

EWAN CARR

60 Godley Drive, Sumner, CHRISTCHURCH
styxcreek@gmail.com
+64 027 201 5150

To:

The Hearing Panel
CENTRAL OTAGO DISTRICT COUNCIL
PO BOX 122

ALEXANDRA 9340

Subject: Submission in Opposition to **RC240065**

Applicant: **HELIOS OTA Op LP**

Proposed Solar Farm Development at **48 Ranfurly – Naseby Road**

The Application: Land Use Consent to Construct, Operate and Maintain a Solar Farm (Maniatoto Plain Solar Farm) being a Renewable Electricity Generation Activity in a Rural Resource Area.

1. Introduction

My name is Ewan Carr and I reside in Christchurch but also own property in the Paerau Valley located south of Patearoa. Prior to moving to Christchurch my family have been long term residents of the Maniatoto area variously engaged over time in activities from Wagoning through Gold Mining to Farming and Tourism / Hospitality and combinations thereof.

I am opposed to the proposal in its entirety

1. The proposal will have a range of significant and unacceptable adverse environmental effects including, but not limited to, landscape and visual effects, rural character and amenity effects (including recreational amenity effects).
2. The proposal creates a considerable risk of contamination and fire.
3. That the Cumulative effects have not been properly assessed.
4. In the proposed location, the benefits of the proposal in terms of its contribution to security of energy supply are significantly overstated.
5. The proposal would not represent an efficient use of natural and physical resources.
6. The proposal fails to achieve consistency with the relevant planning instruments.
7. The proposal overall does not achieve the sustainable management purpose of the Act.

2. Introduction

I am a 4th generation Maniatoto resident having grown up on a sheep and beef farm located near Patearoa approximately 21 to 26 kilometres southeast of the proposed Solar Farm Development

envelope. I have been involved in several private development and community development projects over the years in and around the Maniatoto, the wider Otago area and Christchurch.

One such project involved the redesign and private extension of the Maniototo Irrigation Scheme Eastside and Westside Extensions post the truncation of the project in 1984 by successive Governments, (National 1983 and Labour 1984)

Because of further irrigation capacity and financial incentives, I converted the farms to dairying in 1992 and remained involved in dairying until 2009.

In 1988 my wife Susan and I purchased the Danseys Pass Hotel redeveloping and extending the building to become the "Danseys Pass Coach Inn". The Inn is located at the old "Kyeburn Diggings" which is to the Northeast of the proposed Helios development, our ownership interest ceased in 2010.

We were involved in the development and operation of multiple commercial recreational activities based around the lodge including Horse Trekking, Mountain biking, X-Country and Snow Cat Ski Touring, Parapenting and 4 Wheel Drive Tours, many of which were operated on the Kakanui Range, Mt Kyeburn, The Ida, Hawdun and the St Bathen Ranges.

I moved to Christchurch in 2008 where I now have business interests including Residential property development, Engineering, Residential & Commercial Landscaping and hospitality.

I spend approximately ¼ of my time in the Maniatoto as we are continuing with the preservation and restoration of the historic buildings within the Styx Hotel precinct located in the northern eastern end of the Paerau Valley which my family has owned since 1909. This property is 'Off Grid' and is almost entirely run on a Solar Panel, Battery and Inverter electrical system. We are in the process of reinforcing this with a run of river micro hydro system.

Previous involvement in relation to Renewable Energy Resource Consent Applications

I was involved the Environment Court appeal of Trust Powers Mahinerangi Wind Farm development (potential 100 Turbines) that was consented in 2008 where 18 of the consented 100 Turbines have been erected to date. I represented the Upland Landscape Protection Society in this appeal.

I also represented the Upland Landscape Protection Society, as well as my private interests, in the Environment Court appeals opposing Meridian Energy's Project Hayes Windfarm development that was to be located on the Lammermoor uplands south and west of the Old Dunstan Trail and Rock and Pillar Range with the southern edge near to the Te Papanui Conservation Park. The Meridian Windfarm development was declined by the Environment Court in October 2009. Decision No. C103/2009

The Helios application contains several similar issues that were before the CODC Hearing Panel and ultimately the Environment Court in the Project Hayes resource consent application. While the

Meridian application(s) for consent was for a very large Wind Farm project it is obvious that there are many common elements and issues that need to be weighed in the consideration of the Helios application to establish the Maniatoto Plain Solar Farm.

3. Description of this Proposal

- To construct, operate and maintain a 300 MWac Solar Farm (Māniatoto Plain Solar Farm), on approximately 660 Hectares of farmland located adjacent to the Ranfurly - Naseby Road on the western edge and Ranfurly Back Road on the eastern boundary. The facility is described as a being a Power Generation Activity, which is a Discretionary Activity.
- This is a Land Use Consent Application. Application: **APP240351084**

Preamble

1. One of the core objectives of the Resource Management Act is to endeavour to preserve and protect the environment including, ecological, recreational, heritage, cultural and landscape values of the New Zealand for present and future generations from inappropriate development and effects while enabling people and communities to provide for their social, economic, and cultural well-being.

Environment includes – Sec 104(1)a

(a) Ecosystems and their constituent parts, including people and communities; and

(b) All natural and physical resources; and

(c) Amenity values; and

(d) The social, economic, aesthetic, and cultural conditions which affect the matters stated in paragraphs

(a) to (c) of this definition or which are affected by those matters:

2. I maintain the strong view that the construction and operation of utility scaled intermittent renewable energy generation facilities in areas of New Zealand that exhibit high degrees of attractiveness and naturalness are inappropriate activities. I acknowledge that considerable areas of New Zealand's countrysides and our coastal environments are often already *modified*, the effects of which range from minor to highly modified.
3. I submit that overall, these environments generally accommodate appropriate scaled activities and land uses including historic uses through to the newly developed. Combined these represent the diverse New Zealand land and seascapes that attract both domestic and international acclaim providing for various experiences including passive, active and general recreational and aesthetic enjoyment.
4. The continued development and operation of industrial scaled intermittent energy facilities in any of New Zealand's landscapes whether they be coastal, the rolling lowlands, inland

plains, elevated areas of rolling foothills, the block mountains of Central Otago, the volcanic plateaux's and cones of the north or the peaks and valleys of the sub-alpine or alpine environs I submit are not activities that are "sustainable".

5. Most of these spaces exhibit high degrees of naturalness and are very legible due to the absence of introduced vertical or monolithic industrial elements such as the subject application or the previously promoted Wind Farm developments.
6. My observation is that intermittent, industrial energy generation facilities consume, significantly alter and unavoidably intrude into the immediate environment and project unavoidable effects over vast areas due to their diffuse nature / scale, shapes and colours and often include animation in the case of wind farms.
7. It is my belief, and I contend a considerable number of New Zealanders, (including the majority of the submitters against this application), that the continued sacrifice of these landscapes in the name of doubtful, somewhat illusory local, regional, national and international benefits of the rapid deployment of utility scaled intermittent power generation facilities simply does not bare scrutiny when measured in the whole and against the alternatives.
8. In addition to the landscape and amenity issues there remains the ongoing difficulties and unavoidable additional costs of integrating mass utility renewable energy into the existing New Zealand Grid and distribution infrastructure. Solar and Wind generation are inherently unreliable forms of energy generation necessitating reliable firming generation to be available and or constructed in addition to the promoted capacity of the "renewable" generation.
9. The challenges of integrating and backing up these sources of energy are well known in the NZ context (eg: Brian Leyland) and through overseas experiences in the UK, Europe, the USA (California, Texas) and closer to home in Australia. There is a considerable volume of information in public domain explaining the challenges, risks and proposed solutions where available and applicable. While this is a common theme, I acknowledge that each country / region will have its own challenges and potential solutions. I understand there are continuing work streams by the Electricity Commission and Trans Power in relation to the renewable targets and integration challenges.

Other Ref:

https://www.ea.govt.nz/documents/2717/Wind_and_Solar_Gen_Scenarios.pdf

The Engagement Process

1. While I acknowledge that the applicant has met the minimal requirements for publicly notifying the application I think it is important to note that the project is promoted as having national significance by asserting the proposed solar farms' have the ability to make an important contribution to New Zealand's overall energy security and supply and as such I believe such claims should be tested by national exposure
2. I note that since I have become aware of, and interested in, the proposed solar farm project I have spoken socially with numerous people in Christchurch, Auckland and others who are, or have been intimately connected to Central Otago and more specifically the Maniatoto environments. These discussions included mountain bikers, ski tourers, recreational pilots and general admirers of the unique landscapes of the area. Without exception they were very surprised, some shocked, at becoming aware that such a development was being considered. Several have gone on to the CODC website and subsequently expressed concerns regarding the scale and location. Almost without exception they express their respective surprise at not knowing about the proposed development.
3. I believe that if the project is purported to have national significance / benefits then correspondingly it should have been nationally notified. I am positive this would have resulted in significantly more submissions (from support, to neutral through opposition) and in my experience would have allowed for a more coordinated approach in testing the merits and effects at the start line.
4. Having stated this I acknowledge that these issues are legislative and policy challenges for another time.

LANDSCAPE & AMENITY VALUES

1. The following is copied from the Property Group (TPG) application. CODC Plan.

Policy 4.4.2 Landscape and Amenity Values – To manage the effects of land use activities and subdivision to ensure that adverse effects on the open space, landscape, natural character and amenity values of the rural environment are avoided, remedied, or mitigated.

Comment: The site comprises an area of improved, grazed farmland and has avoided any significant hills or ranges. There are no Outstanding or Significant landscapes or features which relate to the site.

2. Dependant on from where and in what direction one is looking the proposed Solar Farm would sit within in the foreground of the Danseys Pass / Mt Kyeburn, progressing west

along the Ida Range, the Hawkduns and the St Bathans Range all of which are identified in the Central Otago District Plan as outstanding natural features or landscapes within the district and are to be provided for in terms of Sec 6 (b) of the RMA. The majority of these areas are within the Oteake Conservation Park

3. In addition to the obvious relationship with these dominant backdrops the proposal also has a relationship with the Upper Taieri Scroll Plain that runs through the centre of the Maniatoto up into the Paerau Valley. Views from various points around the valley at similar or greater elevations will be impacted by the proposal in varying degrees.

4. The CODC Plan includes:

4.3.2 Objective – Landscape and Amenity Values

To maintain and enhance rural amenity values created by the open space, landscape, natural character and built environment values of the District's rural environment.

4.3.4 Objective – Recreation Resources

To maintain and enhance the quality of the district's recreation resources and public access to those resources.

5. I submit that the scale and comparatively alien nature of the proposed 660 hectares of oscillating black glass cannot be seen as having "minor or less than minor effects" when viewed by residents living and going about their daily pursuits, holidaying or transient visitors, Central Otago Rail Trail users etc
6. These Maniatoto landscapes are vast elongated vistas with rural elements such as open pastured and cropped paddocks, livestock, terraces and foothills, some tree breaks and in the Naseby locality The Black Forest which was planted in 1900 (1 of the 2 oldest exotic stands in New Zealand). These elements are framed by the block mountains and the vast open skylines, colloquially referred to as "Big Sky County".
7. There is some expanded discussion in relation to Part 2 of the RMA Sec 6 to 8 in the Meridian Energy EC Decision Para 199 through 206. Para 201 finishes with a note of caution:

...This comes with a sense of caution about reducing discussion of any landscape to its elements. There is always a danger of not seeing a landscape for the tussocks.

8. It is my submission that the Landscape Assessment, and particularly Ms McManaway's evidence, diminishes the impact of the project when observed from the limited identified areas and locations in her evidence. This project is unprecedented in the New Zealand context exceeding, by more than double any other project proposed or consented for utility scaled solar that I am aware of.
9. I submit that the public and the Hearing Panel would have been far better informed if there had been a comprehensive suite of photo simulations produced to depict multiple points of view, both near and far, at and above the elevation of the proposed development. These could have included progressive simulations from any given point allowing for time of day, incorporating the Glint and Glare assessments throughout the day and potentially moonlit nights. Had this been undertaken everyone would be better informed and less reliant on "assessments".
10. While I acknowledge that Photo Simulations have been the subject of considerable debate in both the Mahinerangi and Project Hayes Windfarm applications they were nevertheless helpful in depicting and informing the public and those assessing potential effects. I submit that there should be a comprehensive set of Photo Simulations produced for this project from identified vantage points and not limited to the scope presented in the Helios Application. I submit that the adage of "a picture speaks a thousand words" is directly on point in this assessment of the Helios Application.
11. I concur with many of the Submitters expressing concern as to the effectiveness of the proposed mitigation planting. Any resident of the Maniatoto who has engaged in gardening and or shelterbelt establishment can attest to the very real challenges of producing vigorous healthy growth that will be essential in attempting to mitigate the visual impact of the development both in close quarter and from greater distance and elevations should it be ultimately approved. I submit that it will be essential to ensure that adequate irrigation water is available for at least the first 5 plus years and that failed vegetation is replaced with similar height replacements to maintain the integrity of the asserted screening mitigation.
12. The matter of Cumulative Effects also impacts on the Landscape Effects and Visual Amenity assessment of the proposal. The consented Solar Bay facility is located almost directly to the northwest of the Helios development proposal and given that there is only a separation distance of some 330m I submit that they will essentially be read as one from several elevated and adjacent viewpoints should they both be constructed. I accept

that there are conditions that require the establishment of screening plantings and as I understand it these must pre-empt the construction of the Solar arrays in the Solar Bay consent by a number of years.

13. Ms Steven, a Landscape Architect who gave evidence in the Project Hayes EC hearings assessed the Cumulative effects as set out in Para 484 of the EC Decision:

[484] Two key landscape witnesses discussed the accumulative effects. Following what is becoming an increasingly standardised methodology for wind farms they identified three different ways in which the two wind farms (if both are built) might be experienced. Ms Steven identified these as:

- ***Simultaneous visibility*** – both facilities are seen in the same view
- ***Successive visibility*** – both facilities are seen from the same viewpoint but not in the same view (ie, the head has to turn and eyes focus on another part of the landscape in order to see both facilities)
- ***Sequential visibility*** – the facilities are seen one after the other as one moves through the landscape.

14. I submit that these elements will all be at play in this instance but obviously qualified in that any observation of cumulative effects will be determined by where one is observing ie: travelling, perhaps landscape viewing or engaging in other recreational or leisure activities.

Recreational, Tourism & Heritage Values

15. There appears to be no substantive evidence adduced in relation to the potential impacts or effects on Recreational activities, Tourism and Heritage values of the immediate locations such as the Black Forest, Naseby or further afield. Common activities include Driving and Sightseeing, Tramping, Mountain Biking, Trout Fishing, Curling, Skating and Luge, Ski Touring, 4 Wheel Driving (including upper mountain tracks), Horse Trekking, Dog Sledding, Hunting, Photography, Art, commercial and private filming and Botanising.
16. I submit that all these activities will be impacted in some way with those occurring on higher elevations likely to be impacted to a greater extent. I believe that it is a necessary

element that should be before the Hearing Panel to properly assess the overall impacts of the Helios Solar Farm application on Landscape, Amenity and Recreational values.

References:

Oteake Conservation Park (Map Attached

Trailhub.co.nz (Mt Ida Race Trail)

<https://www.trailhub.co.nz/inspiration/backcountry-for-beginners/>Trailhub.co.nz (Mt

Ida Race Trail) [https://www.trailhub.co.nz/inspiration/backcountry-for-](https://www.trailhub.co.nz/inspiration/backcountry-for-beginners/)

[beginners/](https://www.trailhub.co.nz/inspiration/backcountry-for-beginners/)Trailhub.co.nz (Mt Ida Race

Trail)<https://www.trailhub.co.nz/inspiration/backcountry-for-beginners/>

Otagocentralrailtrail.co.nz

Maniototo.co.nz

Centralotagonz.com

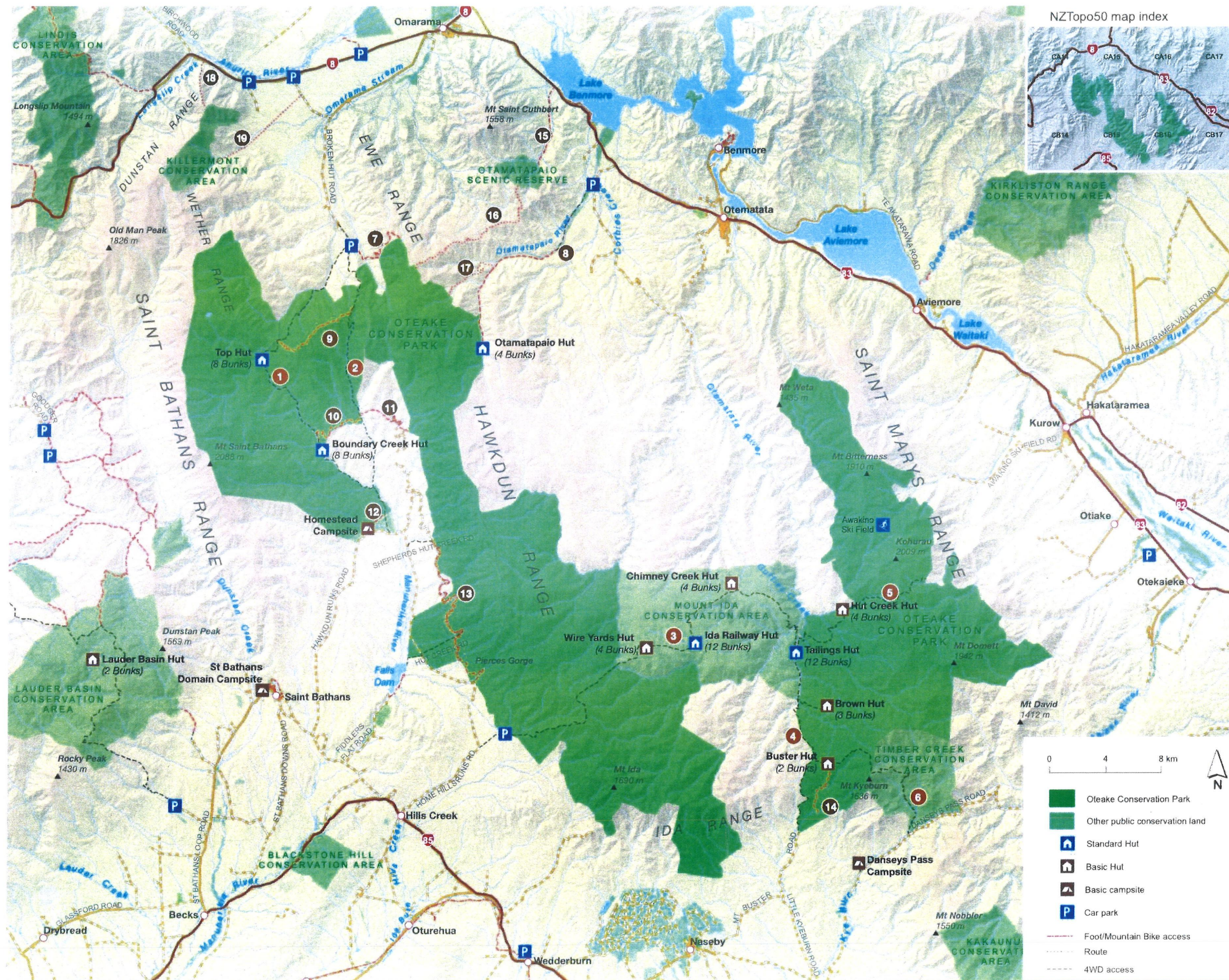
17. I refer to several Paragraphs in Ms McManaway's Statement of Evidence that in my submission are too limited and do not reflect the actual scale and likely Landscape and Visual Effects that will arise from the Helios application.

Para 9.17 through 9.19. I submit that this is indeed subdividing the landscape into blocks or categories that seek to exclude the reading of the overall landscape as one, refer to "*not seeing the Landscape for the Tussocks*" as stated in the Project Hayes judgment.

18. The last sentence of Para 9.19:

Where more distant viewing opportunities are available, the visual prominence and consequent adverse effects will gradually decrease with distance. Beyond 3 km of the Site, less than minor effects are anticipated.

19. I submit, this statement reinforces my (and others) concerns that there has been a totally inadequate assessment of the broader Landscape and Visual Amenity issues. This, in my submission, is further bolstered by the lack of assessment of the recreational activities and potential impacts on the wider area that contributes to the overall Maniatoto "Big Sky" experience.



20. Ms McManaway's final Para 12.7 states:

Given the established rural character underpinning available views of solar panels and related infrastructure which will remain, I consider the level and nature of adverse visual effects can be absorbed within this rural landscape. Where there are open views, these mostly comprise transient views obtained along surrounding roads and more open areas within rural landholdings.

21. I have a great deal of difficulty in reconciling this statement and as I have submitted above a comprehensive visual assessment, near and far, could have easily been addressed by the simple production of multiple agreed Photo Simulations (including incorporating the Glint and Glare assessments) and I submit these should be produced to further the public's understanding of the scope and reach of the project and to assist in the comprehensive assessment of effects and the appropriateness of this proposed development in this location.

Glint and Glare

22. I have read Mr Logan's Statement of Evidence and perused the supporting volume of the assessment study. Copied below are what I consider to be 2 of the most important statements made by Mr Logan:

Extract from SOE:

2.8 I have not visited the Site as the Glint and Glare Assessment is a software based assessment that adopts very conservative assumptions. This is industry standard practice.

Extract from "Naseby Solar Farm" Glint and Glare Study

3.3 Model Construction

Study Area:

This assessment considers potential visual receptors (e.g., residences and road users) within 3 km of the site. There is no formal guidance on the maximum distance for glint and glare assessments; however, the significance of a reflection decreases with distance for two main reasons:

- 1. The solar farm appears smaller (smaller subtended angle), and glare has less impact*
- 2. Visual obstructions (e.g., terrain, vegetation) may block the view of the solar farm* Glint and glare impacts beyond 3 km are highly unlikely. This choice of distance is conservative and is based on existing studies and assessment experience

23. The Glint and Glare study appears to be very limited in scope, as can be seen from the detailed observation Points set out in the Map / Sat Image above, (Page 15 of the G&G Study). There are no points marked on notable upland locations nor any from more distant north, south, east of west locations.
24. It is my submission that coupled with what I believe are incomplete and inadequate Landscape effects assessments the scope of the projects potential impacts does not extend to test what will be real life experiences for all those potentially affected by the Helios Energy Maniatoto Plain Solar Project.
25. As Mr Logan states he has not visited the site and has constrained the assessments to no greater than 3 kilometres of the core site and the Study is focused on effects from the identified Observation Points. I submit that the scope and focus of the Study should have been expanded to assess the likely visual effects from multiple vantage points including from the Oteake Conservation Park and several notable recreational and observation points around the area.
26. I have been direct experience involving glare generated by buildings that were constructed in my dairy farm development days and additionally from feed pad lighting installed just south of Patearoa. In both instances our construction and lighting activities impacted across the valley at various times of the day and light conditions more than 30Km away. The 18 x 500 watt Down Lights located on the feed pad were very evident from most areas of the Maniatoto in line of sight from dusk to dawn. The offending buildings were painted to mitigate the sunstrike effects.

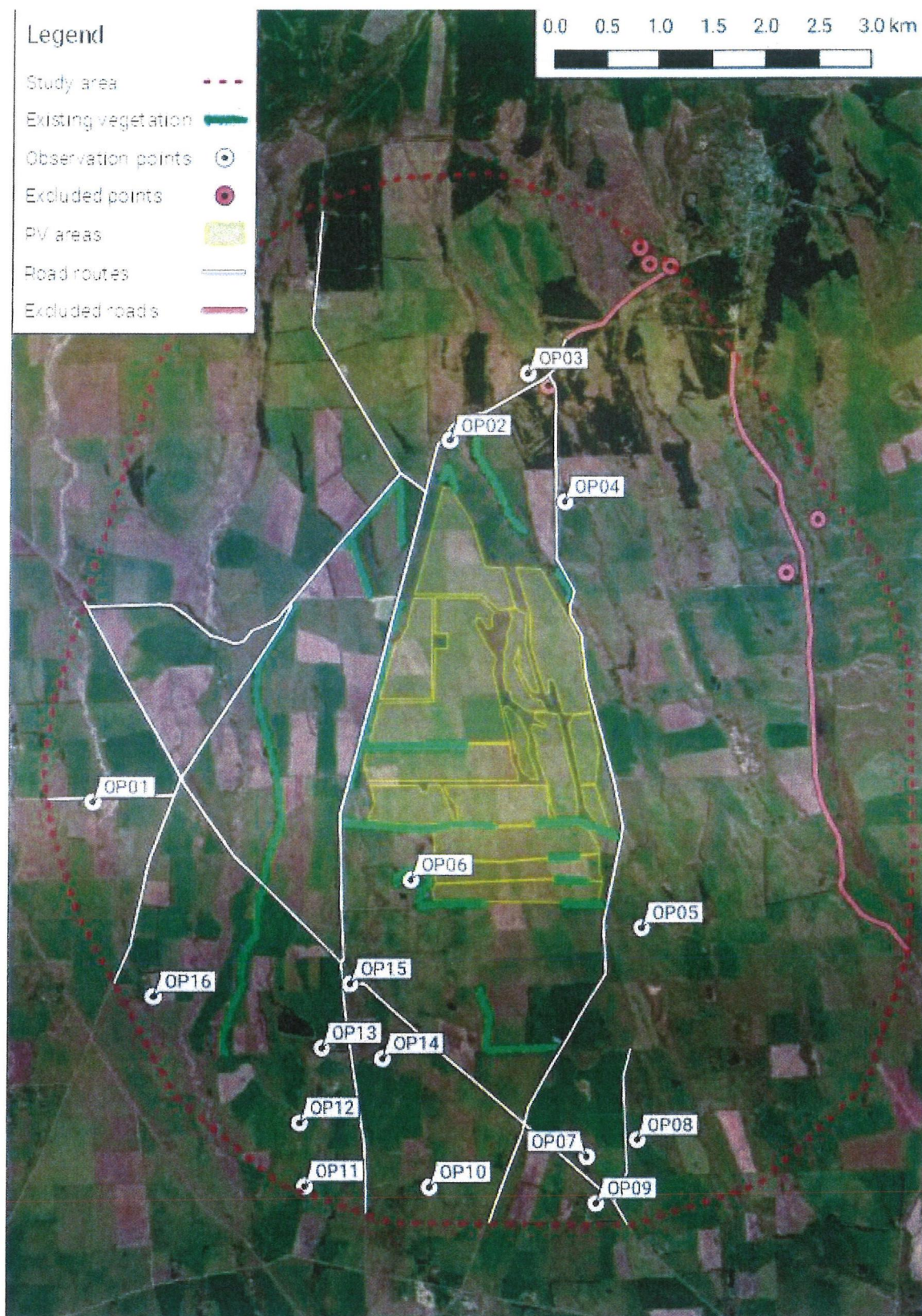


Figure 7: Model showing study area, arrays, receptors, and obstructions.

27. It is my submission that an area of black glass reflective panels will ultimately have very significant visual effects throughout the Maniatoto Valley from all points of the compass at some time of most days and potentially moonlit nights.
28. I have only briefly looked at some of the case law and decisions in relation to Landscape and Visual effects and other matters but offer the following references where there are similar issues that have been before the Consenting Authorities and the Courts.

Whangapoua Environmental Protection Society & Blue Mountain Lumber LTD
Environment Court Decision No A 117 / 2005

Environmental Defence Society Incorporated & New Zealand King Salmon Co Ltd
Supreme Court of NZ SC 82 / 2013 [2014] NZSC 38

Maniototo Environmental Society & Others & Meridian Energy Limited
Environment Court Decision No C103 / 2009

Efficient Use of Resources, Costs and Benefits

29. It is obvious that there is always an increasing demand for energy, locally, nationally and internationally. Affordable, reliable energy underpins all developed societies, creates opportunities for developing countries and generally is the chief element of lifting people out of poverty and maintaining and improving the standards of living worldwide.
30. Again, it is obvious that as we develop, refine, increase efficiency and mass produce products and services this results in more ways of consuming energy. This in turn drives the need for ever greater supplies of energy from in all forms. The evidence is that this requires more of everything or as Mr Barak Obama put "all of the above".
31. New Zealand is no different and as stated in Mr Schlichting's Statement of Evidence new generation must be constructed to meet the forecast demand while meeting New Zealand's international obligations and providing affordable energy to New Zealanders. I agree.
32. In this instance the Application being considered is for electrical energy generation from deployment of 550,018 Solar Panels, associated inverters and connections to the Transpower High Voltage Grid at Naseby.

33. The perennial challenge is what type of energy mix serves New Zealanders best and where should the generation facilities be based to most efficiently produce and distribute energy to the consumer, residential, industrial, agricultural and developing technology consumers.

34. Scheduled in the following diagram are the core contributors to Electrical Energy generation (*Nuclear is not currently an option in NZ*)

Generation and their respective attributes:

FUEL SUMMARY				
	BASELOAD?	DISPATCHABLE?	INERTIA?	CARBON-FREE?
Coal	Yes	Limited	Yes	No
Biomass	Yes	Limited	Yes	Yes
Nuclear	Yes	Limited	Yes	Yes
Natural Gas	Yes	Yes	Yes	No
Impoundment Hydro	Yes	Yes	Yes	Yes
Run-of-the-River Hydro	Yes	Limited	Yes	Yes
Geothermal	Yes	Limited	Yes	Yes
Solar	No	No	No	Yes
Wind	No	No	No	Yes
Batteries	No	Yes	No	Depends

35. The current structure of the New Zealand Electricity market appears to be one of scarcity and where scarcity drives increase in price. Additionally, there are also considerable increasing costs of consenting and installing new generation to meet demand and combined these contribute to ever increasing retail and industrial energy costs.

36. This scarcity generally is in the winter months where New Zealand experiences “peak demand” with the 2024 year resulting in constraints on generation capacity causing Transpower to limit supply to some major users. I understand that Meridian Energy has a contractual relationship with Tiwai to allow reduction in supply to the smelter for a standing fee compensation payment.

37. Another factor is that price of and availability of domestic gas supply. Gas supply has collapsed and consequently prices have dramatically risen which in turn affects the price

of electricity through the increase cost of backing up the New Zealand electrical supply with Gas Fired Generation.

38. I believe that it is important to get the description of the so call “renewables” in a more appropriate category. All energy production requires machines and as such Solar Panels and Wind Turbines are machines. They are **Rebuildable not Renewable**. It is the fuel that is supplied at no cost which is the same as Hydro Generation.
39. Vast quantities of equipment and energy are used to mine for the materials, transport, refine, manufacture and distribute these machines almost all of which takes place “elsewhere” and where those costs, emissions and potentially resulting polluting processes are not counted in the Levelized Cost of Energy (LCOE) in our calculations. We evidently share one atmosphere but when it comes to the actual emissions, the known pollution and potentially human rights issues these are not accounted for.
40. New Zealand is a skinny elongated group of islands astride and adjacent to several major faults and exposed to periodic volcanic activity. These potential challenges coupled with the length of the country, that the national and regional grids traverse, should in my submission be a factor in influencing energy policy and investment endeavouring to provide greater creation of resilience.
41. As stated previously I utilise solar panels, batteries and inverters to provide power to my Paerau property and I firmly believe that this scale of Solar energy generation, storage and distribution has an important place in providing the much-needed resilience while reducing domestic load directly on the grids. There are numerous opportunities appropriately scaled solar and wind energy generation throughout rural, city and town industrial and larger local domestic installations. Having experienced the Christchurch earthquake events it was those with elective off grid or fully off grid assets fared much better than those without those options. I submit that these are matters that go into the mix when assessing alternative options / locations.
42. Mr Schlichting’s makes comment at 10.55 in his SOE regarding roof top solar and goes on to extrapolate, I don’t think it necessary to review save as to say that there are many ways to skin the cat and that this just one albeit overly focused.

43. The asserted merits of the Maniatoto Plain Solar Farm are set out in Mr Schlichting's SOE much of which I do not take issue with, but I do believe that independent assessment and evidence should have been before the Hearings Panel to provide quantitative and qualitative assessments of the asserted benefits and on how and where those benefits would be realised.

6.5 of SOE

*The deployment of solar throughout New Zealand **will** in time lower the cost of energy to New Zealanders, act as a hedge against rising power prices, move New Zealand toward a 100% renewable energy future, and **enable the electrification of transportation and industrial heat.***

44. These are lofty statements, but I submit not based on real world solar generation and integration which I submit would be unlikely to result in the asserted benefits. As a participant in both the Mahinerangi Windfarm and Project Hayes hearings there was considerable evidence adduced in relation to the benefits (integration and economic) asserted by both applicants and this was important in assessing the benefits and disbenefits of their respective proposals. (see EC Decision C103/2009)
45. Solar energy characteristics dictate that it is only able to produce meaningful energy during peak sunshine hours and obviously nothing at night. It is highly seasonal and is summer peaking and subject to rapid changes in production through cloud cover or other limiting events like valley fog. These characteristics can affect Frequency control and thus costs.
46. New Zealand is a winter peaking market where we are asked to believe that the energy generated from this project will facilitate water being stored in our Hydro system and available to meet winter peaking demand. Much of the winter energy peaking is very often met by the large thermal machines. I submit this asserted stored energy availability is a considerable oversimplification and should be subjected to expert assessment and evidence in the overall New Zealand generation and distribution mix against historic weather and river flow data.
47. Due to time constraints, I have truncated my commentary about this element of the application and the asserted merits of industrial scale solar but refer to 2 adages:
- "The longest distance between two points is a shortcut"*

and

"If it seems too good to be true it probably is."

Other Matters

48. In my brief submission of the 12 of December 2024 I expressed my concern related to potential contamination. The battery component has now been removed and this significantly diminishes my concerns in that regard. I however remain concerned that if fire was to break out there remains the risk of contamination from damaged panels and the EVA foam content should that be ignited.
49. In relation to the fire control matters I have no reason to believe that fire cannot be contained but do wonder about the adequacy of the 12 X 25000 litre tanks. Having not fully digested the fire reports I trust that this issue can be adequately dealt with by the expert advice and conditions.

Closing Comments

50. The benefits of generation from rebuildable energy machines utilising the Wind and Sun is a measurement of the real deliverability and the real costs that must be assessed when considering an application such as the Maniatoto Plain Solar Farm.
51. It is my submission that the benefits of the generation from solar and wind energy must include the real costs of loss of landscape and amenity values particularly when there is no set off that comes from the alternative recreational, amenity and commercial options that often arise from say hydro development. This was a matter of competing evidence in the Environment Court assessing the Project Hayes project and I believe the court found that there should be a value place of Landscape and Amenity Values.
52. The actual benefits of how solar, wind and hydro can complement each other must be assessed in the light of the real time operation of the NZ power system and the constraints and challenges presented by transmission and existing generation mixes and reserve capacity. The evidence before this hearing does not address or glosses over these issues where there are real operational challenges and the very real additional costs of integration of so-called renewable generation.

53. In my submission there is a real need to add to the spinning reserve base load energy sources while reviewing and implementing policy that does not allow the consumption of large tracts of New Zealand's treasured landscapes. Geo thermal is a sound option along with potentially Run of River Hydro, Tidal (Cook Strait) and biomass generation from replant-able / bio waste resources.
54. The Maniatoto Plain with its surrounding block mountains, its proximity to Dunedin and other population centres, offers a unique place to live and play. It provides a diversity of recreational and passive leisure opportunities within an environment that is acknowledged for the soft tonal aesthetics of the landscape and amenity values. The effects on the recreational enjoyment of this locality and wider region would be negative in the main and I submit unable to be remedied, mitigated or avoided.
55. The assessment of whether this proposal promotes sustainable management of the natural and physical resources is for this Panel to grapple with but it is my submission that the concept is irreconcilable. There is a proliferation of Solar and Wind farm development applications throughout the country, cumulatively they have the potential to seriously and negatively impact on the identity of the New Zealand landscapes, cultural and heritage values. The consumption of landscapes for a comparatively inefficient and unreliable source energy must be carefully considered both in the local and national context.
56. There has been no factual evidence that proves the use of solar generation can and will effectively displace carbon-based generation and reduce CO₂ emissions in any material way within the New Zealand power system mix.
57. The proposition is further complicated by the multiple uncoordinated, competitive elements of energy generation industry and the numerous commercial factors that can complicate the ability to give any real effect to the alleged benefits. The market is complex multi-faceted and is not co-ordinated in a national sense.

"The most serious mistake we can make is pretending that markets do things that they do not do" ... "markets allocate risk, they allocate capital, they provide price signals. Markets do not have a conscience, they do not provide social policy, and they do not do things they are not paid to do" (Mr Kellen Flukiger, executive director of the electricity division at the Alberta Department of Energy).

58. The Crown's and the energy market's lack of integrated forward energy planning continue to cause a piece meal approach to energy generation and distribution which in my submission continues to create significant risks and avoidable harm to the New Zealand environment. The current market and approach add unnecessarily to energy costs for the New Zealand consumer. This application in my submission is a classic case of where profits are privatised and the unavoidable costs of integration and backup are socialised through to the New Zealand consumer.
59. My submission is that the matters addressed in section 6(b) requiring the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development is at the heart of this matter.
60. These various components that make up this greater landscape are in my submission inextricably linked; they cannot be seen as divisible and able to be "allocated" in some form of schematic isolation.
61. The landscape is coherent and aesthetically attractive hosting a wide variety of uses from farming, recreationalists, photographers, rail trailers, horse trailing, mountain bikers, hikers, amateur 4wd users, ecologists and so on. It is my submission that these important and obvious values would be unavoidably altered and overwhelmed by the construction of such an industrial element in the Maniatoto. This area is characterised by its real sense of space, its quietness, peacefulness and large open skyline vistas, it has space for the eyes.
62. In my submission there are multiple factors that should give rise for caution in the rush to consent and develop so called 'renewables'. In the current chaotic energy environment, there appears to be an almost total reliance on these utility scaled, unpredictable, comparatively unreliable forms of generation that have not been proven to displace carbon based thermal generation in any significant manner.
63. There is, in my submission, potentially a very high price to pay in the New Zealand environment (currently not "economically assessed"), to accommodate utility scaled rebuildable energy farms. By their very nature they require a disproportionately large

footprint, have a very large spatial and possibly animated relationship with the landscape and environment which inevitably dominates for considerable distances around.

64. The overall asserted net benefits of increases in reliable “clean” energy arising from this project measured against the overall adverse effects that cannot be remedied, mitigated or avoided as a consequence of the construction of the Maniatoto Plain Solar Farm, are in my submission simply irreconcilable.

LOGIC, n. *The art of thinking and reasoning in strict accordance with the limitations and incapacities of the human misunderstanding.*

The basic of logic is syllogism consisting of a major and minor premise and a conclusion—thus:

Major Premise: *Sixty men can do a piece of work sixty times as quickly as one man*

Minor Premise: *One man can dig a post hole in sixty seconds, therefore-*

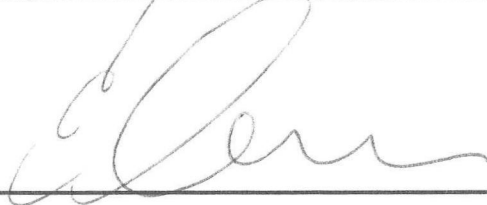
Conclusion: *Sixty men can dig a post hole in one second*

This may be called the syllogism arithmetical, in which, by combining logic and mathematics, we obtain a double certainty and are twice blessed!!.

(Ambrose Bierce, The Devils Dictionary)

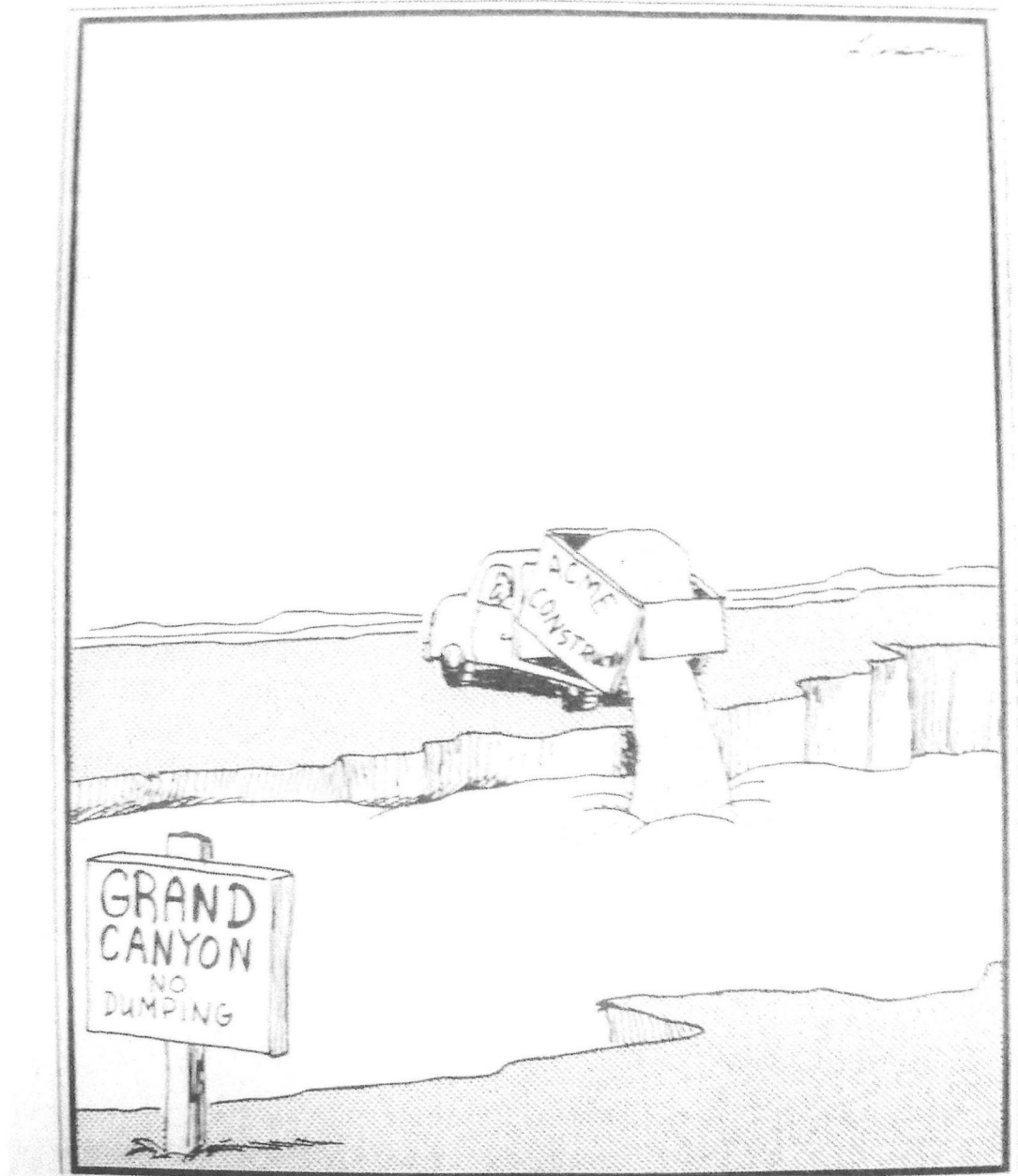
Signature:

Date:

19/08/2025 

“Man has such a predilection for systems and abstract deductions that he is ready to distort the truth intentionally, he is ready to deny the evidence of his senses only to justify his logic”

Fyodor Dostoyevsky



Unfortunately, Larry had always approached from the side that wasn't posted, and a natural phenomenon was destroyed before anyone could react.