestion. I would have thought that information collected by GPs in that way would take some considerable time to be seen as a health issue. Would I be correct in saying that?

Prof. Wittert—I am not sure I am clear on what the question is.

Senator BOYCE—The NHMRC are saying that people who suffer the sorts of symptoms that have been described as wind turbine syndrome should go see a GP and this will be useful for future data collection and assessment. It seemed to me that this is a rather slow way of suggesting that the data will be assembled.

Prof. Wittert—Yes. For one thing, measuring blood pressure in a general practitioner's surgery is fraught with problems. There are a significant number of people whose blood pressure

will go up just because they visit the doctor. How long they have been kept waiting, having the cuff blown up—some people find it uncomfortable, some people get anxious. The methodology is fraught with problems. For many people there are a whole range of issues around access and other chronic diseases. You are right that it is not a methodology to look at the problem objectively.

Senator BOYCE—Thank you. My other question related to a report that came out earlier this week from the Australian Institute of Health and Welfare titled *Health and the environment: a compilation of evidence*. Have you had the opportunity to see it?

Prof. Wittert—I have not.

Senator BOYCE—They have used studies across 15 environmental factors and make the point in the synopsis that there are physical health effects of environment and mental health effects of environment such as poor mental health during drought conditions. I wonder if you might like to have a look and comment if you think it is worthwhile with regard to this report and wind turbine syndrome. You might also want to comment in terms of the annoyance question: how the environmental affects on the mental health conditions of people living in wind turbine areas should be assessed.

Prof. Wittert—I am happy to look at the report. I know there is a fair bit of data in the environment planning literature around doing things in rural environments. Whether you build a waste dump—never mind toxic, just a waste dump—or some kind of new facility of any sort, that will have an effect on people. Of course, that is the reason why there is a consultation process and people have opportunities to have their views put. The health effects of those are pretty much uniformly the same, and they are all what we are seeing here. I think the issue of sound may or may not be relevant but should not be confused with the presence of something new. Certainly the issue of annoyance is raised, but there is also an awful lot of anxiety being generated, and it would be nice to have some objectivity and rationality around it. Dr Laurie, for her own reasons, is an unashamed activist. She is not doing this as an expert witness. By her own admission she is doing this as an activist, and that is fine. People are entitled to do that. But it would be nice to have some objectivity across the board.

Senator BOYCE—Thank you.

CHAIR—Thank you very much. We have taken this a bit over time but, as you can see, people were very interested in your comments. I think there was a little bit of homework that we gave you that you took on notice.

Prof. Wittert—Yes. I am being asked to look at the report. I must also ask, if I can negotiate this information with the PBS and obtain some GIS mapping within the next six to eight weeks, which is the time frame that the PBS has indicated they can possibly supply data, whether the committee would still be in a position or interested to receive it.

CHAIR—We would be.

Senator FIELDING—We would probably like to get someone else to look at the methodology you have put forward too. Obviously you have been seen to work for Oceania before. I think we need to make sure we have other people looking at it. But that is my opinion.

Prof. Wittert—That is a fair point, and I would be very happy, given that I am requesting information collected from public resources, to copy the request to the PBS to the committee so that the data can be reviewed.

CHAIR—Thank you. I think that would be very useful.

Prof. Wittert—I am happy to do that.

[12.04 pm]

CRISP, Dr George Alexander John, WA Representative, Doctors for the Environment Australia

CHAIR—I now welcome the representative from Doctors for the Environment Australia, Dr George Crisp. I understand information on parliamentary privilege and the protection of witnesses and evidence has been provided to you, Dr Crisp.

Dr Crisp—It has.

CHAIR—Do you wish to add any information about the capacity in which you appear?

Dr Crisp—I am a practising general practitioner.

CHAIR—We have your submission, which is numbered 829. I invite you to make an opening statement and then we will ask you some questions.

Dr Crisp—I thank the panel for the opportunity to present our submission and the information it contains. Doctors for the Environment Australia is a voluntary organisation of medical doctors with members drawn from all disciplines of medicine and from all Australian states and territories. As doctors, we are concerned with the health of individuals and the health of populations and we have a particular interest and expertise in the effects of and relationship between environmental degradation and changes in human health.

With any new or developing technology, questions and concerns arise regarding health and safety as well as adverse and unwanted environmental, economic and social effects. It is important to understand the nature of the health concerns that have been expressed and to try and meet the needs of the people who feel that their health may be at risk. These risks and benefits should be evaluated using the best available science to both prevent and minimise potential harm to human and environmental health and also to provide appropriate explanation or reassurance where there has been uncertainty.

Wind energy has been widely established for several decades in at least 70 countries, yet in the scientific literature there have been very few reports of health problems. However, more recently there has been an increase in media attention, with alleged adverse health effects in a small number of people living in close proximity to wind farms. DEA has examined the current literature in order to reach a conclusion as to whether there is evidence to support these health concerns. DEA notes that a number of reviews have been conducted, including by the National Health and Medical Research Council in Australia in 2010, the Chief Medical Officer of Health in Ontario in 2010 and the Chatham-Kent Public Health Unit in 2008. These expert reviews have all concluded that wind turbines do not constitute a risk to human health, and our review and assessment is entirely consistent with those findings.

I would briefly like to address wind turbine syndrome, although you have probably heard this before. Just briefly, there has been a proposal that there is a clinical entity in relation to

infrasound and vibration exposure from wind turbines. It is important to point out that that is based on a small unscrutinised case series and other anecdotal reports. It must be emphasised that it is not possible to determine causality from case series studies, even when they are very well constructed, and that anecdotes do not constitute evidence. Secondly, there has been no viable physical or physiological mechanism identified for which these ill effects could occur at these low levels of sound or vibration. Infrasound and vibration are not in any way unique or specific to wind turbines and are generated by internal bodily functions and a wide range of natural and anthropogenic origins, often at greater intensities. Lastly, the symptoms that comprise the syndrome are not specific, as your previous witness said. They are common to many other conditions, most notably anxiety and somatisation.

Senator BOYCE—Sorry, what was that last word?

Dr Crisp—Somatisation. It is the conversion of psychological or anxiety related symptoms into physical symptoms, and it is a DSM and ICD recognised thing.

CHAIR—It is another big word we can all roll around now.

Dr Crisp—Please stop me if I use words you do not know. I am prone to do that. When considering the health consequences of wind turbines it is also relevant and important to recognise the co-benefits, particularly with regard to health, that are gained by replacing other fossil fuel electricity generation sources. Wind is one of only two renewable energy sources that currently have the capacity to power all of our future energy needs. Wind generated power is acknowledged to be clean and renewable and it produces no known emissions, waste products or harmful pollutants, which is in marked contrast to coal and other fossil fuels

The relationship particularly between air quality and public health has been clear for a very long time. Improvements in any quality and from decreasing fossil fuel emissions has a direct and highly significant benefit to local public health. But the very considerable costs arising from coal have been and continue to be excluded from the publicly quoted price of coal combustion. Indeed, once these externalised costs of coal are included, wind is actually less expensive than coal. The costs of coal in Australia, based on overseas figures, is likely to be more than \$1,000 for every Australian citizen, and mostly as a result of illness and health costs. So even if there were any adverse health effects relating to wind turbines, they are likely to be both local and temporary and a tiny fraction of the already well-known, pervasive and widespread health effects that result from fossil fuel combustion.

Having reviewed the literature and reports regarding wind turbines and health information Doctors for the Environment supports the conclusions of other recent reviews in finding that opposition to wind farms on the basis of potential adverse health consequences is not justified and there is no evidence to support any direct causal link between wind turbines and pathological effects in humans. Furthermore, there are several separate compelling reasons to develop wind energy in preference to fossil fuels on current and future health grounds.

CHAIR—We heard from Dr Pierpont via teleconference at a hearing in Canberra on Friday. I do not think the evidence in the *Hansard* is up on the website yet. When it is, I would like to give you some homework. I call it homework but is actually putting a question on notice to you. I understood one of your comments just then to be around there being no explanation about how

low-frequency sound or infrasound work. My understanding is that Dr Pierpont started to explain that, and she did use some very medically technical terms. Would you take on notice to have a look at the evidence and provide some feedback to us. I understood her to have been going some way towards explaining what she thought was the connection. It would be appreciated if you would look at that.

Dr Crisp—Certainly. I would very briefly say that there is already a lot of information in the literature on infrasound and vibration.

CHAIR—Yes, and we understood that to say that there is a connection between infrasound and people's health. That is what she was saying.

Dr Crisp—I would dispute that. If you look at the information and some of the things she has referred to previously in the case studies and book—if you expose animals and humans to high volumes of infrasound you can cause both discomfort and illness at high volumes or high sound pressures. However, there is no evidence currently that at low sound pressures of below 50 decibels, for example, there is any harm but, more importantly, there is no mechanism for harm. It is difficult because you need some evidence to say that something bad is happening but you also need to say, 'How is it happening?' It is very difficult to say. Our cochleas are unable to determine low volumes of low-frequency sound—in fact, as the volume of sound gets lower, you can hear it less and less. That is an audiological fact, if you like, if you look at audiograms.

For Dr Pierpont to be correct not only do the emissions from wind farms have to be quite high but also there has to be a mechanism by which that can be interpreted by the human body, and it is very difficult to explain that on the basis that infrasound is already prolific in our environment. Just about everything makes infrasound. Our bodies are producing infrasound. A heartbeat is between one and two hertz; our gut and lungs are producing sound all the time. We are not aware of it because it is at quite low volumes. Why then would a similar low-volume infrasound cause illness? It is very difficult to provide an adequate explanation; you have to come up with something quite new and fundamentally different that we could somehow perceive and interpret these very low-level sounds.

CHAIR—I have just been told that the *Hansard* has just gone up on the website, so it would be very much appreciated if you would have a look at that.

Dr Crisp—Yes.

Senator FIELDING—We have obviously heard conflicting views from both sides of the debate. How do you think this committee should try to get to the bottom of those issues when people present with severe health issues? There is a claim being made that it is psychosomatic, in other words they believe living near wind turbines is not good and therefore that plays out. There is another view that there is infrasound, which you have just been talking about, and that is causing issues—wind turbine syndrome it has been coined. How do we really get to the bottom of this once and for all? I am thinking that we probably need to get some scientific research done in some way to try and put this to bed, because this is a very big issue for a lot of communities. It is only going to get worse as wind turbines are rolled out in a massive way across Australia over the next decade. How do we actually get to the position where both sides can be happy with the methodology being proposed to do that research?

Dr Crisp—I think that there is already, if you like, quite a body of evidence out there. As in any debate about health or science it is important to go back to the actual evidence that is there. As I mentioned, wind turbines have been around for decades. They have been widely distributed throughout many countries and there have been very few reports of adverse effects until just recently when there has been publicity. Should science respond to publicity and public anxiety? To some degree you have to reassure people and you have to have the evidence to reassure people that there is not any harm. If you are asking whether we should do large-scale trials and investigations, I suppose in an ideal world, yes, we should. But I would also point out that, and this is the reason that I referenced coal so heavily here, we have not done any clinical trials into coal adversely affecting communities in Australia since 1994—the last one was done in the Hunter Valley. Here is something that is causing massive amounts of costs in health and illness across the country; why are we not investigating that? If you say we should start investigating wind and putting resources into that, surely these two things do not equate very well. So yes, I think we should investigate and assess these things but I also think we should keep it in proportion to the other things that need investigating.

Senator FIELDING—I did notice that you put a lot of emphasis on the coal and the health effects from that, and I saw that from the evidence. It is not really part of the terms of reference of this particular committee, but I would hate to say that because something else is causing a bigger problem we should look at that before looking at this one. I am hoping that is not what you are saying—so you are saying that we do not need to do more research into this issue?

Dr Crisp—I think that we should get our priorities right in terms of putting dollars of medical research into the most important areas. So should we investigate wind turbines for adverse health effects? I would suggest that it is not an unreasonable thing to do, but I think you are also competing for dollars in research with other areas. There are also several other countries that have a far higher density of wind turbines than Australia, so it would probably be better for those countries to look at the health effects where they are more likely to see a consequence anyway. If there is a health consequence arising from wind farms you would expect it to be in areas where people live closer to wind farms, where the setback is less and where there are high densities of people—obviously, from a statistical point of view, you are more likely to see low-level abnormalities if you have a greater population exposed. So should we be doing the research for this? I would suggest that there is a lot of research and expert reviews that have already been done and a lot of countries that are probably far better placed to do it. In terms of competing for health dollars for other medical research my personal opinion is that it is not necessarily a very good use of medical resources.

CHAIR—In evidence given to us earlier in this inquiry, people have suggested that perhaps the wind industry could put into a fund to fund it. It has got to be arm's length; we have already had that discussion. We have had a lot of evidence about it needing to be independent, but that is not to stop industry putting into a separate fund. What would you think about that?

Dr Crisp—I would suggest that we will continue to look at all the evidence gained here and overseas. I do not think it is for us to direct. I do not think it is beyond the scope of Doctors for the Environment to suggest necessarily things like that. If it was done, I would be interested to see what the findings were.

Senator MOORE—Are members of your organisation living in wind farm areas.

Dr Crisp—I would expect so, yes.

Senator MOORE—That is one of the points. One of the issues that came up when we were talking to community members on Monday was: if you don't live here, you don't know. That comes up everywhere, but I just thought I would put that on the table. I am following on from Senator Fielding's questions. We have heard evidence that people now are so concerned about what they have read and have heard about potential impacts that they are making life decisions about going into areas. We heard evidence this morning that someone who is pregnant is not going to visit her family because of concerns about wind farms. That to me is an increasing health issue. Taking on board your comments and other people's comments about potential competing health concerns, it is just as this one seems to be—as you have pointed out in your evidence—getting larger and impacting on people's lives. I am not sure and we are struggling with how, once you have people fearful, you ever combat fear. Do you have any comment from a medical perspective about what happens with pre-existing fear and what you can do to respond to that?

Dr Crisp—That is very difficult. It is true that hype will tend to have those effects. Again, I referred earlier to immunisation: the fallout from measles and mumps, rubella has had the most enormous consequences. Ten years down the track we can probably put it to bed—although some people will not. I suppose this is a societal problem. If somebody is able to put up something that is believable, it has huge effects on people's behaviour often to the detriment of those people. How do we address that as a society? I do not know the answer. If you do medical research and invest a lot of money into looking at whether there is hard evidence of physiological health effects rather than annoyance from wind frames, I suspect that the people who actually believe and have got ingrained views will continue to do so and criticise. We have seen this in other debates about science recently. People take entrenched views and then they do not want to change no matter what evidence is presented. I do not know the answer to that.

I think it is very important for the early inclusion of communities in decision making about projects such as wind farms. If people have some control or autonomy over the things that happen to them that is always better. I also think that there is an issue and it has been raised about whether people should be compensated for any potential loss with any industry that comes into their area. With wind farms, should there be some compensation paid for loss of amenity, if there is one?

One of the things that is interesting from trials that were done in Sweden looking at the rates of complaints of wind turbines due to annoyance or noise is that none of the complaints came from people who were beneficiaries of wind farms. The complaints in the groups related more to how much they had negative opinions about wind turbines. You could gauge how likely people were to get adverse effects by whether they liked or disliked wind turbines. You can try and change community views about these things by trying to make them beneficial to communities so there is some incentive.

Senator MOORE—I knew that question would come up with such an answer in terms of a discussion rather than a yes or no. For the record, could you provide on notice whether there are members of your group who live in areas where there are wind farms.

Dr Crisp—I only know local members in WA. DEA is national, as I said.

Senator MOORE—Is there a way of getting that through your network? I do not need to know who or where they are but in terms of that point of credibility.

Dr Crisp—Can I take that on notice and respond to you?

Senator MOORE—Absolutely. You may not be able to do it but, considering the information we have had, with people saying, ‘Unless you know, you don’t know,’ I think it would be a useful thing.

Dr Crisp—I find that that sort of argument, however, could apply to every single debate of treating patients—that you do not know unless—

Senator MOORE—If there are not any, it will not colour the evidence; it will just respond to those kinds of things. And none of us live in an area with wind farms, so we have the same issue.

CHAIR—Senator Adams.

Senator ADAMS—I guess I should declare that Dr Crisp is my doctor. Any questions I ask you, I am still coming back to see you! It’s a bit tricky!

Dr Crisp—I wasn’t going to say anything!

Senator ADAMS—I know you weren’t, but I thought I had better do it. Some submitters have argued that wind farms have been imposed on rural areas. Western Australia has a number of wind farms in the pipeline at the moment but, where we have come from, doing the other interviews, more and more rural areas have a lot more turbines going up, and it does seem to be causing a problem. This is against the wishes of local residents and for the benefit of those in the metropolitan areas. You are a city based person. How do you think we would go with health effects and other problems if somebody decided to put wind turbines along Leighton Beach, Cottesloe Beach, Sea View golf course or somewhere like that? Can you bring into perspective how a rural person would feel and how a metropolitan person would feel with the same indignity pushed onto them?

Dr Crisp—I am not sure quite how to answer the question. I think that wind farms, from a quality point of view, should probably go in the places where the best resources are, whatever sort of area that happens to be. There are clearly going to be some conflicts of use in areas. You could not build a wind farm just on the approach to the airport, for example, or—

Senator ADAMS—I am talking about windy areas, which of course are along the west coast beaches.

Dr Crisp—At the moment, there are setbacks and things like that to make sure that there are distances between people and wind turbines. You could not realistically put a wind turbine anywhere in Perth without a setback. There would not be a place you could do it. So from a practical point of view I am not quite sure if that question can work.

CHAIR—There are proposals for a couple of turbines in Fremantle.

Dr Crisp—I think that would be really good. Why wouldn't we have one in Fremantle? I do not know that there is any difference, if that is what you mean.

Senator ADAMS—In the eastern states a lot of these smaller rural communities, as they are getting out, are having wind turbines put in. There is a lot of secrecy about where they are going, what is happening and all the rest of it. We have had that evidence from the proponents of them simply because they are saying it is commercial-in-confidence.

Dr Crisp—I do not think that things should be kept secret in any event, but just getting back to that other question: of course, there is one on Rottnest Island. I do not know that it has had any adverse impact on tourism in Rottnest. Geordie Bay and Longreach Bay are very close to that wind turbine. I do not know—has that caused any trouble?

Senator ADAMS—I cannot remember the history of it. It has been there for quite a while.

Dr Crisp—It was originally up where the lighthouse was, and then the new one was constructed just at the back of Geordie Bay about six or seven years ago, I think. That is quite a decent sized wind turbine.

Senator ADAMS—Over to Rottnest! We missed that.

CHAIR—We might have to go there for a trip to have a look at the wind farm!

Dr Crisp—I am still happy to go there, if I can get a house.

Senator ADAMS—I was going to ask you questions about planning. The Commonwealth are forming planning guidelines at the moment but, because of constitutional issues, they cannot tell the states what to do. What would you as an organisation, because you are a national body, say should go into those guidelines to help with the problems that seem to be associated with the expansion—that is probably the best way to describe it—of the wind farm industry?

Dr Crisp—From a health perspective, the only demonstrated consequence of wind farms is annoyance from noise. So I think that the setbacks and the positioning of wind turbines and wind farms should be at a distance so that the WHO health guidelines as well as ours are observed, in that the sound pressure levels are less than 50 decibels. That is in the order of a quiet room.

Senator ADAMS—I have gone through that argument with aircraft noise. In different areas, whether it is water, valleys or whatever, these sounds are very different. It is fine having a highway going past and people have gone there knowing that they are going to be confronted with that. I know they try to shift airports because of the increase in traffic, and that is a wee bit difficult. But as wind turbines are increasing I think there is a lot more that could be done in the planning with national guidelines. That was the reason I asked.

Dr Crisp—I suppose from a health perspective, though, we have to respond to what health issues could arise from wind turbines being installed. Currently there is no evidence of adverse health effects. So, other than the fact that there is a noise issue, although modern turbines tend to be quieter than older turbines, really from a health perspective the only thing you can say about the planning is that we should make sure that the noise levels under all conditions—topography

and all these other variables—do not exceed the guidelines with respect to people who already live in these areas.

Senator ADAMS—The other thing is about the small turbines on the wind farms that have been around for 10 or 15 years. Things have changed a lot because they are going to larger and larger turbines and the generators are making a lot more noise as well. In Denmark they are actually shifting them out into the sea because they are getting so large that people just cannot cope with them on the land. That is because of the noise.

Dr Crisp—It is not because of the noise. The reason that they are going out to sea—

Senator ADAMS—Well, the evidence we have says that.

Dr Crisp—There are other very good reasons why they put wind turbines out to sea, and that is that you get a much better wind resource.

Senator ADAMS—They would not be taking them out there if they did not.

Dr Crisp—No. Wind turbines get more and more efficient at a square of the diameter of the blades. Basically for every doubling of the blades you get a square increase in the amount of energy from the wind turbines. So the bigger you can build them, the more energy you can harness, and that is obviously a good thing from an electricity generator's point of view and all of our points of view. When you build very big wind turbines, the cost of each turbine gets bigger and it becomes cost effective to start putting them out into the ocean where the wind resource is better and you get a better return on your investment. As I understand it, that is the primary reason for offshore wind. You secure a much better resource that way. I do not think that noise was the driver of moving wind turbines offshore.

Senator ADAMS—No, it was not the driver but it is part of it. I will be in Denmark and Sweden next week, so I am going to be quite busy. I will probably have to miss a lot of the other issues that we are supposed to discuss, because this is getting bigger than Ben Hur. But I will certainly be bringing some evidence back to the committee. If your organisation were asked to do some practical observation of the complaints that have come in—this is probably more for the eastern states and these smaller communities that have problems at the moment—how would you go about it? I think you were here for the evidence from previous witnesses about the PBS and blood pressure in a 10-kilometre radius. What would you do?

Dr Crisp—We really do not have the resources to conduct any of those sorts of things.

Senator ADAMS—No, I realise that. But if you were funded to do it?

Dr Crisp—Again, I would suggest that we do not have either the structure or facility to do this. We look at and review the information as provided by other researchers—published information.

Senator MOORE—I don't think we mean your organisation.

Senator ADAMS—We really need some practical work on this because it is fine to say, ‘We will go and review it.’ We hear that time and time again. We want some new evidence. You are a general practitioner and you have had, say, 150 patients come along and say, ‘Look, I’ve got a problem and I live here,’ or ‘I do this.’ A group of your colleagues have got together.

Dr Crisp—I think I understand what you are saying. As general practitioners, as people who work in the community, we can often identify case series. So we may see several patients with something and then identify that. Similarly, we can look at case series from other origins. It is really important to look at the actual types of information to determine what you can say about them. Case series will never tell you causality. So you can never provide either cause or reassurance on the basis of those things. You have to do cohort studies or longitudinal studies, looking at case maps or control groups as well. That requires a lot more work, and it has to be done formally. It is quite a big undertaking to do those sorts of things. Is that what you mean?

Senator ADAMS—It sort of is. You have some research dollars. It is just to have a group of interested GPs or a GP network. Say you are all within a 10 kilometre radius, and you go to a group meeting or something and say ‘Look, I’ve had x patients come and complain about this. Have you had the same?’ Then you can go and do something. How would you do that?

Dr Crisp—In terms of identifying cases, that is one thing. But you cannot draw any conclusions from it.

Senator ADAMS—I realise that; but what about as a collective? You have to have a plan. You have been given the dollars to do the research.

Dr Crisp—Immediately you do that you actually distort any further research because if you go out recruiting and trying to case find you can potentially change the results.

Senator ADAMS—But these people have come to you as patients.

Dr Crisp—Yes. Identifying those things is all well and good, and that is fine. But in terms of what you can do with that information, I do not know—other than notify. I do not think there is anything else you can do with that information. It is a case series.

Senator BOYCE—The National Health and Medical Research Council statement says that people who have experienced any health problems and are living near turbines should consult their GP promptly. They go on to say that in doing so they will contribute to the body of knowledge to inform future health and medical research on this issue. That would strike me as a rather slow and haphazard way to contribute to the body of knowledge on further medical research. Would you agree?

Dr Crisp—Absolutely. It is a muddled statement, actually, and I would not agree with it. I would probably suggest that if people get these symptoms that they ascribe to, whatever they may be, they should go and see their doctor. It would be quite nice to know what they are due to. Are they due to this? Is there some way of reassuring people to do x, y and z? That is correct, but to then go and inform research is invalid. It is haphazard because some people may report and some may not. It depends on the perspective of the doctor as to whether they think things should be reported. It is not a good way to collect evidence except in the very early stages of identifying

things. But the thing we are looking at has already been identified, if you like—unless we are looking for something new. Look at smoking. That is a good analogy. First of all there were case series of doctors saying, ‘I have seen all these smokers with lung cancer; is something going on?’ Then there was further case control studies and bigger and bigger studies whereby you can then establish causality through the statistical difference between people who are exposed and nonexposed. There is no point in doing more and more case studies. You will never get any further. I think that is what you are getting at; I am not sure. I do not see that a GP saying, ‘Look, there is somebody with these symptoms,’ is going to help. It does not quantify anything. It is quantification we need now; not identification. Is that useful?

CHAIR—I still get the sense there is a slight case of talking at cross-purposes here. What you are saying is that you will keep collecting information but that is not going to prove anything. What you do then is go to the sort of study that Professor Wittert was talking about earlier. Is that what you are saying?

Dr Crisp—Yes. There is no point in doing more. The other thing is that I can tell you categorically that most of the information will remain in the local doctor’s notes and go nowhere. So it is a lost resource in any event. Unless you make things notifiable or on a population basis—

CHAIR—Senator Adams, were you also then asking what you thought about the design of the study that Professor Wittert was talking about?

Senator ADAMS—Yes, I was.

Dr Crisp—You have to look at a study that is set up to look at a representative group of the population—a number. If you do things like a cohort study you can select a group that is exposed and a group that is not exposed to the thing that you are looking for, and then you can do that either as a cross-sectional or a longitudinal study to look at what happens to people over time or what the prevalence of something is within a community. Those studies would be of value, but not case series.

Senator ADAMS—The blood pressure is one way, but what other symptoms would you look at?

Dr Crisp—I think that is a good question because one of the problems at the moment with the proposed syndrome is that it does not have any specific or identifying features. If you are looking for something in a population, the specificity is going to be determined by how unique those things are. For example, if you are looking for mesothelioma related to asbestos, it is relatively easy because mesothelioma is not a common disease. When you find it, it has a high specificity for that. If you start to look for people who have raised blood pressure it is going to be really hard because most of the population over a certain age have raised blood pressure.

Senator ADAMS—Yes, they have, but is there anything else from the reading you have done, even though with these doctors—

Dr Crisp—No.

Senator ADAMS—So that is the only thing that you can do research on?

Dr Crisp—The problem is that the symptoms are, in large part, subjective. The nice thing about blood pressure is that it is objective. Although obviously there are problems in measuring blood pressure, it is still an objective measurement; whereas, when people say, ‘I’m dizzy’ or ‘I’m light-headed’ or these things, you cannot measure them. If you are looking for things in trials it is much easier and better to have things that are measurable rather than things that are not. Particularly with things like dizziness or fatigue, at any one time they are probably present in 20 to 30 per cent of the population to some degree. It makes doing trials much more difficult if you are looking for things that already exist in large numbers. Statistically speaking, you want a marker or something that is much more specific to a syndrome. A problem in wind turbine syndrome is that none of the symptoms are in any way specific to that syndrome; they are already common within the community.

Senator BOYCE—You pointed out that Doctors for the Environment is a group of medical doctors. Could you tell us about the processes that you use to develop your policies in environmental areas, which are obviously not areas where you have internal expertise?

Dr Crisp—We also have a panel of experts who are affiliated with Doctors for the Environment in a wide range of scientific areas. In terms of determining our policies, they tend to be limited to the health effects that are already published in the literature. So all we are really doing is taking a view. As doctors we are able to examine and assess trials and health information, and provide some advice and policy based on that. So we are largely limited to those areas.

Senator BOYCE—Would you see yourselves as having a bias towards physical health effects or would mental health effects be equally covered by your work?

Dr Crisp—Equally—we have a holistic look at health. As I mentioned, we have doctors from all specialities. From physical medicine to psychiatry and other areas of medicine, they are all represented.

Senator BOYCE—I have one other question. Some of the community organisations and activist groups are against renewable energy. The suggestion has been made that they could be being funded or influenced, wittingly or unwittingly, by opponents of renewable energy—industries that are competitors, for example. Are you able comment in anyway through the work of Doctors for the Environment on that?

Dr Crisp—Not through the work of Doctors for the Environment. I would agree that they could be. I have not specific knowledge on funding or other arrangements. I have seen that there have been some reports of some particular groups who obviously have an agenda in this regard, but not from the aspect of Doctors for the Environment.

Senator FIELDING—In your paper you have referenced Salt and Hullar?

Dr Crisp—I remember reading the paper.

Senator FIELDING—Can you tell what their conclusion was?

Dr Crisp—From memory, the Salt papers looked at a chinchilla or guinea pig model in terms of exposure through bony conduction for high sound level infrasound to determine whether there was evidence of stimulation of the hearing apparatus, cochlea and vestibular. From reading it, and it is not one of the ones I have read most recently—

Senator FIELDING—It was peer reviewed, wasn't it?

Dr Crisp—I believe so. I think that they were looking at high volume or high sound level stimulation in a chinchilla model.

Senator FIELDING—You would be aware that they say, 'This raises the possibility that exposure to the infrasound component of wind turbine noise could influence the physiology of the ear.'

Dr Crisp—At high volumes perhaps.

Senator FIELDING—They have raised wind turbines.

Dr Crisp—Yes, they may have, but I would not necessarily agree with that conclusion. I think that if you look at the earlier part of those trials they actually used much higher sound levels. I think they are extrapolating. They are saying that at very high sound levels in the chinchilla model you can see some evidence of reception so it may be having an effect. If you say, 'I am going to extrapolate that down to a lower level in a human model,' I think that is conjecture.

Senator FIELDING—It may be worth reading it again. The paper was: Responses of the ear to low frequency sounds, infrasound and wind turbines. So they did a fair bit of work in 2010.

Dr Crisp—But what were the volume levels they used in it? I think they were 100 decibels plus.

CHAIR—Could I ask you to take it on notice to relook at that paper to see if what you have just said is accurate? Tell me off if I am paraphrasing you wrongly but I think you said that they had taken an instance where there had been a high level of sound and inferred that if wind farms were producing high levels of sound they could have an impact.

Dr Crisp—I am quite happy to take that on notice and provide a response. I suppose the other thing from that point of view is that it is quite right for researchers to raise possibilities. It is quite right for researchers to say, 'We found this and maybe there is something further.' There is nothing wrong with that. They are not concluding that that is the case; they are just saying that maybe that is something that could be investigated further as a researcher.

CHAIR—I have one more question. If you could answer it now that would be good, but if it is going to take a bit of time could you take it on notice. While we are on the papers that you have referenced here, what papers would you direct us to if we are looking for really good research papers on the impacts of infrasound and low frequency sound?

Senator MOORE—Essential reading.

Dr Crisp—I will take that on notice. I do remember reading several things but I could not accurately place where the best ones were.

CHAIR—If you could take that on notice, that would be great. Thank you very much, Dr Crisp.

Proceedings suspended from 12.49 pm to 1.50 pm

ATKINS, Mrs Elizabeth Mary, Private capacity

BIGNELL, Ms Helen Edith, Private capacity

BILNEY, Mr Roger Frederick, Private capacity

CHAIR—Welcome. We are going to get started because I do not want to rob you of time to present to us. I understand that information on parliamentary privilege and the protection of witnesses and evidence has been given to you. Is there anything you wish to add about the capacity in which you appear today?

Ms Bignell—I am the neighbour of a proposed wind farm and a health professional.

Mr Bilney—I am a neighbour to a proposed wind farm.

Ms Atkins—I am an owner to neighbouring people who want to have a wind farm.

CHAIR—So people are aware, if you want to give in camera evidence at any stage—it is confidential evidence where we clear out everybody but us and the witnesses—let us know. The opportunity is always open to any witness. We have your submissions before us. They are 95, 826 and 827, respectively. If any of you would like to make a brief opening statement, I warmly welcome you to do so. Then we will ask you some questions. Who would like to kick off?

Ms Bignell—I would like to thank you for inviting me to appear today. I qualified as a physiotherapist in 1979, worked in Western Australia and London and have worked in a private and public capacity. I am now married to a farmer and work as a farmer and physiotherapist in Kojonup. A 47- or 74-turbine wind farm has been proposed on neighbouring properties, with turbines possibly being as close as 800 metres from two inhabited dwellings on our farm. We have several areas of concern, as noted in our submission, the main ones being health. As a health professional, the adverse effects of wind farms have been well documented. They include but are not limited to sleep disturbance, headache, tinnitus, ear pressure, dizziness, vertigo, nausea, visual disturbances, tachycardia—rapid heart rate—irritability, problems with concentration and memory, and panic attacks. This similar cluster of symptoms has been reported in countries worldwide by some people living near wind farms, including in the United States, Canada, the UK, New Zealand, Australia, Japan, Denmark, Holland and France.

An epidemiologist, Dr Carl Phillips, who is a professor of public health policy at the University of Texas Medical School, says:

There is ample scientific evidence to conclude that wind turbines cause serious health problems for some people living nearby.

The action of people choosing to leave their homes at considerable inconvenience and financial loss rather than enduring the adverse effects of the turbines provides an objective measurement in epidemiology of what would otherwise be subjective phenomena.

Inadequate sleep has been associated not just with fatigue, sleepiness and cognitive impairment but also with an increased risk of obesity, impaired glucose tolerance (risk of diabetes), high blood pressure, heart disease, cancer, depression and impaired immunity as shown by susceptibility to the common cold virus. Sleepy people have an increased risk of road traffic accidents. Sleepiness, as a symptom, has as much impact on health as epilepsy and arthritis. It is not insignificant.

That is a quote from Dr Christopher Hanning, a medical specialist in the UK.

As a clinician I have over the years treated people with chronic fatigue, fibromyalgia and repetitive strain injury and have known people who suffered from postnatal depression. These syndromes have similar features, and there is considerable overlap. In many cases there is not one single medical diagnostic test to show what condition these people suffer from. In many cases it is simply a matter of excluding all other disease processes. According to Dr Charles Lapp at the Hunter-Hopkins Centre in Charlotte, North Carolina, most people who complained of symptoms of chronic fatigue syndrome before it was officially defined in the late 1980s 'were considered to be hypochondriacs or crazy, because there are so many symptoms and so many systems involved.' Dr Lapp specialises in the treatment of chronic fatigue syndrome. People with chronic fatigue syndrome are often high-functioning individuals. Then something happens and suddenly they are wiped out. There has also been considerable literature written on the effects of infrasound, and cortisol is now being proposed as a possible problem and link with these syndromes and symptoms of wind farms.

The second area of concern is the siting of the wind farms. I would like to read from a document, *Wind farm siting issues in Australia*, from the Australian government. It comes from the Australian Greenhouse Office, and a grant was given to wind energy Australia. On page 8 of the 26-page document it states:

Community Acceptance: An important criterion is landowner support and general acceptance by the local community. Having a majority of the community in support of a proposal is important in the planning stage of a wind farm to maximise local benefits through constructive negotiation.

This certainly did not happen with the wind farm application and proposal in our district. Twenty immediate neighbours of the proposed wind farm were opposed to the application. All of them signed a letter voicing their opposition. The letter was published in the newspaper of the three local shires. We only attended a meeting regarding wind farms in September 2010 because a concerned community resident rang us to let us know that it was on and suggested that we ought to go because it would have a big impact on us. Up until that point we had no real knowledge of anything happening and the effects of a wind farm. Our neighbours were like us. We did not really know anything about wind farms until we started to look into it ourselves, and we were quite disturbed by what we read. We got together and talked about it, and that is where we found that people were similarly opposed to the application as we were.

The community effect is one thing that really concerns us. Rural communities really rely on their neighbours. It is the glue that holds our communities together. There is dissent amongst neighbours. It has already been levelled at us that we are against progress because we are opposed to the wind farm in this situation. As someone who has a 26-year-old house based on passive solar principles, who recycles and who does whatever she can for the environment, I find that a bit offensive. There is a lot of secrecy surrounding the agreements, and that has been part

of the concern. It has been very difficult to get information in the early stages because of the clauses in the confidentiality agreements people had to sign.

We cope with many things in rural communities, and it would be a shame if wind farms were to cause the division, strife and polarity that has been happening in communities around the world where wind farms have been sited. It is often argued that the adverse health effects of wind farms would disappear if enough money were thrown at those who complain. I, for one, know what symptoms wind turbine hosts might complain of given the opportunity if it were not for the confidentiality clauses.

I am not against wind farms per se. I think that in the right area—large holdings where there are few nearby neighbours who would be affected by them—they are possibly a good idea. I believe it is a fairly expensive form of electricity, but I do not know enough about that. But to site a wind farm in a small community where there will be possibly 30 inhabited buildings within two to five kilometres of the proposed wind farm seems to me bad practice if it could be sited elsewhere, where it would have less impact on people. The push for renewable energy should be a multipronged attack. While we are looking for other sources of renewable energy, I think we should also be considering how we can consume less as a society—not just going greener but also going leaner.

Mr Bilney—Good afternoon and thank you for the opportunity to address this committee. I would like to say at the outset that I am not opposed production from wind turbines at all but I am very much opposed to the externalisation of the social and economic cost of wind farms presently being borne by neighbours to these developments. My submission to this inquiry has detailed the reasons for our business rejecting the approach from Moonies Hill Energy to host turbines. Those reasons included unacceptable alteration to present and future land use, negative impact on land values and the risk of health problems for ourselves and our neighbours. These are the same reasons that four other neighbouring farmers rejected similar offers—farm businesses that range in size from a few hundred hectares to many thousands of hectares owned by a large corporate entity.

The lack of public awareness for this project convinced me to raise the issue of a wind farm in our community in our local paper, the *Kojonup News*. The article encouraged people to do their own research, form a view and make that view known to the shire council, which at that stage offered only 21 days for comment on the planning application before them. A shareholder of Moonies Hill Energy in a subsequent issue of the *Kojonup News* suggested that I was a nimby and that any health concerns should be dismissed. The shareholder offered the National Health and Medical Research Council document *Wind Turbines and Health* as proof of this.

The reliance on the National Health and Medical Research Council document as the cornerstone for the safe development of wind farms in rural Australia, along with the prompt from Moonies Hill Energy, led me to find and read that paper. The statement that to date there is no peer reviewed evidence to support claims of health impact from wind turbines simply and clearly illustrates that no research has been done to prove that they are safe.

I have also recently read the letter from the Waubra Foundation written by Peter Mitchell that was dated August 2010 and sent to the council, which clearly asked that this research be done. The onus of proof must lie with those promoting these industrial complexes, be they government

or developers. It should not lie with individuals or doctors treating them to prove that this harm is being done.

I originally farmed 1,200 hectares with my father and brother, but the farm area grew to over 5,000 hectares by 2001, when my brother and I split the business and my father retired. We have, in the last decade, grown the operation from our half share to its present area of 5,100 hectares through hard work, honesty, a willingness to explore new business opportunities and a clear understanding of risk. It is the issue of risk management that I will use to conclude this presentation with regard to the proposed wind farm in our district. The knowledge of the risks our business faces and the management of those risks has been of paramount importance to the successful and steady growth of our farming operation. We have well developed strategies for volatile commodity prices, currency movements, interest rates and seasonal variations but the two greatest and hardest risks to manage that we face are the health of our family members and the asset value of the farmland that our borrowings are secured against. It is the strong belief of our family that the present planning guidelines for the placement of wind turbines in WA, if applied to the Flat Rocks wind farm will expose our business to both health issues and the loss of asset value.

The book written by Anh Do titled *The Happiest Refugee* is a true story of a remarkable journey of a Vietnamese family arriving in Australia as refugees. Anh often talks about decision-making at crucial moments, where his father once told him, 'There are two times in life: there is now and there is too late.' I believe that this Senate inquiry is at one of those pivotal moments and hence urge you to act now before it is too late for the neighbours of the many proposed wind farms around Australia. There is an immediate need for research to be done into why and how people living near turbines are becoming unwell, and until such detail is known the precautionary approach of siting turbines no closer than 10 kilometres from dwellings should be implemented. Australia has both the time and the space for this moratorium.

CHAIR—Mrs Atkins.

Mrs Atkins—Thank you for inviting me here today to give evidence to this committee. First I will summarise my views on wind farms. Wind farms should be in wide open landscapes with no homes anywhere nearby. Good locations would be on government owned land or national parks. In such a location they would not interfere with any resident's lifestyles or their health. They could be an interesting tourist attraction. The government could receive an income from them and be seen to be doing something for climate change.

I am here today because I have put a submission in to the Kojonup Shire objecting to my neighbour's application for a 74-turbine wind farm. The word 'farm' has developed a whole new meaning—a wind farm. Our family has had a 3,200 acre farm in Kojonup since the early 1920s. It is a sheep farm, producing wool and cross-bred lambs in an area zoned rural. Now we might have different farm neighbours, wind farmers, with income from wind turbines. Their plant would be 74 wind turbines, and 34 of those wind turbines will be very close to half of our 20 properties. In fact, part of that half would be no more than two kilometres from a wind turbine. They would be constantly in our view, moving around and around. There would be a very different view to the beautiful landscape with the Stirling Ranges in the distance that we have enjoyed for nearly 90 years.

I worry to think how we would get on with wind farmers as neighbours. My accountant from Bird Cameron has informed me a wind farm as a neighbour would devalue our land. Who would choose to live so close to wind turbines? I have observed one wind turbine at Rottneest from six kilometres, where it is visibly going around and around and I observed it from as close as I could get to it. Downwind there was a hissing noise that kept hissing. The annoying thing is that a wind turbine does not stop. To have to live with 34, which would be close to our properties, will reduce dramatically the enjoyment of our beautiful properties. The turbines will be there always going around and around.

I worry to think how we would get on with wind farmers. There are issues which are discussed in newspapers and on websites which concern us. If it were not for the quality and fertility of our farmland and our long association with it—my great-great-grandfather took up the first lease of Yarranup Pool, our land, in the 1860s so he knew it was going to be good land—I guess we could even consider selling up if the wind farm went ahead, because we do not want to become wind farmers. Thank you very much for hearing my views.

Senator ADAMS—To start with perhaps I should explain that I have lived in Kojonup until two years ago 10 kilometres from the proposed site, so all the people from Kojonup who have appeared here are very close acquaintances of course. I am trying to remain neutral and just talk about what the committee has done, where we have been and the questions I am asking are for the record so that we have the evidence that we need. These questions are not particular to Kojonup. I have been asking them for the last four days. Consequently, I can hardly talk now. Mrs Bignell, could you tell us how long you have farmed in Kojonup and when you became aware of the Flat Rocks wind farm proposal.

Ms Bignell—We have been farming for 26 years on 13 April. We first became aware sometime in September 2010 when there was a proposed meeting in the Kojonup Shire. We received a leaflet in the mail which advised of a public meeting about wind farms I did not take much notice. I recycled as I do—I did not throw it in the bin. Then a concerned resident in the community rang us and said, ‘Have you received a notice about the public meeting on wind farms?’ I said, ‘Yes,’ and they said ‘Are you going?’ and I said, ‘No.’ They said, ‘I think it would be in your best interests to attend the meeting.’ I asked why and they said, ‘I just think that you should attend the meeting.’ Before the meeting, I cannot remember whether it was a couple of nights before, Sarah Rankin rang and said that there was a meeting, were we thinking of attending because it would probably be a good idea to attend. Up until then I really was not aware of anything to do with wind farms.

Mr Bilney—I might add that I was the person who rang Helen and she was kind enough to not say that. I was actually bound by a confidentiality agreement at that stage and I did not know the limits of it. I think, if I had taken it to a solicitor, I would have found that I could well have talked to her. My reaction when being asked to sign that originally was that I did it to progress the consultation we were having with Moonies Hill and then felt obligated not to tell anyone about anything. That included feeling not able to openly ring my neighbours to say, ‘Do you know about this, it’s going to be very close to your house?’ Helen was kind enough not to mention my name but I was the source of that information.

Our family has been on that farm since the 1890s, the sixth generation is about to be born. I first learnt of a wind farm I suspect it was back in 2008 when a fax came through to say there

was a meeting at Ben and Sarah's place and, if we were interested, we should come along. I had no interest, did not go and did not expect to hear any more of it. I noticed that the mast went up and was comfortable thinking that they could do as they wished, that was their business and it was not going to involve me so I did not have to be bothered by it.

In May 2010 I was contacted again by Moonies Hill to tell me that they had a plan where a number of turbines were to be sited on some of our properties and was I interested? I was a bit taken aback to think that they had developed a process to plan having turbines on our property without even asking us in the first instance if we were interested, given that we did not attend the meeting. However, we did have a chap staying with us from New Zealand and he said he was about to have them installed on his property and that they were a good thing. With that in mind I proceeded to open negotiations with them and signed that confidentiality agreement on that basis.

At the end of that meeting I said to them that my inclination was that we would not be involved. I talked to them about the things that we would want if we were going to be involved and basically that is where the meeting ended. Subsequent to that they asked me again and I said, 'No, the family has made a decision that they will not be involved.' Further to that another offer was made of an increased amount and we rejected that as well.

Senator ADAMS—Mrs Atkins?

Mrs Atkins—What would you like to know from me?

Senator ADAMS—Mrs Atkins, firstly, for the record, how long have you been farming at Yarranup? When did you first become aware of the Flat Rocks wind farm?

Mrs Atkins—My great-great-grandfather took up the lease of Yarranup in the very first instance in the 1860s. He then gave it up and took up leases elsewhere. Then my father was bought the land in 1920 and he farmed on it until he died in 1982. I grew up on Yarranup and I still own one-third of it and the family company owns the other two-thirds. We just thought it was a wonderful place to have a property. The land is good and fertile and we would like to continue sheep farming there.

Ms Bignell—I have been on the farm for 26 years, but my husband and his parents have been on the farm just gone 50 years.

Mrs Atkins—As to when I heard about the wind farm, on the weekend of 28 and 29 November, there were some interesting articles in the *Australian* about wind farms. I said to my family, 'Have you read these articles? You wouldn't want a wind farm next door to you, would you?' On the following Monday, I got a letter from the Kojonup Shire with a copy of the submission that the wind farm people had put to the Kojonup Shire. I was absolutely devastated. I rang my farm manager, Paul Durack, who has been with us for a very long time, and his father was with us even longer, so Paul grew up on our property. I said, 'I hear there's a wind farm down here. What's it all about?' Paul said, 'I did ask them if there was anything in it for Yarranup and they said no.' Paul has been a very good farm manager. If the neighbours had said, 'We've got lice,' or, 'We've got footrot,' or, 'The sheep have got into your paddock,' Paul would have told me. But he perhaps did not know that there were going to be 74 wind turbines in the

whole scenario, so he had not told me. That was the first I knew about the wind farm, my neighbours being wind farmers, not sheep or crop farmers.

CHAIR—Mr Bilney, when you signed the confidentiality agreement, what did you understand you were signing and what did you understand you could talk about?

Mr Bilney—It was put to me that I needed to sign it to further the discussions. Basically, I had a phone conversation, they asked me if I was interested and I said, ‘Yes, we’re always interested in business propositions.’ They said, ‘To further the discussions we need you to sign a confidentiality agreement,’ which I subsequently did. I might add that I would not ever do it again, but we did it at that point. I believed from that that I was not able to disclose anything that could have been harmful or confidential to that business. That is why I felt unable to openly ring Helen and say, ‘A group of turbines are likely to be within 800 metres of your boundary,’ because I could not deem whether that was a sensitive piece of information. So I basically sat on my hands until that sort of information was put out into the public. Then I felt able to talk about it.

Senator FIELDING—What did you get in return for that confidentiality agreement?

Mr Bilney—The opportunity to further the negotiations. They would not discuss the project with me until I signed that agreement, because it included what they were offering in terms of turbines.

CHAIR—In terms of leasing the turbines and a commercial return to you?

Mr Bilney—Yes, that is right. I might add, in the process of forming my paper, I have been to Verve Energy. I wanted to understand how electricity was traded and the process. I talked to them about confidentiality agreements and they said in fact they had them. But at the other end of the equation they had them simply to protect the leaseholder payments; it was not to stifle discussion. The stifling of discussion may not have been the intention but it was perhaps an unintended consequence.

CHAIR—Is that how you understood it?

Mr Bilney—That is certainly how I interpreted it. I said and did nothing to anyone. The interesting point is that all the other people who either decided to be involved or not to be involved did so in an isolated way. That is why we have got four people who have said ‘no’ and two people who have said ‘yes’. They all had to make that decision in isolation. They could not all get together and say, as neighbours, ‘What do you all think?’ I believe, if we had the opportunity to do that we may well have a different outcome.

CHAIR—There has been a lot of discussion over the last four days about confidentiality. I am trying to enable the committee to have a clear understanding of what is said in the confidentiality agreements, what is implied and what people interpret them to mean et cetera because they are a major bone of contention.

Mr Bilney—That is right.

Senator BOYCE—Did the contract include specifically any prohibition on adverse comment by you or a more general non-disparagement clause?

Mr Bilney—It was a more general document. My recollection is that it was a more general document. When we decided we were not going to be involved, in a naive way I kept my office clean and said, ‘I do not need this any more.’ I now reflect on that and I do not know when that confidentiality agreement actually ceases to operate. In some ways I may still be bound by it even though I am on this side of the table and they are on the other side.

CHAIR—You have got rid of the original?

Mr Bilney—I do not have the original one. All I can speak to is the effect of it. The effect was that it stifled discussions. My recollection is that it was non-specific. There may well be further confidentiality agreements that have developed since that original one that may take care of people who do actually sign with them. I believe the one I signed was of a very general nature.

Senator MOORE—There was no discussion between you and the person who offered the agreement about what it meant?

Mr Bilney—There was no discussion other than to say that I was not to divulge confidential information.

Senator MOORE—And there was no further discussion about what that meant?

Mr Bilney—No.

Senator MOORE—There have been lots of claims made about what these confidentiality agreements are. I think it is important to work through it.

Mr Bilney—No.

Senator MOORE—You have been involved in business a long time?

Mr Bilney—Yes.

Senator MOORE—So confidentiality agreements around commercial-in-confidence stuff is common?

Mr Bilney—No. I have not signed one before.

Senator MOORE—Have you been asked to sign one before?

Mr Bilney—No.

Senator MOORE—Have you been involved in one of these processes before?

Mr Bilney—No. The really important point here for me is that these were, and still are, friends of mine—neighbours, and we have been neighbours for a very long time. If it was a Pacific Hydro or someone like that who came to me and said, ‘Here, we want you to sign this,’ I would have been far more suspicious and perhaps a little less naive in simply signing it and saying, ‘Yep, that is okay. What do you want to talk about?’

Senator MOORE—So the people from the company were friends and neighbours?

Mr Bilney—As I understand it, the four directors of Moonies Hill Energy are our immediate neighbours, yes.

Senator MOORE—I certainly did not know that from the previous discussions.

Mr Bilney—As I understand it, this is not a proposition being put by a multinational or a large wind company. This is a proposition being put by our immediate neighbours. That is why I am very careful to say that I suspect the intent of their document was to keep confidential the amount of money.

A Senator MOORE—That would be my expectation.

Mr Bilney—The consequence of it was that I felt unable to talk to anyone. I know for a fact that the other people who ultimately have said no that have come to me have said the same thing. They have said things like, ‘Look, I know we should not be talking but what are you going to do?’

Senator BOYCE—Earlier, you mentioned Ben and Sarah. Are they two of the directors? Who are Ben and Sarah?

Mr Bilney—They are behind us now.

Senator BOYCE—Who are Ben and Sarah?

Mr Bilney—Ben and Sarah Wilson are shareholders of Moonies Hill Energy.

Senator MOORE—This could have been a great deal of misunderstanding?

Mr Bilney—In terms of?

Senator MOORE—In terms of what was confidential and what was not.

Mr Bilney—I took the view that anything that was not in the public domain was confidential.

Senator MOORE—But that was not actually clarified.

Mr Bilney—No.

Senator MOORE—We are talking about documents which have allegedly had been given—are you sure that the same documents were given to the other people, identical ones?

Mr Bilney—No, I am not.

Senator MOORE—We have a statement that the documents were given and then people interpreted what they meant and that was not clear. The point is that there was no clarity between those involved in this contract about exactly what was confidential.

Mr Bilney—That is correct, yes. I took it to mean anything that was not in the public domain.

CHAIR—We need to move on. This has been replicated in all the hearings we have had, so I wanted to make sure we had a good understanding of it.

Mr Bilney—It has been the most decisive part of this process. That is all I need to say.

Senator FIELDING—Did they suggest you saw a lawyer or a solicitor before you signed the agreement?

Mr Bilney—No.

Senator ADAMS—Moving on from the confidentiality agreement, as we have moved around, community consultation has been the biggest bone of contention in all the areas we have visited. In Ballarat we had in excess of probably 200 people at a community forum and community consultation was their biggest issue. With a number of the developers it is the same thing—they have their ideas of community consultation but unfortunately, coming from a rural area, it is not our idea of community consultation and they just do not understand that. I would like to know what community consultation has been available to the whole of the catchment.

Ms Bignell—Roger mentioned a meeting he went to at the Wilsons' in 2006.

Mr Bilney—No, I did not go.

Ms Bignell—Sorry—there was a meeting. We knew nothing about that meeting.

Senator MOORE—Did you say in 2006?

Mr Bilney—I think it was in 2008.

Senator MOORE—That is why I asked—I thought it was in 2008.

Ms Bignell—I apologise—it was in 2008 and we nothing about that. Given that, if the proposed development goes ahead, we are going to be right next door to it, that was a bit of a concern. I have spoken with two neighbours who were quite upset that they knew nothing about the process. We attended the meeting in September, which Roger kindly rang to let us know about and which we otherwise probably would not have attended—and not knowing anything about wind farms, like most people, we thought, 'What is a couple of turbines?'—but two other neighbours close to us, whose name I will not mention, were most upset that they did not even

know about the meeting in Kojonup. One thought they had not even received a leaflet when I said we had received a leaflet. They were pretty sure that they had not received a leaflet and they were most annoyed that they were not even in on the process.

Senator BOYCE—The 2008 meeting, in your understanding Mr Bilney, was with the people who are going to be invited to potentially have turbines on their land. Is that correct?

Mr Bilney—My recollection is that a fax said that there was a meeting with regard to a proposed wind farm, to investigate the possibility of a wind farm. It came from Sarah. I looked at it and said, 'I'm not interested so I'm not going.' The fax certainly did not canvass people to host turbines, no. In fact, it led me to believe that it was a project they were going to put on their own property.

Senator ADAMS—Mrs Atkins, have you been involved in any community consultation?

Mrs Atkins—I have said that I read the article in the *Australian* on 29 November and on Monday I got a copy from the Kojonup shire of their application. So I was concerned and I have spoken to my farm manager about that. He said he had been told that there was going to be nothing in it for Yarranup—that is our farm—so he did not further the conversation in that regard. I did ring the Kojonup newsletter people at that time, at the beginning of December, and asked them whether they knew anything about the wind farm. I get the *Kojonup News* regularly and I had not see anything about the wind farm in it. I thought, 'If there is a wind farm going to be developed in Kojonup to the extent of 74 turbines, it would surely be something the *Kojonup News* would be covering. It would be very newsworthy.' The people at the *Kojonup News* said they did not know anything about it.

Mr Bilney—That is why I wrote the letter to point out that the turbines were going to be there, how high they were going to be and what that impact had been on the Eastern states. I also pointed out that this group of people had received royalties for regions money to fund this operation which I found disappointing that public moneys would be used in that way. I wrote to the Great Southern Development Corporation asking them what the community benefit was that as associated with that, and their reply was that it was for the electricity that was put into the grid. So there is an enormous lack of awareness right through all the communities, and Kojonup was no different. That is why I put in the newsletter.

The other thing you will notice in the Moonies Hill submission is that they claim to have consulted, to have wide neighbour and community support and been in touch with everybody within a 10-kilometre radius. That is simply not true. Elizabeth is a classic example: she did not know about it until she received the planning submission from the shire asking for her comment. Their sense of community consultation is way different to what I think is adequate.

CHAIR—Ms Atkins, can I just clarify: did you get the leaflet that Mrs Bignell got—or did the farm manager? When you say your farm manager had initially contacted Moonies Hill—I think that is my understanding, and there was nothing in it for your farm—was that in response to the leaflet about the community consultation?

Ms Atkins—I think that was just a conversation over a cup of tea and wondering whether they might be able to do our harvesting or whether the fence was done or what have you.

CHAIR—To your knowledge, you did not get a leaflet about the public meeting?

Ms Atkins—No.

CHAIR—And your farm manager did not either.

Ms Atkins—I think my farm manager might have but he did not go. I do not think being a farm manager that it was his business. He did not go to a meeting. I think he had a family health problem.

CHAIR—Thank you.

Senator FIELDING—I will probably cover some of the adverse health impacts that I think, Mrs Bignell, you have got in your report. Do you know why your area has been selected for a wind farm?

Ms Atkins—I would like to say something about that. My farm manager's wife said that the neighbours were having trouble paying the school fees. It was a very windy day. They were having trouble pegging the clothes on the line and they thought that perhaps a wind farm might be able to put their children through boarding school. That is the sort of conversation I had with my farm manager; just chit chat.

Senator FIELDING—I am sure there is someone in Fremantle, someone in Melbourne and someone in Adelaide Terrace with the same views. I am trying to work out how country communities are selected. Is it because they are on a transmission line, a high-voltage access line very close by?

Mr Bilney—In this instance, our property is at the top of the water catchment. One of our properties is over 400 metres above sea level. It is very high, and when you get there it is the windiest place on earth. There is a wind resource there and it is a logical place for one to be.

Senator FIELDING—I am not sure I know why but I am wondering whether some planning authority could say: These are the most likely places for them to be. You know in advance where a freeway is going to be, and people know when they buy property whether it can be compulsorily acquired and all those sorts of things. They may not want to stay there. It is a thought provoker for some other time because I want to focus on health. I am saying it would be nice to know in Australia, no matter where you live, what the possibility of a wind farm coming near you is because quite a few people are now worried about one coming near them next.

Mr Bilney—The key requirements are a transmission line and an asset. If there is no transmission line, there may well be an asset.

Senator FIELDING—This is not whether you are for or against wind farms. It think communities would like to know. There are probably a lot of people out there who have signed confidentially agreements and their neighbours know nothing about a wind farm coming. All the other people in the area just do not know. So the question for all of us is: is that the best way forward from here or should we come clean with the broader community about where wind

farms are most likely to be in Australia so people can start to get used to them earlier if they are going to come?

Mr Bilney—Whilst the subsidies are in place, they will end up in places they ought not to be.

Senator FIELDING—Is not for you to answer that question. It is one that I have generally put out there about where the wind farms are most likely to be.

Ms Bignell—Interestingly, in Denmark they are tending to go more offshore because they have had problems onshore. Denmark is one of the leading exponents—

Senator FIELDING—We have had different views on that issue. We just do not know where that one is coming from. If someone is travelling somewhere, maybe we can find out.

Senator ADAMS—I am going next week.

Senator FIELDING—You raised that a couple of law suits are pending in Ontario and in the United States. Residents living close to wind farms are claiming adverse effects. Do you know more about that? I think the committee may need to find out a bit more about those lawsuits.

Ms Bignell—Unfortunately, I have not—

CHAIR—The Ontario one, as far as I understand, as of last week had been rejected. That is as much as I know.

Ms Bignell—I am in contact with Dr Sarah Laurie, whom you probably know, from the Waubra region.

Senator BOYCE—She has given evidence.

Ms Bignell—She was just a GP and now she is looking further into people claiming adverse effects. Last year there were enough medical professionals concerned about it that they held the first international symposium on the adverse effects of wind turbines in October 2010.

Senator FIELDING—You say that in Ireland a criminal suit was brought against a wind farm owner for noise violations. Is that something you know more about?

Ms Bignell—No, it was just a reference point. I found some of the points—

Senator FIELDING—Again, maybe as a committee we can look at that a bit further.

Senator BOYCE—We had not heard before about the international symposium on wind turbine syndrome. Can you tell us what you know about it, please?

Ms Bignell—Only what I have got off the internet. Dr Michael Nissenbaum and Dr Christopher Hanning—

Senator BOYCE—Where was it held?

Ms Bignell—In Canada or the USA. Michael Nissenbaum was one of the main ones. And there was Dr Salt. They spent a few days discussing the adverse effects. A lot of people around the world are claiming similar symptoms. As I pointed out, it was the same with fibromyalgia. Chronic fatigue syndrome used to be called the yuppie flu in the 1980s until there was a body of evidence. Enough people got it so the medical profession decided to look at it and give it a name. In this case, Dr Nina Pierpont has done some work.

Senator BOYCE—She has also given evidence.

Ms Bignell—Yes. She has coined the phrase ‘wind turbine syndrome’. I have read through the symptoms. In the 1980s when I was a clinician and just starting out I treated people with fibromyalgia, chronic fatigue, and repetitive strain injury. They were sent by doctors with quite disparaging notes such as, ‘This person may have pain,’ or, ‘This person complains of pain.’ These people came to us and their pain was real. They were suffering. When people denied there was anything wrong, it added to their problems. Some of them suffered depression as a result of some of these things. They were often people who had good jobs. They were not people who did not want to work. They had to take medication and take time off work. Over 20 years the medical profession has decided that some of the symptoms actually do form a cluster and then they put a name to it. There are clinics now just for chronic fatigue and physiotherapists in Perth who treat just fibromyalgia, yet for years people with these conditions were regarded as perhaps having an overactive imagination.

Senator FIELDING—Also in your submission you quote Dr Christopher Hanning as saying that:

... there is now a large body of evidence proving beyond any reasonable doubt that sleep is disturbed and health impaired by wind turbines at distances up to 2km ...

Do you know more about that at all?

Ms Bignell—He is a clinician in the United Kingdom. I am not sure if you have found it, but he runs a sleep disorder clinic and has run it for 30 years. He has got quite a body of evidence, apparently, and somewhere I have one of his submissions that runs to several pages about the ill effects of sleep disturbance. I can probably find that for you in my file of evidence and give you a copy.

Senator FIELDING—Yes, if you could forward that to the committee that would be great, thank you.

CHAIR—Before I go back to Senator Adams, we have got five minutes. Does anybody else have burning questions or will we follow up anything that we need to following on from Senator Adams?

Senator MOORE—My question is to all the witnesses and certainly most clearly to you, Ms Bignell, because you have been running the health argument. There have been a number of statements made by different places about the fact that no scientifically proven empirical

evidence has been put forward about the health impacts. Mr Bilney, you have said that you think there should be some research done, and lots of people are saying that. What kind of evidence would meet the concerns of people who are claiming that they have been made unwell? If you have, at this moment, a lot of anecdotal things from around the world saying that people are having a syndrome, we have not got anything that has been put in the scientific sphere that has been recognised as proving that. What kind of evidence is required to actually prove it one way or another?

Ms Bignell—Two things. I personally think cortisol, which I will not go into—

Senator MOORE—I have no idea what cortisol is.

Ms Bignell—Cortisol is a hormone that is secreted and it gives you the fight-or-flight response. So when you have a fright, your heart rate increases, your breathing increases and those sorts of things. Personally, if I were younger, I would do the research into that, because I think the secretion of cortisol is the problem. In America, a doctor is starting to look at that, because I mentioned this with Dr Sarah Laurie. He has done only one or two people. He has actually measured their cortisol levels when they were close to turbines when they were turning, and then measured them when they have either been on holiday or not turning and there is quite a discrepancy, but it is only one person or two people, so it is not really a big thing.

As to infrasound: there is beginning to be some evidence about the effect of infrasound. People talk about the sound of the turbines. I tend to think—and I am not an expert, but it is my feeling—that perhaps it is more the vibration than the noise. You can measure noise but you cannot measure vibration, if you have ever sat on a tractor seat or a ride and you have gotten vibrations, if you suffer from motion sickness it is actually the vibration not the noise that causes the problem. There is some research being done on the effects of infrasound on the inner ear—not the cochlea but the otolithic organs that actually affect balance and nausea, vertigo and tinnitus. So that could explain some of those symptoms. Raised cortisol levels could explain the rapid heart rate, and I believe Dr Sarah Laurie has said that some people in Waubra have increased blood pressure. So I suspect cortisol may play a role in that.

For me, it is cortisol and infrasound. But, as I said, with RSI, fibromyalgia and chronic fatigue there is not a single test that you can do. You can have MRIs and everything. They are now defined medical syndromes accepted by the medical fraternity but there is not one test that you can do to prove it. It is actually, as I said, a process of exclusion. You exclude all other disease processes which might cause that and then you say, ‘Okay, you have possibly got fibromyalgia or chronic fatigue.’

Senator MOORE—You are using that as an example rather than a link to turbines?

Ms Bignell—Yes, that is right.

Senator MOORE—Mr Bilney, any idea of research that is in your claim that you want researched?

Mr Bilney—I have mentioned the research. I think your question was more along the lines of: what would convince me?

Senator MOORE—Yes.

Mr Bilney—What would convince me is if the research was done by totally independent people. And when a national health document like the one we have read about takes a deal of their information from wind energy associations, they are not independent.

Senator MOORE—So taking evidence in itself is not independent?

Mr Bilney—They have used the American Wind Energy Association and the Canadian Wind Energy Association, and both those documents have been reported on as being conflicted. So I would require the research to be done, and it needs to be done on a basis of proving that they are not harmful rather than the other way around. At the moment there is no evidence to say that they are harmful, and that is why they have all been brought in close and people are now trying to push them out. I think that in the near future we should position the turbines at a considerable distance and when the evidence proves that they can come closer then we can bring them in. The research needs to be completely independent.

Senator MOORE—Mrs Atkins, to complete the argument, do you have any views about what is needed to assuage the health concerns?

Mrs Atkins—I have not got a medical background so I would have to rely on other people there. But for me, those windmills just going round and round would be enough to perhaps upset me mentally. They just go round day in and day out, and if you had 34 of them around your immediate property I think that you would get very upset. You cannot turn them off.

Senator MOORE—From your perspective, Mrs Atkins, the psychological aspects are as important as the physical health aspects.

Mrs Atkins—For me it would be the psychological aspects.

Ms Bignell—I do not believe there is any peer reviewed research to show that they definitely do not cause health problems. Everyone is saying there is no peer reviewed research to show that they do cause problems, but I have not seen any peer reviewed research to show that they definitely do not cause health problems. People have said that there are no adverse affects at the base of a turbine, but I believe that it is exponential—so it is further away from a turbine that you can hear the sound and feel it. A lot of these people have lived there. In my submission I talked about the vibroacoustic condition which they have done a lot of research on in Portugal. It is a dose dependent rate of low frequency sound. The longer you are exposed to it the more the symptoms show. Perhaps, if people really want to do the research, they need to go and live there for four to six weeks, or something—which it is probably not possible to do—to see what the effects are. It is very easy to go somewhere for half an hour and say that there is no problem, it is not loud and it is not this and it is not that. But to live there day in and day out would probably give you a much better idea of what is happening.

Senator ADAMS—As we have gone around the country we have found that each state, of course, is responsible for planning. At the moment the Commonwealth is preparing some national guidelines on wind farms. With regard to state planning, we were in Victoria yesterday and the day before and that state was doing the planning but they have now handed it back to

local government. Local governments have met at Ballarat; I think we had five giving evidence there that they do not have the expertise to do the planning. It seems to be very difficult to determine how that planning will go. At the moment you have got local governments, state governments and now federal government involved, but federal government can only do national guidelines. The federal government cannot make sure that those guidelines are adopted because of the Constitution. Have you got any comments on how the planning has gone for this particular project?

Mr Bilney—My thoughts are that the shires are not well equipped to handle this decision making. Furthermore, they are even more poorly equipped to manage guideline breaches and to know how to measure those breaches. In my submission I noted that the Kojonup shire needed to make sure that they had the skills, the power and the capacity to enforce the guidelines that they might put in place. I think that initially they have got a real vacuum in knowledge in terms of planning. Moreover, there are even bigger problems for them to manage the guidelines about noise and setbacks.

Ms Bignell—I have spoken with a couple of councillors on one of the particular shires, and they said they were all at sea. They said, ‘We get all this information and we are supposed to make a decision, and we really don’t have the expertise.’ Roger has mentioned the precautionary principle. Wind farms last for at least 20 years. Once they are up, they are up. I said: ‘Preferably, invoke the precautionary principle’—as Roger said—‘and site them further away so that, if adverse health effects or any other effects are found, then you have covered yourself. If you have put them up 500 metres from a dwelling and it is found in the future—in five years or 10 years—that it adversely affects the health of people living close, what do you then do? Do you say to those people, “I’m sorry; you’ve lived here for 50 years but you’ve got to move or you’ve got to put up with the problem”?’ A lot of shire councillors to whom I have spoken have said they simply do not have the expertise. They are getting information from people for wind farms and against them. They are thinking about economical issues and about the shire but they do not want to adversely affect people’s health. They are all at sea really.

Senator ADAMS—When is the decision on this one going to be made?

Mr Bilney—I spoke to some staff at Tambellup recently, and they said that the decision certainly would be made in April. They were still waiting for more information. They are thinking it is most likely to be done in May.

CHAIR—We are on a very tight time line. I think some of you took some extra homework to send us in further details. Ms Bignell, you were going to send us some further information.

Mr Bilney—I do not think you had given me any at this stage, but I am happy to do it if you can think of some questions. I would be more than happy to answer them.

CHAIR—If there is any further information that you want to send in, you are very welcome to do so. Thank you.

Mr Bilney—I have a copy of what I said today and of the letter that Peter Mitchell sent to the national health council. Can I leave a copy of this for everyone?

CHAIR—You certainly can. Thank you very much. We very much appreciate your coming up from Kojonup. Have a safe trip back.

Mr Bilney—Thank you.

[2.53 pm]

HARDIE, Mr Lex, President, Oil Mallee Association of Australia Inc.

CHAIR—Welcome. I understand that you have been given information on parliamentary privilege and the protection of witnesses and evidence.

Mr Hardie—Yes.

CHAIR—We have your submission. It is numbered 333. I invite you to make an opening statement and then we will ask you some questions.

Mr Hardie—Firstly, thank you for the opportunity to address the committee this afternoon. The first issue I would like to address is that warning bells have been ringing. The material I will quote comes from the submission to the Senate inquiry from Professor Robert McMurtry, orthopaedic surgeon and former Dean of Medicine at the University of Western Ontario and former advisor to the Canadian government. In 1990, 20 years ago, there was a NASA technical paper on wind turbine noise. It stated:

People who are exposed to wind turbine noise inside buildings experience a much different acoustic environment than do those outside ... They may actually be more disturbed by the noise inside their homes than they would be outside ... One of the common ways that a person might sense the noise-induced excitation of a house is through structural vibrations. This mode of observation is particularly significant at low frequencies, below the threshold of normal hearing.

In 2006, the National Academy of Medicine of France noted the adverse health effects related to IWTs in a 2006 report. They recommended a set-back of 1.5 kilometres for 2.5 MW IWTs from dwellings. They also recommended an epidemiological investigation into the possible medical effects of wind turbines.

In 2007 in the United Kingdom, Dr Amanda Harry documented 42 cases of people exposed to IWT reporting adverse health effects. In 2009 in France, there was a court case and the decision mandated that an IWT facility shut down during night operations in order to prevent the sleep disturbance that the population had been experiencing. In 2009 in USA, Dr Nina Pierpont released her findings in the book *Wind Turbine Syndrome*. Also in late 2009, 60 Japanese residents living near IWTs reported health problems. Early in 2010, the Japanese government announced plans to conduct a four-year study on the influence of wind turbine sound on human health, including low frequency sound. In June 2010, Canada's Ontario environment minister ruled that offshore turbines be at least five kilometres from the shoreline. In September 2010 Danish protests regarding IWT noise forced turbines offshore. Then in July 2010, the Dean report by Dr Robert Thorne reported, over the period April 2009 to March 2010, a total of 906 complaints had been made to the Wellington City Council New Zealand from a wind farm at Makara. In a similar period of 11 months—May 2009 to March 2010—a total of 378 complaints about noise were made to Palmerston North City Council concerning the Tararua wind farm from people living 2.1 to 3.1 kilometres from the turbines. In every country in the world where there are large IWTs, warning bells have been ringing.

Most Australians accept that the primary and fundamental responsibility of federal, state and local governments is to protect the health and wellbeing of the citizens over whom they govern. These three levels of government take their advice and guidance regarding health issues for wind farms from the National Health and Medical Research Council document, *Wind turbines and health: a rapid review of evidence*, July 2010, which is an 11-page document. In studying this document I raise the following points. I quote from page 2 of this document:

In particular the paper seeks to ascertain if the following statement can be supported by the evidence: There are no direct pathological effects from wind farms and that any potential impact on humans can be minimised by following existing planning guidelines. This statement is supported by the 2009 expert review commissioned by the American and Canadian Wind Energy Associations.

These two associations are not independent of the wind industry and therefore there is a conflict of interest. Furthermore, I question the statement that 'any potential impact on humans can be minimised by following existing planning guidelines'. The current minimum setback from turbines for houses in Western Australia is 800 metres whereas the Victorian government has increased that to two kilometres. We know that as early as in 2006 the French Academy of Medicine was advising that houses be set back 1.5 kilometres from 2.5 megawatt wind turbines. We have a Senate inquiry because some Australians are suffering and clearly there is a percentage of our population who are living too close to turbines.

On page 5 of the document, in summary the document uses eight dot points to state that there is no reliable evidence that infrasound affects health or no peer reviewed scientific evidence that wind turbines have an adverse effect on human health. The first dot point is supported by research carried out in 1995, 15 years ago. In another dot point the research is done by the Canadian Wind Energy Association. In two other dot points the research is done by independent companies but prepared by, and I suspect paid for by, the American and Canadian wind energy associations. Therefore one of the dot points is 15-year-old research and another three dot points are supported by organisations with a conflict of interest. My conclusions in evaluating the eight dot points in their summary is that four of the dot points, that is 50 per cent of their argument, have been severely compromised.

On pages 9, 10 and 11, of the 27 references in the document that identify their year of publication, dates range from 1986 to 2010. The average date of publication is year 2005. Therefore at the time of publication of the National Health and Medical Research Council document in July 2010 the average age of the references used was five years. The age of the research references is relevant when one considers that in Australia rural inland wind farms, that is higher turbines using longer blades, have only been operating for three years or less.

On page 8, the conclusion, it says, and I quote from the document again:

The health effects of many forms of renewable energy generation, such as wind farms, have not been assessed to the same extent as those from traditional sources. However, renewable energy generation is associated with few adverse health effects compared with the well documented health burdens of polluting forms of electricity generation.

It makes no sense to solve a problem by creating another problem, and this conclusion would put considerable doubt into the minds of most Australians. It seems beyond belief that this NHMRC

document has been relied upon by politicians and public servants at all levels of government in Australia.

Mrs Pam McGregor is a Kojonup farmer and she in fact clicked onto this document before I did—I am under oath—and I certainly did not prompt her. She asked two questions about the national health document by email. I have handouts for all the senators and I would ask you to read the replies to those emails. On page 2, the third paragraph of the NHMRC document states:

There are two opposing viewpoints regarding wind turbines and their potential effect on human health. It is important to note that these views are frequently presented by groups or people with vested interests. For example, wind energy associations purport that there is no evidence linking wind turbines to human health concerns. Conversely, individuals or groups who oppose the development of wind farms contend that wind turbines can adversely impact the health of individuals living in proximity to wind farms.

The individuals who oppose the development of wind farms do so on the grounds of adverse health effects. It is independent doctors with no vested interests who have identified patients with similar symptoms living in close proximity to wind turbines, including Dr Alec Salt, an American doctor whose research shows that ‘what you can’t hear can hurt you’. Those doctors are Dr Amanda Harry of the United Kingdom; Dr David Iser, a rural Victorian GP; Dr Nina Pierpont, a rural American paediatrician; Dr Owen Black, an American ear, nose and throat specialist and consultant to the US navy and NASA; and Dr Alec Salt of Washington University School of Medicine. Dr Salt’s study shows that infrasound increases pressure inside the cochlea and the vestibular organs, distorting both balance and hearing. Salt’s findings shatter the dogma that what you cannot hear cannot hurt you. The doctors also include Professor Robert McMurtry, a Canadian orthopaedic surgeon, former Dean of Medicine at the University of Western Ontario and former adviser to the Canadian government on health policy. In the last 2½ years he has spent much of his time—3,700 hours—researching the wind turbine health issue. His conclusions are that people living within two kilometres of turbines are in danger of experiencing adverse health effects. His 72 page submission to the Australian Senate inquiry is available on the web. There is also Dr Michael Nissenbaum, a Canadian doctor. His study shows 22 people living 1.1 kilometres from a wind farm displayed metabolic disturbances and psychological stresses that resulted in chronic depression, anger, headaches and auditory problems. All of these doctors contradict the findings of the National Health and Medical Research Council document.

There is another 64-page document headed *Haste makes waste* authored by a group of Canadian doctors, which I have available as a handout. Five of their conclusions were that the rapid review is a literature review with no original research, the vetting and quality of material cited in the rapid review is at best suspect and at time times ridiculous, crucial evidence gaps remain unaddressed, the National Health and Medical Research Council governing body ought to be concerned about the quality and the bias of the rapid review, and the reality of global reports of adverse health effects has not been addressed and the victims deserve consideration not denial. The National Health and Medical Research Council document bears the Australian coat of arms and it has been directly responsible for concealing potential health problems in relation to IWTs. As a result, state politicians, local government councillors and public servants at both levels have granted planning approval for large rural wind farms by allowing the positioning of wind turbines too close to residences. Hence, some farmers have been forced out of their homes and off their farms. Furthermore, some home owners living too close to wind

turbines have also had to leave their homes for health reasons and have suffered the consequences of discounted property values. In short, this health document is a national disgrace.

CHAIR—Mr Hardy, we are going to run out of time and we will not have much time for questions unless you finish fairly shortly, please.

Mr Hardy—I have one page left. I have timed it for 3.45 pm.

CHAIR—We have until 3.30 pm.

Mr Hardy—Sorry, 3.30 pm.

CHAIR—Okay. But the point is that we have questions as well; you do not just speak for the full length of your time.

Mr Hardy—I take your point, Senator. I have timed it and I am on it, thank you. On ABC television in South Australia, on the *7.30 Report* of last Friday, the 25th, Mr Rann, the South Australian Premier, was filmed being heckled by locals when opening a wind farm at Waterloo in South Australia. The people carrying the placards represent the people who are living too close to the turbines and are suffering health problems. Please note that not all individuals suffer. The Premier responded by pointing to the studies showing no negative health impacts. The sad reality is that this is just another example in Australia of a politician being hoodwinked by this National Health and Medical Research Council document.

Last week, I googled the Clean Energy Council home page. There is a very simple caption that asks, 'Are wind farms noisy?' I clicked on it and it shows turbines in the background turning quietly. In the foreground, there is a truck, a tractor, children playing under a hills hoist and a diesel motor being started up. They are noisy compared to the wind farm. But the noise is measured in decibels. Oil Mallee Association of Australia, on page 9 of the submission, has defined the difference between noise and sound. We believe that health problems from IWTs are caused by low frequency sound waves coming from the blades of the turbines. There is a saying that we all know: 'We will only tell them what they need to know.' The Clean Energy Council of Australia has not told any lies but when are they going to tell the whole story?

The submission from the Oil Mallee Association of Australia is a 14-page document. If I had to select three of the most significant sentences in the total document, it would include the following, which comes from page 11:

It is no coincidence that the considerable health problems are being experienced on the farms adjacent to the largest wind farm in the southern hemisphere, Waubra. Clearly, as stated in the Dean Report ... there is a direct correlation between the size of the blades (length and breadth) and the amount of sound created as these blades pass the tower. Further to this, the number of towers and their placement is having a cumulative effect on the amplification of the sound.

The Waubra turbines are only 120 metres high. The frightening aspect is that now we have turbines of 150 and 190 metres proposed in WA—longer, wider blades with the potential to further increase the low frequency size. Senators, I conclude today by asking the question: when asbestosis reared its ugly head in this country, did the national health department, when they

wrote the health document regarding asbestos, consult with and allow CSR, James Hardie and Australian Blue Asbestos, to have input into their health document? We all know the answer.

Senators, the tears that were shed in front of you in Ballarat represent the pain and the suffering of some Australians living too close to turbines in Victoria, New South Wales, and also now in South Australia. The national disgrace should not have been allowed to happen. We are simply requesting independent research into the low frequency sound coming from the blades and how that impacts on human beings. Until that is complete, keep our people 10 kilometres away from the turbines please. Thank you for the opportunity to address you.

Senator FIELDING—There have been some arguments that you have put forward that we need to put to the NHMRC this afternoon—in about 20 minutes time, I think. We have heard the other view from the view that you have put forward: basically, that the people who are experiencing serious health impacts are those people who believe there are going to be problems. Scaremongering has happened so people believe they are going to get sick and therefore they are getting sick. What do you say about that? That is what we have heard from quite a few people.

Mr Hardie—The Stepnells have come before the inquiry. I do not believe they are malingerers. I come from a farm that runs half as many sheep as them. They have a very large farm and they are now living in Ballarat. I believe that couple have been seriously affected by living too close to the turbines. I cannot believe the amount of cases across Victoria, New South Wales and now starting in South Australia where the people that are claiming to be sick. Consider, they are going to GPs in Australia; I do not believe that it is possible.

Senator FIELDING—The other argument that has been put forward is that most of the people complaining are just anti wind energy or sceptics. What do you say about that? Those are the arguments that we are hearing. The next argument is that there is no scientific evidence that there is a link. It is not peer reviewed. These other people are not peer reviewed: there is no peer reviewed evidence.

Mr Hardie—May you just ask me the first question again?

Senator FIELDING—Let us stick with the last one to start with. There is no scientific evidence. Basically everyone points to this document—the National Health and Medical Research Council document—and they say that all the other claims that are being made are not peer reviewed.

Mr Hardie—It is all very fine but at the end of the day you say that this is not peer reviewed and whatever. I have quoted mainly from Dr McMurtry. You know what he stands for in Canada. He has done the research—something like 3,700 hours into this problem.

Let us be realistic. One of the reasons we have the problem we have in Australia is that we are a Commonwealth country and we have in some ways emulated others. Of all the countries in the world with wind turbines Canada is in more trouble than most, and the reason for that is that they in fact have people living very close to turbines. I suspect our health document is very similar to theirs; after all, I have demonstrated that in the amount of content of the Canadian Wind Energy Association. If you go to Canada I think you will find that there are houses abandoned around a number of wind farms. The evidence that I have been checking on in these

countries is there. It is very evident. People do not leave their houses. When they leave a house it is really not saleable. They do not walk out unless there is a very good reason. That is my opinion.

Senator FIELDING—There is claim and counterclaim. I have asked the wind energy people the reverse question. I am challenging each party as to why the other side should not be believed. I have just done that with you as well. How do we get some independence into this, do you believe? The claim is that a lot of the research that people are relying on is linked to or funded by a lot of the wind energy associations themselves. What is the way forward, do you think? You have suggested independent research.

Mr Hardie—That is a good point, Senator. We had a planned court case on another issue in Western Australia and we had to go east for a judge. The problem that is arising in Australia is that, especially on the eastern seaboard, it is going to be quite difficult to find independent researchers because some of the researchers have already worked on behalf of the wind associations and some of them have worked on behalf of people who are having health problems. So the point you make is relevant.

Senator MOORE—I want to follow up on the independence aspect, but I have one question apart from that. Is the McMurtry evidence peer reviewed?

Mr Hardie—I am not sure about that. The fact of the matter is that if we are looking at the qualifications of the man I should not think we would have too many concerns. He has consulted to the Canadian government on health issues. In fact when he was building his own home he very much wanted to be all renewable; he has solar cells on his roof. He looked at one turbine in his backyard and that was the first time—I think it was in 2008—he woke up to the fact that there was a real issue with health. From that point on he has spent a lot of time researching this issue.

Senator MOORE—I was just questioning in terms of the things we hear about the need for peer review. Many of the reports did not make it into the NHMRC, and certainly the questions about the quality of that process were considered to be non-peer reviewed. The documents they used were allegedly all acceptable documents based on scientific processes. We will follow up with them. But, as much of your submission did quote McMurtry, I was just asking.

Mr Hardie—This is McMurtry's submission to your inquiry—72 pages?

Senator MOORE—Yes. I have read most of it. Nowhere in what I have read does he claim peer review. It was just a question about the scientific process.

Senator ADAMS—Thank you for your submission. I would like to talk about planning. Western Australia is probably the youngest area for wind farm development. Evidence we have heard from a number of the developers in the eastern states is that they have got quite a lot of sites that are proposed for Western Australia. So if we do not get the planning right we are going to end up with problems like the eastern states. At the moment the Commonwealth is doing overarching guidelines in draft form at the moment as to how the planning for wind farms could go on. They have got no jurisdictional say over the states because of the Constitution. Each state is doing something more or less different and then local governments are also involved in the

planning. When we were at Ballarat in Victoria we had five local governments come and give evidence. And things have changed there: the rules have changed from the state and now they are throwing it all back to local governments to do the planning and make decisions. They are saying, 'Look, we firstly have not got the financial ability or the expertise,' so this whole planning thing seems to be a little bit up in the air. How do you feel about the planning issues in Western Australia, and especially just where the number of new wind farms end up being sited?

Mr Hardie—The thing that concerns me about New South Wales relates to the planning overrule policy they have over the local government level. That is fine, but if the information is wrong and the planning is unsafe, it means that the local government have lost any power to stop any industrial noise of any sort because they are overruled at a higher level. I think that is a frightening thing. We do not have that problem in Western Australia. One of the fortunate things that we have had here is the opportunity for rural wind farms to move into the eastern states. And so we have had the opportunity to learn from their experience and for that we are very grateful but that is no comfort to the eastern states.

The proposed wind farm in Konjonup, Broomehill Tambellup and Flat Rocks, I believe that, as far as shires go in Australia, they were well educated to the problems that wind farms can bring, and the shires will make their decisions in due course. I do not believe that happens in all cases. In fact, I think very little information is known within shires. To me, wind farms are not unpleasant to look at. When I go to Albany, I see them as quite graceful, but I do not really think that shires have the capacity to understand all of the ramifications of what can happen. I also have some reservations about actually taking large wind farms into highly productive rural land. I think wind farms are at their best in the high wind zones, on unproductive land and where there are not many people, which obviously is the coast. As soon as one goes inland you have to increase the size of the towers and the blades because there is less wind and it is more difficult to get away from where people are living. In fact, with the Flat Rocks project there were 28 houses within approximately 2½ kilometres of the turbines so it is very difficult to be removed from people, whereas on the coast on government land it is a different story.

The other issue that I am aware of is that I have heard of instances where there are restrictions on trees in the landscape once landowners go into turbines, are hosting turbines. The particular one I heard about was that if you were to plant trees you had to seek permission from the wind farm company to plant them. It had to be for stock purposes only and it was not to be a tree higher than five metres. We all know, being involved in agriculture, that a five-metre tree in height has a corresponding root structure underneath, which has a limited ability to draw up water compared to when you go into most of inland rural Australia, you are going into tree areas and environments where trees grow to 30 metres—some in fact grow to 40 metres—and their root structure is proportional to what is up top. They have this rule that within one kilometre of turbines you cannot plant a tree. Some of these wind farms stretch maybe six or seven kilometres through rural Australia and they could be two kilometres wide. If you add another kilometre at each end and on the sides, you have got a very large area, and you have changed the environment because you have changed the tree structure from something that was 30 metres high to five metres high. To me, they do not fit in inland areas.

CHAIR—Thank you very much. We have run out of time. I think we have given you a bit of homework, and there could be more because I am sure Senator Adams has more questions.

Unfortunately, we are running very tight on time and we have gone over already. Thank you very much for your time and your submissions.

[3.33 pm]

ANDERSON, Professor Warwick, AM, Chief Executive Officer, National Health and Medical Research Council

McCALLUM, Professor John, Head of Research Translation Group, National Health and Medical Research Council

Evidence was taken via teleconference—

CHAIR—Welcome. I know that you will be fully used to giving evidence at Senate committees. Just to double check: I understand that you have information on parliamentary privilege and the protection of witnesses and evidence.

Prof. Anderson—Yes.

CHAIR—We have received your submission. We have both the rapid review and your submission, thank you. I would like to invite you to make an opening statement and then we will ask you some questions.

Prof. Anderson—I thank the committee for this opportunity. This issue was brought to us by the chief medical officers of the states of the National Health and Medical Research Council. They are members of our council. In 2009, being aware of growing concern about the possible health effects of wind farms or wind turbines as a result of their quest for us to look into it, we issued that public statement. We are keeping this under review, and we have always intended to do so, because the review that we undertook of the literature showed that at that time there was not a lot of high-quality, peer-reviewed literature there. On that basis we felt it very important to keep it under review. We have recently done another scan and we have begun a more thorough review of the literature, about two years on.

Senator FIELDING—I note from your submission that there was a December 2009 meeting of the council. Some scientific literature was submitted to the council in December 2009.

Prof. Anderson—That is correct.

Senator FIELDING—Is that public, and if not, could you table that document?

Prof. Anderson—It is public but we would be delighted to provide you with the link on our website.

Senator FIELDING—Not the public statement; I am after the literature that was submitted. It could be public; I just have not checked.

Prof. Anderson—Our review of the literature is public.

Senator FIELDING—That is correct. I am interested in the literature that was submitted to the council at the December 2009 meeting.

Prof. Anderson—The literature was not submitted to it. We surveyed the published public domain literature to see what was there. As would be the case with any review we do, whether it is into clinical guidelines of treating glaucoma or whatever, we look at what has been published in the public domain and then review what that means.

Senator FIELDING—Could you table the document that was submitted to the council's December 2009 meeting, whatever it was, or take it on notice?

Prof. Anderson—I am delighted to do that. I just want to be sure that I have fully understood your wish. Do you want the information provided to the council meeting itself?

Senator FIELDING—That is correct.

CHAIR—By the health ministers.

Prof. Anderson—Thank you.

Senator FIELDING—Regarding the publications that were reviewed by three expert international and local peer reviews before being issued, could you give us the names of those three international experts and the local peer reviewers, or provide them on notice?

Prof. Anderson—I will take the question on notice. We normally get reviews on the basis of confidentiality and so we would need to contact those reviewers before we disclose their names. That is standard. You will understand that we get many thousands of peer review comments on all our grant applications each year, and that is our standard process. But I will take your question on notice, and we can certainly provide the reviews themselves.

Senator FIELDING—If it is confidential, you can provide that confidentially to the committee and provide reasons why, but you can still provide it to the committee on a confidential basis.

Prof. Anderson—Thank you for that clarification.

Senator FIELDING—In point 19 you say that the NHMRC has begun updating its review of the published scientific literature. Could you provide the committee with the terms of reference and the method to that?

Prof. Anderson—It is our own staff who are doing that.

Senator FIELDING—But are there terms of reference and a method for how you are going to be doing that?

Prof. Anderson—There are the standard scientific methods for the review of literature, and we are using the expertise of the departmental library. We are very happy to provide an explanation of how we are going about it.

Senator FIELDING—If you could provide that for me, I would appreciate it. When did you start that updating?

Prof. Anderson—We have kept it under pretty continuous review since the original public statement. As I said in my opening statement, we are very aware that the high-quality scientific literature in this area is very thin. That is why we were at pains to point out that we believe that a precautionary approach should be taken to this, because, as you would understand, the absence of evidence does not mean that there might not be evidence in the future; it is just that, at the stage when the review was done, it was not there. So we have kept an eye on the literature during the period of time, and we are aware of some papers that have since been published.

Prof. McCallum—If I may make a brief addition to that, the initiative for that really comes out of a constant dialogue with the states and the chief health officers. So that was already on our radar, if you like, from that discussion prior to this hearing.

Prof. Anderson—Our council has on it all the chief medical officers of every state and territory, and this has been an item that we have discussed or has been brought to our attention a number of times at council meetings. So it is one of those topics—not the only one—that we keep a watching brief on in the office of NHMRC.

Senator FIELDING—I would be interested to know the qualifications of the person or people undertaking the research for the literature review.

Prof. McCallum—There is of course a process following that. I am the leader of that, as the head of research translation group. I am a PhD from Oxford. I have a long experience in epidemiological research. Prior to joining NHMRC, a bit over 12 months ago, I was a senior deputy vice-chancellor at a university. That is in brief, but we can respond in detail.

Senator FIELDING—Thank you. In point 22 you mention that the workshops will inform NHMRC in revision of the rapid review. Could you provide, on notice, what will be entailed in those workshops, what the scope of them is, what the terms of reference are—just to give the committee an understanding of what the process is going to be in that regard?

Prof. Anderson—We are certainly happy to do that. This is part of a series of workshops we often hold on issues for a wide range of things. I just want to make an important point. Whether we are talking about contentious areas in science—such as use of embryos or animals in research—ethical issues or clinical issues that are contentious, we make sure that we have good representation from all interested parties and we try not to restrict it to any particular part of society who have an interest in the area. So we will be making sure that the many people with whom we have been in very close contact over the two years who do have a concern about this issue are important parts of the workshop.

Senator FIELDING—On point 14 it is written:

NHMRC is aware of many anecdotes of people living near wind turbines experiencing health effects. These anecdotes, however, need further scientific investigation.

What are you proposing by ‘scientific investigation?’ What is the method and terms of reference? What do you mean by ‘further scientific investigation?’

Prof. Anderson—On the anecdotes, since our statement many groups and individuals have been in contact with us and we are aware of other descriptions and anecdotes of individuals, including from Dr Pierpont’s work. The point we are trying to make there is that although anecdotes can help form scientific investigation they are not by themselves that. So it was rather shorthand, I suppose, and it was followed up in the sentence below. We are encouraging scientists—epidemiologists and others—to think about this area and use the information that the anecdotes and individual patients have provided to better design epidemiological approaches to investigate the issues. Anecdotes are very valuable ways of honing the questions to be asked.

Senator FIELDING—So you are not proposing any scientific investigation yourselves?

Prof. Anderson—No, we do not do scientific investigations ourselves as the NHMRC; we fund others to do that. We have not funded anything in this area through our normal funding schemes at this stage. I have no doubt that one of the important questions that will be addressed at the workshop is whether there is a need for specific forms of research. In that regard, we have already begun some discussions with other international bodies in this area to see whether there are some international approaches that could be taken, which are often very valuable in these areas of epidemiology. We have been in contact with other authorities. As I said, I expect that the people who come to that workshop may wish to develop ideas or particular approaches that could be taken to address the specific concerns.

Senator FIELDING—Quite a few people have presented to this committee, albeit those who are convinced that their adverse health effects are from living near wind turbines. I understand that there are differing expert opinions on whether, conclusively, there are or are not. They have been critical of the NHMRC’s statement that was put out. All of the industry and most bodies approving the installation of wind turbines are relying on the NHMRC statement. The criticism has been that the rapid review statement has relied heavily on industry linked and industry funded research. What is your view of those statements—that is, that you have relied on industry research?

Prof. Anderson—You have raised a very important question. It is always an issue for health research. A lot of health research is funded by pharmaceutical companies, if it is around cancer, or by interested parties. That always has to be taken into account and we do. We looked at what literature was available. We did not do any particular selection of that; we looked at what was there. We tried to take into account the source of it, the scientific rigour of it and where it was from. We tried to weigh those things up, but I do want to make a point to anybody who is relying on this.

We regard this as a work in progress. We certainly do not believe that this question has been settled. That is why we are keeping it under constant review. That is why we said in our review that we believe authorities must take a precautionary approach to this. That is what we do say in medicine anyhow, but this is very important here because of the very early stage of the scientific literature. In any area we make statements on, we are robust, we are used to being criticised from all sorts of directions and we cannot be responsible for the use that others make of the literature as you would be aware.

The main thing I wanted to say is that, if there are ill effects, that is a very important thing for the NHMRC. We have not done something and walked away, we are keeping it under review and we would expect that as the literature matures and becomes more advanced and there are better studies that the possible ill effects will emerge strongly. I think you will recognise that we have said that if people do believe that they are suffering from ill effects, they should see their doctor because we need to build up the evidence about the occurrence of this and people who are feeling unwell should see their doctor anyhow.

Senator FIELDING—I understand and someone else may pick up that issue. I have one last area. As always this is a very tricky, very delicate area. Fairly or unfairly obviously when a statement has been made with certain caveats, which you have certainly put on that first statement, there are people who are going to say that it has over relied on industry linked or industry backed research. It is a real concern for a lot of people who want to get to the bottom of whether there are adverse health impacts caused by living close by to wind turbines. It is of huge concern and you are making some, I think, rightly qualified statements that we have to take a precautionary approach. It seems to me that that precaution may not be being taken because everyone is putting a very large weight on the NHMRC's rapid review statement and saying that there are no adverse health impacts from living near wind turbines and everyone is just approving them on that basis. That is of huge concern to me.

Prof Anderson—I know that the headline on that public statement says that, but the document does not say that. It did say that there was no published scientific evidence at that stage to positively link the two. That is a very different thing to saying that there are no ill effects and we do not say that there are no ill effects. We definitely do not say it that way. I guess we felt a little bit damned if you do and damned if you don't because there had been no statement about it. We were aware, because of our council's concern about this, that there was growing concern. We are certainly aware of it more generally and we felt that, given our council had asked us to address it and given that we had looked at the public literature at that time, it would have been irresponsible then to be silent on it. We were aware that it came with that sort of impact so early on. I am trying to emphasise that the council takes its responsibility very seriously and we will keep this under constant review because of the very large public interest in it. As you are implying if there are ill effects they are really very important. All we can do is make a statement on the basis of what was available in the public domain with a gradation across that on its reliability and call it as we saw it at the time.

Prof. McCallum—Could I make a quick comment?

Senator FIELDING—You probably can. I am sorry that I am being so rushed, I do have to leave but the other senators will probably follow on from some of those discussions.

CHAIR—Mr McCallum, yes, of course you can make a statement.

Prof. McCallum—It is in relation to the use of industry funded research. The critical factor for us in what is a sparse literature field was that the evidence had been peer reviewed. Professor Anderson has indicated that industry funded research will appear in various systematic reviews but the critical factor is that it is peer reviewed so to get if you like a different answer to this question it will need new evidence that is scientific and peer reviewed that does show a positive

impact on health from wind turbines. That is really where the field has to advance to to get to that question.

Senator ADAMS—You did not hear the witness before. There will be a transcript of evidence from the Oil Mallee Association. They had a number of adverse comments about your literature, so I think it would be very good for you to read that. The other thing I would like to follow up is the conclusion in your rapid response paper, right at the bottom of page 8. We have had a number of developers come before the committee and they have relied so much on this. You say:

This review of the available evidence, including journal articles, surveys, literature reviews and government reports, supports the statement that: *There are no direct pathological effects from wind farms and that any potential impact on humans can be minimised by following existing planning guidelines.*

That statement seems to have gone right through the whole area and we have had it quoted back to us time and time again. I am sure that you are aware of *Haste makes waste: an analysis of the National Health and Medical Research Council “Wind turbines and health—a rapid review of the evidence, July 2010”*, prepared by the Society for Wind Vigilance. Have you got a response to the comments they have made against this paper?

Prof. Anderson—We have been in a very large amount of toing and froing and letters and our staff have been talking to a very large number of groups. We are very aware of a great deal of criticism. It comes with the territory for the NHMRC. It comes through in any contentious health area when the evidence is still very early. I know your own interest in cancer and you will know that there are many areas of cancer therapy and cancer treatments that are still controversial because the evidence is not strong. As I said to Senator Fielding, if others have used our literature in a way that we might not agree with, there is not that much I can do about it. I want to point out that the beginning of that paragraph refers to the ‘review of the available literature’.

Senator ADAMS—I realise that, but it has been used very loosely, I suppose, and it has possibly increased community concern. It is just that those who have problems are very upset about it, and of course the promoters are using it to their advantage. So it has caused quite a lot of grief. I have just been going through your public statement of July 2010 to see if I could find anything about this being reviewed again. I cannot, but I do not have the whole statement with me, I don’t think. But it would be very good if NHMRC could relieve a few people. The fact is these are being constantly reviewed. I think that is a very important piece of information for the public at this stage.

Prof. McCallum—I think that is implied by the fact that the relevant authorities, of which we are one, take a precautionary approach. So we totally exclude ourselves from that responsibility in terms of that review.

Prof. Anderson—I fully understand the point you are making, Senator Adams, and I just make the statement again that I made to Senator Fielding. I think we could have been quiet. We could have said, ‘This is all too controversial.’ We could have said, ‘We have done this work and this is what we found, but we won’t stick our head up above the parapet.’ But we felt we should publish this because there are many questions here. There are relative risks from different forms of energy. We know that there are health risks from any form of energy generation, so I think it is a very important public arena.

I hope that other people who you have been in contact with or who have made submissions have felt that when they have contacted my office about this they have had a respectful interaction with the staff. I know that there have been many contacts and that we have written many letters. We are not dismissing those concerns at all, in fact, and we will make sure that those voices are heard in any further work that we do.

Senator ADAMS—I know of one person who rang your office and did not have a very satisfactory response—Mrs Pam McGregor from Kojonup. She rang and asked for a list of the peer reviewed authors who produced the first document that you put out and she did not receive a very favourable comment. For the second question she asked I have not got her exact words in front of me at the moment, but perhaps I could ask her when she returns from Scotland to ring again and ask the same questions and she may get a better answer.

Prof. Anderson—She should contact me and I will make sure that we answer the questions to the best of our ability. As I said to Senator Fielding, we do not normally disclose the identity of peer reviewers. There are a number of reasons for that. But I gave Senator Fielding an assurance around that as well. If she wishes to, I do invite her to contact me personally.

Senator ADAMS—No. 15 on the NHMRC statement that we received this morning suggests that people who believe they are experiencing any health problems should consult their GP promptly and in doing so they will contribute to the body of knowledge to inform future health and medical research on this issue. Earlier we heard from Doctors for the Environment. Dr Crisp was representing them. He is a suburban GP here in Perth. He said that is completely invalid. I asked him how they would go about their research if, hypothetically, he had a large grant and a group of GPs—the General Practice Network or something like that—and they were complaining about these issues. He felt that, if somebody came individually to speak to them about something, that knowledge would be retained within their surgery and would not go any further. He certainly was not very happy with the statement under No. 15. Can you comment on that?

Prof. Anderson—Thank you. Perhaps we have been too shorthand and that is a bit misleading. What we have in mind is the approach where researchers working in clinical care, primary care and other areas often frame their research questions on the basis of the input from their individual patients—infectious disease or whatever it may be. So patients talking to research doctors helps form the question. Also, think about the case studies that are often published in the literature. They are always anonymous of course. People publish very interesting case studies that lead on to systematic research and the sort of book that Dr Pierpont has put out, which has some descriptions of individual circumstances. Again, I am sure that will be interesting input into the design of experiments in the future. We did not mean around individual patients but just building up the knowledge in the sector of the sorts of issues that are being brought to the health system by patients.

Senator ADAMS—As a nurse, I really could not understand where he was coming from with that, because I would have thought it would be a cohort of GPs working with the network. Or even, later on, if we have got the Medicare locals, I suppose that would be an area where they could do that research. If you get a number of people complaining of the same thing and then you speak to one of your friends and they are getting the same thing, if it were an infectious issue that would be the way to go.

CHAIR—We had quite a bit of discussion around this. I think you would probably need to look at the context of the comments that Dr Crisp was making, because he was saying was that you collect a body of information from GPs that builds up about a disease—as Senator Adams just said—and then you have to go to bigger-picture research because otherwise you have got a biased cohort because you have only got the mob that is sick. I think perhaps you should have a look at the transcript to look at the dialogue that we had around that. Again, I think we are talking at cross purposes, which is what we were doing at the time.

Prof. Anderson—I withdraw the analogy. I thought that the Senator described the situation really quite well because when new diseases arise it is often in primary care and by GPs that it is identified—HIV would be one, SARS would be another—so the need for research comes out of the experience of those working in the health system.

CHAIR—The point he was making is that we have gone beyond that with this issue—that data is out there now—and that perhaps we are now at the bigger-picture research stage, because there are now people out there going to their GPs.

Prof. Anderson—That is certainly an arguable position.

CHAIR—Senator Adams was coming from somewhere a bit differently. There was a conversation where there was a bit of cross-purpose discussion going on. In other words, I think that both were probably right but they were coming from different perspectives. If you could have a look at the transcript and give us some feedback that would be really appreciated.

Prof. Anderson—I will do that.

Senator MOORE—Dr Anderson, does your website now reflect the fact that there is ongoing work being done on this issue by the NHMRC?

Prof. McCallum—It is not on the website but it has come out through our regular communication, which is called *Tracker*.

Prof. Anderson—*Tracker* is on the website, actually.

Senator MOORE—I would just suggest that because of the number of people interested in this area and the way it has been discussed, it would be useful to have that clearly on the website. My understanding of this particular group of people is that they are very reliant on the internet and website, and communicate very effectively in that way. So it would be useful if it was available.

Dr Anderson, it seems to me that a couple of the statements, particularly your public statement and the background submission you provided to us, do suffer a little bit from shorthand. That has led to different understandings from some of the people who have been reading them most closely. You did clarify that NHMRC does not in itself do scientific research. A number of the people coming before our committee did not understand that. I think it is important that that is very clear—that this is a review of the literature not a scientific investigation. I just want to clarify whether, to the best of your knowledge, you have had any requests for research grants on these issues in the last two to three years?

Prof. Anderson—We have certainly not funded anything. I will need to take that one on notice in terms of requests.

Senator MOORE—That would be really useful because we read with interest, as you know Dr Anderson, the ones that get funded. I am interested because there was clearly a recommendation in the work that you did that there needed to be more research. I think to an extent that recommendation—that you considered that there needed to be research—has been lost. I am interested as to whether there has been an uptake in the scientific community to come forward with requests for funding for that.

There was one other thing. In terms of the paper that came out in 2010, and also your public statement, does the NHMRC ever in their documentation make comment about the use of material that has been funded by people who may be seen to have a conflict of interest?

Prof. Anderson—We have a lot of documentation around all our processes around the issue of conflicts of interest. We do not usually make a value judgment on it but we have rules around it. In fact, a discussion document is about to be released, having been through our council, on this whole area of conflict of interest. It is not just in research here, but it is in guideline development. Indeed it is in community advocacy for that matter. People often cloak a health concern over a different concern.

Parliamentarians would know, more than anybody, that the need to be transparent is crucial in our society and our democracy. So we take this very seriously. We would be very happy to share with you this forthcoming document we have on conflicts of interest. It is at the heart of things. Those of you on the committee will remember the problem we got into with the ADHD guidelines. When we were just about to publish them it was made known to us that one of the key researchers had not disclosed his conflict of interest with pharmaceutical companies in this area, and this led to an inquiry around research integrity, which has still not been resolved. So we cannot move these guidelines forward because of this hanging over it. So it is a terribly important issue. As I said earlier on, it is an issue across health research. At times claims have been made—in this case too—that the literature can be very heavily based on support from a particular industry area. I would not dismiss for a moment people's concern about that issue but I can assure you that we are as vigilant as we can be about it.

Senator MOORE—Professor Anderson, we know that because we work with the NHRMC regularly. What has not been known in the wider community is that statement. I am actually drawing your attention to the public document that was widely read in July last year. Nowhere in the document did it restate what Professor McCallum said, which is that your basis was looking at public peer researched information. We know that is the basis of your research but there has been subsequent angst caused by the fact that that statement was not even footnoted in the public document. That would have actually made people aware. One of the previous witnesses said half the key points you put on record could be seen by someone who did not understand your process fully as not being without bias. The public statements are being read not only by the scientific community; therefore some care in their formulation may have taken away one level of antagonism by making it clear that you were using peer documented research that happened to be done for companies that were linked to the wind industry—rather than running a line that was supporting the wind industry. For future public usage documents, some footnoting that makes that clear might be a bit useful.

Prof. Anderson—That is very wise advice and thank you for it. We might need to clarify that sooner rather than later.

Senator MOORE—I know Senator Adams drew your attention to it, but we had extensive evidence from Mr Lex Hardie today which would constitute adverse comment to the NHMRC. We would really appreciate a detailed response to that for our records. It would make it a lot easier for us.

CHAIR—You might want to look at the transcripts from the last couple of days because there has been various adverse comment made, including Dr Pierpont from last Friday. We had her give evidence via teleconference. You may want to look at that as well.

Prof. Anderson—Yes, we are aware of Dr Pierpont's evidence, and we will certainly look at it. You would like us to come back to you with some specific comments on those criticisms?

CHAIR—Yes, it would be appreciated if you could. Going to the issue around peer review, I think there is some confusion around that. It has been bandied around here extensively—what has been peer reviewed and what has not been. You can take this question on notice: what is a peer reviewed document? People need to understand the technical term.

Prof. Anderson—I will take that on notice so I can provide a proper full explanation.

CHAIR—That would be appreciated. We have one more question on notice. Today also Mr Hardy referred to some work by Professor John McMurtry from Canada, who made a submission into the legal case that was being run in Canada. There is quite extensive documentation that Mr Hardy has provided to the committee. I am wondering whether you peer reviewed it or whether you understand that his work has been peer reviewed?

Mr Anderson—We would not have picked up through our methodology to find the peer reviewed literature. We would go to the scientific literature on the databases in science. If it was in the legal domain we probably would not pick it up. We will have a look at it and see what we can do.

CHAIR—Do I infer from that that Professor McMurtry is not published in the peer reviewed literature on this issue?

Mr Anderson—I cannot answer that off the top of my head. My staff are drawing to my attention that Dr Pierpont said that he is a dean at a medical school in Canada. We will need to take that on notice and make sure that we follow it up.

We will search the peer review literature databases to find Dr McMurtry but this other information you can provide—

CHAIR—You said McMurray; it is Professor McMurtry.

Mr Anderson—You are right. It is my glasses; it lies a distance from me.

CHAIR—We have run out of time. We very much appreciate your attendance at such short notice. We have given you quite a bit of homework.

Mr Anderson—You have, but that is fine.

[4.17 pm]

CRAIB, Mr Alistair, Chief Executive Officer, Collgar Wind Farm Pty Ltd

RANKIN, Dr Sarah, Moonies Hill Energy Pty Ltd

WOODROFFE, Mr Andrew, Technical Director, SkyFarming Pty Ltd

ROSSER, Mr Matthew, West Hills Farm Pty Ltd

CHAIR—We have submissions from SkyFarming, which is submission number 620—we have a lot of submissions. I invite each of you to make a brief opening statement because we will have lots of questions and we only have an hour.

Mr Rosser—West Hills Farm is placing five wind turbines on its farm to help reduce its electricity load and to embrace a sustainable path using renewable electricity in the production of carrots. West Hills Farm produces around a thousand tonnes of carrots a week and has an electricity bill of around about \$1 million a year. The farm employs around 70 to 80 staff. There has been a significant rise in electricity prices recently. There is a need to try and find ways to contain costs. Implementing renewable energy into the operation has proved a viable way for it.

CHAIR—Where is West Hills Farm located?

Mr Rosser—It is near Lancelin, 70 kilometres north of Perth, and it is famous for windsurfing.

Dr Rankin—Thank you, Madam Chair, and thank you for the opportunity to present today. Before I start, we have put in a submission, but there are so many you may not have received it. It was only in the last couple of days.

CHAIR—In that case, it is not on my list yet.

Dr Rankin—You can read it at your leisure later on. Moonies Hill Energy has considered the terms of the matter which was referred to the Senate Community Affairs References Committee for inquiry and report on 20 October 2011 and note that the matter is the social and economic impacts of rural wind farms.

Moonies Hill Energy proposes to develop a wind farm in the Flat Rocks area in the shires of Kojonup, Broomehill and Tambellup known as the Flat Rocks wind farm. At this time, the project is currently at the stage of development application only. Moonies Hill has undertaken considerable research as to the likely impacts and has adopted a careful and conservative and transparent approach in its planning for the proposed project and its social and economic impacts.

There are mandated environmental and planning and developmental processes and approvals which must be followed and obtained with regard to assessing a project. Moonies Hill is

following these processes as outlined under WA jurisdiction, and we intend to attain these approvals for the project. Under this process, the opponents to the Flat Rocks wind farm have considerable opportunity to air their concerns and have them assessed and dealt with.

We recognise that this committee, certainly from the proceedings we have listened to today, is looking to check the adequacy of these plans—and perhaps even make changes to them in the future—but Moonies Hill Energy, under the current system, we envisage, that our planning application will be held in the next six or eight weeks.

Moonies Hill makes this submission purely to respond to and correct the submissions which have been made by opponents to the project. This inquiry is not the forum to debate the merits of this particular project, but we felt that the record needed to be corrected. We heard many things today that were quite incorrect about our project, and I can either supply you with that information or you can ask me questions about it later. I will keep going for the purposes of moving right along.

I will just give you a bit of background, which was raised. Moonies Hill is a locally owned, renewable energy company based in Kojonup in the Great Southern region of Western Australia. The company was formed in 2008 to investigate and develop the proposed 150-megawatt wind farm project. There are four shareholders, three of which are landholders in the area and one who owns another business in Kojonup. Only two of those are directors, unlike we heard, and we have a non-exec director who is based in Perth.

Since this time, the Flat Rocks project has progressed well in terms of commercial, environmental viability and, as mentioned, we are in the final stages of our approval. To give you a little background into the project: we are very excited about it because it offers economic diversity to the Great Southern region of Western Australia, which is currently dominated by broadacre agriculture. Over the life of the project, we estimate—and of course because we have not got the project up and running yet, it is an estimation—based on literature and other projects, we see there is potential for \$130 million to be injected into the local economy, \$30 million during construction and \$5 million as an ongoing concern during the operation of the project.

During the construction, we expect to create 150 jobs, seven to 12 of which will be ongoing during the operation and maintenance of the farm. As we have indicated, we intend to recruit as many of these from the local region, and it is pleasing to see that we have already had many inquiries from local contractors and skilled people in the community—electricians.

We are a locally run and owned company and therefore we are committed to establishing a sustainable community fund to support local groups, organisations, schools, sporting clubs—things designed to encourage sustainability in a cohesive community.

We believe wind farms are still a fascination to many people and that will add to the tourism value of the Broomehill-Tambellup, Kojonup region. We have been in discussions with a local landowner about the possibility of combining our viewing, information and operations facility with a museum to house an extensive wool harvesting and memorabilia collection.

The Moonies Hill project will provide additional income to land owners who have agreed to host turbines on their land. As you have heard many times, I am sure, that will assist in their ability to withstand seasonal variations whilst having minimal impact on their productivity.

I want to very quickly add that we want to comment on how we feel that it has impacted on the social fabric of the community, especially in light of some of the presentations that we have heard today. We believe that there is general community support for the project. Since inception, we have had regular briefings with the CEOs of both the Shire of Broomhill-Tambellup and the Shire of Kojonup and, more recently, discussions with their planning officers. It should be noted that the Kojonup planning office has overseen the development of the Mount Barker wind farm and also the Albany wind farm, so there is some good experience of project review and of the implications for the area. The shires obviously have officers to advise them. Any work that is done in considering our project is done at the proponent's expense, so it is not actually taxing the ratepayers.

We have held two local community meetings. If the opportunity arises, I would like to discuss them. They were not quite as you have heard earlier. The second of these, which was the most recent one, took place after we had proved that this was a viable project. We wanted to embark on our final impact assessments and there was an opportunity to present more detail to the community and ask about their concerns and issues so that we could plan the impact studies to reflect their concerns and assess the project on its merits. We are committed to local involvement and openness. Moonies Hill has contacted immediate neighbours and offered to meet with them and discuss the proposal. Very few have accepted this offer. In stark contrast to our open approach, inclusion of the community and honest dissemination of information about the project, we have been very disappointed at the deliberate campaign run in the local newspapers, via email and telephone, which has been based on either deliberate or reckless disregard for the facts about the Flatrocks wind farm and wind farms in general. I acknowledge that we live in a democratic society and that everyone has a right to an opinion. But this does not extend to misleading or attempting to mislead the community about significant aspects of our project and so create irrational fears and a negative attitude towards it. As a consequence of this campaign, many submissions received by the councils have expressed misplaced fears regarding residential buffer zones and potential health impacts.

I want to make one more comment. We were a bit surprised that representatives from Western Australian companies that have been operating wind farms for a long period of time were not called, especially in view of the fact that in that state there have been minimal complaints about wind farms. With 12 wind farms operating in the state, some off the grid—and we have talked about Rottnest Island, but there is also Walkaway and soon there will be the Collgar wind farm—we are unaware of any adverse health effects experienced in WA, and so we have every confidence that the planning laws in place in this state overseeing wind farm approvals should ensure that there are no adverse health effects and significant social and economic benefits to the Great Southern region. We anticipate that those benefits will be realised. Thank you.

CHAIR—I will just put on the record that Verve were invited but declined.

Mr Craib—Collgar is a 206 megawatt wind farm. It is located 25 kilometres south-east of the town of Merredin, which is about 300 kilometres east of Perth. The wind farm will consist of 111 Vestas V90 two megawatt turbines. When it is completed, it will be the largest single stage wind

farm development in the southern hemisphere. The project is backed by the Retail Employee Superannuation Trust, which is a large superannuation trust based here in Australia, and the UBS International Infrastructure Fund, which invests in infrastructure assets on behalf of pension and sovereign wealth funds. Each of these investors are very long-term investors. They envisage being with the project for the 20- to 25-year life of the project. Construction commenced in March 2010 after approximately three years of studies and community consultation and negotiations. To date, construction has progressed extremely well. We have 63 fully erect turbines, which is ahead of our original schedule. When we are complete, we will take the penetration of renewable energy in the south-west interconnect system from five per cent to approximately nine per cent. This is equivalent to powering approximately 125,000 Western Australian home and to taking approximately 160,000 cars off the road annually—those are rough calculations.

We maintain a policy of very active involvement with our key stakeholders. We have great open relationships with these stakeholders—in particular, the Merredin community; Synergy; the network operator, Western Power; and the Western Australian government. We have received good support from Minister Peter Collier and the local member, Minister Grylls, who have both visited the site. If it would help the inquiry, we extend an invitation to visit the site to you. In particular, we have been extremely well supported by the local community and the land owners. The Merredin community is our largest stakeholder in the project, given that we will be there for 20 to 25 years. So we see it as critical that we retain a healthy relationship with them. We have in fact been told that the Collgar wind farm is the feature of the local Merredin show that will occur on 16 April. Financially, we are establishing a community trust for the shire and annual donations will go into this trust. This is to assist with community based projects.

The project has involved a significant boost to the local community during a very tough time for local farmers, given the recent drought and one of the driest winters in Western Australia's history. A number of local businesses have been taken on board to perform tasks to do with the project and will continue to be involved during the life of the project. In summary, our belief is that when proper planning and consultation takes place wind farms can provide a significant boost to local communities. Thank you.

Mr Woodroffe—SkyFarming has developed and project managed the Mount Barker community wind farm, which commenced operation a couple of weeks ago. The wind farm consists of three 800 kilowatt E53 Enercon wind turbines on 72 metre towers. This is of a scale more like the Lancelin project. Collgar is about 100 times bigger. The scale of our project down at Mount Barker is small. The size of the Mount Barker project roughly matches the local load. We call it the community wind farm for a number of reasons. One is because the size matches the local load. Under that reckoning, you could argue that the wind farm is also a community wind farm. This kind of thinking is in stark contrast to that which applies to wind farms like Emu Downs, Walkaway and Collgar—and just about every other major wind farm. SkyFarming does not have a problem with these large wind farms. It is just that at the level we are talking about with Mount Barker everything is much smaller.

Regarding the ownership of the project, even though we only have 13 shareholders, 75 per cent of those shares are owned by people who work in the area or have businesses in the Great Southern region. During the six-week consultation period—and this is going back about five years now—we had 50 submissions. They were all positive. Our shire council was very positive.

We got planning approval within about 10 months. For us, the Mount Barker project was quite a pleasant experience in terms of the support of the local population.

Looking at local benefits, the concrete was supplied by a plant that was less than three kilometres from the site. The electrical consultations were local; they were from Mount Barker. I would estimate that about 10 per cent of the cost of the project, which was about \$8.5 million, went to the local community. Because of the size of this project, it is unmanned and we do not see any economic benefit beyond the construction. It will be serviced by the Enercon service group in Albany, who are just 50 kilometres down the road.

For us—I guess this is a philosophical thing—wind energy is an agricultural industry. We have, in the name of this inquiry, ‘Social and economic impacts of rural wind farms’. What wind farms in this country are not rural? Wind does not take up a lot of space but it needs a lot of room and that is what you have on farms. We see wind as supplementing the incomes of farmers and wherever you can have them there is this opportunity for additional income. Our landowner runs sheep and has done so for the past 50 years. The income that we supply him will help him along. It is not a huge amount—we do not have a big wind farm—but it will help.

I would like to make one last point about our understanding in terms of distance to the nearest residence. I do not think this is in legislation yet but a draft has been made about the use of noise to determine how close you can get. One of the reasons we like that is that is easy to calculate. We also like it because it takes into account the number of turbines, the location of turbines relative to the local residences and the size of the wind turbines. Our machines are 800 kilowatts; the total output of this wind farm is about the size of one modern wind turbine, so we are keen that whatever measures or policies are put in place, they do take into account the size of the machines.

Senator ADAMS—You have said that these turbines are just on one property, so how close are the neighbours?

Mr Woodroffe—The nearest turbine is 800 meters from our neighbour to the north and I believe 800 meters from our neighbour to the south.

Senator ADAMS—Is that to their house or to the boundary?

Mr Woodroffe—To the house. It is 400 meters to the boundary.

Senator ADAMS—So that is the limit for Western Australia at the moment. What would happen if they decided to change their planning rules?

Mr Woodroffe—Our planning rules are determined by the local shire, and basically, the shire planner said, ‘Tell us how many and how big, and give your support in documentation,’ but we had to nominate very early on. But, like I said, they have been very supportive and it was gazetted within 10 months.

Senator ADAMS—If those properties were sold, how would you go—with the setback, if someone buys in and then things get changed?

Mr Woodroffe—We had a gentleman's agreement with the northern neighbour that we would be 400 meters back from their boundary. We had offered to put a turbine on their property but they said no. We did agree to that and we are 400 meters from that boundary. I think they had ideas that they might subdivide in the future, given where they are located, and where the town centre of Mount Barker is.

Senator ADAMS—How far are you from there?

Mr Woodroffe—We are three kilometres north of Mount Barker, and they are north of us.

Senator ADAMS—I have spent a lot of time in Kojonup—many years—so I think I know exactly where you are.

Dr Rankin—Senator Adams, can I just add to that question you had about the setback distances in Western Australia. The Western Australian Planning Commission's *Bulletin 67* clearly sets out the parameters you need to consider for locating your turbines in relation to existing sensitive residents. It is currently a noise-limit process, and in their document it states that this is typically around a kilometre but it is dependant on the results of the noise, from my understanding.

Mr Woodroffe—There are also parameters if they are right beside a highway.

Senator ADAMS—I was a little bit concerned about this article, in the *Countryman* of 10 to 16 March, about the transmission lines. What has been resolved?

Mr Craib—This is the economic regulatory authority question.

Senator ADAMS—Yes.

Mr Craib—That was taken from the *West Australian*. It is an unfortunate and creative piece of journalism. It is completely untrue.

Senator MOORE—I am shocked. That has never happened before!

Mr Craib—Effectively, it is a regulatory review of Western Power, being the network operator, and whether it can get an economic return on that capital. This is a draft determination, so it has to go through a process. I have just been told by Western Power that they are in the process of submitting their response to that draft determination. The determination basically said that they did not have sufficient information to justify \$7 million of the \$21 million spent on the substation works that Western Power need to complete to connect us to the grid. That is \$21 million in the context of circa \$650 million, so it is a small piece of work but a critical piece of work.

In terms of the impact on us, their works are pretty much complete. They are about 95 per cent complete at the moment. The article is, unfortunately, calling it a white elephant or a stranded asset is completely false. We have a statement on our website. We do not really see the need or have the desire to enter into a war of words with the press. If you want to jump on our website, you will see our response on there.

Senator ADAMS—We have been a little bit busy with over 1,000 submissions. I was horrified when I saw it.

Mr Craib—The frustrating thing is that we actually spent some time with the journalist to educate him, but it did not help.

Senator ADAMS—Has he still got a job?

Mr Craib—I assume so.

Senator ADAMS—I would like to ask about local employment. We were at a community wind farm in Victoria the day before yesterday. They had just completed putting up their second turbine the day before we got there. They only employed two local people doing that because they are so complex to put up. They had a team of 21 and only two locals were doing bits and pieces. Would you like to comment on that?

Mr Craib—Yes, it is very technology specific. Installing turbines does require a certain skill set. We have employed an EPC contractor, who have subcontracted a lot of their work. Typically, they will subcontract to firms they know have the technical skills and ability to do the job. Having said that, on the Collgar wind farm there are a lot of works that need to be completed—for example, concreting works et cetera. Whether the workers are employed locally or from other parts of the WA community, they definitely are as much as possible sourced locally. There are other obvious flow-on effects from big construction projects such as this. The rents out in Merredin have skyrocketed and we are spending a lot of time housing people out there. Merredin is not a huge town, as you would be aware. The service station, the supermarkets and the pubs in particular are doing very well. In terms of getting the actual details on the level of direct local employment I would need to take it notice and come back to you.

Senator ADAMS—If you could, because I am interested. It was a foreign company that was doing it too. Whether they were on 457 visas, I do not know. I do not know what the story was there. There were only two locals helping with that.

Mr Craib—One of our selling points when we were negotiating with the community was that we would bring local employment. We have upheld that as far as we possibly could without compromising the ability to build the wind farm itself.

Senator ADAMS—Thank you. I am very relieved about your transmission line.

Mr Craib—So are we.

Mr Woodroffe—That is only two machines. We are talking 111 here.

Senator ADAMS—Yes, I realise that.

Mr Woodroffe—We were very fortunate in Mount Barker in that we had a local concrete supply and did have a local electrical contractor.

Senator ADAMS—I did ask why they did not have locals doing it. It was specialised work and they went into great terminology about why locals could not do it. Mr Rosser, you have built some turbines as well. Were you able to use your local people?

Mr Rosser—We have not constructed turbines yet. The foundation work is just starting. We have used local contractors for the road work. They have all been local contractors. The concrete supplier is local. All of the electrical work is local. The HV work is all specialised; there are only about two contractors in Western Australia who can handle the work. There is nothing we can really do about where they come from.

As was said, the commissioning of turbines is specialised. You have to use the people who have the tickets. There are all those safety issues associated with being appropriately ticketed and trained to work on this equipment. You do not want people endangering themselves.

Mr Craib—There are a couple of other points just on that. It is obviously economic to employ locals in the sense that you do not have to pay for their transport costs. So to the extent possible, you do look for local employment. The other thing, as you would also be aware of, is that in Western Australia we are experiencing a labour shortage. For the ongoing work, we are very much looking for locals who can take on that work and stay with the project—even to the extent of bringing people home from the mines and that type of thing.

Senator ADAMS—Are you having any success in doing that?

Mr Craib—It is mixed. Unfortunately, the mines are paying a lot.

Senator MOORE—I would like to look at confidentiality agreements. Dr Rankin, you have heard the evidence and you could give us a response to a lot of the things there. We heard a lot about confidentiality agreements and what is in them and what is not, and the difficulties that occur. I am just wondering what the policies are for each of your companies over confidentiality agreements with people who may be involved. What is included in them? Do they include issues like commercial in-confidence, talking to other people or land values? Do you have them and what is in them if you do have them?

Mr Rosser—This project really just has standard confidentiality agreements. Nothing prohibits anyone from talking in the community about wind turbines or the work that is going on. It is typically around sensitive pricing information. So there is no gagging of anyone.

Senator MOORE—Do you have confidence that the people who are signing them know what they are signing? That is a standard legal process.

Mr Rosser—I suppose, yes.

Senator MOORE—Do you offer them legal advice?

Mr Rosser—No, with the West Hills Farm I think we are talking now about landowner agreements. Is that correct?

Senator MOORE—Landowner and non-landowner.

Mr Rosser—We own our own land.

Senator MOORE—Right, so you did not have to do that?

Mr Rosser—No, but if we had to sign a landowner agreement we would read the agreement and know what we were signing.

Dr Rankin—When we originally had our roundtable meeting with an immediate group of neighbours we had done preliminary desktop modelling of where we thought there was a wind resource. There was a much smaller group and we told them we were putting up a monitoring tower. Typically you need 12 months of wind data to assess the viability of a site, the consistency of the winds and its economic value. After that time we re-ran the desktop modelling work which showed that there was a variation from the conceptual model to the actual model, which changed a potential development envelope.

It was at that point that we then contacted landowners. We had not been onto anybody's property; it was a purely computer modelling process. We then contacted those landowners that had potential wind resources on their property and invited them to enter into a conversation with us about the potential project and what it might be. In doing that, if they said they were happy to have a meeting, we said, 'We will be bringing a mutual confidentiality agreement with us.' We sent that to them a week or so prior to the meeting and encouraged them to have that looked over, and if they had any questions they could ask us before we came.

The reason for that agreement was that there is a lot of competition within the wind industry. There were other companies. I did not come up with the idea just to put my kids through boarding school; they are nowhere near ready for boarding school yet. For the record, my washing frequently blows off the line and I lose a lot of socks.

We were actually approached in about 2006 by a company that chose Collgar over us. I thought, 'Someone has come and seen us and there is the *Renewable Energy Atlas* available on the government's web site, with a big red dot where we live.' I also thought, 'I am a researcher, so let's look at the process of doing this; why don't we have a look at the project ourselves?' There is a clear planning process laid out in Western Australia. I have been reasonably methodical in the work that I have done to date, so we believed that we could do it. Back to the confidentiality agreement, it certainly was not a gagging arrangement. It was an arrangement whereby we could talk about a financial situation. When we actually went to the landowners I made a point, not for any confidentiality reason—I took along what was very much a proposal at this time, a potential layout for their property. They did not see where any other turbines would have been. People go, 'How come they've got 10 and I've only got two.' I didn't want that to come into it. Every time, we said, 'This is a very early thing. There are many things to consider: archaeological studies, heritage, environmental impacts, noise impacts, visual impacts, shadow flicker—all those things will change where these things go. This is very early on.' The purpose of the MCA was to then see if we could come to a commercial arrangement regarding the lease payments. I had standard instructions, which I had from our legal team, just to make sure that I said the same thing to everybody. We ran through that. I probably still have that in my file, so I could offer that to you. It was purely for the length of time of the negotiation. If you said 'yes' then obviously there was another process that we went into with a licence and then a potential lease agreement. If you said 'no' then obviously that contract was null and void, because we

were not having any more discussions. We said, 'We're having a commercial conversation about rental income. When you are trying to lease your farm, you are best not to tell all your neighbours what you are paying because it ruins the competitive nature of that arrangement. Everybody has different circumstances regarding financial constraints, what they need and what they value.' So that was the reason for that. I guess the thing that is disappointing is that I do live next door to Roger and I have known him for a long time. I do not know why he did not pick up the phone and ask.

Senator MOORE—You were unaware of any concern—

Dr Rankin—Until I read it in an email that was sent around—not to me, of course, but to many other members of the community.

Senator MOORE—The confidentiality aspect was around the financial stuff—the business stuff? So, from your perception, there was no gag on talking about wind farms, talking about health or making disparaging comments or anything like that?

Dr Rankin—I should just add: once landowners had agreed to participate in the studies and obviously potentially place turbines on land, even though they had agreed to it the turbines may not end up being there due to the result of these studies. Once that development envelope was agreed to and landowners had signed up, which was on 27 August 2010, we then moved into September to that other community meeting where we put up the boundaries and the initial proposed layout. It was publicly available.

We had those original conversations around May, June, July leading up to August—three or four months of negotiations—with those people. I have one other quick point: we did not go back to Roger and make him an offer. He actually requested us to make him another offer, which we did. He then said, 'No, I'm not interested,' which was fine.

Senator MOORE—But, as far as you were concerned, there was no further confidentiality element?

Dr Rankin—No. We made it very clear to all the landholders that the project was not dependent on them being involved in it. Basically, the envelope that we have has resulted in the potential size of the project. If fewer people had signed up—there was still a project there—obviously it would have been a smaller project due to land availability.

Senator MOORE—With regard to your huge project, how were confidentiality agreements handled within your company?

Mr Craib—We have confidentiality agreements with each of our landowners, as we have with every commercial contract that we have in the project. They are standard confidentiality clauses that are designed to prevent the disclosure of confidential information that is withheld—effectively, the terms of the contract. We are mostly talking about the commercial terms of financial payments. How well those confidentiality clauses work in a small rural town such as Merridin is probably questionable, suffice to say that to pre-empt that we use a common template and pay the same compensation for each landowner to prevent the issues that Sarah was talking about.

We have had no problems with those clauses. They are certainly not gagging clauses by any stretch. They are as much to protect the landowner as they are to protect us. To the extent that there was a need to disclose, the way the clauses typically work is that, if there is a need to disclose information, the party that wishes to disclose would come to the other party and say, 'I need to disclose this for such and such a reason; do you have a problem with this?' et cetera. Obviously if it is required for other reasons or if it is required by law or what have you, those clauses are not enforceable. As I say, we do not see any issue with those clauses at all.

Senator MOORE—Have you had any complaints or discussion, and did you encourage or offer legal advice to people before they signed up?

Mr Craib—I personally was not around during this time, so I am not going to comment on that.

Senator MOORE—Can you take that on notice?

Mr Craib—I can, but what I can say is that landowners were definitely encouraged. It would be remiss of us to enter into it without that, and given the size of the project you do not want to get tripped up on something like this. You do not want to potentially get caught up down the track by people saying they have not received proper legal advice. There was a long discussion on the level of compensation, in fact, prior to us entering, and that was resolved. One landowner in particular had a problem with the level of compensation so all the landowners got together and got their own legal representation, so it was quite a detailed process. But at the end of the day we have a good working relationship.

Senator MOORE—How many lawyers are there in Merredin?

Mr Craib—I do not know, but they were not only using a Merredin lawyer. They were using a local lawyer and a Perth based lawyer as well.

Senator MOORE—What about Kojonup? How many lawyers are there in Kojonup?

Dr Rankin—There is one, but I do not know if he is full time, and another who is in and out. But I think they had a couple of people in Albany, which is 150 kilometres away, and Perth. There are a couple in Kojonup who are part time. A couple of landowners showed it to their accountant as well. So that was another form of professional advice that they used.

Senator MOORE—Mr Woodroffe, did you require confidentiality clauses with your three turbines?

Mr Woodroffe—We had commercial confidentiality for our shareholders. We did not really have anything in the landowner agreement or the agreement to lease to do with gagging, censorship or anything like that. But, again, it is a bit like asking somebody how much they get paid. They also had an in-house lawyer—it was a relative—but she actually did a very good job.

Senator MOORE—Was she local?

Mr Woodroffe—She was related by marriage.

Senator MOORE—So she was a local.

Mr Woodroffe—Yes. It was an interesting situation because no other wind farm developer was going to go there and we had no else to go. So it was a slightly different arrangement and I am very grateful we did not have to jump through some of the hoops the bigger projects have had to go through.

Senator ADAMS—I want to ask about community consultation. How early was it done? We have had examples of planning going for five years, but first up they did community consultation, advising the community that this was being looked at and this is where it would go. I was going to ask Dr Rankin about Kojonup because of the problems that have arisen there. If you had been able to advise the community what was going on a bit earlier, even though it was only in the planning stages, would it have helped?

Dr Rankin—I do not think it was a secret. We started talking about it, as I said, in 2008. We had a meeting with the neighbours. We had to submit a planning application to the Broomehill shire for the erection of the 80-metre mast. If you drive past our house you can see that, and certainly people in Kojonup have been talking about the project. I and the other shareholders are very active members of the community through schools, sporting groups, Rotary clubs and Apex clubs. It has been a common topic of conversation in the community for a long time.

We have actually got a consultation record that shows who we contacted, and how we did it, with fax. With Helen, I was a little confused today. We sent her a fax; when I first rang her after the fax was sent regarding the second meeting—because originally her farm was not in that original neighbourhood block—she said, ‘Oh yes, I heard about that and I hoped it wasn’t going to happen.’ I said: ‘Okay, so you’d heard about it. Well, we’re having a meeting. Would you like to come?’ And then, in a subsequent phone conversations we heard—as you have heard today—that she was not even going to attend that meeting, except that someone advised her to. I was grateful that she did come.

We have also been liaising with the local shires since 2008. It is a very expensive process, as Al would understand, especially on the scale of the studies that need to be done. If there were not some general acceptance of the project, even at a shire and a community level, then we would have been wasting our time and certainly our money. We have had support for the project through the Great Southern Development Commission. We had a grant in their first round. That was published in a media release. That would have been in 2009. We have had funding again in this most recent round, although it has been a little difficult to actually get those funds.

So it certainly has been publicly put around, and I think it is incorrect to say that nobody knew about it and it was secret. In fact, if there has been any secrecy it has been in the movement against it. We have offered to meet with them and hear their concerns. I have rung them and said, ‘Would you like to meet? Tell us your concerns.’ But we just do not get any feedback. If we do not know what their concerns are then it makes it very difficult to manage them. Even a couple of people to whom we have said, ‘We would like to put noise loggers at your house; we would like to do the visual impact,’ have said, ‘I do not want to have anything to do with this wind farm.’ It makes it very hard to ameliorate and to mitigate the effects, or even to assess those effects.

Senator ADAMS—Having lived in Kojonup, I know how all these things go round in sporting clubs and whatever. Just to get the facts out there, are you going to have a community meeting or do anything like that?

Dr Rankin—We will. And just to explain: the development application process that we have gone through—that has been planned in consultation with the shires again. We submitted that executive summary, which I believe has been submitted by some other bodies to you. The reason for that—again, in consultation with the CEOs and the planning officer—was: ‘Let’s get the concept of the project out there,’ which was after our community consultation meetings. So we had immediate feedback from those local neighbours, who were obviously going to feel the greatest impact, being the next door. We had that process open before we commissioned some of the final studies so that any community concerns could be incorporated into those studies and looked at so that the project could be assessed with a much broader consultative opportunity and direct inputs included. The final studies will be done in the next three to four weeks, and we have scheduled, as we have indicated all along, that, once that information is there, the whole project will then be presented in its entirety. I do not even know where the turbines are going to go, right now, because we are waiting on the results of a few of those studies.

Senator ADAMS—Mr Craib, how did you go about it with your first introduction to the Merredin community as to what was happening?

Mr Craib—I guess the initial works were done on trying to site a wind farm and then working out where exactly the best wind resource was, and then the discussions were initially held with the owners of the land that you envisage the turbines might be able to be situated on. Following that, obviously, community consultation is important. We had a couple of open days prior to the submission and the development approval, and those open days included visual impact studies—basically taking photos from local vantage points and then superimposing turbines and basically trying to get feedback. As a result of those consultations we did move some of the wind turbine footprint to some extent. For example, there was a landowner to the north who was concerned about the visual impact of the wind farm, so we elected not to build turbines close to where he was. Additionally, there is a local Merredin aerodrome not too far from the wind farm, so we did not extend as far west as we would have, to where some of the better wind resource is, basically to take into account some of their concerns. So I guess we tried as much as possible to be as active with the community as we could, and I think that has paid dividends.

Senator ADAMS—How about you, Mr Woodroffe?

Mr Woodroffe—We had a local supporter and we made some very early presentations to the local shire. We had a few stalls outside the IGA supermarket on a few Saturdays. We developed a few photomontages around the area, and in the one from in front of the brand-new shire offices, you look straight up the street: it is that hill, and you can see them behind the street lighting. Once we realised that, we sort of cranked it up a bit and tried to generate a bit more publicity, using mostly *Plantagenet News*, which is the local newsletter. Like I said, when we had this public consultation period, and got the fifty positive submissions, that was very encouraging.

Senator ADAMS—You did mention Denmark. What happened there?

Mr Woodroffe—Denmark, south-west Fremantle. In Mount Barker we are on a 50-year-old sheep farm that is about half cleared. When we were looking at the site in Mount Barker—this is going back to 2003—the grant that we had for Mount Barker was never going to be available for Denmark. That was only for projects which were off the grid—Esperance, Bremer Bay, Hopetoun, Rottnest, Denham, Coral Bay, whatever. About the time we were looing at Mount Barker they changed that to projects on the grid but that was after we started looking at Denmark. So the thinking behind it was to pick a very high-wind area. We had Albany 50 kilometres directly to the east. Western Power Corporation at the time had the whole grid to put in a wind farm. That is where they put it. So looking at that point, we had confidence that at least the wind would be good electrically for Denmark.

In Mount Barker we are on tall towers with wind class 3 machines. If we go to Denmark, we would be lucky to get a wind class 2 machine in there, and we would be looking at much shorter towers. Denmark, like Mount Barker, is a small town. It is a very politically active town and I think that location triggered a bit of opposition. Having said that, in Mount Barker we never had a committee of people meeting monthly. That never happened in Mount Barker. In Denmark they are still meeting and it has been more than seven years. So there is community commitment for that project in Denmark. It is just that there is also a very active opposition and they have been very effective. That project may yet go ahead. It is right on the coast, and the primary reason for that was to get those winds, and they were very good. I also think that two of the proponents for that project—two Denmark locals—have been very active within that community and are also active within WA on environmental issues, and I think there has been a little bit of payback involved, but I could be wrong.

Senator ADAMS—How did you go in Lancelin?

Mr Woodroffe—It is a very isolated site. The nearest neighbour is 3½ kilometres and is a keen advocate of wind turbines. The next neighbour is five kilometres and then the next is six or seven, and that community is supportive of wind turbines. We did not really have any problems and we moved reasonably quickly through the planning approval process. It was all over in about 10 weeks.

CHAIR—Earlier this morning—I do not know if you were in the room—Senator Fielding was asking about the wind atlas that Dr Rankin referred to. As far as I am aware that is a publicly available document, isn't it?

Dr Rankin—Yes, that is correct, but I suppose that has changed.

CHAIR—Or are there two versions?

Mr Rosser—Yes.

CHAIR—Tell me about that.

Mr Rosser—It is a bit of a sore point. The federal government, the taxpayers of Australia, put in the money to develop that wind atlas. It appeared very briefly in its full form, where you could zoom in and locate areas of potential energy. It was terrific. Then suddenly it disappeared from the website. If you go back onto their website to try and find it, it has gone.

CHAIR—Whose website?

Mr Rosser—The old greenhouse office or wherever—

CHAIR—Now it is the Department of Climate Change and Energy Efficiency.

Mr Rosser—Wherever it is. You go in and think: ‘I’d like to have another look.’ They have listed it as one of the grants. You zoom and it has gone; there is no link to it. Then you ring them and ask: ‘Where is it?’ and they say, ‘Oh, well, it’s no longer available. You need to talk to the people that were funded to develop it.’ Then you ring them and no; they are wind developers now. So it is no longer available. They will send you a little picture, like this, of Australia, whereas before it was an incredibly useful tool for anyone who wanted to use it.

Dr Rankin—I have not looked for it for a number of years, obviously. It has changed. I was in zooming time.

Mr Rosser—Times have changed. It is crazy.

CHAIR—We will follow that up.

Mr Rosser—It would be terrific if you could send me a full zooming version. I would be forever grateful. I think that is a bit rude.

CHAIR—Yes, we will follow that up.

Senator ADAMS—Dr Rankin, how are you going with the transmission line for your feed?

Dr Rankin—We have not done any work specifically on a transmission line itself. We are hoping that the Grange line will go ahead. That actually passes through the northern area of project. We are in discussions with Western Power.

Senator ADAMS—And with the gas coming through from Bunbury to Albany, do you think Grange will go that way?

Dr Rankin—I do not know. That is a question to ask Grange.

Senator ADAMS—That was just to clarify how it was going in that respect.

Dr Rankin—If the Grange line does not go ahead—and that is part of the reason for the size of our project—we need to be able to justify a transmission line back into the Kojonup substation which would follow that easement, which I think has got most or all of its approvals.

CHAIR—Does that mean that if the Grange line does not go ahead you would have to scale down the proposal?

Dr Rankin—No. Whether it goes all the way to Grange or just to the wind farm, ultimately user pays. We need our project to be a certain size to justify that cost.

CHAIR—So you would have to put through a separate easement if that does not go ahead. Is that what you are saying?

Dr Rankin—If their line does not go ahead, we can follow the easement that is already in place for Grange.

CHAIR—I beg your pardon. Thanks.

Senator ADAMS—You do not have to go back to all the neighbours to get permission?

Dr Rankin—Western Power will do a lot of those negotiations. We are just waiting and seeing what happens on that.

Senator ADAMS—Regarding the sale of electricity, with all these wind farms popping up are Western Power, or Synergy or whatever they are called now, going to be able to take anything you can produce?

Mr Rosser—We use our own.

Dr Rankin—We are still in offtake negotiations with a variety of companies.

Mr Craib—The basis for our investment was that they would take everything we could produce.

Mr Woodroffe—My understanding is that we are now having problems with coal.

CHAIR—With what?

Mr Woodroffe—Coal. Coal does not come down overnight. We are starting to approach that, so it is going to be interesting to see how. I think there is a lot of work being done with the IMO about this at the moment.

CHAIR—We are going to try to get them to appear.

Senator MOORE—We have had a lot of evidence about the health impacts and people being concerned about that. I wonder from each of your perspectives whether those issues are being raised and how you handle them.

Mr Rosser—West Hills Farm have an obligation to the workforce to make sure that there are no adverse impacts. We visited a number of wind farms and the turbines that were being installed. I suppose noise as was the biggest issue. We got some of reports. I think the Sonus report on infrasound was out. After seeing some of the information on the internet, we read it to satisfy ourselves. We talked with the insurers and we are comfortable that, given the location, people are not going to be infected. We have 80 people in our processing plant and that is about a kilometre away from it. And then the quarters are probably 2½ kilometres away. The turbines are quite small, too. They are much smaller than, say, the turbines that are going into the projects being discussed here. They are half the size.

Senator MOORE—And you have had no complaints?

Mr Rosser—They have not been built yet.

Senator MOORE—But in the process have you had complaints from people concerned about the health impact?

Mr Rosser—No. We have heard nothing. We have had no feedback about health issues

Dr Rankin—We have obviously had a few people raise those issues. But, like West Hills Farm, we have trawled through the literature. I have a background in epidemiology. My house will probably be a kilometre from 10 turbines. I have little kids. I am not planning on leaving. Another couple of our landowners are also within one kilometre of the turbines. That is an arbitrary buffer that we have set, but we are using the planning guidelines to set those buffers. There are rigorous environmental noise regulations in the state that protect against noise and vibration. There have been no complaints that we are aware of. As West Australians, we believe in the robustness of the planning system that we have in this state.

Mr Craib—We are probably lucky that we are in a relatively remote part of Western Australia. The nearest participating landowner is within one kilometre and the majority are two or more kilometres away. As part of the development approval, we need to conduct a number of studies such as noise and electromagnetic interference and also flicker assessments et cetera. They were prerequisites of the DA, which we have complied with. Once the wind farm is constructed, we need to do acoustic and noise emission tests to ensure that those tests are upheld. If they are not, we need to de-rotate the turbine such that the noise envelopes are adhered to. In terms of complaints, there have been none that I am aware of. As I say, we obviously try to keep an open dialogue with the landowners, but at this stage we have not received any complaints.

Mr Woodroffe—We have not had anything in terms of concerns about health or noise. As I said before, the nearest neighbour to a turbine is within 800 metres of turbine 2; and, again, to the south for turbine 1. They are within 100 metres of the Albany Highway where it crests the hill and there is a 110 kilometre speed limit. They are also just north of Mount Barker. Just south of our southern landowner is the Southern Haulage depot, and that can be quite noisy at times. We have not had anything in terms of concerns about health.

CHAIR—We have gone a bit over time, so I think we will call it quits here. Thank you very much for your time in appearing before the committee today. Some of you have a bit of homework to do. If you could get that to us within the next couple of weeks, it would be appreciated.

Committee adjourned at 5.18 pm