NEW SOUTH WALES LAND AND ENVIRONMENT COURT

Taralga Landscape Guardians Inc v Minister for Planning and Another

[2007] NSWLEC 59

Preston J

4-8 September, 1, 3, 6, 10 November 2006, 12 February 2007

Development — Ecologically sustainable development — Development of new energy resources — Climate change issues — Renewable energy — Intergenerational equity — Conditions of development consent founded on precautionary principle and polluter pays principle — Wind turbines — Electricity Supply Act 1995 (NSW), Pt 8A — Environmental Planning and Assessment Act 1979 (NSW), ss 5(a), 76A(7), 79, 79C, 80, 81, 88A, 91, 98, Sch 6 cl 89 — Environmental Planning and Assessment Regulation 2000 (NSW), regs 8J(4), 8J(6).

Compensation — General planning controls — Wind turbines — Visual impact — Whether compensation should be payable for "blight" suffered by properties affected by development — Environmental Planning and Assessment Act 1979 (NSW), s 5(a)(ii).

Ecologically Sustainable Development — Precautionary principle — Polluter pays principle — Conditions of development consent founded on precautionary principle and polluter pays principle — Wind turbines — Visual impact — Noise impact — Impact on flora and fauna — Electricity Supply Act 1995 (NSW), Pt 8A — Environmental Planning and Assessment Act 1979 (NSW), ss 5(a), 76A(7), 79, 79C, 80, 81, 88A, 91, 98, Sch 6 cl 89 — Environmental Planning and Assessment Regulation 2000 (NSW), regs 8J(4), 8J(6).

Ecologically Sustainable Development — Intergenerational equity — Production of energy — Attainment of intergenerational equity in production of energy — Involves sustainable exploitation and use of non-renewable resources and substitution of energy sources that result in less greenhouse gas emissions for those that result in more.

The second respondent sought development consent for construction of a set of 69 wind turbines, and associated infrastructure works, on land at Taralga. The first respondent granted development consent. The development was designated development.

The history and rural landscape of Taralga was not accorded any particular intrinsic value of its own by the National Trust.

Section 5(a)(ii) of the Environmental Planning and Assessment Act 1979 (NSW) provided:

> The objects of this Act are:
>
> (a) to encourage:
>
> (i) …
>
> (ii) the promotion and co-ordination of the orderly and economic use and development of land …

Held: (1) The principles of sustainable development are central to any decision-making process concerning the development of new energy resources. One of the key principles underlying the notion of sustainable development is the concept of intergenerational equity.

(2) The attainment of intergenerational equity in the production of energy involves meeting at least two requirements. The first is that the mining of and subsequent use in the production of energy of finite, fossil fuel resources need to be sustainable. Sustainability refers not only to the exploitation and use of the resource (including rational and prudent use and the elimination of waste) but also to the environment in which the exploitation and use takes place and which may be affected. The second requirement is, as far as is practicable, to increasingly substitute energy sources that result in less greenhouse emissions for energy sources that result in more greenhouse gas emissions, thereby reducing the cumulative and long-term effects caused by anthropogenic climate change.

(3) The insertion of a single industrial structure (being a turbine) into the rural landscape would not be so antithetic to the landscape generally or to the outlook from the village specifically as to warrant its rejection.

(4) A disaggregation approach rather than an aggregation approach should be adopted to assess the visual impact of the total project, considering whether it is necessary or appropriate to remove elements if the present total project would have an unacceptable impact but that some lesser (but still viable) project might be approved.

(5) Anything other than removal of a comparatively small number of turbines would render the project uneconomic.

(6) There was no compelling general visual impact basis upon which to adopt any one of the four major modification options as there was no such option which would achieve both a significant visual impact benefit for the village and leave a wind farm which would be economically viable.

Tenacity Consulting Pty Ltd v Warringah Council (2004) 134 LGERA 23 at [25]-[29], referred to.

(7) Creating a right to compensation for "blight" caused by a development would strike at the basis of the conventional framework of land use planning and be contrary to the objective in s 5(a)(ii) of the *Environmental Planning and Assessment Act 1979* (NSW).

(8) Noise and visual impacts at two properties were unacceptable. Conditions should be imposed to provide the owners of those properties with the option of requiring the second respondent to acquire the properties.

(9) The flora impacts should be the subject of conditions of consent. Conditions, founded on the precautionary principle, should be imposed to ensure the taking of measures to deal with any occurrences of threatened flora or native grasslands, if they are discovered subsequent to or during construction of the windfarm.

(10) The likely maximum fatality rate of three wedge-tailed eagles per annum was undesirable, but did not warrant refusal.

(11) A polluter pays approach to environmental harm should be adopted. A compensatory payment should be payable upon each eagle death. This results in

the environmental costs of the loss of biota being internalised by the person causing that loss.

(12) In order to ensure that there is some linkage between such compensation and likely positive future outcomes for the species affected, such compensatory payment should be made to New South Wales Wildlife Information Rescue and Education Service Inc.

(13) The project promoted the broader public good of increasing the supply of renewable energy. The overall public benefits outweighed any private disbenefits to the Taralga community or specific owners. Discussion of the policy framework for considering applications for development of new energy resources, including issues of climate change, sustainable development and renewable energy.

Cases Cited

Genesis Power Ltd v Franklin District Council [2005] NZRMA 541.

Tenacity Consulting Pty Ltd v Warringah Council (2004) 134 LGERA 23.

Appeal

The applicant appealed against the decision of the first respondent to grant consent to the second respondent's application for development consent for construction of wind turbines and associated infrastructure works on land at Taralga. The facts of the case are set out in the judgment.

R O'Gorman-Hughes, for the applicant.

P Clay, for the first respondent.

A Pickles, for the second respondent.

Cur adv vult

12 February 2007

Preston J.

Prologue

1 The insertion of wind turbines into a non-industrial landscape is perceived by many as a radical change which confronts their present reality. However, those perceptions come in differing hues. To residents, such as members of Taralga Landscape Guardians Inc (the Guardians), the change is stark and negative. It would represent a blight and the confrontation is with their enjoyment of their rural setting.

2 To others, however, the change is positive. It would represent an opportunity to shift from societal dependence on high emission fossil fuels to renewable energy sources. For them, the confrontation is beneficial – being one much needed step in policy settings confronting carbon emissions and global warming.

3 Resolving this conundrum – the conflict between the geographically narrower concerns of the Guardians and the broader public good of increasing the supply of renewable energy – has not been easy. However, I have concluded that, on balance, the broader public good must prevail. The reasons for doing so are set out in the body of this judgment.

4 Having said that, as discussed in more detail below, these proceedings have resulted in a better development with greater environmental protection – including now providing a public "right to know" as the development unfolds.

5 Finally, as also discussed more fully below, the Court's role has enabled the inclusion of a range of conditions founded on the precautionary principle. These

include, for example, new conditions to ensure measures are available to deal with any occurrences of threatened flora or grasslands if they are subsequently discovered during construction of the windfarm.

6 It is important to note that these conditions only emerged as a consequence of the third-party right of appeal to the Court – exercised by the Guardians – against the Minister's approval of the project.

7 Whilst, no doubt, the Guardians will be disappointed with the Court's decision, their launching of an appeal and the Court's hearing and determination of it have made the development of this windfarm a significantly more environmentally responsible project than that originally approved.

8 In hearing and determining this appeal, I have been greatly assisted by Commissioner Moore.

The proposal

9 The proponent, RES Southern Cross, lodged Development Application 241/04 with Upper Lachlan Shire Council on 10 November 2004.

10 On 15 December 2004, the Minister for Infrastructure and Planning (the Minister) directed Upper Lachlan Shire Council (the Council) to refer DA 241/04 to the Minister for determination under s 88A of the *Environmental Planning and Assessment Act 1979* (NSW) (the Act).

11 RES Southern Cross seeks consent to construct and operate a windfarm at Taralga. Taralga is about 140 km south west of Sydney. It is 38 km east of Crookwell and 35 km north of Goulburn.

12 The proponent originally proposed to:

1. Construct and operate 69 wind turbines each consisting of a 65 m tower, nacelle and 3 × 45 m long fibreglass blades;
2. Construct a network of unsealed site tracks to access each turbine; install a transformer unit next to each turbine;
3. Construct and operate an electrical substation and control building;
4. Construct and operate a network of 33kV underground electrical cables, connecting each turbine to the electrical substation;
5. Construct and operate 2 single overhead power poles linking the turbine rows to the electrical substation; and
6. Construct a TV re-transmitter tower.

13 On 1 March 2005, RES Southern Cross amended its application by reducing the number of wind turbines it was seeking from 69 to 62 because it did not have landowner's consent for seven turbines which were proposed to be located upon a property known locally as "Omaru".

The geographic context

14 The windfarm will be built along ridgelines that stretch about 11 km north to south across a number of privately owned rural land holdings and one parcel of vacant Crown land. These privately owned rural land holdings are described as "associated properties" (a concept discussed further below).

15 The associated properties and the parcel of vacant Crown land total about 3,830 hectares. The associated properties are located between about 3 km and about 7 km east of the village of Taralga.

16 The associated properties are known locally as "Circle C", "Greenhills", "Killarney", "Montrose", "Rossville", "Selection", "Summerlea", "The Meadows", "Tyrol" and "Woolbrook".

17 Development is proposed to be situated at various locations on these associated properties and the parcel of vacant Crown land. The associated properties and the parcel of vacant Crown are largely surrounded by other rural properties.

18 There are 11 dwellings located within about 1 km of a turbine with seven of these dwellings being located on associated properties.

Associated properties

19 The concept of associated property is relevant when addressing a number of the technical issues, particularly those of noise impact and its consideration against the South Australian Environmental Noise Guidelines: Wind Farms (2003) (the SA guidelines).

20 Although dealt with more fully when the issue of noise is discussed, it is to be noted that, as a consequence of the voluntary acceptance of a property owner of a commercial relationship with RES Southern Cross, a less stringent approach is taken with respect to impacts on such associated properties. Interestingly, as also discussed later, an academic study by Pedersen and Waye, "Perception and annoyance due to wind turbine noise – a dose-response relationship" (2004) 116 *Journal of the Acoustical Society of America* at 3460 shows that those who voluntarily accept a windfarm are less likely to react adversely to its noise impacts.

The planning framework

21 The proposal is subject to the *Mulwaree Local Environmental Plan 1995* (NSW) (the LEP), and Development Control Plan – Wind Power Generation 2005 (the DCP).

22 The land is zoned 1(a) – General Rural under the LEP. The proposed development is permissible with development consent as an innominate use under the LEP.

23 Although the DCP came into existence after this application was lodged, a number of its controls, as discussed later, provide some assistance in individual instances.

24 As a consequence of a direction under s 88A of the Act made by the Minister on 15 December 2004 and by the operation, at that time, of cl 89, Sch 6 of the Act and cl 8J(4) and (6) of the *Environmental Planning and Assessment Regulation 2000* (NSW) (the Regulation), the development became State Significant Development under s 76A(7)(c) of the Act.

25 The development is designated development under cl 18 (1) (c) of Sch 3 of the Regulation, being an electricity generating station which supplies or is capable of supplying more than 30MW of electrical power from other energy sources.

26 The development application was accompanied by a two volume Environmental Impact Statement – Taralga Wind Farm Environmental Impact Statement (the EIS) prepared by Geolyse and dated November 2004.

27 The development proposal constitutes integrated development under s 91 of the Act.

28 The development requires the following:

1. An Environment Protection Licence from the Department of Environment and Conservation under the *Protection of the Environment Operations Act 1997* (NSW);

2. A permit from the Department of Natural Resources under Part 3A of the *Rivers and Foreshores Improvement Act 1948* (NSW) for proposed works in the vicinity of the Wollondilly River;
3. A consent from the Upper Lachlan Shire Council with the concurrence of the Roads and Traffic Authority (RTA) under the *Roads Act 1993* (NSW) for proposed works relating to a public road; and
4. A consent from the Department of Lands under the *Roads Act* for proposed works relating to a Crown Road.

29 The Minister received general terms of approval from each of the relevant approval bodies indicating the terms under which they would be prepared to issue their permission.

30 The EIS indicated that, since the proposal would not impact on any matters of National Environmental Significance, an approval from the Commonwealth Minister for the Environment and Heritage under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) would not be required. The proposal was, as a consequence, not referred to the Commonwealth.

The Minister's assessment process and determination

31 The application and the EIS for the development were publicly exhibited from 19 November 2004 until 31 January 2005.

32 Nearby landowners and occupiers were notified of the development application by letter in accordance with s 79 of the Act and the Regulations.

33 The development application was advertised in accordance with s 79 of the Act and the Regulations in the Goulburn Post on 19 November and 22 December, 2004.

34 The development application was exhibited in accordance with s 79 of the Act and the Regulations at:

1. The Department of Planning's Head Office, Sydney;
2. Upper Lachlan Shire Council's Head Office, Crookwell;
3. Upper Lachlan Shire Council's library, Crookwell;
4. Goulburn Mulwaree Council; and
5. Taralga Post Office.

35 A total of 228 submissions were received in response to the exhibition of the proposal. The Minister's statement of basic facts notes that the following submissions were received:

1. Seven submissions from Government bodies (six State bodies and the Civil Aviation Safety Authority); and
2. 218 submissions from the public and special interest groups (of which 165 objected to the proposal, 30 supported the proposal, and 23 raised issues of concern regarding the proposal but did not state a clear position on whether they supported or objected to the proposal).

36 In addition, two petitions were received during the exhibition period. One was in favour (signed by 168 individuals) and one opposed (signed by 113 individuals).

37 On 17 January 2006, the Minister approved the application under s 80 of the Act, subject to a broad range of conditions of consent.

38 The conditions included one deferring commencement of the consent until necessary approvals have been obtained for the construction of a transmission

line to enable the connection of the windfarm to the electricity grid as this does not form part of the application. Such connection, as is proposed by RES Southern Cross, would be to the main State grid at Marulan.

39 The Minister required the removal of Row 1 (turbines TI to T4) and Row 13 (turbines T59 to T62) due to what the Minister considered were unacceptable visual amenity impacts. Although the Minister also did not give consent for Row 2 (turbines T5 to T8), he indicated that consent for them would be possible, subject to their relocation to address visual amenity impacts.

40 The Minister's determination was notified under s 81 of the Act by letter dated 30 January 2006. Two objectors were notified in a subsequent letter dated 13 February 2006.

41 An advertisement notifying the Minister's determination was placed in two local newspapers – the *Goulburn Post* (3 February 2006) and the *Crookwell Gazette* (7 February 2006).

The Guardians

42 This appeal has been brought by Taralga Landscape Guardians Inc, an incorporated community association, whose members reside in or around Taralga or who have landholdings in the village or in the immediate district. A number of them have businesses in the village. Some are not permanent residents but intend to be so in the future.

43 Not all objectors from whom evidence was heard were members of the Guardians.

44 The Guardians raise objections with respect to the impacts they say will be wrought on the village of Taralga and on the surrounding countryside (which impacts, they say, are contrary to the public interest) as well as putting, legitimately, a number of matters of specific individual impact on particular properties or dwellings.

45 On the other hand, evidence was also given by members of the community who supported the proposal and, as noted elsewhere in the context of the Minister's assessment and approval process, public submissions have been made which both oppose and support the project.

The statutory basis of the appeal

46 The Guardians' right of appeal arises pursuant to s 98(1) of the Act as the proposal is for designated development and the Guardians were an organisation which lodged an objection to the proposal.

Description of the view

47 A full day inspection was made on 4 September 2006. The sites visited were:

1. A number of public and private perspectives in the village;
2. The Stonequarry Cemetery – about 5 km north west of the village;
3. The Hillview and Goulburn Roads intersection (4 [in black] and A [in red] on the map described in (62) below);
4. A vantage point to the north of the village on the Wombeyan Caves road;
5. A vantage point to the west of the village on the Crookwell road;
6. The location of turbine T 42 – being a location appropriate to gain some understanding of issues with respect to native grassland (an endangered ecological community potentially impacted by the development);

7. The Ross property (H 12) (also Ross [in red] on the map);
8. Ms Brown's property (H13) (also 3A [in red] on the map);
9. Ms Alders' property;
10. Cushendall vineyard (8A [in red] on the map);
11. The Polley property (14 [in red] on the map); and
12. Cloverlee (K [in blue] and Kerridge [in red] on the map).

48 The inspection also included a visit to the existing windfarm at Crookwell. Although this windfarm was not operating and it comprises a smaller number of turbines which are smaller in dimension than those proposed for Taralga and is not readily visible from the town of Crookwell, it did provide a useful broad landscape context for consideration of the much larger sized and numbered turbines proposed at Taralga.

Taralga and its setting

49 The National Trust of Australia (New South Wales) (the National Trust) classified Taralga Village in 1981. The identification was specifically for the "Taralga Urban Conservation Area". The National Trust's listing register gave the following description of the village and its history:

> The country around the present township of Taralga was first explored in May 1819 by Charles Throsby. The present site of Taralga was within grants given to James Macarthur and William Macarthur in 1824 and later.
>
> The settlement at Taralga thus appears to have been a "private village" of the Macarthur family but by the late 1850s a town had developed. The economy of the town has been principally based on wool and sheep since its inception. Peak population was 723 in 1891. Taralga is 45km (28 miles) north west of Goulburn in the north west corner off the County of Argyle. It is 915 metres (3,000 feet) above sea level. The country is undulating with rich volcanic soil interspersed with rocky patches.
>
> The town is attractively situated between three hills. Buildings are one or two storey, of local stone, wood or brick and dispersed. The openness of the town is further emphasised by a swamp area which effectively breaks the town in two. Two significant beautiful rows of poplar trees along Orchard Street cross this swampy area. This street has also fortunately seen the undergrounding of all electric wiring.
>
> There is relatively little unsympathetic development anywhere in the town.

50 The National Trust gave the following reasons for its listing of the "Taralga Urban Conservation Area":

> Taralga has no great architecture nor has it any nineteenth century "boom time" buildings. What it does have are a number of fairly well preserved buildings – particularly in stone – which still convey quite well the feeling of modest country town architecture of the 1850s and 1860s. A handsome urban group around the former Courthouse at the southern end of Orchard Street is complemented by a similar if less important group at the northern end. The whole impression of the town however is one of "buildings within landscape". On the evidence of old photographs this "openness" has always been evident.

51 In addition, the Catholic Church in the village (the Church of Christ the King) was listed on the State Heritage register in April 2004. There is no suggestion that the proposal will have any specific impact on this heritage item.

52 The Stonequarry Cemetery, the Taralga courthouse and the Taralga war memorial were all listed on the Commonwealth Register of the National Estate. The concept of listing on the Register of the National Estate was repealed (as

was the Register itself) by the *Environment Protection and Biodiversity Conservation Act* (Cth). These places have not been listed under Part 15 Division 1A of this new Act. However, there is also no suggestion that the proposal will have any specific impact on any of these items.

53 Although there are a number of dwellings in semi-rural settings reasonably close to the village, such as the Polley residence discussed specifically elsewhere, the village is, in general terms, a compact settlement.

54 Although not located in a geographically distinct valley, nonetheless, the surrounding topography is such that the village is effectively located on a gentle eastward facing slope of an elongated bowl in the regional landscape. Along the eastern rim of this bowl is the location of the windfarm.

55 Although the thirteen rows of turbines do not all have the same north-south axis, the overall general orientation of the proposal can be described as being on such an axis along a range of ridges so that, in some parts, at least when viewed from the village, the rows of turbines stand at least two deep in the landscape.

56 For reasons which will become obvious later, it is to be noted that Bannaby Road runs to the east from the village. It effectively divides the proposed windfarm into two (very roughly) equal portions of (again very roughly) equal elements of visual intrusion into the landscape.

57 Five photomontages were prepared by RES Southern Cross. These were prepared for views from four locations – two being prepared for the outlook from the centre of the village in order to encompass the view width of the panorama at that point. Each of these photomontages has three separate elements:

1. The first shows the present landscape from that vantage point;
2. The second imposes the turbines but removes the intervening landscape elements by imposing a monochrome foreground; and
3. The final one, by the reinsertion of the landscape elements, is a composite which puts the turbines in the current landscape context.

58 A number of photomontages were also prepared by objectors to give a perspective of the view from a specifically impacted location.

59 Whilst I do not accept that these photomontages (whether from RES Southern Cross or the objectors) are precise, they nonetheless provide between them a very useful collation of impressions of the proposal in a variety of settings.

60 It is not possible in this judgment to reproduce all of these photomontages. However, in order to present some sense of the proposal, the photomontage prepared for RES Southern Cross, as at the Hillview and Goulburn Roads intersection, has been attached in two images (as it is not possible to include it as a single image attached to this judgment). It shows the proposal looking to the north east from a point roughly equal to the proposal's southern extremity.

61 Although not a perspective from the village itself, this photomontage has been included as it represents a "gateway" view of the proposal. Such a view would be one of the first public views of the windfarm from the predominant entry road to the village.

62 Also attached to this judgment is a Taralga district map which shows:

1. The location of the village;
2. The location of the various rows of turbines;
3. The support elements of the proposal (service roads, substations and transmission lines);

4. The location of various rural and semi-rural dwellings about which assessments of the proposals impact needs to be made;
5. The location of the rural dwellings on associated properties; and
6. A number of handwritten annotations made during the hearing (for example, A1, A2 and A 3 are location on Ms Alders' property where stops were made during the site inspection). Where relevant, these annotations are referred to in this judgment.

63 Each row of turbines is numbered (from Row 1 in the south west to Row 13 in the north) and each turbine is also numbered (T1 at the southern end of Row 1 to T62 at the northern end of Row 13).

64 With one exception (a rural dwelling known as "The Farm"), these dwellings have been identified on the map with the letter "H" (for "house") and a designating numeral – for example, the Ross house is marked as "H12". When discussing later the impacts on certain dwellings, the relevant map citation will be given at the introduction of that discussion.

65 The rural properties named in [16] above are not to be purchased by RES Southern Cross. These properties are ones whose owners have agreed, on commercial terms, to host the various elements of the proposal. As a consequence of these commercial relationships between RES Southern Cross and those owners, these properties are designated as associated properties.

66 One further property, H3, (whose owners originally were objectors) is now an associated property as RES Southern Cross has negotiated to purchase it although it will not host any element of the proposal. This latter point is merely noted to permit understanding of the map.

Policy framework

Climate change

67 Addressing the implications of climate change involves a complex intersection of political, economic and social considerations. It is widely recognised that the state of the global environment is in rapid decline, requiring an urgent response if the current quality of life enjoyed by most Australians is to continue and future generations are to have access to the resources of the present.

68 The Intergovernmental Panel on Climate Change (IPCC) has catalogued the increasing levels of atmospheric greenhouse gases and the processes affecting climate change in recent years. Its 2001 report compiles the research of hundreds of scientists around the world and is approved by the IPCC member countries, including Australia: Intergovernmental Panel on Climate Change, Climate Change 2001 – IPCC Third Assessment Report. It estimates that the rate of global warming over the 20th century is much greater than in the previous nine centuries and it is considered likely that the 1990s was the warmest decade of the millennium. Over the twentieth century the global average surface temperature (the average of near surface air temperature over land, and sea surface temperature) has increased by 0.6 degrees Celsius (+ or – 0.2 degrees Celsius): Intergovernmental Panel on Climate Change, "Summary for Policymakers", Climate Change 2001: The Scientific Basis, IPCC Third Assessment Report at 1.

69 The most recent IPCC Report, released earlier this month, makes it clear that the effects of human behaviour on climate change are impossible to ignore: Intergovernmental Panel on Climate Change, IPCC WGI Fourth Assessment

Report, Climate Change 2007: The Physical Science Basis, "Summary for Policymakers" (as at 8 February 2006). This IPCC report concludes that global atmospheric concentrations of carbon dioxide, methane and nitrous oxide have increased markedly as a result of human activities since 1750 and now far exceed pre-industrial values. It attributes these changes primarily to "fossil fuel use and land-use change, while those of methane and nitrous oxide are primarily due to agriculture": at 2.

70 Although natural and human ecosystems are adaptive in nature, the rate at which the global climate is changing outweighs the rate at which these systems can adjust. Available data indicates that regional climate changes have already affected a wide range of physical and biological systems across the world. Examples given by the IPCC of the effects of climate change include the shrinkage of glaciers, thawing of permafrost, later freezing and earlier break-up of ice on rivers and lakes, lengthening of mid- to high-latitude growing seasons, poleward and altitudinal shifts of plant and animal ranges, declines of some plant and animal populations, and earlier flowering of trees, emergence of insects, and egg-laying in birds, as well as the death of coral reefs, atolls and mangroves. Although some species may thrive under the new conditions, many of these systems will be irreversibly damaged: Intergovernmental Panel on Climate Change, "Summary for Policymakers", Climate Change 2001:Impacts, Adaptation and Vulnerability, IPCC Third Assessment Report, at 2.1-2.3. The most recent IPCC Report states that average Arctic temperatures have increased at almost twice the global average rate in the past 100 years: Intergovernmental Panel on Climate Change, IPCC WGI Fourth Assessment Report, Climate Change 2007: The Physical Science Basis, "Summary for Policymakers", at 8. In Australia, the effects of global warming are likely to have serious effects on Australia's natural environment, such as on the Great Barrier Reef.

71 Human systems are also vulnerable to the effects of climate change, especially in relation to water resources and agriculture: Intergovernmental Panel on Climate Change, "Summary for Policymakers", Climate Change 2001: Impacts, Adaptation and Vulnerability, IPCC Third Assessment Report, at 2.4. Many of these effects will be manifested in natural disasters including droughts, floods and avalanches. They will also have a disproportionate impact on impoverished people as those with the least resources have the least capacity to adapt: Intergovernmental Panel on Climate Change, "Summary for Policymakers", Climate Change 2001: Impacts, Adaptation and Vulnerability, IPCC Third Assessment Report, at 2.8. In Australia, climate change seriously threatens to compound the desperate situation in Australia's rural and drought-affected areas.

Energy industry

72 The difficulty facing governments globally is how to deal with the implications of climate change while continuing to meet the needs of growing populations. In 2004, the net emissions of greenhouse gases in Australia are estimated to have been 525.7 Mt (CO2-e). By comparison, net emissions were 507.5 Mt in 2003 and 499.9 Mt in 1990. The energy industry is by far the largest contributor to greenhouse gas emissions. The combined energy subsectors (stationary energy, transport and fugitive emissions from fossil fuel extraction and distribution) accounted for 74% of the total emissions described above: Australia's National Greenhouse Accounts – National Inventory Report 2004 (Revised) – *Volume 1: The Australian Government Submission to the*

United Nations Framework Convention on Climate Change 2006, Australian Greenhouse Office, Department of Environment and Heritage at 2. Compounding this situation is that in the past two decades electricity demand in Australia has almost doubled: Securing Australia's Energy Future, Australian Government, 2002 at 37. In addition, the projected electricity needs of the population indicate further growth of 50 per cent in the period prior to 2020, making large-scale new developments in infrastructure and energy resources a necessity: Securing Australia's Energy Future, Australian Government, 2002 at 2.

Sustainable development

73 The principles of sustainable development are central to any decision-making process concerning the development of new energy resources. One of the key principles underlying the notion of sustainable development is the concept of intergenerational equity. Intergenerational equity is premised on the idea that "the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations": Australian Government, 1992 Intergovernmental Agreement on the Environment at 3.5.2. The definition of conservation provided by the World Conservation Strategy in 1980 also sums up the purpose of intergenerational equity:

> The management of human use of the biosphere so that it may yield the greatest sustainable benefit to present generations whilst maintaining its potential to meet the needs and aspirations of future generations.

(IUCN, UNEP and WWF, *World Conservation Strategy: Living Resource Conservation for Sustainable Development* (Gland, Switzerland: 1980), Section 1(4).)

74 The attainment of intergenerational equity in the production of energy involves meeting at least two requirements. The first requirement is that the mining of and the subsequent use in the production of energy of finite, fossil fuel resources need to be sustainable. Sustainability refers not only to the exploitation and use of the resource (including rational and prudent use and the elimination of waste) but also to the environment in which the exploitation and use takes place and which may be affected. The objective is not only to extend the life of the finite resources and the benefits yielded by exploitation and use of the resources to future generations, but also to maintain the environment, including the ecological processes on which life depends, for the benefit of future generations. The second requirement is, as far as is practicable, to increasingly substitute energy sources that result in less greenhouse gas emissions for energy sources that result in more greenhouse gas emissions, thereby reducing the cumulative and long-term effects caused by anthropogenic climate change. In this way, the present generation reduces the adverse consequences for future generations.

Renewable energy

75 Renewable energy sources are an important method of reducing greenhouse gas emissions and preserving traditional energy resources for future generations. To facilitate this objective the Australian Government has adopted a Mandatory Renewable Energy Target which commenced on 1 April 2001. The *Renewable Energy (Electricity) Act 2000* (Cth) requires the generation of 9,500 gigawatt

hours of extra renewable electricity each year by 2010. This target aims to meet the residential electricity needs of four million people: Senator the Hon Robert Hill, "Mandatory Renewable Energy Target to Continue", Media Release, 16 January 2004.

76 In NSW, Part 8A of the *Electricity Supply Act 1995* (NSW) established a scheme that provides for the reduction of greenhouse gas emissions associated with the production and use of electricity and encourages participation in activities to offset the production of greenhouse gas emissions:

> (a) by setting out State greenhouse gas benchmarks and providing for the calculation on the basis of these of individual greenhouse gas benchmarks for certain participants in the electricity industry and large users of electricity, and
> (b) by providing a scheme for the recognition of activities that reduce or promote the reduction of greenhouse gas emissions and enable trading in, and use of certificates created as a result of those activities for the purpose of meeting greenhouse gas benchmarks, and
> (c) by imposing penalties for failure to meet greenhouse gas benchmarks in any year: Electricity Supply Amendment (Greenhouse Gas Abatement Scheme) Bill 2006, Explanatory Notes.

77 The scheme, as originally enacted, had effect until 31 December 2012 as State greenhouse gas benchmarks that are the basis of the scheme were set until that date.

78 The *Electricity Supply Amendment (Greenhouse Gas Abatement Scheme) Act 2006* (NSW) amended the *Electricity Supply Act* in the following major ways:

> (a) to provide for the extended operation of the scheme from 2012 to 2021 and beyond or until a scheme with similar objects is established on a national basis or in this jurisdiction and at least one or more other States or Territories, and
> (b) to increase in incremental steps commencing 1 January 2010, the amount of the penalty payable under Part 8A by a benchmark participant who fails to comply with the participant's greenhouse gas benchmark for reduction of greenhouse gas emissions in any year: Electricity Supply Amendment (Greenhouse Gas Abatement Scheme) Bill 2006, Explanatory Notes.

79 Wind energy has emerged as a potential source of renewable energy that may assist in lowering the amount of greenhouse gases emitted in Australia each year. Wind energy involves the emission of almost zero greenhouse gas emissions after the construction of the wind turbines: A Wawryk, "Planning for Wind Energy: Controversy over Wind Farms in Coastal Victoria", (2004) 9 *Australasian Journal of Natural Resources Law and Policy* at 104. A typical wind turbine can meet the energy needs of up to 1000 homes. A typical 50 megawatt (MW) windfarm in Australia can reduce greenhouse gas emissions by between 65,000 and 115,000 tonnes a year: National Code for Wind Farms – A Discussion Paper, Australian Government, Department of the Environment and Heritage, Australia's Greenhouse Office, May 2006 at 6.

80 Unfortunately, all energy supply involves some level of environmental impact. Wind farm development in Australia has raised controversy in the community in relation to the positioning of windfarms, the noise levels created by the turbines and the impact the construction and operation of the turbines might have on local native flora and fauna.

81 It is common that the areas that are best suited to wind energy are also the most visually prominent locations. In constructing windfarms, it is necessary to go where the wind is.

Wind assets

> The wayward wind is a restless wind
> A restless wind that yearns to wander

(The Wayward Wind, Herb Newman/Stanley Lebowsky – first recorded in 1956 by Gogi Grant.)

82 The first step in identifying whether or not a particular location is viable for a windfarm in New South Wales is for a proponent to consult the New South Wales Wind Atlas 1999 (the Atlas). The Atlas was produced by the NSW Government's Sustainable Energy Development Authority and is described as being "a snapshot of wind speed around the State".

83 The atlas identifies a number of places, including the Southern Tablelands where this proposal is to be located, which are potential locations with sufficient wind resource available for the siting of a windfarm.

84 A further refinement in defining a potential wind resource involves consideration of the wind direction and strength mapping on a more localised basis. Such wind strength mapping was tendered in the evidence for the area around Taralga and to a distance of about 15 km to the east and shorter distances to the north, south and west.

85 That localised wind mapping shows, as is intuitively obvious, that the higher levels of wind availability are at high points in the landscape.

86 Critically for this application, this localised wind mapping shows that the wind resource is significantly higher to the east of the village than to the west. This explains the general rationale for the proposed windfarm's siting. It also explains why RES Southern Cross did not consider that there was any alternative viable location to the west of the village. Had a site to the west been available, the windfarm would have been out of the broad visual catchment and outlook of the village which outlook, as earlier noted, is predominantly to the east.

87 Although the mapping shows there are other areas of significant and high wind availability in the vicinity of those locations upon which rows of turbines are to be sited under this proposal, there are several reasons why they have not been included in the proposal.

88 With respect to one property, "Omaru", although there was some consideration of its inclusion (the details of the extent of that consideration being disputed by the property owner and RES Southern Cross), it is clear that that owner of "Omaru" was not prepared to become an associated property and host any turbines.

89 With respect to several other potential high value wind resource locations in the region to the east of the village, RES Southern Cross did not propose to include them for reasons of difficulty of access (even if they were available – availability being a matter which, I infer, was not explored by RES Southern Cross).

90 Although there were other areas with lesser but still apparently satisfactory wind resource available where additional turbines might possibly be located, they have not been included in the proposal and there is no necessity for me to consider why that might have been the case.

91 There are two generally prevailing wind directions in this district. The first is from the north west and the second is from the east. These wind directions also reinforce the suitability of the location and orientation of the turbines in this proposal.

92 I am satisfied, on the basis of the evidence of wind availability, if there is to be a windfarm within the Taralga locality, that sites to the village's east, as exemplified by the present proposal, represent a selection of the sites with acceptable wind resources to support such an activity.

93 I am certainly satisfied that there are no other viable wind resources immediately to the west of Taralga which might offer an alternative range of siting options for such a proposal.

What the Guardians seek

94 As their primary submission, the Guardians seek that consent for the proposal be refused.

95 However, if the proposal is to proceed, the Guardians seek a number of significant changes to the proposal and to the conditions which would attach to it. This is very much, in the submissions made on behalf of the Guardians, a distant second best position. These changes are summarised, in broad, below:

1. Consistent with Dr Lamb's evidence on visual impact discussed below, all turbines north of Bannaby Road should be deleted;
2. An additional noise penalty of 5 dB(A) should be imposed to compensate for a form of noise modulation known as the Van den Berg effect. This noise penalty would lower the permitted sound level at residences which were not on associated properties to 30 dB(A) in lieu of the level of 35 dB(A) otherwise permitted by compliance with the SA guidelines;
3. The adoption of a regime of financial compensation for "blight" on non-associated properties in the vicinity of the windfarm;
4. The deletion of various other turbines which have specific impacts on individual properties such as the Ross's property;
5. The Guardians seek a number of variations to the proposed conditions of consent. The conditions of consent were the subject of considerable discussion and evolution during the proceedings and are discussed as the relevant issue is considered below; and
6. The Guardians oppose the application, noted below, to increase the power of the generators in the turbine nacelles (The nacelle is the housing at the top of the tower. The blades are attached to it and it contains the turbine's generator).

What RES Southern Cross now seeks

96 RES Southern Cross now seeks reinstatement of the three rows of turbines which had being excluded from the Minister's consent, consent to increase the maximum power of the generator in the nacelle of each of the turbines from 2.0 MW to 3.0 MW and a number of modifications to the conditions of consent. These are also considered as they arise below.

The Guardians' issues

Visual impact on Taralga

97 The Guardians say that the insertion of 62 turbines into the landscape across

the natural view corridors from the Taralga village fundamentally and unacceptably alters the setting of the village in its landscape. They say that the turbines are alien industrial structures which destroy the historical context and landscape setting of the village. They say that these impacts are unacceptable aesthetic alterations to the life of those living in the village.

98 The Guardians also say that the attractiveness of the village as a tourist destination will be significantly diminished by this alteration to its landscape setting thus leading to significant damage to the economic fabric of the village.

99 Finally, with respect to general matters concerning Taralga, the Guardians say that the tranquillity of the Stonequarry Cemetery – which was founded in 1865 and remains in use as the Taralga community cemetery – will also be unacceptably impacted as the tranquillity of its outlook, being an aspect to the east toward the windfarm, will be destroyed by the intrusion of turbines.

Visual impact on individual properties

100 The Guardians raise concerns about specific impacts on three classes of property in the vicinity of elements of the windfarm. The first class comprises properties outside the village where there are existing dwellings which the Guardians say will receive unacceptable visual intrusion from one or more rows of turbines.

101 The second class of properties comprises those with an existing dwelling entitlement but for which no development approval for a dwelling has been given.

102 The final class comprises those properties where the Guardians say there is the loss of the development potential that would otherwise arise because of subdivision of concessional allotments or subdivision of a more general kind permitted under the LEP.

Noise impact

103 The Guardians say that RES Southern Cross cannot meet, at a number of relevant receivers, the 35 dB(A) noise limit required by the SA guidelines. They say, as a consequence, the application should be refused.

104 The Guardians also say that the SA guidelines are inadequate as they do not apply an appropriate penalty for a form of noise modulation known as the Van den Berg effect.

Flora impacts

Orchid

105 A threatened native orchid, *Diuris aequalis* (the orchid), which grows predominantly in the vicinity of woodland, potentially grows in the vicinity of Row 6. The Guardians say that, if the orchid be found there, clearing of such habitat for the construction of access roads or turbine sites is an unacceptable impact. The Guardians say that there has been inadequate survey work undertaken by RES Southern Cross and that the application should not be approved until such adequate surveys for the orchid have been undertaken.

Native grassland

106 A threatened native vegetation association, known as Natural Temperate

Grassland (the native grassland), would grow, if present, predominantly in the cleared grassed areas such as those adjacent to Row 8. The proposed location of a turbine of this row was visited during the site inspection.

107 The Guardians say that, if the native grassland be found there, clearing of it for the construction of access roads or turbine sites is an unacceptable impact. The Guardians say that there has been inadequate survey work undertaken by RES Southern Cross and that the application should not be approved until adequate surveys for the native grassland had been undertaken.

Fauna impacts

Birds

108 Issues relating to the bird strike impact of the turbines arise from the presence of a number of Wedge-tailed Eagles which live in the general locality of the proposed windfarm.

109 The Guardians say that the use by these eagles of the thermals and up-drafts associated with the edge of the range to the east of the village creates a significant and unacceptable likelihood of Wedge-tailed Eagles flying into the turbines and being killed.

Bats

110 Two threatened species of bat, the Eastern Falsistrelle (*Falsistrellus tasmaniensis*) and the Yellow-bellied Sheathtail Bat (*Saccolaimus flaviventris*), live and forage in the vicinity of parts of the proposed windfarm, particularly in the woodland area associated with the ridge upon the top of which Row 6 is to be located. The Guardians say that there are unacceptable impacts on these animals which may arise as a consequence of the proposal.

111 The first is that there will be destruction of habitat area as a consequence of clearing for Row 6. The second is that there is a significant likelihood of unacceptable mortality of these animals caused by impact with the turbines.

112 The Guardians also say that there has been insufficient survey work done on these animals. However, as discussed below when dealing with this issue, additional survey work was undertaken during the period between the first and final phases of these hearings so that, in this regard, adequate information became available to permit determination of this issue.

Reptiles

113 If the native grassland does occur and is impacted by the proposal, such impacted native grassland would also have been the potential habitat for two threatened grassland reptiles, the Striped Legless Lizard and the Grassland Earless Dragon.

114 The Guardians say that, if the native grassland is found, clearing of it for the construction of access roads or turbine sites, may also have an unacceptable impact on these animals. The criticism of the adequacy of the survey work for identification of the native grassland carries through to the assessment of possible impacts on these reptiles.

Assessment of the issues

Visual impact

115 In considering the acceptability or otherwise of the visual impact of the turbines not only on Taralga village but also at a number of the individual

properties whose owners have objected to the windfarm, I have had the assistance of what I saw personally during the inspection, the evidence of three visual impact assessment experts, being Dr Lamb on behalf of the Guardians, Mr Wyatt on behalf of RES Southern Cross and Mr Williamson on behalf of the Minister, as well as the expressions of concern from the objectors who gave evidence in the proceedings.

116 The insertion of windfarms into a rural landscape involves interrupting the rural and natural cohesion of that landscape.

117 In the case of Taralga, the orientation of the village, toward the east, results in the primary general outlook of the village being toward rural properties. The only present intrusions are roads, occasional dwellings, fence lines and the like which typify an agricultural landscape whose only substantial modification since European settlement has been extensive clearing and removal of native vegetation for the establishment of pasture lands.

118 Dr Lamb's primary position is that no turbines ought to be permitted to intrude into this landscape. It was his opinion that the breaching of the integrity of this rural landscape represents an unacceptable impact on the collective outlook and setting of the village. It was his secondary position that, if there were to be a windfarm, to ameliorate the impact on the village, no turbines should be permitted to the north of Bannaby Road.

119 Dr Lamb also proffered a range of other options including options designed to ameliorate specific visual impacts on individual properties. Collectively, these might be described, in general terms, as cascading options.

120 The position adopted by the Minister in his consent, in requiring the deletion of Rows 1 and 12 and proposing the relocation of Row 2, was based on what the Minister had accepted was a desirable limitation on the cone of viewing of the windfarm from a notional viewing point in the village. This cone of viewing was limited to 80° thus requiring these alterations to the proposal.

121 The adoption of this cone of viewing and its transposition to the map involved an arbitrary selection of the angle of the apex of the cone and of the viewing point within the village from which it was to be measured. No firm justification was provided for this during the course of the hearing.

122 Mr Wyatt adopted the position that the totality of the proposal was acceptable whilst Mr Williamson broadly supported the proposal but suggested a number of options to ameliorate its impact if the Court considered that this was desirable. These options also included ones designed to ameliorate specific impacts on identified properties as well as also offering cascading options of a more general nature.

123 There was considerable discussion between these experts as to how the various landscape elements, and various locations, should be valued as part of a visual assessment process. This hierarchy of values, using a three-point hierarchy (low or moderate or high scenic quality), for example, ultimately is of little assistance as there was no agreement between the experts on a precise methodology for such classification. There was, however, a significant degree of agreement between the experts that the scenic quality of the landscape surrounding the village was at least moderate and, in some locations or from some perspectives, some portions of it might have a high scenic quality.

124 It seems to me that the threshold question to be considered for such a proposal is whether or not a first "breach" in the present general landscape

should be permitted. Once such a breach is permitted, it is then relevant to turn to whether or not the extent of it should be limited, as a general question, and also to turn to the question of the impacts on individual properties.

125 Thus, it is appropriate to consider first whether or not the rural context of Taralga village requires its preservation without any wind turbines.

126 As earlier noted, in discussing the history and setting of the village, the National Trust has not accorded the rural landscape within which Taralga is located any particular intrinsic value of its own. Although the village's setting is noted as being rural, there is no suggestion that it is an iconic one or one warranting its own separate recording by the National Trust.

127 The intrusion of a single industrial structure (being a turbine) into this rural landscape would undoubtedly change the nature of the landscape viewed from the village. However, I do not consider, even having regard to the reservations expressed by Dr Lamb, that a turbine (even with its industrial connotation) would be so antithetic to the landscape, generally, or to the outlook from village, specifically, as to warrant its rejection.

128 Having concluded that one turbine breaching the landscape would be acceptable, it is therefore appropriate to turn to the question of whether or not the totality of that which is proposed is acceptable or whether it should be modified in some fashion.

129 I have considered whether I should approach this on an aggregation or disaggregation basis.

130 An aggregation approach would endeavour to determine, building on the present landscape, turbine by turbine, where one might reach a point of unacceptable visual impact (if one were to reach such a point short of the complete windfarm proposal).

131 A disaggregation approach would take the project and consider whether it is necessary or appropriate to remove elements of it if, in the first instance, one had reached a prima facie view that the present total project would have an unacceptable impact but that some lesser (but still viable) project might be approved.

132 Given that I have rejected Dr Lamb's starting point (that there should be no turbines whatsoever), the fact that this is a merits-review appeal against an approval by the Minister leads me to conclude that the disaggregation approach is the desirable one. Indeed, the Minister's cone of viewing approach is, itself, a form of disaggregation assessment.

133 Although Mr Williamson and Dr Lamb proposed a range of options for modification of the proposal by the removal of various rows, I consider that there are only four broadly possible types of modification which might warrant consideration. In essence, as will be obvious from each of them as stated below, anything other than one of these four significant modifications could not provide any degree of significant visual relief for the village.

(a) the preferred modification option advanced by Dr Lamb would involve the elimination of all turbines north of Bannaby Road;

(b) the obvious corollary to this position would be the elimination of all turbines south of Bannaby Road;

(c) there is the cone of viewing option (whether the limited one adopted by the Minister in his conditions of consent or one which contracted the ends of the proposal even further); and

(d) there is the option of creating a gap in the centre of the proposal by, for example, the removal of Row 10 – so as to separate the remaining northern and southern elements.

134 With respect to the first and second modification options, it is clear that adoption of either of them would constitute constructive refusal of the proposal.

135 Such constructive refusal is obvious from the evidence given by Mr Liebmann on behalf of RES Southern Cross about the number of turbines which are necessary for economic viability of the proposal.

136 Although information was provided to the Court which clearly showed that the output of each turbine varies according to its location (and thus with the strength of wind able to be accessed by it), it is clear that anything other than removal of a comparatively small number of turbines would render the project uneconomic.

137 Although the way the case was conducted makes it inappropriate for me to discuss the generating capacity of individual rows or individual turbines, I can state, as a generality, that the removal of the rows that are located where the local wind mapping shows that there is the greatest wind strength would also have the greatest impact on the viability of the proposal.

138 In this context, it is interesting to note that the recently released Stern Report (*Stern Review on the Economics of Climate Change*, HM Treasury, London, 2006 includes academic research which shows that, if there was a greater element of "truth in costing" of carbon emissions, the economic viability of windfarms would approach or be better than that of coal fired generation of electricity: see Aligning Climate and Energy Policy: Creating incentives to invest in low carbon technologies in the context of linked markets for fossil fuel, electricity and carbon Report prepared by William Blyth and Kirsty Hamilton, April 2006 – particularly 1.1 and Figure 2. In addition, other research supporting this report shows that, over time, it is probable that the cost of generation capacity from windfarms, even without additional carbon emission pricing, will approach (and, indeed, may become less than) the cost of coal fired generation: *Costs and Finance of Abating Carbon Emissions in the Energy Sector Report* prepared by Dennis Anderson, Imperial College, London, October 2006 – particularly Table 1.1, Figures 2.2a, 2.2c, Table 3.1 and Annex 3.

139 As I am satisfied that the presence of at least some turbines in the Taralga village landscape is acceptable, following a path of modification leading to constructive refusal is inappropriate. I have so concluded because to grant a consent, knowing that it was an effective futility, would clearly be contrary to the proper function of the Court and contrary to the broad public interest in the establishment of viable renewable energy sources.

140 Moreover, I do not consider that the presence of turbines on only one side of Bannaby Road but not the other is justifiable on visual impact grounds. There is nothing about their presence on one side of the road which demands their absence on the other.

141 As earlier noted, the Minister's cone of viewing approach lacked any rational justification apart from having the effect of eliminating the outer edges of the rows of turbines. There would remain, on this approach, a broad sweep of turbines in the landscape only punctuated by a minor break to the north of Row 10.

142 Nothing that was said in the visual assessment experts' evidence leads me to conclude that such marginal outer edge adjustment to the proposal achieves any particular benefit for the village and its outlook. Whether or not the turbines at the northern or southern end of the proposal should be deleted because of the impact on specific properties is a separate question dealt with elsewhere.

143 Finally, the option of creating a gap in the centre of the proposal by the elimination of Row 10 is, also, unless required by an unacceptable impact on a specific property, something which would provide little benefit to the outlook from the village.

144 In conclusion on this issue, there is no compelling general visual impact basis upon which to adopt any one of the four major modification options as there is no such option which would achieve both a significant visual impact benefit for the village and leave a wind farm which would be economically viable.

145 As a consequence, having accepted that the intrusion of turbines into the landscape is acceptable and that the various broad modification options requiring consideration are not viable, it follows that the choice lies between the whole project as originally proposed (including those turbines removed by the Minister) or no project at all.

146 This choice arises in a context where there is no compelling reason why there should not be some turbines in this landscape and where there is a significant public interest, in general terms, in adoption of alternative, more environmentally friendly, energy generation sources.

147 Although there will be change to the village's outlook, I am satisfied that the broader public interest must outweigh this impact.

148 I also note, in passing, that the controls in cl 8 of the DCP which relate to visual impact ((c), (i) and (k), at least) do not automatically reject individual windfarm proposals on the basis of visual impact.

149 Finally, although on a much more dramatic scale of change to the landscape, I should note that the visual impact elements of this case are, in effect, not dissimilar from those of ordinary consideration of view impacts in an urban residential context. The planning principles set out by Roseth SC in *Tenacity Consulting Pty Ltd v Warringah Council* (2004) 134 LGERA 23, at [25]-[29], could equally be applied in this context. If they were to be applied, the project does not offend against them.

The concept of "blight"

150 The Guardians advance the proposition that a consequence of approval of the windfarm will be that a number of properties which are in the vicinity will suffer from "blight" for which there should be payment of compensation if the project were to be approved.

151 The blight which is described as occurring relates to the loss of future property value or from loss of amenity.

152 The loss of value is said to arise either because of a general amenity impact from the presence of the turbines or because some anticipated subdivision development – whether by way of concessional allotments or otherwise – may not be able to occur or, if permitted by the Council, would have the amenity of the resulting allotments so impacted by the windfarm that they would be unable to be sold.

153 The Guardians say, as a consequence of this blight, there should be a general requirement for those who can demonstrate such an effect to be compensated,

monetarily, for that blight. They say that this compensation should be assessed consistent with the statutory approach laid down in the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW).

154 Such a proposition faces a number of insurmountable hurdles.

155 The first is that the windfarm, as earlier noted, is a permissible use on all of the parcels of land upon which it is proposed to be located.

156 The second is that, although it is appropriate to consider the possibility that ameliorative works might be required to be undertaken by a proponent for landholders who might otherwise be adversely impacted (but not so adversely impacted to warrant refusal of the proposal or any part of it), what is sought is not remedial measures but payment of monetary compensation.

157 The third is that, whilst I have decided, for reasons I have given below, there are two properties which are sufficiently impacted that it is appropriate to require RES Southern Cross to purchase them (should their owners elect to sell), that is a matter where, again, the choice of response is in the hands of the two landholders.

158 Although there are elements of public interest and public policy issues associated with this proposal, nonetheless, the project remains one by a private developer on land where it is permitted. It is, although of a significantly large scale, nonetheless on all fours with a similar development in any other context which met the same criteria.

159 If the concepts of blight and compensation, as pressed by the Guardians, were to be applied to this private project (a proposition which I reject) then any otherwise compliant private project which had some impact in lowering the amenity of another property (although not so great as to warrant refusal on general planning grounds when tested against the criteria in s 79C of the Act) would be exposed to such a claim.

160 Creating such a right to compensation (for creating such a right it would be) would not merely strike at the basis of the conventional framework of landuse planning but would also be contrary to the relevant objective of the Act, in s 5(a)(ii), for "the promotion and co-ordination of the orderly and economic use and development of land".

Assessment of impacts on individual properties

Ross property

161 The Ross property is located at the southern end of the proposal and would have views of Rows 2, 4, 5, 6 and part of Row 1 from the house (H12). The house is located toward the bottom of a valley. The house's outlook is oriented to the north toward Row 5.

162 One of the controls in the DCP, which warrants noting in this context, is that contained in cl 8(k) which provides:

> Turbine locations should not surround a non related property. Where a non related property has turbines adjacent to more than one axis of the property, there should be sufficient setbacks/distances to the development to minimise the visual impact of that property.

163 The house is significantly below the turbines to the north. Although the impact of the turbines in Row 1 is significantly diminished because of the topography between those turbines and the house and the orientation of the

house away from them, the other turbines dominate the dwelling. Although not completely surrounded, the Ross house is sufficiently dominated by turbines because of the topography effectively to be surrounded by them.

164 The property has been subdivided to create three small concessional allotments on the higher south-eastern corner of the property.

165 Mr and Mrs Ross are in their seventies. They gave evidence and described their wish to retire and pass their property to the next generation. They saw the concessional allotments as being their superannuation and representing the opportunity to move to town.

166 There is no viable opportunity to ameliorate the visual impact on the Ross residence by landscaping. Although not conceded by RES Southern Cross, I did not understand this conclusion to be vigorously resisted by it.

167 Equally, it is clear from the table of generating capacity potential for each of the turbines that the elimination of the turbines which dominate the visual outlook from the Ross property would render the proposal unviable.

168 It is the agreed position of all parties to these proceedings that the most significant impact on an individual property is the impact on the Ross property.

Omaru

169 This property is located at the northern end of the proposal. Its dwelling (H1) has Row 13 immediately to its west, Row 12 a little further to its southwest and Row 11 somewhat closer to its south east. As earlier noted, RES Southern Cross had initially wished to include this property as part of the proposal.

170 This dwelling is also in a valley. Although not visited during the site inspection, it was observed from a little distance during the course of inspection. That observation and a number of photographs which were in evidence showed that the house is oriented to the north – that is, away from the proposal.

171 The owner of this property did not give evidence but correspondence was tendered on his behalf setting out his objections. Although there was some dispute as to the extent, if any, of discussions between RES Southern Cross and the owners of this property about the possible inclusion of project, it is not necessary for me to have regard to this.

172 It is agreed that there will be a significant visual impact on this dwelling. However, the acceptability of the impact is not agreed by the visual impact assessment experts. Essentially, Dr Lamb said that the impact is unacceptable and that the elimination of a number of turbines, principally Row 13, is required to ameliorate the impact.

173 Mr Wyatt disagreed and proposed that landscaping would render the proposal visually acceptable at this location.

174 I am satisfied that a combination of the orientation of dwelling away from the turbines, coupled with the fact that there is not the degree of dominance that exists for the Ross residence, means the visual impact can be rendered acceptable by landscaping. On balance, therefore, the imposition of a requirement that RES Southern Cross provide landscaping, if requested by the owners of this property, is an appropriate response for this impact.

Ms Brown

175 Ms Brown's house (H13) is located to the south of Row 6. Although the end turbines of this row (likely to be T20 to T22) will be visible from the house,

they are some distance away. The local topography and orientation of the dwelling means that it is highly unlikely that other turbines will be seen from her house.

176 I am satisfied that, as a consequence of the separation between her house and Row 6, there will not be a significant overall visual impact on her dwelling.

177 However, Ms Brown will fall within a 2 km radius of the closest turbine and thus will be entitled to access the proposed landscaping provision regime. This is an appropriate response to the visual impact on this dwelling.

178 Ms Brown is also said to have development potential for an additional allotment which would be closer to Row 6 but protected from any view of these turbines by virtue of the likely building site being in a valley and protected by the spur running upward toward T20 at the end of Row 6.

179 Even accepting that this development potential exists, I am satisfied that there would not be an unacceptable visual impact on it from this proposal.

The Polley residence

180 The Polley residence (red 14 on the map) is located near the south-eastern outskirts of the village. It is set in an open rural landscape and is near to but just outside a 2 km radius from the nearest turbine.

181 The family are not permanent residents of the village but Mr Polley proposes to retire to the village with his family in the reasonably near future.

182 The outlook from the portion of the property visited during the site inspection will undoubtedly have a significant perspective of substantial elements of the proposal. The Court did not visit the house and thus is not aware of the orientation of the outlook of the dwelling on the property. In many respects, the visual impact on this property could be regarded as being analogous to that of the village itself. Similarly, the consequences of such visual impact should be treated in an analogous fashion.

183 To the extent that there is a difference, it is that the dwelling is not enfolded within a village setting and may have a significant orientation towards the proposal without having any sense of urban place to offset it.

184 As a consequence, although this dwelling is marginally outside a 2 km radius from the nearest turbine, it is appropriate under the circumstances, as a matter of discretion, that it be treated as if it were within such a radius for the purposes of access to landscaping. The conditions are to be amended to provide for this.

Cushendall Vineyard

185 This property (red 8A on the map) is a vineyard operated by Mr and Mrs Miskelly. The property does not presently have a dwelling on it. However, I am satisfied that it does have a dwelling entitlement.

186 The Miskellys have retired to the village where they own a house and have another small vineyard.

187 During the site inspection, the Court visited the property and was shown the general location of a proposed dwelling site. The leading turbine of Row 11 would be visible in a generally northerly direction from the dwelling site. Although the closest row is Row 10, the property is shielded from it by the intervening hillock to the west.

188 Although there will be some impact on the ambience of the vineyard itself, there is no sense that the vineyard would be dominated by the turbines although they are located in the obvious viewing orientation from the property.

189 This property is within a 2 km radius of the nearest turbine. Any future dwelling would not automatically qualify for access to the landscaping regime to be made available as no development has been approved.

190 However, I am satisfied that the more intensive vineyard development on this property compared to conventional grazing development elsewhere coupled with the clear present intention of the Miskellys to erect a residence (that clear present intention being absent for other vacant allotments) warrants a future dwelling being given a landscaping entitlement. I am satisfied that the separation from the nearest turbine coupled with the fact that it is a limited viewing of such turbines means that this is an appropriate response to the visual impact on this property. The conditions are also to be amended to provide for this.

Cloverlee

191 This property is owned by Mr Kerridge (it is marked with a blue K and red "Kerridge" on the map). There is no dwelling on this property. It is in a number of titles and, according to Mr Kerridge, has subdivision potential as well as existing rights to a number of dwelling entitlements.

192 Mr Kerridge owns other properties in the district. His wife also owns a number of properties in the village. Although they are not residents of the village, they have a local residence on another property further to the east. Mr Kerridge candidly admitted that a very significant part of the attraction of this property and others which he owns are their future development potential.

193 The property is located immediately to the south of Bannaby Road. It is in a slight valley falling to the south from the road. There is a rural shed currently located at the road frontage immediately below the site of Row 10 which is on the opposite side of the road.

194 Row 8 runs, effectively, parallel to and near the western boundary of this property. Row 5 is located directly down slope and in the centre of the natural southern outlook from the property. Rows 6 and 7, somewhat to the west, are also in the immediate visual catchment of the property.

195 RES Southern Cross tendered a diagram showing a potential house location which was more than 1 km from any turbine. It also showed the area on the property, including this site, which was at least 800 m from any turbine. RES Southern Cross and the Minister submitted that the Court should not regard this property as falling within the strictures of being surrounded by turbines thus calling up the provisions of the cl 8(k) of the DCP quoted above in the discussion of the Ross property.

196 I reject the proposition that any dwelling located on this site would not, it in a practical sense, be surrounded by turbines. The obvious aspect for a wide landscape view from any hypothetical dwelling is generally southerly. This aspect is dominated on each side and in its centre by turbines.

197 If a dwelling were to be constructed with a northerly aspect, this aspect would be dominated by the turbines of Row 10 which would be significantly above any such dwelling as a consequence of the sloping of the topography.

198 I am satisfied that the visual impact on any dwelling on this property will be quite significant. The appropriate planning response to this impact is one which needs to be considered in conjunction with the noise impact of the proposal on any hypothetical dwelling on the property.

199 Although it was suggested to me that such a house could, effectively, be constructed within what amounted to a vegetated compound to shield it from the visual impact of the turbines, I do not consider that such a design option which shut out all parts of the otherwise pleasant rural aspect would be appropriate.

Ms Alders' property

200 This property was visited during the course of the site inspection and stops were made at three locations (red A1 to A3 on the map). The property is currently used for grazing purposes. The turbines of Row 13 are located immediately adjacent to the eastern boundary of the property. The turbines of Row 12 are located close to and above a valley following a creek line running through the property.

201 Ms Alders raises two concerns about the impact on the property. The first is her ability to manage her rural property as she presently musters her cattle on horseback. She is concerned that her horses will be spooked by the turbines.

202 With respect to this concern, although I have no direct evidence in these proceedings, I note that in *Genesis Power Ltd v Franklin District Council* [2005] NZRMA 541, a windfarm case where equine issues were argued and evidence was available, the New Zealand Environment Court (at [129]-[170]) concluded the proposed windfarm, subject to proper conditions of consent and proper management at the equine centres, was unlikely to cause effects on horses on adjacent properties which were more than minor.

203 Ms Alders is also concerned at the impact on the development potential of her property as she believes she has an entitlement to a number of concessional allotments from it.

204 The Court had some evidence about possible locations for dwellings on concessional allotments on Ms Alders' property where they might not be impacted either visually or by noise. However, I do not consider that the turbines would have such an unacceptable impact on Ms Alders' property as to require mitigation measures.

205 Any residual impacts are effectively encompassed by the concept of blight raised by the Guardians and rejected by me earlier in this decision.

Other properties without dwellings or dwelling approvals

206 Although they were not visited during the course of the site inspection, the Guardians have raised a number of other properties which they say will be visually impacted by the proposal.

207 No suggestion has been made, with respect to any of them, that there is any definite intention by the owner of any of those properties to construct a dwelling on it. There is, therefore, no reason, in my view, why they should have a landscaping exception made for them as has been made for the Miskellys.

208 Further, I am satisfied that such visual impact as might fall on those properties would also be encompassed within my rejection of the concept of blight.

Noise impact

209 Wind farms generate noise. That noise is potentially annoying to those who hear it.

210 The SA guidelines were developed to address this noise. They have been applied by the New South Wales Environment Protection Authority to such developments in the past. The SA guidelines describe the approach which has been taken to windfarm noise in the following terms:

> The general approach in setting noise criteria for new developments is to require compliance with a base noise level.
>
> This base noise level is typically 5 dB(A) lower than the level considered to reflect the amenity of the receiving environment. Designing new developments at a lower level accounts for the cumulative effect of noise from other similar development and for the increased sensitivity of receivers to a new noise source.
>
> The impact of a given noise is also closely linked to the amount it exceeds the background noise. For example, the same noise in a quiet rural area will generally have a greater adverse impact than in a busy urban area because of the masking effect of high ambient noise environments.
>
> If the noise generated does not exceed the background noise by more than 5 dB(A) the impact will be marginal and acceptable: Part 2 *Noise Criteria* at 2.

211 The SA guidelines require that background noise be assessed at relevant receiver locations.

> Background noise measurement locations
>
> Background noise measurements should be carried out at locations that are relevant for assessing the impact of WTG [wind turbine generator] noise on nearby premises (relevant receivers).
>
> Relevant receiver locations are premises:
>
> (a) on which someone resides or has development approval to build a residential dwelling
>
> (b) at which the predicted noise level exceeds the relevant base noise level for wind speeds (V10m) of 10 m/s or less
>
> (c) that are representative of the worst case situation when considering the range of premises, e.g. a house located among a group of nearby houses within a residential zone: Part 3 *Background Noise* – 3.1 *Background noise measurement locations* at 5.

212 A receiver is defined by the SA guidelines as follows:

> Receiver: premises that may be affected by the noise source, other than premises on the same land as the noise source: Glossary at 17.

213 The exclusion of premises on the same land as the noise source is relevant to understanding the approach taken by these guidelines to associated properties.

214 The guidelines specifically set out the reasons why associated properties are excluded from the more stringent approach to the assessment of noise impacts from a windfarm proposal. They do so in the following terms:

> 2.3 Agreements with windfarm developers
>
> Wind farm developers commonly enter into agreements with the owners of private land suitable for a windfarm site. The agreement provides the windfarm developers with the appropriate siting and generally provides the landowner with a level of compensation and diversity in their income stream.
>
> The criteria have been developed to minimise the impact on the amenity of premises that do not have an agreement with windfarm developers.
>
> Notwithstanding this, the EPA cannot ignore noise impacts on the basis that an agreement has been made between the developer and the landowner. Developers

cannot absolve themselves of their obligations under the Act by entering into an agreement with a landowner.

If it is shown that a development is having an "adverse effect on an amenity value of an area that … unreasonably interferes with … the enjoyment of the area" then appropriate action can be taken under the Act.

However, the existence of an agreement will affect the consideration of whether the interference is unreasonable in a given situation. It is unlikely that there will be unreasonable interference if:

(a) a formal agreement is documented between the parties

(b) the agreement clearly outlines to the landowner the expected impact of the noise from the windfarm and its effect upon the landowner's amenity

(c) the likely impact of exposure will not result in adverse health impacts (e.g. the level does not result in sleep disturbance): at 3 and 4.

215 The SA guidelines set a noise night time limit of 35 dB(A) for new windfarm development in a rural location. The basis of this is described in the following terms:

2.1 Determining windfarm operating criteria

The Environment Protection (Industrial Noise) Policy 1994 limits the noise level from non-domestic noise sources including windfarms to 40 dB(A) or the lowest typical background noise level plus 5 dB(A) (whichever is the greater) in rural areas from 2200 hrs until 0700 hrs the following day.

This limit applies to existing noise sources and does not necessarily reflect the preferred noise criterion for new (planning) development. The general approach for new development applies a night time level of 35 dB(A) to significant development in a rural location: at 3.

216 The definition of base noise level is in the following terms:

Base noise level: means an LAeq,10 of 35 dB(A) unless otherwise stated: Glossary at 17.

217 The SA guidelines make it clear that the noise levels set were to take account of annoying characteristics of wind turbine noise.

4.5 Annoying characteristics

These guidelines have been developed with the fundamental characteristics of noise from a windfarm taken into account. These include the aerodynamic noise from the passing blades (commonly termed "swish") and the infrequent and short-term braking noise.

However, annoying characteristics that are not fundamental to a typical windfarm should be rectified. Such characteristics may include infrasound (low frequency noise below the audible frequency range that manifests as a rattle in lightweight materials such as glass) or adverse mechanical noise (perhaps generated as a failure of a component): at 13.

218 The Guardians say that RES Southern Cross cannot comply with the 35 dB(A) limit.

219 However, RES Southern Cross accepts that it should be required to meet the 35 dB(A) standard at existing non-associated dwellings. Mr Liebmann gave evidence on behalf of RES Southern Cross that it could and would meet the 35 dB(A) standard. I accept that it is feasible for the windfarm to meet the standard.

220 It is long settled in this Court that there is a presumption that those who are given development consent subject to conditions will satisfy those conditions. There is no other basis upon which I can proceed.

221 If the holder of a development consent or the holder's successors in title do not meet the conditions of that development consent, statutory provisions exist to require compliance. If they are so required to comply and they are unable to do so, then the activity breaching the conditions must cease.

222 RES Southern Cross is clearly aware of and accepts that position.

223 In the Court's consideration of noise issues, evidence was given by Dr Tonin, a court-appointed acoustic expert, and by Dr Van den Berg, an acoustic expert on behalf of the Guardians. Toward the end of the proceedings, the Court also had the advantage of evidence from Mr Turner, the author of the SA guidelines. Their evidence was in writing, in joint reports and in concurrent oral evidence including by video link on two occasions with the Netherlands.

224 Two matters of significance require determination with respect to noise generated by the proposal. The first is whether the SA guidelines are appropriate to be applied. The second is what penalty, if any, should be applied to the permitted noise level, however derived, as a consequence of the discovery by Dr Van den Berg of the eponymous Van den Berg Effect.

225 The Council accepts that the SA guidelines are the appropriate regulatory framework for noise. This is clear from the provisions of cl 8(c) of the DCP which specifically requires compliance with them.

226 The SA guidelines, themselves, acknowledge the existence of a New Zealand Standard and explains the differences in approach as follows:

> The New Zealand Standard NZS 6808 sets the predicted base level (LAeq) at 40 dB(A). This is higher than the approach of these guidelines, but the specified propagation model to be used in accordance with that standard does not account for factors such as ground absorption and topography effects that can substantially reduce the noise level in practice. In addition, the New Zealand Standard requires the criteria to be met at all receivers, regardless of their relative amenity or relationship with the windfarm development: at 2.

227 As earlier noted, the New South Wales EPA has, itself, applied the SA guidelines in lieu of its own industrial noise standards.

228 The SA guidelines should be used for the purposes of noise assessment of this proposal, both because they are sound and to ensure a consistent policy approach. Reaching that conclusion also deals with one issue of difference between the parties as to conditions of consent where the Guardians had proposed a shift from the SA guidelines.

229 The Van den Berg Effect is an additional noise modulation described as a thumping noise which occurs, in limited circumstances, as a consequence of a temperature inversion between the tip of the rotor when it is at its most upward extension and the tip of the rotor when it is at its most downward extension.

230 As a consequence, the Van den Berg Effect is likely to occur on cold, still, winter nights. There was no specific agreement that the Van den Berg Effect would be caused by this windfarm but it is accepted as reasonably possible that it might be so.

231 The Guardians say it is sufficiently probable, on Dr Van den Berg's evidence, that the Van den Berg Effect will occur and thus the operating conditions for the proposal should take it into account.

232 They say that taking the Van den Berg Effect into account has two consequences. The first is that, if it occurs, there should be a 5 dB(A) penalty applied to lower the permitted noise level and thus eliminate the annoyance caused by the Van den Berg Effect.

233 The second is that a monitoring regime should be established and operated over a significant period of time in order to determine the precise circumstances under which the Van den Berg Effect occurs (if it does occur). The consequence of gathering such monitoring data would be that a restrictive management regime could be established to cause automatic shutting down of turbines which were known to be causing the Van den Berg Effect when the conditions for its occurrence arose.

234 It was Mr Turner's evidence that, although the Van den Berg Effect was not known at the time of his drafting of the SA guidelines, he had adopted a very cautious approach in order to accommodate the impacts of any and all noise effects caused by windfarms.

235 If the Van den Berg Effect were to occur at this windfarm, the non-associated houses that would be impacted would be H1, H5, H7, H12 and The Farm.

236 I am satisfied that the approach which the Court should take to this issue is one involving two steps. Neither of them requires me to determine whether or not I am satisfied that the Van den Berg Effect will actually occur or whether a penalty should be imposed for it (if it did occur).

237 The first step is to determine whether or not it would be reasonable to require the extensive monitoring regime which would be necessary to determine whether the Van den Berg Effect did exist and to respond to it, on an ongoing operational basis, if it did so.

238 I am satisfied that the combination of the low probability of occurrence of the Van den Berg Effect, the small number of houses which would be impacted and the infrequent occasions when it did occur (if it did occur), does not warrant the extensive monitoring proposed.

239 However, the second step is a corollary to this determination. That corollary is that it would not be unreasonable to take a precautionary approach to that possibility. Although there is an infrequent likelihood of occurrence of the Van den Berg Effect, it is not able, on the evidence, to be dismissed out of hand. However, when it did occur (if it did occur), as earlier noted, it would probably be on a cold, still, winter's night and it is unlikely that people will be outside their dwellings under such circumstances.

240 Therefore, the possible impacts against which it is reasonable that I consider amelioration are those on occupants *within* dwellings on such cold, still, winter's nights.

241 "The facade effect" is the effect of the exterior walls of dwellings (in this instance) on reducing the transmission of exterior noise to the interior rooms. The facade effect benefits are obtained even when there are windows left open. The evidence of the noise experts was that the facade effect usually achieved a mitigation of 10dB(A) for the interior of a dwelling.

242 Dr Tonin gave evidence that some additional ameliorative measures to enhance the sound suppressing facade treatment of the potentially affected dwellings would be possible. This would increase the noise mitigation beyond 10dB(A) for the interior of these dwellings. It is appropriate that RES Southern Cross should offer this to those five houses. The conditions are also to be

amended to provide for this. Such a facade treatment could have, on Dr Tonin's evidence, the same (and immediate) practical effect as the imposition of a penalty sought by the Guardians but in a much more pragmatic way.

The cumulative impact on the Ross property

243 The composite noise map provided by the Guardians shows that noise levels at the Ross house will not comply with the SA guidelines.

244 I am satisfied that the likelihood of this non-compliance, when coupled with the severe visual impact of the proposal on the Ross property, renders these impacts unacceptable. It is therefore appropriate to provide Mr and Mrs Ross with the option of requiring RES Southern Cross to purchase their property. The conditions are also to be amended to provide for this.

245 Two options have been presented as a basis for such purchase by RES Southern Cross. The first, a conventional one used in other private development circumstances such as mines, is being proffered by the Minister. The second is one which would impose an acquisition regime analogous to that in the *Land Acquisition (Just Terms Compensation) Act*.

246 As earlier noted when dealing with the concept of blight, although there is a significant public interest element in this proposal, it is not, in itself, a public proposal. I do not consider that it is reasonable to impose the more onerous regime which has been accepted, on public policy grounds, as appropriate for public project acquisitions, to be applied in this instance.

247 Although I accept that this obligation for acquisition of the Ross property was not adopted by RES Southern Cross, I do not understand that this conclusion is vigorously resisted for this property.

Cloverlee

248 The composite noise map provided by the Guardians shows that noise levels at this property will not comply with the SA guidelines. However, as earlier noted, this property does not have an existing dwelling.

249 As discussed earlier, there would be a significant visual impact on any dwelling proposed to be constructed at RES Southern Cross's hypothetical dwelling location on this property.

250 Although RES Southern Cross said that such a dwelling could be shielded from the noise by appropriate design restrictions and protected from the visual impact by enclosing landscaping, such a necessarily inward looking dwelling and dwelling curtilage would quite radically restrict the amenity of any residents of such a dwelling and be inconsistent with the nature of a rural (in contrast to an inner city) dwelling.

251 Curing the noise and visual impacts of any such dwelling might be possible by the removal of a significant number of turbines from the proposal. It is clear from Mr Liebmann's evidence that such a cure would likely render the proposal unviable.

252 This property and the Ross property are the two properties which are most severely impacted, as to the ability of persons resident on them to have an appropriate level of day-to-day amenity. The affectation of these two properties is quite significantly greater than that on any of the other properties in the vicinity of the proposed windfarm.

253 Although resisted by RES Southern Cross, I am satisfied, on balance, that this

property should also be subject to the option for its owner to require acquisition by RES Southern Cross on the same basis as for the Ross property. The conditions are also to be amended to provide for this.

Flora impacts

254 Although the Guardians raised the issue of the adequacy of the surveys for the orchid and for the native grassland, the evidence given by Dr Smith, the Court-appointed flora expert, and Dr Mills, RES Southern Cross's flora expert, resulted in an agreed position which resolves these issues.

255 That agreed resolution involves the requirement of further survey work to identify whether or not either the orchid or the native grassland in fact exists on land to be disturbed by the windfarm. There is agreement as to when these surveys should be carried out and where they should be carried out.

256 If either the orchid or the native grassland is found to occur at a location where it would be impacted by any element of the windfarm, such element is to be relocated and the area containing either the orchid or the native grassland is to be fenced off during construction.

257 The conditions of consent deal with such relocation and fencing.

Fauna impacts

Wedge-tailed eagle

258 A number of Wedge-tailed Eagles live in the general locality of the proposed windfarm. They use the thermals and up-drafts associated with the edge of the Cockbundoon Range to the east of the village.

259 On this topic, I had the advantage of evidence from Dr Meredith, the Court-appointed fauna expert, and Mr Lane, RES Southern Cross's bird and reptile expert.

260 Although there is some limitation on the degree of survey information available to me on this topic, I am satisfied that I am sufficiently informed to be able to deal with it.

261 The evidence is that there will be some impact on these birds by the windfarm. That is certainly the experience in Tasmania and Victoria. It is clear that the use by the birds of the same wind resource that makes the site attractive for a windfarm and the fact that the birds are likely to be concentrating on potential prey on the ground creates the potential for collision between these birds and turbine rotors.

262 Dr Meredith expressed the opinion that there was a risk that ongoing deaths of these birds would result in recruitment of new eagles from outside the locality who would also suffer the same fate. He described this as a "potential sink" for eagles.

263 However, even if this were to occur, he postulates a maximum fatality rate of three birds per annum being likely.

264 Mr Lane disagreed. He did not consider that the risk was unacceptable and he supported amelioration measures to deal with minimising risk.

265 The conditions of consent require the adoption of a range of amelioration measures to discourage eagle flight paths in the vicinity of rotors. These are to be contained in the Operation Flora and Fauna Management Sub Plan. They include matters such as swift carcass removal, minimisation of perching opportunities, pest animal control and the like.

266 Dr Meredith accepts that these are appropriate mitigation measures. However, he remained concerned that, even with the range of proposed amelioration measures, the mortality rate for Wedge-tailed Eagles could be as high as three birds per annum.

267 Although such a mortality rate is undesirable, I cannot be satisfied that there is any species protection reason which would warrant refusal of the windfarm because of this impact.

268 However, I noted in the hearing that there were two potential ways of requiring RES Southern Cross to bear the cost of such mortality. These are fining for each eagle death (the approach in Tasmania) or requiring a compensatory payment for each eagle death (the approach in Victoria). I consider that the adoption of imposition of such a cost on RES Southern Cross, whilst it might be regarded by some is merely symbolic, is an appropriate course to follow.

269 It adopts a "polluter pays" approach to environmental harm. It results in the environmental costs of the loss of biota being internalised by the person that is a cause of that loss.

270 Although selection of a monetary figure is somewhat arbitrary, I consider that $1,500 per eagle killed would be an appropriate compensatory payment to be made by RES Southern Cross. In order to ensure that there is some linkage between such compensation and likely positive future outcomes for the species, such payment should be made to the NSW Wildlife Information and Rescue Service within one month of RES Southern Cross becoming aware of such a death. The conditions are to be amended to incorporate such a provision.

Bats

271 On this topic, I had the advantage of evidence from Dr Meredith and Dr Richards, RES Southern Cross's bat expert.

272 Additional survey work was undertaken during the period between the first and final phases of these hearings so that adequate information is now available to permit determination of these issues.

273 The issue of destruction of habitat area as a consequence of clearing for Row 6 has been resolved by agreement for a re-afforestation planting elsewhere and at a location not immediately adjacent to any turbines.

274 The risk of fatalities being caused by impact with the turbines is greater for the Yellow-bellied Sheathtail Bat than for the Eastern Falsistrelle. This is because the typical foraging flight pattern for the first is more likely to be higher (at the turbine rotor height) than that for the second which has a more ground level foraging flight pattern.

275 Dr Meredith and Dr Richards gave concurrent oral evidence on this issue. Dr Richards considered that the impact on either species was acceptable. Dr Meredith considered that the impact on the Eastern Falsistrelle is likely to be acceptable and that the impact on the Yellow-bellied Sheathtail Bat is probably likely to be acceptable. The difference in the two positions taken by Dr Meredith comes from the differences in flight patterns noted above.

276 Taken together the conclusions of the two experts mean I do not have any reason to conclude that the impact would be unacceptable on either species.

Reptiles

277 The Striped Legless Lizard and the Grassland Earless Dragon, if present,

would utilise the native grassland as their habitat. It was the evidence of Dr Meredith and Mr Lane, the relevant fauna experts, that the appropriate, earlier described resolution of the native grassland issue also resolved the issue of habitat of these reptiles.

Other matters concerning the conditions not earlier dealt with

Nacelle generator capacity

278 As earlier noted, RES Southern Cross seeks consent to increase the maximum power of the generator permitted in the nacelle of each of the turbines from 2.0 MW to 3.0 MW. Such alteration does not increase the size of the nacelle and does not increase the amount of noise generated from such a turbine.

279 Although this is opposed by the Guardians, the only possible reason for their doing so would be to reduce the potential economic viability of the project as there are no discernible external impacts arising from such a change.

280 This increase is approved.

The landscaping clause

281 The Guardians seek alterations of the condition to require a 4 km landscaping radius for off-site landscaping in lieu of the 2 km radius proposed by the Minister. In the Minister's written submissions concerning conditions, the Minister acknowledges that a 4 km radius has been imposed on other windfarm approvals.

282 However, as the Minister's submissions note, the three visual impact assessment experts agreed that a 2 km distance would be appropriate in these circumstances.

283 I have no evidence which would cause me to depart from this agreed position.

284 The Court raised matters relating to the time period for reaching agreement to, and implementation of, such works. Landscaping of individual properties could be delayed for up to 18 months after the commencement of operations.

285 This is not reasonable. There appears to be no good reason why all off-site landscaping planning needs to be finalised, for all of the properties which might seek it and who are eligible for it, before any element of such landscaping could be undertaken.

286 This could be accommodated by removing the need for a single off-site landscaping plan and having the condition contemplate that individual off-site landscaping plans might be agreed with each relevant landholder.

287 Such an off-site landscaping plan for an individual property should be required to be submitted to the Director-General for approval within one month of agreement being reached between RES Southern Cross and the individual landholder.

288 Unless the Director-General objects to the provisions of such a plan within one month of its submission, it should be implemented within a further three months.

289 The remaining general timetable for landscaping, including road reserve landscaping, should remain. The conditions are to be amended to reflect my conclusions on landscaping.

Availability of information

290 The Court raised, during the course of the proceedings, the issue of the public

availability of information which was required to be provided by RES Southern Cross arising out of the conditions of consent. In response to this concern, the Minister now proposes a condition which would read:

> Subject to confidentiality, the Applicant must make all relevant documents required under this consent publicly available, including provision of all documents at the site for inspection by visitors.

291 The concept of availability for inspection at the site is desirable and should be retained.

292 However, the preferable approach to the availability of documents is for the parties to go through the settled conditions and identify the clauses containing documents which are to be publicly available and include a list of these documents as a schedule to the conditions.

293 I would expect that, in any consideration by the parties of what documents should be included in that schedule, the approach to be taken is one with a presumption in favour of availability rather than one of a presumption in favour of restriction of access to that information. In the event of any dispute about public availability of documents arising from a particular condition, this can be returned for my determination.

294 Finally, on this issue, it is appropriate that RES Southern Cross provide a copy of all these documents to the public by lodging them for display at the Council's library in Crookwell. The definition of "Publicly Available", in the conditions, should be amended to note this availability at the Crookwell library.

The site sign

295 The condition requiring a site sign should not refer to a location in general terms but should specify where this is to be located. Although I do not have a strong preference, a location next to the Bannaby Road in the vicinity of the northern end of Row 8 would appear preferable.

Definitions

296 The present dictionary to the conditions contains a definition of "Operation". It is in the following terms:

> Any activity at the site that occurs within three months of the commencement of commissioning, unless otherwise agreed to by the Director-General, and that results in the production, or intended production of electricity for contribution to the electricity grid.

297 The Guardians seek the deletion of the three month delay and the removal of the Director-General's discretion. Although I have not had any submissions on this and these changes are rejected by the Minister, they do not appear unreasonable. The conditions should be amended to reflect this, unless the parties are unable to agree that this is acceptable. If no agreement is reached, the matter can be returned for argument.

298 The Guardians also seek to have the definition of "SA Guidelines" amended to ensure that they remain referred to as the guidelines in existence at the time of giving this consent. This, obviously, seeks to guard against these guidelines becoming more permissive in the future.

299 Prima facie, this does not appear unreasonable. The conditions should be amended to reflect this.

Deferred commencement condition

300 The Guardians seek two changes to this condition. The first is merely to the language without significant change to the substance. Both the proposed and the existing versions of this condition can be improved by substituting the words "the applicant has satisfied" for the words "the applicant has indicated to the satisfaction of".

301 The more substantive change sought is to limit, from five years to three years, the period within which RES Southern Cross is required to obtain a consent for connection to the electricity grid. I reject this as it may be that a quite lengthy approval process will be required for this connection and no valid reason, other than the removal of uncertainty, can be inferred to support such a change. Whilst there is undoubted merit in the limitation of uncertainty, the public interest demands that a reasonable period be allowed for the obtaining of this approval for connection to the electricity grid.

Background noise monitoring

302 The Guardians seek a technically complex amendment to this condition which would alter the basis of assessment and collection of pre-existing background noise levels. Although there were two international video links involving the acoustic experts and joint conferencing of the experts, this proposed condition was not dealt with during any of the oral or written evidence from the acoustic experts.

303 I have no evidentiary basis upon which I can assess the merits or otherwise of what is proposed. I must, therefore, reject these proposed changes.

Shadow flicker

304 The present condition dealing with shadow flicker reads:

> Shadow flicker from the development must not exceed 30 hours/annum at any residence not associated with the development.

305 The Guardians seek to add a sentence to this condition which reads "Turbines that exceed 30 hours/annum must be decommissioned."

306 I did not understand from the evidence that there is any basis to assume that excessive shadow flicker, if it were to happen, will necessarily arise from a single identifiable turbine or group of turbines. I have, therefore, no evidentiary basis upon which to impose this addition to the condition.

35 dB(A) limit compliance locations

307 The Guardians seek to add two additional permanent noise limit compliance locations. One of them, "Cloverlee", has been rendered redundant by my decision with respect to its overall level of affectation. With respect to Cushendall, I am not prepared to extend the SA guideline requirement for compliance at existing dwellings to the location of a future dwelling at the vineyard. This matter is appropriately dealt with when considering noise mitigation measures on vacant allotments which have a dwelling entitlement.

308 The second amendment to this condition which is sought by the Guardians is to account for the possibility that H7 may become associated with the development. It would require that an alternative compliance location be agreed to by the Director-General to replace H7. This is also apparently designed to

address questions arising out of the construction of a dwelling at the Cushendall vineyard. Given my conclusion immediately above with respect to the vineyard, this change is unnecessary.

Location of the monitoring tower

309 The Guardians seek the addition of the requirement that "the monitoring tower should be representative for one of the receiver locations mentioned in condition 37".

310 This requirement is not inherently unreasonable. It is desirable for the parties to seek agreement on appropriate wording to reflect what is sought.

Noise mitigation on vacant lots

311 The combined effect of the terms of 2.2 and 3.1 of the SA guidelines is that the 35dB(A) limit in the SA guidelines applies only to locations of dwellings existing at the time of approval of a windfarm proposal or to locations where there is development approval to build a residential dwelling at that time. In the present circumstances, there would be no requirement, if I were merely to follow the regime in those guidelines, to impose any limit on noise at future dwellings where there is no present approval.

312 Such a presently unapproved dwelling, if proposed in the future, might be regarded as "coming to the existing nuisance" and thus not be entitled to any protection.

313 However, I am satisfied that some measure of protection is appropriate despite the absence of such protection arising from terms of the SA guidelines.

314 This view is shared by the Minister who originally proposed a condition dealing with noise mitigation on vacant lots. The Minister's condition was in these terms:

> Where reasonable and feasible, noise mitigation measures are to be provided by the Applicant for no more than one new dwelling, built on any vacant parcel of land legally existing at the date of this consent, (upon which a residential dwelling would be permissible at the same date), as identified in Schedule 3 of this consent. Noise mitigation is to be provided if the noise levels from the development at the approved location of the new residential dwelling would exceed the noise limits recommended in the SA Guidelines.

315 RES Southern Cross has proposed a number of amendments to this condition so that it would read:

> Where reasonable and feasible, physical noise mitigation measures are to be provided by the Applicant for no more than one new dwelling, built on any vacant parcel of land legally existing at the date of this consent, (upon which a residential dwelling would be permissible at the same date), as identified in Schedule 3 of this consent. Noise mitigation is to be provided if the noise levels from the development at the approved location, where the location of the dwelling has been optimally sited to avoid potential noise impacts, would without mitigation exceed the noise limits recommended in the SA Guidelines. The mitigation measures should achieve a noise level [of] LAeq of 30dB(A) inside the habitable rooms of such a dwelling.

316 The Guardians seek alterations to this amended version of the condition.

317 The first change sought by the Guardians is to delete the requirement, at the

commencement of the condition, for reasonability and feasibility for any mitigation measures which are necessary. I am certainly not prepared to require such a deletion for the obvious reasons.

318 The second change sought by the Guardians is to delete the requirement that such mitigation measures be "physical". Whilst the insertion of this word in the condition by RES Southern Cross may have been unnecessary (as it is difficult to imagine what other types of mitigation measures may be available), it is preferable to leave the requirement.

319 The third change sought by the Guardians is to insert the words "as required by the Director-General" after the words "mitigation measures" at the commencement of the condition. Given the conclusion I have reached about the basis of determining what allotments should have the benefit of this condition and my acceptance of RES Southern Cross's proposal for a measurable and mandated outcome for such mitigation works (discussed below), such a requirement for a determination by the Director-General is rendered unnecessary.

320 The fourth category of changes sought by the Guardians is one which would appear to preserve an entitlement to mitigation for new dwellings in subdivisions or in replacement of existing dwellings (by inference, if such replacement were to be at a noisier location than the existing dwelling).

321 Although there were submissions made as to where future development potential might lie and what might be the consequences of it, there was no agreement between the parties on this topic.

322 Given my earlier determination about blight, I am not prepared to approve an unlimited and speculative provision in this regard.

323 The fifth change sought by the Guardians is the deletion of the proposal by RES Southern Cross that any such new dwellings be "optimally sited to avoid potential noise impacts" before they could attract an entitlement to ameliorative measures. RES Southern Cross proposal seems to me to be an unreasonable restriction on the owners of vacant allotments. In addition, it could result in dwellings being sited at locations that are unacceptable for other reasons. Therefore this change sought by the Guardians is appropriate. However, siting issues may be matters which could be considered, pursuant to s 79C of the Act, on any development application for a potentially impacted dwelling.

324 The sixth change sought by the Guardians is the deletion of the words "without mitigation". Given my acceptance of the appropriateness of a measurable and mandated outcome for mitigation works arising out of this condition, such a requirement is inappropriate.

325 The seventh (and, perhaps, most substantive) change sought by the Guardians is the deletion of the specification of the degree of noise mitigation to be provided at any dwelling which would become entitled to such mitigation by virtue of this condition.

326 The Minister's originally proposed condition impliedly might have required the mitigation measures to achieve compliance with the SA Guidelines (although this was not expressly clear, as can be seen from the terms of the original proposed condition).

327 RES Southern Cross seeks to specify what is to be achieved by such mitigation measures. It proposes that the mitigation measures should achieve a

noise level of LAeq of 30dB(A) inside the habitable rooms of such a new dwelling when, without mitigation, the SA Guidelines would be breached (if they applied to new dwellings).

328 As earlier noted, the evidence of the noise experts was that the facade effect achieved a mitigation of 10dB(A) for the interior of a dwelling, this proposal would, effectively, provide for a 5dB(A) increase for such dwellings above that provided by the SA guidelines for existing dwellings or sites with existing approvals.

329 However, having considered the composite noise map provided by the Guardians, I am satisfied that the mitigation measures to ensure compliance with the SA guidelines for new dwellings may impose an unreasonable restriction on the windfarm.

330 The RES Southern Cross position generally represents a reasonable compromise between adopting the SA guidelines position of leaving future dwellings unprotected and the imposition of a regime which was not intended to be applied to such locations.

331 The RES Southern Cross position is, therefore, accepted. However, to assist lay readers of this condition, the wording could be improved by substituting "are to" for "should" (see (317)).

332 The final area of dispute concerns what properties are to be listed on the proposed Sch 3 to the conditions of consent. The Minister and RES Southern Cross propose that the benefit of this condition be limited to "Cloverlee" (Mr Kerridge's property) and "Cushendall Vineyard" (the Miskelly property). The Guardians seek an expanded list to include seven other properties.

333 As earlier noted, there was no agreement between the parties as to where future development potential, including existing dwelling entitlements, might lie.

334 I have already determined, in dealing with the Guardian's proposal for compensation for "blight", that monetary compensation for loss of some possible future subdivision development right was not appropriate for the reasons there set out. I have also rejected as inappropriate, creating an unlimited and speculative entitlement to mitigation for new dwellings in subdivisions or in replacement of existing dwellings. As a consequence, the benefit of this condition should be limited to one new dwelling which might be built on an existing vacant parcel of land and upon which a residential dwelling would be permissible at the date of the consent.

335 If no properties were listed in a schedule, the condition provides four tests before a single new dwelling could become entitled to mitigation measures. As a consequence, to obtain the benefit of the condition, such a dwelling must:

1. be proposed for a vacant parcel of land;
2. be on a parcel which is legally existing at the date of the consent;
3. be permissible on the parcel at the date of the consent; and
4. at its proposed location, without mitigation, exceed the noise limits recommended in the SA Guidelines.

336 In addition, such a condition should not apply to any parcel of land which, at the time of the consent, forms part of an associated landholding.

337 Each of these is a matter amenable to objective determination in any instance. Any such dwelling, prima facie, should be entitled to the protection called up by this condition.

338 Even if a proposed dwelling satisfied all of these tests, it would still be subject to assessment against the criteria called up by s 79C of the Act before it received approval and actually became entitled to mitigation measures.

339 I therefore consider that the appropriate course is not for me to make an assessment of whether or not any individual property might be appropriate to be listed in a schedule to these conditions but to leave the question to be determined, on a case by case basis, through the process outlined above.

340 However, the obligation on RES Southern Cross created by such a condition cannot be an open ended one and cannot be one where RES Southern Cross has no opportunity to make submissions to the Council about any application which would trigger such mitigation works. As a consequence, entitlement to such measures should only arise when a development application for a potentially entitled dwelling is lodged with the Council within five years of the date of commencement of commissioning *and* a copy of the development application is provided to RES Southern Cross (or any successor in title to RES Southern Cross during such five year period) within 28 days of its lodgment with the Council.

341 As a consequence, this condition should now read:

> (a) Where reasonable and feasible, physical noise mitigation measures are to be provided by the Applicant for no more than one new dwelling, built on any vacant parcel of land legally existing at the date of this consent, not part of an associated landholding at that date, and upon which a residential dwelling would be permissible at the same date. Noise mitigation is to be provided if the noise levels from the development at the approved location of the new residential dwelling would, without mitigation, exceed the noise limits recommended in the SA Guidelines. The mitigation measures are to achieve a noise level of LAeq of 30dB(A) inside the habitable rooms of such a dwelling.
>
> (b) This condition only applies to new dwellings for which a development application is lodged with the Council within five years of the date of commencement of commissioning and where a copy of the development application is provided to RES Southern Cross (or any successor in title to RES Southern Cross during such five year period) within 28 days of its lodgment with the Council.

Extent of turbine or other component relocation

342 The Guardians seek to restrict the permitted extent of relocation of any component of the development to 100 m, should the native grassland or the orchid be found. They also seek that the consequence of any greater relocation being needed is that that element be deleted. The present proposed condition would permit a maximum relocation of 250 m and permit an application for modification if a greater relocation were to be required.

343 The present terms should be retained and the Guardian's proposed change rejected. I am satisfied, from the site inspection and a consideration of the topographic map, that a 250 m relocation of any of the elements is not unreasonable.

344 If such relocation cannot be accommodated within a 250 m radius of the original location, a modification application can be made under s 96 of the Act to modify the condition to allow relocation within a greater distance. This will enable an assessment, at that time, of any possible impacts of a greater relocation. This is an entirely sensible approach. In addition to any merit matters

concerning a relocation of more than 250 m, such a modification application would also trigger the assessment of whether the modified development would be substantially the same development as that originally approved – that being the threshold test under s 96 of the Act for such modification to be permitted.

Bird and bat active management program

345 The Guardians seek to change the timing of the preparation of this programme to make it part of the Operational Environmental Management Plan. It would appear that the effect of such a change would require the bringing forward of finalisation of the Operational Environmental Management Plan to "prior to the commencement of construction". I can see no reason why this should be the case.

Weed control

346 The Guardians seek a change which would appear to limit the ability of RES Southern Cross to make third-party payments for aerial weed control or fertiliser application. I can see no reason why this should be the case given that such weed control or fertiliser application can only take place on any surrounding property with the consent of the owner of the property.

Variation of controls by the Director-General

347 The Guardians seek to impose or alter a number of aspects of the Director-General's role.

348 These changes are opposed by the Minister. The submissions made on his behalf, in this regard, in the following terms:

> They impose an unnecessary administrative burden on the Director-General. The proponent is required to enter into satisfactory arrangements in order to comply with the conditions, including the submission of compliance reports to the Department. These matters are ancillary to the development and, if they are not met, RES Southern Cross will not be complying with the conditions of consent.

349 I accept the Minister's submission, on this, as reasonable.

Decommissioning security

350 The Guardians seek that RES Southern Cross provides security for future decommissioning. The present conditions enable decommissioning to be subject to the lease arrangements between RES Southern Cross and the owners of the various associated properties. I have no evidence of what those arrangements might be. It is conceivable that the burden of decommissioning might fall on the owner of an associated property rather than on RES Southern Cross.

351 The effect of the present condition is that the Director-General must be satisfied that adequate provisions have been made for decommissioning to occur as and when required. If the Director-General is so satisfied, then I can see no reason why I should go behind that satisfaction and require RES Southern Cross to provide security for something about which the Director-General is otherwise satisfied.

Conclusion

352 It follows from what has been set out in this decision that I am satisfied that the overall public benefits outweigh any private disbenefits either to the Taralga community or specific landowners.

353 I am also satisfied that there is no rational basis upon which to require the deletion of any of the turbines originally proposed and thus I am satisfied that the full original scope of the windfarm should be permitted.

354 Amendments to the conditions will need to be settled between the parties to reflect the specific findings set out above.

355 I indicate that, once the conditions are settled, I will make orders upholding the appeal and granting development consent to Development Application 241/04 to construct and operate 62 wind turbines each consisting of a 65 m tower, nacelle and 3 × 45 m long fibreglass blades, associated access tracks, transformer units, electrical substation and control building, network of electrical connections linking each turbine to the electrical substation and a TV re-transmitter tower.

Directions

356 As the conditions of consent will need to be modified in light of the various matters set out in this decision, I direct that the parties settle and file, by 4 pm on Friday 16 February 2007, agreed conditions to reflect this decision.

357 Those conditions are to be filed electronically in accordance with Practice Direction 2 of 2005 and a separate Court e-mail sent notifying of the filing. If this is done, orders will be taken out to give effect to this decision.

358 If the parties are unable to agree on the terms of those conditions, the parties are to file short written submissions on matters in dispute by 4 pm on Wednesday 21 February 2007 and the matter is re-listed before me at 9 am on Friday 23 February 2007 for the purpose of resolving any disagreements on wording of the conditions.

Order accordingly

Solicitors for the applicant: *Storey & Gough*.

Solicitor for the first respondent: Legal Branch, Department of Planning.

Solicitors for the second respondent: *Middletons Lawyers*.

CHRIS NORTON