

BEFORE THE ENVIRONMENT COURT

Decision No. W 067 /2008

**IN THE MATTER** of an appeal pursuant to section 120 of  
the Resource Management Act 1991

**BETWEEN** MOTORIMU WIND FARM LIMITED  
(ENV-2007-WLG-000098)  
Appellant

**AND** PALMERSTON NORTH CITY COUNCIL  
First Respondent

**AND** HOROWHENUA DISTRICT COUNCIL  
Second Respondent

Court: Environment Judge B P Dwyer presiding  
Environment Commissioner J R Mills  
Environment Commissioner S J Watson

Heard at: Palmerston North on 7 – 11 and 14 –18 April 2008

Closing submissions: 9 May 2008

Counsel/Appearances:

H Rennie QC, V Rive, J Meech for Motorimu Wind Farm Limited  
J Maassen, J Reardon, B Pearse for Palmerston North City Council  
A Cameron for Horowhenua District Council  
R Enright for New Zealand Wind Energy Association (s274 party)  
J Campbell for Mighty River Power Limited (s274 party)  
S Stewart for Tararua Aokautere Guardians (s274 party)  
J Bent appearing for himself (s274 party)  
S Parker appearing for herself (s274 party)  
D Turley for Horowhenua Energy Ltd

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**DECISION**

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### ***Introduction***

[1] In a decision dated 25 June 2007, Commissioners jointly appointed by Palmerston North City Council (the City Council), Horowhenua District Council (the District Council) and Manawatu-Wanganui Regional Council (the Regional Council) granted Motorimu Wind Farm Limited (Motorimu/the Applicant) various district and regional consents allowing it to establish and operate a wind farm on the foothills of the Tararua Ranges, southeast of Palmerston North.

[2] Motorimu had sought resource consent to establish a wind farm containing 127 turbines. The Commissioners granted consent to 75 turbines.

[3] Motorimu filed an appeal seeking that consents be granted to its 127 turbine proposal together with an appeal against some of the conditions which had been imposed by the Commissioners.

[4] By the time the appeal came before the Court, Motorimu had refined and amended its proposal somewhat so that its appeal related to only 38 of the 52 turbines for which consent had been declined by the Commissioners. Motorimu withdrew 14 turbines from its application.

[5] In other words Motorimu is seeking consent for a wind farm containing 113 turbines, 75 of which are already consented (the consented turbines).

[6] Of the 38 additional turbines for which consent is now sought, (the additional turbines), five are situated within the territory of the District Council and 33 within the territory of the City Council.

[7] Motorimu's proposal had attracted widespread interest. A total of 220 submissions were received by the Councils. Forty one submitters supported the proposal, 165 opposed and 14 submitters indicated neither support nor opposition. Many of the submitters appeared in front of the Commissioners.



[8] Notwithstanding the extent of opposition to the proposal, no appeal was filed against the decision to grant consent to 75 turbines. Accordingly consent is in place for at least part of the wind farm which Motorimu seeks to establish.

***The Parties***

[9] Motorimu is a special purpose company set up for the purposes of developing the Motorimu Wind Farm Project. It is a subsidiary of Allco Wind Energy NZ Limited which in turn is a subsidiary of the Allco Finance Group, a company listed on the Australian Stock Exchange. Allco has a range of business interests many involving wind energy. It is involved in the operation, establishment and acquisition of wind energy projects in New Zealand, Australia, Europe and the United States. At the opening of its case Motorimu advised through its counsel that Allco intended to sell its wind business so that the ultimate owner of Motorimu would be someone other than Allco.

[10] The City Council supported the Commissioners' decision as well as adopting a position on conditions.

[11] The District Council was not separately represented before the Court and abides the Court's decision.

[12] Mighty River Power Limited was a party pursuant to s274 RMA. The aspect of the appeal which was of particular interest to it related to wind turbine generator sound issues, and more particularly a condition of consent (Condition 10) imposing a limit of sound level more restrictive than that contained in the New Zealand standard *NZS6808:1998 Acoustics-The Assessment and Measurement of Sound from Wind Turbine Generators* (NZS6808).

[13] The New Zealand Wind Energy Association appeared in support of the grant of consent for the additional turbines. As with Mighty River Power, it was also concerned that the noise condition was more restrictive than NZS6808.



[14] Horowhenua Energy Limited is an applicant for a wind farm at a site in the Horowhenua District, south of the Motorimu proposal. It appeared and made submissions in support of Motorimu's appeal.

[15] In addition to the parties listed above some 65 parties gave notice of an intention to be involved in the appeal pursuant to s274 RMA. The s274 parties included Tararua-Aokautere Guardians (Inc) (TAG), a society which was formed in 2004, whose statement of philosophy is *to protect the unique environment and the iconic nature of the Tararua Ranges for future generations*. TAG's membership includes many persons living near the wind farm site.

[16] During the pre-hearing process the Court suggested that it might be efficient for as many parties as possible to band together for the purposes of joint representation. Many of the s274 parties did so and were represented at the hearing by TAG although they clearly retained their own s274 status. Evidence from many of these parties was presented as part of TAG's case.

[17] In addition to the s274 parties represented by TAG the following 274 parties appeared at the hearing on their own behalf.

- J Bent
- S M Parker

### ***The Site***

[18] The Motorimu wind farm site (as currently proposed) is located on a 4.6 kilometre long stretch of the foothills of the Tararua Ranges. The site is situated approximately 7.5 kilometres southeast of the Linton Military Camp near Palmerston North. The closest settlement is the small and scattered village of Tokomaru which is approximately 1.5 kilometres at its closest point from the southern end of site.

[19] The foothills where the site is situated run in a generally south west/north east direction. This part of the foothills is separated from the main Tararua Ranges by the Kaituterawa Valley and typically has elevations in the range of 400 to 500 metres above mean sea level (masl). A local landmark, Kaihinu, situated near the southern end of the wind farm, stands at an elevation of 673 masl. A little distance to the north



of (but not within) the site is Te Mata, another prominent landmark along the foothills. Te Mata rises to about 450 masl. Near the southwest corner of the site, on the lower foothills, there is another landmark known locally as Vodafone Hill because of the presence of a cell phone tower. Vodafone Hill rises to about 378 masl.

[20] The site incorporates a total area of approximately 800 hectares and is owned by four landowners who have entered into long-term lease agreements with Motorimu. The land is currently used for pastoral farming and exotic forestry. There are some areas of remnant native bush with associated flora and fauna. It is intended that the existing uses will continue in conjunction with the operation of the wind farm.

[21] The wind farm site incorporates the ridgeline of the area which we have described, together with a large basin and a number of smaller valleys situated below the ridgeline on its (approximate) eastern side. The consented turbines are generally located in this basin and valley system although some at the southern end of the site are either on or very close to the ridgeline. The additional turbines are to be situated along the ridgeline itself, on the slopes of Kaihinu, on the western side of the ridgeline (being the area more generally visible from the Manawatu Plains) or in a discrete area known as Horseshoe Bend. We will discuss the positions of these turbines in more detail elsewhere.

[22] To the west of the site the lower foothills and the plains in this vicinity are used for a mixture of rural and rural/residential purposes. There are a number of 4 hectare rural lifestyle blocks close to the site together with larger land holdings which are used for farming activities. Although there are some discrepancies between various witnesses' calculation of the numbers of houses in proximity to the additional turbines, using the evidence of Mr G C Lister (Motorimu's landscape witness), it appears that there are at least 45 houses within 2 kilometres of the site and 191 within 5 kilometres. Mr S Bray (TAG's landscape witness) estimated that there were approximately 60 houses within 2 kilometres.

[23] The site and its environs are accessed by a number of roads. The nearest principal road is State Highway 57 which runs roughly parallel to the Tararua Ranges approximately 4 kilometres away from the site at its closest point. A number of



feeder roads give access from State Highway 57 into the foothills. These roads include Kendalls Line, Millricks Line, Scotts Road and Williams Road. Road access to the site itself is provided off Scotts Road and Williams Road. Scotts Road runs up the foothills and through the site giving access to the hill country behind.

### ***The Councils' Decision***

[24] It was common ground before both the Councils and the Court that the wind farm requires consent as a discretionary activity under the Palmerston North City Plan (the City Plan) and Horowhenua District Council District Plan (the District Plan).

[25] The basis on which the Hearings Commissioners differentiated between the consented turbines and the additional turbines is summarised in their comprehensive decision in these terms:

*8.10 On the above basis the Commissioners also accept that potential mitigation and remediation is virtually impossible, apart from the treatment of earthworks for access road creation purposes, and therefore the only option left to Commissioners is to decline approval of 52 turbines (now reduced to 38 for this hearing) that are considered to be adversely prominent, having regard to the unique land form and visual characteristics of this area of the Tararua Range. The remaining 75 turbines are considered to be located in positions that will achieve the principal purpose of the Act to "promote sustainable management of natural and physical resources" and in this location can be fitted into the local environment in an environmentally responsible manner.*

[26] In practical terms this led to the Commissioners approving the consented turbines which are largely situated below the main ridgeline in the basin and small valleys to the east of and below that ridgeline. The additional turbines, being primarily situated on or near the main ridgeline, or in the vicinity of Kaihinu or at Horseshoe Bend, were regarded by the Commissioners as having adverse effects on landscape and visual amenity values and consent was declined to them.



[27] Most of the additional turbines are sited largely single file, in a generally north-south direction along the ridgeline. This had the effect of spreading the wind farm as originally proposed over a total length of about 6.3 kilometres. The creation of what was described as a *picket line* effect along the ridgeline was the subject of some discussion before the Commissioners. It was the northern most 14 of these additional turbines which Motorimu removed from its proposal prior to our hearing. In terms of distance, removal of the 14 turbines reduced the lineal extension of the wind farm by about 1.7 kilometres.

[28] The consents incorporated a wide ranging suite of conditions relating to establishment and operation of the wind farm. For the purposes of our consideration the most contentious of those conditions was Condition 10 relating to night time operational noise.

[29] The Council consents did not specify any particular type of turbine which was to be established in the wind farm. The application document (and consequently the consents) specified maximum dimensions of the turbines that Motorimu expected to erect.

[30] For the purposes of planning and modelling, the Vestas V52 turbine was used as representative of the range of turbine models to be used. We were told by Mr B Voll (the Technical Director of Allco Wind Energy Management Limited) that the Vestas V52 has the following relevant dimensions:

- Tower height 53.1 metres;
- Hub height 55 metres;
- Rotor diameter 52 metres;
- 25.3 metre long glass fibre reinforced epoxy blades (3);
- Maximum height (top of blade tip) 81 metres.

[31] The conditions of consent provide some flexibility in placement of the consented turbines but within identified limits.

[32] In addition to the establishment of the approved turbines the Council consent authorises the establishment of infrastructure, much of which would also



accommodate the additional turbines should consent be granted to them. The infrastructure includes:

- Site office, maintenance building and associated outdoor yard;
- Construction yard for the storage of materials;
- Substation building;
- Switching station to connect wind farm's reticulation network to the substation;
- Cable trenches for medium voltage cable connecting wind turbines to the substation;
- Road upgrades;
- Internal access tracks and associated earthworks to create turbine and batching plant building platforms;
- Three new wind monitoring towers of approximately 55 metre height (to be installed in due course);
- Concrete batching plant (to be removed upon completion of construction) and storage pond to provide water for the batching plant.

The wind farm will be connected to the national grid by the existing TransPower 220 kV transmission line from Bunnythorpe to Wilton which has the capacity to accommodate the electricity generated by it. This transmission line crosses the Motorimu site in a line to the northwest of the turbines and its presence avoids the need to construct a lengthy transmission line to the national grid.

#### ***Manawatu Wind Farm Development***

[33] We were told by Mr J A Baker, (Senior Planner for the City Council), that the Manawatu Region has the highest concentration of wind turbines in New Zealand.<sup>1</sup> Mr Baker advised that there are currently 194 turbines installed in the region and a further 167 which have been consented but not yet installed.

[34] The existing wind turbines in the region are contained in three wind farms being:





- Te Apiti (55 turbines installed) situated near Ashhurst at the southern end of the Ruahine Ranges;
- Tararua, Stages 1-3 (134 turbines installed) situated at the northern end of the Tararua Ranges;
- Te Rere Hau (5 turbines installed) situated on the Tararua Ranges.

These three wind farms are situated east/northeast of Palmerston North.

[35] The closest of the existing wind farms to the Motorimu site is Te Rere Hau which is situated approximately 13.6 kilometres to the northwest. Figure 1 of Motorimu's bundle of maps and photographs was a location map showing the Tararua and Ruahine Ranges running in a generally north-westerly direction with the Motorimu site being the southern most of the wind farms then Te Rere Hau, then Tararua 1-3, then Te Apiti being the northern most of the four wind farms.

[36] We were advised that there were a number of other proposals under investigation for either expansion of existing wind farms (Te Rere Hau) or for new wind farms.

[37] The issue of the cumulative effect of wind farms in the Manawatu Region was a matter of debate before us and will be discussed further elsewhere. There did not appear to be any dispute to the proposition advanced on behalf of Motorimu that consideration of effects of wind farms as yet neither applied for nor consented should not form part of our deliberations.

### *Preliminary Legal Matters*

[38] A number of legal issues arose for consideration during the course of the hearing. These include:

- Role of Commissioners' decision;
- The precautionary principle;
- The permitted baseline;
- Existing environment;

We comment on those various issues.



### ***Role of Commissioners' Decision***

[39] Section 290A RMA provides that:

*In determining an appeal or enquiry, the Environment Court must have regard to the decision that is the subject of the appeal or enquiry.*

The requirement to *have regard to* the Commissioners' decision means that the decision is of material consideration to this Court, not that we have to follow it.

[40] We have already commented on the comprehensive nature of the Commissioners' decision. Much of the decision (as to the consented turbines) is not under challenge from any party. Insofar as the additional turbines are concerned we agree in general terms with the approach adopted by the Commissioners. Due regard was had by the Commissioners to the relevant planning documents. Their decision acknowledged the positive effects of the proposal and identified what the Commissioners regarded as adverse effects particularly in relation to landscape, visual and amenity values. Having done so they then took the broad overall approach to their decision required by s5(2) RMA.

[41] We will approach our consideration in a similar way. Whether or not we reach similar conclusions to the Commissioners will be determined by how we consider the evidence presented to us. Unlike the Commissioners we had the benefit of cross-examination of witnesses.

### ***The Precautionary Principle***

[42] TAG'S opening submission suggested that the Court should take a precautionary approach to its considerations in this case, particularly with regard to noise issues. In its opening submission<sup>2</sup> Motorimu referred to the statement of this Court in *Ngati Kahu Ki Whangaroa Co-Operative Society v Northland Regional Council*<sup>3</sup> that:

*The Court makes a judgment on such an application after finding facts based on evidence of probative value. The precautionary approach may be applied in making the judgment where, on the totality of the evidence, it finds that due*



*to scientific uncertainty, exercise of the consent would be likely to cause serious or irreversible harm to the environment.*

[43] We accept, in this case, that if after considering the evidence in its totality we conclude that there is scientific uncertainty as to whether or not exercise of the consent is likely to cause serious or irreversible harm to the environment then it would be appropriate for the Court to apply a precautionary approach.

[44] The term environment includes *people and communities*.<sup>4</sup> Accordingly, the effects which noise generated by the wind farm might have on its neighbours (which was subject to considerable debate before us) could be subject to consideration in terms of the precautionary principle. The real issue however in this case is whether or not there is *scientific uncertainty* as to those effects. Motorimu contends there is no such uncertainty and that the scientific evidence is clear. We will discuss that matter further in this decision.

#### ***The Permitted Baseline***

[45] Motorimu contended in its closing submission that applying the permitted baseline in this case will allow for some sensible comparison of the effects of the wind farm proposal against the effects of activities which could take place on site as of right, particularly in relation to traffic, noise, construction, ecology and amenity effects. It contends that the evidential basis for that proposition is found in the evidence of Mrs S J Allan (Motorimu's planning witness). We understood the most significant baseline issue was that relating to noise.

[46] Mrs Allan identified the range of permitted activities which might be undertaken on the site and the lack of constraints on noise emissions from those activities.<sup>5</sup> More particularly she identified noise emissions from agricultural equipment, bird scaring devices, forest harvesting activities and portable saw mills which could be used or undertaken with little limitation.



[47] We do not consider Mrs Allan's evidence an appropriate basis to make baseline comparisons between noise generated by the permitted activities which she identified and noise to be generated by the proposed wind farm. There was no qualitative or quantitative analysis undertaken of the noise generated or likely to be generated by the activities in question. No comparative or analytical exercise of the kind identified by the Court in *Lyttelton Harbour Landscape Protection Association Inc v Christchurch City Council*<sup>6</sup> was carried out by Mrs Allan.

[48] None of the other parties in these proceedings disputed that agricultural/silvicultural activities might take place in and around the vicinity of the wind farm. However it is the Court's view that the noise generating aspects of those activities tend to be temporary, seasonal or ephemeral. They more commonly occur in daylight hours, although not always. Nothing in the evidence enables us to make a comparison between the effects of these sorts of noises and the noise which is likely to be generated by the wind farm's turbines.

#### *Existing Environment*

[49] There was some debate between counsel for Motorimu and the City Council as to whether or not the existing or receiving environment for the purposes of our consideration included the 75 consented turbines. Counsel for Motorimu used the term *existing environment* and Counsel for the Council the term *receiving environment*. We assume that they were talking about the same thing. Both counsel referred the Court to the decision of the Court of Appeal in *Queenstown Lakes District Council v Hawthorn Estate Ltd.*<sup>7</sup>

[50] Mr Maassen for the City Council contended that *Hawthorn* made a distinction between effects generated by the proposal on the site and on the receiving environment beyond the site. We understood him to submit that if the (now) approved activity is regarded as the baseline for consideration of effects then any subsequent applications to extend the activity in some way will be considered from the starting point that the site had already been notionally degraded by the approved but unimplemented consent. Mr Maassen contended that such an approach would

<sup>6</sup> [2006] NZRMA 559.  
<sup>7</sup> [2006] NZRMA 424.



lead to *incrementalism* or an inevitable and ongoing degradation of the environment by successive applications.

[51] With respect to Mr Maassen we consider that that contention was directly rejected by the Court of Appeal in *Hawthorn*.<sup>8</sup> Although the Court in that case was specifically considering the status of unimplemented consents off site, we do not see why any distinction should be made with unimplemented consents on site.

[52] In any event we consider that Mr Maassen's submissions in this regard were off the point. Motorimu did not advance its case in this instance on the basis that the effects of the 38 additional turbines ought be considered in isolation from the effects of the 75 consented turbines. In their closing submissions Counsel for Motorimu noted that its witnesses had considered the effects of the additional turbines both in the context of an environment including the 75 consented turbines but also on the basis of treating the 113 turbine proposal as a whole. Motorimu's witnesses concluded that under either scenario the proposed wind farm was acceptable.

[53] We did not understand Motorimu to suggest that any adverse effects arising from the additional turbines might be regarded as minor because the environment was already affected by the presence of the approved turbines. Even if that was Motorimu's approach, consideration of the effects arising, in particular, out of placement of turbines on the ridgeline must largely (but not entirely) be separate from the question of the effects of the consented turbines which intrude on the ridgeline to only a limited extent. The incremental noise effect of the additional turbines was identified and considered as part of a consideration of the overall noise effects of the wind farm.

### *The Merits*

[54] We consider that determination of the merits of the appeal primarily revolves around consideration of the following issues:

- The benefits which accrue from wind farming generally and the Motorimu proposal in particular;



- Landscape effects;
- Cumulative effects;
- Amenity effects;
- Noise effects.

We now turn to consider those various issues individually.

### ***Wind Farming – The Benefits***

[55] The underlying premise behind Motorimu's case was that there would be real benefits to both the Manawatu region and New Zealand if the Motorimu wind farm is allowed to proceed on the 113 turbine basis sought by it. Motorimu contended that its wind farm project would help satisfy New Zealand's growing electricity demand via an environmentally sound process.

[56] Evidence as to how the Motorimu site came to be selected for a wind farm and its electricity generating potential was given on Motorimu's behalf by Mr Voll and Mr S A Faulkner. Messrs Voll and Faulkner are highly experienced electrical engineers with particular experience in wind farm matters.

[57] Both Messrs Voll and Faulkner explained the selection processes which led to a decision to establish the Motorimu wind farm on its proposed site. We do not think that there was any credible challenge to their evidence that Motorimu was an excellent site for wind generation. We understood that in large part this was due to its being situated in a wind funnelling area with long ridge lines situated across the predominant wind direction. Mr Faulkner described the wind resource of the Tararua Ranges as being of . . . *national significance*.<sup>9</sup>

[58] It was the evidence of Messrs Voll and Faulkner that the 113 turbine wind farm now sought by Motorimu would have an installed capacity of 96 megawatts and that it would generate something in the order of 300 million kilowatt hours per year. Mr Faulkner advised that this was equal to the annual consumption of approximately 39,000 average New Zealand homes based on an average consumption of 7,740



kilowatt hours per household.<sup>10</sup> We understood his calculations to be based on the use of the Vestas V 52 turbine.

[59] Mr Faulkner testified that the 38 additional turbines would produce about 39 percent of the total wind farm energy and the 75 consented turbines about 61 percent.<sup>11</sup> It will be apparent from those figures that the additional turbines will be more efficient producers of energy than the consented turbines.

[60] Mr F R Clark (chief executive of the New Zealand Wind Energy Association) gave evidence as to the national benefits of electricity generation using wind energy. He identified the national policy imperatives which are driving New Zealand to the generation of renewable energy. Mr Clark referred to the significant role which renewable energy projects must play in ensuring that New Zealand's greenhouse gas emissions did not continue to increase. He calculated that generation of electricity by the wind farm would result in the avoidance of carbon dioxide emissions of approximately 187,500 tonnes of CO<sub>2</sub> equivalents per annum as compared with other possible generation sources. He considered New Zealand's obligations under the Kyoto protocol and said that although the Motorimu project itself would make only a limited contribution to reduction of New Zealand's liabilities under that protocol (0.9-1.2 percent) it was important that projects such as Motorimu proceeded in order for New Zealand to meet those obligations.

[61] Professor R E H Sims gave evidence on behalf of the Wind Energy Association. He is Professor of Sustainable Energy and Director of the Centre for Energy Research at Massey University, Palmerston North. He is currently working as a senior energy analyst with the Renewable Energy Unit of the International Energy Agency in Paris.

[62] Professor Sims had provided a brief which came into the Court by consent. He also provided written answers to a number of questions which Mr Bent had of him and those questions and Professor Sims' answers similarly came into the Court by consent. He was not cross-examined.

Para 26 EIC.  
Para 27 EIC.



[63] Professor Sims' evidence was a widely based brief dealing with global and national issues. He addressed issues of reduction of carbon emissions, climate change, growth in fossil fuel demand and the significance of renewable energy projects to New Zealand generally. The last conclusion in Professor Sims' evidence was:

- vi *New Zealand needs to consider seriously every opportunity available to reduce emissions. Allco's proposal for the Motorimu Wind Farm development in the Manawatu is an excellent project as it contributes to meeting climate change goals without any associated economic growth trade-off, and with considerable cost management benefits and lower national risk.*<sup>12</sup>

[64] TAG challenged the existence or the extent of many of the benefits identified by Motorimu. Much of the TAG challenge was contained in a document prepared by three of its members which purported to be evidence. The document was taken in and read by the Court. We accept that it reflects the views and beliefs of those members of TAG who prepared it (and possibly other members of TAG). It was however a document of little or no probative value for the Court. TAG also provided evidence from two independent experts on the matter of benefits from the Motorimu wind farm.

[65] Firstly, Dr P Read an economist who challenged the benefits of large scale wind farms generally and a large wind farm on the Motorimu site in particular. Dr Read endeavoured to put a value on the economic loss which would be suffered by residents whose amenity would be affected by the development.

[66] Secondly, Dr D Bennett an energy consultant who has advised various energy and electricity generation companies. Dr Bennett contended that Motorimu's contribution to electricity supply would be small and would not contribute to security of supply. He did not consider that reduction of greenhouse gas emissions should be a significant factor in considering wind farm developments. He also gave evidence about noise from wind turbines. We consider that issue elsewhere.





[67] Most of the issues raised by TAG and Drs Read and Bennett were answered comprehensively in rebuttal briefs from Messrs Voll and Faulkner, much of which was not challenged in cross-examination.

[68] We think that the heart of the question before us in terms of benefits lay in that part of Mr Faulkner's rebuttal evidence which discussed alternative energy sources. He said this:

*There is a substantial economic renewable energy resource at Motorimu and the alternative is between using it and not using it.*<sup>13</sup>

[69] There was no credible challenge to Motorimu's propositions that wind energy is an environmentally sound form of generation which is complementary to other forms of electricity generation and provides diversity to the generation mix.

[70] Both Messrs Voll and Faulkner acknowledged that wind farm output was intermittent and that there would be no energy generated by the wind farm when too little or too much wind is blowing. Mr Voll considered that because the Motorimu wind farm would contain a mix of low (in the valleys) and high turbines (on the ridgeline) it would be able to operate in a wide range of wind conditions.<sup>14</sup> Mr Faulkner was very clear in his view that the potentially intermittent nature of wind generation was not a problem where it was part of a mix of generation methods.<sup>15</sup>

[71] Mr Voll also contended that the electricity generated by the Motorimu wind farm would most likely be used within the Manawatu region which is a major electricity demand centre. He testified that even if all the currently proposed wind farms in the Manawatu were consented and operating the Manawatu/Wanganui region would still be a nett energy importer.<sup>16</sup>

[72] The evidence satisfied us that wind energy is an environmentally sound form of generation and that the Motorimu site is a *substantial, economic, renewable energy resource* as described by Mr Faulkner. Motorimu did not dispute that wind energy



<sup>13</sup> Para 27 Rebuttal Evidence.  
<sup>14</sup> Paras 28 - 43, page 81 NOE.  
<sup>15</sup> Para 37 EIC.  
<sup>16</sup> Para 6 EIC, para 29 Rebuttal Evidence.

has its limitations but contended that it should be part of the generation *mix*. We accept that view.

[73] We understood that part of TAG's case was a suggestion that the contribution which the Motorimu farm would make to New Zealand's electricity needs was of itself quite insignificant and would not justify the grant of consent to the additional turbines. Motorimu submitted that such an approach has previously been rejected by this Court in its decision *Genesis Power Ltd v Franklin District Council*.<sup>17</sup> We agree with that.

[74] We accept that of itself the Motorimu wind farm (whether as approved or as now sought) makes only a limited contribution to meeting New Zealand's renewable energy needs, but it will however make a contribution together with other renewable energy sources. The additional turbines markedly increase that contribution.

[75] In addition to the direct benefits arising out of establishment of the wind farm there are a number of peripheral benefits attaching to the wind farm project. Some of these arise as a direct consequence of the wind farm project itself and some as a result of mitigation offered by Motorimu intended to address community concerns. These peripheral benefits were identified in Mr Voll's evidence<sup>18</sup> and we did not understand them to be substantially challenged. We list them here without further comment.

- The provision of up to 150 construction jobs for 18-24 months and up to four permanent jobs during 25 years of operation;
- Investment of more than \$200 million of which \$100 million would be spent in the region;
- Provision of funding for protection of natural habitat for the giant Tararua land snail;
- Provision of funding for research on the behaviour of the New Zealand Falcon;
- Protection of remnant native bush by fencing off a substantial area and protecting it from stock intrusion;

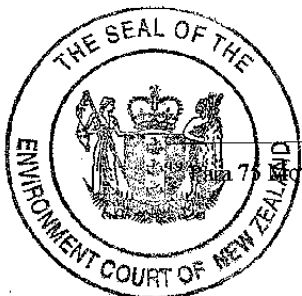


- Provision of regular annual funds to a Motorimu Wind Farm Foundation sponsoring community projects in the locality;
- Improvement of supply security for the existing local 11 kV distribution network, including direct supply from the wind farm to this network;
- Roading upgrades to Scotts Road;

It is our understanding that most of these benefits would accrue in any event should Motorimu proceed on the basis of the consented turbines. Conditions attaching to the consented turbines address many of these matters. That comment does however, bring us to the issue of whether or not the wind farm will proceed at all, and the benefits accordingly be achieved, if consent is not granted to the additional turbines.

[76] Motorimu opened its case by submitting that if consent was refused to the additional turbines it is unlikely that the wind farm project would proceed and that accordingly the benefits of the project would not be realised.<sup>19</sup> That submission was largely based on the evidence of Mr Voll.

[77] Motorimu's evidence established that the ridgeline where the additional turbines are to be established has the highest energy generating potential of the site because it was the area of greatest wind velocity. That proposition was established by Motorimu's wind monitoring data and we do not consider that there was any credible challenge to it. Both Messrs Voll and Faulkner testified that the consented turbines in the valley and basins would be only marginally profitable on their own. We understood their evidence to be that for the wind farm to make the most efficient use of the Tararua wind resource it needed to contain a mix of the higher generating additional turbines on the ridgeline and the lower generating consented turbines in the basins and valleys. Motorimu says that by excluding it from use of the additional turbines on the ridgeline it has been excluded from use of the most productive part of the proposed wind farm.



[78] It was Motorimu's case that what it applied for was a unified wind farm development and not 113 stand alone turbines. Mr Voll was adamant in his view that if he could not achieve the combination of additional and consented turbines which he sought the wind farm project would not proceed and thus the benefits generated by it would not be achieved.

[79] In the first instance Mr Voll appeared to go so far as to say that the 75 turbine wind farm consented by the hearings commissioners would not be viable for any wind farm investor . . . *the wind farm would not be viable for an investor with 75 turbines only and therefore the renewable energy benefits would not be achieved using only the consented turbines.*<sup>20</sup> That statement led to something of a debate between Messrs Rennie and Maassen as to its evidential foundation.

[80] If it is the case that a 75 turbine wind farm (as consented) would not be viable for any wind farm developer and that the renewable energy benefits of the proposed wind farm can only be achieved by granting consent to the 38 additional turbines as well as to the 75 consented, that would be a significant factor in measuring the benefits of the 38 additional turbines. Put simply it appeared to be Motorimu's case that the 38 additional turbines made the difference between receiving the identified benefits as opposed to no benefits at all. However, we understood that debate to be finally resolved by Mr Rennie's acknowledgement that . . . *Mr Voll's evidence is about viability to the applicant.*<sup>21</sup>

[81] We think that was an appropriate and indeed inevitable concession. Mr Voll had identified the factors which drive the viability of this wind farm.<sup>22</sup> The factors which he identified were:

- Energy generation;
- Capital Expenditures;
- Operational expenditures;
- Power pricing;
- Transmission access pricing;



<sup>20</sup> Para 20 Rebuttal Evidence.  
<sup>21</sup> Pages 44 – 45, page 34 NOE.  
<sup>22</sup> Paragraph 8 Rebuttal Evidence.

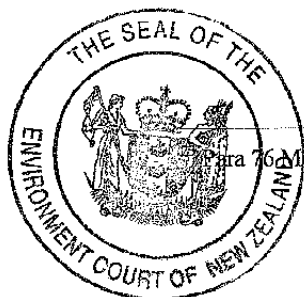
- Tax position of the wind farm owner;
- Investment structure (off-balance/on-balance);
- Investor type (tax-equity, venture capital, superannuation fund, integrated utility etc).
- Debt equity ratio;
- Minimum debt service coverage ratio requirements;
- The minimum threshold internal rate of return and how it was calculated.

[82] Some of the factors identified above will change from time to time and many will differ from one potential wind farm developer to another. Ultimately any assessment of viability lies in the boardroom and will be determined by any potential developer, having regard to the above (and possibly other) factors.

[83] We accept that unless consent is given to the 38 additional turbines it is highly unlikely that Motorimu, under the ownership of Allco, would proceed with the Motorimu wind farm project at all as it would not be viable for it. We also accept that the economics of the project will alter if consent is not granted to the additional turbines. Establishment of the additional turbines allows further return on infrastructure expenditure, much of which must be established for either a 75 or 113 turbine wind farm and substantially increases productivity of the wind farm itself.

[84] We do not however find that if consent is declined to the additional turbines then establishment of the consented turbines would not be viable for any other operator. Our finding is consistent with Motorimu's submission that:

*Given the richness of the wind resource at this site, there can be no doubt that the consented turbines will be constructed and incorporated in some wind project, at some time. If this Proposal is turned down, there will still be an incentive for future projects on this site, due to the excellence of wind resource found there.<sup>23</sup>*



[85] That submission needs to be considered in light of Motorimu's advice that the company is up for sale and it will almost certainly be some wind farm developer other than Allco which makes any decision as to viability. The submission also appears consistent with the evidence of Mrs Allan who testified that the farm may eventually be developed in its consented form but that there would be some delay before that happened.<sup>24</sup>

[86] For all of the above reasons we consider that there is a reasonable degree of likelihood that the benefits which would accrue from establishment of a wind farm incorporating the consented turbines, but excluding the additional turbines, will be achieved. We accept there is no guarantee that will happen but the evidence did not establish that the 75 turbine wind farm as consented would not be viable for any other wind farm operator.

### *Landscape Issues*

[87] The effect of the proposed wind farm on the Manawatu landscape was one of the most hotly debated issues before us. Landscape evidence was provided to the Court by four witnesses.

- Mr C Anstey, a landscape and resource planning consultant with 30 years' experience as a landscape planner gave evidence on behalf of the City Council. He also gave evidence to the Commissioners.
- Mr F Boffa, who has been in practice as a consultant landscape architect for 35 years, gave evidence on behalf of Motorimu. Mr Boffa did not give evidence to the Commissioners and his evidence was essentially a peer review of the primary landscape and visual assessment work undertaken by Isthmus Group on behalf of Motorimu.
- Mr S Bray, gave landscape and visual assessment evidence on behalf of TAG. Mr Bray is a graduate member of the New Zealand Institute of Landscape Architects. He obtained his Bachelors Degree in 1996. Mr Bray also gave evidence on behalf of TAG to the Commissioners.
- Mr G C Lister, is a director of Isthmus Group and has been in practice as a landscape architect for 20 years. He did not provide landscape



evidence to the Commissioners but was instructed by Motorimu subsequent to that.

The landscape witnesses had a wide range of experience and qualifications. They have all had varying degrees of involvement in wind farm projects and assessments. There was no challenge to the expertise of any of the landscape witnesses although their various opinions were subject to challenge by the other parties.

[88] In their decision, the Commissioners commented on the inadequacy of the evidence presented by Motorimu on landscape issues, in particular the shortcomings of the photographic evidence used to support Motorimu's case. They were critical of both the quality of the imagery and the restricted extent of the photographic evidence provided.

[89] Mr Lister (who had not provided Motorimu's landscape evidence at the Council hearing) supplemented his written evidence to us with a considerable volume of material.

[90] For our hearing Isthmus Group provided a book containing various maps, plans and aerial photographs, identified as Figures 1-9, followed by a series of photograph montages (the photomontages) from 22 locations. The photomontages incorporated three different perspectives of the wind farm site from each of the photomontage locations. Firstly, there was an existing view showing the site as it is presently viewed. Secondly, there was a consented view, being the existing view with simulations of the consented turbines incorporated. Finally there was a consented and proposed view in which simulations of the additional turbines were incorporated as well as the simulations of the consented turbines. Accordingly, a total of 66 photomontages were provided from the 22 locations used by Isthmus Group.

[91] Prior to the hearing, photomontages were created from a further nine properties belonging to s274 parties. The properties were selected by the four landscape witnesses and Messrs Bray and Lister visited the properties together and agreed on the photograph locations on these sites. Again there were three (in some cases four) photomontages prepared for each location, one showing the existing



situation, one showing consented turbines and one showing both consented and additional turbines.

[92] The Motorimu application identified the turbines applied for by number (1-127), however the photomontages did not incorporate the turbine numbers. At the conclusion of the hearing we asked Mr Lister to provide further photomontages identifying the additional turbines shown by reference to their allocated numbers. He did that by identifying the additional turbines on three of the photomontages originally provided (photomontages 8C, 9C and 26C).

[93] We do not think that there can be any criticism of the quality and scope of the photomontages provided by Mr Lister. In his evidence for TAG, Mr Bray acknowledged the high standard of Mr Lister's exhibits and that they had been produced following best practice guidelines. However, Mr Bray emphasised the limitations to use of photomontages. He pointed to the *dynamic manner*<sup>25</sup> in which people view landscape and contended that wind turbines have a much greater appearance in reality than can be depicted in photomontages. He also contended that Mr Lister had underestimated the contrast of the turbines in his photomontages and compared the photomontages with his actual views of other wind farms.

[94] Mr Lister agreed with the caveats as to the limitations of photomontages. He acknowledged that photographs would understate some aspects of the turbines and overplay others. He acknowledged that photographs and photomontages . . . *are not absolute depictions of reality*.<sup>26</sup> We agree with that. Photomontages will be influenced by conditions at the time they were taken and do not show movement of the blades, which is a significant visual feature of wind turbines for example.

[95] However, we considered Mr Lister's photomontages very useful tools in assessing the potential effects on landscape and visual amenity notwithstanding their acknowledged limitations. We concur with Mr Bray's observations as to how pronounced turbines appear in the landscape when viewed *in the flesh* as opposed to photomontages. The sheer size of the turbines was something which was strongly

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Para 44 EIC.

Para 18 Rebuttal Evidence.





apparent from our visit to another Manawatu wind farm, although we note that the Motorimu turbines are to be considerably smaller at 81 metres than the other existing turbines in the Manawatu. Notwithstanding those reservations we repeat our view that the photomontages are very helpful in considering the effects of the proposed wind farm.

***Outstanding Landscape?***

[96] An important factor in consideration of the landscape effects of the proposed wind farm in this instance is determining whether or not the wind farm site is situated in an outstanding natural landscape. If it is so situated, that calls into play the provisions of s6(b) RMA which provides (in summary) that the protection of outstanding natural landscapes from inappropriate use and development is a matter of national importance.

[97] The Commissioners determined that there were *elements* of outstanding natural landscape in the site,<sup>27</sup> although it is unclear if they ultimately held that the site was contained within such a landscape. TAG submitted<sup>28</sup> that the Motorimu site is an outstanding natural feature and landscape which should be protected in accordance with s6(b). Motorimu disputed that was the case but further contended that even if it was, the wind farm was appropriate on this site.

[98] The only landscape witness who suggested that the wind farm site was contained within an outstanding natural landscape was Mr Bray for TAG. However Mr Bray's view in that regard was clearly qualified. It was his evidence that the Motorimu landscape was not outstanding in its own right but that the skyline of that landscape (being the front ridgeline from Te Mata through to Kaihinu) was outstanding when viewed from positions where it constitutes the boundary between the land form and the sky.



[99] In reaching the conclusion which he did as to the outstanding nature of the skyline Mr Bray applied what have come to be commonly known as the *modified Pigeon Bay criteria*.<sup>29</sup>

[100] Mr Lister for Motorimu undertook a similar application of those criteria. For the sake of completeness we set out the criteria or considerations applied by Messrs Bay and Lister in reaching their conclusions, namely:

- Natural science factors - the geological, topographical, ecological and dynamic components of the landscape;
- Aesthetic values – including memorability and naturalness;
- Expressiveness (legibility) – how obviously the landscape demonstrates the formative processes leading to it;
- Transient values – occasional presence of wildlife: or its values at certain times of the day or of the year;
- Whether the values are shared and recognised;
- Tangata Whenua values;
- Historical associations.

[101] We do not propose to recite in detail the two witnesses' findings against each of those criteria because, as Mr Lister demonstrated in his rebuttal evidence,<sup>30</sup> other than on the matter of Tangata Whenua values (which Mr Lister declined to assess, deferring to Tangata Whenua witnesses) he and Mr Bray's assessments were almost identical in every respect. Indeed, both Messrs Bray and Lister were of the view that the site overall was not encompassed within an outstanding landscape. The main point of difference between them was Mr Bray's opinion that the ridgeline was outstanding.

[102] The basis for Mr Bray's assessment was as follows:

*This ridgeline forms the skyline when viewed from distances as much as 15 kilometres away (such as Kairanga), but I consider it to be most outstanding when viewed from a distance of less than 4-5 km from the base of the foothills. From this distance, and due to the dramatic uplift of the hills from the flat and*



*openness of the Plains, this skyline is highly dominant in the landscape and appears close to the viewer.*<sup>31</sup>

Mr Lister commented that Mr Bray's observation as to the outstanding nature of the ridgeline when viewed from such distances appears to be derived from local, visual amenity or aesthetic factors. We agree with him.

[103] In *Wakatipu Environmental Society Inc v Queenstown Lakes District Council*<sup>32</sup> the Court identified that:

*The word "outstanding" means:*

- *"conspicuous, eminent, especially because of excellence";*
- *"remarkable in".*<sup>33</sup>

[104] We do not consider that the ridgeline incorporating the site meets the definition of outstanding whether on application of the modified Pigeon Bay criteria or on any other basis. As we have identified, the ridgeline is part of the foothills leading up to the main Tararua Ranges. The height of the ridgeline itself is generally somewhere in the order of 450-500 masl (compared with 400-500 masl for the site overall) with some elevated features such as Te Mata at the northern end and Kaihinu at the southern.

[105] We agree with Mr Bray's view that within reasonably close proximity to the site, the ridgeline will form the skyline for many observers and residents. However we do not consider that factor of itself can make the ridgeline outstanding. We further agree with Mr Bray's observation that within the 4-5 km distance he was talking about the skyline will be highly dominant and appear closer to the viewer. Again we do not consider that of itself makes the ridgeline outstanding in the sense referred to in s6(b) or identified in the *Wakatipu* decision.

[106] We consider that Mr Bray's identification of the skyline as outstanding involves too narrow an assessment of the landscape. That assessment needs to be

<sup>31</sup> Para 36 EIC.  
<sup>32</sup> [2000] NZRMA 59.  
<sup>33</sup> Para 32.



undertaken on a considerably wider basis than Mr Bray has done and in this particular situation against the context of the main Tararua Ranges themselves and at a district wide level rather than from the 4-5 kilometre scale which Mr Bray considered. We think that on any wider assessment the ridgeline fails to meet the *outstanding* criteria.

[107] Both Messrs Boffa and Anstey concurred with Mr Lister's view. Although neither of these witnesses undertook a detailed assessment of the landscape applying the modified Pigeon Bay criteria as part of their evidence they clearly accepted Mr Lister's conclusion that the landscape containing the site was not outstanding.

[108] Even though neither Mr Lister nor Mr Boffa regarded the Motorimu landscape as outstanding, they did not endeavour to play down its significance. Mr Lister acknowledged that the site . . . *has visual amenity significance as part of the foothills' backdrop to the Plains . . .*<sup>34</sup>. He further considered that the landscape incorporating the site fell into what he described as a special amenity landscape or visual amenity landscape category which . . . *recognises features or landscapes that might not be outstanding but nevertheless have special value that warrant particular recognition and management.*<sup>35</sup>

[109] Mr Boffa concurred with Mr Lister's view and considered . . . *the foothills to have high landscape and rural amenity characteristics which should be recognised and acknowledged in the Proposed District Plan Review.*<sup>36</sup>

[110] Mr Anstey was of a similar opinion and ultimately, we consider, so was Mr Bray except he had put the ridgeline or skyline into a separate category.

[111] A further aspect of the outstanding natural landscape issue was whether or not the Regional Council's Regional Policy Statement (RPS) identified the site as being contained within such a landscape.



[112] Objective 8 of the RPS is:

*To protect natural features and landscapes which are outstanding and regionally significant from inappropriate subdivision, use and development.*

[113] The objective is supported by a number of policies. Included in those is Policy 8.3:

*To protect from inappropriate subdivision, use and development, the specified values associated with the following features, which are both outstanding and regionally significant:*

*p. The skyline of the Tararua Ranges, specifically:*

*i. its scenic qualities provided by its prominence throughout much of the region and its backdrop vista in contrast to the Region's Plains.*

[114] The Explanation to the Policy states:

*The Tararua Ranges extend from north of Upper Hutt to the Manawatu Gorge. The skyline is prominent throughout the Lower North Island, and provides a scenic vista separating the east and west coasts. The skyline of the Tararua Ranges is an outstanding natural feature or landscape of regional significance as it meets criteria (a) of Policy 8.1. The values and attributes of the ranges which contribute to its significance, and are to be protected, are listed in Policy 8.3. The skyline is defined as the boundary between the land and sky at the crest of the highest points along the ridge. The skyline of the Tararua Ranges is the land/sky boundary as viewed at a sufficient distance from the foothills so as to see the contrast between the solid nature of the land at the crest of the highest points along the range and the sky.*

[115] Mrs Allan considered that the wind farm site is on the foothills of the Tararua Ranges and that the skyline created by the foothills ridgeline was different from the skyline referred to in Policy 8.3 and its associated Explanation. She was of the view that the skyline referred to in the RPS was the main skyline of the Tararuas.

[116] Mr Maassen for the City Council, submitted that Mrs Allan's view was a respectable interpretation but not one PNCC considers correct having regard to the



*environmental context*.<sup>37</sup> He argued (in summary) that for many residents of the Manawatu the highest ridgeline which they would see and experience was the foothills ridgeline containing the wind farm site and that accordingly it was that ridgeline which the RPS sought to protect. That argument seems similar to Mr Bray's approach to the outstanding nature of the ridgeline which we have previously discussed and rejected as being too narrowly based.

[117] We disagree with Mr Maassen's interpretation for a number of reasons:

- It is clear from the Explanation that the RPS is referring to the Tararua Ranges on a very wide scale. It refers to the Ranges extending from north of Upper Hutt to the Manawatu Gorge and their skyline as being prominent throughout the lower North Island and separating the east and west coasts of the North Island.
- The Objective, Policy and Explanation all refer to the regional significance of the Ranges and skyline rather than the local significance on which Mr Maassen (and Mr Bray) concentrated.
- The Explanation envisages viewing the skyline some distance from the foothills.
- To adopt Mr Maassen's approach would be to create an ephemeral outstanding natural landscape. Viewed from within a few kilometres, the foothills ridgeline would provide the skyline of the ranges and on the basis of Mr Maassen's interpretation would be *outstanding*. Viewed further out into the Manawatu Plain from those points where the main Tararua skyline is also visible, the foothills ridgeline would clearly not be the *highest points along the range and sky* and would by definition cease to be *outstanding*.

[118] We have no doubt that Mrs Allan's interpretation is correct and that the outstanding natural feature which Objective 8 and Policy 8.3 of the RPS seek to protect is the very highest skyline of the Tararua Ranges, not the foothills skyline containing the Motorimu site.



[119] There was some evidence and discussion before us as to the provisions of a Proposed Regional Policy Statement called One Plan and whether or not that document identified the site as part of an outstanding natural landscape. One Plan is at the early stages of its process. We were advised that there were some 40 or so initial submissions in respect of One Plan's landscape provisions (not counting further submissions). Hearings on submissions had not been undertaken at the time of our hearing. Mr Maassen claimed that no landscape assessments had been undertaken prior to notification of the One Plan.<sup>38</sup> None of the planning witnesses contended that we could give any determinative weight to this document nor do we propose to do so.

[120] We shall approach our landscape assessment on the basis that the foothills containing the Motorimu site do not constitute nor are they part of an outstanding natural feature or landscape. That is not to say that consideration of landscape effects of the wind farm is not significant in this case. The Commissioners' decision recorded landscape issues as being a fundamental consideration in this case and we agree with that. Again, as we have noted, the Applicant's landscape witnesses acknowledged the significance of this particular landscape. That significance however is to be weighted in our considerations in the context of s7 RMA rather than that of s6(b).

### *Landscape Components*

[121] The landscape witnesses considered the effects of separate groups of turbines on various areas where the additional turbines are proposed. Regrettably they all took slightly different approaches to those areas in terms of their identification and description. Although there were overlaps and common features there were also some differences which made it difficult for the Court to co-ordinate the landscape witnesses' views in all respects.

[122] For the purposes of our considerations we have determined to use the groupings described by Mr Lister. Mr Lister considered the effects of the additional turbines on landscape in these groupings:

- Back Ridge (Kaihinu): turbines 1, 2, 3, 4, 5;



- Front Ridge: turbines 26, 60, 69, 73, 81, 87, 90, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 110, 111, 112, 113, 114, 115;
- Te Mata Ridge: turbines 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129;
- Horseshoe Bend Escarpment: turbines 34, 39, 41, 42, 51; (although we note that Mr Lister subsequently considered turbine 26 as part of this group).

We will consider the landscape effects of these groups of turbines although in a different order to that contained in Mr Lister's evidence.

### *Te Mata Ridge*

[123] The group of additional turbines on what Mr Lister referred to as Te Mata Ridge were the northern most 14 of the turbines originally applied for by Motorimu. This was the group of additional turbines which were withdrawn from the application prior to commencement of the appeal hearing thereby reducing the number of additional turbines from 52 to 38. These turbines were withdrawn from the proposal on the basis of advice to the Applicant from Mr Lister that he could not support their inclusion in the proposal for landscape reasons. Mr Boffa agreed with that view.

[124] We did not understand the term Te Mata Ridge to be the formal geographical name of this section of the ridgeline but rather a descriptive name applied by Mr Lister because this northern section of the site was the nearest part of the site to Te Mata. Whether or not Mr Lister's Te Mata Ridge is in fact a separately distinguishable portion of the ridgeline was the matter of some debate.

[125] The 14 withdrawn turbines along the ridge were immediately contiguous to and extended the line of additional turbines situated on what Mr Lister referred to as the Front Ridge. Not unnaturally the question arises, if the Te Mata Ridge turbines are unacceptable to the Applicant's own landscape witnesses, what distinguishes them from the other Front Ridge turbines which are regarded as acceptable by those witnesses?





[126] The reasons why Mr Lister recommended (and Mr Boffa agreed with) the removal of the Te Mata Ridge turbines from the proposal were as follows.

64.1 *The Te Mata ridge is relatively more prominent and less modified. It forms a spur that is aligned proud of the trend of the escarpment, and most of the escarpment face is open pasture which has a cohesive character. The 'bones' of the topography are more obvious compared with the escarpment south of Millricks Line;*

64.2 *The Te Mata ridge is a sharp ridge so that the turbines would have the appearance of a picket line, compared to those turbines south of No 115 which would appear part of a group with the consented turbines;*

64.3 *These turbines would have the effect of extending the consented wind farm a further 1.7 km along the ridge.*<sup>39</sup>

[127] Mr Lister drew the line between what he regarded as the acceptable and unacceptable turbines at a *local high point* along the ridgeline. He considered that a small saddle to the south of this high point and a nearby plantation differentiated the acceptable area to the south.

[128] Both Mr Lister and Mr Boffa were questioned as to the distinction which had been made between those portions of the ridgeline which they considered might accommodate turbines and those which they had ruled out. We propose to discuss those distinctions further as part of our considerations of the turbines situated on what Mr Lister referred to as the Front Ridge.

### ***Front Ridge***

[129] There are some 28 turbines on what Mr Lister described as the Front Ridge. The Front Ridge is part of the main ridgeline of the foothills and is widely and prominently visible from the Manawatu Plains. We consider that there is a small *subset* of turbines in this group namely turbines 60, 69, 73 and 81 (the subset). The subset turbines sit towards the southern end of the wind farm site, on its western side, with their bases well below the ridgeline. They contrast with the remaining Front



Ridge additional turbines which are situated either on or very close to the ridgeline itself.

[130] In his evidence for the City Council, Mr Anstey acknowledged<sup>40</sup> that turbines 60, 69 and 73 would have lesser adverse visual effects than the remainder of the Front Ridge turbines. He considered that was because they were located forward of the skyline and set against a hill backdrop with mitigation afforded by complexity of the topography and vegetation patterns. Mr Anstey noted that these turbines sit behind or to the south of most residents' properties. We think that turbine 81 sits in a similar situation.

[131] Although these four turbines will be clearly visible on the western faces leading up to the ridgeline, we did not understand any witness to contend that visibility per se constitutes adverse effect. Photomontages 8B and 8C are helpful in assessing the landscape effects of this subset of four additional turbines. Although they will be prominent in the landscape they cannot be described as dominant in this situation.

[132] The four subset turbines are situated below the level of the consented turbines and the photomontages indicate that they will be absorbed within the effects of those consented turbines rather than extending those effects. We think that this avoids the incrementalism which so concerned the Council. We consider that the adverse effects on landscape of the subset turbines is minor at worst. We now turn to consider the landscape effects of the remaining additional turbines in this Front Ridge group.

[133] Mr Lister acknowledged that the Front Ridge group of additional turbines will be more prominent than the consented turbines because of their proximity to the ridge and the fact that they would stand more proud on the skyline. However, he identified three reasons why he could support these turbines;<sup>41</sup>

- He considered that they would form an integrated group with the consented turbines;



- He considered that the escarpment where the turbines would be located was concave and more recessive than that part of the ridgeline which he described as the Te Mata Ridge from which he had recommended turbines be removed;
- The escarpment face in front of the turbines had a mixed land use character with pasture, exotic plantations and a patchwork of lifestyle properties.

We will consider those reasons in more detail.

[134] The point to which both Mr Lister and Mr Boffa returned on a number of occasions during the course of their evidence was that the additional turbines on the Front Ridge would be viewed in the context of the consented turbines behind them and would be seen as part of that group. We accepted that position insofar as the subset of four turbines which we discussed earlier was concerned. However we see the remainder of the Front Ridge turbines in a different situation to that subset.

[135] We accept that, viewed from many locations on the Plains, it will be apparent that the additional turbines along the Front Ridge are part of a more extensive wind farm. Depending on the viewpoint, the consented turbines will be seen (to a greater or lesser extent) behind and below the additional turbines along the ridgeline itself. However every photomontage which we saw indicated that any visual impact of the consented turbines on the ridgeline would be limited by two factors.

- Quite wide separation distances between those consented turbines whose visible blades appear above the ridgeline;
- Limited views of the consented turbines due to their being situated below the ridgeline in the basin and valleys on its eastern side.

[136] At the heart of Mr Lister's assessment was the view that:

*The Additional Turbines will be seen against a backdrop of consented turbines, and will extend the group for a modest distance to north and south.*<sup>42</sup>



[137] We disagree with that view. The consented turbines do not provide a *backdrop* for the Front Ridge turbines (except for the subset previously discussed). The consented turbines will not absorb views of the additional turbines as the additional turbines are situated at the highest point on the ridgeline and tower above the consented turbines situated lower down to the east of and below the ridgeline.

[138] We agree that from many of the viewpoints contained in the photomontages observers will be aware of the presence of the consented turbines behind the additional turbines. However we do not consider that awareness diminishes the effect of the additional turbines along the Front Ridge in any way because the additional turbines are situated at the highest points of the ridgeline in considerably more prominent positions than the consented turbines.

[139] Nor do we concur with the view that the additional Front Ridge turbines will be seen to extend the wind farm for only a *modest distance* as contended by Mr Lister. In plan view the additional turbines will extend the wind farm about 1.1 kilometres north-east from the point where the consented turbines stop, increasing the spread of the wind farm about 30 percent. We expect that in visual terms the effect would be somewhat more dramatic, again due to the additional turbines being situated along the highest points of the ridgeline in front of the consented turbines. Accordingly, the spread of turbines along the ridgeline will be accompanied by a substantial increase in the degree of prominence of the approved wind farm due to additional turbines occupying the ridgeline in front of the consented turbines, as well as over the additional 1.1km.

[140] Finally on this issue of the additional turbines being integrated with the consented turbines we consider that proposition is a prime example of the incrementalism raised in the submissions for the Council.

[141] The second reason identified by Mr Lister for his support of the Front Ridge turbines was the distinction which he drew between what he referred to as the *Motomumu* escarpment and the *more prominent Te Mata ridge* where he conceded that turbines would not be appropriate. In his submissions for the Council, Mr Maassen



described the distinction as being *artificial* and not of a *sufficiently compelling nature as to justify different treatment*.<sup>43</sup>

[142] In cross-examination, Mr Lister was referred to a landscape assessment of the Kairanga Section of the former Manawatu District undertaken by Mr Boffa in November 1990.<sup>44</sup> The assessment involved (inter alia) the identification of landscape character areas, an assessment of landscape quality and an assessment of landscape/visual sensitivity. In Mr Boffa's assessment the area identified as Te Mata Ridge, Kaihinu and Vodafone Hill (which area includes the Motorimu site and the Front Ridge) was identified as a distinct landscape unit. Mr Lister acknowledged that it had elements which made it sensible to characterise it as a landscape unit.<sup>45</sup>

[143] Mr Lister had broken that landscape unit down into separate components incorporating the distinction which he made between what he described as Te Mata Ridge (where he considered turbines unacceptable) and the escarpment or Front Ridge (where he considered turbines acceptable).

[144] However he acknowledged that the Boffa report identified the whole area as an important visual backdrop to Palmerston North and a significant visual feature in the Manawatu landscape, that it had high landscape quality and that it was of high sensitivity to any change in landscape character (based on visibility).<sup>46</sup>

[145] Mr Boffa's report is now considerably dated and was prepared for a specific and limited purpose. Notwithstanding those limitations there was no challenge to its basic findings regarding the landscape unit incorporating Te Mata and Kaihinu. In response to a question from the Court, Mr Boffa agreed that the area in question remained visually sensitive and an important backdrop to Palmerston North.<sup>47</sup>

[146] Mr Boffa was also questioned as to what he regarded as being the difference between the area where he considered turbines were acceptable and that where

<sup>43</sup> Para 21 C Submissions for City Council.

<sup>44</sup> Exhibit 2.

<sup>45</sup> Lines 36-40, page 151 NOE.

<sup>46</sup> Line 42, page 151 – line 5, page 153 NOE.

<sup>47</sup> Lines 76-12, page 276 NOE.



turbines were unacceptable. His view was that the turbines which Mr Lister recommended be deleted, created an effect like the *tail on a dog*.<sup>48</sup> By that we understood him to mean these turbines protruded out from the body of the farm in a line along the ridge like a tail. Mr Boffa conceded however, that from many points of view the remaining additional turbines would continue to have that effect.<sup>49</sup>

[147] We consider that Mr Lister has erred in endeavouring to undertake his assessment of the landscape effects of the additional turbines along the ridge line on a compartmentalised basis as he has. We accept that if the landscape is broken down as Mr Lister has done there may be some differences between the areas which he has identified. However we are of the view that any such differences are minor and do not justify different parts of the ridge being treated differently in landscape terms.

[148] We find that when viewed from any number of the viewing points on the Plains, the area incorporating Te Mata Ridge, Kaihinu and Vodafone Hill constitutes a distinct and coherent landscape unit as identified by Mr Boffa in 1990. Although there are natural variations in its form, the full length of the ridgeline is a prominent, continuous and significant visual feature from the Plains. We consider that the factors which led Mr Lister to conclude that in landscape terms it was unacceptable to have turbines on part of the ridgeline apply equally to the rest of the ridgeline.

[149] Finally, in this regard, we agree with Mr Lister that there appears to be some change in land use character between the two areas which he has identified mainly brought about by the presence of forestry in the vicinity of the wind farm site and an apparent intensification of land use. However we do not think that reduces the impact on the landscape of turbines along the ridgeline in this vicinity in any significant way.

[150] All of the landscape witnesses discussed the suggestion of a *picket line effect* of the turbines stretching along the Front Ridge. We understand that removal of this picket line in part was the reason why Mr Lister recommended deletion of the northern most 14 turbines. We consider that the picket line effect will remain for all these additional turbines which Motorimu proposes to establish along the Front

<sup>48</sup> Line 19, page 278 NOE.

<sup>49</sup> Line 29, page 279 NOE.



Ridge. For the reasons set out above we do not consider that that effect is avoided or mitigated by the presence of consented turbines to the east of the ridgeline.

[151] The Court questioned all of the landscape witnesses on their views as to how this particular landscape might be affected by the presence of the wind farm along the ridgeline. They expressed various opinions in that regard. Mr Boffa for example was of the view that although the additional turbines might well have a picket line effect that was not necessarily adverse. We think that there was general agreement that the mere fact that the turbines would be visible was not of itself adverse. By their very nature wind farm turbines are likely to be highly visible and prominent in any landscape. That is unavoidable. The issue is the significance of that visibility in any particular case.

[152] In this instance we start from the point that the ridgeline in question constitutes a significant landscape in the Manawatu context. It is a landscape which is sensitive to change. The debate in this case is around the extent and significance of the change which the additional turbines may bring to this sensitive landscape.

[153] We consider that the effect of the turbines on the Front Ridge was accurately identified by Mr Anstey. He described their effect in these terms:

*Turbines on these ridges and spurs would radically alter the character of this landscape. Such tall and dominating structures would shift the character from one which is predominantly natural to one where cultural elements have a dominating presence. The mechanical movement of turbine blades would be entirely incongruous in these high places where movement is largely limited to the gentle flow of clouds above the skyline and their shadows drifting across the land below. Although turbines may be sculptural, even elegant, they are engineered and industrial in their design and function. Their sculptural and dramatic qualities can be heightened by their location in natural setting. At some point however their presence overwhelms the context from which they appropriate value and their mechanical nature asserts its dominance; natural values are overwhelmed. It is this 'tipping point' that we seek to find.<sup>50</sup>*



[154] We consider that the additional turbines along the Front Ridge do take the effects of the wind farm on landscape over the *tipping point* in terms of landscape effect. We think that the most significant factor in that regard is the presence of the turbines in a long line along the highest point of the ridge. This will substantially increase the effect of the wind farm on this landscape not only for the additional 1.1 km length which the additional turbines will add to the consented wind farm, but also over the 3 kilometres plus which the less visible consented turbines will occupy. We consider that the wind farm will become the dominant landscape feature to the detriment of the predominantly natural character of the Te Mata/Kaihunu landscape unit.

[155] We accordingly conclude that the establishment of additional turbines along the Front Ridge (other than turbine numbers 60, 69, 73 and 81) will have significant adverse landscape effects.

***Back Ridge (Kaihunu) Turbines***

[156] Turbines numbers 1-5 are a small group of turbines situated together on a shoulder or spur leading up to the summit of Kaihinu. Kaihinu marks the southern boundary of the wind farm and the Kaihinu turbines are the southern most turbines included in the wind farm. The consented turbines all lie between Kaihinu and the Front Ridge so that for those persons viewing the wind farm from the Manawatu Plains the Kaihinu turbines will appear behind the consented turbines.

[157] Kaihinu is the highest peak in the immediate vicinity of the wind farm. It rises to 673 masl compared to a typical elevation of 400-500 masl within most of the site. Viewed from the Plains, Kaihinu appears to have a flat topped summit rather than coming to a sharp peak. The slopes immediately leading up to the summit are quite steep and covered in regenerating native bush. In those photomontages where Kaihinu is visible the bush cover gives it a darker appearance than the immediately surrounding parts of the site. All of the landscape witnesses identified Kaihinu as a significant feature (and indeed one of the defining features) within this particular landscape.



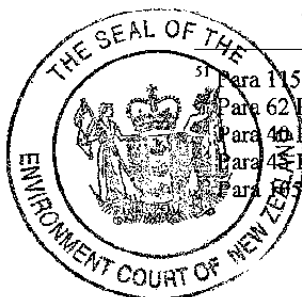


[158] In their closing submissions Counsel for Motorimu noted that the Kaihinu turbines *received little attention at the hearing.*<sup>51</sup> That is something of an understatement. Each of the landscape witnesses commented only briefly as to the likely effect of this group of five turbines on landscape. None of the witnesses was cross-examined on that topic. We shall endeavour to briefly summarise the witnesses' views.

[159] Mr Lister considered that the Kaihinu turbines would have little adverse effect on landscape values of Kaihinu. He said that these turbines were located in an area of pasture on the shoulder of Kaihinu below the steep bush clad slopes. The platform of the highest turbine (presumably No 1) is to be 70 metres lower than the summit of Kaihinu. He considered that because of the location of these turbines on the north east flanks of Kaihinu they would be hidden in views from the south west and in views from the north west would appear distant and behind consented turbines.<sup>52</sup> Mr Boffa agreed with Mr Lister's views. He was of the opinion that where the turbines were visible they would be seen as part of the overall wind farm development.<sup>53</sup>

[160] Mr Anstey considered that the Kaihinu turbines would have adverse effects on recreational users of Scotts Road which runs through the site and gives access to the hill and bush country to the east. Mr Anstey also considered that although the highest turbine platform would be 70 metres below the summit of Kaihinu, the Kaihinu turbines would sit at a high elevation and be visible from a considerable distance. He was of the view that because of their elevation the Kaihinu turbines would intrude upon views of the skyline of the Tararua Ranges themselves.<sup>54</sup>

[161] Mr Bray was opposed to this group of turbines which he considered cluttered the space around Kaihinu which is . . . *highly prominent in the landscape and demands its own space in the skyline.*<sup>55</sup> He was accordingly of the view that these turbines on the upper slopes of Kaihinu would have an adverse effect on landscape character. For this reason he continued to oppose establishment of turbines 6 and 7



<sup>51</sup> Para 115 Motorimu Closing Submissions.

<sup>52</sup> Para 62 EIC.

<sup>53</sup> Para 40 EIC.

<sup>54</sup> Para 42 EIC.

<sup>55</sup> Para 25 EIC.

which had been approved by the Commissioners as well as turbines 1-5 which were declined.

[162] In response to those comments Mr Lister contended that the topography of the site meant that the Kaihinu turbines would not be visible from the Plains immediately adjacent to the site. He was of the view that the tips of the blades would begin to come visible from Scotts Road and Millricks Line at distances of 4.5 kms and 5 kms respectively. These turbines would be most visible from further out into the Plains and would be seen behind the consented turbines.

[163] As we have said, none of the witnesses' opinions in respect of the Kaihinu turbines was significantly challenged in cross-examination. We accordingly have some difficulty in reconciling or preferring the views of the witnesses in respect of these turbines.

[164] The supplementary material provided to us is similarly of limited assistance. The agreed bundle of maps and documents provided by the City Council and Motorimu included a contour map of the wind farm and much of the surrounding area.<sup>56</sup> Unfortunately this map is of such a scale and is so difficult to read with any precision that it is difficult to assess the relevant heights of the Kaihinu turbines either against each other or the nearest consented turbines. The most that we can say is that the base of the highest turbine (presumably turbine 1) will be 70 metres below the highest point of Kaihinu so that in physical terms the tip of its blade at 81 metres would protrude above Kaihinu.

[165] Mr Lister advised that photomontages 10 and 11 represented locations on the Plains from where the Kaihinu turbines would be most visible. Photomontages 10 and 11 are based on viewing locations approximately 4.41 km and 5.6 km away from the consented turbines. The additional turbines on Kaihinu are extremely difficult to discern on either of the simulations.



[166] In the numbered simulations provided by Motorimu post hearing, the tips of turbines 4 and 5 are (just) visible in photomontage 8C which was based on a viewpoint 2.85 km from the proposed turbines.

[167] We are able to reach only a limited number of conclusions as to likely effect of the Kaihinu turbines on the landform of Kaihinu itself. Those conclusions are that :

- Kaihinu is a significant landscape feature both in the immediate vicinity and as part of the wider landscape;
- The Kaihinu turbines are likely to be widely visible and will be a prominent feature on the slopes of Kaihinu when viewed from those parts of Scotts Road which traverse the wind farm site;
- There is potential for turbines situated on the slopes of Kaihinu to adversely affect this landform;
- Other than from within the wind farm site itself, the Kaihinu turbines will become more visible (principally from the north west) the further out into the Plains one moves away from the wind farm;
- From these Plains viewing points the Kaihinu turbines will be seen as being behind and over the top of the consented turbines.

[168] What is obvious however is that one of the effects of establishing the Kaihinu turbines would be to take wind farm development out of the eastern basin and valleys which presently provide a physical containment to it and to spread that development up the slopes and beyond the peak of the significant landscape feature that is Kaihinu. On balance we consider that is a significant adverse effect on the Motorimu landscape.

#### ***Horseshoe Bend Escarpment Turbines***

[169] The area referred to as Horseshoe Bend is situated at the south western extremity of the proposed wind farm. It sits on the western side of a ridge which provides the dividing line between the districts of the City Council and District Council and is contained within the territory of the District Council. There is a popular recreation area at Horseshoe Bend at the foot of the hills.

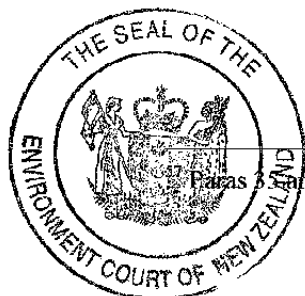


[170] We refer to the Horseshoe Bend turbines as turbine numbers 26, 34, 39, 41 and 51. This group of turbines is situated on a small ridge or spur lying between Kaihinu to the south and Vodafone Hill to the north.

[171] Additionally Mr Lister included turbine no 42 in this group. Because turbine 42 sits east of the ridge and will not be as prominent as the other 5, we have regarded it on a different basis. Turbine 42 is more realistically grouped with consented turbines 25 and 32. Mr Anstey advised that he had no objection on landscape or amenity grounds to the grant of consent to this turbine.<sup>57</sup> Mr Bray did not address that in any detail. We accordingly conclude that consent might be granted to turbine 42.

[172] Because of the position of the Horseshoe Bend turbines at the south western extremity of the wind farm and the site topography, these turbines will be largely hidden from view from many of the potential viewing sites in Scotts Road, Millricks Line and on the Plains between the site and Palmerston North, where the Front Ridge turbines will be such a prominent feature. As a viewer moves further out into the Plains the tops of the Horseshoe Bend turbines will be visible together with the consented turbines and will be seen to expand the wind farm site to the southwest.

[173] The small spur or ridge where the Horseshoe Bend turbines are situated has a high degree of visibility from the Plains to the south of the site. With the exception of turbine 42 (on the eastern side of the ridge) this group of turbines, situated at or very close to the ridgeline will be highly visible and prominent to those persons viewing from a wide area to the south and southwest. From closer viewing points to the south only the Horseshoe Bend turbines themselves will be visible. However as the viewpoint moves further away to the south from the site, viewers will obtain partial views of the consented turbines situated in the basin and valleys on the northern and eastern sides of the Horseshoe Bend escarpment. From these further viewpoints it will become apparent that the Horseshoe Bend turbines are part of a larger wind farm.



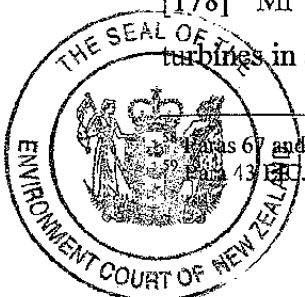
[174] The slopes leading up to the Horseshoe Bend turbines are largely open pasture. The 220kV transmission line to which we have previously referred traverses these lower slopes of Horseshoe Bend.

[175] The landscape witnesses had differences of view regarding the effect of this group of turbines on landscape. Mr Lister acknowledged the extent of visibility of these turbines from the southern view catchment. Notwithstanding the visibility of these turbines, he was of the view that they were appropriate in landscape terms because (in summary) from many viewpoints they would appear as a distinct group or cluster of turbines, they were located between the two more prominent landform features of Kaihinu and Vodafone hill and were in a working landscape.<sup>58</sup>

[176] Mr Boffa considered the landscape effects of the Horseshoe Bend turbines to be acceptable. He also acknowledged their visibility from the west (and presumably the south) but as with Mr Lister considered that they would be seen as *a small cluster of turbines*.<sup>59</sup>

[177] Mr Anstey appeared to have changed his view on the effect of these turbines between the time of the Council hearing and our hearing. This was evidently as a result of the Applicant having produced additional simulations to the Court identifying the location and prominence of the turbines in somewhat more detail than the evidence before the Council. We have already noted that the Commissioners' decision contains some criticism of the standard of the photomontages provided to them. We do not think that an expert witness should be criticised for changing his view as further evidence becomes available during the appeal process. The factors which led Mr Anstey to now conclude that the effects of the Horseshoe Bend turbines on landscape would be more than minor were their prominence, their location on the skyline and the fact that they extend the impact of the consented wind farm further to the southwest.

[178] Mr Bray did not address the landscape effects of this particular group of turbines in any detail.



[179] We partially concur with the views of Messrs Lister and Boffa that this group of turbines is clustered together in a comparatively tight configuration. That is certainly how they will appear from many viewpoints in the southern and western view catchments. From those viewpoints where they are seen in isolation they will appear as a combined and discrete cluster sitting within the landscape. However viewed from a wider perspective where they are seen in conjunction with the rest of the wind farm they add to the effect of the wind farm as a whole by extending the spread of the wind farm along the hills to the south. Although not as pronounced as the effect of the Front Ridge turbines which we have previously discussed, establishment of the Horseshoe Bend turbines removes the wind farm from the physical containment provided by the hills and valleys east of the ridgeline. The majority of the Court considers that this is a significant adverse effect on landscape.

[180] Much of the debate regarding the Horseshoe Bend turbines revolved around the effect which they might have on the use or enjoyment of Horseshoe Bend Reserve situated at the base of the foothills in this vicinity. Our discussion in that regard is to be found in the Amenity Issues section of this decision.

### *Cumulative Effects*

[181] A specific aspect of the landscape considerations which was canvassed before us was the cumulative effect on landscape which might be brought about by construction of a wind farm on the Motorimu site. This was a matter of particular concern to the City Council, TAG and Mr Bent. We understood that the cumulative effect being referred to was a wider landscape effect arising from the spread of wind farms along the Tararua Ranges. For the sake of completeness we refer to the relevant definition of effect contained in RMA.

#### *3 Meaning of "effect"*

*In this Act, unless the context otherwise requires, the term effect . . . includes—*

- (d) *Any cumulative effect which arises over time or in combination with other effects—*

[182] The City Council's opening submission referred to the increasing participation of interested parties to resource consent hearings opposing wind farm proposals, as



well as comments by a Commissioner in an earlier decision on a wind farm application to the effect that Manawatu may be reaching saturation point for wind farms. The report of the Parliamentary Commissioner for the Environment entitled *Wind Power, People and Place*<sup>60</sup> identified that the cumulative effect of wind farms is a *key issue* for the Manawatu.

[183] As we understood the City Council's concern it arises because of the spread of turbines along the Tararua Ranges. The Council submitted that of the 32 kilometres of the Tararua Ranges which provide a backdrop to Palmerston North City, some 57 percent approximately has turbines on it.

[184] It was apparent that the City Council's concern about cumulative effect was directed at the wider cumulative effects of the Motorimu wind farm (or at least the additional turbines) together with other existing and consented Manawatu wind farms.

[185] Before addressing that concern we refer to our findings<sup>61</sup> as to the effects of placing the additional turbines along the Front Ridge above the consented turbines. Clearly there is a cumulative effect in that instance. Such an effect arises from increasing the degree of prominence of the consented wind farm by placing the additional turbines along the ridge in front of the consented turbines and by substantially increasing the spread of the wind farm along the ridgeline beyond the boundaries of the consented turbines. Those are cumulative effects and we have found them to be significantly adverse in a landscape sense.

[186] We also refer to our comments as to the Kaihinu and Horseshoe Bend turbines which extend the landscape effects of the wind farm beyond the basin and valleys which contain the consented turbines. That adverse cumulative effect is more than minor.

[187] However, the landscape evidence as to wider cumulative effects of all the Manawatu wind farms was surprisingly limited. Mr Bray contended that there were



three types of visibility which needed to be considered in addressing cumulative landscape effects. Those three types were:

- Combined visibility – where a viewer can see more than one wind farm in a single field of vision;
- Succession visibility - where a viewer can see more than one wind farm from a single view point, but not in the same field of vision;
- Sequential visibility - where a viewer needs to move view points to see more than one wind farm.<sup>62</sup>

[188] Mr Bray said that there were essentially no locations where more than one wind farm was dominant in the landscape in the same field of vision.

[189] Insofar as succession visibility is concerned, he gave a number of instances of locations where there might be successive views of multiple wind farms. He identified the Pacific Heights subdivision in Aokautere where viewers would be within 10 kilometres of all four of the Manawatu wind farms and other locations further out than that again where all the wind farms might be viewed in succession.

[190] Insofar as sequential visibility is concerned we do not think that there can be much doubt that travellers moving through the Manawatu will become aware of the extent of wind farm development along the Manawatu skyline. Mr Bray gave the example of travellers heading north on State Highway 57 to the Manawatu Gorge. From the Motorimu site to the Gorge itself is a distance of just over 40 kilometres or a 25 minute drive. It was Mr Bray's view that for travellers on this journey, wind farm turbines would be dominant and recurring elements on the foothills visible from the road.

[191] In his consideration of wider cumulative effects Mr Lister pointed to the fact that the nearest consented wind farm to Motorimu was Te Rere Hau, 13.6 kilometres to the north with the remaining wind farms to the north of that again. He considered that Motorimu, to the south of Palmerston North, and the other farms to the north were separated by a complex intervening landscape and we think that is correct. Mr





Lister considered a number of locations where it might be possible to have views of Motorimu together with the existing wind farms, however he considered from any such views many of the turbines in question would be quite distant.

[192] In terms of wider cumulative effect we tend to agree with Mr Lister when he states.

*In my opinion the most one can say in terms of cumulative effects is that people will be conscious of an increase in the number of wind farms in the region, and that rather than being confined to an area north-east of Palmerston North there will be a wind farm located to the south. But such effects will be generated by the consented Motorimu Wind Farm. The additional turbines will make little further difference in this regard.<sup>63</sup>*

[193] We consider that the primary landscape effect of the additional turbines is one of increasing the landscape impact of the Motorimu wind farm on the Te Mata – Kaihinu ridgeline. We have expressed the view that that is a significant adverse effect on that landform.

[194] In terms of the wider spread of wind farms across the Manawatu landscape, the cumulative effect arising from the sequential visibility of wind farms will be created by the establishment of the consented turbines in any event. The additional turbines narrow the gap between Motorimu and Te Rere Hau by 1.1 kms, however we do not think that in the wider context in which Motorimu might possibly be seen together with the other wind farms, that is a significantly adverse effect in itself. There will remain a gap of some 13.6 km between Motorimu and Te Rere Hau even if all the Front Ridge additional turbines are established.

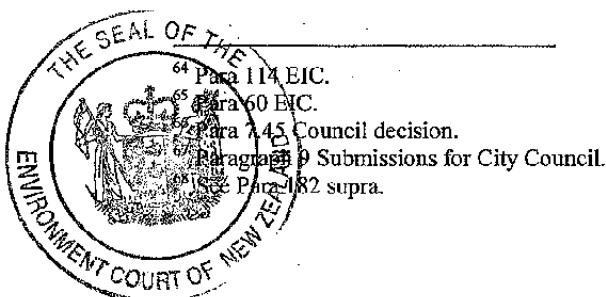
[195] Ultimately the landscape witnesses' evidence did not examine the wider implications of the spread of wind farms across the Manawatu landscape, which was the matter of concern for the City Council, TAG and Mr Bent. We are unable to reach any conclusion on the wider landscape effects of the spread of wind farms in the Manawatu on the basis of the evidence before us.



[196] We do however, consider that there are understandable concerns in that regard. By way of example we refer to the following matters:

- Mr Lister contended in his evidence that . . . *In a broader context wind farms and wind turbines are part of the character of the Manawatu region;*<sup>64</sup>
- Mr Boffa contended . . . *With regard to potential sequential effects, I consider views of the wind farms are likely to be of particular public interest and will probably be seen as focal points and a feature of the Tararua foothill landscape;*<sup>65</sup>
- We note from the Commissioners' decision that Motorimu's then landscape witness described the wider landscape as having a . . . *Rural wind farm hillside character.*<sup>66</sup>
- The City Council's submission referred to concerns expressed by a very experienced Commissioner in his decision on the Te Rere Hau wind farm consent where he apparently expressed a view that the Tararua Ranges were reaching saturation point in terms of wind farms;<sup>67</sup>
- Mr Rennie for Motorimu put to a number of the witnesses, various exhibits which used wind turbines as symbols of the Manawatu. The symbol of the Manawatu Turbos rugby team was one such example. We understood it to be implied that this indicated that wind turbines were seen by many as a feature of the Manawatu landscape.
- The Parliamentary Commissioner for the Environment has signalled that cumulative effects of wind farms are a *key issue* for the Manawatu.<sup>68</sup>

[197] Clearly there is an issue as to the wider landscape implications of ongoing establishment of wind farms in the Manawatu region. We consider that any debate on that issue would need to be based on a wide ranging landscape study which went beyond consideration of the landscape effects of the additional turbines which was the



focus of our hearing. Such a debate would raise policy issues which would need to be determined by the Regional and District Councils and ultimately reflected in their planning documents.

[198] Finally in this regard we refer to Mr Maassen's submissions on behalf of the City Council where he refers to the complaint that . . . *the RMA lacks capacity to deal with cumulative effects.*<sup>69</sup> It appears to us that the problem is not with RMA which specifically incorporates cumulative effects into the bundle of effects described in s3. Rather the problem is a factual and evidential one of identifying and assessing those cumulative effects. That exercise can be particularly difficult when dealing with issues such as landscape effects which can be subject to a wide range of conflicting and subjective opinions, or when assessing the significance of incremental changes

#### *Amenity Issues*

[199] In the preceding section of this decision we assessed the impact of the additional turbines on landscape. We now consider the amenity effects of the additional turbines and in particular how the additional turbines might affect the amenity values of those who live near the proposed wind farm site. We appreciate that there is some crossover between the landscape matters which we have previously discussed and the issue of visual amenity. However, we consider that a landscape assessment encompasses wider issues than just visual amenity (although how the landscape is seen is an important component of such an assessment). Our amenity discussion will consider how the presence of the wind farm might affect its neighbours.

[200] Amenity values are defined by RMA as being . . . *those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes.*<sup>70</sup> The focus of consideration of amenity effects in this case is on how the wind farm might affect people's appreciation of their environment and the features of that environment which are significant to them. We do not propose to discuss the noise aspects of amenity in this section of the decision but will deal with that as a discrete topic.

<sup>69</sup> Para 82 Submissions for City Council.  
<sup>70</sup> Section 2 of RMA.



[201] A feature of the case presented by TAG on behalf of itself and the various s274 parties whom it came to represent was the presentation of some 54 briefs of evidence on *Community Amenity & Cultural Values*. Many of the witnesses who provided these briefs live near the wind farm site. Few of the witnesses were required to be sworn and cross-examined. The remaining briefs were admitted by consent. They have all been read by the Court.

[202] The briefs encompass a range of subjects. In many instances the briefs venture into opinion on technical and scientific issues which are beyond the scope of lay witnesses.

[203] The matters of concern identified through the resident witness briefs may be summarised in these terms.

- Visual impacts of the wind farm on residents arising through proximity of turbines, the numbers of turbines visible and shadow flicker;
- The dominating effect of the turbines on nearby residents again arising through proximity and numbers;
- Landscape effects on what a number of the witnesses regarded as being an outstanding landscape;
- Ecological effects;
- Traffic effects;
- The adequacy of the consultation process undertaken by Motorimu;
- The cumulative effect of proliferation of wind farms on the Ruahine and Tararua Ranges;
- Issues as to global warming and the efficiency of wind farming for electricity generation.

[204] We do not propose to comment on all of that evidence in this decision. For the purposes of our amenity considerations it is the issues of visual impact and dominance which are the most important.

[205] The residents' evidence identified the values and features of the environment and surrounding the wind farm which were of importance to them. Those values and features might be summarised as follows:



- An appreciation of the Tararua Ranges and the significance of the foothills to those who live in and near them. This significance related not only to views of the ranges and foothills but extended to the foothills as a place in which to live where their natural features and amenities were appreciated and prized;
- The rural views and scenic outlook both to and from the foothills;
- The fact that the hills are largely clear of manmade structures and those which are present (such as the existing pylons and various towers) are contained within the landscape;
- The distance from existing wind farms;
- The peace and tranquillity of the rural setting;
- The natural noise environment.

[206] We imagine that many of the features identified would be common to rural and rural/residential settings throughout New Zealand. However the proximity and significance of the hills as a natural setting in which to live was a feature of the evidence of many of the witnesses. The importance of views not only out over the wider plains, but also to the hills themselves was referred to by a number of witnesses.

[207] Another fact which was apparent from the evidence was the amount of time which the witnesses spent outside, either working in or enjoying their gardens and rural properties.

[208] A number of the witnesses live at the end of Millricks Line or Scotts Road within less than 2 kilometres from the wind farm site. Matters of particular concern to those persons arose out of their proximity to the additional turbines, the number of turbines which would be visible from their properties and the dominating effect which they said those turbines would have on their properties due to their presence along the elevated ridgeline towering above the houses and properties on the lower foothills below.

[209] Mr Lister considered the visual amenity effects which the additional turbines might have on their neighbours. He identified the factors which influenced the visual



prominence of wind turbines in Table 2 of his evidence in chief.<sup>71</sup> We reproduce that Table here.

**Table 2. Factors Influencing Visual Prominence of Wind Turbines**

<i>Factor</i>	<i>◀ less prominent</i>	<i>more prominent ▶</i>
Distance	Distant (eg > 5km-6km)	Very Close (eg <1 km)
Orientation of views	Focused away from site	Focused toward site
Character of intervening landscape	Seen beyond complex foreground landscape (increased depth perception)	Seen across open, simple landscape (decreased depth perception)
Screening	Screening behind trees	Open views
Visual anchoring	Towers set back from edges of hills (note though that it is generally preferable to see the tower and blades rather than the disconcerting appearance of blades flicking over a ridgeline)	Towers on edge of ridgeline.
Relative Elevation	Turbines level with or below viewpoint,	Turbines elevated above viewpoint -especially from close proximity
Number and extent of wind turbines visible	Few	Many
Light conditions	Diffuse overcast light Low contrast with backdrop sky	Directly sunlit High contrast with backdrop sky
Atmospheric conditions	Hazy	Clear
Rotor movement	Still	Moving
Rotor orientation	Side on	Front on (note that the prevailing wind at Motorimu is north-west)

[210] Mr Lister identified that distance was one of the most important factors influencing visual prominence. He went on to assess the visual prominence of the wind farm (including the additional turbines) from 191 houses within approximately 5 kilometres of the wind farm. He undertook that assessment on the basis of a 5 point

Table 2 EIC.



scale being negligible, minor, moderate, high, very high. He considered that from 29 of the houses the wind farm would have negligible visual prominence, minor from 118, moderate from 32, high from 12 and very high from none.

[211] Mr Boffa reviewed Mr Lister's assessment. He considered that at a distance of up to 5 kilometres wind farms have the potential to be visually dominant with a high magnitude of effect.<sup>72</sup> Between 5 to 10 kilometres Mr Boffa considered that the turbines were visually prominent with a moderate effect. He agreed with the factors which Mr Lister had identified as influencing visual amenity effects and added to them the size and proportions of the turbines as a factor. He agreed with Mr Lister's assessment that the visual amenity effects of the wind farm from house sites in the immediate area were *generally acceptable*.<sup>73</sup>

[212] Mr Anstey considered the evidence of Messrs Lister and Boffa. He summarised their findings (particularly Mr Lister's) in respect of the 191 dwellings which they had considered, in these terms.

*(a) 18 dwellings will have an average of 15 turbines potentially in their views where none were previously visible. (numbers range between 3 and 25). Of the 18 dwellings assessed there will potentially be high Visual Amenity Effects for 5 and moderate Visual Amenity Effects for a further 5;*

*(b) a further 19 dwellings with 1 – 5 consented turbines potentially in their views will have an average of 18 additional turbines in their views. Of the 19 assessed the additional turbines will have potentially high Visual Amenity Effects for 3 and potentially moderate effects for a further 6;*

*(c) for all of the dwellings assessed the additional turbines will more than double the number potentially visible from dwellings. The average number of consented turbines potentially visible is 25 and the average number of additional turbines potentially visible is 27. If the*



*additional turbines were approved the average number visible would increase from 25 to 52.<sup>74</sup>*

[213] Mr Anstey then went on to address a number of the factors identified in Mr Lister's Table 2.

- He considered that many of the residents have views which are focused towards the wind farm site with the high ridges and spurs of the site being dominant features in their landscape. He considered that views were important from all parts of a property not just from the house;
- He said that for many properties there are views towards the wind farm site across open pasture. It was his opinion that with subdivision into smaller sites large shelter belts were frequently removed and replaced with lower growing species;
- He noted that the additional turbines were located either on or close to the dominant ridgeline forming the skyline for many residents;
- He referred to the location of the additional turbines above and in close proximity to residential properties in Scotts Road and Millricks Line;
- He referred to his earlier finding that large numbers of additional turbines are potentially visible where none or few of the consented turbines can be seen;
- He considered that on fine days in the mid to late afternoon all of the additional turbines would be sunlit;
- He was of the opinion that the rotor blades would be orientated towards properties on the Plains below.

[214] Mr Anstey considered possible mitigation particularly by way of vegetation. He accepted that from some viewpoints vegetation mitigated adverse effects of the additional turbines . . . *but not for all views and not for entire properties.*<sup>75</sup> He noted that residents could undertake additional planting but that could be at the expense of sunlight and views and their expansive rural environment. It was his view that . . . *The presence, and movement, of the additional turbines would be extremely intrusive in*





*significant views from most properties*<sup>76</sup> and he went on to conclude that . . . *for local residents the adverse effects of the majority of the additional turbines will be significantly adverse and that these effects cannot be reasonably mitigated.*<sup>77</sup>

[215] Mr Bray assessed the potential visibility and effect of the proposed wind farm using zones of visual influence. The zones which he applied were, within 2 kilometres of the proposed wind farm, between 2 kilometres and 7 kilometres and greater than 7 kilometres. He estimated that there are approximately 60 residences within 2 kilometres of the wind farm.

[216] Mr Bray referred to the significance of the Tararua foothills and their skyline to the people who live close to them. He quoted from the report of the Parliamentary Commissioner for the Environment, *Wind Power, People and Place* where the Commissioner endorsed the statement . . . *Wind farms are likely to have a considerably greater impact when located on prominent topography, and in landscapes that are open and exposed.*<sup>78</sup> Mr Bray was of the view that the Front Ridge turbines were located on prominent topography and in an open and exposed landscape. In his opinion those additional turbines significantly increased adverse effect on amenity values to the nearby community.

[217] In assessing the effect of the additional turbines on the amenity of those who live in its vicinity we have given particular consideration to the factors identified by Mr Lister. We note that those factors in turn are very similar to the matters identified by this Court in its decision in *Meridian Energy Ltd v Wellington City Council*<sup>79</sup> (the *West Wind* decision).

[218] We undertook two site visits during the course of our hearing, the first to give us a general appreciation of the site and its surrounds and the second to consider more detailed issues. We also visited another Manawatu wind farm. We had regard to the photomontages provided by Mr Lister and we found them to be of considerable assistance in assessing amenity impact from certain locations.



***Amenity – Front Ridge Turbines***

[219] The initial focus of our amenity considerations is an assessment of the Front Ridge turbines insofar as they impact on the residents of Scotts Road and Millricks Line being the rural/residential areas and settlements in closest proximity to the wind farm. We address amenity issues in respect of Horseshoe Bend separately.

***Proximity***

[220] Mr Lister acknowledged the significance of proximity as a factor when assessing the impact of wind farms on amenity. The three closest houses to the Front Ridge additional turbines are situated on rural/residential properties at 366, 378 and 380 Millricks Line. These houses are situated within 1 kilometre or less from the additional turbines being the distance which Mr Lister assessed as being *Very Close* in his Table of Factors.

[221] There are at least 45 houses within 2 kilometres of the additional turbines and about 191 houses within 5 kilometres. The remaining landscape witnesses (including Mr Boffa) all considered that turbines situated within these distances from houses have the potential to be visually dominant and have a high magnitude of effect. Mr Lister acknowledged in cross-examination that the visual impact of dominance of turbines rises exponentially the closer the viewer gets to them.<sup>80</sup>

[222] Even taking a very cautious approach to the various rules of thumb which the landscape witnesses have applied it is apparent from the landscape evidence that, for those living within 2 kilometres of the proposed wind farm, there is real potential for the additional turbines to become a visually dominant feature of the environment and to have a high degree of adverse effect on visual amenity. We would go further and say that the evidence satisfied us that for many of the properties within that radius such adverse effects are inevitable.



### *Orientation of Views*

[223] In undertaking his assessment of visual effect of the wind farm Mr Lister considered the orientation of the dwelling houses situated within approximately 5 kilometres of the wind farm site. His assessment of orientation (contained in Appendices 1 and 1A of his evidence) was largely based on drive-bys and aerial photographs rather than actual visits. It is clear from Mr Lister's Appendices 1 and 1A that the vast majority of the houses which he considered were orientated in a generally northerly direction largely away from the wind farm. However we consider that he considerably overstated the effect of this orientation as a mitigating factor in this particular area.

[224] One of the features of the residents' evidence was the extent to which many of them undertook activities around and enjoyed all parts of their rural/residential properties. A further aspect was the enjoyment of 360 degree views and the views towards the hills which formed a significant feature for many residents. Although it may be true that (for obvious reasons) houses are largely orientated to the north and away from the wind farm, that is not the limit of the residents' views.

[225] It seems apparent from Mr Lister's Appendices 1 and 1A that in his assessment he concentrated on house orientation rather than taking a wider consideration of property owners' views. In any event we have some reservation as to the accuracy of his assessment of dwelling house orientations.

[226] Mr Lister acknowledged that his assessment was based on observations from public roads and use of aerial photographs.<sup>81</sup> In his Appendices he refers to *Apparent house orientation*. Even if it was appropriate to limit the visual considerations to views from houses we do not consider that Mr Lister has undertaken sufficient research by way of site visits to enable an adequate assessment of effects on views from houses to be made. We appreciate the practical difficulties which may have precluded him from undertaking such visits however in the absence of detailed assessment from the houses in question we do not believe it is possible to accurately assess the visual amenity effects of the turbines on the residents of those houses.



[227] In making these comments we are not suggesting that views from houses are not an important consideration in assessing visual amenity effects. There may be some situations where the impact on visual amenity from houses is the principal issue. In this case however we consider that Mr Lister has erred in the emphasis which he placed on house orientation as opposed to the wider issue of views in all directions from both inside and outside the houses and around the nearby residents' properties.

### *Screening*

[228] The next factor which Mr Lister took into account in his assessment of visual amenity effect was the *apparent nature of view and effect of screening*. That assessment must again suffer from the deficiency that it was undertaken on the basis of roadside visits and aerial photographs rather than actual site visits. Again we consider this assessment needed to have been made on the basis of moving around the properties in question.

[229] We agree that plantings may have a screening effect in some instances and that it is reasonable to assume that plantings on the subject properties which do provide a screen from the turbines would be maintained by the property owners if views of the turbines were a concern. We also accept that the complexity of the intervening landscape between assessed properties and the additional turbines (including planting within that landscape) may assist in mitigating visual effects either by screening turbines or absorbing them within the landscape. Again however the adequacy of such mitigation in any instance needs to be assessed on the basis of site visits and assessment all around the properties in question.

### *Elevation*

[230] We consider that a particularly important factor which needed to be taken into account in assessing the visual amenity effect of the additional turbines was the extent of their elevation above potential viewers. That was one of the factors identified by Mr Lister in his Table 2 as influencing the visual prominence of turbines however it was omitted from his assessment of visual amenity effect in Appendices 1 and 1A.

[231] It appears to us that the combination of proximity and elevation must be a particularly significant factor in assessing amenity effect in this case. To those factors



we think must also be added the numbers of additional turbines which will be seen in that relatively close and elevated situation.

[232] By way of example we refer to photomontage 25 of the supplementary photomontages provided by Mr Lister. This is a photomontage of the view from 274 Millricks Line looking southeast towards the wind farm. Mr Lister was able to access this property for the purpose of taking his photographs and undertaking his assessment.

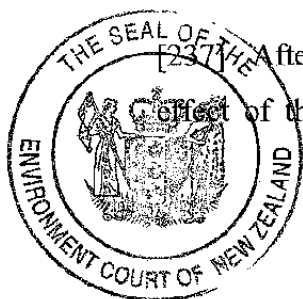
[233] 274 Millricks Line is owned by Ms R Speirs who was a s274 party to the proceedings and whose evidence was part of TAG's brief. The property is situated approximately 2.5 kilometres away from the consented turbines and (according to Appendix 1A) 1.68 kilometres from the closest additional turbine (turbine 114).

[234] Photomontage 25C shows 17 additional turbines prominent along the ridgeline encompassed within that photograph. The height of the ridgeline is such that no screening is provided by the shrubs and trees shown in the photograph. If Ms Speirs was to plant larger species or allow the existing species to grow higher she will lose the view of the hills and ridge which (on the basis of the simulation) have substantial amenity value to her. We note from the photomontage that 274 Millricks Line is at an elevation of 101masl as compared to the 450-500 masl of the ridgeline.

[235] In his Appendix 1A Mr Lister estimates that 33 additional turbines will theoretically be visible from the Speirs' property. In his assessment of the nature of the view he finds that the view will be partial and that planting would mostly screen views to the wind farm but there were likely to be partial views from upstairs windows.

[236] Ms Speirs contends that from one of the main bedrooms upstairs some 40 turbines (presumably including some of the consented turbines) would be visible.

[237] After taking those factors into account Mr Lister assessed the visual amenity effect of the additional turbines on the Speirs' property as *moderate*. Ms Speirs



considers that Mr Lister has failed to assess the effects from the wider property in his assessment.<sup>82</sup> She disagrees with Mr Lister's analysis of the effect.

[238] We similarly disagree with Mr Lister's *moderate* assessment. We appreciate that photomontage 25C is a view of only one aspect of the additional turbines from 274 Millricks Line. It shows a line of 17 additional turbines occupying the ridgeline from a dominating height above the Speirs' property. The present vegetation does not provide any screening of the additional turbines from this viewpoint. We have deliberately used the word *dominating* in our description and we do so in two senses:

- Firstly, the turbines seem to dominate the landscape from this viewpoint in the sense that they become the principal landscape element to which the eye is drawn;
- Secondly, we consider that the turbines will have a dominating effect on the Speirs' property itself as they tower above the nearby horizon and appear to overwhelm the property. Their close presence will be inescapable fact of life on this property.

[239] We consider that photomontage 25C graphically demonstrates that the additional turbines shown have a significant adverse amenity effect on 274 Millricks Line. We strongly disagree with Mr Lister's assessment of moderate visual amenity effect taking into account views from the house and then views from outside and around the house. Although the visual aspect is very significant and adverse the effect is wider than just that because of the dominating effect on the property itself.

[240] Mr Lister has identified seven houses in the Scotts Road, Millricks Line area which he considers are likely to receive high visual amenity effects from the Front Ridge turbines. We consider that his assessment almost certainly understates the number of properties where there are likely to be high adverse visual and other amenity effects in this area referring to the example which we have given of 274 Millricks Line. We further consider that his assessment understates the extent of those adverse amenity effects. It is the combination of proximity, elevation and numbers of additional turbines which lead us to that conclusion.



[241] We accordingly determine that establishment of the Front Ridge turbines (excluding the subset turbines) will have significant adverse amenity effects on their neighbours.

***Amenity - Horseshoe Bend Turbines***

(this section of the decision was written by Commissioner Mills)

[242] We refer to additional turbines numbers 26, 34, 39, 41 and 51 as the Horseshoe Bend turbines. These are the only turbines proposed to be sited in the Horowhenua District – the remainder are to be sited within the City Council's territory.

[243] Mr Lister describes this group of turbines as forming:

*A distinct group on an intermediate hill between Kaihinu and Vodafone Hill.*<sup>83</sup>

He states:

*This group of turbines increases the visibility of the wind farm into a separate catchment to the south. Photomontages show that from many viewpoints within this area the five turbines appear as a distinct group while the rest of the wind farm is far less prominent and from many locations screened altogether by the topography.*<sup>84</sup>

While conceding that these turbines will increase the visibility of the wind farm from the south and south west, Mr Lister stated that from other viewpoints such as parts of Horseshoe Bend Reserve where the consented turbines will not be seen, the additional five turbines will appear almost as a separate small wind farm.<sup>85</sup>

[244] We consider the amenity effects of the Horseshoe Bend turbines from two separate locations:

- Properties in the vicinity of Tokomaru Road East near the Goldsmith property.
- Horseshoe Bend Reserve itself.



***Houses in the Vicinity of Tokomaru Road East***

[245] Mr Lister identified three houses west of the wind farm on Williams Road, Konini Road, and Tokomaru East Road, that he acknowledged were likely to be subjected to high adverse visual effects from the Horseshoe Bend turbines.<sup>86</sup>

[246] Two houses southwest of the wind farm in the Alfred Road area were also assessed by Mr. Lister as *likely to have high visual amenity effects*.<sup>87</sup>

[247] Mr Anstey contended that the Horseshoe Bend turbines would be prominent from many residences in the East Tokomaru area and would have adverse effects which were more than minor.<sup>88</sup> Mr Lister stated that any wind farm was likely to have visual effects which were more than minor but the pertinent task was to quantify and qualify those effects to determine if the wind farm achieves the purpose of the Act.

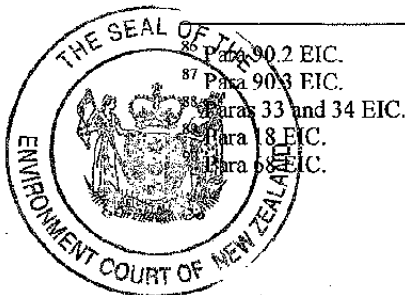
***The View from Horseshoe Bend Reserve***

[248] Mr Anstey stated that the Horseshoe Bend turbines would be prominent from Horseshoe Bend Reserve and their effects would be adverse.<sup>89</sup>

[249] He explained that his stance on these turbines has shifted somewhat since the Council hearing where he acknowledged some uncertainty as to their effects on the Horseshoe Bend Reserve<sup>90</sup> and where he stated that it was unfortunate that simulations of these turbines were not provided.

[250] In respect of the simulations provided for this hearing (3C, 4C, 5C and 6C) Mr Anstey had this to say:

- (a) *The effects on the users of Horseshoe Bend Reserve will be adverse although from within the water course itself the taller vegetation and high viewing angle will afford some mitigation.*





[251] Mr Lister suggested . . . *that one would have to go out of one's way on the reserve to find a location to see the wind turbines, such as photomontage 2 viewpoint which is in a corner of the reserve behind the toilet block.*<sup>91</sup>

[252] Mr Baker produced Map 3, a map entitled: *Locations Where Turbines are Visible from Horseshoe Bend Reserve.*

[253] This document was the subject of some criticism, in particular from Counsel for Motorimu, who submitted:

*There are a number of serious difficulties with accuracy of Mr Baker's map, such as no scientific levelling device being used, that little weight should be accorded it.*<sup>92</sup>

[254] Mr Baker's evidence was that Map 3 was as conservative as he could possibly make it. He attempted to identify positions from where the five turbine hubs were visible and would *therefore read the full structure of the turbine and the rotating blades.*<sup>93</sup> While accepting the map creation was *purely unscientific*, Mr Baker stated that he was careful to locate exactly where the proposed turbines would go on the hillside and was confident about the map's accuracy.<sup>94</sup> We will return to the issue of the accuracy of Map 3 later in this decision.

[255] As has been already noted at the time of the hearing before the Commissioners, Mr Anstey judged the Horseshoe Bend turbines to be acceptable and it was not until he had viewed the further photo simulations that he realised how prominent they would be from State Highway 57 travelling north towards Tokomaru and the dominance of the turbines from Horseshoe Bend Reserve.

[256] In answer to questions from the Court about the meaning of *achieving dominance* Mr Anstey referred to the transmission pylons at Horseshoe Bend, some of which cross the basin but do not broach the skyline and others which are on the skyline. Those crossing the basin are absorbed against the face of the hill, whereas

<sup>91</sup> Para 46 Rebuttal Evidence.

<sup>92</sup> Para 113 Submissions in reply

Page 691 NOE.

Page 743 NOE.



those on the ridgeline become the focus of the view. The dominance arises out of the very simple form of the hill and the very large structures on it. This contrast is well illustrated in photomontages 2C and 3C.

[257] Mr Baker's evidence in respect of the Horseshoe Bend turbines was that:

*The five turbines will be highly visible in what is otherwise a pleasing and restful reserve. The introduction of the artificial turbines would in my opinion be intrusive to an unacceptable degree, I also note that in my opinion the construction of turbines in this location will be inconsistent with the natural features and values (s3) part of the Horowhenua District Plan.<sup>95</sup>*

[258] Mr Baker was adamant during cross-examination that there were a number of places, some of which are reasonably heavily used during the summer months, where the turbines are visible from within the Reserve. He considered that:

*I would say I still firmly believe that from a more special public location that the introduction of five large 80m high structures, on what is an escarpment that rises quite steeply, would be seen by some people as intrusive.<sup>96</sup>*

[259] Mr Anstey agreed:

*I was quite surprised at how much more of the area is actually quite heavily used beyond just the river edge, because my initial impression was of a picnic place by the river's edge and there is a bank and vegetation.<sup>97</sup>*

*I thought:*

*Well once again, once people settle in there that they are not going to be aware of the turbines, but in fact there are quite extensive areas where you do in fact see them.<sup>98</sup>*

[260] Mr Baker described Horseshoe Bend Reserve and its natural character, including the surrounding landscape as a finite resource within the meaning of s7(g). He noted that there are few reserves of this character in the region and that access to the Tokomaru River is constrained.



### *Discussion*

[261] In determining the visual amenity effects of the Horseshoe Bend turbines we refer to the following factors identified by the Court in the *West Wind* case:

- Whether there is a landscape backdrop or skyline behind the turbines;
- The complexity of the landform and vegetation within the view;
- Whether the turbine is elevated above the viewer;
- The expanse of the vista;
- Screening;
- House design.

[262] Taking those in the order listed we note:

- There is no landscape backdrop behind the turbines from the views we are discussing apart from some vegetation on the lower slopes and in Horseshoe Bend Reserve itself. Although the 5 turbines are, to varying degrees, set back from the ridge they are still very dominant and without any significant landscape absorption.
- The landform is relatively simple. We consider that Mr Lister is correct when describing the basin as a working landscape, in that it is used for grazing, it has electricity pylons running across the face of the basin, and there is a farm track partially visible.
- The turbines are elevated well above the viewers and are reasonably close, which accentuates the perception of dominance over any part of Horseshoe Bend Reserve where the turbines are visible and from houses in the vicinity of the end of Tokomaru East Road.
- The expanse of the vista depends on the angle of view, the viewing point and/or the degree of screening. Here there are only five turbines on what is a relatively clear ridgeline.
- Screening. We accept that there are areas in Horseshoe Bend Reserve that are effectively screened by vegetation or landform or both, but there are other areas that are not. However, in terms of vegetation screening we refer to the findings of the Court in the *West Wind* decision, which noted that trees can be ephemeral and that screening vegetation cannot necessarily be relied on for the life of a wind farm.



- House design. We accept that for those houses that have side and rear views of the turbines, amenity will not be compromised to the extent of those located south or south west of Horseshoe Bend Reserve and therefore oriented more towards the turbines. However for the reasons we have already given we do not agree with Mr Lister that house orientation is a significant factor. We accept the evidence of the residents describing how they move about and enjoy their properties while working or relaxing.

[263] After considering the above factors the majority of the Court reached the conclusion that the Horseshoe Bend turbines would have a significant adverse effect on the amenity values of the users of the Horseshoe Bend Reserve and the nearby properties which we have described. The factors of proximity of the Reserve and some residences (less than 2 kilometres in each case) combined with the elevation of the additional turbines were important factors in reaching that conclusion. The minority view was that the additional turbines were not out of keeping with the working character of this area, including the existing pylons and that adverse amenity effects were no more than minor.

[264] More specifically the majority of the Court agreed with Messrs Anstey and Baker that from the locations in Horseshoe Bend Reserve where the turbines are visible they will be, for many users, a serious intrusion into their experience of the Reserve. The Applicant through counsel suggested that there would be only limited locations where this was an issue and further suggested that Mr Baker's Map 3 be given little weight in our deliberations for the reasons already given.

[265] We spent some time in Horseshoe Bend Reserve, and the majority of the Court found in general terms, that it agreed with what Map 3 portrayed. With the assistance of the photomontages and a careful look at the basin and ridgeline from the Reserve it was not difficult to identify the positions of the proposed turbines. We do not agree that the use of a *scientific levelling device* is required to demonstrate the locations in the Reserve from where the turbines would or would not be visible. We accept that sitting down near the water's edge and sitting at the picnic tables (heavily used areas of the Reserve) the turbines will not be visible, however the evidence of Messrs Anstey and



Baker (which we accept) is that other areas, from where the turbines would be visible, are also well used.

[266] There was no credible challenge to the evidence that this is a popular and well used reserve particularly during the summer months and provides one of the few public opportunities for access to the Tokomaru River. In short the majority of the Court agrees with Mr Baker's statement (already quoted) that: *The 5 turbines will be highly visible in what is otherwise a pleasing and restful reserve. The introduction of the artificial turbines would in my opinion be intrusive to an unacceptable degree.*<sup>99</sup>

### **Noise Issues**

[267] The matter of the noise (and related) effects of the additional turbines on the health and amenity of nearby residents was the subject of extensive evidence before us.

[268] The following expert witnesses gave evidence with regard to noise issues.

- Dr D Bennett, a geophysicist with over 30 years' experience in applied seismology. Dr Bennett gave evidence on behalf of TAG.
- Dr D R Black, a medical practitioner and lecturer in environmental medicine at the University of Auckland. Dr Black specialises in the field of occupational and environmental medicine and gave evidence on behalf of Motorimu.
- Mr N I Hegley, a civil engineer with some 30 years specialisation in acoustics. Mr Hegley gave evidence on behalf of Mighty River Power.
- Mr M J Hunt, a consultant specialising in environmental noise with over 20 years' experience in the measurement and assessment of noise in the environment. Mr Hunt gave evidence on behalf of Motorimu.
- Mr N R Lloyd, an acoustic consultant since 1985. Mr Lloyd gave evidence on behalf of the City Council.
- Mr R Thorne, an acoustical consultant with more than 35 years experience in matters relating to noise and its effects. Mr Thorne gave evidence on behalf of TAG.

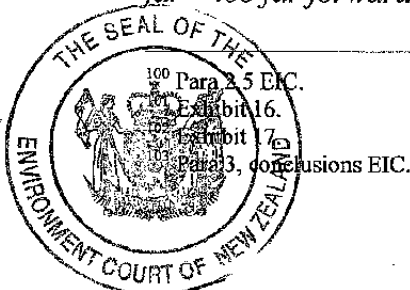


- Dr D Shepherd a lecturer at both the Auckland University of Technology and the University of Auckland with expertise in the subject of psychoacoustics. Dr Shepherd described his role . . . *as a provider of impartial evidence relating to the psychological and physiological health impacts of wind turbine noise.*<sup>100</sup> He gave evidence on behalf of TAG.

[269] Prior to our hearing the expert noise witnesses participated in caucusing. A document issued from that process containing a *Statement (a-h)*<sup>101</sup> indicating that matters in dispute between the noise experts were largely resolved. Subsequently the Court was advised on behalf of TAG that despite having signed the document Mr Thorne did not accept that agreement had been reached on a number of the issues. A letter from Mr Thorne<sup>102</sup> commenting on the statement was produced. Mr Thorne's position on the statement is not entirely clear from the contents of his letter.

[270] Mr Thorne was however clearly of the view that consent ought not be granted to the additional turbines as he considered that extension of the consented wind farm to 113 turbines . . . *will exacerbate the consented levels of sound and noise to an extent that is more than minor and is, consequently, an unreasonable imposition on the residents within the locality contained within 2000 metres of any wind turbine.*<sup>103</sup> He initially appeared to argue that the consented turbines themselves would also cause more than minor adverse noise effects to residents within 2 kilometres.

[271] The consented turbines are not under appeal and it was our understanding that Mr Thorne's concerns about their noise effect particularly related to night time issues and the adequacy of Condition 10 of the consent to deal with that. We will discuss that matter as a separate issue. In any event we understood him to ultimately accept that the consented turbines were within appropriate limits (just). We drew that conclusion from his response to a question from Dr Stewart about the front row of additional turbines when he answered . . . *so, to my mind it was basically one row too far – too far forward. I know that is probably not a very good expression, but it was –*



*75 turbines were on the cusp of going over the limits. The front row of turbines went over the limits, to my mind.*<sup>104</sup>

[272] We understood that the *limits* to which Mr Thorne was referring in that comment was in fact a limit of 40dBA L95 referred to in NZS6808, as being the limit of acceptability of wind farm noise received by neighbours.

[273] The Foreword to NZS6808 states:

*The purpose of this Standard is to aid both wind farm development and Territorial Local Authority planning procedures by providing a suitable method for the measurement and assessment of sound from Wind Turbine Generators (WTGs). This Standard also provides guidance on the limits of acceptability for sound received at residential and noise sensitive locations emitted from both wind farms and its single WTGs. This Standard again may be applied during the WTG/wind farm development planning process, to confirm compliance with resource consent conditions covering sound levels, and for the investigation and assessment of noise complaints arising from WTGs.*

[274] NZS6808 contains (inter alia) provisions for pre-installation calculations, measurements and sound level predictions as well as provisions for post installation sound compliance testing. Insofar as guides to acceptable limits of noise generated by wind farms are concerned NZS6808 provides as follows:

**4.42 Acceptable limit**

*As a guide to the limits of acceptability, the sound level from the WTG (or wind farm) should not exceed, at any residential site, and at any of the nominated wind speeds, the background sound level (L95) by more than 5dBA, or a level of 40dBA L95, whichever is the greater.*

[275] The concern apparently expressed by Mr Thorne in respect of the additional turbines was that they would not meet the 40 dBA L95 acceptable limit contained in the Standard at nearby residential sites.

<sup>104</sup> Lines 28-31, page 773 NOE.



[276] Mr Hunt, Motorimu's acoustic expert, on the other hand was confident that the limit would be met by a wind farm containing either the 75 consented turbines or the 113 consented and additional turbines. The two remaining acoustic experts Messrs Hegley and Lloyd concurred with Mr Hunt's views in that regard.

[277] Mr Lloyd had been retained by the City Council as its acoustic adviser and had appeared at the Commissioners' hearing as well as before the Court. In his evidence-in-chief to us he initially expressed concerns as to whether or not the limit would be met at the nearest residential dwellings. His misgivings appeared not dissimilar to those of Mr Thorne in that regard.

[278] By the time the matter came to hearing however Mr Lloyd's position in that regard appeared to have changed. In response to a question from Mr Rive for Motorimu he specifically acknowledged that the conditions proposed to be applied to the consent addressed any potential health impacts from wind turbine noise.<sup>105</sup>

[279] The particular condition to which Mr Lloyd was referring in that instance was Condition 9 of consent which was the day time operational noise requirement and which required sound levels measured at the notional boundary of dwellings in the vicinity to meet the limit specified in Standard 4.4.2 of NZS6808.

[280] It was the Court's understanding that by the conclusion of the hearing process there was little dispute about the adequacy of Condition 9 and the daytime operating standard which it imposed. Ultimately the noise debate was centred on a much more narrow issue namely the appropriate level of night time noise which is dealt with by Condition 10 of consent. TAG's cross-examination of Mr Hunt in that regard was largely directed at matters relevant to Condition 10 and the Court understood from comments made by one of TAG's representatives (Mr Fischer) that it was the matter of Condition 10 which was of specific interest to TAG.<sup>106</sup>



<sup>105</sup> Lines 28-41, page 680 NOE.

<sup>106</sup> Lines 28-46, page 296 NOE and lines 1-3, page 297 NOE.



[281] Condition 10 provided as follows:

***Operational Noise (Night time) (Turbines)***

*10. Between the hours of 10 pm and 7 am the following day wind turbine sound levels, when measured at the notional boundary of dwellings existing and permitted at the date of this consent (excluding any dwelling on the Wind Farm site, and excluding dwellings in respect of which the consent holder has reached agreement with the land owner), shall not exceed the appropriate regression curve of the A-weighted background sound level (L95) by more than 5dBA, or a level of 35dBA L95, whichever is the greater.*

[282] Motorimu had appealed against this condition. Its objection to the condition was that it required a constant night time sound level of 35dBA L95 from the turbines irrespective of external conditions. Mr Voll explained in both his evidence-in-chief<sup>107</sup> and during cross-examination<sup>108</sup> that application of such an across the board condition at night time would affect the viability of the wind farm. The particular objection which Motorimu had to the condition was that it would be applicable at times when wind speeds were high and therefore ambient sound levels at receiver positions were also elevated due to natural sounds caused by the wind.

[283] Condition 10 was referred to by Mr Hunt as a *sub-NZS6808 condition*.<sup>109</sup> By that we understood Mr Hunt to mean that it imposed a more stringent noise level than did NZS6808 which simply sets a 40dBA L95 level across a 24-hour period. Motorimu, Mighty River Power and the New Zealand Wind Energy Association all expressed opposition to such a condition. The basis of their opposition might be summarised as being that NZS6808 sets an appropriate standard and that there is no rationale for imposing any stricter standard as the Commissioners did in this case.

[284] These parties made the point that NZS6808 had been incorporated into the District Plan by reference pursuant to the provisions of Part 3, Schedule 1 RMA thereby giving particular weight to the noise level set in the Standard.



Para 74 EIC.  
 Lines 45-46 - 24, page 31 NOE.  
 Para 284 Statement of Rebuttal Evidence.

[285] A sub NZS6808 condition was imposed by the Environment Court in the *West Wind* decision. According to Mr Thorne that condition emanated from expert witness caucusing and agreement between all parties in that case. The condition which was imposed in *West Wind* however was subject to parameters which meant that the 35dBA limit set in that case applied specifically at times of low background noise. It was the failure of Condition 10 to make that allowance which was the source of particular concern to Motorimu.

[286] Mr Lloyd addressed the matter of Condition 10 in some detail in his evidence.<sup>110</sup> He supported the imposition of Condition 10 but noted the difference between Condition 10 and the 35dBA L95 imposed in the *West Wind* decision which was applicable only at times when background sound levels were less than 25dBA L95. However at the time Mr Lloyd prepared his brief of evidence he understood that Motorimu would not agree to such a condition and for that reason he continued to support Condition 10 in the form imposed by the Commissioners.

[287] By the time the matter came before us there had been a meeting of the minds between Messrs Hunt and Lloyd. It was agreed that an amended Condition 10 might be included in the consent which reflected the *West Wind* decision and would be applicable at times of low background noise levels during the night time.

[288] The amended Condition 10 agreed to by Messrs Hunt and Lloyd provides as follows:

***Operational noise (Quiet Night time) (Turbines)***

*10 When background sound conditions between the hours of 10 pm and 7 am the following day are at or below 25 dBA L95 determined from the appropriate regression curve without the interference of the wind farm, and when the mean wind speed at a representative location for the dwelling is less than 1.5m/sec measured at a height of nominally 3 metres above ground-level, then noise from the wind farm shall not exceed 35dBA L95 when measured at the notional boundary of dwellings existing and permitted at the date of this consent*



*(excluding any dwelling on the Wind Farm site, and excluding dwellings in respect of which the consent holder has reached agreement with the land owner).*

[289] Mr Hunt confirmed on behalf of Motorimu that amended Condition 10 was acceptable to it. He made it clear that amended Condition 10 was, in his view, not essential to limit noise from wind farms but was agreed to because of the desire to reach a compromise and because it was acceptable to the Applicant as compliance would not be too onerous.<sup>111</sup> Mr Hegley adopted a similar view.

[290] Mr Thorne declined to accept amended Condition 10 in the form it was proposed. He proposed a condition drafted in these terms:

***Operational noise (Night time) Turbines***

*10 For night time, being 6 pm to 7 am the following day, wind turbine sound levels, when measured at the notional boundary of buildings existing or holding all resource consents necessary for construction at the date of this consent, or able to be constructed as a permitted activity shall not exceed the appropriate regression curve of the A-weighted background sound level (L95) by more than 5dBA, or a level of 35dBA L95, whichever is the greater, and*

*When the background sound conditions are at or below 25dBA L95 determined from the appropriate regression curve, without the interference of the wind farm, and when the mean wind speed at a representative location for the dwelling is less than 1.5m/sec measured at a height of 10 metres AGL, then noise from the wind farm shall not exceed 30dBA L95 at the dwelling.*

*The sound levels in the condition include a 5dBA adjustment for potential special audible characteristics and are not adjusted further.*

[291] There are two principal differences between Condition 10 as proposed by Mr Thorne and that proposed (or at least accepted) by the other acoustic witnesses.



- Mr Thorne's night time runs from 6 pm to 7 am, whereas that of the other parties applies between 10 pm and 7 am.
- Mr Thorne's noise level is 30 dBA L95 as opposed to the 35dBA L95 level proposed by the other parties.

[292] We do not propose to discuss the night time hours' difference in any great detail. With respect to Mr Thorne, his condition appeared to involve something of an extension of what most people would normally regard as night time hours. The District Plan sets its night time noise levels on the basis of 10 pm to 7 am and it appears to us desirable to have a consistent approach in that regard.

[293] The most significant of the differences relates to the 30 dBA L95 level which Mr Thorne considered should be applicable during times of low background sound conditions. As the last sentence of his proposed condition indicates, the reason for setting the 30dBA level is that Mr Thorne had built into his Condition 10 an adjustment for special audible characteristics.

[294] The description of special audible characteristics is found in *NZS 6802:1991 (Assessment of Environmental Sound)*. Section 4.3 of NZS 6802:1991 provides:

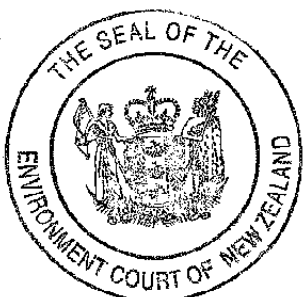
**4.3 Special audible characteristics**

*Noise that has special audible characteristics, such as tonality or impulsiveness, is likely to arouse adverse community response at lower levels than noise without such characteristics. At present there is no simple objective procedure available to quantify special audible characteristics, and subjective assessment is therefore necessary, (supported where appropriate by objective evidence, e.g. frequency analyses).*

Section 4.4 of NZS 6802:1991 further provides:

**4.4 Adjustments to performance standards**

*When a noise has special audible characteristics the relevant performance standard  $L_{10}$  descriptor may be reduced arithmetically by 5 dB for comparison with the measured  $L_{10}$  descriptor of the noise.*



[295] The guide as to the limits of sound acceptability (40dBA L95) from wind farms contained in Paragraph 4.4.2 of NZS6808 is subject to a rider contained in Paragraph 4.4.3 which provides as follows:

**4.4.3 Special Audible Characteristics**

*These limits of acceptability are specified without any adjustment applied for special audible characteristics. Predicted or measured  $L_R$  levels from WTG'S with known special audible characteristics shall be adjusted by adding +5 to the level. This adjustment is a penalty to account for the adverse subjective response likely to be aroused by sounds containing such characteristics (See s5.3 for compliance assessment for sounds containing special audible characteristics).*

[296] Put in layman's terms, Para 4.4.3 requires that if sound generated by a wind turbine has special audible characteristics then assessment of the sound so generated is to be undertaken by adding 5dBA to the actually measured sound level. Accordingly, if a sound measurement was taken at 35dBA but the sound possessed special audible characteristics, it would be regarded as being 40dBA.

[297] Mr Thorne's proposed Condition 10 had (in effect) imposed the 5dBA penalty for special audible characteristics in advance, his 30 dBA L95 limit being the equivalent of 35dBA L95 for a sound with no special audible characteristics.

[298] Both Mr Thorne and TAG sought to justify the 30 dBA limit on the basis that it avoided uncertainty and debate as to whether or not the sound generated by the turbines to be installed at Motorimu did or did not in fact have special audible characteristics.

[299] Understandably, Mr Hunt for Motorimu considered that it was inappropriate to apply the 5 dBA penalty in advance. In his view it was necessary to experience the sound and noise generated from the wind farm in operation to assess whether or not it did possess special audible characteristics.

[300] Mr Hunt had undertaken his modelling work using the Vestas V52 turbine and was satisfied that turbine did not produce noise with special audible characteristics.



He described the certification process to which turbines were subject, which (inter alia) satisfied him the V52 did not generate noise with special audible characteristics. He acknowledged that Motorimu could establish a different turbine than the V52 but was of the view that Motorimu would be careful to ensure that any alternative turbine chosen had no greater noise output than the V52 because that would ipso facto render the project non-complying.

[301] We think that Motorimu's position is more than justified. In our questioning of the various acoustic witnesses we referred to Mr Thorne's proposed Condition 10 as being a *pre-emptive strike*. By that we meant that the noise standard had been set based on an assumption that sound from the Motorimu turbines would possess special audible characteristics when it might not in fact do so. Mr Hunt was adamant in his view that it would not.

[302] Initially the Court understood that Mr Thorne's concern related to the fact that it might be difficult to ascertain whether or not noise generated by the wind farm did or did not have special audible characteristics. As it transpired, that is not the case. Mr Thorne acknowledged that special audible characteristics are objectively quantifiable, measurable and assessable.<sup>112</sup> He further acknowledged that if special audible characteristics can be properly identified and measured then there was a reasonable degree of certainty in the application of the noise conditions.<sup>113</sup>

[303] All of the acoustics witnesses were familiar with methods for identifying and assessing special audible characteristics. The conditions of consent imposed by the Commissioners provided for that. Under those circumstances we see no justification for the pre-emptive strike approach to Condition 10 as proposed by Mr Thorne.

[304] Accordingly we agree that the conditions of consent ought be amended to contain Condition 10 proposed by Motorimu and the City Council. There will need to be a corresponding amendment made to Condition 9 which is to apply at all times other than when Condition 10 is applicable. TAG suggested that such an amendment was outside the scope of Motorimu's appeal, however paragraph 9.4 of the notice of

<sup>112</sup> Lines 14-17, page 840 NOE.

<sup>113</sup> Lines 16, page 843 NOE.



appeal specifically provides for such further or other relief as the Court might consider appropriate and a consequential amendment of the kind proposed in this case clearly falls within that category.

[305] Finally in this section of the decision we refer to Conditions 27 and 34(c) imposed by the Commissioners. These conditions related to de-rating of turbines to reduce noise levels. We understand de-rating to be a process of reducing sound levels from turbines by changing the blade pitch. All of the noise experts (including Mr Thorne) agreed that such conditions were unnecessary. They may accordingly be deleted from the consent.

[306] The noise conditions which we have discussed are applicable to the consented turbines. There was no suggestion made by Motorimu that similar conditions or standards would not be applicable to the additional turbines should consent be granted to them.

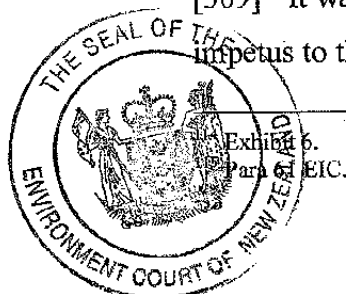
#### *NZS 6808*

[307] Much of TAG's case on noise issues involved an attack on the application of NZS6808 as the starting point for our noise considerations. We are aware that NZS6808 is currently under review. We were provided with a copy of the scoping report which issued in December 2007 setting out the parameters of that review.<sup>114</sup>

[308] Mr Thorne advised that expert witness caucusing in the *West Wind* case concluded that NZS6808 was . . . *workable but had significant issues that needed to be addressed*.<sup>115</sup> The issues which Mr Thorne identified were;

- Determination of background noise levels (L95) prior to the installation of the wind farm;
- The establishment of acceptable noise criteria and methods of measurement and assessment.

[309] It was Mr Thorne's belief that the expert witness caucusing in *West Wind* gave impetus to the review of NZS6808. He further advised that the experts' caucus in that



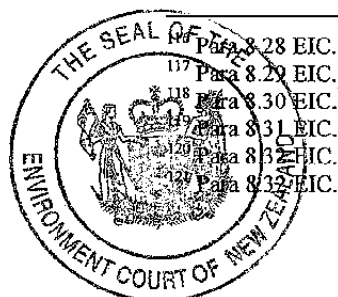
case prepared additional methodologies to supplement the provisions contained in the Standard. We understand that Motorimu incorporated those procedures in its noise management plan in this case.

[310] Dr Shepherd was a considerably more trenchant critic of NZS6808 than was Mr Thorne. The tenor of his evidence can be gleaned from his evidence-in-chief where he included the following heading:

**8.27 Standard NZS6808:1998 The Emperor's New Clothes**

[311] Included amongst the criticisms which Dr Shepherd had of NZS6808 and the current review process were the following:

- The standard has little to do with health and there was a lack of input from medical and health professionals;<sup>116</sup>
- The standard was apparently based on international standards and guidelines which Dr Shepherd considered were themselves based on erroneous measures;<sup>117</sup>
- The size and power output of turbines have increased substantially since the original standard was formulated;<sup>118</sup>
- The current modelling procedures lack ecological validity and unfairly benefit wind farm developers and disadvantage concerned communities;<sup>119</sup>
- There was significant potential for conflicts of interest in the scoping panel and the current orientation of the committee is not towards public health but rather to realise the commercial objectives of the wind turbine industry.<sup>120</sup>
- An unattributed comment that: *This (NZS6808) is the most appropriate standard for the wind turbine industry to sneak too many turbines too close to too many people;*<sup>121</sup>





- An allegation that a previous review of the standard in 2004 was weighted in favour of wind energy and electricity interests and contained only one health expert who . . . *was completely bamboozled with technical jargon from the other members.*<sup>122</sup>
- A contention that dBA is not the correct measure of sound level as it represents only the audible acoustic environment.<sup>123</sup>

Finally, Dr Shepherd contended that *The NZ6808:1998 Standard is dangerous in that wind turbine companies will utilise it to justify noise levels that are clearly detrimental to public health.*<sup>124</sup>

[312] It will be apparent from our brief summary of Dr Shepherd's views above that at least some of his views on the foundations of NZS6808 are based on hearsay, allegations of bias and concerns as to the competence of those who drafted the Standard. We do not think that Dr Shepherd's comments on such matters assisted the Court or advanced TAG's case. We are conscious of the fact that Dr Shepherd was not familiar with Environment Court processes and was providing evidence in these proceedings for an organisation which did not have legal counsel and accordingly may not have been able to assist him in that regard. We take our comments on the concerns expressed by Dr Shepherd no further than that.

[313] The crux of Dr Shepherd's evidence however was that the fundamental approach contained in NZS6808 is wrong. NZS6808 seeks to control the noise effects of wind farms by the application of noise levels. In Dr Shepherd's view the appropriate control is control of noise annoyance which is not the same as noise level. He returned to the issue of noise annoyance regularly throughout the course of his evidence. His position on that regard might be summed up in these terms:

*My take on it, which I've argued today, is that so long as someone can hear the noise then, depending on how they react to it, that is depending on the meaning they assigned to it, . . .*

Para 8.36 EIC.  
 Para 8.36 EIC.  
 Para 8.37 EIC.



*That so long as someone can hear it, then if they're going to interpret it, or take particular meaning from it, then that can cause a level of noise annoyance.*<sup>125</sup>

[314] Dr Shepherd's evidence largely constituted a literature review referring to various studies linking noise (including noise from wind turbine generators) to health problems. He identified psychological factors which might lead to noise annoyance. He referred to studies establishing links between noise annoyance and depression, hypertension and migraines. He identified connections between sleep disturbance from noise and subsequent health consequences of that.

[315] Dr Shepherd was questioned quite extensively by the members of the Court. It was apparent from his answers that he considered that if people could hear any noise from the wind farm at all, irrespective of the level of that noise, then the noise had the potential to cause adverse health effects depending on how the recipient reacted to it.<sup>126</sup>

[316] When asked to identify the factors which could lead to annoyance in recipients, Dr Shepherd identified the following:

- Noise level;
- Psychological parameters personal to the recipients;
- Personality of the recipients;
- Socio economic status of the recipients.

He further considered that there would be a wide range of other variables which might also contribute to annoyance in any given case.<sup>127</sup>

[317] Dr Shepherd appeared to acknowledge the difficulties that there would be for an applicant in trying to identify and assess possible levels of annoyance given the variables which he had identified. However he remained consistent in his view that it



<sup>125</sup> Lines 41-46, page 939 NOE and lines 1-3, page 940 NOE.  
<sup>126</sup> Lines 5-7, page 944 NOE.  
<sup>127</sup> Lines 37-45, page 951 NOE. Lines 1-20, page 952 NOE.

was levels of annoyance which needed to be addressed rather than levels of noise. He contended that annoyance would in turn lead to health problems.

[318] Dr Black was called by Motorimu to address the various issues raised in Dr Shepherd's written evidence. Dr Black testified that he is familiar with the standards' process having participated in the development of a number of standards in New Zealand and overseas. He considered that by the time a standard was published in New Zealand . . . *it has achieved substantial and significant validation by a process of peer review and resolution of issues which have arisen during development.*<sup>128</sup> He did not dispute that standards needed a regular review as the state of knowledge increases, as was being undertaken in the case of NZS6808.

[319] Dr Black agreed that there can be links between noise and health problems. He was of the view however that such a generalism did not apply to noise levels controlled to below 40dBA and noted that the World Health Organisation did not consider levels under 45dBA as a potential cause of health effects.

[320] Dr Black was cross-examined quite extensively on behalf of TAG. He was referred to the evidence of a number of witnesses who presented briefs on TAG's behalf dealing with their concerns about noise received from existing wind farms, in particular the evidence of Mr M J Martin who lives about 3.5 kilometres away from the existing Tararua wind farms. Mr Martin gave evidence about adverse noise effect and sleep disturbance which he had experienced from these wind farms.

[321] Dr Black did not dispute that for a small minority of people there may be an ongoing adverse response to noise received from noise generating activities such as wind farms even when that noise is at quite low levels. He was of the view that in many cases such a response is not a reaction to the noise itself but rather because the noise reminds people of its source. That in turn can generate anxiety about the noise which can have an impact on health. While many people become habituated to such noise, Dr Black acknowledged that there was a small minority who would not do so.



He considered that standards had to be based on what is a normal physiological response to such noise.

[322] Dr Black's evidence was largely confirmed by that of Mr Hegley for Mighty River Power. Mr Hegley was familiar with NZS6808 and acknowledged that it had become operative at a time (1998) before there was any substantial wind farm development in New Zealand. He acknowledged that the standard was a guide and that it might be appropriate to depart from it at times.

[323] Mr Hegley was however confident that NZS6808 was an adequate standard to protect people from unreasonable noise. He acknowledged that there would be times when sound from the wind farm would be audible from houses but that application of NZS6808 guidelines would allow . . . *undisturbed sleep for the majority of people*.<sup>129</sup> In cross-examination he explained that by *majority* he meant in excess of 90 percent<sup>130</sup> whilst acknowledging that there would be those at the extreme end.

[324] A number of the parties before us referred to comments made by the Planning Tribunal in *McIntyre v Christchurch City Council*<sup>131</sup> where it discussed the matter of significance of compliance with a standard. The Tribunal had this to say:

*A party to resource consent proceedings is entitled to rely on compliance with a relevant New Zealand standard as tending to show that effects on the environment of a proposed activity should be acceptable because emissions would not exceed levels set in that document. Absent challenge by another party, a consent authority may treat the standard as setting an appropriate level of emissions that would not have unacceptable effects on the environment.*

*However parties to resource consent proceedings are not bound to accept that compliance with a New Zealand standard would avoid adverse effects on the environment that should be taken into account in deciding whether resource consent should be granted or refused.*



*Because New Zealand standards are not given particular status by law, parties must be free to assert that significant adverse effects on the environment would occur despite compliance with the standard.*

*In practice, New Zealand standards are prepared by committees of people well qualified in the subject, and with consultation with interested sections of the community. The standards are generally accorded respect. So opposition to a resource consent application based on an assertion of significant environmental harm despite compliance with a relevant New Zealand standard would usually need to be supported by expert opinion to be worthy of serious consideration. A mere assertion of harm, without such support, may not be a responsible exercise of a right of appeal.*

[325] *McIntyre* was a case relating to installation of a cell phone tower which complied with the requirements of NZS6609:1990 as to the discharge of radio frequency radiation. The Tribunal held in *McIntyre* that notwithstanding such compliance it was still obliged to consider all of the evidence to determine whether or not there would be adverse effects on the environment from operation of the tower. We accept that is our obligation in this instance.

[326] Having considered all of the evidence however we determine that, in this instance, compliance with the sound levels contained in Conditions 9 and 10 sufficiently protects nearby residents' noise, amenity and health. Condition 9 precisely accords with the acceptable limit of 40dBA L95 contained in NZS6808 and was not subject to debate before us. Condition 10 contains a more stringent standard applicable at quiet night time. We note that the 40dBA level set in NZS6808 is based on an internationally accepted indoor sound level intended to protect against sleep disturbance.<sup>132</sup>

[327] Nothing in the evidence which we heard convinced us that noise emanating from the wind farm at the levels prescribed by Conditions 9 and 10 will have adverse

Para 44 of NZS6808.



health and amenity effects on the community at large. We prefer the evidence of Dr Black to that of Dr Shepherd insofar as that matter is concerned. Having said that we also accept that there may be some members of the community for whom the receipt of any noise at all from the wind farm may be a source of annoyance that has the potential to give rise to sleep deprivation, anxiety and (possibly) consequential health effects. We accept Dr Black's evidence that such persons would be a very small minority of the community, at least some of whom may be predisposed to such sensitivity. We consider that ultimately consideration of noise effects must be based on normal physiological responses and cannot seek to protect those whose sensitivities might be at the higher end of the scale.

[328] The overwhelming weight of evidence was that NZS6808 provided an appropriate level of protection of both amenity and health. Dr Shepherd's proposition that we impose a requirement on Motorimu that no sound audible to its neighbours, at however low a level, be generated by the wind farm was simply untenable.

[329] In making the comments which we have as to the evidence of Dr Shepherd, we do not mean to be dismissive of the concerns raised by TAG and found in the evidence of witnesses such as Mr Martin, whom we found to be a believable witness. It may be that there are noise issues relating to the operation of wind farms which are not fully understood and were not adequately identified in the evidence before us. We think that the place for consideration of such matters is a wider enquiry than that which this Court conducts on an individual resource consent application. Our findings are naturally constrained by the weight of credible evidence before us. We are not conducting a general enquiry into appropriate standards. That is something which might properly be considered by an enquiry such as the current review of NZS6808.

### *Other Effects*

[330] There were a series of other effects raised or commented on by various parties during the course of the hearing. Evidence was given by witnesses as to a number of ~~them~~. We identify and comment briefly on those matters.



- *Traffic Effects*

Although this issue was the matter of some debate before the Commissioners we did not identify any substantive challenge to the evidence of Mr W J Barclay, an experienced traffic engineer called by Motorimu, that the comprehensive set of traffic related conditions imposed on the consented turbines adequately dealt with traffic matters. In the event that consent was granted to the additional turbines, the same conditions would be applicable

- *Construction Effects*

Mr R C Apperley a civil engineer, gave evidence as to the engineering and construction elements of the wind farm development. In summary it was his view that the conditions imposed on the resource consents were reasonable and would ensure that construction effects of development on the wind farm site are appropriately addressed. There was no challenge to that evidence.

- *Cultural, Historical and Archaeological Effects*

Mr J Procter gave evidence on behalf of *Tanenuirangi Manawatu Inc* (TMI) the mandated iwi authority for Rangitaane o Manawatu. Mr Procter gave evidence as to Rangitaane's exercise of Mana Whenua over the Tararua Ranges and their status in Manawatu. He gave evidence as to consultation by Motorimu with Rangitaane and the Memorandum of Collaboration which was entered into between TMI and Motorimu in March 2007. TMI supports the application subject to imposition of Conditions 68, 69 and 70 of consent relating to discovery, protection and excavation of sites. We consider that amenity and landscape issues raised by other Maori witnesses and groups have been appropriately dealt with as part of our wider effects discussions.

- *Ecological Effects*

Ms H I Gabities gave evidence on behalf of Motorimu as to the potential effects that the wind farm might have on local ecosystems. Her evidence was not challenged. The consented turbines are subject to conditions in respect of ecological monitoring, habitat protection, and weed and pest control. There was nothing in the evidence which we heard which might lead us to any



conclusion other than that these issues have been appropriately dealt with by the conditions of consent which the Commissioners imposed.

[331] To the extent necessary we record that we have largely had regard to the findings of the Commissioners in reaching our findings as to the above matters. There was no challenge to the adequacy of the conditions imposed by the Commissioners with regard to these identified effects and nothing in the evidence led us to the view that the conditions imposed on the consented turbines would be inadequate to deal with the additional turbines should we choose to grant consent to any of them.

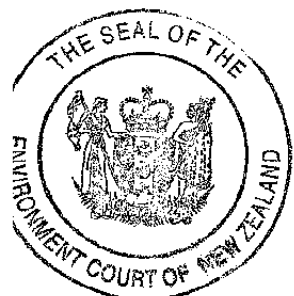
[332] Our discussion of this group of effects has been brief. That is not intended to minimise the importance of these matters but ultimately we are of the view that the outcome of these proceedings revolves more specifically around consideration of the positive effects of the proposal measured against the adverse landscape and amenity effects which we have identified.

#### **Section 104 RMA**

[333] Section 104(1) RMA provides as follows:

*(1) When considering an application for a resource consent and any submissions received, the consent authority must, subject to Part 2, have regard to -*

- (a) any actual and potential effects on the environment of allowing the activity; and*
- (b) any relevant provisions of—*
  - (i) a national policy statement;*
  - (ii) a New Zealand coastal policy statement;*
  - (iii) a regional policy statement or proposed regional policy statement;*
  - (iv) a plan or proposed plan; and*
- (c) any other matter the consent authority considers relevant and reasonably necessary to determine the application.*





[334] Insofar as effects are concerned we refer to the preceding sections of this decision and our summary of the effects considerations which are central to our decision-making in this matter contained in para [54] of this decision.

[335] There is no national policy statement under RMA which gives guidance in relation to the development of renewable energy in general nor on the development of wind farms in particular. Policy guidance would be helpful to consent authorities and this Court in resolving issues such as the conflict between (supposed) national interest on the one hand and adverse effects on neighbours of wind farms on the other.

[336] The RPS contains a number of provisions relevant to our considerations. We refer to our earlier discussion of Objective 8 and Policy 8.3 of that document in the context of the outstanding landscape issue, together with the following provisions of the RPS.

[337] Objective 28 of the RPS is:

*To promote the sustainable management of energy resources.*

Policies which flow from that objective are:

***Policy 28.1***

*To promote the sustainable supply and use of energy resources to meet the needs of the regional community:*

***Policy 28.2***

*To promote the increased use and development of renewable energies resource energy sources where practicable.*

***Policy 28.3***

*To promote efficiency in the use of energy and the implementation of energy efficiency procedures.*

One of the methods which the RPS promotes to implement the policies above is method 28.2 which is to:

*Promote the efficient use and management of energy resources and the adoption and use of renewable energy resources where appropriate.*



[338] We conclude that establishment of the additional turbines is consistent with the provisions of the RPS relating to the use of energy resources.

[339] Neither Mrs Allan for Motorimu nor Mr Baker for the City Council referred us to any specific policies in the City Plan directed at wind farms. We understand that this plan became operative in 2000 so that its drafting largely preceded wind farm development in the Manawatu.

[340] Both witnesses referred to Chapter 9 of the City Plan and Mr Baker appended the relevant sections of this chapter to his evidence. We think that generally they agreed that the following were the relevant provisions of Chapter 9:

***Objective 2***

*To encourage the effective and efficient use of development of the natural and physical resources of the rural area.*

***Policies***

*2.2 To ensure that the adverse effects of activities in the rural area are avoided, remedied or mitigated such that the amenities of the area and nearby urban areas are maintained.*

*2.3 To control the actual or potential environmentally adverse effects of activities in the rural area, including the adverse effects of:*

- *Odour;*
- *Noise;*
- *Traffic;*
- *Visual Impact.*

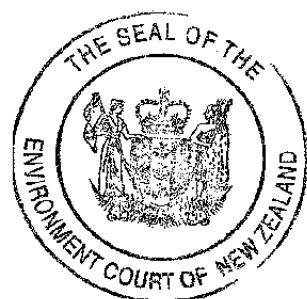
***Objective 3***

*To enhance the quality and natural character of the rural environment.*

***Policies***

*3.1 To provide for the health and safety of rural dwellers by establishing specific noise limits for the rural area.*

*3.3 To control the adverse visual effects on the rural environment (including effects on rural dwellers) of activities that disturb the land surface, introduce buildings, remove and/or process natural material.*



*The Explanation* to Objective 3 and its related policies provides:

*The rural environment has a range of unique qualities which are valued by rural dwellers and those who view or travel through those areas. It is important that the amenity values and general ambience of the rural environment is protected from any adverse effects on them.*

[341] We consider that the establishment of the additional turbines (in most cases) is directly contrary to these objectives and their associated policies. In particular, the policies to which we have referred seek avoidance of adverse effects, maintenance of amenities and control of adverse visual effects. We refer to our earlier findings in the amenities section of this decision.

[342] Insofar as the matter of noise is concerned we refer to Policy 3.1 which is to provide for health and safety of rural dwellers by establishing specific noise limits. NZS6808 has now been incorporated by reference into the City Plan to give effect to that policy.

[343] Neither of the planning witnesses referred us to any provisions in the Horowhenua District Plan directly relevant to wind farming. Objectives and policies which were identified were:

***Objective 3***

*The Management of the effects of activities in the rural environment in a way that maintains or enhances environmental amenity and to enable people in communities to provide for their social, economic and cultural wellbeing and for their health and safety.*

***Policy 3.1***

*Enable the establishment and operation of activities which rely on a location in the rural environment provided they meet minimum environmental standards.*

***Policy 3.4***

*Avoid, remedy or mitigate the impact of buildings on the rural landscape and maintain overall low building density and building height throughout the rural environment.*



**Policy 3.11**

*Maintain overall day and night noise conditions at levels compatible with the amenity and activity present in the rural environment.*

[344] Objective 3 requires the maintenance and enhancement of amenity and the enabling of social, economic and cultural wellbeing as well as health and safety. There is reference to minimum environmental standards, however we were not told what those standards might be.

[345] Having considered the above we concluded that none of the planning documents were determinative of these proceedings.

[346] There are a number of *other matters* to which we have had regard in our considerations. The agreed bundle of documents which the Court received from the parties included, the *New Zealand Energy Efficiency and Conservation Strategy (Action Plan to Maximise Energy Efficiency and Renewable Energy - October 2007)* (NZECS) and the *New Zealand Energy Strategy to 2050 (Towards a Sustainable Low Emissions Energy System - October 2007)* (NZES) as well as the report from the Parliamentary Commissioner for the Environment, *Wind Power, People and Place* to which we have previously referred.

[347] NZECS is directed at the efficient use and consumption of energy. It identifies that it is in New Zealand's longer term environmental interests to meet increases in electricity demand through a mix of renewable energy sources.

[348] NZES identifies a target that 90 percent of New Zealand's energy requirements will be provided through renewable energy generation by 2025. Renewable energy is defined as including wind power which is part of the electricity generation mix identified in the strategy.

[349] Development of the Motorimu wind farm (including the additional turbines) is clearly in general accordance with Government policy directions identified in NZECS and NZES. However, NZES acknowledges the conflicting considerations



which consent authorities are required to take into account in determining applications such as Motorimu's when it states:

*We need to balance the climate change benefits of increasing renewable electricity against the potential impact on the local environment. We will support this balancing act by giving consent authorities guidance on the various trade-offs involved. It is important that the public continues to have confidence that the system and processes are fair and robust.*<sup>133</sup>

[350] That statement precisely encapsulates the issues in this instance. The guidance to be provided will (we assume) come from an appropriate national policy statement which NZES notes is in the course of preparation and which we understand from Mrs Allan might be notified this year.

[351] We refer to our earlier reference to the report of the Parliamentary Commissioner for the Environment and its discussion about Manawatu wind farms. The Report identifies the following matters<sup>134</sup> which (inter alia) need to be given attention in wind farm decision making:

- Dominance effect on dwellings (proximity of turbines);
- The difficulty of assessing effects on visual amenity because of subjectivity;
- Effects on distinct, rural ridgelines, and the appropriateness of siting turbines on them;
- Effects of the scale of wind farms in different landscapes.

We have discussed aspects of these matters earlier in this decision.

[352] The final *other matter* to which we have had regard is the *Horseshoe Bend Management Plan* (July 2000) prepared by the District Council in accordance with the provisions of the Reserves Act 1977. This document was appended to Mr Baker's evidence. The preface to that plan records that:

*Horseshoe Bend is a reserve of significant natural beauty, providing a strategically placed picnic and recreational area to the northern part of the*



Para 4.61, page 23 NZES.

Para 7.42, page 105 Parliamentary Commissioner's Report.

*Horowhenua District. The area is worthy of further development and enhancement.*

The strategy is directed at management of the reserve and is not an RMA document, but it identifies the importance of the Reserve to the Manawatu and Horowhenua communities.

## **Part 2**

[353] In light of the findings in the preceding sections of this decision we now consider whether or not consent ought to be granted to the additional turbines. That requires us to determine whether or not granting consent achieves the purpose of the Act, namely promotion of the sustainable management of natural and physical resources. Sustainable management is defined in RMA in these terms.

*In this Act sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while –*

- (a) *Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
- (b) *Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and*
- (c) *Avoiding, remedying or mitigating any adverse effects of activities on the environment.*<sup>135</sup>

[354] Natural and physical resources are defined as including . . . *land, water, air, soil, minerals, and energy, all forms of plants and animals (whether native to New Zealand or introduced), and all structures.*<sup>136</sup>

[355] The wind which will drive Motorimu's turbines is a natural and physical resource as is the land upon which it wishes to construct its wind farm, the land surrounding the wind farm site and the houses and other improvements which Motorimu's neighbours have constructed on their land. In reaching our decision we

<sup>135</sup> Section 5 (2 RMA).  
<sup>136</sup> Section 3 RMA.



must seek to manage the use, development and protection of all of these resources and in doing so we must have regard to the provisions of s6, 7 and 8 RMA.

[356] Section 6 identifies various matters of national importance which we are required to recognise and provide for. We do not consider that any of these matters are of relevance in determining this appeal.

[357] Section 7 requires us to have *particular regard* to a number of matters in reaching our decision. We consider that the following s 7 matters are relevant to our considerations.

- *The ethic of stewardship*<sup>137</sup>

In the *West Wind* decision the Court discussed the concept of stewardship, firstly in the context of preserving the landscape unaltered, and secondly, allowing some compromise of amenity to take advantage of non-polluting and renewable sources of energy. The Court in that case favoured the second alternative, as long as the compromises . . . *do not impose unreasonable burdens on communities, individuals or the receiving environment.*<sup>138</sup>

- *The efficient use and development of natural and physical resources*<sup>139</sup>

There can be little doubt that allowing establishment of the additional turbines would represent an efficient use of Manawatu's wind resource. The ridgeline where the additional turbines are to be situated will be the most productive section of the wind farm. Granting consent would ensure that the wind farm would proceed as it would then be a viable proposition for Motorimu under its present ownership.

- *The maintenance and enhancement of amenity values*<sup>140</sup>

Establishment of the many additional turbines will not maintain and enhance the amenity values of those persons living near the wind farm site. The additional turbines will substantially diminish the amenity values of the nearby community. That diminution will be brought about by the turbines dominating



<sup>137</sup> Section 7(aa) RMA.

<sup>138</sup> Para 369 *West Wind* decision.

<sup>139</sup> Section 7(b) RMA.

<sup>140</sup> Section 7(c) RMA.

the ridgeline which is a significant visual amenity to nearby residents and by the turbines dominating the neighbouring properties themselves. The factors which particularly led us to these amenity conclusions were the proximity of the additional turbines to the neighbouring community with at least 45 (and possibly more) houses within 2 kilometres of the site and the elevation of the turbines combined with the numbers of turbines within the immediate views of neighbouring properties. The amenity values of Horseshoe Bend Reserve will also be substantially diminished by the dominating presence of those turbines.

- *Maintenance and enhancement of the quality of the environment*<sup>141</sup>

Establishment of the additional turbines will not maintain and enhance the quality of the environment. The quality of the landscape in particular will be diminished as a consequence of establishment of the additional turbines along the Te Mata-Kaihinu ridgeline, at Kaihinu and at Horseshoe Bend.

- *Any finite characteristics of natural and physical resources*<sup>142</sup>

Manawatu's wind resource is of national significance. It is a finite resource in the sense that prime wind farm sites are limited both locally and nationally. The additional turbines will make efficient use of the finite wind resource which is available at this site.

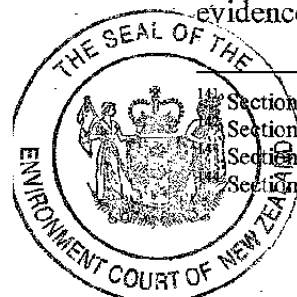
- *The effects of climate change.*<sup>143</sup>

- *The benefits to be derived from the use and development of renewable energy.*<sup>144</sup>

We include these two matters together. Establishment of the additional turbines will contribute (albeit in a small way) to New Zealand meeting its obligations under the Kyoto protocol and achieving its objective of 90 percent generation from renewable energy sources by 2025.

[358] Section 8 RMA requires us to take into account the principles of the Treaty of Waitangi in the decision making process, however we did not consider that the evidence in this instance identified any such issues which required particular attention

Section 7(f) RMA.  
Section 7(g) RMA.  
Section 7(i) RMA.  
Section 7(j) RMA.





in light of the Memorandum of Collaboration between Motorimu and TMI and conditions imposed by the Commissioners.

[359] In reaching a conclusion as to whether or not the grant of consent to the additional turbines achieves the purpose of sustainable management, we must compare the conflicting considerations in this case of allowing further use and development of the Manawatu wind resource on the one hand and the adverse effects to be visited (particularly) on its neighbours on the other hand.

[360] Development of renewable energy resources (including wind power) reflects current Government policy, although it is not as yet embodied in a national policy statement under RMA. We did not understand Motorimu to suggest that establishment of the additional turbines was a matter of such significance that their establishment ought to proceed notwithstanding the adverse effects which we have identified. We refer to our finding that even if the additional turbines are not established there is a reasonable expectation that a wind farm incorporating the consented turbines may be established on the Motorimu site, albeit a less productive wind farm than one incorporating the additional turbines as well.

[361] We have found that there will be significant adverse effects on the Motorimu landscape and on the amenity of the neighbours of the wind farm should many of the additional turbines be established. The mere fact that there are such adverse effects does not of itself mean that consent must be declined. Ultimately it is a matter of weighing the relative scale and significance of the beneficial and adverse effects in achieving sustainable management. In that respect RMA does not attach any greater emphasis to the climate change and renewable energy matters which we are required to have particular regard to, than it does to the maintenance and enhancement of amenity values and the quality of the environment. All of these factors must be considered pursuant to s7 RMA.

[362] Ultimately we consider that the adverse effects of the additional turbines on the Motorimu landscape combined with the adverse effects on the nearby community's amenity go too far in this case and impose an unreasonable burden on the neighbours of the Motorimu site. We return to the factors of proximity of the



turbines to their neighbours, elevation of the turbines above the nearby properties and numbers of turbines along the ridgeline in that close and elevated situation which lead us to that conclusion.

*Outcome*

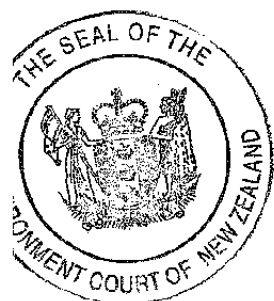
[363] We accordingly decline the appeal in respect of the additional turbines on the Front Ridge, except for the subset of additional turbines numbers 60, 69, 73, and 81, which are considerably less problematic in terms of effect on their neighbours. Consent is granted to turbines 60, 69, 73 and 81.

[364] Insofar as the Horseshoe Bend additional turbines are concerned we decline consent to those and in doing so refer additionally to the adverse effects which we consider those turbines will have on the amenity values of the Horseshoe Bend Reserve. Consent is granted to turbine 42 which Mr Lister had included in this group, although we have not considered it as such.


[365] Insofar as the Kaihinu additional turbines are concerned, the evidence of the Applicant did not satisfy us that these turbines could be established without significant adverse effect, particularly insofar as these turbines extend the wind farm out of the basin and valleys where the consented turbines are contained. Accordingly the appeal is declined in respect of the Kaihinu turbines.

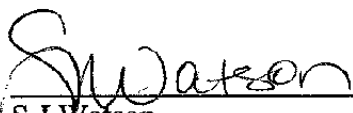
[366] We uphold Motorimu's appeal in respect of Condition 10 and Conditions 27 and 34(c) and request Motorimu and the City Council to submit a fresh set of conditions reflecting this decision for execution under seal.

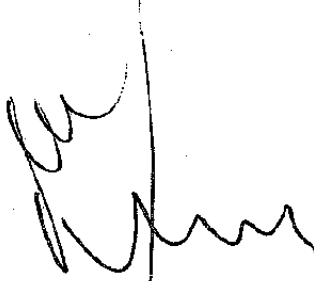
[367] Costs are reserved. Any party who or which wishes to make a costs application shall do so and other parties shall respond in accordance with note 4.5.6 of the Court's Consolidated Practice Note 2006.



DATED at WELLINGTON this 26<sup>th</sup> day of September 2008

  
\_\_\_\_\_  
J R Mills  
Environment Commissioner

  
\_\_\_\_\_  
S J Watson  
Environment Commissioner

  
\_\_\_\_\_  
B P Dwyer  
Environment Judge

