VICTORIAN CIVIL AND ADMINISTRATIVE TRIBUNAL

ADMINISTRATIVE DIVISION

PLANNING AND ENVIRONMENT LIST

VCAT REFERENCE NO. P2691/2006
PERMIT APPLICATION NO. P73/2007

CATCHWORDS

Application under section 77 of the *Planning and Environment Act 1987* to review **a decision to refuse** a permit. Wind Energy facility (windfarm). Seven wind turbines. Farming zone. Noise amenity impact. Landscape values. Landscape amenity impact. Proximity to dwellings.

APPLICANT	Synergy Wind Pty Ltd
RESPONSIBLE AUTHORITY	Wellington Shire Council
RESPONDENT	Sharon Dohnt and others; Gary McVean, Terry Willmott, Geraldine Savahl, R Handley, Faye Vyner and John Danuser, D R Moffat, R&D Tucker, M Greenaway, P Forder, M Telling, A Jung, P Kimber, L Strobel and T Burgoyne.
SUBJECT LAND	144 Ingles Road Devon North
WHERE HELD	Wellington Shire Council Offices, Sale and Melbourne
BEFORE	Jeanette G Rickards, Presiding Member Ian Potts, Member
HEARING TYPE	Merits Hearing
DATE OF HEARING	1st, 2nd and 3rd August 2007 and 6 September 2007
DATE OF ORDER	21 December 2007
CITATION	Synergy Wind Pty Ltd v Wellington SC [2007] VCAT 2454

ORDER

The decision of the Responsible Authority is set aside. In permit application P73/2007 a permit is granted and directed to be issued for the land at 144 Ingles Road, Devon North.

The permit allows the use and development of a wind energy facility comprising seven turbines each with a generating capacity of not more than 2 MW and associated infrastructure in accordance with the endorsed plans and subject to the following conditions:

1 Before the use and or development starts, amended plans to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the plans will be endorsed and will then form part of the permit. The plans must be drawn to scale with dimensions and two copies must be provided. The plans must be generally in accordance with the plans submitted with the application but:

i Modified to show the exact locations of the turbines on the site so that no turbine is closer than 500 metres to any dwelling existing at the date of approval of this permit other than the dwelling belonging to the owner of the site.

ii Provide a detailed schedule of materials, colours and finishes of the wind generators (inclusive of nacelles, blades and foundations) and any other structure proposed as part of the facility.

iii If the turbines are re-positioned from the locations identified in the report prepared by Marshall Day Acoustics dated 7 June 2007 (Appendix H - Summary of Parameters):

a A revised acoustic report must be submitted that assesses the potential noise levels at adjoining residents in accordance with the method of New Zealand Standard: *'Acoustics - The Assessment and Measurement of Sound from Wind Turbine Generators'* (NZS 6808:1998) for the revised location of the turbines and demonstrates compliance with this standard.

b A revised shadow flicker assessment must be submitted demonstrating compliance with the *Policy and planning guidelines for development of wind energy facilities in Victoria* (Sustainable Energy Authority Victoria, May 2003 or as amended at the time of assessment).

All to the satisfaction of the Responsible Authority.

Use and Layout Conditions

2 The use and layout of the site and the size, design and location of the buildings and works permitted must always accord with the endorsed plan and must not be altered or modified without the further written consent of the Responsible Authority.

3 All tower access points and electrical equipment must be locked and made inaccessible to the general public. Public safety warning signs must be located on all towers, and all spare parts and other equipment and materials associated with the wind energy facility must be located in screened, locked storage areas that are inaccessible and not visible to the public, to the satisfaction of the Responsible Authority.

4 This permit does not include permission for any buildings or works associated with the re-powering of the wind energy facility. Such works will require further planning approval.

Wind Energy Facility Specifications

5 The wind energy facility and turbines must not exceed the following parameters:

i Seven MM92 turbines in total (or equivalent type to the satisfaction of the Responsible Authority);

ii turbines to be mounted on round steel towers no greater than 80 metres in height to the hub of the turbine;

iii rotor blades of no more than 48 metres in length;

6 Unless with the consent of the Responsible Authority, all areas affected by construction activities required for the wind energy facility, including access roads and lay down areas, must be revegetated and rehabilitated to their previous condition at the completion of construction operations to the satisfaction of the Responsible Authority.

Heritage Protection and Management

7 Works must cease immediately upon the discovery of any Aboriginal cultural material and Aboriginal Affairs Victoria must be notified immediately of any such discovery.

8 If any suspected human remains are found work must cease immediately and the Victoria Police and State Coroner's Office must be notified immediately.

If there are reasonable grounds to suspect that the remains are Aboriginal, the discovery should also be reported to Aboriginal Affairs Victoria.

Traffic Management Plan

9 Before any building or works commence in association with the wind energy facility, the following information must be submitted to and approved by the Responsible Authority:

i A Traffic Management Plan, addressing the following issues:

a construction and transport vehicle routes;

b the suitability of access roads for traffic needs;

c existing and potential impacts upon traffic volumes on local roads;

d vehicle access points to turbine sites from Bolgers Road;

e the provision of appropriate traffic management signs:

f the need for intersection upgrades to accommodate any additional traffic requirements; and

g re-powering and/or de-commissioning traffic requirements.

Avifauna Management

10 Before the commissioning of any stage of the wind energy facility, the following information must be submitted to and approved by the Responsible Authority in consultation with the Department of Sustainability and Environment (DSE):

i A bird and bat management plan which includes:

a a post-commissioning bird and bat mortality monitoring program along with scavenger trials to determine what impact the wind energy facility is having on bird and bat species.

b a mitigation plan for dealing with potential threats to bird and bat species that may be identified through these studies.

The results of the surveys and monitoring work must be reported to the DSE and the Responsible Authority.

Environment Management Pan

11 Before any works commence on the site, an Environment Management Plan (EMP) that covers the construction, operation, re-powering and decommissioning of the wind energy facility must be prepared to the satisfaction of the Responsible Authority. The EMP must address the following issues:

i A construction and work site management plan which includes:

a procedures for access, noise and pollution management;

b identification of all potential contaminants stored on site;

c the identification of all construction and operational processes which could potentially lead to water contamination;

d the identification of appropriate storage, construction and operational methods to control any contamination risks;

e the identification of any waste re-use, recycling and disposal procedures;

f criteria for the siting of any temporary structures required during construction (including construction compound, workers huts, concrete batching facilities, storage and laydown areas, etc.); procedure for their removal and reinstatement of the land once they are no longer needed;

g detailed track construction plans for all tracks and access points, to the satisfaction of the responsible authority. Access must only be taken from Bolgers Road;

ii A sediment and erosion management plan which includes:

a procedures to ensure that silt from batters, cut-off drains, table drains and road works is retained on the works site during and

after construction. All land disturbances must be confined to the minimum practical and to the vicinity of the identified works area.

b soil to be removed must be stockpiled and separate horizons must be stockpiled separately and not mixed. Stockpiles must be located away from drainage lines and covered/stabilised to limit wind erosion;

c details for the storage of fuels and chemicals in securely bunded areas well away from waterways and native vegetation;

d procedures to contain any contaminated or turbid run-off during and after construction;

e procedures to suppress dust arising from construction-related activities. Appropriate measures may include water sprays on roads and stockpiles, stabilising surfaces, temporary screening, modifying construction activities during heightened wind periods and revegetation of exposed areas as soon as possible;

f procedures to ensure that steep batters are treated in accordance with Environment Protection Authority recommendations detailed in the *'Construction Techniques for Pollution Control'* No. 275, 1991;

g procedures for waste water and discharge management;

h procedures for reinstatement of unnecessary tracks, hardstand areas and other areas following completion of construction.

The development and use must be carried out in accordance with the approved Environmental Management Plan to the satisfaction of the Responsible Authority.

Off-site Landscape and Visual Screening Plan

12 Before the development starts, a program of landscape mitigation works is to be offered to the landowners of the 'Stone' and 'Neist' properties (as identified in the Statement of evidence for visual impact prepared by Stephen Schutt of Hansen Partnership Pty Ltd, dated May 2007). As part of this program an Off-site Landscape Plan must be prepared and submitted to the satisfaction of the Responsible Authority. When approved, the plan will be endorsed by the Responsible Authority. The Off-site Landscaping Plan may be submitted in stages to the satisfaction of the Responsible Authority (so that not all stages are completed before the development starts) and must include (but may not be limited to) the following:

(a) A provision for landowners of the 'Stone' and 'Neist' properties to have the opportunity to accept the offer of visual screen planting at any time up until six (6) months after the commissioning of the last wind generator;

(b) The process by which those landowners provided for in condition 12(a) will be informed of this offer and the process by which it can be accepted;

(c) Details of planting or other treatments that will be used to reduce the visual impact of the wind turbines at the dwellings of participating landowners;

(d) Details of species proposed to be used for the landscaping including details of height and size of species at maturity;

(e) A timetable for the implementation of the plan;

(f) A maintenance program.

The use and development must be carried out in accordance with the endorsed Off-site Landscape Plan to the satisfaction of the Responsible Authority.

Noise Management and Commissioning Report

13 The operation of the wind energy facility must comply with the New Zealand Standard: *'Acoustics - The Assessment and Measurement of Sound from Wind Turbine Generators'* (NZS 6808:1998) (the *'New Zealand Sta*ndard') in relation to any dwelling existing at the date of approval of this permit to the satisfaction of the Responsible Authority.

14 Within three months of the commencement of operation of any turbine(s) associated with the wind energy facility hereby permitted, an independent post-construction noise monitoring program must be undertaken by the proponent in accordance with the *New Zealand Standard* to the satisfaction of the Responsible Authority. The program must monitor noise levels at any dwellings existing within a one kilometre radius of any wind turbine at the date of approval of this permit and that is not in the same ownership as the subject land.

A report summarising the results of the program, and the data collected, must be forwarded to the Responsible Authority within 30 days of the end of the monitoring period. The results must be written in plain English and formatted for reading by lay people.

Recommendations to address any non-compliance with the *New Zealand Standard* must be included in the report and, on agreement by the Responsible Authority measures to address non-compliance must be immediately implemented to the satisfaction of the Responsible Authority.

Electromagnetic Interference Commissioning Report

15 The permit holder must conduct a pre and post construction qualitative survey of telecommunications receiver and transmitter stations with line of sight across the site including TV and radio reception for residences and facilities within an area prescribed by a one kilometre radius from each of the turbine locations associated with the wind energy facility hereby

permitted. If the qualitative survey establishes any detrimental increase in interference to reception and/or signals, the applicant shall implement mitigation measures that return affected reception and/or signals to pre-construction quality to the satisfaction of the Responsible Authority.

Shadow Flicker Management

16 The permit holder must implement mitigation measures to the satisfaction of the Responsible Authority to ensure that no dwelling experiences an unacceptable degree of shadow flicker or undue blade glint. Shadow flicker experienced at any dwelling in the surrounding area must not exceed 30 hours per year as a result of the operation of the wind energy facility hereby permitted.

Aviation Safety and Lighting

17 As required by the Civil Aviation Safety Authority (CASA) aviation obstacle lighting must be placed on the turbines to the satisfaction of the CASA. To the extent allowed by the CASA the lights must be shielded or designed so that the light is only directed upwards and does not shine at or below the horizontal plane of the light fitting.

18 Following construction of the wind energy facility, CASA must be informed so that they can determine the adequacy of the lighting provisions to ensure that the safety of air navigation is not compromised. Further action as to aviation lighting arising from this inspection and at the direction of CASA shall be implemented.

19 Except as provided for in this permit the turbines and towers must not otherwise be artificially illuminated at night.

20 Once the final position of the wind turbines has been determined for the wind energy facility hereby permitted and prior to their construction, the developer must supply the RAAF AIS with the height and position of the turbines. When construction is complete, *'as constructed'* details must also be passed to the RAAF AIS.

Decommissioning

21 At project closure and/or decommissioning, the applicant must conduct the following operations to the satisfaction of the Responsible Authority:

i the removal of all non-operational or downed equipment;

ii the removal and clean-up of any residual spills;

iii the clean-up and restoration of all storage, construction and other areas associated with use, development and decommissioning of the wind energy facility;

iv the restoration of all tower pads, access roads and any other area affected by project closure or decommissioning.

Permit Expiry

22 This permit will expire if the development is not started within four years and completed within six years of the date of this permit.

The Responsible Authority may extend this period if a request is made in writing before the permit expires or within three months afterwards.

Jeanette G Rickards
Presiding Member

Ian Potts
Member

APPEARANCES:

For Applicant	Mr Paul Chiappi, of Counsel, instructed by Harlock Jackson Pty Ltd. Mr Chiappi called as expert witnesses: Ms Virginia Jackson, planner; Mr Tim Marks, acoustic engineer; and Mr Stephen Schutt, landscape architecture..
For Responsible Authority	Mr Tim Peggie, town planner of The Planning Group.
For Respondents	Ms Joanne Lardner, of Counsel by direct brief. She called as expert witnesses: Mr Patrick O'Neil, earth scientist; Mr Graeme Harding, acoustic engineer; and Mr Denis Williamson, landscape planner. Mr Reakes and Ms Neist, respondents, spoke on their own behalf.

REASONS

INTRODUCTION

1 The proposal to construct and operate a Wind Energy Facilities (WEF)[1] is an often hotly contested matter, raising issues of noise and loss of landscape values by those surrounding the proposed site. This proposal is no different. In March 2006, the Wellington Shire Council (the Council) received an application for the use and development of the subject site for a WEF.[2] This application was for nine (9) wind generating turbines and associated infrastructure. Subsequent to notification requirements and provision of additional materials[3], the Council refused to issue a permit on the grounds that:

> The wind energy facility will impact unacceptably on local amenity in terms of:
>
> 1. ongoing noise emissions; and
> 2. disruption to views.

2 Following the application for review of Council's decision to refuse the permit, Ms Donht and other local community members submitted their objections to the issue of a permit. The grounds were substantially centred around perceptions of amenity impacts to their rural lifestyle. Issues relating to birds (wildlife), bushfire risks and other matters were also raise, but not actively pursued in this hearing.

3 In arriving at our decision to grant a permit for this WEF, we have taken into consideration the matters raised by the parties in their submissions. As Ms Lardner noted in her opening comments, objections to WEF's often raise a plethora of concerns. In this instance, it was our findings that the concerns centred largely on the impacts to the amenity of residents in a range of rural lifestyle and farm dwellings located around the site. However we have found, after considering all the relevant material submitted or raised with us, that the proposal is acceptable when having regard to the balance between the policy weighting toward the establishment of WEF's and the local amenity issues.

4 In arriving at this decision, and giving consideration to the policy support for WEF's (discussed later in these reasons) it strikes us that one must consider the opportunity for WEF's like many other natural resources. WEF's utilise wind energy. As is set out in the Policy and Planning Guidelines for development of wind energy facilities in Victoria, this resource is limited to specific coastline and inland locations. Put another way, just like quarries or mines, WEF's cannot be located anywhere. There

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1 More commonly termed wind farms.

2 Applications for WEF's with a generating capacity 30MW or less are submitted to the local Responsible Authority. Proposals for more than 30MW or more submitted to the Minister for Planning: Amendment Clause 61.01 of the Wellington Planning Scheme.

3 These details were set out at section 3 of Mr Peggies submission.

are specific location requirements that must be met to gain the best wind supplies. We have borne this in mind when considering the matters before us and weighing up the policy support for WEF's, the opportunity that this site presents and the concerns raised by the Council and objector residents.

Some preliminary matters and the hearing

5 At the commencement of the hearing Mr Chiappi applied to amend the permit application by the substitution of amending plans as foreshadowed by notice given in accordance with the Tribunal's practice requirements. The amending plans reduce the number of turbines in the proposal from nine to seven with some revision of the turbine #4 location. Other details of the proposal were amended, including relocation of the transformer and changes to the access tracks.

6 No-one opposed the amendment of the permit application in this way, although Mr Peggie questioned the co-ordinates and elevation of some turbine locations, a matter which he took up in his submissions. The amended plans were substituted as the plans the subject of this application for review and the permit application.

7 An application for the joining[4] of a number parties to the proceedings was made by Ms Lardner. She submitted that a number of the parties were objectors to the original permit application and were now responding to the amended plans.[5] This application was not opposed and the parties were joined.

8 The parties at the hearing relied on written and oral submissions and numerous photographs, plans and other documents were tendered. All witnesses spoke to written evidence, gave oral evidence and were made available for cross examination. The various tendered materials, save for the elaborate and noteworthy three dimensional scaled diorama of the subject site and surrounds have been retained on the Tribunal's file.

9 We made an initial inspection of the site on the first day of the hearing. We undertook a more detailed inspection of the site and surrounds following the final day of hearings in September. We also took the opportunity during this latter inspection to visit the Toora Wind Farm and surrounds to assist in our deliberations on this matter.

10 At the commencement of the hearing we informed the parties that the Tribunal had provided the decision for the matter of *Perry v Hepburn SC*[6], a decision regarding an application for a two turbine WEF at Leonards Hill, near Daylesford. As this was the first decision of the Tribunal on the matter of WEF's since 2002[7], and sought to set out some important principles we

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4 In accordance with section 60 of the *Victorian Civil and Administrative Act* 1998.

5 The parties as advised to us were Margaret Greenaway, Pauline Kimber, Geraldine Savahl, David Moffat, Deborah Tucker, Paul Forder, Anna Jung, Lorraine Strobel, Michael Telling, R Handley and Tracey Burgoyne.

6 [2007] VCAT 2122.

7 Ibid at paragraph [20].

afforded the parties an opportunity to respond to this decision at the end of the hearing. As appropriate we have also drawn upon this decision in our deliberations on this matter.

Where is the wind farm to be located?

11 The wind farm is proposed for a grazing property located at 144 Ingles road, Devon North, some 8 kilometres west of Yarram and 16 kilometres to the north of Port Albert. This property comprises four separate lots which together make up a property of approximately 120 hectares.

12 The site lies at the foothills of the Strezlecki Ranges. It is an undulating site, but can generally be thought of as one of a number of low hills that are present along the boundary of the coastal plain to the south and the higher Strezlecki Ranges to the north. Mr Peggie summarised the site conditions this way:

> The site varies in elevation from 70 metres AHD in the south of the site to approximately 170 AHD metres [sic] in the northern section of the site. This increase in elevation is not uniform as the site varies in undulation. In simple terms however the site is of lower elevation in the south, south-east and south-west and higher elevation in the north and north-west with two main hills providing the greatest topographical relief in the central section of the site.

13 The fall in relief to the east is due to the valley cut by Stony Creek. This waterway forms (in part) the eastern, irregular boundary of the site. The south-west boundary of the site follows another, unnamed creek, which joins to Stony Ck south of the site. The southern site boundary is along Ingles Rd. The western and north-western boundaries are to other private farmland, the latter following a gully line. The northern most boundary follows Bolgers Rd. The various boundary lines, in following gully and creek lines, results in the property being viewed as singular rise from various public and private realm locations, most particularly from the south, east and west. We can attest to the views to be gained from the central high point of this property.

14 The site is largely cleared for grazing purposes, with scattered trees and windbreaks located across the site. The largest congregation of trees are around the lower, southern portions of the site, along Stony and the unnamed creeks and a pine plantation in the north-west of the site. Improvements to the site include a farmhouse, various sheds and a number of dams, paddock fencing and a number of internal farm tracks.

15 To the south of the site, the topography falls and blends into the Yarram/Port Albert coastal plain. The land use is a mix of open farming (grazing) land and state forest. To the immediate east, i.e. the immediate east of Stony Creek, lies open farm land, variously parcelled into lifestyle farm properties. The topography here is generally lower than the subject site, but remains undulating. Beyond these lies state forest and private bush properties on the lower, plains area.

16 A similar land use pattern extends to the north and west, with a mix of lifestyle farm or rural properties on undulating land, of elevations higher and lower than the subject site. Generally as one progresses further north and west into the Strezlecki ranges the land elevation is higher than the subject site. The Strezlecki State Park also lies to the north and west.

17 Mr Peggie suggested to us that the site is located within the Devon North hamlet. Mr Reakes and Ms Lardner submitted a similar sense of belonging by local residents to the Devon North community. We do not doubt such a sense of belonging. However we find it a stretch from a physical point of view to suggest the degree of settlement is intense enough to be considered a hamlet. The term hamlet more rightly applies to that of Devon North, a settlement area well removed to the north-east of the subject site. We acknowledge however that there exists a mix of farming and rural lifestyle use around the subject site and their appears to be a strong community bound.

What is proposed?

18 Synergy proposes the construction of seven wind turbines of 2MW capacity each. These turbines (under the amended plans) will be more or less evenly distributed around the upper portion of the site (the base elevations ranging from 107m AHD to 150m AHD). Each turbine is to have a hub height[8] of 80m and a blade radius of not more than 48m.[9] The combined height from ground level to highest blade tip would therefore be 128m above ground level. Turbine elevations will range from 187m AHD to 230m AHD with the top blade elevations ranging from 235m AHD to 278m AHD. Transformer kiosks are to be located at the base of each turbine tower (or possibly internal to the tower). The turbines, towers and blades will be coloured off-white.

19 The turbine towers will be linked by an unsealed access track collocated with underground power transmission cable. This cable will lead from Turbine #8 (the southern most turbine) to the southern boundary of the site, where it will connect to above ground power lines and thence connect to a 66Kv line 5 km to the south-east of the site along the Yarram-Morwell Rd. A transformer is to be located at this connection point to the 66Kv line.

20 A temporary lay down / works area of 50m by 50m dimensions is proposed at the northern end of the property, in proximity to Turbine #1. The works area will be accessed from Bolgers Rd. The aforementioned access track will lead from this works area, eastward to the proximate base of each tower, terminating at Turbine #5. A vehicle parking area is provided close to the base of each tower.

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[8] The hub height is a combination of the tower and turbine nacelle.

[9] The original application was for a turbine blade radius of 46.25 metres, however Mr Chiappi sought a condition to allow an increase to not more than 48m due to potential future changes in available turbine technology.

What are the relevant planning scheme provisions and other applicable statutes?

21 The subject site is located in a Farming Zone (FZ).[10] It is not affected by any overlays. Applications for wind energy facilities are subject to the particular provisions of clause 52.32 of the Wellington Planning Scheme.

22 The purposes of the farming zone are:

> To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.
>
> To provide for the use of land for agriculture.
>
> To encourage the retention of productive agricultural land.
>
> To ensure that non-agricultural uses, particularly dwellings, do not adversely affect the use of land for agriculture.
>
> To encourage use and development of land based on comprehensive and sustainable land management practices and infrastructure provision.
>
> To protect and enhance natural resources and the biodiversity of the area.

23 Wind energy facilities (i.e. wind farms) are a section 2, permit required use.[11] A permit is also required for the building and works.[12]

24 Decision guidelines set out that the Responsible Authority, and now the Tribunal, must consider a variety of general, agricultural, environmental, dwelling, design and siting issues.[13] The list is extensive and need not be repeated here in full. Particularly relevant matters include:

> **General Issues**
>
> The State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.
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> …..
>
> Whether the site is suitable for the use or development and whether the proposal is compatible with adjoining and nearby land uses.
>
> **Agricultural issues**
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> Whether the use or development will support and enhance agricultural production.
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> Whether the use or development will permanently remove land from agricultural production.

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10 Clause 35.07 of the Wellington Planning Scheme.
11 Clause 35.07-1.
12 Clause 35.07-4.
13 Found at clause 35.07-6.

The potential for the use or development to limit the operation and expansion of adjoining and nearby agricultural uses.

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Environmental issues

The impact of the proposal on the natural physical features and resources of the area, in particular on soil and water quality.

The impact of the use or development on the flora and fauna on the site and its surrounds.

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Design and siting issues

The need to locate buildings in one area to avoid any adverse impacts on surrounding agricultural uses and to minimise the loss of productive agricultural land.

The impact of the siting, design, height, bulk, colours and materials to be used, on the natural environment, major roads, vistas and water features and the measures to be undertaken to minimise any adverse impacts.

The impact on the character and appearance of the area or features of architectural, historic or scientific significance or of natural scenic beauty or importance.

The location and design of existing and proposed infrastructure including roads, gas, water, drainage, telecommunications and sewerage facilities.

25 The purpose of clause 52.32 is to 'facilitate the establishment and expansion of wind energy facilities, in appropriate locations, with minimal impact on the amenity of the area'. Applications for wind farms are required to submit information on a number of matters. This includes:

The location of all dwellings within a 500 metre radius of the site.

….

Photomontages or other visual simulations illustrating the development from key vantage points.

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An assessment of the noise impact of the proposal based on the New Zealand Standard NZ6808:1998, Acoustics – The Assessment and Measurement of Sound from Wind Turbine Generators.

An assessment of other potential amenity impacts such as blade glint, shadow flicker, electromagnetic interference.

26 The decision guidelines call for consideration of:

The views of the Sustainable Energy Association of Victoria about the contribution of the proposal to reducing greenhouse gas emissions.

The effect of the proposal on the surrounding area in terms of noise, blade glint, shadow flicker and electromagnetic interference.

The impact of the development on significant views, including visual corridors and sightlines.

The impact of the facility on the natural environment and natural systems.

The impact of the facility on cultural heritage.

The views of the Civil Aviation Safety Authority if within a 30 kilometre radius of an airfield.

The Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria, 2003.

27 The general decision guidelines of clause 65 also apply.

28 Matters to consider under the State and Local Planning Policy Frameworks were set out by Mr Peggie and Ms Jackson. They referred us to state environmental policy, particularly renewable energy, business, tourism, agriculture and infrastructure.[14] The Municipal Strategic Statement (MSS) provides an overview of the shire and its strategic planning setting. This includes matters of settlement, environment and economic development.[15] Both agreed that there was little by way of local policy relevant to this case other than the small rural lots policy.[16]

29 Reference is made under clauses 15.14 and 52.32 to the 'Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria' (the WEF Guidelines).[17]

30 We have taken these provisions, policies and guidelines into consideration in arriving at our decision.

WHAT IS THE BASIS OF THE TRIBUNAL'S DECISION?

31 In his submission, Mr Peggie submitted that the Council does not contest that the proposed WEF meets 'Government Policy, Aircraft Safety and Flora and Fauna'. He submits that Council's grounds relating to visual and other amenity impacts to the surrounds are where the proposal fails to comply with the WEF Guidelines. The objectors relied substantially on similar grounds, but also raised matters of shadow flicker, construction traffic access, impacts to farm activities and geotechnical stability issues.

32 Having reviewed the various application materials, submissions and expert evidence, we see no reason to disagree with the Council that apart from the matters outlined there is no need to dwell on additional matters not under contest. We accept that the site does not present unacceptable risks to sensitive flora or fauna, heritage sites or aircraft safety. This is a matter that

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14 Clauses 15, 15.14, 17.02, 17.04, 17.05 and 18 respectively.
15 Clauses 21.01, 21.04, 21.05 and 21.06.
16 Clause 22.02.
17 Sustainable Energy Authority Victoria, May 2003.

largely turns on a contest between the rural lifestyle use of the surrounding land and a proposed rural land use envisaged as a potential and legitimate use under the farming zone.

Should the WEF land use give way to residential rural lifestyle uses?

33 In making our decision we have considered, on the one hand, a number of rural lifestyle properties, some of which are clearly not associated with farming or agricultural production, that by artefact, are located in a farming zone. On the other hand, we have a proposal for land use and development that is envisaged under the zoning and has significant weight of government policy, that on balance of other matters support it.

34 Ms Lardner particularly emphasised the rural hamlet nature of Devon North, its strong sense of community and the inappropriateness of this WEF in such close vicinity to this community.

35 We can do nothing else but accept that there are a number of dwellings located within a 1 to 3km radius of the site (9 and 53 respectively were cited by Ms Lardner). It is necessary and appropriate to deal with the legitimate concerns of potential impacts to these existing dwellings. This we have done elsewhere in these reasons. However, it was submitted that Devon North is an area with potential for an increase in rural residential development in view of the constraints on nearby Yarram. The corollary to this position, as put by the objectors, appears to be that this WEF proposal therefore has no place in such an area.

36 We do not agree. Recent strategic planning identified that there is little demand for rural residential blocks at Devon North and land closer to Yarram has, under Amendment C24 Part 1, be rezoned to Low Density Residential. Land identified at Devon North under Amendment C24 Part 2 was refused rezoning to Rural Living by the Minister on 7 July 2007. Mr Peggie provided advice that Council do not intend to 'revisit this amendment or to investigate any additional land for rezoning to rural living in the Devon North area in the near future'.[18]

37 Further, in this matter, we make a physical distinction between the immediate surrounds of the subject site and the Devon North hamlet that is located to the west and the one contemplated for expansion under Amendment C24 Part 2. This settlement area is zoned Rural Living Zone (Schedule 2) and has an express purpose to 'provide for residential use in a rural environment'.[19] The subject site is in a farming zone (a rural use zone at the time of the application). There is no express purpose to provide for residential use in this zone. Such use is considered to be ancillary to that of agricultural use of the land.[20] Indeed one of the purposes of the zone is to

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18 Council advice dated 1 August 2007.

19 Clause 35.03.

20 See for example under the decision guidelines the requirement to consider whether the dwelling is reasonably required for the operation of the agricultural activity conducted on the land.

'ensure that non-agricultural uses, particularly dwellings, do not adversely affect the use of land for agriculture' [our emphasis].[21]

38 We therefore have a situation where there is no further contemplation of expanding rural lifestyle development in the Devon North area. Further, there is strong local policy to avoid small lot subdivision solely for the purpose of rural lifestyle dwellings.[22] This is consistent with state policy[23] and the MSS.[24]

39 The legitimate use of this land is for those purposes and developments contemplated under the zone. This may include dwellings and WEF's as appropriate. Both are section 2 uses, requiring a permit. Rural lifestyle dwellings do not enjoy any particular advantage or priority over other section 2 uses. Indeed, there is policy and planning controls to prevent such use.[25] WEF's on the other hand, have strong policy support and their use is specifically contemplated in the farming, rural conservation zone and public conservation and resource zones.[26]

40 We dismiss the implication that the rural lifestyle use of the surrounding land enjoys planning priority or should be contemplated as a land use with a future legitimacy or primacy over the WEF purely on the basis of land use with no consideration as to the merits of those matters required under the relevant decision guidelines.

Is the proposal justified on greenhouse gas abatement grounds?

41 Clause 52.32 calls for consideration of, amongst other matters, the calculation of greenhouse benefits. The WEF Guidelines indicate that 'Considerable weight should be given to the contribution to Government policy objectives in relation to the development of renewable energy'.[27]

42 Ms Lardner sought to question the contribution of the WEF to Victoria's greenhouse reductions due to its small capacity in comparison to larger facilities already approved or operating in Victoria. She suggests that failing to obtain the views of Sustainable Energy Association of Victoria (SEAV) is a significant failing of this proposal.

43 From the submission of Mr Chiappi we understand that there has been some difficulty in obtaining the views of the SEAV due, apparently from the failure of Council to request such advice. The Council officer's report instead relied upon a Sustainability Victoria report[28] to draw the conclusion

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21 Clause 35.07.
22 Clause 22.02.
23 Clause 17.05-2.
24 Clause 21.04 (Settlement) recognises the importance of legitimate rural living areas and the need to discourage rural living activity in agricultural areas.
25 See also *Perry v Hepburn SC* [2007] VCAT 2122 at paragraphs [28] to [33].
26 In other zones the use of land for WEF's is innominate.
27 At page 23.
28 *Report to Sustainability - Victoria Assessment of Greenhouse Gas Abatement from Wind Farms in Victoria*, McLennan Magasanik Associates Pty Ltd, July 2006.

that 'there is a verifiable benefit, in environmental terms, to the broader community in allowing the development use of a wind farm'.

44 Mr Chiappi submits that this WEF is expected to displace 51,000 tonnes of greenhouse gas each year. This value is based on the turbines operating in noise reduction mode[29] with an average capacity factor[30] of 35% adopted in the WEF guidelines as typical for WEF's in Victoria.[31]

45 No further details were provided as to whether the 35% capacity factor could be achieved, other than the assurance from Mr Chiappi that the applicant has wind monitoring data indicating an average wind speed of greater than 7 m/s and assesses the operation as viable.

46 We find ourselves in a similar situation to the *Perry*[32] matter:

> …[W]e have no data to suggest that the projected benefits are over-stated, accurate or under-stated. Further, no scientific data seems to be available about the operation of other wind farms to enable us to draw a sound and informed conclusion as to whether projected benefits and outputs are likely to be achieved.
>
> The same point has emerged in other wind farm cases wherein independent panels have suggested more reporting would be helpful to address questions and anxiety as to the contribution wind farms are making to greenhouse gas abatement. We concur with that recommendation.

47 We can only add to this recommendation. The assessment of WEF facilities places great weight upon the greenhouse gas and sustainability benefits. While giving consideration to such policy weighting, it is nevertheless the role of an expert tribunal, such as this, to balance and weigh other considerations. The WEF industry will potentially do itself an injustice if insufficient evidence is presented in the trade off of noise, landscape and other amenity impacts for longer term, justifiable sustainable outcomes for the wider Victorian and Australian community.

48 Not withstanding our concerns as to the lack of 'hard data' we were not taken to any substantive evidence to challenge the greenhouse gas benefits. Rather there was an expression of concern about trends toward smaller WEF's and the wider impact to communities. On this point we concur with Mr Chiappi, that each proposal must stand or fall on its merits and more broadly the contention of smaller WEF's producing more widespread impacts to local communities does not necessarily follow.

49 Having regard to the longer term sustainable energy and greenhouse gas abatement targets of the State Government, the 'probabilities of benefit'

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29 At the noise reduced mode, each turbine has a rated power generation capacity of 1.825MW or 91.25% of the full 2MW capacity.

30 Sustainability Victoria defines the capacity factor as the value of the annual MWh / 8760hrs x max MW.generation.

31 Appendix 1 of the WEF Guidelines.

32 *Perry v Hepburn SC* [2007] VCAT 2122.

weigh in favour of this proposal. Accordingly, the proposal addresses state policies set out under clause 15.14 and the WEF Guidelines and the requirements of clause 52.32.

Will there be unreasonable landscape impacts?

50 Mr Schutt and Mr Williamson undertook landscape impact assessments on behalf of the applicant and objectors respectively. Both relied on previous Planning Panel hearings and their interpretation of the WEF Guidelines to substantiate their respective approaches. Indeed, there appears to be a variety of techniques that have been applied in attempting to quantify landscape amenity impacts.

51 As was stated in *Perry*:

> The perception of landscape quality and visual impact can be highly subjective in terms of the public and private realms.[33]

We concur and note the various technical attempts at quantification do not advance the science further, as all appear reliant on some form of eventual subjective assessment of landscape quality.

52 We do not intend to weigh up the merits of either of the approaches presented by Mr Schutt or Mr Williamson.[34] Instead, we have sought to consider the matter of landscape impacts in terms of guiding principles as considered and summarised in *Perry*:

> ….consideration of the impact of the proposal on significant views, including visual corridors and sightlines, must have regard to:
>
> - the existing landscape values and features, including the extent to which the landscape is altered and influenced by human interventions;
> - over-arching goals in the Planning Scheme to ensure appropriate landscape/visual amenity outcomes, including protection of rural landscape character and visual amenity, and in particular, protection of features of natural scenic beauty and significant views;
> - the level of protection and values identified by the Scheme provisions and that is informed by the Overlays (or lack of Overlays) that apply;
> - the extent or proportion of view that would be affected and the importance and value of that view in the context of other aspects of amenity;
> - the fact that wind energy facilities must be located where the wind resource is available so, inevitably, there will usually be some

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33 [2007] VCAT 2122 at paragraph [35].

34 We note the recent publication of the *Windfarms and Landscape Values National Assessment Framework* by Australian Wind Energy Association and Australian Council of National Trusts (27 June 2007) also highlights that while establishing a framework it does not provide 'a set of detailed prescribed methods, tools or techniques'. The latter are expected to develop over time by practitioners.

> visual impact as also occurs with broadcast towers and mobile phone towers.
>
> Putting aside atmospheric conditions and materials/colours for the turbines, the extent to which wind turbines would be visible in the public and private realms is influenced by the following factors:
>
> - the distance between the viewing point and the wind turbines;
> - physical elements such as the topography and/or tree cover that, where positioned between the viewing point and a turbine, provide a masking effect;
> - the ability to enhance landscaping on the review site or abutting properties through additional plantings.
>
> Visual impact will also be influenced by whether the viewer is stationary (such as in a dwelling) or moving (such as in a motor vehicle).
>
> ….
>
> These questions and findings underline three important principles in an assessment of impacts on dwellings (and, we think, the public realm as referred to above):
>
> - visibility does not equate to an unreasonable visual impact.
> - visual impact can be horizontal or vertical in its dimensions.
> - visual impact can be mitigated by landscaping and landform.[35]

53 As in *Perry*, we have also taken into consideration the fact that the WEF Guidelines acknowledge that there will be some 'degree of impact on the landscape' and that 'consideration of the visual impact of a proposal should be weighted having regard to the Government's Policy in support of renewable energy development'.[36] It is significant to our decision that the WEF Guideline also calls for consideration of the:

> …planning scheme objectives for the landscape, including whether the land is subjected to an Environmental Significance Overlay, Vegetation Protection Overlay or a Significant Landscape.[37]

54 In this instance, while there is an acknowledgement of the overall scenic beauty of landscapes in the Shire, there is no specific mention of the Devon North locality or the subject site in policy. The site is not the subject of any overlay controls. Nor is it in a rural conservation zone. Its zoning points to a functioning rural landscape within which one can expect and do find anthropogenic elements, such as cleared land, buildings, fences, tracks, pine plantations, roads, sheds and other evidence of development and human land use. It is a modified landscape.

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35 [2007] VCAT 2122 at paragraphs [37] to [44].
36 WEF Guidelines at page 24.
37 Ibid.

55 The site's broader locality contains land within Public Conservation and Resource Zones (PCRZ). These include the state forest to the south-west and south-east and bushland along the waterways. However, even in PCRZ's, a WEF is a permitted use subject to it not being in 'land reserved under the National Parks Act 1975' and meeting the requirements of clause 52.23.[38] In this instance, the areas of PCRZ land are not noted for any landscape significance nor are they land reserved as national parks. In planning terms, the consideration of landscape impacts is no less or more for these landscape elements than they are for other rural landscapes.

56 In any event, the potential impacts from the WEF to the surrounding PCRZ land does not arise from any development in it, but rather from the way the WEF towers may impinge on views that incorporate the forested areas. While we find that some such views will incorporate one or more turbine towers, the extent of this impact is mitigated by other available views to forest or bushland landscapes or long distance views of the coastal plains.

57 Taking these matters into account, and having viewed the subject site and surrounds we make the following findings in respect to the landscape context and the potential impacts on the public and private realm views.

Public Realm

58 Unlike many other wind farm proposals, the impact to the landscape from a public realm perspective was not hotly contested, although it is one inherently contained in the grounds raised by the respondents and is to be considered under the WEF Guidelines.

59 There are two perspectives relevant to this matter. One is views from more distant public realms and the other is views closer to the site from such vantage points as roads.

60 At a distance (greater than five kilometres), the subject hill is visible predominantly from south, i.e. from the coastal plain. Even then, views are limited to where line of sight can be gained along the valley of Stony Creek, due to the shielding of other hills to the east and west and vegetation. The view of the site in this context is that it is one of many low hills bordering the higher Strezlecki Ranges. The more local prominence of the hill is somewhat diminished by the distance and broader context gained in these more distant public realm views.

61 The hill is not located along or close to any major roads or tourist routes. It is visible from various vantage points along Yarram-Morwell Rd, but only at a distance and within the context of a much wider landscape vista as set out above.

62 Closer to the site, glimpses can be had from Bolger and Ingles Rd. However, there is little opportunity for sustained views of the site within one kilometre due to screening by landform and vegetation.

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[38] Clause 36.03-1.

63 The impact of locating the seven turbines on this hill is not one we consider to be significant given this site context and the balance to be achieved between locating WEF's in locations suitable to catch the wind resource (i.e. open or elevated landscapes) and the overall contribution of the site to landscape values. We are confident that while visible, there will be little adverse impact to the landscape values when viewed from the public realm.

64 From a public realm perspective, we find the proposal to be acceptable.

Private Realm

65 More hotly contested are the impacts to private realm vista's. We undertook an extensive assessment of the potential impacts of the proposal from the respondents' properties around the subject site. We also took advantage of accessing the site to enable reverse viewing from the site to various locations of interest. In doing so, we were assisted by reference to the evidence and photomontages of Messrs Schutt and Williamson.

66 The table at the appendix to these reasons summarises our findings with respect to the impacts of the proposal to views obtained from the various properties.

67 Mr Peggie and Ms Lardner contend that many of the properties, particularly the 14 within one kilometre of the site have direct views into the site, and those closest to the site will have the form of the towers dominating these views.

68 We agree that many residents have views of the site and the turbine towers will be visible. However, for many of these properties, these views are not the principal views obtained from their dwellings or surrounding open space. In these cases, the view to the site is one of many available from the properties. We do not consider that as such the visibility of some or all of the towers in one view shed or along one view line constitutes such an adverse impact as to warrant refusal of the WEF.

69 Those properties we consider to be most potentially affected are the existing dwellings on the Stone and Neist properties. We acknowledge that the Greenway, Dohnt and Danuser properties are in proximity and have open views to the site, but there are no existing dwellings on these properties. We consider that the siting, orientation and screening of the WEF can be accommodated when and if any dwelling proposal is advanced for these properties.

70 The Stone property is approximately 600m from the nearest tower (No #9). Views toward this tower and surrounding towers (particularly #3, #4 and #8) will be gained from the rear outdoor living area. However this is not the only landscape view available from this area, with views in the arc from the north-northeast through to the south-east (as available from the rear yard) not being impacted.

71 The Neist dwelling has views into the site from their rear open space and some living area windows, although at 1.2km from the nearest tower, the views toward the WEF will be less impacted compared to the Stone property. Similar to the Stone property, however, other views from this property will remain unaffected.

72 Having inspected these properties we concur with Mr Schutt's evidence that vegetation screens, in the form of windrows of trees, can be utilised to filter the views of the turbines. We do not agree that such screening would enclose these dwellings in an unacceptable manner, as was put by Mr Williamson. We consider that the degree of tree planting can be managed in the particular locations where it is required such that it is adequately setback from dwellings to maintain open vistas and avoid the 'closed in feeling' We see this as being no different to existing windrow landscape elements we observed on these and other properties.

73 We acknowledge that the proposed towers of the WEF will be visible, more so from some dwelling locations than for others. However having regard to the principles to be applied to the assessment of landscape impact we have set out above and the site contexts we observed, we do not find that the impact to be so adverse as to warrant refusal of the application. Some management of the impacts can be achieved for those that are closest to the site.

Will there be unacceptable noise impacts to nearby dwellings?

74 The WEF Guidelines highlight that noise emissions can arise from the mechanical noise of turbine generators, the movement of the turbine blades through the air and from construction noise. The latter is of a short term nature and can be regulated so at to not adversely impact neighbours. The main concern raised by the objectors and referred to by the Council is that of the longer term noise arising from the turbine operations, i.e. the 'swishing' blade movement noise.

75 A number of objectors raised the matter of a buzzing noise that they could hear when they visited the Toora Wind Farm. It was the uncontested evidence of Mr Marks that such noise is not from the turbine transformers but from the main grid substation. It was his evidence that such higher pitched noise quickly attenuates with distance and is not one of concern. We also note that in this instance, the main substation is at the site of the 66Kv connection and is not located on the subject site.

76 The assessment and impact of noise is perhaps the most contentious matter for WEF's. There appears to be much misconception and misunderstanding of the potential impacts from noise.[39] We do not intend to deal with what can only be described as 'red herrings', unsubstantiated materials and disinformation. Instead we focus our reasons on the fact that the WEF guidelines and application requirements of clause 52.32 require an

[39] This included matters relating to wind shear effects, infra-sound (low frequency sound), intermittent effects and sensitivity of residents.

assessment of noise impacts in accordance with the New Zealand Standard NZ6808:1998 Acoustics – The Assessment and Measurement of Sound From Wind Turbine Generators (the NZ6808:1998 standard). The WEF guidelines require compliance with the noise levels recommended 'for dwellings' in this standard. These recommended levels are that the sound levels must be below the limit of:

- 40 dBA; or
- 5 dBA above background;

for whichever is the higher.

77 Mr Harding raised a number of issues with the approach adopted in the NZ6808:1998 standard. We understand that he may not necessarily agree with the approach set out in this standard. Nevertheless it is the WEF Guideline and not the Tribunal that has set out this requirement for use and compliance with this standard. In any case, in addition to the assessment compliant with the NZ6808:1998 standard, Mr Marks also presented an assessment using a less conservative approach. Both assessments indicate that the sound levels emanating from the wind turbines will be below the guideline limits and therefore are acceptable.

78 This latter point is important. As was noted in *Perry*[40], it is not intended that compliance with the NZ6808:1998 standard or the guidelines will result in the turbines being inaudible. What compliance will result in will be a lessening of noise such that it should not be a nuisance.

79 Mr Harding questioned whether the Marshall Day assessment had been compliant with the NZ6808:1998 standard, particularly that only selected locations had been monitored for background noise. The scope of the NZ6808:1998 standard includes 'dealing specifically with the measurement of sound from WTG's in the presence of wind…' at selected locations 'at or within the nearest affected residential property boundary, and near the location of representative positions for other residential locations within the vicinity of a WTG..'. [41] We find that the measurement of background noise and the assessment of potential noise levels at selected dwellings by Marshall Day consultants and presented by Mr Marks is consistent with the standard. In reference to the WEF Guidelines and clause 52.23 we are satisfied that the correct approach has been taken to assess the matter of noise impacts.

80 Further, we accept Mr Marks' evidence that the assessment under the NZ6808:1998 standard is conservative, in that all the sound levels from all the turbines were added together and do not take account of ground attenuation or landform screening. The reality, as pointed out by Mr Harding, was that there would be screening effects from landforms and

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40 [2007] VCAT 2122 at paragraph [76].
41 See sections 1.3 and 4.5.1 of the NZ6808:1998 standard.

effects from varying wind direction that will modify the sound levels from each turbine depending on the location of each dwelling.

81 A summary of wind directions monitored for the site[42] indicates that the dominant wind directions (for 60-70% of the period from 1 July 2005 to 1 July 2006) are in an arc of WNW to SSW. Having regard to this fact, we deduce that those dwellings lying in the lee of these wind directions (i.e. to the NNE to ESE) are those that will most often be exposed to wind turbine generated noise. These include the Stoner, Lynch and Danusar/Vyner dwellings, the same dwellings in the Marshall Day assessment selected as being representative for these areas. It is the evidence of Mr Marks that the sound levels at these locations will be within acceptable limits. Despite Mr Hardings' protestations about the inadequacies of the NZ6808:1998 standard, his own calculations also indicate that the noise levels at these locations will also be below the acceptable limits set under the WEF Guidelines.[43]

82 In the absence of evidence to the contrary, we find that the assessment of noise impacts has been undertaken in an appropriate manner and that there is no basis for refusal in relation to acoustic/ noise impacts.

Will there be other potential impacts to nearby dwellings?

83 The decision guidelines at clause 52.32 require consideration of a range of mattes in addition to noise and landscape impacts. Mr Reakes raised concerns in his submission not only in relation to noise and impacts to landscape, but also shadow flicker. Ms Niest raised additional concerns in respect to the use of her land for horse and stud bull breeding and horse riding. Other matters to consider include blade glint, electromagnetic interference, aircraft safety, heritage and flora and fauna values. Apart from the use of aviation safety lighting, these latter matters were not raised as serious concerns or grounds for refusal of a permit.

Shadow flicker?

84 Shadow flicker is the affect created by the casting of shadows from the turbine blades under exposure to sunlight. Mr Reakes raised this issue in relation to the health of his family and the risk of exposure to his dwelling. The assessment of shadow flicker was included in the permit application materials.[44] The prediction of possible shadow flicker hours per year indicated that those properties to the east of the site were likely to be most affected. For the Reakes dwelling the predicted amount of shadow flicker is within the accepted maximum limit (the predicted exposure being 21 hours per year compared to the maximum limit of 30 hours per year). We

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42 Presented in correspondence of 26 August 2006 from Dr Litterman Consulting.

43 Mr Harding submitted that this would not be the case if tonal penalties were added to his estimates of total noise levels. However, we accept the evidence of Mr Marks that there are no tonal penalties to be added for these wind generator turbines.

44 Shadow Flicker Forecast (report No SWP-2007-04-16-SYN) by DLC Dr Litterman Consulting dated 16 April 2007.

note that while this prediction is indicated to be the mean annual impact for the real case scenario,[45] such calculations are inherently conservative due to assumptions that the turbine rotor plane is always perpendicular to the sun's azimuth and continuous operation of the turbines.

85 We find that there is no unacceptable impact from shadow flicker from this proposal.

Aviation safety lights (night sky amenity impacts)?

86 There was some concern raised in the matter of landscape impacts to the likely need for a minimum of red aviation hazard lights to be mounted on the three turbine nacelles. The opinion was expressed that this would be an unwelcome intrusion into the night sky amenity.

87 The visibility of such lights is paramount for aviation safety. It was Mr Williamson suggestion that the impact could be mitigated by the lights being shrouded so as only to be visible from the horizontal plane or higher, i.e. not be visible from those on the ground. We note that in correspondence filed with the permit application[46] the Civil Aviation Safety Authority (CASA) also acknowledges that some shielding or lighting design to prevent light escape below the horizon may be contemplated to reduce environmental concerns.

88 We have framed permit conditions accordingly to require such lighting where possible.

Stud cattle, horses and other agricultural use impacts

89 Ms Neist raised her concerns that the WEF would have an adverse impact on the stud animal and horse riding operations undertaken on her property.

90 We were not presented with any factual case histories of wind farms affecting farm animals. We do not consider that the sensitivity of breed horses in a showground settings as put to us by Ms Neist is a comparable situation. In a show ground setting there are a variety of sights, sounds and other distractions to influence an animal. This is not to mention the increased tension arising from the competitive environment and presence of other horses. This is a strong contrast to the potential influences of a wind farm located over a kilometre from open grazing paddocks.

91 Further if there were concerns as to the impact on farm animals, it would be surprising that the subject site owner would offer his property while still maintaining the grazing of cattle and other animals.

92 We find there are no grounds to disallow this proposal on this basis.

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45 As above, in section 5, page 9 of 31.

46 Civil Aviation Safety Authority dated 5 September 2005.

Is the site geotechnically suitable?

93 Mr O'Neill gave expert evidence that the proposed trench for underground cabling presented a potential risk of land instability.

94 Before we address this contention, it is appropriate to deal with the fact that under cross-examination Mr O'Neill conceded that he was the brother of one of the objectors and that he had grown up in the area. The latter is less of a contentious issue, however the fact that Mr O'Neill did not disclose what can only amount to a possible conflict of interest to this Tribunal is disquieting and not in accordance with the tenor of Tribunal Practice Note for Expert Witnesses, specifically the expert's duty to the Tribunal. [47] That Mr O'Neill is related to one of the objectors does not necessarily disqualify him from providing his expert evidence. However that he choose not to disclose this information may well lead to a perception of bias and a lessening of weight given to his evidence. Such an outcome is consistent with that addressed in *Drewgod Pty Ltd and Knox CC*.[48] However, unlike the *Drewgood* matter, Mr O'Neill also conceded that his level of expertise in some of the concerns he raised was limited. His answers under cross-examination indicate his knowledge to have been gained as 'a project manager' or from broad experience in projects rather than as an engineer who undertook detailed remedial design of the very issues he raised.

95 It must be remembered that this Tribunal is an expert one. From time to time Tribunal members will draw on their expertise to reflect on the expert evidence presented to them. We have done so in this matter and specific to Mr O'Neill's evidence we find that his evidence is to be given the weight accorded to the depth of his investigations, i.e. he has done no more than a desk top review of the site's geological conditions and highlighted possible matters to be dealt with in a more detailed site specific assessment. He conceded as much under cross examination to Mr Chiappi and the questioning of the Tribunal.

96 We find that the matters raised by Mr O'Neill are not of such gravity as to warrant the refusal of a permit. It is the view of this Tribunal that many of the issues he raised can be assessed and remedied by standard engineering means, a fact that he was reluctant to acknowledge.

Adequacy of access for construction

97 Ms Lardner raised the matter of construction traffic access to the site via Bolger's Rd as being unsuitable and possibly presenting a high degree of conflict and traffic management issues. At the same time, the basis of her argument was, in part, that logging trucks utilised the same road network.

98 The objectors cannot have it both ways, and we fail to see how a road network capable of handling logging trucks cannot accommodate the

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47 As set out in section 2 of PNVCAT 2 – Expert Evidence (1 September 1999 and as amended 2 February 2000).

48 [2007] VCAT 933 at [26] to [35].

limited volume and short term nature of traffic associated with the construction of the site. We do not consider this ground as one that should be seriously entertained.

CONCLUSION AND PERMIT CONDITIONS

99 It follows from the above that we find the Council's grounds for not issuing the permit are not sustained. Nor do we consider that the grounds of objection from the local residents to be sufficient to warrant the refusal of a permit.

100 We shall direct that a permit issue for the construction of the WEF, comprising the seven proposed turbines and associated infrastructure. In doing so, we have had regard to the submissions on permit conditions and the matters set out in our reasons. Additionally we have considered issues of:

- Micro-siting of towers resulting in tower locations different to those assessed, the possible influences on noise and shadow flicker and the need for ongoing monitoring and responses as appropriate to these matters.
- The process by which mitigation landscaping works can be undertaken on the Neist and Stone properties to address visual amenity issues set out in our reasons.
- Pre- and post construction monitoring of electromagnetic interference with telecommunications.
- Bird and bat impacts.
- Wildfire risks arising from the use and development of the WEF. In this respect we were not convinced of the need for any special requirements, noting that there is no evidence of particular issues nor a wildfire management overlay applicable to the site.

101 We have prepared permit conditions accordingly.

Jeanette G Rickards
Presiding Member

Ian Potts
Member

APPENDIX A TO P2691/2006

TABLE OF SITE INSPECTION ASSESSMENT OF LANDSCAPE AND VIEW LINE IMPACTS

Property	Tribunal Assessment
Stone (Ingles Rd)	The nearest turbine, #9 is approximately 600m to the north-west. The northern view shed of this property and dwelling will obtain views of the subject site and turbines #9, #3, #4 and possibly #8. Windrow planting of trees along the northern boundary will filter this view.
Greenway (Ingles Rd)	There is no dwelling present on this site. A dwelling location has been indicated in the south-west corner of the property. At this location, the likely view would be toward the hill as well as down the creek valley. A future house can be oriented to reduce visibility of the turbines.
Greenway (Yarram-Morwell Rd)	The subject site lies approximately 2 km to the south-east of the nearest turbine (#8). The site forms a small arc of distant views. The dwelling is generally located to take in coastal views to the south.
Kimber (Ingles Rd)	The dwelling is located approximately 1.8km to the east of the nearest turbine (#9). The dwelling is bounded to the west by Mays Bush State Forest reserve. The subject site and hill are screened from view by this bushland and its lower lying setting.
Neist dwelling (Old Whitelaws Track)	The dwelling is located approximately 1.2km from the nearest turbine (#9). Turbines #3, #9 and #8 would be visible with perhaps the blade of #4. No overshadowing or blade flicker affects will impact the dwelling. The views of the turbines can be ameliorated by planting of tree screens along the calving paddock fence line.
Neist Dairy (Bolgers Rd)	The dairy building has been converted to visitor accommodation. The views from building windows are orientated southward, down the valley, or northward up the valley. Turbine #9, the nearest tower, is located approximately 1.2km to the southwest. Turbines #3 and#9 are visible within oblique views to the west. The upper tower or blades of turbines #4 and #8 may being visible within these oblique views. The major views down the valley remain unaffected.
Hay (Old Whitelaws Track)	Views from this property are principally orientated to the south and east over Yarram. The subject site is well screened by trees.
Moffatt (Old Whitelaws Track)	This dwelling is well screened from the subject land (and views of the turbines) by trees. Parts of turbines #3, #9 and #4 may be visible from less sensitive parts of property, but not in principal view lines. The nearest turbine, #9 is located 1.8km to southwest.
Savahl (Old Whitelaws Track)	This dwelling is located on the top of an exposed ridge line that gains a wide arc of views to the south, including to the south-west toward the subject site, as well as to the coast and Toora Wind Farm. Principal orientation of the living area

Property	Tribunal Assessment
	windows is to views to the south (where the subject site is on the periphery of the principle view line). Side windows provide views to east and west. The dwelling is located 1.9km to nearest turbines #3 and #9. The view of the turbines forms only a small portion of the available view shed and is peripheral to the principle view line.
McVean (Old Whitelaws Track)	There is no dwelling located on this property. This lot lies behind the rise of the Savahl property and is screened from views of the subject site. Principal views are towards the east and west.
Danuser/Vyner (Old Whitelaws Track)	The subject site is not visible from this property.
Danuser/Vyner (Bolgers Rd)	There is no property present on this property. A proposed dwelling site on the flank of the hill has been indicated at 690m from turbine #9. Potentially turbines #3, #4 and #9 would be visible along with part of #8. Design and landscaping would be available to mitigate views of the turbines if a dwelling were to proceed.
Telling (Mowats Rd)	This dwelling is located approximately 1.7km north-east of Turbine #9 and #3. Views to these turbines and possibly the upper portions of the other turbines are screened to a large degree by shedding and vegetation on this property. Principal views gained from inside the dwelling are not toward the site, although oblique views are possible from the living room.
Lynch (Bolgers Rd)	The nearest turbine, #9 is 770m from the dwelling. The dwelling is set low in the landscape, adjacent Stony Ck, with limited view sheds due to the steep rise of the land to the west of the property. Views of turbines #3, #4 and upper portions or blades of #1, #9 and #8 are likely to be seen from various vantage points around the open space areas of the property. Some clearer views will be gained from the entry driveway. Views to the subject site, and turbines, are filtered by existing vegetation and buildings.
Reakes (Bolgers Rd)	Similar to the Lynch property, this dwelling is set low in the Stony Ck valley. It has a limited veiwshed, oriented down the creek valley. The nearest turbine, #9 is located 850m to the southwest. Views from the dwelling are limited and not likely to be impacted. Various locations in the open space provide vegetation filtered views of the upper portions of turbines #3 and #9, with possible part views of #4, #8 and #6. Additional vegetation may reduce these views without adverse amenity impact.
Heibert (Bolgers Rd)	The dwelling on this property has its principal living area views to the east, with upper rooms oriented to the north. Some windows and a portion of the main glazing look to the south. Turbine #1 will be visible from the rear yard (looking to south-west). Turbines #3 and #4 will be visible from main deck and east facing window, however a windrow of recently planted eucalyptus trees will eventually filter this view.

Property	Tribunal Assessment
Harrington (Bolgers Rd)	The principal orientation of the dwelling in this property is to the north, a viewshed unaffected by this proposal. Part of turbines ##1, #3 and #4 may be visible from outside spaces., but the subject site remains largely screened by vegetation and the landform.
Tucker (Bolgers Rd)	The dwelling and main outdoor areas of this property have a northern aspect that remains unaffected by the turbines.
Dohnt (Bolgers Rd)	There is currently no dwelling located on this site. The easterly view shed of this property takes in the subject land, with all turbines or parts thereof being visible from this property. However the principal view shed from the current shed location or dwelling location (subject to a notice of decision) is toward the south and the coast. The locations of turbines #5, #6and #8 are peripheral to these views. Use of vegetation and orientation of the new dwelling can be used to filter views further and reduce the impacts.
Forder (Bolgers Rd)	The dwelling on this property has no windows facing toward the subject site. A deck on the southern side of the dwelling is principally oriented toward the southern and eastern view sheds. The later includes oblique views of the subject site. The nearest turbine, #1 at 500m (approx) is on the periphery of this view. Turbines #5 and #6 lie at 750 and 1km from this dwelling. Some boundary planting may filter the peripheral views without unduly impacting the principal views to the coast.
Burgoyne (Bolgers Rd)	Similar to the Forder property, this dwelling is not oriented to take in views of the site. The nearest turbine, #1 at 600m (approx) is on the periphery of the principal view line to the south and south-east (i.e. toward the coastline). Turbines #5, #6 and #8 lie along the periphery of the principle line of view, but being at distance have less impact.
Strobel (Bolgers Rd)	The subject site is not visible from this location.
Jung (Bolgers Rd)	The dwelling on this property is principally oriented to the east. An elevated deck affords views to the south and the subject site at a distance of almost 900m. Other views are available from this deck.
Stewart (Bolgers Rd)	Views from this dwelling to the subject site are well screened by roadside vegetation. Those glimpses of the site that are possible through the vegetation are diminished by the distance of approximately 1.2km to the site. The principal vista's from the open space around the dwelling are down the valley (in a southerly direction) and remain largely unaffected. Views from living areas within the dwelling are not affected.