

# Social Impact Report

## Mt Munro Windfarm

### Meridian proposal

Prepared because Meridian refuses to.



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We are the people of New Zealand who are affected by the proposed Mt Munro windfarm and here we speak. We choose to live in this region because of the natural rural beauty, and the peace and the quiet.

I am part of the Hastwell/Mt Munro Protection Society formed to research and assist members in dealing with this project. Several of us offered to prepare material for this presentation of evidence and this section focusses on the technical aspects. Much consultation has occurred in order to finalise this material.

### **Executive Summary:**

01 This Social Impact report has been prepared in the absence of Meridian supplying a proper Assessment of the proposed windfarm. The individual discipline assessments clearly identify many negative social impacts. These effects are ignored or minimised by Meridians experts. Here we endeavour to bring many these consequences of the windfarm together and examine how the cumulative effect will effect local residents. There are other effects that I am not qualified to comment on but others are submitting on. Time constraints focus this report to the Hastwell area but I will include the other surrounding properties where possible.

This paper was prepared by:

- identifying the community profile;
- reviewing Meridians expert reports;
- 02 • an assessment of the interaction of known windfarm issues; interviewing those with local knowledge;
- and assessing the effects of possible mitigation strategies.
- 03 We have assessed the impacts on individuals and their families. At a family level the impacts of this windfarm proposal are extremely negative. With the long, drawn out process since 2009 several families have decided the stress was too great and have been forced to sell up and move. Acknowledging that yes, this windfarm would generate some electricity which NZ may need but the impact on the local

community is, and will be devastating. One aspect is that intergenerational farms will lose their continuity of management and production, while large blocks that were earmarked for easy subdivision will not be able to be sold. Another aspect has been the timing, requiring our submissions when sufficient information has not been provided. Then some of the information is wildly inaccurate, eg rainfall figures.

04 Despite Corporate protestations local businesses will not benefit greatly, there will be minimal sourcing of local materials, no purchasing of workers lunches except possibly for transient truck drivers. Rather locals will be subjected to 2-4 years of construction traffic involving hundreds of vehicles daily, and major traffic snarlups when giant items like the turbine blades are moved through from Napier to the site (140 trips in total!). There will be no local employment as specialist crews are imported who will likely create accommodation problems in a very limited housing supply (currently no rental accomodation available in Eketahuna).

05 **Therefore the Community consensus is that the separation distance of 2.0km (or greater) recommended by International experts should be adopted by all councils or through Government legislation. With such a clear guidance power companies can proceed with certainty and communities can live without fear of being treated with a callous disregard by well funded corporate giants. This legally enforced separation requirement would then have no turbine sites available at Mt Munro.**

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## Introduction and Purpose

06 Meridian first raised the spectre of a Windfarm on Mt Munro in 2009 with the erection of a measuring mast. The Proposed Wairarapa Combined Plan 2023 allows for such masts but requires them to be removed after five years. The one on Mt Munro is still there and whistles incessantly thus already creating noise pollution.

07 Meridian shelved the original proposal when electricity demand dropped but in May 2021 they advised Harcourts Real Estate that they intended to proceed with the project. This notice of intent was in direct response to Harcourts advertising a block of five sections on the corner of Hall rd and Opaki-Kaiparoro rd. Yet it was not until mid 2022 (about a year later) that a flyer was circulated to each local resident advising of the proposed windfarm. This resulted in residents forming the **Hastwell/Mt Munro Protection Society Inc** (The Society) to try and keep the community informed and to research the project and assist the community with submissions. We are now presenting the communities unified stance in the “Consenting” process.

08 The Society became aware how uninformed the local community was about the project, and getting little response from Meridian regarding communication, they approached the then MP Keiran McNulty, who contacted the Meridian CEO with a “please explain” regarding korero with the community. This resulted in a meeting between the Society, Meridian staff including the CEO, and Keiran McNulty. The outcome was the CEO instructing his staff to “do better”. Subsequently Meridian had a popup shop in Eketahuna for 9 days. This was not widely advertised until the Society made daily Facebook posts encouraging people to go in and ask questions.

Meridian recorded their impression of attendees stance on the project and ticked off overwhelmingly in favour. A Society member was in attendance nearly every day and managed to speak outside to nearly

every visitor. The Societies record is diametrically different to Meridians but happens to align with the numbers of submissions. Seventy three total submissions with only eight in support, two neutral and SIXTY THREE OPPOSED.

## **Objections.**

The objections by the community involve nearly every aspect of the proposed Windfarm

- 1) Methodology
- 2) The close proximity of the wind turbines to the existing houses (Separation Distance)
- 3) The flicker from turbines blades
- 4) The noise from the turbine
- 5) The constant visual pollution
- 6) Dust (Micro and Macro particle pollution and contamination)
- 7) The 2-4 years of construction traffic and noise
- 8) Environmental impact
- 9) Farming Activities
- 10) Future Development
- 11) Mental Health and Well-being
- 12) Construction Timeline
- 13) Mitigation limitations.
- 14) And several others

09

## **Community Profile**

Several farming families on the larger blocks include intergenerational properties. These are largely sheep and beef, with two dairy farms on Falkner rd.

10 The balance are mainly lifestyle size blocks with the residents having been local from 6 months to 50 years. They have chosen this area for its rural peace and tranquility.

There is one elderly resident in Old Coach Rd has lived there for over 50 years.

**Table 1. ID, Proximity, Turbines within 2.0km, Comments  
(refer map for ID locations)**

ID #	Proximity	Turbines within 2.0km	Name	Comments and Likely effects. Some referred to in individual submissions.
<b>Hastwell village and environs</b>				
1	1.0km	16	M & J	Farming, Concerned about interference with aerial top dressing, Visual, Noise, Dust, Flicker, Aviation lights.
2	1.2km	11	O & C	Visual, Noise, Dust, Flicker, Aviation lights, Construction traffic in area. Medical effects
25	1.6km	8	J	Visual, Noise, Dust, Aviation lights.
26	2.2km	0	B & J	Visual, dust, Aviation lights.
27	1.9km	3	OK cottage	Visual, dust, noise, Aviation lights.
28	1.6km	8	J Cottage	Visual, noise, dust, flicker, Aviation lights.
3	0.6km	15	C	Farmer, has part of the turbine envelope so contracted. Very exposed to full effects.
4	1.25km	10	D & C	Visual, Noise, Dust, Flicker, Aviation lights. Medical history places at risk, New house placed for view !
5	1.5km	9	S	Visual, Noise, Dust, Flicker, Aviation lights. Some trees may help mitigate.
30	1.6km	8	J	Visual, Dust, Noise, Flicker, Aviation lights.
31	1.6km	8	E	Visual, Dust, Noise, Flicker, Aviation lights.
6	1.3km	9	C & J	Visual, Noise, Flicker, Aviation lights. Some trees may help but view to north spoilt
7	1.1km	8	S	Visual, Noise, Flicker. Newest arrivals, Not told until signing Purchase Agreement. Very upset.
8	0.8km	6	M	Noise, Dust, . Many trees could



mitigate.

**Falkner rd/ Opaki-Kaiparoro start**

9	0.7km	6	LO	Tararua council worker has no objections/concerns. Will experience Noise and Dust. Large trees will mitigate but these are nearing harvest. Twenty plus years to replace mitigation
10	0.7km	7	T	Previously identified as exceeding WHO flicker exposure, Noise, Visual, Construction traffic, Dust, Aviation lights.
11	1.1km	5	K	Visual, Noise, Dust Flicker, Aviation lights.
12	0.8km	12	Df	Visual, Noise, Dust, Aviation lights. Looks directly across at site
13	1.0km	10	G	Farm. Visual, Noise, Dust, Aviation lights. View looks directly at site
14	1.0km	11	S&W	Visual, Noise, Dust, Aviation lights.
15	1.25km	7	NH	Farm. Visual, Noise, Dust, Aviation lights.
<b>Old Coach Road</b>				
16	1.4km	6	TK	Visual, Noise, Dust, Aviation lights.
17	1.4km	4	C	Farm, Construction traffic, Dust, Noise.
20	1.4km	10	Hw	Construction traffic, Dust, Noise.
19	1.0km	9	M C	Construction Traffic, Noise, Dust, House stability
21	1.0km	12	SA	Construction Traffic, Dust, Noise, Safety
22-24	0.4 – 0.75	20	An	Primary windfarm landowner. Farm. Rumoured to be planning to plant pine trees and leave the area.

## Issue 1. Methodology

Appendix 1: Landscape Effects Assessment method includes the section

- 11 **“The sensitivity of the viewing audience.** The sensitivity of the viewing audience is assessed in terms of assessing the likely response of the viewing audience to change and understanding the value attached to views”

- 12 A moments thought will make it obvious that this part of the assessment cannot be conducted from an air-conditioned office on the 24<sup>th</sup> floor of an office high-rise in Wellington while swilling lattes. Nor can it be carried out during a half-hour drive-through of the area while never exiting the vehicle.

- 13 A proper assessment can only be carried out by personal interviews of every member of the community **after** they have been FULLY briefed on all aspects of the project and given time to think and consult on questions they may have.

- 14 THIS DID NOT HAPPEN. None of the “Experts” visited and consulted. The closest was a visit from the photographer who took a panoramic photo of the ridgeline from a few selected sites. These photos were then edited to add in the proposed wind-turbines and a “before” and “after” print was supplied. It is interesting to note that the “before” photo had been edited to remove the windmast as this height could be used to scale the size of the turbines. This removal makes the size of the turbines shown suspect.

- 15 None of the Meridian experts and also none of the Council experts consulted with residents to determine their response to change and the value they attach to the views.

## **Issue 2. Proximity**

16 Meridians Mt Munro Windfarm proposal involves twenty 160m tall turbines that are centrally located among 31 current residences within the 2.0km envelope with a further 6 residences when going to 3.0km. This is also very close to the southern part of Eketahuna so some of the town could also be included but Meridians map does not show them. Ten of these properties are larger farms with the balance being lifestyle sized blocks.

Like much of the Wairarapa, the original 1890s survey laid out small blocks and within the 3.0km of Mt Munro there are around one hundred and fifty separate land titles with the larger farms being groups of these titles.

17 One major problem with this project is the turbines are planned to be closer to each other. This has the effect of more turbines within the 2.0km from each residence. If we look at the northernmost residence in the Hastwell block, it is only 1000m from the nearest turbine but would have 16 turbine towers within the 2.0km. The neighbour is 1.2km from the closest tower yet would have 11 towers within 2.0km.

This effect continues around the project with the 24 residences having an average of over 9 turbines within their 2.0km radius.

### Issue 3. Flicker – Shadow and Blade

There are several aspects to Flicker. One is the setting or rising sun shining through the blades as they rotate. The other is aviation lights shining as the blades rotate.

- 18 The thirteen properties in the **Hastwell** area are situated primarily to the South and East of the turbine ridge line . This area is not heavily tree covered, hence they will suffer the full effects of the evening flicker as well as the noise and negative aesthetic.

- 19 The properties near the Falkner rd intersection with Opaki-Kaiparoro have been previously identified as exceeding the World Health Organisation limits for annual flicker exposure. As covered in Meridians own material.

- 20 The properties in the **Falkner Rd** area are situated to the north of the six turbines on the northern ridge so won't get the flicker but these properties all face the ridge so will have the full visual impact both night and day. At night the turbines are well lit, so immitating Christmas lights all year round, blinking in sync as the blades rotate!

- 21 The third group of properties are along Old Coach Rd. Five dwellings. The turbines are to the East so morning flicket will be noticeable along with the noise.

## Issue 4. Noise from the turbines

22 Sound waves radiate out in straight line so if the house has line-of-sight to the turbines then they can hear the turbines. Subject, of course, to the wind direction. The Meridian windrose shows around 44% (Initially Meridian stated 75%) of the wind is from the Northwest so the noise will be funneled toward the Hastwell group of residences. Because these turbines are closer together there will be multiple patches where the sound waves will interfere, either constructively or destructively. Because of turbine blade rotation this is impossible to model but with 14 turbines interacting as they rotate it is almost certain there will be almost a doppler effect with sound levels rising and dropping randomly. An examination of NZS6808-2010 or the IEC standard finds only a superficial provision for evaluation of multiple turbines as a noise source and I am unable to find any modelling software capable of the incredibly complex analysis. The effects of turbulence off one turbine into the next as wind direction swirls. It appears Wind farm acoustic experts placed this in the “too hard basket” and have used a very basic figure for turbine noise, making no true allowance for the multiple turbines.

23 We are not going to argue the NZS6808-2010 DBA limits as the standard was largely formulated by the WindFarm industry. (the two independent experts on the panel refused to sign off on the Standard) The FACT that acoustic reports for other windfarm projects conclude that the noise levels do not exceed standards for residents comfort yet on startup the residents complain bitterly (eg. Makara – 70 complaints per day) is a major indicator that the Standards are unfit for the purpose.

24 Mr Halstead recorded a background sound level of 20dBa and yet states that it will be quite acceptable to settle at 40dBa with turbines operating. **This sound level might be acceptable to a city dweller but it is the antithesis of what a rural dweller finds acceptable.** Rural dwellers chose this lifestyle to include peace and QUIET.

25 Although primarily aimed towards Hastwell; Falkner Road and Old Coach Road will still be subjected to the augmented turbine noise.

- Hum, as sound pollution, is an unknown, some people hear it clearer than others, some people are impervious. People who started out thinking it was nothing started suffering after several days of exposure. There are reports that the people who do react to the low level insidious effect of hum are badly affected.
- 26 The situation about “infrasound” is an area of debate by academics. It appears to be another factor of noise pollution that is heard by some and not others. This sensitivity appears to be similar to the way some people can tune a guitar by ear and other cannot sing in tune.
- 27 Add the whistle from the meteorological mast and the situation is best described as a cacophony. Whistles, hum, swishes will drastically effect the local residents quality of life.

## Issue 5. Visual pollution

28 Most of the properties in the Hastwell area have the houses positioned to enjoy the northern exposure and sunshine. The proposed turbine site is along the ridge to the north and east. The visual impact of this line of 160m tall turbines is almost threatening. Refer to page 33 for a photo. Supplied by Meridian but it seems the turbines shown are around 120m. A panoramic photo also has the tendency to horizontally compress so the turbines in the photo appear to be significantly smaller.

29 Meridians proposal (pg86) *"Given the scale of turbines and their inherent potential to be highly visible in elevated locations, wind farms can undoubtedly change the character of a landscape. While some people are averse to the changes in character which may result, others may consider the nature of effect to be benign or sometimes enriched by a coherent array of wind turbines utilising the natural element of wind. ..."*

This report totally ignores the impact of wind turbines in close proximity when residents wake up and open their curtains or when they sit outside to "enjoy" the sunshine.

*".. the wind farm has the greatest effects within 2km of the site, .."*

30 Local residents can see that turbines over 2.0km distant could be acceptable. However the current proposed turbine layout has multiple turbines inside 2.0km from every house.

31 Aviation lights are required on some of the turbine towers. Meridian suggest that "Ground shielded" lights will reduce the light spill below the horizontal although logic says those residences further away are still likely to be effected. **I have consulted with CAA and they advise that they will have to consider this case individually as the proximity of the Hastwell Valley with numerous houses may make it necessary to decline Ground-Shielded lights.** In addition Meridian makes only passing mention (Mr Girvan) of the **mid-tower lighting** which, although low intensity, would have the effect of illuminating the turbine tower and be highly visible. (refer CAA publication on Windfarm lighting Refs- link 1).

Mr Wrights report on Lighting “The proposed aviation warning lights .... and their obtrusive effects are no more than minor” “The level of skyglow effect will be no more than minor” This repeated minimisation of the effects indicates that Mr Wright has not paid a visit to the Pahiatua track windfarm area at night. I can assure Mr Wright and the court that the effects are anything but MINOR. There are bright lights visible for kilometers flashing constantly.

**Mr Wright has made no mention of the mid-tower lights.**

**Possible mitigation:**

32

**There is the technology to utilise radar technology to switch on tower lighting when aircraft approach. CAA has yet to make any ruling on this. (Ref email from CAA page 31/32)**



## Issue 6. Dust

33 The primary focus of the Meridian Dust (Mr Munckhof) assessment examines the dust impact on Old Coach Road and completely minimises the dust off the ridge towards the South East.

The Ministry of the Environment guide to dust identifies the effect on various receivers. In the submission Mr Munckhof briefly classifies all the Hastwell area receivers as “Farms – low effect”. This statement ignores that these larger farms all have farm houses which meet the criteria for Med-High. The other residences are better described as lifestyle farms and, hence, are clearly Medium to High. (The Ministry document clearly includes classification of farm residences as Med-High). Mr Munckhof goes on to assess the dust from the ridge as minimal and settling to ground within 200m.

The Min Env publication identifies that construction dust varies from 10 microns to 100 microns with carrying distances of 200m to 1000m. Mr Munckhof appears to have drastically understated the site carrying distances; 100 microns is heavier and will fall to ground faster and is possibly at the 200m while the lighter 10micron will carry much further eg 1000m.

34 Additionally the excavation of the proposed site is on top of the approximately 400m high ridge and so will carry even further so 2000m is quite probable. Mr Munckhof further states the dust pickup wind speed is 7 m/sec yet the windrose shows windspeeds at the 80m high mast as averaging four times this so the ground level speed will easily be double

Hence the dust WILL carry even further with 4000m being quite possible for the dust around 10 microns.

The construction dust **ranges** from 10-100 microns so every residence downwind WILL be affected. Mr Munckhof makes light of the quantity of dust totally ignoring that the construction is going to involve the excavation of TWENTY rather large holes involving nearly 1.5 MILLION m<sup>3</sup> of material. Digging these holes involves a cycle of dig – lift - swing to truck – empty. This will clearly expose the excavated material to the wind. Even though it is only the dry top material that will generate dust, there will be a lot of that. And if we have another drought then there will be much more dry material.

**MITIGATION:**

35 **Dust barriers along the ridgeline are not practical, only excavating on windless days but that would extend the construction period by years/decades. I can see no practical way to mitigate this drastic effect on the surrounding community.**

## Issue 7. Construction Traffic

36 Currently Meridian do not have confirmed sources for aggregate which is the essential material for concrete. Suggestions have been made that some will be transported from the north and some from the south. So Meridians traffic analysis is woefully incomplete. From Mangamarie the trucks would pass down SH2 through Eketahuna thereby crossing the local school bus route plus the secondary school bus delivering from Eketahuna to Pahiatua. From Twin Bridges the trucks would travel along Opaki-Kaiparoro which passes through Mauriceville thereby crossing the Mauriceville Schools local bus plus the secondary school bus delivering from Mauriceville to Masterton. That Meridian proposed using Twin Bridges as a source emphasises their callous disregard for the community. Fortunately the uproar seems to have caused a rethink and a withdrawal from this source. This must be confirmed.

37 Sources of Aggregate within the Wairarapa are very limited with only a few quarries and insufficient volume is available for a project of this size.. (the Manawatu Gorge replacement road had to source aggregate from the SOUTH ISLAND !!)

38 Another issue evident in Meridians report is the use of current measured traffic volumes, ignoring the potential volumes of traffic travelling to the Castlehill and Puketoi Windfarms construction sites. Although the Castlehill and Puketoi construction timetables are unknown, if this proposal is also approved it is likely that the trucking volumes will multiply many fold. Down SH2 to the South end of Eketahuna with some turning left towards Castlehill and Puketoi with the rest continuing to Old Coach road.

39 The main road through Eketahuna has a pedestrian crossing that has a lot of traffic. Students from the primary school walking to the public swimming pool 4 or 5 times a day during summer would be at significant risk. General public crossing to the supermarket, etc, etc.

40 Turbine component deliveries are proposed to be road transported from Napier. Three tower sections, three blades and a nacelle for each of the twenty turbines. This is 140 trips, although a truck and

trailer may be able to carry two nacelles at once. Still 130-140 trips, plus returns equate to 280 days travel so at least a year disrupting SH2 traffic with the oversize loads

41 **Old Coach road is identified as the primary access road for ALL construction.**

Here the primary issue will be the two-four years of construction traffic. Old Coach Rd is a narrow gravel road and 6-700 vehicle movements a DAY will kick up a lot of dust and noise along with greatly endangering the residents in their movements. The intersection between Old Coach Rd and SH2 is between curves that limits visibility both north and south. Waka Kotahi have signed off on the legalities of the proposal but residents are horrified. Residents vehemently oppose as they understand that heavily laden truck and trailer units turning off SH2 will cause major traffic snarl-ups . Rural Mail delivery contractor has already advised that they will not be able to deliver safely.

42 Meridians application states the Old Coach Road reserve is 25-40 meters wide but that farms have encroached on this. This encroachment has been happening since the mid 1800s. Trees and houses are close to the existing roadway. There are a number of “choke points” along the road which make widening difficult without cutting down many **old growth native trees.** The oldest house here was built in 1861 and vibrates extensively when **one** stock truck goes past. The concept of the volume of construction traffic (640 per day) has the 89 year old resident fearing the house will collapse.

43 The noise from this volume of traffic has not been assessed and Meridians application simply refers to the limits in the NZ standards for noise. Is the resident supposed to stand there with a sound level meter and any truck that’s too loud gets turned away?

44 **MITIGATION**

**A suggestion has been made that Meridian is likely to also need South Island aggregate so RAIL delivery should be considered. The use of the same dumper wagons the mines use would allow easy delivery that wouldn’t impinge on roads at all. Instead of**

**300+ daily truck and trailer deliveries, train loads could be stockpiled and only site internal transfers to the batching plant would be needed. This would not affect local residents at all.**

**The Rail option could include turbine components from Napier with one train delivering ALL the nacelles, a few trips for the tower sections and a few more for the blades.**

**We have spoken informally to Kiwirail line staff working on line maintenance and they cannot see any impediment to this option.**

**This option removes ALL the main bulk deliveries from public roads, safety is enhanced, and Greenhouse Carbon Emmissions are heavily reduced which is a stated goal of Meridian.**

**Any local material deliveries should utilise another suggestion that IN deliveries arrive via Old Coach Road and OUT via Coach Road South. This would alleviate the need for major widening of Old Coach Road thereby reducing the impact on residents. However the seal is still needed for the workers traffic.**

46

## **Issue 8. Environmental issues**

47 Although Tomkin and Taylor have presented a detailed report, it is based on a “best-case” scenario. This is very unrealistic. A visual of the turbines near Woodville and Pahiatua show several with significant oil leaks. Hopefully not a design feature, but still something that happens, yet no provision has been made for this. Worldwide there have been several fires in the turbine nacelles that the fire services are unable to reach to extinguish and they are restricted to dampening down the vegetation around the turbines and waiting. Eketahuna has a Rural Volunteer Fire Brigade and fires would be a major impact on businesses and their availability for real fires involving peoples lives.

48 The metal in the turbine can be recycled at end-of-life but there is still no proper way of disposing of the fibreglass blades. At one point Meridian spoke excitedly of bus shelters being built from the blades, but how many 63m x 4.2m bus shelters are needed?

## **Issue 9. Farming activities.**

49 The increased volume of traffic on Opaki-Kaiparoro rd, SH2 and Old Coach Rd will seriously impinge on farmers. Stock movements both along and across roads will be affected. Reverse effect will see numerous delivery delays of delivery trucks. This happens about once a day somewhere along the road as stock movement is unpredictable and unscheduled.

Initial investigations indicate that aerial top-dressing will be restricted. The effects of turbine noise on sheepdog control is untested. Whistles could be overlaid with runaways possible.

## Issue 10. Future Development

50 When the area was surveyed back in the 1800s the land was divided into many smaller parcels with these titles being “blocked” into working farms. This windfarm will stymie moves by the farmers to sell off the parcels as a retirement income. The residents envisage the **future character** of the area as increasingly lifestyle blocks around 2-10 hectares with increasing supporting infrastructure.

## Issue 11. Mental Well-being

A number of locals have already felt the stress of this long drawn-out saga that started in 2009. Several have had to sell up and relocate. Locals have described the Meridian application as “An Orchestrated Litany of Lies” and other uncomplimentary descriptions. Using Masterton rainfall figures that are significantly lower than the local figures is just one example of the inaccuracies encountered.

51 There are many areas where “best-case” scenarios are used in defiance of realism and logic. This practise is increasing the frustration levels in the local and wider community. Many residents are feeling the stress from thousands of hours of research and meetings (not always local) and preparing material, all unpaid and impinging on their planned activities on their own properties.

## Issue 12 Construction Timeline

52 Meridian sets out 32 months of construction, they further specify a winter shutdown from June to September. In addition they require 10 clear days for culvert construction, and (presumably) similar spells of clear weather for other activities such as tower excavations and foundation pouring. Having had their windmast and other on-site weather records since 2009 they should be able to give a clearer timetable of when such **rare** clear weather spells are possible. As residents we see the timeline stretching substantially longer.

## Issue 13. Mitigation

Meridian have offered little mitigation to the affected locals in the way of mitigation. At their popup they gave out blocks of chocolate which did nothing to appease the anger.

53 One resident raised the issue of not being able to enjoy an afternoon BBQ and the Meridian solution was to move the BBQ to the other side of the house, away from the sunshine and recreation facilities.

Trees can be a great mitigation but take time to grow. When the ridge is close then the trees need to be close to the house, very thick, and quite tall to have any effect on sound waves. This would have the very negative effect of casting the house into shadow. Meridian have made no offers regarding compensation to residents for any mitigation chosen.

**The best mitigation is distance. As is referred to in Meridians proposal the major effects are felt/suffered within 2.0km. Residents are referring to the 2.0km and if a 2.0km separation is applied then there are no wind turbines meeting this basic requirement. Separation distances are used in several countries such as the UK.**

54

Palmerston North has bylawed 1.5km and it seems necessary for councils nationwide or for the Government to follow suit. UK legislation has 2km plus some variations based on the turbine height. Most of the UK windfarms are built on the same flat as residences and an allowance for the ridge construction needs to be worked out.



## **Issue 14: Other issues.**

### **House prices/saleability**

55 There are a few studies that have attempted to quantify the effect on house prices but are largely inconclusive. The main effect is a major drop in saleability. Many people simply do not want to buy homes where turbines hover over their heads. Hence logic says that less potential buyers at an auction will result in a lower final price.

### **Dark Sky**

56 Dark Sky is being touted as a Wairarapa plus but many of these turbines are required (Civil Aviation) to have night lights which will totally destroy the "Dark sky" in the area. Recently the world was able to watch the Orionid Meteor shower which would have been 100% visible in this area if the weather had cooperated. Although Hastwell is not in the current Dark Sky classified area, there are moves to enlarge the designated area and we feel Hastwell would be an ideal candidate. We also wonder whether insects will be attracted to the lights which will then attract night birds such as the native Morepork and Long and Short Tailed bats with attendant risks of blade deaths. We foresee the environment under the windfarm will have many dead insects attracting ground feeding bats that will then attract predators.

## Effects on Residents in the Hastwell area:

Ref	Identifier/ Residents	Effects (Our assessment outwith any submissions)
#1	M & J 2	This is a 200Hectare farm, primarily sheep and beef. Concerns about interference with aerial top dressing. 1000 meters to the closest turbine with the ridge line being perpendicular to this. Hence operational noise will be cumulative, some trees but insufficient to do any serious mitigation. Visually obtrusive. Late afternoon flicker during summer is possible. Construction traffic noise will be close, dust is likely to be extreme. Highly impacted
#2	O & C 2	A 1 Hectare residence block with this resident for over 30 years. Much time and effort has gone into making this a haven for the family. 1.1km to the nearest turbine with the line placing 11 turbines within the 2km. Hence operational noise will be cumulative, Visually obtrusive. Late afternoon flicker during winter is possible. Construction traffic noise will be close and dust is likely to be extreme. Highly impacted
#25	J 3	An amalgam of 26 smaller land titles being sheep farmed. 1.6km to the nearest turbine so “experts” rate this as outside the flicker range. But fully exposed to the overbearing sight of all the turbines. Operational noise will be cumulative and likely to overpower the slightly longer separation distance, trees may mitigate slightly. Late afternoon flicker during winter is possible. Construction traffic noise would be largely dissipated but dust is still within range. Medium/high impacted
#26	B 5	A major farm with a “view” of the turbines from nearly every part of the property. At the 2.2km distance to the farmhouse so operational noise will be lessened. Flicker is unlikely but possibly noticeable. Higher winds would include them in the dust zone. Straddles Opaki-Kaipororo Road so essential that Meridian doesn’t schedule construction traffic along here for stock safety. Medium impacted
#27	O	Similar to #26 this property has a full exposure to the turbines. Also at 2.1km so minimal operational noise and

	4	construction noise. In Construction Dust zone. Medium impact
#28	J Cottage 3	Residence at 1.6km with a full line of sight exposure to the main ridge of turbines. Some Operational noise exposure with no mitigation from any trees. In the Construction Dust zone. Highly impacted
#3	C 2	Landowner of part of turbine envelope. Residence around 400m from nearest turbine. Highly impacted.
#4	D & C 2	Recently purchased Lifestyle block with a New house sited for the view and sun. At 1.1km will have an excellent view of the turbines, Flicker is likely to be very significant. Construction noise and Dust will be major. Highly impacted
#5	S 1	Recently purchased lifestyle block with new house in pipeline. Will have some views of multiple turbines but old growth Macrocarpas will provide some mitigation. At 1.5 km Operational noise will be a factor even prior to trees being harvested. Construction noise and Dust will be factors. Medium/high impacted
#30	J 1	Recently purchased lifestyle block who cancelled house purchase until this windfarm proposal is settled. Possible to realign house view to reduce intrusiveness of turbine view although that would also reduce sunshine hours. At 1.6km there will be distant flicker and Operational noise will be significant effects, Construction Noise and Dust are definite. Medium/high impacted
#31	E 1	Recently purchased lifestyle block with a new house. View is directly at the ridgeline with the 14 turbines central to the outlook. At 1.6km flicker will be distant and Operational noise a definite. Construction noise and Dust are also within range. No trees for mitigation. Medium/high impacted
#6	C & J 2	Lifestyle block with well established plantings. Some views of turbine ridgeline from the house but paddocks have full exposure. At 1.2km flicker and Operational noise should be mitigated although Wind Mast Whistles are heard. Construction Noise and Dust will be significant. Medium/high impacted

#7	S	Recent lifestyle block purchase with some plantings. 1.1km from ridgeline so exposed to Flicker, Operational Noise, Construction Noise, and Dust. Highly impacted
	3	

## **The Costs**

Thousands of hours of research, pages of printing, advertising, travel, attendance at the court hearings. These are the direct, quantifiable costs to the community members. This cost has so far, come out of their own pockets.

57 There are unquantifiable costs on peoples health, their happiness, their sanity. People forced to sell up and move because they couldn't take the pressure for another year.

Very much a David and Goliath situation, taking on a massive corporate with unlimited funds who is attempting to steamroll a small community who care about their environment.

## **Positive**

58 The only positive Social Impact is the bringing together of the community, in opposing this windfarm project. There have been suggestions that the village may form a Community Council to carry on the spirit.

## **Right Energy – Wrong Place**

59 This statement appears on all the Societies promotional material. As we have been researching the various issues we are surprisingly finding numerous references to material that questions whether wind energy is, actually, the right energy. Several countries stopping new projects, major questions about the "Carbon- neutral" status, problems with interfacing with the main electricity network and the rejection by communities. In New Zealand the "green energy" of windfarms appears to be driven by politics and not science.

The disposal of turbine blades is a major issue, a similar situation is starting to reveal itself with obsolete solar panels. "Green" energy appears to be anything but green. New Zealand's long time emphasis on hydro schemes appears to be the greenest option with no toxic compounds needing disposal

## **Summation.**

60 The cumulative effects of this proposed windfarm place a very high negative Social Impact on the local community that is very out of balance with any possible gains. Already Electric Vehicles are being superseded and households are increasing their energy efficiency. These changes are casting doubts on the future scale of increased electricity demand. Many new homes have solar panels integrated into the design and much improved insulation further reduce the demand on the electricity network.

If Consent is granted the local residents would have the spectre of the Windfarm hanging over their heads, unable to make long term plans, unlikely to be able to sell, just the continuing trauma of looking up at the ridgeline and wondering if/when/why.

Then if construction does go ahead the continual impact on daily life from the Construction Noise, the Construction Traffic, the Dust, the Pollution.

On completion then the turbine Noises, the Flicker, the Aviation lights blinking, the Visual monstrosities, and still unlikely to find a buyer. With no compensation from Meridian for the decades of negative effects. Not even an offer of cheap power.

Meridian have stated they want this project "in the pipeline". However, the quality of their research and reports suggest that they have failed to be serious about the proposal and expect local and governmental consent as a matter of course. At present New Zealand has around 1000MW of windpower in or near operation with a further 2000MW already consented. For communities such as Hastwell to have such a burden hanging 'in the pipeline' above their heads shows Meridian as a

very socially IRRESPONSIBLE corporation. There is no demonstrated need for this project.

A recent article reported UK authorities re-evaluating many consented windpower projects as there was no progress and the projects appeared to be “false flag” projects so the energy companies could say they were working on renewable energy with no real intention of actually spending the money.

61 Additionally nearby is the Castlehill project that started with nearly 300 turbines approved. They have recently advised they are working on starting with only 20. Why can't Meridian pick up some of the vacated turbine sites there. Or perhaps the Puketoi project ?

Neither of these projects have the numbers of nearby residents that Mt Munro has hence the community effect would be negligible.

62 In view of all these negative effects on such a vibrant, growing community, it would be a travesty to destroy this neighbourhood with a windfarm. Such windfarms are better suited to locations where there are, perhaps, only the landowner within the affected range. To maximise the economic benefit then Solar panels on houses would be the preferred option which has the additional benefit of nearly immediate returns with no neighbourhood complaints.

## CAA Windfarm lightings

<https://www.aviation.govt.nz/assets/airspace-and-aerodromes/airspace/wind-farm-turbines.pdf>

### Yahoo Mail - RE: Wind farm lighting

RE: Wind farm lighting

From: Aeronautical Services (aeronautical.services@caa.govt.nz)

To: j\_maxwell@yahoo.com

Date: Tuesday, June 25, 2024 at 01:52 PM GMT+12

Good afternoon, Mr Maxwell,

The technical specialists have looked at your inquiry. Responses to each of your questions in turn.

1. *I understand the CAA requirements are mid tower lights when turbines exceed 150m ACL?* Civil Aviation Rule Part 77, Appendix B – Visual Aids for denoting obstacles, sets out the requirements for lighting obstacles. However, the rule does not specify anything for wind turbines. Mid-tower lights may be required for a range of obstacles (e.g. masts, cranes, buildings, etc) <150m above ground level (AGL). Part 77 Appendix B7 and B8, provide the requirements. However, CAA does have some policy/guidance for wind turbines, which suggests lighting the top of a turbine exceeding 150m AGL, and having intermediate, low-intensity lights positioned at half-nacelle heights. This is guidance and may not always be applied, particularly when several turbines are positioned closely to make up a “wind farm”.

2. *Could you please clarify if that is nacelle height or blade tip height.* The 150m AGL is to the tip of the blade – the light at the top is positioned on the nacelle.

3. Do you have comments on turbines having "ground shielded nacelle lights? CAA is primarily interested in aviation safety. However, ground-shielded nacelle lights have been used and CAA does not object to them, provided safety is not compromised.

**4. Are lights activated by aircraft sensors acceptable? Currently, the rule is silent on this matter.**

Ngā mihi,

Gillian Openstein (she/her\*) | Team Coordinator

Civil Aviation Authority of New Zealand

Te Mana Rererangi Tūmatanui o Aotearoa

Security Regulation | Aeronautical Services

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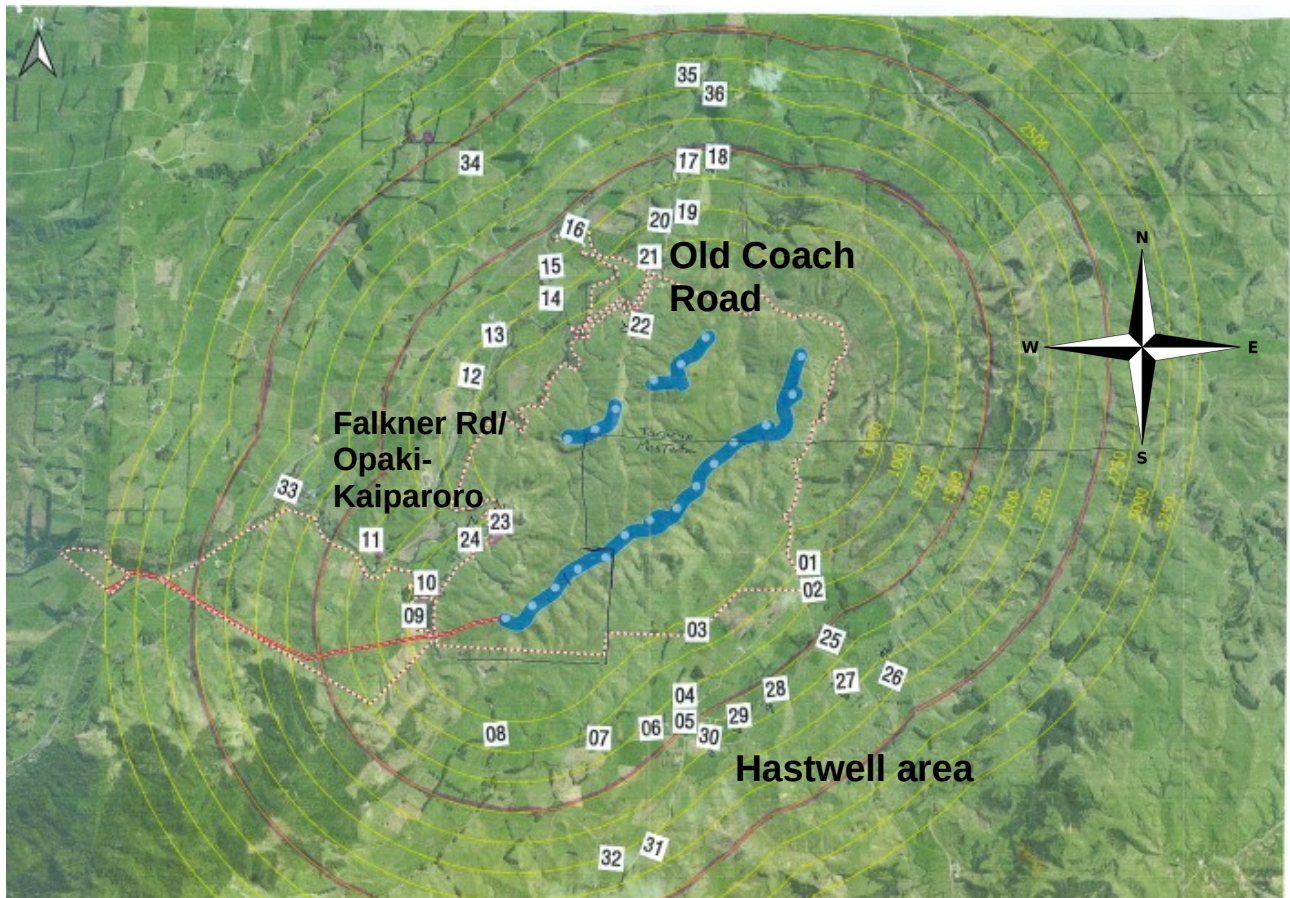
\* Level 15, Asteron Centre, 55 Featherston Street, PO Box 3555, Wellington, 6011 New Zealand

### **Ministry of Environment – Good Practice Guide to Assessing and Managing Dust.**

<https://environment.govt.nz/assets/Publications/Files/good-practice-guide-dust-2016.pdf>



## Project map with residence labels



## Photo of view at 18A Hall rd with wind turbines superimposed



This came with a “before” picture without the turbines. Unfortunately this photo had been edited to remove the windmast.

The windmast is a known 80m tall, so knowing the turbines are to be 160m it would have been a simple comparison. Without the windmast I have endeavoured to use my own photo and scale the windmast against obvious vegetation and transfer to this photo. Doing this indicates the turbines shown are around 120m tall, hence about 25% smaller than actual.